Quarterly BITSians: Champa Bhushan & Brij Bhushan

The BITSAA Edition

Sandpaper [2.0]

BITS Pilani Alumni Magazine, Fall 2006

BITSEMBRYO

EDUCATION, EXPOSURE, RESEARCH

The BITSEmbryo team wants to change education in BITS Pilani forever by connecting Alumni with the campus over the Internet.

Retired BITSians ● BITSian Entrepreneurs ● Community BITSAA Initiatives ● BITS Pilani & Goa Campus Photo Essay

http://sandpaper.bitsaa.org

Sandpaper [2.0]

CONTENTS

MeraTrip.com

Your No.1 Source for Hot Travel Deals in India.

MeraTrip.com — Your No.1 Source for Hot Travel Deals in India.

» Be the first to know about ho
Subscribe to our FREE Travel Deals E-Ma

| Home | Flights | Hotels | Holidays |

Welcome to MeraTrip.com

We Research and Publish Outstanding Travel Deals.

1. Browse and search for **cheap flights** , **discount hotels**, and **holidays.**

2. Book directly with the hotel, airline or agency of your choice for the best prices!

FREE Travel deals newsletter

Current Hot Travel Deals delivered to you by Email. Subscribe and be assured that you will never miss out on great travel bargains.

Enter your Email address:

[Subscribe]

Current Hot Deals

• Hurry Rs.499 to Rs.999 -- 1st Anniversary special fares (GoAir)

• Hot 3 Lac Seats at Rs.6 plus taxes (Air Deccan)

• Rs.525 onwards -- Go crazy offer (GoAir)

• 10,000 Free Tickets & over 1,00,000 Low Price Tickets on Sale (GoAir)

• Rs.3 onwards -- 3,00,000 Tickets on Sale (Air Deccan)

• Bargain Special Night Fares from Jet Airways (Jet Airways)

• Kottayam : Rs.850 - Tharavadu Heritage Home (Hotel)

• Agra : Rs.1,450 - Hotel Atithi Agra -- Special Rate From Oct 1, 2006 (Hotel)

• Shimla : Rs.4,799 - 2N/3D Pkg per couple - with bfast+dinner+all taxes (Holiday)

• Kerala : Rs.11,500 - 6D/5N Kerala Pkg. per person with bfast+taxes (Holiday)

• Goa : Rs.7,250 - 3N/4D Pkg. Per Couple -- Breakfast and Dinner included (Holiday)

Home - Contact Us - About Us - Free Newsletter - Terms of Use - Links - Give us Feedback - Tell a Friend

MeraTrip.com was founded by BITSian V Gopi Krishna ('88)

25 YEARS ON, A MAGAZINE

BY DILIP D'SOUZA (DCUBED) (76-81 EEE)

Question: what interrupted the writing of this editorial?

Answer: Trip to Pilani. 25 years since my batch -- the evergreen 1976ers -- graduated, about 100 of us strolled back on to the campus for about 48 hours of frolicking.

There are accounts of the visit elsewhere in this issue. I won't give you another here. Instead, I'm going to try sharing some of what I've been thinking about since returning.

Several of my mates sent out euphoric messages on our email list after returning home, speaking of a "rejuvenation" and of "feeling young again" and the like. That's what this gathering did for them. We are over halfway through our lives, we have bellies and gray hair and no hair and even some serious health problems, some of us -- but this return to where so much began stripped away the decades like a cheese-slicer.

How much those five years on this campus meant to us. How deep are the marks they left on us.

I don't know if it is one of the signs of getting old that you start paying more attention to the people you care for. The family, the friends. But I think it is true that there comes a point when you realize you've made yourself a reasonably comfortable life, your needs are essentially taken care of, you've achieved various things, you have nothing really to prove to anyone, least of all yourself. Maybe that's when you begin to appreciate the worth of the people, the value of your relationships, the need to nurture them.

And maybe that point comes along, oh, about a quarter century after you've left college.

Perhaps that's why the reunion was such a rejuvenating experience -- because we learned a simple truth on this trip back. Some bonds, not even 25 years can break. It may have been the single achievement of our time at BITS that we formed those bonds and that they remain strong. Strong, like when we were young.

Do understand: despite the preceding few paragraphs, I'm not really given

Then and now
(Left) Dilip on his first day in Pilani (in 1976) with his ma
(Below) Dilip with wife Vibha

to philosophizing. Give me reality and a stiff drink every time, thank you very much. (I'm partial to vodka). Yet a trip like the one we batchmates just made, and (he gets to the point) even a magazine like Sandpaper -- these are by definition reminders of time that has passed.

Now it's easy to catalogue milestones achieved and fill this magazine with those. After all, BITS alumni are a greatly successful bunch and every month, it seems, brings news of yet more alums doing yet more spectacular things. But the Sandpaper team, I've always felt, yearns to give you more than such a catalogue. Over the years I've watched the magazine, it has consistently striven, in subtle and not-so-subtle ways, to reflect on the meaning of the experience we all share. It has tried to explore the ways that experience has shaped us in what we do and who we are. It has reminded us that life is more than a degree and years of work experience. Life is, in the end, what you make of it. What you make of the bonds you share. What you make of the opportunity that you are afforded.

This issue has plenty that will remind you of those themes.

Yes, I did say I'm not given to philosophizing, remember? And I promise you will have no more, except for this: Nothing can quite measure up to a trip back to that spot on the edge of the desert, sure. But reading Sandpaper in your home in Fargo or Tahiti, Ushuaia or Yanam, comes close. It always will. That's a promise.

And now, what about that drink?

Breaking News!............. Breaking News!............. Breaking News!.............

Subodh Karnik ('76) appointed CEO of ATA Airlines

Subodh has a BE from BITS Pilani (1976-1981) and an MBA from University of Michigan Ross School of Business.

SandpaperOnline

http://sandpaper.bitsaa.org

Issue Highlights

❖ New look
❖ Guest Edited by Dilip D'Souza ('76 EEE)
❖ Three new sections
  ➢ BITSian Entrepreneurs: Celebrating the BITSian Entrepreneurial spirit
  ➢ Notes from Goa: Latest news from the BITS Pilani Goa campus
  ➢ In Remembrance: Fond memories of BITSians who are no longer with us

TEAM SANDPAPER — 1700 Halford Ave Santa Clara, CA 95051 USA

GUEST EDITOR	Dilip D'Souza
CHIEF EDITOR	Ashish Garg
ASSOCIATE EDITORS	Amrutha R., Anjum Husain, Deeptha Ganapathy, Dileepan Narayanan, Krithika Kalyan, Sandhya Krishnan, Saugata Chatterjee
NEWSLETTER	Vishal Sanghvi
TECHNOLOGY	Vivek Iyer, Anand Jayaram
BITSIAN ENTREPRENEURS	Saugata Chatterjee, Dileepan Narayanan, Deeptha Ganapahty
NOSTALGIA	Karthik Raman, Sukumar Jamadagni, Vernon Fernandez
PILANI TEAM	Vernon Fernandez (Team Lead), Anindita Dutta, Sandip Gangakehedkar, Sindhu Anand, Arun Bhat, Nilanjana Bhattacharya
GOA TEAM	Sherin Kurian (Team Lead), Akriti Tibrewala, Shounak Sen, Ojas Mehta
CREATIVE & HUMOR	Madhu Nair, Arun Maharajan, Meenakshi Chaterjee
THE QUARTERLY BITSIAN	Vernon Fernandez, Sandip Gangakhedkar
BUSINESS & STRATEGY	Deepak Sharma, Pushkala, Anuradha Gupta, Sangeetha Narasimhan
GENERAL INTEREST	Anupendra Sharma, Anupama Nirmal, Sandhya Krishnan
RESEARCH & INNOVATION	Karthikeyan M
COMMUNITY	Laxman Mohanty, Ashis Panda, Arun Maharajan
BITSAA INITIATIVES	Rahul Chettri, Srikanth Sridharan, Karthikeyan Vijayakumar, Sachin Dev, Krithika Kalyan
IN REMEMBRANCE	Gayathri, Srivatsan Balasubramanian
CLASS NOTES	Vishal Sanghvi

JOIN THE TEAM

Sandpaper 2.0 is created by a global team with members spanning seven countries in four continents. It's a great place to gain organizational leadership experience, network with the alumni community and enhance your writing skills.

Please send your articles, nominations for Quarterly BITSian, letters to the editor, feedback and requests to join the team to: garg@bitsaa.org

BITSAA International has been granted 501(c)3 tax-exempt status by the IRS, and is registered in New Jersey, USA.

© All copyrights for these articles belong solely to the authors unless stated.

BITSAA SANDPAPER VISION

Focus on the BITSian community - alumni, students and administration.

Build a close knit BITSian **community** by promoting

Increase BITS brand equity

participation, evoking feelings of nostalgia, *pride* and

An emphasis on building engagement through awareness and debate

connectedness by keeping everyone in the community *informed*.

Our news, achievements in academics, business and in the community. What's happening at BITS and at BITSAA chapters around the world

To read past issues visit the website:
http://sandpaper.bitsaa.org
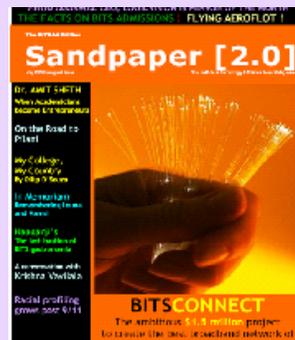
ABOUT THAT CASUALTY

BY DILIP D'SOUZA (DCUBED) (76-81 EEE)

A rumination on what happens to truth in times of war

"Rise, Atal Behari," an editorial in "Panchajanya" exhorted our then-Prime Minister at the start of the Kargil war, and these years later I remember the words well. "Rise, Atal Behari, for destiny may have ordained you to write the last chapter of this long story [of hostility with Pakistan]. Why else did we make the bomb, why else did we test our missiles?"

I think that's when it struck me. Yes, we were truly at war. For here was the best sign of war: the thinly-veiled "Nuke 'em!" call in the media, the death wish implicit in it. Sure enough, soon enough, the pages of our newspapers filled with the rhetoric of anger and hatred. In the Times of India, an AM Sethna asserted: "We are dealing with a country [that is] capable of extreme cruelty. ... In such hands, officers and men reported missing face being skinned alive."

Indeed, there it was. The press, off to the races with its time-honored wartime role: hate-mongering and rousing national sentiment against the enemy. Don't stop to question the emptiness in the claim that an entire country is "capable of extreme cruelty." Don't stop to think that in that country, their press is filling up with mirror-image rhetoric about us. Don't

stop to wonder about the sanity of a writer who calls for a nuclear-tipped "last chapter". Don't stop to think, dammit! Just ratchet up the hatred.

Nothing defines a nation at war so much as its hatred for the other side. And that's where the press, caught up in some never-questioned sense of patriotic duty, plays its role.

Naturally, this isn't restricted to India and her wars. Take just World War I. On April 16 1917, London's Times reported that a US diplomat "stated in Switzerland that the Germans were distilling glycerine from the bodies of their dead." This turned into what Phillip Knightley, in his fine book "The First Casualty", calls "the most popular atrocity story" of the war. Other British papers ran with it. French and Belgian ones printed their own versions, nicely embellished. The image of German corpse-burning factories became a lightning rod, an instant reminder that these

were inhuman brutes on the other side.

Yes, the Germans were burning dead bodies. But not bodies of their soldiers. They were burning dead horses and other animals. They tried hard to refute the stories when they broke. But who wanted to listen? After all, early in the War the Daily Mail had called the German Kaiser "lunatic", "barbarian", "madman", "modern judas" and "criminal monarch" -- all in the same "news" report. And if the ruler is "a monster" (yes, that label too), why, his subjects must be monsters as well.

Not that the Germans were laggards in this particular race. Knightley tells us that the "German press abounded with

stories of ... German soldiers who had had their eyes gouged out" by the Allies. A 10-year-old boy, reported the Weser Zeitung, actually saw "a whole bucketful of soldiers' eyes."

Who would willingly question such a powerful image of horror?

Of course, every one of these stories turned out to be untrue. Yet it took several years after the War ended for that to become known, and by then, it hardly mattered. By then, the stories had long served their purpose. Rousing their readers to anger and hatred against the enemy, these various newspapers had helped unify them behind the war effort. And isn't such unity a celebrated wartime goal? On the Allied side, the stories even helped pull a reluctant USA into the fighting. With the stakes that high, why would anyone spare a thought for the truth? Who would have time for a measure of moderation and skepticism?

In wartime above all, patriotism roots itself in hatred. The more extreme, the more easily it is swallowed.

And that defines the role the press believes it must play during wars. Like the rest of us, the media perceives that supposed need for national unity. What's the best way to achieve it? Simple: direct hatred at the enemy. Call them abusive names. Attribute every evil to them. Call for them to be annihilated, why not? Rally the country around, stamp out any questions, and that's the best way to pursue a war to victory.

Or is it? How many were slaughtered in World War I, twenty million? How much of that bloodshed was founded on lies?

Knightley's "First Casualty", of course, is truth. In wars, the real truth is that you have to hunt hard for it. Yet it is not just governments who coverup and lie, who make insinuations about the venal enemy. You'd expect that. Invariably, it is also the media. That, you wouldn't expect. Or maybe you would, given how every modern war has seen the media do just these things.

Yet what happened to the sense of inquiry that journalists are trained to nurture? Wars are no reason to shirk from it. In fact, wars are when inquiry is most valuable, precisely because so many seek to stamp it out. Precisely because truth is hard to find.

Every Indian likely knows the Ashwatthama story from our oldest and wisest war epic, the Mahabharat. Always-truthful Yudhishthir is reduced to telling a lie to defeat Drona, and every Indian likely feels a little frisson as he comprehends the meaning of the story. Even then, even in that ancient war, the first casualty was truth. Now the greatness of the Mahabharat is in the myriad ways you can interpret it. Yudhishthir and his Pandavas go on to victory, yes. But you remember Aswatthama and much else, and you ask: what price, that victory?

It might even be the point of the Mahabharat to make you ask.

And so I wonder: If Atal Behari really had risen to his destiny and written that last chapter, what would we have won?

BITS*EMBRYO*

F*ROM* BRAINWAVE TO LECTURES

B*Y* D*ILEEPAN* N*ARAYANAN* ('00 M*ECH*), S*AUGATA* C*HATTERJEE* (S*OGGY*) ('95 CS), K*RITHIKA* K*ALYAN* ('00 ET), A*NJUM* H*USAIN* ('98 I*NSTRU*), D*EEPTHA* G*ANAPATHY* ('95 P*HY* I*NSTRU*), BITSE*MBRYO* *TEAM*

A group of BITSians set out to change education in BITS Pilani forever. By using *Skype* and a webcam the BITSEmbryo team envisions that one day any BITS alumni around the world will be able to deliver knowledge back to students in Pilani over the Internet. Distances will not matter. What will matter is the enthusiasm of Alumni like you. Read, understand, get enthused and join the BITSEmbryo *wave*.

A*bout* one and half years back, five old BITSian classmates - Shashikant, Mayur, Gurpreet, Madhur and Shilpa - in a laccha session started debating what that one thing was they could have had more of as an undergraduate student. The conclusion was unanimous - *exposure to current trends in industry and academia*. What better resource could they get other than the knowledge and experience of more than 15,000 BITS Pilani alumni working in diverse fields?

"Traditional education system revolves around students and teachers", says Mayur Shah ('02 - Phy-EEE), founding member of Embryo. "Adding another dimension of alumni opens up new avenues of academic and industrial exposure as well as research collaboration".

Very soon, Ayusman, Ashutosh, and Mohit from Noida and Adarsh from Seattle joined the Embryo core team.

They presented this idea to Chandra Bhople, President BITSAA Silicon Valley Chapter and senior members of BITSAA. Brainstorming with them led to the idea of live video conferencing with BITS Pilani.

The launch of Embryo project couldn't have been better – the 7th Annual reunion of BITSAA Silicon Valley chapter. The panel discussion on "Power of the BITSAA Network for the BITSian Entrepreneur" was screened live to Pilani. 230 alumni from Silicon Valley were video conferencing live with a class room full of students on the campus.

Components of the GPS system
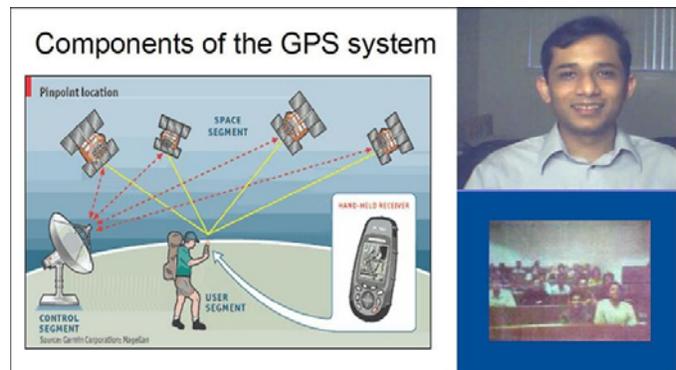
Shortly thereafter they conducted three lectures, one each for Computer Science, EEE and Mechanical. From all corners the reaction was that this project is going to change the way teaching is done at BITS, Pilani.

They spent the summer brainstorming and experimenting about technological issues. They ran the idea by more than 80 alumni and the very fact that each and every one of them was eager to contribute shows the level of enthusiasm among the alumni.

In a span of 3 months, this fascinating project has brought together more than 25 BITSians across 6 time zones to deliver lectures on emerging topics to BITS students. "The execution

of Embryo is an example of a *micro multinational* - a small group of motivated, people physically distant but connected to each other by

technology working towards a common goal," says Shashikant Khandelwal, founding member of Embryo. "Working in a core team spread across the globe has its own challenges, but it also has its own fun."

The team, no doubt, has done a fantastic job!

During the first semester, starting August 2006, they have conducted about 16 lectures on a wide range of subjects ranging from higher education to technical topics in Computer Science, Biological Science, Chemical Engineering, EEE, Mechanical Engineering, etc. To coordinate the process of conducting the lectures on campus, Embryo Club was

formed. The club has a structured management style and follows closely a process management and disaster management document developed by the Embryo core team.

Going forward, they aim to conduct more lectures on cutting edge science and technology trends for each discipline. Through these interactions with students and faculty, Embryo aims to foster research collaborations between alumni, faculty and students by facilitating one-to-one live interactions.

Sandpaper wishes the Embryo team the very best of luck as it moves forward with its educational goals and urges fellow BITSians to come forward in huge numbers to participate in the project!

"**This is education beyond class room**. The Embryo project provides an avenue for the students and faculty of BITS to have an educational experience beyond the class room. Topics of general interest and also specific nature are covered. These are delivered by specialists having field and research experience in their respective areas. It's an important project to bring advances in a particular area to the community of BITSians. Over a period of time students and faculty will become much more aware of Embryo Project and will be benefited by the new approach pioneered by BITSians settled in different countries and in different walks of life."

Dr. L K Maheshwari. Vice Chancellor & Director. BITS Pilani

BITS*EMBRYO* VISION

BY BITSEMBRYO TEAM

What is BITS*Embryo*?

BITSEmbryo is a BITSAA initiative that aims to make the academic and the industry experience of BITS alumni accessible to the on-campus students through lectures, collaborative research projects, and exposure to cutting edge technology trends around the world. BITS*Embryo* provides a platform for close interaction between BITS Pilani alumni, students and faculty.

Why BITS*Embryo*?

Over 200 BITS Pilani alumni are Professors at various universities in the US alone while at least 15,000 alumni have a graduate degree and work in technology or other industries around the world. The sheer number of people involved, having a mix of research and business experience, in the alumni, provides a rich pool of knowldege that can be approached, to augment the quality of research and academic experience at BITS Pilani.

With a large number of BITS Pilani alumni spread globally, it is difficult for them to travel to Pilani to share their knowledge and experiences. BITS*Embryo* removes this distance barrier by leveraging the Internet and the video conferencing technologies to enable alumni anywhere in the world to deliver online lectures to the students at BITS Pilani.
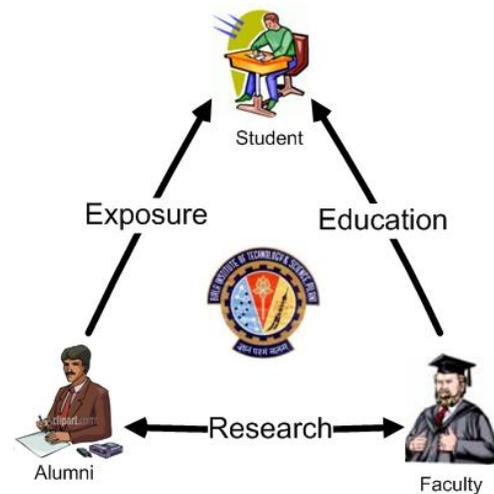
BITSEmbryo – Connect Alumni, Educator and Students to Promote Learning and Research

The 3-fold Approach

1. Complement BITS Pilani courses through video lecture series

2. Facilitate collaborative research projects between Alumni and BITS Pilani

3. Expose students to current research trends and provide guidance for pursuing research projects

In 2003, BITS Pilani alumni raised $750K for BITSConnect to give BITS Pilani a state of the art campus-wide Gigabit network called Neuron. BITSEmbryo uses this infrastructure to connect BITS Pilani alumni with BITS Pilani campuses over the Internet.

The initiative also aims to foster collaborative research among the alumni, friends of BITS Pilani, BITS faculty and the students.

Where do we want to be?

The near-term and long-term goals for BITS*Embryo* are:
o At least thirty alumni-delivered distance lectures on latest research topics in the world per semester.
o Seed joint research projects between Alumni and students.
o Mentor more BITSians to get admits to top Engineering and Business Schools in the world.
o Augment entrepreneurial activity through Technology Business Incubator (TBI) center at BITS Pilani
o Expand BITS*Embryo* to other BITS Pilani campuses like Goa and Dubai.

For more info on BITS*Emrbyo go to:*

www.bitsembryo.org

Date	Lecture Topic	Presenter
Mar 19 2006	Power of the BITSAA Network for the BITSian Entrepreneur	**Alagu Periyannan, Jayan Ramankutty, Prem Jain, Punita Pandey, Raju Reddy, Vivek Paul**
Apr 23 2006	Basics of Information Retrieval	**Shashikant Khandelwal,** Sr. Research Eng., TheFind.
Apr 23 2006	Design of Experiments	**Shilpa Gupta,** PhD Candidate (Industrial Statistics) ASU
Apr 29 2006	Global Positioning System (GPS)	**Mayur Shah,** Sr. Engineer, Qualcomm
Aug 13 2006	MS/Phd - Overview of Higher Studies and life after graduate school	**Sagnik Nandy, PhD (UCSD),** S/w Eng. Google
Aug 19 2006	MBA - From the eyes of a BITSian - Part I	**Subramaniyan Krishnan,** MBA ISB 2005
Aug 19 2006	MBA - From the eyes of a BITSian - Part II	**Madhurjya Banerjee,** MBA student IIM Bangalore
Aug 26 2006	MS/Phd Application Process Details	**Nitish Korula,** PhD Candidate (CS) UIUC
Aug 26 2006	MS/Phd - the BITSian angle	**Sanketh Shetty,** PhD Candidate (ECE) UIUC
Sep 10 2006	Regulatory T-cells and Autoimmunity	**Uma Chandrasekaran,** Grad stud., Medical College of Georgia
Sep 11 2006	Introduction to Computer Vision	**K L Arvind,** Manager of Technology, Sarnoff India
Sep 17 2006	Semantic Web – an Overview	**Sivaramakrishnan Narayanan (k2),** PhD Candidate (CS) OSU
Sep 17 2006	Multi scale modeling and simulations of materials and biological systems	**Arthi Jayaraman, PhD (NCSU),** Post Doctoral Fellow UIUC
Sep 23 2006	Mechanisms of Activation of Immune cell receptors	**Mahima Swamy,** PhD Candidate (Molecular Immunology) Max Planck Inst. for Immunobiology, Germany
Sep 24 2006	Monitoring Autocorrelated Process	**Shilpa Gupta,** PhD Candidate (Industrial Statistics) ASU
Sep 25 2006	Machine Translation	**Saurabh Deshpande,** PhD Candidate (CS), Univ of Rochester, NY
Sep 30 2006	Microfluidics - A Primer	**Ketan Bhatt, PhD (NCSU),** Post Doctoral Fellow UIUC
Oct 29 2006	Multivariate Control Charts	**Shilpa Gupta,** PhD Candidate (Industrial Statistics) ASU
Nov 1 2006	TCP/IP security issues	**Nasir Memon,** Professor - Department of Computer and Information Science & Director, ISIS Lab, Polytechnic University
Nov 4 2006	Component Based S/w Architecture on Embedded Mobile Platforms	**Karthick Chinnaswami,** Sr Staff Engr Qualcomm
TBA	Storage Area Networks – I & II	**Ashish Shah,** Lead iSCSI Cisco **Satyam Vaghani,** Lead Structured Data Access Group Vmware
TBA	Human Robot Interaction	**Pramila Rani,** PhD**,** R&D Engr Metis Design

HOW CAN YOU CONTRIBUTE?

An appeal to the alumni and friends of BITS, Pilani. Come join BITSEmbryo in the journey of Education, Exposure, Research

BITS*Embryo* is a partnership and the Alumni are its biggest partners. This program has a lot to offer to anyone who chooses to join in. Apart from pure altruistic pleasure, you get an opportunity to network with some of the brightest minds in India and develop a strategic relationship with BITS Pilani.

For the focused researchers, the program provides an avenue to share ideas about their work with students at BITS Pilani and in the process inspire a new generation to embrace innovation and research. This can lead to mentoring students for their final year projects and collaborative research with the faculty.

For the entrepreneurs, Embryo becomes a forum to make an impact on the talented students and motivate them to join the movement you started or encourage them to start their own ventures.

For all Alumni with passion for teaching, Embryo is a channel to

> Participate in BITS*Embryo* @
>
> http://bitsembryo.org/contribute.htm

fulfill your dreams.

For the social entrepreneurs, we welcome you to leverage the program to arouse altruism and civic responsibility in generation next.

Through you - the Alumni, we hope to see Embryo become a gateway for corporations and academic organizations to see the heart of most versatile institution we have ever known. Whether it is a company looking for the next

potential hires or an organization looking for a possible intern candidate pool, we hope Embryo will be the medium to **connect** to BITS Pilani.

The flexibility of this program is shown in the fact that it is not restricted by location or time zone. We have had lectures from different locations in US, Germany, India so far. Further from "Lecture Schedules" section, you would notice it is not restricted by the subjects or technical issues that can be discussed.

While the appeal for Embryo has multiple facets, the strongest is to return to our alma mater the passion and knowledge that it instilled in us. For the alums who want to do more than just partake in the program, we welcome you to join the core team to help us grow Embryo to new heights. To know more about the program, visit us at:
www.bitsembryo.org

BITS*EMBRYO* CLUB

BY THE BITS*EMBRYO* TEAM

Buzz in 5102-5106

Year 2006, Month April, venue LTC, BITS-Pilani, the air in 5104 was that of anticipation and exciting. A bunch of students wide eyed and whispering about the flurry across the room where a couple of students were working busily with a webcam and headphones on a laptop. Suddenly the screen flickers and there are pictures of seniors, lots of them waving hellos from across seven seas.

Technological advancement provided by BITS*Connect* has made the 6 hour journey to campus redundant to share knowledge with the students.

With the guidance and support from Dr. Rahul Banerjee, Dr. Nirban and Stueti and few other volunteers, technology was set up and coordinated to make the lecture possible.

Embryo Club was conceived. Currently, headed by Stueti Gupta, it was kick started with a live streaming meeting with the SVC team, typical Embryo Style. The meeting went on for around 90 mins with a great level of participation from the nascent members of the project. Everyone in the room came to realize by the end of the highly interactive session that there was more to come and the interesting and challenging tasks were waiting to be explored. Different management roles were created to share responsibilities and facilitate the lecture process with efficiency. The members, in sync with the Alumni Core have developed lecture process document and a disaster management document. These documents are readily available to volunteers as they join and form as a reference for every lecture they participate in. The club comprises Discipline Secretaries and enthusiastic volunteers, well represented from all batches and disciplines. The main role of Embryo Club is to successfully coordinate the lecture. It acts as a liaison between the speaker and the audience. This task is accomplished by dividing the responsibilities in Scheduling, Technical Support, Marketing and Execution of the lecture.

We have Executive heads for coordinating Technical Support and Marketing aspects of the

Embryo club - People who make it happen on campus

lectures.

The **Technical Support Team** coordinates the lecture and ensures smooth delivery of the lecture without any technical glitches. An arm of the technical support team is the **Video Editing Team**, comprising of three highly talented members. They digitize and edit the recorded lectures.

Marketing Team
This team puts their grey matter to devising new strategies for publicizing the lectures among the students and bringing to limelight the benefits of attending the lectures. They also recruit interested volunteers to be part of Embryo Club.

Execution of one lecture requires work from 3 parties: the alumni speaker, embryoclub member on campus and

embryocore member. Before every lecture, a trial run is conducted, after which the embryoclub member arranges for putting up notices, sending root mails and making announcements in the class. Further, to minimize the number of communication breaks, the club members follow a "Disaster Management Plan", which outlines fallback plans in case of an internet or electricity outage.

The day of the lecture setup is done half an hour prior to the lecture. At the planned time the lecture starts and is followed by Q&A session. The coordinator of the lecture then shares details of the lecture with the group, alumni and Professors in charge.

We have had 15 lectures so far to an overwhelming response. With a busy lecture season ahead, all involved in the project will have their work cut out and We am very sure that we have it in us to accomplish the task.

WHY ARE BITSIANS CONTRIBUTING?

Three BITSians share their BITS*Embryo* experience. Why did they contribute and why they think you should too.

MULTI-SCALE MODELING AND SIMULATIONS OF MATERIALS: AARTHI JAYARAMAN

Why did you conduct this lecture? What was your primary motivation?
My primary motivation behind conducting this lecture was the thought of giving back something to my alma mater. I thought I will be able to provide the undergrads with some exposure to cutting edge research. One of the biggest negatives about my undergraduate experience was the lack of exposure to leading research. The aim of this lecture was to motivate the undergrads to want to go to graduate school and let the top universities in the US know about BITS Chemical Engineering.

Who approached you to schedule this lecture?
I was first approached by Ketan Bhatt, who initiated discussions about my availability. Shilpa Gupta then followed up with me and corresponded with me till the date of the lecture.

What did you get out of it?
It was nice to see and chat with some of my undergrad professors who came for my talk. I guess, for me, the major takeaways from this lectures were the pleasure of contributing in some way to my undergraduate institution and the pleasure of sharing my research

area (Theory and molecular simulation studies of systems in material science and biological science). It was satisfying to sense that my lecture could encourage students to go for higher studies and they in turn could spread the word about BITS' Chemical Engineering degree to international audiences.

Do you think this initiative will revolutionise teaching in Pilani? What are the positives coming out of this? Where is the scope for improvement?
I am of the opinion that this alone will not revolutionise teaching. It is important to encourage students to think outside of the box and encourage their creativity. The positives coming out of all these lectures would be that undergraduate students get to learn about cutting edge research (from technical lectures) and get an idea of how to apply to a PhD/MBA programs (from MS-PhD/MBA lectures).

How easy / tough was it to use the infrastructure to conduct this lecture?
Since project BITS*Embryo* was just taking off when I gave this lecture, the infrastructure was minimal and not very easy to

use. For instance, I could not see what was being projected to the audience. I wished I could see if the audience were on the same slides as me when I was talking.

How long was your lecture?
The lecture lasted for 25 minutes.

How many students attended your lecture?
There were about 45 in all. The group comprised students and professors.

Will you conduct another lecture again?
Sure.

Words for alumni who want to give something back to BITS through BITSEmbryo.
Give back to your alma mater in any way you can.

"MBA - THROUGH THE EYES OF A BITSIAN": SUBRA ('97 EEE)

You did a lecture on a topic which would have garnered a lot of interest amongst the students - "MBA - Through the eyes of a BITSian". How was the experience?

It was a fabulous experience to connect with BITS again. The last time I visited campus was back in 2002 and after that, the only thing that I contributed to – was for the BITSConnect concert in Bangalore. When Adarsh spoke to me about the BITS*Embryo* project, I thought it was a great opportunity. It also went on very smoothly.

Initially I was apprehensive whether the whole thing will work well, in terms of infrastructure we have. But it was done in a fantastic manner. The only thing that could have worked out better was if I could have seen the students when the lecture happened. I could have probably connected with them much more then. Otherwise it was a fabulous experience talking to the students and answering their questions on the topic in whatever little way I could

What did you choose this particular topic for your lecture?

I have always believed in giving back to BITS in whatever way we can and whenever I meet up with my friends from BITS here, we always discuss about ways and means of giving back. When I heard about BITS*Embryo*, it seemed like a simple and effective way to give back to BITS whatever we had learnt in our professional experience.

The whole beauty of the project is that while we would have had to spend a significant amount of time in preparing for the lecture, for the actual delivery of the lecture, we don't need to spend a couple of days and travel back to BITS. Thanks to technology, we are now able to give the lecture from any part of the world. I do hope this effort spreads more so that more BITSians can contribute.

How was the whole effort of you delivering the lecture co-ordinated and implemented?

In my case, I just logged onto Skype from work. We did a couple of trial runs – first I connected with Khandu (Shashikant Khandelwal) and Adarsh who are part of the Embryo team and it seemed to work fine. A day before the talk, I synced with Stueti and Bhushan on campus and that

couldn't have incoming video and outgoing video at the same time for some reason. Other than that, everything was okay.

How long was your lecture and how many students

Stueti and Team

It was for about 35-40 minutes followed by a round of Q& A for 15-20 minutes. There were two lectures on the topic of MBA itself. I kick started the first one on "Why MBA?" and talked about the MBA at the Indian School of Business(ISB), which essentially meant it is about an MBA after a couple of

Subramaniya Krishnan ('97 EEE), or Subra as he is called graduated in 2001 with a degree in EEE. AT BITS, he was a part of the department of Backstage, did some production work for plays, did some street plays and even music for them. He was also with the Music Club for a couple of years.

Post BITS, Subra did PS-2 at Daimler Chrysler in Bangalore, where he was given a job offer. He worked with the company for three years before going onto doing an MBA from the Indian School of Business (ISB), Hyderabad. He then joined Trilogy where he has been working for a year and a half.

seemed to work fine as well. On Saturday, the day of the lecture, I tried the same thing again live and it worked perfectly. The only hitch was, since I was connected from the company, I

years of work experience. Immediately after I finished, Madhurjya Banerjee ('01) gave a talk about CAT and IIMs. The whole thing lasted about 2

hours, while my session was for about 1 hour.

I am not very sure about the number of students who attended, but as far as I know, there were about 75-80 students who attended the lecture. It was organized on a Saturday as it was convenient for the students and us.

How was the response from the students?

The response was pretty awesome. I think when you are at BITS, especially in and after your second year, you obviously start thinking about what you want to do in the future. One of the things that probably hovers in your mind is whether you have the inclination to do an MBA. Then there is also the question on when to do the MBA – Whether you want to do it after gaining some work experience or whether you want to do it right after BITS.

I personally felt that getting an MBA after some work experience is definitely a good career base. I wanted to communicate this message to the students and maybe that was the good outcome of the whole session – getting the students to think along this line.

Will you conduct another lecture again?

Definitely! I think the context should be clear on what we want out of these meetings. With the lecture on the MBA, I was an ideal candidate for someone doing an MBA with some work experience. I have about 4-5 years in the industry and am not totally out of touch with what the students might want out of such a lecture. I probably fitted this bill with three years of work experience before the MBA and a year and a half after it. I guess, if I do have something that I can share with the students which will be of benefit to them, I will definitely be keen on taking it up. Of course, it is upto me as I need to think of what more I can contribute and also the BITSEmbryo as to whether they would want to have me back.

"INTRODUCTION TO COMPUTER VISION": KLA ('94 CHEM ME SS)

Why did you do this lecture?

Vision is a fairly new field in India. However, the Centre for Robotics (in BITS) had folks working on experimental vision back in 1994. The thrust in this area died down after Prof. Nagrath retired.

The idea of the lecture was to promote general awareness about vision/imaging and their applications and hope some of these are rekindled in BITS.

What did you get out of it?

It is difficult to get too much from a single 1 hour session :) I teach the same course in a couple of other places (over a period of a semester) and the idea is to be able to explore new vision applications as you teach the course.

Do you think this initiative will revolutionize teaching in Pilani?

Revolutionize is a fairly big word ;) I think this can serve to augment existing courses and give students the opportunity to expand on their elective selection.

How many students attended?

I think about 20-25.

What was the student response?

Vision has a fairly steep learning curve and it is difficult to get students to appreciate the nuances in a day's class. There weren't any questions directly relevant to the topic being discussed.

Words for alumni who want to give back to BITS using BITSEmbryo.

11/02/2006

Choose subjects that are not common place. It would give students who are inclined to pursue tertiary education fresh perspectives.

" REGULATORY T-CELLS AND AUTOIMMUNITY: UMA ('00 BIO INSTRU)

Why did you pick this topic?

Regulatory T-cells and autoimmunity is a hot topic in immunology. Science is viewed in terms of curing disease like cancers or other common diseases like diabetics or rheumatoid arthritis. Only a decade ago people believed that such cells exist. So this is the future for anyone interested in immunology. Hence I selected the topic so BITSians might learn more about it.

What did you get out of it?

There is a difference between doing research and conveying the idea to undergraduate students. You are asked the simplest questions about your work. I had to go back to the basics.
I was very happy to give back to BITS. In BITS, I learnt all about immunology from Dr. Das. It was very satisfying to see him there. I was very happy with the opportunity to show him what I had done.

What will be the impact of BITS*Embryo* on BITS Pilani?

The lectures are in sync with what the students learn. So yes, this will revolutionize teaching. Science is no longer a textbook science. Textbooks are not even 50% reality. My research will take about 10 years to get to textbooks. These lectures are an attempt to bridge the gap.

Many seniors [alumni] are doing well and have greater insight into the research. As a student in Pilani if you are not sure if you want to do a PhD this will help you decide.

As a science graduate there are not many choices. To stay in science you are hired as technician by corporations or you take up research. If you have passion for science then do a PhD. To answer the burning questions you have, you need guidance in any science field.

How easy, tough was it to use

the infrastructure to conduct this lecture?

The first time the lecture was scheduled during elections in Pilani, which are held online. So the Internet connection was not good and hence the lecture had to be cancelled. However, the next time everything went well.

I had an Internet connection, speakers and used Skype. The lecture as such, I had a free hand on what to talk about. I had to send the PowerPoint presentation to the department. Dr. Das approved it and also suggested that I include a few more basic topics before I introduce the jargon. Those were my ideas that I was presenting but with faculty input as they have a better understanding of the student audience.

Uma Chandrashekharan ('00 Bio Instru)
"Science is no longer a textbook science. Textbooks are not even 50% reality. My research will take about 10 years to get to textbooks. These [BITS*Embryo*] lectures are an attempt to bridge the gap."

How long was the lecture?

It was about 45 - 50 minutes presentation followed by some questions. So a total of about 1 hour. I had prepared around 10 - 15 slides. I had to go slow and summarise each slide. 5 or 6 students asked questions. I later sent some review articles.

I took about 4 hours to prepare the slides and 4 hours to read the basics.

How many students attended?

The lecture was open to everybody. I think the majority were 3rd year students. Students who had taken the course "molecular immunology" and bio students.

The Biology department head Prof. S K Verma and some faculty members were there.

Words for alumni who want to give back to BITS using BITSEmbryo.

It's an advantage in every way. It is an opportunity to give back to Pilani. A good opportunity to present your work, marketing your work. Its a good way to improve your presentation skills too.

The BITSEmbryo Team

(1st Row L->R) Shashikant Khandelwal (Khandu '97 CS), Shilpa Gupta ('97 Mech), Mayur Shah ('97 Physics, EEE), Madhur Khandelwal ('98 CS), Gurpreet Singh (Gussi '97 EEE)
(2nd Row L->R) Adarsh Sreekumar ('97 EEE), Ashutosh Sharma ('97 CS), Mohit Gupta ('97 CS), Ayushman Sarangi ('97 Bio, CS)

BITSEMBRYO: A WIN-WIN PROPOSITION

BY DR. RAHUL BANERJEE

A faculty perspective from BITS Pilani

THE BITS Embryo initiative provides quite a few promising opportunities for all its stake holders. Students at various campuses of BITS-Pilani benefit as active learners in an interactive session as well as a beneficiary of participation in a faculty-alum co-guided collaborative research projects. Members of the Faculty benefit both as course-instructors and individual or group researchers.

Alumni too get a feeling of satisfaction by having contributed to their Alma Mater and may even benefit from the available on-campus expertise of a group of faculty and student researchers. The Alumni and on-campus researchers can collaborate by joint technology development, joint patents as well as joint publications in peer-reviewed high-quality journals.

In a nutshell, it is a win-win situation for all and if well executed has a potential to become the basis of several more fresh ideas and innovations coming out of BITS Pilani.

I have had the good fortune of having interfaced with quite a good number of alumni, faculty and students who have been actively involved in the BITSEmbryo initiative and I have always found that the warmth with which the idea has been greeted is really encouraging. Some of us have

> In a nutshell, it [BITSEmbryo] is a win-win situation for all and if well executed has a potential to become the basis of several more fresh ideas and innovations coming out of BITS Pilani.

informally discussed the possibilities of gradual systematization of the awareness-stream lectures, technical tutorial-stream lectures and research-stream lectures in a way that could possibly bring out a long-term self-sustaining process. This will ensure that in the near future the initiative begins to bring out the benefits envisioned by the BITS Embryo Team at BITSAA.

Some minor issues remain but these are gradually being addressed at the right levels and possibly before the end of the current semester all these remaining issues shall be duly closed to the satisfaction of all involved.

The next part of the initiative is probably on the collaborative short-term and mid-term research projects in which select students could participate under the joint supervision of alumni and on-campus professors. Next semester may therefore witness a few small-scale pilots of this kind if there is adequate degree of interest from students and if in a couple of common areas of research interests we could get a firm commitment from both an alum and an on-campus professor.

Once it succeeds, it shall inspire many more projects to follow the example. I have seen a few inspiring examples of this kind around the world, and we, at BITS, are convinced of the immense value that such initiatives can bring to all stakeholders in the long term.

RETIRED BITSIANS

BY SAUGATA CHATTERJEE (SOGGY) ('95 CS) AND RAMYA SATYAM ('02 CIVIL)

Three retired BITSians retrace their path through the sands of time

Bobby Zachariah's

current setting, as he enjoys lunch in sunny San Jose, California, is a far cry from his early roots. He has come a long way, metaphorically as well as physically, from the days when he and his friends would go on 'movie-binge' trips to Delhi in order to escape the humdrum life of the BITS campus, where the only way to catch a screening of the latest blockbuster was to go to CEERI. Assuming, of course, that you knew someone who could get you in. BITS, Pilani has come a long way since the late 1960's too!

Life is good for Bobby. His son and daughter, of whom he talks with obvious paternal pride, have qualified in investment banking and medicine respectively. Bobby is retired now, after spending the last 6 years as VP of Supply Chain Management at Clorox Corporation, and he lives with his wife in a golfing community in Moraga, California.

Bobby began his studies at St. Joseph's College, Trichy, and had already started at Loyola College when he received a letter of admission from BITS. However, back in the '60's that wasn't enough to secure your place: there was still a face-to-face interview to overcome. Bobby had never been to Delhi before, let alone Rajasthan so you can imagine his trepidation

as he boarded the rickety bus to Nutan Bus Station to begin his Pilani days. Bobby's discipline was A3, which in those days was really more power engineering than electronics. He remembers two of his professors distinctly: Prof. Ramamurthy (head of workshop) and Prof. Natesan (EEE) and recalls how feared they were on campus, because of their physical stature and their reputation for being somber and 'no-nonsense' professors.

Bobby was known as Verghese during his Pilani days. On the non-academic side, he was the captain of the cricket team and editor of the magazine Becmag (see pictures). There was minimal contact with the outside world then, as no newspapers were delivered to campus and, at

the time, there were no television sets. Most of the students would listen to Radio Ceylon, the only station that offered a diet of pop music to its avid listeners, on self-assembled transistors, which was one of the raging fads at that time.

After BITS, Bobby was recruited by TISCO through on-campus interviews, which were a rarity in those days. After finishing a couple of years at TISCO Bobby started on an MBA at XLRI.

One day, Bobby found a classmate writing a letter and, upon asking, found that the classmate was writing to the US Embassy for permission to immigrate to the States. The seeds were sown! Bobby did the same, was certified right away,

Bobby Zachariah

BIRLA COLLEGE OF ENGINEERING PILANI
Editorial Committee Becmag 1963-64

Sitting (L to R.)—Mr. U. C. Jain (Adviser-Hindi), Prof. I. J. Nagrath (Co-Editor), C. P. Rangachar (Chief Student? Principal V. Laxminarayanan (Chairman), Dr. M. Chaudhuri (Chief Editor), Mr. M. K. Prem (Adviser-En? V. N. Soni.
Standing (L. to R.)—V. Zachriah, V. Ravindra Nath, R. Chirania, O. P. Agarwal, J. M. Sahni.
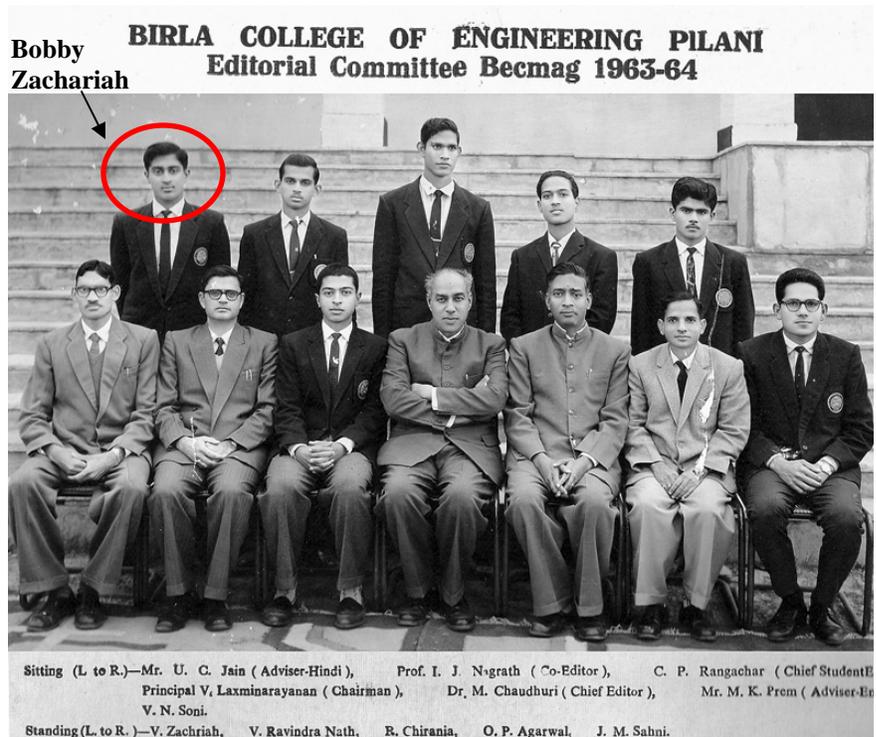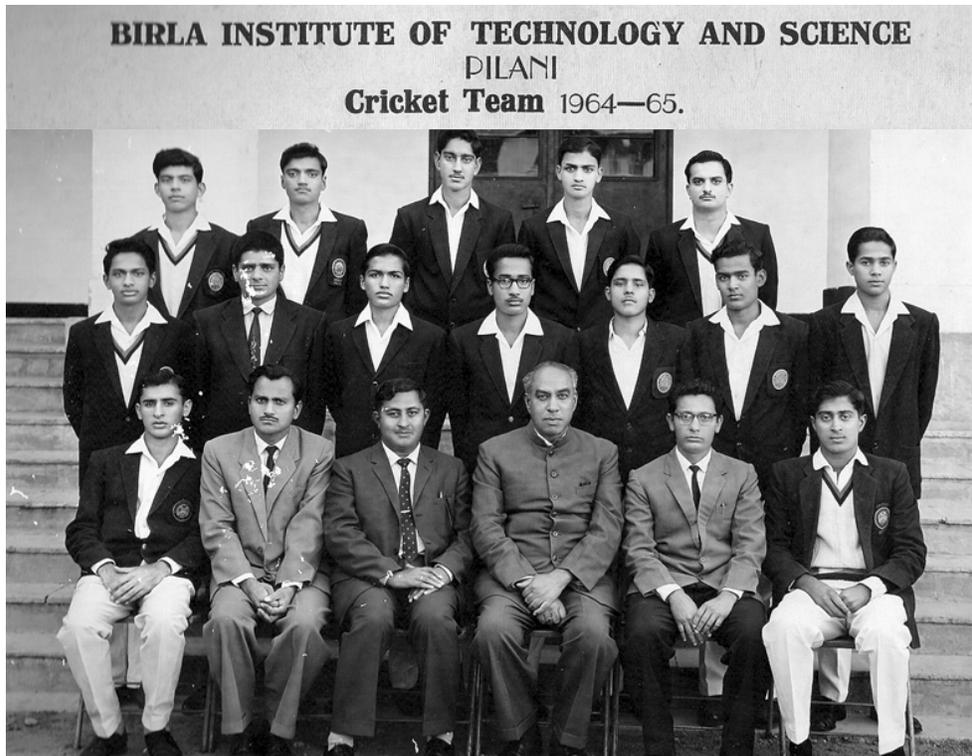
BIRLA INSTITUTE OF TECHNOLOGY AND SCIENCE
PILANI
Cricket Team 1964—65.

On Chairs L. to R.:—M/s. Y. K. Nangia (Captain), M. S. Shekhawat (Physical Director), M. C. Joshi (Prof. in charge), Director V. Lakshminar...
K. M. Dholakia (Secretary Athletic Club), V. Zachariah (V. Captain),
Standing 1st Row L. to R.:—M/S. Govindan, N. B. Rindan, Sunil Agarwal, H. K. Mittal, Arvind Jain, S. K. Rao, A. V. Deshmukh.
Standing 2nd Row:—M/S. Ahluwalia, P. S. Raghavan, K. K. Vashistha, S.M. Sathaye, V. Sexhri.

(Kaushik Studio, ...)

the largest cable company in the US then, now a part of Comcast. During his foray in the cable business in Denver, Clorox, the $4 Billion consumer company in Oakland, California, was courting him, and finally Bobby accepted Clorox's offer and moved to the Bay area. Bobby was with Clorox for nearly 6 years and served as VP of global procurement and later headed up their strategic outsourcing before retiring.

In retirement, he has kept himself quite active. "You don't retire to go home and die", Bobby told us. He certainly didn't retire because he lacked energy and enthusiasm; he just wanted to channel them towards other goals. He now spends his time traveling to various parts of the world, improving his golf and tennis games, and serving in an advisory capacity to a few companies. He is trying to figure out some charitable things to do in India when he visits there later, and will spend some time exploring the right vehicle to start on that. He is also thinking of dropping by at Pilani.

Finally, we asked Bobby for some advice for BITSians. "If you're planning to go up in management, you must be a well rounded individual. Develop and polish your soft skills. Network. Improve your interpersonal skills – especially how you deal with people below you." He also told us about the importance of

and soon found himself in New York.

He had only $8 in his pocket and no job offer; just dreams of starting afresh in the land of opportunities, a $400 loan and a wife and child in tow. It was the true immigrant experience!

Bobby found himself a part time job, paying $1.80/hr, while he looked around for something more lucrative. Other Indians were a rare sight in the American workforce at that time, but he met a Nuclear Engineering Ph.D. from India working as a clerk in a New York bank – this, after all, was the early 70s stagflationary period in the US and engineering jobs had been severely downsized. Bobby clearly recalls an interview where the hiring manager was amazed at his fluent English

and, not quite believing what he was hearing, exclaimed "You seem to speak good English, but can you write?" and gave him a test of his written English on the spot! "He had me physically handwrite a letter because he couldn't believe that I could write English!" Bobby recalls.

After a few years in engineering roles, he switched over to a managerial position. In the '80s, he was working in Cleveland when he received a great offer from Coors, the beer company. After management positions in the brewing plant for a while, Bobby was promoted to Vice President of Coors' aluminum division and was also the managing director in charge of their Swiss subsidiary. Coors ultimately divested themselves of their entire aluminum division after which he was the VP of Tele-Communications,

maintaining a career plan (including a financial plan) throughout our lives – Bobby kept to his and actually achieved his goal six months before retirement. He is also happy with the BITSians he has met in recent times "I am excited by the brilliance, the focus and the energy of the recent BITSIANS that I have met. The opportunity and the future for these graduates are tremendous."

Professor Vinod Thukral, in BITSian

lingo, is practically a *loki*. He grew up in Rewadi and had visited Pilani quite a few times before he joined. He studied B.Pharm from 1961 to 1967. When he first joined BITS, it wasn't BITS at all. In 1961, it

Professor Vinod Thukral ('61 B. Pharm.)

was still three separate colleges – one each for science, engineering and arts - but by the time he completed his studies, they had merged and become BITS as we know it today.

Vinod remembers BITS as a strict disciplinary campus during his time. The curfews were much more stringent then - 7 p.m. for girls and 10 p.m. for guys – and the students were not allowed to use heaters in their rooms. Anyone who has passed the winter months at Pilani will know what an ordeal that must have been!

During Vinod's time at BITS, the chief warden was an old, affectionate professor named Yajnik, whose nickname on campus was *Babaji*. Babaji would escort the girls on to the S-block quadrangle where the occasional movie was shown and, when he arrived with them, the guys would greet them with shouts of "Babaji ki jai, babaji ki jai"! "It was a small, intimate environment", he says, reminiscing about the student

community.

Vinod got a job with GlaxoLabs after BITS, working as a medical rep in Srinagar. After six years, he applied for a Green Card in the U.S. Getting a Green Card was much easier in those days and you didn't even have to have a job to come to. Vinod landed in New York in 1973, and he moved to Tulsa, Oklahoma to stay with one of his wife's relatives while he pursued an MBA at the University of Tulsa.

Always having had academic intentions, he moved to the University of Kansas to work on a Ph.D. in management. By now, he had an assistantship that covered his tuition and also provided a small stipend, so he could focus on his studies full time. After graduating, he applied to various universities seeking a professorship. He had 4 or 5 offers, and he chose to move to Tulane University in New Orleans.

Vinod taught at the School of Business for 6 years, before moving to the Department of Health Systems Management at Tulane School of Public Health and Tropical Medicine. This move was to have profound implications for BITS as well a few years down the line. In 1989 he got a Fulbright scholarship for a year, and moved to India, setting up base camp in Jaipur.

He visited various universities, including BITS, where he met with Professors S Venkateswaran and B.M. Mittal, and kicked off a joint M.Phil. Program. The program was a collaborative effort between

Outstanding academic reputat

Tulane University Superb fa

FREEMAN SCHOOL OF BUSINESS

Tulane, BITS Pilani, Christian Medical College, Vellore, Bombay Hospital, Mumbai. In this program, Tulane's curriculum was followed but BITS awarded the degrees. Initially, there were several faculty exchanges between Tulane and consortium partners. Many illustrious professors from BITS, including KRV Subramanian, Usha V Subramanian, Ravi Prakash and Nirupama Prakash visited Tulane. Professor Venketeswaran visited Tulane regularly for several years to discuss the program with Tulane's faculty and administrators. Vinod continued to be the director of the program, and visited BITS in this role every year from 1995-2000. His brainchild continues to function even today, and awards about 40-50 M.Phil. degrees annually.

In 2000, Vinod moved to California. He continued to keep his position at Tulane till 2004. In 2004, after teaching for 23 years, he voluntarily retired from Tulane to pursue his other interests. He joked about academic retirement, or the lack thereof, succinctly: "As long as your IQ is higher than your age, you are employed!" Nowadays, as a second career, he has established The VT Venture Group to invest in community banks.

In his spare time, Vinod enjoys playing bridge and golf. His two daughters are both well established professionally - his elder daughter is a criminal defense attorney in New York, and his younger daughter works

as a consultant for IBM. However, like many Indian fathers, he doesn't consider them to be fully settled since they are both as yet unmarried!

On being asked for advice for BITSians, Vinod echoed other retired BITSians in recommending the development of a well-rounded personality, because he feels that education in India is focused on technology, which is great, but which doesn't make a person complete. He offers a suggestion to have elective lecture series on

various non-technical topics. If there isn't enough time to cover them in BITS curriculum, it is his hope that this is something that future BITS students will be able to benefit from.

Born on the 7th of June 1930 in Tirumangalam (TN),

Lt. Gen. L.M. Rajgopal, AVSM

completed his intial education in Coimbatore and Madras. After completing his matriculation from the Presidency College (Madras), he obtained his B.E. Mechanical Engineering degree in first division from the Birla

College of Engineering, Pilani in 1951.

Thereafter he was commissioned in the Corps of Electrical and Mechanical Engineers of the Indian Army from the IMA, Dehradun in 1952. He served the Indian Army for 36 years with numerous accolades like the prestigious 'Ati Vishisht Seva Medal' which was awarded to him in 1983, by the President of India, for meritorious service of an exceptionally high order. Here is a small rendezvous with Ramya Satyam where Lt.General reminisces his college days.

Would you tell us how you got to know about BITS?
Way back in 1947, the present day BITS-Pilani was called Birla College of Engineering (BCE). Those were the days when refugees were shuttling from our country to the other and Rajasthan was still called Rajputana. I had just completed my matriculation and one of my uncles, who was the IG of Local Boards & Panchayats in Rajasthan, suggested BCE, Pilani to me. At that time, it was quite a risk to travel in GT Express for two full days but my urge to do engineering drove me to Pilani. After traveling for two days from Chennai to Loharu and then take buses or camels to Pilani.

How were your initial days at Pilani?
I was in the second batch of students admitted to BCE, Pilani. In a batch of 130 we were about 20 to 30 South Indian chaps. It was very difficult for us to adjust to our new habitat. The language and the food were of major concern. A few boys even ran away unable to put up with the

weather. My determination and drive to achieve my goals made me stay back at Pilani, which was ultimately a pragmatic decision for my career. Initially we were admitted to a four-year engineering course, which was changed to a three-year course for our juniors. I have always liked sports so much. Badminton was my forte and I was the captain for Badminton. My final year internship was at Hindustan Aeronautics Ltd., after which I was directly commissioned in the Indian Army.

Would you relate some Pilani experiences, which are really close to your heart?

I can never forget those days when we used to go to Sharma ji to learn Hindi. We used to sit in his porch and narrate "Ek din ek balak…" The way we memorized Hindi is just so unforgettable. I also cherish the moment when BCE had won All India Basket Ball championship under the captainship of Mr.Jugal Kishore Kapoor. The feeling of pride that MY College had won a championship was very overwhelming.

Around that time there were many communal clashes in India and in order to ensure our safety we used to patrol our hostels at night with spears in our hands. My Army job had started right then I suppose. (Laughs)

Would you tell us about your life at the Army?

I was commissioned in the Core of EME (Electronic & Mechanical Engineering) in the Army on 27th July 1952, i.e., soon after my internship at HAL. I commanded the 512 Army Base Workshop involved with the overhaul and repairs of Armored Fighting Vehicles. I have held numerous commands in my career, the more important ones being the Deputy Director EME and Director Resources Management in the rank of Major General at the Army Headquarters. As MGEME HQ Southern Command, I initiated a closer association between Artificial Limb Center at Pune and the Corps of EME.

Later I was ranked as Lt. Gen and was posted to the Military College of EME, Secunderabad. I also took part in the Indo-Chinese operations of 1962and Indo-Pak wars of 1965 and 1971.

The most memorable moment of

AVSM awarded to Lt. General L. M. Rajagopal by President Zail Singh
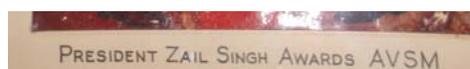
my career is surely the award of 'Ati Vishisht Seva Medal' by President Gnani Zail Singh in the year 1983 for meritorious services.

Post Retirement life?

I retired from the Army on 30th June 1988 after serving for two years as the Director General of the corps of Electrical and Mechanical Engineers at Army HQ. Ever since I have been engaged in various honorary consultancy and social work, pertaining to diverse fields. I have also been a nominee Director at the MCEME. Also I had to make up for all the time that I was not able to be with my family. My wife Kamala and I are blessed with three children, a daughter and two sons. All of them are abroad, married and well settled now.

I've also been an active member of BEnCOBA (Birla Engineering College Old Boys Association) which is now famous as BITSAA (Smiles)

What would be your message to all the BITSians?

Whatever branch or whatever field you have taken up show your whole-hearted interest in it and keep the flag of Pilani flying.

Here is the part of our daily prayer at BCE –
"Jayathi Pilani Vidyamandir, Jaya jaya jaya jaya hey!!"
Long live BITS, Pilani.

BITSAA CEL: CENTER FOR ENTREPRENEURIAL LEADERSHIP

BY SAUGATA CHATTERJEE (SOGGY) ('95 CS)

BITSAA launches a new initiative, CEL, which aims to become the breeding ground for next-gen BITSian Entrepreneurs.

CEL-BITSAA is an initiative for fostering entrepreneurship through educational and networking events. Its mission is to provide a forum for building relationships between aspiring and successful BITSian entrepreneurs and stimulate entrepreneurial thinking amongst BITSians.

Current CEL-BITSAA events take place in the San Francisco Bay Area; however, BITSians all over the world can participate through slide sharing and audio conferencing. The slides and videos are posted on the CEL-BITSAA website soon after the events.

CEL-BITSAA Launch

In late 2005, the BITSAA Silicon Valley Chapter initiated CEL-BITSAA to create a network of existing and budding BITSian entrepreneurs. The initiative was launched with a panel discussion on "*Power of the BITSAA network for the BITSian Entrepreneur*" at the 7th Annual BITSAA-Silicon Valley Reunion in March of 2006. The captivating and insightful discussion, moderated by Jayan Ramankutty, featured such BITSian veterans in the entrepreneurial space as Vivek Paul, Prem Jain, Raju Reddy, Punita Pandey and Alagu Periyannan (see photo).

Current Activities

CEL-BITSAA conducts biweekly educational and networking events in the San Francisco Bay Area. The events cover a range of entrepreneurship topics and are in the form of guest speaker presentations or panel discussions. These events offer BITSians a chance to interact closely with successful entrepreneurs and corporate executives in an informal setting.

An "Entrepreneurship Resources" website http://svc.bitsaa.org/entrepreneurship was recently launched as a one-stop reference for entrepreneurs. It carries information on various entrepreneurship resources and a calendar of upcoming events.

CEL Educational Event Series aka Plan "E"*		
Power of the BITSAA Network for the BITSian Entrepreneur	Alagu Periyannan, Jayan Ramankutty, Prem Jain, Punita Pandey, Raju Reddy, Vivek Paul	Mar 2006
Funding for startup: How to raise your first round?	Jayan Ramankutty Founder/CEO - Yume Networks	Jun, 2006
From idea to success: The Pinnacle Systems Story: From start to $350 million and a successful exit	Ajay Chopra, Venture Consultant - Trinity Ventures, Founder - Pinnacle Systems	Jul 2006
"Hot Areas for Startup" Series I: Mobile value-chain: Perspectives on enterprise mobility	Sundeep Gupta, Director of Product Management & Marketing, Orative	July, 2006
Experiences of a first time entrepreneur - things to do and things not to do	Manish Rathi, Co-founder/Director of Engineering - Retrevo Inc	Aug, 2006
Zeevo – A startup's journey through ups and downs	Vikram Gupta, Senior Manager, Broadcom; Founder, Zeevo	Aug, 2006
Back from the dead – Redback & Blue Coat - valuable lessons for entrepreneurs from these turnarounds	Shailesh Shukla, Vice President of Strategic Marketing, Juniper Networks; ex-Vice President of Strategy, Redback Networks & Alagu Periyannan, CTO BlueCoat Systems	Sep 2006

*For a list of future events visit http://svc.bitsaa.org/entrepreneurship

Power of the BITSAA Network for the BITSian Entrepreneur.
CEL conducted a panel discussion at Silicon Valley Chapter's Annual Reunion in March 2006. Seated from L to R: Jayan Ramankutty ('80 CEO YuMe Networks), Prem Jain ('73 Ex-SVP Cisco Systems), Punita Pandey ('84 CEO netCustomer), Vivek Paul ('80 Partner, TPG Ventures), Alagu Periyanan ('89 CTO, BlueCoat Systems), Raju Reddy ('91 CEO Sierra Atlantic)

Going Forward
CEL-BITSAA will continue with its educational and networking events. In addition, a Business Plan Workshop will be scheduled in early 2007, in addition to collaborating with the Center For Entrepreneurial

Leadership (CEL) at BITS Pilani.

Core Team
Ashish Shah
DP Ayyadevara
Saugata Chatterjee

Ashish Garg

Advisory Team
Chandra Bhople – President, BITSAA-SVC
Alagu Periyannan - CTO, Blue Coat Systems

CEL BITSAA Silicon Valley Chapter Team
Outside "Baja Fresh" in Rivermark Plaza at San Jose, CA. The *usual* meeting place for lunch planning sessions. (L to R) Mr. Shah ('94 EEE), DP ('94 Eco EEE), Gargyboy ('97 Instru) and Soggy ('95 CS)

TWO BITSIANS NOMINATED TO BUSINESSWEEK 25-UNDER-25 ASIAN ENTREPRENEURS LIST

BY SAUGATA CHATTERJEE (SOGGY) ('95 CS)

Interviews with Rama Krishna Gaddipati (CEO and Co-Founder BridlE Infotech) and Sasikanth Chemalamudi (Founder and CEO Habits.in). BusinessWeek nominated Rama Krishna and Sasikanth to its 25-under-25 Asian Entrepreneurs list this year.

BusinessWeek

recently nominated two of our very own young and dynamic BITSians in their "25 under 25 Asian entrepreneurs" competition. Featured on that list were Ramakrishna Gaddipati, founder of BridleIT, and Sasikanth Chemalamudi, founder of Habits.in. Here's what they had to say about themselves, life at BITS, their inspirations and their companies when Sandpaper caught up with them for a brief chat.

Ramakrishna Gaddipati, Founder and CEO, BridleIT

Bridle is a mobile applications and services outfit that has developed a service called SchoolMATE, which is a comprehensive student analysis system that allows parents to monitor their child's progress at school. The service feeds information on conduct, examinations, and report cards to subscribers, and employs

technology such as mobile text messaging, the Web, and e-mail.

Tell us a little bit about you and your life at BITS.
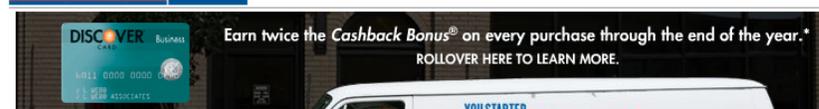
ASIA'S BEST UNDER 25

Rama Krishna Gaddipati

Co-founder: Bridle Information & Technology Solutions

www.bridleit.com/index.htm
Tenali, India
Age: 24

Bridle is a mobile applications and services outfit—and that is a good space to occupy given the explosive growth of mobile telephony in India. And Bridle co-founder Gaddipati (the 2001 winner of the Intel CyberFiesta national software development contest) may already have a hit on his hands. The service is called SchoolMATE, and it is a comprehensive student analysis system that allows parents to monitor their child's progress at school. The service feeds information on conduct, examinations, and report cards to subscribers, and employs technology such as mobile text messaging, the Web, and e-mail. The company has gained about 70,000 subscribers in Hyderabad and Vishakapatnam in India.

Prof. Usha V Subramanian's CP-I was the first class I ever attended in BITS and since then programming remained the only thing that appealed to me. My team was the first to represent BITS in ACM ICPC Asia regional contest and I won the first prize in Cyberfiesta, a software contest during Apogee 2001.

As I recollect, Programming, Wingies, Friends, ANC, C'Not and Age of Empires, were the things that filled my life at BITS during my first degree.

In Feb 2004, as an M.E. (SS) student, we heard that there was a possibility that Dr. Abdul Kalam, President of India, who was visiting the campus to inaugurate NEURON, the campus-wide network, might be distributing the prizes for the best working models of APOGEE 2004. I immediately began work on 'Universal Remote Controller' which should conceptually extend controlling and monitoring of any devices/home appliances from anywhere in the world, through a mobile phone or any such communication device. We had our working model ready and were able to demonstrate it for controlling and monitoring lights and fans by the time we knew that the President's program was cancelled! This was the beginning of Bridle - a name chosen because it means control.

As we came to know that BITS had started a Technology Business Incubator, we

approached Prof. V.S.Rao and Dr. Gurunarayan with the work we had done and the possibility of building a business around it. A series of discussions and presentations followed and now Bridle is formally the first incubated company of BITS, Pilani.

Have you always wanted to be an entrepreneur? If so, why? If not, how did this idea come about?

As they say, an idle brain is the devil's workshop. I used to dream a lot. Tons of ideas would pour into my mind and I used to explain them to my friends. Although I never knew the word 'entrepreneur' before Bridle, I used to think of how things we see around us could be improved and what differences we could bring to them. As a result, all of my thoughts are simple and are based on what we see in day-to-day life. I was just a dreamer before Bridle. Bridle taught me entrepreneurship and I am still a student.

What kind of challenges have you faced/ are you continuing to face?

There are quite a great number of them in various directions. But the first thing I would say is **family support**. Get your family to support you unconditionally before you venture in. All of the rest is manageable. However determined and courageous you are, you need someone's shoulder to rest on and words of encouragement to help you jump the next hurdle.

Where have you turned to for advice? Who is your inspiration?

Prof. V.S. Rao was very helpful when we were contemplating this whole idea. Mr. Anupendra Sharma has given us a lot of insight into business. The book 'Beermat Entrepreneur' by Mike Southon was my reference manual in the initial days.

Regarding inspiration, I can't name just one. The stories of Steve Jobs, Iacocca, Art Fry (of Post-it note fame), Bill Gates, Larry Page & Sergey Brin and Edison have a great impact on my thoughts. Ram Sriram is the man I follow these days. I find a lot of inspiration every day; the most recent being Vani Kola. The list, I believe, cannot be exhaustive.

And finally, a little bit about your company. Where are you right now and where are you headed?

The company was founded in 2004 with 5 BITSians on the management team. We launched SchoolMATE in May, 2005 with a grand campaign called 'Mission ABC – A BITSian Conquest', with 100+ BITSians taking SchoolMATE to their own schools! SchoolMATE now has 70,000 subscriptions and we are looking to expand it to reach internationally as well as nationally. We have offices in Hyderabad and Vizag with 44 employees and a turnover of around INR 7,000,000. We are intending to build more services and are in the process of raising first round investment.

Sasikanth Chemalamudi, Founder and CEO Habits.in

Sasikanth, a 2004 graduate, turned down a job with InfoSys to launch Habits.in, a creative learning resources company that encourages creative thinking with the aid of educational materials such as musicals, plays, and interactive games.

What is "Habits" all about?

Habits provides a 'Great Escape' for everyone seeking a quality break from the hustle and bustle of today's city life. Edutainment (Education with entertainment) is the thing. We were just two people providing services within the premises of the client till 3
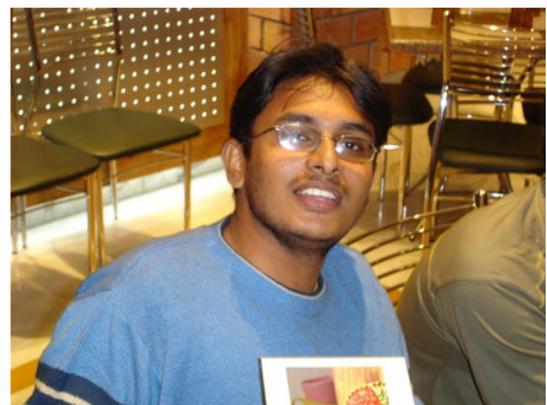
months before.

Now, we have just hired 6 people fulltime and employ 5-6 more people on a contract basis whenever the need arises. We are searching for investors to start a full-fledged Edutainment Lounge in Hyderabad. We are launching a 15000 sq ft lounge in the club house of a 280 flat housing venture in Srinagar Colony (Hyd) to serve as 'working proof of the concept' pretty soon. We have done events with Teleonto, Sum Total Systems, Satyam Computers, Computech Enterprise Solutions, Computer Associates, Vignan Vidyalayam and Srinidhi Eng. College (all in Hyderabad).

More projects are on the way now that we have started moving forward aggressively.

A little bit of background on you and your life at BITS?

I did EEE from BITS. After two years of imprisonment study (in Intermediate) that led to a state rank, the freedom in BITS attracted me towards enjoying life BITSian style and I didn't do much in the first two and half years. By the time I realized, it was too late to cash in on the wonderful opportunities that BITSian life presented. But from then on, though not academics-wise, things were great. I learned a lot, made friends for life, zeroed in onto my priorities, shed my inhibitions and started working towards my future. Life as founding member and VP of Centre for Entrepreneurial Learning (CEL) was one such experience.

Ask me if I regret my first two and half years in BITS and my answer would be a big NO. I was very actively involved in politics and that experience helped me in some really tough situations as an entrepreneur - believe me! Not just that - everything in BITS teaches you something. It is an experience in itself.

Have you always wanted to be an entrepreneur?

I have always wanted to start on my own. I like working to learn and grow ('rich' included) and not just for a secure paycheck. I love putting every possible effort into something I do and I feel this can only be done when you are doing things for yourself and not for someone else.

Where have you turned to for advice? Who is your inspiration?

BITS! Dr.Ishwar Bhat, Dr.NVM, Dean Natarajan and Prof.Arya to begin with. The mentorship, guidance and warmth they gave to me were invaluable. And when I was back in Hyderabad, the BITSian Alumni network was simply great. Mr. Sanjay Khendry, Dr.Ashok Agarwal, Dharma Rao garu, Mr.Vijay Rao and Ms.Anita Sakuru always treated me like a friend and guided/mentored me with a smile. I shall be perennially grateful to them. Even now, when I get in touch with them after several months, they still show the same warmth and affection.

I'D QUIT AND BECOME AN ENTREPRENEUR, BUT I DON'T KNOW HOW THEY HANDLE SUCH HUGE RISKS.

DENIAL, PROBABLY.

BITSIAN ENTREPRENEUR SHOWCASE

BY SAUGATA CHATTERJEE (SOGGY) ('95 CS)

Startup ventures by two generations of BITSian entrepreneurs. The young and fearless 20-somethings: Phanindra, Sudhakar, Charan (redBus) & Anand, Thaks and their '97 batch buddies. The successful and accomplished: Jayan Ramankutty ('75 batch) starts his fourth company, YuMe Networks.

redBus

Phanindra, Sudhakar and Charan are all 25, from the BITS-Pilani class of 2002. They had always wanted to start their own business and were initially thinking of something hi-tech. They found their inspiration from a quote in (Sir) Richard Branson's autobiography, "look around your life. If there is any process that can be improved, it could be the next big business idea". Thus redBus was born. Even the 'red' in redBus is inspired by Branson's Virgin logo's red color.

redBus.in is India's first online bus ticket reservation portal. The redBus team did a very basic market survey and then started to build the technology. They didn't approach their customers until the technology was in final shape.

There are some other ideas in the pipeline too. They are currently working on 'requirements collections' and have already blocked some domain names for them, which also have the 'red' prefix. Their average salary is now around 10 lakh per annum. It was very difficult for them to take the decision to quit their previous jobs, but their inclination to start on their own and the big business opportunity before them gave them the impetus they needed.

According to redBus, "TiE-EAP (http://tiebangalore.org/eap_home.html) has been extremely helpful in mentoring us. Our mentors went through the business idea in detail and helped us figure out loopholes. We received help in architecting strategies, estimating budgets. They also provide us emotional support and encouragement at times."

L to R: redBus.in founders Phanindra, Charan and Sudhakar

PennyWise Systems

Anand Morzaria, Ananth Vyas, Anshuman Dimri, Pavan Pochu, Venkat Polana and Krishna Mohan founded PennyWise solutions in June 2003. Leaving behind cushy jobs at companies like JPMorganChase, Cognizant and Sapient, these BITS Pilani alumni from the Class of 2001 decided to chase their entrepreneurial dreams together. Little did they know that for the next few months this would entail working from the confines of a small two bedroom apartment, setting up a make-do office with run-down furniture and taking turns at cleaning the office first thing in the morning.

From these humble origins and with a lot of heart, they have

PennyWise had successfully risen to the challenge and the

Today, PennyWise has achieved strong financial results in excess of traditional industry growth rates; but the management team is more ambitious than ever. They have created three new divisions -- PennyWise Financial Services for delivering cost-effective offshore bookkeeping and accounting services; WiseBrandZ for providing online branding, search engine optimization, web analytics and consumer tracking solutions; and PennyWise Portals for building and monetizing consumer internet applications. While PennyWise Financial is managed by Ananth Vyas, who is currently awaiting his CFA charter, WiseBrandZ is led by Amit Thakral, a BITSAA 30-under-30 award winner.

The Pennywise Solutions (BITSian) Team
Standing L-R: Anand Morzaria, Anshuman Dimri, Venkat Polana, Amit Thakral, Pavan Pochu
Sitting L-R: Avtar Purewal, Rithesh Prasad, Ananth Bhimavarapu

gone on to build a software development center that employs over 50 IT professionals in Hyderabad.

In the beginning, there were numerous challenges that the founding team had to overcome. PennyWise set out to develop a software product for fleet management called Quick Dispatcher and partnered with a US based company for marketing support. However, when this joint venture was shelved due to financial constraints, the founders adapted themselves to the changed circumstances by undertaking IT services contracts. With very little operating income, the team had to forgo salaries for many months. However, their hard work soon paid dividends as satisfied customers either referred more customers or signed up for even larger, longer-term contracts.

tide had finally turned.

The second and third years brought forth the usual set of difficulties that any new company has to face -- the lack of a sufficient marketing budget, market loans available only at high interest rates and the retention of skilled employees in a highly competitive job market. Regardless of these hurdles, the company's relentless focus on quality customer service led to a constant stream of projects. In just three years, PennyWise was able to develop and deploy software solutions for over a hundred satisfied clients spread across Europe and the US. These projects in turn enabled the PennyWise team to gain valuable experience over a wide range of industry workflows and also prepared the team to ride the next wave of opportunities.

The YuMe Networks story: A Monetizing Platform for Internet Videos

Jayan Ramankutty is a well-

Jayan Ramankutty

known BITSian serial entrepreneur. He has started three companies which had

successful exits (Nimbus Technology, Lara Networks, EmpowerTel Networks), and since 2004, been working on his latest venture, YuMe networks. I sat down with him for an hour, listening in rapt fascination as he told me about the ideas that led him to start YuMe and how it changed direction, the vast potential of the online video market and the challenging business problems to be solved in this area. What follows is a short summary of our discussion.

Video delivery has evolved from terrestrial distribution, a broadcast one-to-many model to cable/satellite to the nascent online video delivery of today. What Jayan wanted to do initially was to be able to deliver video many-to-many, like an eBay for videos, with no way to pirate the content; a P2P (peer-to-peer) model where the producer and consumer were part of the P's. He started thinking about these ideas back in 2002, when his friends didn't believe that online video delivery could be a viable business model. Jayan even went to Bollywood and acquired the rights to 10 or 15 big titles, to distribute them online. His vision for YuMe initially was one where people would create their own program guides, and YuMe's technology would 'push' the content on to their computers, or boxes that could directly feed TV sets, and users could watch at their own leisure. In Jayan's own words, "We wanted it to be like a Netflix over broadband. It would be kind of like a reverse-TiVo model (TiVo uses 'pull' technology)".

Along the way though, Jayan realized that there was a bigger problem to be solved. How do you monetize the content? Who pays for it? Not the consumer surely, or at least not till it is a viable practice with a lot of demand. The obvious answer was advertisers. Today, in a 30 minute program consisting of 22 minute actual content and 8 minutes of ads, someone has to manually stitch the two together. So YuMe changed directions and focused on how to be able to automatically insert ads in   videos.

To this end, they have developed a patented technology where the platform can auction time slots attached to a content to the advertisers, and can be used to automatically insert and remove ads within video time slots. For example, it can be used to maximize revenue for popular content, by removing ads whose creators were unwilling to pay a higher price and putting in somebody else's ad who were.

In terms of logistics, YuMe is well financed, and has the backing of premier VCs in the valley such as Khosla Ventures, Accel Partners and BV Capital. They are headquartered in Fremont, California, with sales and business development based there and an

outsourced model where the technology, finances and HR are farmed out to their offices in India (Pune and Bangalore).

According to Jayan, online videos are just starting to explode into the marketplace, however there are still many challenging business problems to be solved. The technology is not a problem, but he thinks it will take at least another 2 or 3 years to smooth out all the business issues. One of the most important issues to solve is how do you convince advertisers to partner with you to advertise on user generated videos when they don't know what the content of such a video is? A risqué video could ruin the reputation of the advertiser. Jayan considers this a hard and challenging problem, possibly requiring some Ph.D. level work on it by some brilliant grad students (BITSian grad students searching for a thesis topic, take note!).

Jayan is excited about where the online video industry is headed, and sees a definite potential for explosive growth once some of the business kinks are ironed out. He is positioning YuMe to be a leader in this space, and we wish him the best!

The Food King

Sarath Babu's rags to riches story has been widely publicized in Indian media lately. Sarath sits down with Sandpaper to share his entrepreneurial story.

Foodking founder Sarath Babu.
Picture courtesy: Rediff.com

What problems did you have starting out? How did you counter them?

Entrepreneurship is a tough and challenging task. So, starting big is going to be an even tougher. I started small and I made it a point to start immediately, as otherwise, if you keep thinking about a project, you might end up losing steam. So, I started while I was studying in Ahmedabad. Starting early, while still in IIM, gave me some cushion and confidence. I did not even have money to register the company. I was able to fund for it by the money I had saved up by running small businesses. Getting around these initial obstacles gave me a lot of confidence.

Since this is a service industry, getting good people is important. That was a challenge. We now have a solid management team in place. There were also financial challenges like getting a working capital, but I was able to work around them.

When you started out, how did people get to know about your outlet? Did you have any media coverage?

Most of the publicity was by word-of-mouth. People in Ahmedabad called me up to ask me about where my restaurant was! Few owners get such call. I had to really fight out my first two contracts. I carried boxes of food myself. After that there was media coverage and it became easier. There was media coverage during the inauguration (April 1, 2006), which also had Narayanamurthy. I was overwhelmed and, naturally, spoke a few lines about my mother's hard work. The media response was positive.

What is the specialty of Foodking?

We provide many types of food like continental, south Indian etc. Our specialty is south Indian food, especially idlis.

What are your targets as far as Foodking is concerned? What percentage of your targets have you achieved so far?

The target is to recruit 500 employees within the first year and, eventually, to build up to 10000 employees within the first 5 years. I have 50 employees in Foodking now. The first outlet has been set up in Ahmedabad and the management team for Ahmedabad is in place. We can manage more contracts now. It is progressing in the right directions. We are also taking up contracts that we couldn't have taken up earlier (due to resource constraints).

What are your thoughts about how entrepreneurship has evolved? What are the major challenges for an entrepreneur today?

10 years or 50 years back, as far as India is concerned, economy was protected from foreign investment. People had their own time to perform to expectations and be successful, e.g. Hero Honda, the Birlas etc. But today, with global competition, it is going to be tough to start a Hero Honda. You need to be much more aggressive and proactive.

As far as challenges go, money is a big challenge for an entrepreneur. The corruption and bureaucracy that one has to face is a big problem.

Do you plan to start Foodking at the Pilani or Goa campus anytime soon?

I have plans to start Foodking in Goa and Hyderabad campuses and am trying to start from next year.

From your life so far, what do you think are the major takeaways / lessons for students at BITS and other BITS alumni who will be reading this?

People from BITS and the IITs are capable of achieving more than most settle for. We should be looking to take on more challenges in life.

BITSian Entrepreneurs*

* This list of BITSian Entrepreneurs is in no way complete. Please email Saugata Chatterjee ('95 CS saugata@gmail.com) for updates to this list.

S.No.	Company	BITSian Founder	Company Status
1	Aarohi	Amar Kapadia	
2	Accent Controls	Anil Mansharamani	Electronic sensors manufacturer
3	Accordion Networks	Gautam Chanda	Telecommunications provider for cyber-buildings of today and tomorrow
4	Alliance Infotech	Ravi Baid	Networking company in Delhi
5	Amkette	Rajiv Bapna	Founder of manufacturer of storage disks with $100 million in revenues
6	Amol Pharmaceuticals	Ashok Luhadia	Winner, Entrepreneur of the Year for pharma company
7	Apnaguide.com	Shailendra Malani	
8	Apsora	Kiran Kundargi	
9	Armaan Inc.	Sanjay Minocha	
10	Ascendum Systems, Answerpal	KRV Subramanian	
11	Avalon Resorts	Naresh Khattar	Founder and CEO of BSE traded real estate co
12	Avion India; 1990	Rajendra Bafna ('90)	
13	Axiowave Networks, Inc. and NeoNet LLC	Mukesh Chatter	Red Herring Entrepreneur of the Year 1999; Sold co for $900 million to Lucent; now an Investor
14	Bharat Forge	Baba Kalyani	Founder of BSE traded co; world's largest forging co; President of the Association of Indian Forging Industry; $600 million in revenues
15	BPO Frontline, Cradle Technologies	Satish Gupta	Founder of Cradle Technologies, Raised $41 million
16	Bridge-X; 2000	Sandeep Nalgundwar ('87)	
17	BridleIT Soultions	Ramakrishna Gaddipati	Wireless application for the education industry; 70,000 subscribers
18	Ceera Investments, LLC; 2005	Rajesh Chelapurath ('88)	
19	Chrysalis Information Systems Limited	Alok Arora	
20	Clearpark Singapore - Packaging Solutions	Govind Bhandari ('75)	Company with sales of $40 Million, 350 employees
21	CMS Computers	Ramesh Grover	Founder of co with $400 million in revenues
22	Convergent Technologies; 2000	Sujit Panigrahi ('96)	
23	Crescendo Communications (Cisco Systems)	Prem Jain	Sold Crescendo Communications to Cisco for $90MM; was the highest ranking Indian in Cisco
24	DCR/Phoenix Group of Companies	Cuckoo Kochar	One of Canada's largest private builders
25	D'Essence Consulting	Chandni Sehgal ('85)	
26	Dewas Metal Sections Ltd; 1979	Manohar Baheti	the widest range of Cold Roll Formed Metal Sections in the country
27	doSomething.in; 2006	Poonam Agarwal	
28	Dreamcricket.com	Venu Palaparthi ('87)	Online company selling cricket-related equipment
29	DV Studio Technologies LLC	Ash Pahwa	
30	EILABS India Pvt. Ltd	Krishna Vaidyanathan ('89)	
31	Einfochips	Praful Schroff	$18MM in 2006 revenues; 500 employees
32	Eldeco Group; 1975	SK Garg	Founder of $30 million private real estate construction firm
33	ENTOMO, INC.	Sanjoy ChatterjiI	
34	Epicenter Technologies Inc.	K Vijay Rao	$80 million in revenues
35	eViapar	Anil Gera	
36	Excelan; 1982	Navindra Jain	A manufacturer of networking products sold to Novell in 1999
37	Exemplary Software	Ravi Krishnamurthy	
38	EximSoft	Vandana Malaiya	
39	Extensio	Sangeeta Patni, Vipin Samar ('85)	
40	Fabric7 Systems and Procket	Sharad Mehrotra	Founded and raised $250 million from VCs for Fabric7
41	Fleet Management Ltd	Kishore Rajvanshy	
42	Foodking Catering Service	Sarath Babu	
43	FutureTense Inc.; 1985	BC Krishna	Founded and sold to OpenMarket in 1999
44	Glam, Tickle.com	Samir Arora	Tickle acquired by Monster.com
45	Global Executive Talent	Anuradha Parthasarathy ('87)	

46	Glocol	Harsh Verma	
47	GTN Textiles; 1966	Binod K Patodia	Founder of BSE traded co
48	Habits	Sasikanth Chemalamudi ('04)	
49	Hi-tech Gears Ltd.	Deep Kapuria	Automotive components company in India
50	Hotmail	Sabeer Bhatia	Founded and sold Hotmail to Microsoft for $400 million
51	Hunter Foods	Bharat Narayanan	Food company in Dubai
52	iFlex Solutions Ltd	Rajesh Hukku ('74)	Founder, Chairman and former CEO of $1 billion valued company on BSE; Second Dewang Mehta Award for Innovation
53	Informatica, Celequest; 1993	Diaz Nesamoney ('93)	Informatica - Publicly traded on Nasdaq $1.2 billion. Founder of NASD traded company: INFA; Celequest - VC financed
54	Infravio	Srinivas Balasubramanian	Acquired by Webmethods for $38M in 2006
55	InLott	Ramu Annamalai Ramasamy ('96)	
56	Inomy	Sanjaya Gupta	Publisher
57	Intelligroup	Arjun Valluri ('86)	Founder and former Chairman & CEO of NASD traded company: ITIG with $100 million in revenues
58	Intelligroup, no. of BPO companies	Raj Kumar Koneru ('87)	Founder of NASD traded co; ITIG
59	Inventiv	Prabhat Garg ('98)	IT solutions, Advertising, Anything under the sun (retail); 2004-2006
60	inviziblehand, Inc	Shrikant Khadye	
61	IT Resources International	Saran ('99)	
62	Janagraha	Ramesh Ramanathan	Founder of high-profile charity
63	jPeople	Prasad Thammineni	IT services firm using Linux
64	KenPeople	Anne Anita Sakuru	Online training company
65	Logical Digital Corp.	Sriram Chandrasekaran	
66	LogicVision, Inc., SEMIndia	Vinod Agarwal ('68)	Founder of NASD traded company: LGVN and SEMIndia - $3 billion project to set up India's first semiconductor fab
67	Maarga Systems	Gayathri Vishwanathan ('95)	
68	Maaya Corp	Madan Bellam	Prior to starting Maaya in 1998, he founded and led MentorVision Inc., where leading-edge technology was developed for companies like Cisco Systems.
69	Meratrip.com	V Gopi Krishna ('88)	
70	MetricStream	Ramana Mulpury ('87)	
71	Microtek	Anil Gupta	CEO of $400 million private company selling computer monitors
72	Mindfire Solutions	Chinmoy Panda	
73	Mobile Medics Healthcare LLC; 2006	Sriram Gutta ('02)	Social venture to bring healthcare to rural India
74	Net Effect Media	Vijay Vaidyathan	Producer and distributor of films in USA
75	netCustomer, Inc.	Punita Pandey ('84)	Subject of Stanford GSB case study
76	Netscout Systems; 1984	Anil Singhal	NASD traded company: NTCT
77	Nextag	Purnendu Ojha	2nd largest comparison shopping engine
78	Nimbus, Lara Technologies, EmpowerTel, YuMe networks	Jayan Ramankutty ('75)	Sold Lara Networks for $250MM to Cypress Semiconductor
79	Nuware	Venk Krishnan	Founder of private co in US; $20 million in revenues
80	Oberon Financial Technology, Inc.	Viggy Mokkarala	
81	Onida	Gulu Mirchandani	India's #3 TV manufacturer. $300 million in revenues
82	Ostern	Lalit Agrawal	Founder & MD of Ostern Pvt Ltd. (India), $10MM seller of components for writing instruments
83	Pennywise Systems	Anand Morzaria	
84	Pinnacle Systems; 1986	Ajay Chopra	Founder of NASD traded company: PCLE. Sold to Avid Technology, Inc. in 2005 for $462 million
85	PostX, NexGen and Elxsi; 1997	Thampi Thomas	Founded Elxsi in 1979, NexGen in 1986 which was merged with AMD.
86	Quan Management LLC	Venk Sharma	Systems design
87	Ramtech Industries	Madhu S. Kejriwal	Computer manufacturing and systems integration company
88	RCG Group Inc	Brij Bhushan	
89	RedBus	Phanindra Reddy,Sudhakar Pasupunuri,Charan Padmaraju ('00)	
90	Redwave Networks, Inc.	Nagesh Gupta	
91	Reflexis Systems, Inc. and Techlead Corporation	Prashanth Palakurthi	Healthcare IT
92	Retrevo Inc.	Manish Rathi	Online search company
93	Samsonite India	Ramesh Tainwala	Founder of JV co with $x million in revenues
94	SANAT technologies; 2005	Vasan V S ('92)	
95	Sarvega	Girish Juneja	

96	Savera Systems	Pradeep Kumar Chetal	
97	SETA Corporation	Ranvir Trehan	Founder of top 100 IT Services contractor to US Government; $90 million in revenues
98	Sierra Atlantic; 1993	Raju Reddy	Software company which does extensive outsource work and has 350 employees
99	Siverion	Sunit Gala ('85)	Acquired by LogicVision for $8M
100	Software Tech Group	Yogesh Vaidya	eLearning company
101	Software Tree; 1997	Damodar Periwal ('78)	
102	Sox Group	Sanjay Anand ('87)	Sarbanes Oxley certification company
103	Strand Genomics and Simputer	Vijay Chandru ('69)	First Dewang Mehta Award for Innovation
104	StratumOne Communications	Vijay Parikh ('75)	Founded and sold co for $435 million; now a venture capitalist
105	Sulux Phosphates	Govind N. Jethalia	
106	Sunsoft Technologies	Rashmi Upadhyaya ('77)	
107	Syndera; Liquid Price	Prashant Gupta	
108	Technometrica	Raghavan Mayur ('76)	Joural related to lifesciences
109	Texplas Group; 1975	JC Jain	Producing fiberglass based insulating materials for electrical equipments with $100 million in revenues
110	The Cornell Group	Anita Arora	IT services company based in Fairfax, VA
111	Thinkit Technologies;1997	Sunil Nanda	Acquired by Intel in 2000
112	Tribiosys	Satish Tandikota	
113	Truescope Technologies, Inc.	Austin J Noronha	
114	Tumri; 2004	Pradeep Javangula ('89)	VC funded - Shasta, Accel
115	Ukiah Software, Nayna Networks; 1996, 2000	Naveen Bisht ('86)	Ukiah acquired by Novell, Nayna $70M VC funding
116	Value Communications	Arvind Singh	Sold to Rediff for $5MM;
117	Vasona Systems Inc.	Narpat Bhandari	Founder of Aspen Semiconductor, sold to Cypress
118	Vianeta Communications	Sridhar Obilisetty	Raised $17MM in financing, former Architect of BVN's main product
119	Vigicomm; 2005	Sumeet Suri ('00)	
120	Virtual Gold Inc	Inderpal Bhandari	Statistics for sports company
121	Vishubh; 2004	Rajesh Butta ('90)	
122	Vision Healthcsource; Brigade	Anurag Jain ('88)	Sold Vision Healthcare for $10MM to Perot; raised $100 million for Brigade
123	Webify Solutions, Inc.; Exterprise	Manoj Saxena	Sold Exterprise to Commerce One for $90 million; sold Webify to IBM (2006)
124	Worldcast Technologies Pvt. Ltd. (Shaadi Online)	Jai Raj Gupta	One of India's most famous wedding planners
125	XOP Works and Spatial Wireless	Sudhir Gupta ('75)	Spatial Wireless sold for $250 million
126	Yuken India	CP Rangachar	Founder of BSE traded co.
127	Zeevo	Vikram Gupta ('89)	
128	Zmanda	Padmanabhan Sreenivasan ('90)	

* This list of BITSian Entrepreneurs is in no way complete. Please email Saugata Chatterjee ('95 CS) saugata@gmail.com for updates to this list.

BUS JOURNEYS TO REMEMBER

BY KARTHIK RAMAN ('95 EEE)

Karthik resides in Chicago and blogs at http://chennaitochicago.blogspot.com. He likes to reminisce about his BITSian days once in a while when the mood strikes him. This is one of those occasions.

EVERY semester in Pilani began with an energy-sapping 36-hour train journey from Chennai to Delhi. I would get down at the Delhi train station hungry and thirsty and wanting nothing more than to curl up in my bed with a cup of hot coffee and a good book. Of course, knowing that the most taxing and nerve-jangling part of the journey is just ahead of you does little to cheer you up. We would grab a bite, take an auto to the Delhi bus stand and hope to find a bus to Loharu (which was a short jeep ride away from Pilani) with enough room to accommodate us and our luggage. We would wait there with bated breaths while the conductor searched inside for a few empty seats. It was inherently assumed that there would be no space for the luggage, and these would be tossed on the roof of the bus. This was one of the few moments in life I became religious, and would utter a silent prayer hoping this would ensure that my suitcase completed the journey with me.

If you thought public buses in India were dirty and in bad shape, you ain't seen nothin' yet! The buses plying along the rural parts of North India were works of art. The outside and most of the inside will be covered with red stains from all the paan spits, the seats were so tightly packed you would have to be lesser than five feet tall or thereabouts to ensure continuous blood circulation throughout the journey, and then there were the co-passengers! These were mostly farmers and local villagers from Rajasthan. To say that they could use a good bath, or three, would be an understatement. Apart from the smell, you would have to put up with the beedi smoke that they would keep puffing on your face. The miserable pace of the

ISBT – This was one of the few moments in life…

bus and the prospects of a 5-hour journey packed inside this mass of humanity without an inch to move is enough to make anyone claustrophobic and suffer a nervous breakdown. But we were veterans after the first few trips, and found new and innovative ways of keeping ourselves occupied through the journey.

Every bus ride was a thrill, since you didn't know if you were going to get off alive.

Quite often, you'll encounter a villager with a load of firewood and a couple of goats get on the bus. I've always wondered if the conductor issues tickets for the goats as well, and what the SPCA would have to say about the miserable traveling conditions that these creatures had to put up with. The music

would be classic Rajasthani stuff with lots of wind instruments that should be avoided, and voices similar to those of Ila Arun or Usha Uthup with a sore throat. Suffice it to say, any attempts at a siesta was bound to meet a futile and rather jarring end. And when the bus really got crowded, you will have to pretend not to notice when

went to sleep. After what seemed like eternity, I woke up and realized that it was way past midnight, the van was not moving and, more significantly, the driver and other passengers (except us BITSians) were gone. I got off to find a gang of local men (including the driver and his sidekick) in their huge turbans squatting around a fire,

squatted down, borrowed a beedi and joined the haggling party. Another friend woke up after a while, lost his cool when he realized that he was stranded in the middle of nowhere and all his Hindi-speaking friends were gone. He was even more shaken when he saw the bunch of locals around the fire and blurted out in whatever little Hindi he knew *"Mera admi kahan hai?"*. That was probably one of the funniest things I've ever heard in my life.

If you thought public buses in India were dirty…..

someone leans on you or, as it has happened to me, sits on your shoulder with their rear ends too close to your face for comfort.

I remember one such journey where a few of us decided to get adventurous and got down at Jhunjunu (for non-BITSians - yes, that's a real town! I can give you more such funny names if you want...) and decided to treat ourselves to a ride on a mini-van for the rest of the journey. We found one, got in and promptly

smoking beedis. Even more surprising was that one of my friends was doing the exact same thing and bargaining with them in Hindi. Turns out they did not find enough passengers to make their trip (and the associated gas expense) worthwhile, so they just decided to stop. This bit of logic was very difficult for me to comprehend, used I was to buses taking me all the way to my stop even if I were the only passenger on board. So I

Well, a long story short, we always managed to reach our destination. There are a lot of things that I remember and recall with fondness about my days in BITS. The Delhi to Pilani bus journeys always seem to figure somewhere in the top ten. I cannot explain why that is. Was it the beautiful scenery along the way, with miles of golden corn fields and neatly plowed land? Was it because nothing brought us closer to rural India and its inhabitants than those 5 hours? Or was it the excitement (?!) of starting another semester and getting screwed all over again at our good old BITS? It could be all of those and a million other reasons. Years later, whenever I'm on a flight that runs into rough weather and passengers around me scream and throw a fit, I'm usually sitting there calmly reading a book. After those thrill-a-minute bus rides, nothing can come close to rattling me.

POSTCARD FROM PILANI

BY SUKUMAR JAMADAGNI (SUKU) ('78 ECO WITH MMS)

Sukumar is a SAP Financials consultant at Siemens in Chennai. He is proud that his son joined BITS this year. This postcard is Suku's description of the good (and the bad) that he discovered on a recent trip to Pilani.

DEAR ALL...

Returned from good ole Pilani yesterday after admitting my son at BITS…really enjoyed my short stay there. Recent rains have made the whole place greener and cooler. Thanks to Krishnakumar's suggestion, I decided to describe some of the changes I saw. So here goes.

Some of us, especially those who have been to Pilani in the last four / five years, would know about the "new real back wing" which houses the freshmen. These are two seater rooms for the first years... ragging is almost dead... but what little of it remains is disappointing, because I believe what passes for ragging is done region-wise - the Illad freshmen would be ragged only by Illad seniors, only the Choms would rag the choms etc... sad...and makes me happy that such ragging is dying out.

The messes have "self-service" - which makes them a little bit disorderly compared to our times. The food is about the same - except that Sunday chips and icecream have been substituted with fryums and Rasmalai.

There is also a new supermarket "Akshaya" – just behind the

Medical Center. This is well stocked and I understand that you could buy against a debit to

The new Library is out of the world!

your mess bill.

C'nngt does not serve Chai / Samosas anymore. :-(Only dosas/burgers/ Pizzas and milkshakes. Huge and raucous commercials promoting every known brand of mobile phone services. Mahaveer's Mango milkshake brought back old memories. Samosas are still available at the Redis.

The latest addition is the Students Activities Center... which is located just behind Budh Bhawan. It houses indoor shuttle courts, TT, squash besides a well appointed gym, health club and a small amphitheatre... Looks very hep and is certainly great.

The new Library is out of the world - looks more like a 5 star hotel rather than a library. I believe it is the largest library attached to an educational

institution in India. We have a professional librarian who served with the British Council earlier.

Registration is now online... and about 4000 students complete their registration in 4 hours. To avoid the huge rush of students in one / two top class teachers...(as we used to find in the case of teachers like VS Rao, TNRK Kurup etc.) BITS has come up with an

innovative solution. The entire 800 odd first year students would have only 2 lecture sessions to choose from - both the sections being handled by the two best lecturers for two hours a week. Thanks to the new air-cooled lecture hall complex we have huge classrooms. Apart from these 2 lecture sessions the students have to attend two tutorial hours which are split up over 20 sections. The tutorial sections would cover the "problem solving" etc.. etc.. All the tutors would be attending the lectures along with the students.

Those are some of the changes... the students are quite studious compared to my batch and look quite happy there. I certainly hope my son (and the others of his ilk) have as much fun there as I did.

Cheers!
Suku

A Look Back at the Golden Years

BY VERNON FERNANDEZ ('04 EEE)

A supposedly skeptical look at the BITSAA Silver jubilee reunion by the Sandpaper BITS Pilani Team.

WHEN you see a group of (mostly) men, all attired in the same T-shirts, a sudden profusion of high-end vehicles and more than the usual amount of activity at Sky, you know a reunion is in the offing. Men old enough to be your dad walk into your wing and remember the times they used the same bogs, slept on the same cots and walked the same tiles. The paint has changed, a few broken panes of glass replaced. But the essence remains.

Men who for four or five years in this place exchanged two words a week now greet each other as the best of buddies. Close friends who have been out of touch for twenty five years spend time catching up. And everyone is in high spirits (literally too!), which get progressively higher as the reunion progresses. The joys and the sorrows are all brought up again. Nostalgia settles over the campus.

Groups of alumni walk around, here and there accompanied by spouses, even children, some of whom are my age. Armed with digital cameras and handy cams, they capture the sights they knew so well. The children are treated to tales of events that happened '*at this very spot!*' They meet the people their parents talked about. They walk about, applauding some changes, and bemoaning the loss of a few cherished bits and pieces.

Meanwhile, the current students look on in awe. Here are CEOs of companies who tell us they spent night outs gazing at the stars. Here are men (and a few women) who have had their lives steered by the decisions they made in those years here. Seniors who knew Oasis when it was a five day festival, people who knew Chimpuji when he was just a lad, seniors who listened to Dire Straits while they were still releasing new albums, those who have spent twenty five years out of college and can still think of tossing a popcorn kernel up into the air and trying to catch it in their mouth. Seniors who think nothing of doing a night-out again, or of sitting under the stars, or of walking out of the campus at sunrise to have a *chaai* at Nutan, like in the *old* days…

They don't fool us. They miss this place..probably a lot more than they actually say it. And they're ready to do anything, to capture the magic one more time even if only for a day or two And just one look at them can assure you that they indeed would. The magic is still there. It only needs to be tapped. The memories pour forth. You realize that BITS will survive, whatever happens. The years you spend here will always remain untarnished. Nothing that happens after will change what happened here.

The alumni took the stage during the cultural performance. Between showcasing memories, pulling each others legs and honoring their professors, they managed to give us a glimpse into their life here. The songs they listened to, the things they talked about, the bands they worshipped. Their band 'Acoustic Agitation' played the best live music I've heard in BITS. And when they were forced off the stage due to unbending government regulations, they gamely continued to VFAST, where they set up shop on the lawns with four guitars and a lot of enthusiasm.

A few interested souls tagged along for the ride… and what a ride it was! Simon & Garfunkel, the Beatles, ABBA, CSNY, John Denver, Nancy Sinatra, Bob Dillon, Roger Whittaker… music surrounded us till the sun rose. I could hear the longing in the voices singing *Homeward Bound*, and I knew they weren't thinking of the homes they had just left.

The next morning, I woke up, curiously refreshed. Maybe it was the fact that my first CDC test series had ended that week. Maybe it was just that the Sunday stretched before me was completely free. Or maybe, just maybe, I had been dreaming… of a day some 27 odd years from now, when I'll return to this place I now call home.

THAT SORT OF REUNION

BY DILIP D'SOUZA (DCUBED) (76-81 EEE)

The flavor of a joyous silver jubilee.

JUST before 6 am on Sunday, the group on the VFAST lawns finally decides to call it a night. Or day. Whatever. They have done that age-old and much-loved Pilani routine: pulled a night-out. But not, thankfully, because of yet one more quiz or test or compere. No, this is at the end of a music session on the lawns.

It had started, as these things do, after the program in the Audi wound to a rousing end. It had started with several dozen from our 76-81 batch, some family, and a gaggle of current students. One by one, sleep had claimed the attendees. The gaggle upped and left as one, about 3 in the morning. So by 6, the survivors are two from the 76-81 batch, one of their wives, two alums from the '93 (Aashish Bhinde, on his own BITS visit) and '05 (an outrageously talented musician called Aditya Kasyap) batches, one current student and six children of alums, possibly aspiring to be BITSians one day and could there be a better intro to BITS than this night-long session of guitar and song? Not on your life there couldn't.

And I can proudly, if groggily, claim that I am one of those survivors.

Oh yes, I forgot. There's also Sanjiv Taneja, my batch, one of the Delhi team that organized this reunion down to the last splendid detail. About an hour earlier, our beloved "Tan" (for that's what he was called at BITS) had rushed into his room, rushed back out with a pillow. Flung it on the lawn and collapsed on it. He said he wanted to listen while lying down. But he is fast asleep as we rise,

stretch and tiptoe off to Nutan for a morning chai. The pity is that there isn't enough light now to take a photo of him, resplendent and asleep alone on the lawns. And when we return 45 minutes later, Tan has been uncooperative enough to up and vanish into his room.

1976 Batch Silver Jubilee Reunion. (Right) Sharad Gupta takes his wife Madhurima (nee Ajmera) for a rickshaw ride outside VK. Both BITSians of '76 batch, never said a word to each other on campus, met at PS-II, fell in love and got married. (Below) 1976 batch EEE *junta* on campus

So you will have to take my word for it that the vast VFAST lawns have likely never looked as good as they did right then: green, sprawling and empty except for a tubby body on a fluffy pillow. Would have been a nice photo.

But that group, that group, strolling out to Nutan! When else but at a reunion like this would a dozen people ranging from 12 to 47 years old -- from the 8th standard to second-year-ite to first-jobber to investment banker to French teacher to CEO playing a guitar -- you tell me, when else, where else, would a group like this traipse off for a

pre-dawn chai after singing all night?

Say what you want -- for me, that early morning outing sort of captures it all, is the exclamation point of it all. Cherry on top, icing on the cake, whatever you like. And even though there are only two of us batch-buddies, I get the curious feeling that the rest are all there in spirit, sipping chai with us.

That sort of reunion.

Point of note here: Nutan chai is significantly worse-tasting than 25 years ago.

Not that it matters, not that anyone but me seems to notice. And I guzzle down two cups anyway.

But let us wind the clock back, back, all the way back to ... less than 48 hours before. The backslapping bearhugging BITS feeling started on Friday morning in a nondescript Delhi parking lot. OK, so you tell me, would you notice anything about a parking lot? Would you notice anything about one when you're turning up to meet guys you haven't seen in a quarter century? Nondescript parking lot it is.

Speaking for myself, things begin clicking into place when someone taps me on the shoulder and I turn into this grinning unshaven face, head tilted and laughing at me, daring me to come up with a name. That smile, that way with words, that friendly manner ... stars above, it's Shyam Bagadia! Older, greyer, plumper, but aren't we all? The selfsame Cine Sam -- we called him that for his obsession with films -- and the bearhug comes naturally. The first of many for me, only one of

many in evidence all over the parking lot.

How do I explain what it means to see these people I never thought I'd see again, these faces that are immediately familiar even if I can't quite put a name to them? I mean, Hemant Malhotra, Arun Sahai, Joydeep ("Hulo", and I have no idea why "Hulo") Gupta, Naresh Mittal, Madhurima (nee Ajmera) Gupta, JP Bajoria, Anshu Goel, PK Sinha, Arun Jain, Anil Jain, on and on too many to list ... How do I tell you what it does, somewhere deep inside me, to see these folks again?

I don't tell you, I can't tell you. You who are there in that parking lot, later on the bus and at stops on the way, you know.

So we pile into the bus and rollick along. Anshu Goel stands and tells the bus that she remembers some of our faces, singling me out in particular. She would: I am, after all, a brother of sorts. In our second year, all of us in VK front wing upstairs would yell her name and hide, whenever she biked past on her way home. Her father, the famed Math professor VP Goel, was warden of VK. One day he decided enough was enough, and summoned the entire wing -- 24 of us quaking skinny dudes -- to

Ambily (4th yearite) drumming away at the BITS music club

his home, where Anshu tied rakhis on each of our

shivering wrists. My sister, where have you been these 25 years?

The masterful reunion organizers have thoughtfully provided drinks in the bus, and by that I don't mean those wimpy things like Coke and OJ. There is that stuff, but they've also stocked the bus with, what else, beer. Kingfisher. A certain Rajya Sabha MP would be gratified to hear the grateful chants that rock the bus every now and then, our own stocky Bhatta usually leading the way: "Mallya, Mallya Zindabad" and variations thereof as the beer goes down. Yes: the more the beer goes down, the more fanciful the variations, until it sounds more like "Moja, Maja, Moya Vrindavan Anbalagan!"

Me, I keep hoping for vodka. If there is any, it is consumed -- I suspect by Renu (Roongta) Muralidharan, she was always the quiet one -- before it can make its way to the last bench, where I spend most of the journey.

Which of course is a reminder of BITS days too. (The last bench, not the vodka).

Somewhere around midday on Saturday, I stroll down the long corridor to the Music Club. I

know various people have been practicing for the evening show, and I have been stopping by every now and then to listen. This time too, there's some serious drumming I can hear behind the door.

I knock. Drums drown it out. Knock again, louder. Drowned out still. Bang with my fist. Kick the door. Rat-tat-tat with a set of keys. Yell through a tiny hole in the door. Bang again with my fist.

Just as I think of giving up, the door opens. It's a young lady in her fourth BITS year, Ambily, she smiles at me and goes right back to her seat at the drums. Picks up the sticks and resumes where she left off. Here by herself, nobody else in the room, she's practicing the drums with energy and verve. Hours later, she will be on stage in the Audi, performing with a panache I would not have believed had I not seen it. But right now, she's practicing on her own.

We've been talking of, marveling at, the changes on campus. Right here in the Music Club is one of those, this girl by name Ambily -- a woman drummer in our time? The thought itself is foreign -- and I tell you, she drums a mean rhythm.

Helllll-ooooo BITS Pilani! I swear, you look better than you ever did. That sort of reunion, indeed.

BITSAA DELHI CELEBRATES GOLDEN JUBILEE

BY SINDHU ANAND ('03 BIO AND COMPSCI)

September 1957, Seven Wise Men, as they called themselves, met for an evening of fun and camaraderie in Delhi, and there the seeds of an alumni association of BITS were sown. September 2006, BITSAA Delhi's Golden Jubilee was celebrated in Pilani, the place where it all began.

A presentation took the audience through the five decades of the Association beginning with its inception as BITS Engineering College Old Boys Association. The name was changed to BITSAA only after 1963, when the first girls were admitted to BITS. A few gentlemen from those years tried recollecting the names of those esteemed ladies and they did manage to name all of them! People who worked to strengthen the Association were fondly remembered and various important events like the talks by Mr. Shiv Khera, Mr. Manoj Chugh, Mr. Madan Birla to name a few were recalled. True to the Delhi spirit the numerous musical evenings, cricket matches, ghazal nites, the annual picnics on January 26th, the high teas were all listed with gusto.

The high point of the show was definitely the speech by Shri Ravi Puri (Batch of 1947), the oldest member of BITSAA Delhi. This octogenarian BITSian's recollections of his days at BITS left the audience, current generation BITSians astounded at the similarity of things then and now.

Krishna and Gandhi were the first bhavans and C'not and Shiv G were the usual hangouts, whereas Shimla Hill a.k.a Pahadi was the favorite picnic spot. C'not and Shiv G are still the only places were we can hangout in warm August evenings and chilly January nights, Pahadi 'treks' are our only weekend getaways, Sams are undoubtedly the most popular delicacy; be it 1947 or 2006, panthua, kela rabri, they all remain the same. Some gentleman even remarked on how the menu on Tuesday nights' and the Sunday grub has not changed since 25 years!

What is history are the 200 marks for discipline that made or marred their grades and the travel on camel carts. What has stayed is the BITSian spirit that was still glowing in the elderly gentlemen. I wonder how they so vividly remember those four years, how the BITSian character still shines through in their personality after all the myriad experiences in life. Everybody seemed to muse on the fact as to how the BITS experience has come in handy in all of their individual lives. Unaware of what indelible impact this place is having on me, this statement jolts me. As I look out at our quaint old campus I realize that I have indeed become BITSian for life!

MOBILE MEDICS – A GENIUS IS BORN?

BY ANINDITA DUTTA ('03 BIO AND COMPSCI), SANDIP GANGAKEHEDKAR ('05 EEE)

International Award winning business plan from BITS Pilani turns into real business.

IT is not often that one comes up with a dynamic, innovative and swashbuckling idea that can be practically implemented. The obstacles far outweigh the reward – and the tribulations chaperone the thinker away from his dream, leaving him hapless, helpless and hopeless. Well, this happens almost always.

The "almost" is crucial here, as the Mobile Medics Healthcare Plan suggests otherwise.

A mere glimpse into the plan reveals its astonishing complexity, at the same time highlighting its purpose and displaying the intensity and hard work of its creators. Two words to describe the Mobile Medics Plan – ingenious and ambitious.

Well enough of raving and ranting. The curiosity and anticipation is (hopefully) aroused. Let us delve deeper into this:

HOW IT ALL BEGAN

Early 2005, an enthusiastic group of five BITSians-Kavikrut, Sriram Gutta, Srikanth PNV, Amit Mirchandani and Rajashekhar MV tasted success for the first time at BITS Pilani Conquest 2005, one of India's prime venture competitions. This victory gave the necessary impetus to develop the B-Plan

into a full-fledged venture. With support from the Technology Business Incubator of BITS Pilani and mentoring from Anupendra Sharma, an alumnus of BITS, Mobile Medics Healthcare was born. Winning accolades became a regular feature from then on – 1st prize as the Most Innovative Social Venture of the Year at the Global Social Venture Competition (GSVC) 2006 at New York, Best Presentation Award at the Asia Moot

Anupendra Sharma receiving the 1st-place award for Mobile Medics at Global Social Venture Competition (GSVC) in New York

Competition 2006 (Bangkok, Thailand), and Winner at the Columbia Business School's B-Plan Competition in 2005 being some of the notable ones.

THE CONCEPT

The main aim of the venture is to provide primary healthcare to rural areas in India. It is essentially a private healthcare system that can complement the existing government infrastructure. "In the nascent stages, we plan to identify 2-3 hub villages with a few smaller villages in the vicinity to service",

says Kavikrut, COO of Mobile Medics and currently based in Pilani. A van equipped with testing equipment and drug supplies will carry a doctor and nurse and reach a hub. The services doled out would include all private healthcare consultations, diagnostic testing, vaccinations and allopathic medication. Testing of blood samples and the like would be done at the major labs in Pilani and Jaipur, if needed. In addition, patients requiring further attention or surgery, would be transported in the vans to the nearest tertiary care hospital. The Mobile Medics venture, however, will target only the upper 30% of villagers who are ready to pay a reasonable price for quality healthcare. "At present, we plan to charge each patient Rs.50 ($1.25) as consultation fees. This would also include basic medication," he mentions. The system is modeled as "treatment at doorstep", saving the villager from the long and cumbersome journey to the major hospitals in Jhunjunu and Pilani. The entire process is more economical and convenient for the ailing villager and at the same time profitable for the company. It is conceived as a win-win situation.

MODUS OPERANDI

Mobile Medics plans to maintain a fleet of well equipped vans, each carrying a qualified doctor and a trained nurse. Each van would visit a particular village twice a week and set-shop for a day. Patients from neighboring villages would be brought in vans to the mobile unit and treated. Mobile Medics would hire

fully trained and well qualified doctors and nurses for this purpose. Mobile Medics would also train a health worker to be a resident in every village. His duty would involve follow on work on all patients treated earlier.

Mobile Medics plans to engage 20-25 volunteers from BITS, who would work part time in various segments such as marketing, operations

Fully equipped vans.
Mobile Medics plans on having more of these on roads soon

and management. "We have already started preliminary runs. We are targeting the affluent villages near Pilani first. Our long term target is to treat 100 patients a day with one mobile unit. The on-board medical staff would be shifted by rotation, so that the people identify with the brand "Mobile Medics" rather than the doctor himself. Gaining trust and loyalty of people is very important for us", beams Kavikrut.

HURDLES AND PITFALLS
The bridge between theory and practice could never get bigger. While the original B-Plan is impressive on paper, actually

implementing it is going to be a Herculean task.

Currently the implementation phase is in its nascent stages. The actual pilot runs will begin around October this year and continue for about 4 months after which the venture will run on full steam. How they survive through the bureaucratic red tape,

lackadaisical attitude of people, infrastructure breakdowns, Boards' expectations and investors' aspirations will be their greatest challenge. "We are well aware of the nitty-gritty's of the system. We are currently listed as an LLC (Limited Liability Company) in the US and are applying for its equivalent status (Pvt. Ltd.) in India. There are still some legal technicalities we have to clear before starting operations. Hopefully by the end of this year, everything will be sorted out," muses Kavikrut.

Asked how it felt to spearhead his own startup, he says, "It feels good and different.

Obviously it is the road less traveled and that makes it all the more exciting. We have worked brilliantly as a team right from the start. The entire management- Anupendra Sharma (Chairman), Rustom Masalawala (CEO), Jordan Tongalson (CFO), Dr. Girish Dang (CMO), Dr. Sharib Khan (CIO), Sriram Gutta (Chief Marketing Officer) and Srikanth PNV (Controller) have been really supportive. We have received tremendous support and encouragement from BITS. I must add that the original idea of the B-Plan was Sriram's, and his inputs were very vital."

The future of Mobile Medics looks promising and arduous at the same time. However, to get profit without risk, experience without danger, and reward without work, is as impossible as it is to live without being born. Contradiction anyone?

(Videos and photos detailing the test runs can be found at:

Flickr Photo Gallery:
http://www.flickr.com/photos/mobile medics

YouTube Video Channel:
http://www.youtube.com/user/mobile medicshealth)

Mobile Medics Team. Winners of Conquest 2005

HIGH HOPES

BY VERNON FERNANDEZ ('04 EEE)

A collection of photographs from BITS Pilani united by a theme very close to any BITSian's heart.

The grass was greener

The Douglas DC-3 Dakota plane…

The light was brighter

The Stage lights in the Audi...

The taste was sweeter

BITSians aren't the only ones addicted to *Pappu*'s chaai

The nights of wonder

The Clock Tower… by the light of a full moon.
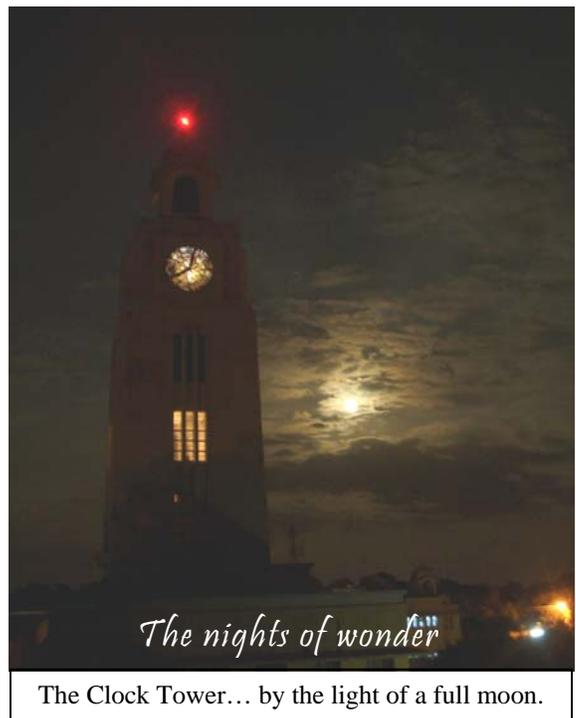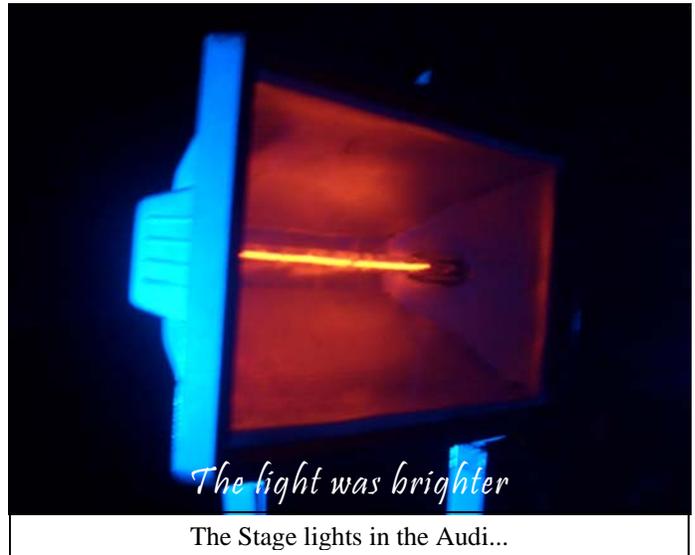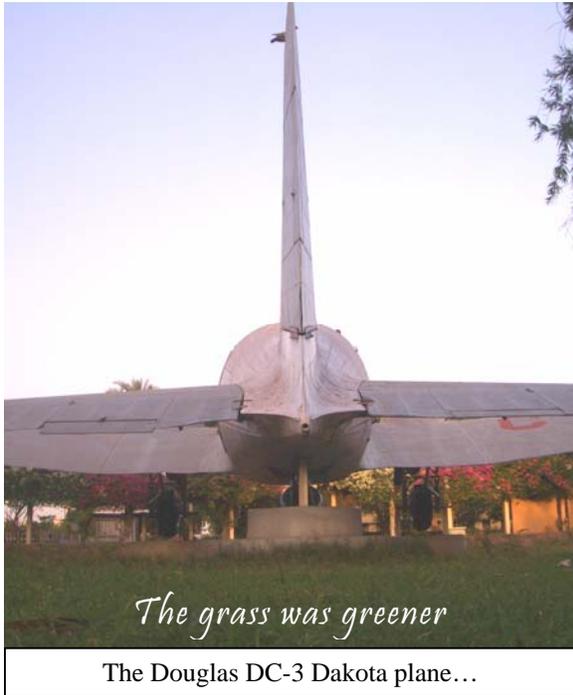
With friends surrounded

Outstis lounging on the entrance steps of the new Students Activity Center… the newest place to SAC out!

The dawn mist glowing

The SKY-Man, seen in a different light.

The water flowing

Good ol' Shiv G
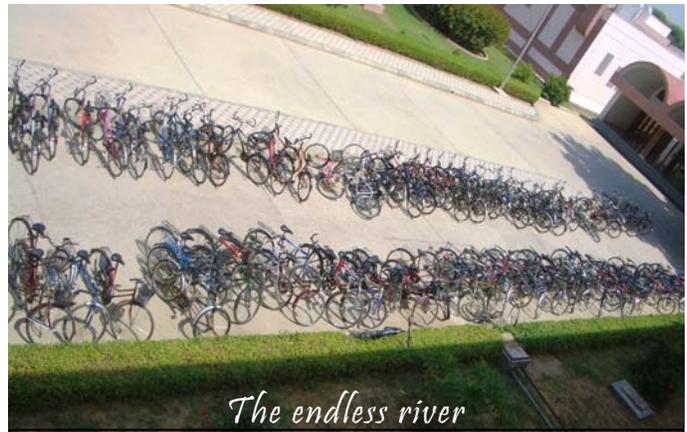
The endless river

The never-ending line of cycles parked outside the Lecture Theatre Complex, where the single-section lectures take

Forever and ever...

There are some things in life that never change...

An observant reader will notice that the picture of the SKY man is taken from the east, and hence is taken at twilight, and not at dawn. In the true BITSian spirit, this humble photographer could not wake up at dawn.
The picture of SAC was taken during BOSM… SAC has been constructed behind Budh, and is now home to the Gym, new squash courts, Badminton courts and various rooms which the departments once housed in SUB are now using.

(I'd like to thank Abhinav Toshnival, for his help with the technical aspects of photography, Rehan Jiwani for the camera which took the pictures themselves, Akshaya V.L. for her advice, and finally.. Pink Floyd for the Inspiration!)

MMS TO MBA

BY SINDHU ANAND ('03 BIO & EEE) ARUN BHAT ('05 PHY AND COMPSCI)

The MMS program at BITS just got upgraded to an MBA!

THIS year, BITS, Pilani has embarked upon an ambitious project to establish a position as a management institute with introduction of the MBA program. The Sandpaper team interviewed Dr. Arya Kumar, group leader (Economics and Finance) to find out more about this transition from MMS to MBA.

According to Dr. Kumar, the change from the MMS to MBA was directed by the market need for candidates with prior work experience.

BITS, Pilani's MBA program would focus on the case method of teaching. Evaluation too would be based upon case analysis. The program will focus on group activity and shall be research and assignment driven. In the beginning, MBA students shall be offered specialization only in IT Enables Services (iTes) and engineering technology, with specialization in finance, advertising, sales and promotion to open up in the future.

The search to recruit expert faculty is on, with guest faculty being invited from leading institutes and the alumni.

BITS Pilani expects the students to be highly motivated, as the success of the program would completely depend upon student initiative and inputs. Dr. Arya Kumar also stated that this should be accompanied by a change in the student's focus from extracurricular activities to academic ones, and it is most crucial for students to be prepared to slog. Further, it would be necessary that management students exclusively apply for management positions for jobs.

The program would leverage the BITS brand and run faster in terms of building an image. The core courses that would be focused on are Supply chain management and business and society (see insert). Managerial skills and negotiation skills will be followed up for better emphasis on communication skills.

BITS Pilani has also introduced a new admission process for the program. This year, only B.E graduates were allowed to apply, reasons being the solid foundation in mathematics and analytics, but over the years any graduate student would have the opportunity to apply. Of the 300 candidates that applied for the program, 18 were short-listed after a process of writing papers, group discussion and personal interview.

Selective PS stations shall be reserved for the MBA students, the ones on the list include Insead Business School, JP Morgan, HLL and Morgan & Stanley, with the list all set to grow in the years to come.

Over the years, an integrated program with BE and MBA shall be planned, and this affords the advantage of giving students more than what was promised. Also planned are higher degree transfers to MBA.

Finally, it all boils to the fact that collective effort on the part of the faculty as well as the eagerness of students shall go a long way in building the reputation of BITS as a management institution.

BITS, Pilani
Details of MBA Programme

Name of the Degree Programme
Master of Business Administration in
(i) Engineering & Technology Management (ETM)
(ii) IT Enabled Services Management (ITESM)

Requirements
The course requirements of the MBA programme are spelt out in terms of courses belonging to different categories in the table below:

Category	No. of Units Required	No. of Courses Required
Named Courses	40-60	15-20
Elective(s)	12-18	4-6
Subtotal	55 (Min.)	20 (Min.)
PS or Dissertation	20 or 16	1
Total	70 (Min.)	21 (Min.)

Semester wise Pattern for Students Admitted to MBA in the First Semester

Year		First Semester	U		Second Semester	U
I	MBA C311	Business Structure & Processes	4	MBA C416	Corporate Finance & Taxation	4
	MBA C317	Managerial Skills	1	MBA C319	Negotiation Skills & Techniques	2
	MBA C312	Managerial Economics	3	MBA C418	Marketing	4
	MBA C411	Organisational Behaviour	4	MBA C412	Human Resource Management	4
	MBA C417	Managerial Communication	4	MBA C419	Production & Operations Management	4
	MBA C313	Business Law	3	MBA C471	Management Information Systems	3
	MBA C413	Quantitative Methods	4	MBA C421	Supply Chain Management	4
	MBA C415	Financial & Management Accounting	4			
			27			25
II	MBA C422	Business and Society	4	BITS G560	Practice School	20
	MBA C423	Business Policy & Strategic Management	4		OR	
	MBA C424	International Business	3	BITS G561T	Dissertation	16
		Elective (s)	12			
			23			16/20

Note: This is a currently operative pattern as approved by the Senate-appointed committee, subject to change if the situation warrants.

RENDEZVOUS WITH DR. T.C. GOEL (DIRECTOR BITS GOA)

BY SHERIN KURIAN ('04 INFO SYS) & AKRITI TIBREWALA ('05 INFO SYS)

A meticulous academician, a diligent researcher and an efficient administrator rolled into one is the unique personality that we, the students of BITS Pilani, Goa Campus, have discovered in our Director, Dr. Tarachand Goel, of BITS-Pilani Goa campus. Here is what unveiled from the interview of the man at the helm of this dynamic new institute of excellence.

Tell us something about your life before coming to BITS Pilani, Goa Campus.

I completed M.Sc. in 1963 and joined National Physical Laboratory in October, 1964. Then, in 1966, when my supervisor, Dr.S.C.Jain became the professor and Dean at IIT Delhi (which was just coming up), I joined him as a research scholar. I submitted my thesis in December 1968. Next year, on February 26th, I joined as a faculty member at IIT, Delhi, where I continued till 2003.

During this period, I had gone overseas a number of times where I also participated in research activities in the best institutions like Imperial College of Science and Technology and London University. I had also visited a number of good research centers of the world for conferences, like Madam Curie Institute in France, Heidelberg in Germany, MIT in U.S.A., China, Australia and a number of other places like Greece and Singapore.

What are your plans for expanding BITS, Goa?

We are running five projects sponsored by external funding

Dr.T.C.Goel welcoming Dr.K.K.Birla

agencies. We have already organized one international workshop on Bio-sciences. Our faculty colleagues have submitted another twelve projects, of which a few of them are in the pipeline. Some faculty members are already into research work, but it will take around ten years to make it one of the best research centers of the world. However I am also very clear that if the seeds are not sown for research during the growing stage of the institute and if we wait for introducing research after the complete establishment of the institute, we are being complacent.

For any institute to establish an identity of its own and to be recognized by the rest, an essential thing is that we have to develop and maintain cordial relationship with other institutions. How do you visualize this with respect to our campus?

Well, for an institution to be recognized, bright students and hard working, committed faculty is a necessity. The job of the administration is to facilitate a good working environment where there is a win-win situation. We should have cordiality among the various organs of the institute and then with the society.

It is important for the institution to be responsive to the aspirations of the society, the country and the world. For example, we are implementing many programs to improve the education system in schools, and science workshops have been conducted by our faculty to prepare the students face the

competitive world. We have provided our infrastructural facilities for other colleges, thus assisting them in organizing workshops and seminars.

Students of various institutions in Goa and neighbouring states are invited to attend these seminars so that they will be motivated. In my opinion for any institution to be on the top, the students should be comparable to the best of the world, the faculty should be highly qualified and committed, infrastructural facilities like classroom, auditorium, sports and extra curricular and living condition in hostel and campus should be excellent.

BITS started in Pilani, then extended to Dubai, then Goa, and now, already the foundation has been laid in Hyderabad and the expansion continues. So what are the challenges in expanding BITS further with regard to the quality of education and infrastructure?
In our country, three lakh students are admitted to engineering degrees every year. So there is a need to increase the intake among the good quality institutes. By increasing the number of institutes it's not necessary that the quality will deteriorate. If the planners of these institutes keep excellence as their motto, they will concentrate on how to increase the seats, without dilution of excellence. An optimum level of infrastructure is required for the establishment of a good institution and maintaining the quality of education. One aspect which cannot be simply brought in by money is well qualified and committed faculty. Lack of good faculty is a handicap for increasing the number of institutes of good quality.

Today, as soon as students complete graduation the most important question that bothers them is whether they should pursue higher education or opt for a job. What, according to you, are the parameters they should consider before taking a decision?
This is a burning issue. The decision of opting for a job or pursuing higher education immediately after graduation rests on the individual. Their decision may be influenced by the financial condition of their family.

If the students are not careful to consider the need of the family, I would not say these are good students, good citizens. Citing my own example, after doing M.Sc in Physics I opted to teach. Within a year, I realized the need for higher education. Therefore, I opted for it.

Another important question is: should they go abroad to pursue higher studies, or opt for higher engineering degree or MBA or join Civil Services? In this regard, my own thinking is that it depends on the taste of an

"Currently my dream is to see BITS, Goa amongst the top engineering institutions in the country."

individual and economic scenario in the country. Twenty five years back, most of the good engineering students preferred civil services or went abroad for higher education. In those days for post graduation most people were getting scholarships or there were more job opportunities abroad. Today, their first preference is an MBA degree from the IIMs because of a global economic scenario rather than the taste of the individual.

Would you like BITS to collaborate with foreign institutions and award their degree?
This is again a very important issue. My personal opinion is when IITs and BITS started; they began with the co-operation and support of outside world. Just to give an example, the first IIT in Kharagpur was established with the co-operation of UNO in 1958, IIT Bombay was established with the cooperation of Russia and similarly the other IITs. BITS, Pilani was in collaboration with MIT, USA.

Today, India is in a position where the degree of IITs and BITS are considered almost at par with those given by the best institutes of the world. So today I'll never agree to give a degree of other institutes to the students of BITS. I would be quite happy to have any course in co-operation with others, but the degree should be of BITS.

Dr. Goel at Ganesh Chaturthi

People go abroad not only because of the superiority of the institutions, but also because they gain the experience of traveling overseas and meeting various people which is learning in itself. In our time, institutions like BITS and IITs had come at par with the best of the universities of the world. In the contemporary world, I wish that our institutions should be considered even better than those abroad.

In the long span of your career, there ought to be incidents which you consider as treasures. Please share a few of those moments with us.
Well, there are many incidents. One, I am from a rural background where the

proficiency in English speaking was very poor, I've come to a stage where I've given lectures in the best institutes of the world. This is one example which I always remember.

Within a year of my appointment as a faculty member at IIT Delhi, my research accomplishments were at par with those of my colleagues. Then, my spoken English was not up to the mark, but when you talk science you don't care for the language. My strength was that I had taken everything as a lesson and rather than feeling shy, I tried to learn from my mistakes.

During my visit to Imperial College of Science and Technology for research activities, I interacted with more than 20 Nobel Laureates whom I considered as superhuman powers before. I realized that they were very pragmatic and everyone has the potential to reach that height, provided there is enough care and nurturing of the qualities.

You have experienced the life at IIT and now you are a part of BITS family. What differences can you perceive?
This is difficult for me to conclude. On one hand I had spent 37 years in IIT, while I'm yet to complete 3 years in BITS. I consider BITS and IIT at par. Probably, there are more programs in post graduation and research in the IITs. However, our undergraduate training is much more comprehensive as it

includes a very good training through Practice School. Our initiative in post graduation and research has to increase exponentially.

As a professor in IIT, I had an individualistic approach; while as the director at BITS my job is to see that everyone does his/her best, whether it is the faculty, the students or the administration. Therefore comparing the two, will not be fair.

As a youngster you might have had many dreams. At this point of time do you think you have fulfilled your dreams?
Whatever were my dreams as a youngster I have probably fulfilled them long back. As I was growing my dreams were becoming far fetched. Currently my dream is to see BITS, Goa amongst the top engineering institutions in the country.

And, finally, a few words to the Alumni…
As for the alumni it is important that their Alma-Mater should be such that they can be proud of it. Similarly, as the Director of the institute, I wish you all to be at the best of your career and best of your personal life so that your alma-mater should be proud of you all. In my view, family is as important as one's career and our Alumni should take care of both.

'True education is reflected through the simplicity of character' – Dr.T.C.Goel is a personification of this age old statement.

BITS-PILANI IN A NEW AVATAR

BY SHERIN KURIAN ('04 INFO SYS), NIVEDITHA R. ('04 PHY EEE), AKRITI TIBREWALA ('05 INFO SYS), SHOUNAK SEN ('06 CHEMICAL), OJAS MEHTA ('06 E&I), CLICKS 'N FLICKS (PHOTOGRAPHY CLUB BITS GOA CAMPUS)

A photo feature on life at BITS-Pilani, Goa Campus.

The beauty emerges with the daylight…..

Eager enthusiasts setting out to college early in the morning…

Yearning to make sense of the lecture

'Refreshment for the body and mind' MONGINIS – Our college hangout spot

Back to work…

From institute to library in the evening…

Our day is incomplete without you—Air Service of India

Aspiring 10 pointers

"But all work and no play makes Jane a dull girl"

Witness the growth, as it happens….

The feature above shows a day of a true BITSian at the BITS Pilani Goa campus. The weather of Goa proves wrong the famous saying "Morning shows the day" which is visible in the snaps.

We thank the official photography club, 'Clicks n Flicks' of our campus for their timely help in getting the photos.

TIME-SODDEN

BY MADHU NAIR ('98 PHYSICS AND CHEMICAL)

Retrospection into the past and mapping colors to the phases of life.

Have you ever tried to squeeze time? No? Not in any literal or scientific sense .Not by applying relativity or modern physics. Not by working complex variables and numbers to arrive at a theoretically shortened time. But poetically and emotionally in a fantastic way you would have. Take a span of time. And wring it in your mind. And just like liquid drips out of a newly laundered cloth you will find drops of emotions dripping out of the time-fabric. Keep pulling more of these time clothes and the more your wring it, the more you can squeeze out of them.
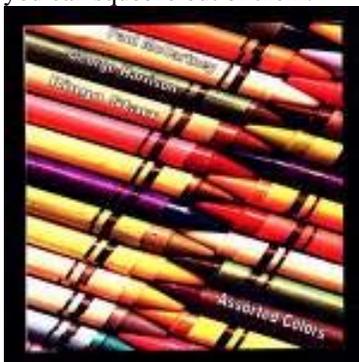
The early school days would be a good piece of linen to demonstrate. Pull it out. Stretch it out in your mind and holding both the ends start twisting it. There. You see drops of happiness falling, the bright hues of innocence dripping down your hands. Don't you? Put in some more effort. What do we get? Gushes of curiosity? Oh yes. They are cool. Unlike when you wring the somewhat

But then a portrait acquires more depth with shades of grey than when it is daubed completely with magentas and peacock greens.

sodden and well wet cloth of adulthood. There too you find the rivulets of curiosity. But neither are they as refreshing nor so sparkling, Are they? The dyes that stain the hands when you wring the latter piece are not as bright and brilliant as those we managed to squeeze out of the earlier baby time. There are lukewarm streaks of grey and scalding blacks that snake down the wringing forearms now.

But then a portrait acquires more depth with shades of grey than when it is daubed completely with magentas and peacock greens.

What colors would we encounter when we try and clean our cottons of our future? Would it be dirty and peeling colors of our youths? Or some stoic hues of brown and grey? Or perhaps the soothing tones of contentment? How wonderful it would be if we could wring out of an aged cloth streams of refreshingly cool wisdom! Would they be stirred with the

essence of pride or pungent with vanity?

And now mixing a bit of physics into this exercise! Pardon me, all you real physicists if this does not conform to your notions or laws, for I'm as ignorant of the laws of Doppler's effect as of Comte's writings. But this much I can venture. Doppler says something to the effect that with varying distances the colors vary too. And similarly, would the brightness of innocence during our childhood appear as the blackness of ignorance when viewed from adulthood? Where is fear? Which of these streaks are stained by it? The green ones must be jealousy, right? What about love? Pink? Clichés! And sloth? Are there enough colors in the palette to map all the emotions? The varying degrees? Like the mildest blues of detached curiosity fading into the colorlessness of apathy?
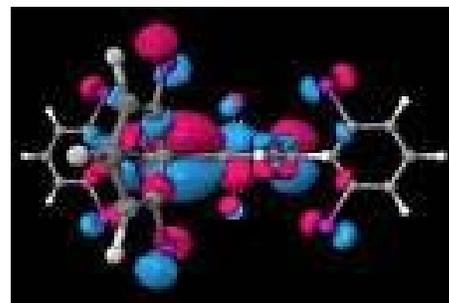
Sometimes it feels that the clothes cannot be dried at all. They are never drained of the stains. Sodden, heavy and colorful.

LEARNING TO CRAWL…A SHORT STORY

BY ARUN MAHARAJAN (MAHARAJÁ) ('99 E&I)

A different perspective…

"Hello my brother...what brings you up here? Is not your allowance exceeded for this pulse period?"

"Yes my brother...but I come to talk to you. I hope the guards don't spy me out..."

"Inspite of times that pass, i am sure you have something stimulating to talk about...shall we exit through the north east gangway?"

"Perfect...the prairie wind is strong at this time of the pulses i reckon...stealth is of essence brother...we should not be hasty!"

And off they swooped into the air...the two men from PhoenixII, of the third galactic ring. PhoenixII was their home...they were born there...they took their first flaps there...at their prime, they ruled the skies...but that was a long time ago...

Phoenix II is in war...has been for a long time now...their orange skies are now a murky gray...the swell currents which used to be fresh and invigorating was now damp and garbled...but of course, war has always had its penalties.

The two friends were now high up in the stratocurrent...where the chances of them being overheard and spied upon was little...one cannot be too careful during such hard times.

"Tell me my brother...what is it that you want to talk about? I hope it does not have much to do with the proponents of war or their thoughts. I have had enough of that propaganda to last a thousand pulses!"

"You besmirch my standing with such thoughts my brother...certainly, you know me better! But i cannot but help observe the note of sarcasm in your voice, you jest brother...a little seriously...but jest you do!"

"Keen observation..and quite right too. I am very interested in hearing this...here?"

"No...not here...we still got a while...follow me!"

And off they swooped...into a nosedive...their wings close by their sides, sharp body features cleaving the thickening air until they felt warm...they were the highest among the race of aerial beings...The Narulars was their given name...also known as the silent assassins. Over the millennia, they trained and developed their art of flying to such an extent that few can match them now in their dexterity and guile up in the air. They were valuable additions to any army...any imperial emperor will have at least a couple of Narulars in his elite guard at all times. The very reason why they are always in focus during times of war...and times of hardships...

The two Narular came upto the ground now...but did not land...as they did not have their shields with them at the moment. Not for fear of attack but simply because their anatomy did not allow them direct contact with soil to go without bodily harm. This has been both the curse and a boon for the Narulars. When technology was in its infancy, they still had to survey the ground for food, raw materials and other vital necessities...their evolution of being dependent on a toxic environment for their daily survival honed their

survival skills and sharp instincts in them. Their reflexes and intelligence evolved faster than any other race...and thus, they are blessed now with prosperity.

They were almost skimming the ground now...such was their precise control over their movements that they barely gave a second thought to an emergency forcing them to touch the ground...they dodged a climaherb...they settled down into an intransient flap torrent thus conserving energy...

"My brother...i am thankful for being born into my family...into our race...in this planet...i love being myself. But there is something which i yearn for nowadays...its unreachable...i know...but my thoughts can't escape that line for long each day...its troubling me a lot. I don't know if i am being stupid...i dream they might say...but what's wrong with dreams or fiction i fail to understand..."

"Tell me...what is it which haunts you?"

"Well...have you not ever wondered how it will be to have legs and walk the ground without fearing death?"

"....hmmm..."

"I know it sounds crazy...but have you not wondered...have you not...have you..."

"Yes i have. But i have never told anyone...the very thought is frightening..."

They rounded upon a hill now...the vegetation below sparsened out a little...enough to spy out the land creatures that live in holes in the ground.

"Depends on your point of view...i look at those burrowing creatures down there...and i cant help envying them...the feeling of solidity underneath their feet...the surety with which they can move...the possibility of perfect immobility without the need to

find a perching place...and mainly, their minds. Their minds can be free of thoughts like my current thought when life is simple enough to be lived out without any hitch..."

"Hmmm...i see the thought and wisdom behind your words...but its not our way to be friends with that which will blow us down! We respect the soil...and use it for our needs...but...not like what you say..."

"Intelligence it seems is chaotic in its substance...this war we fight...its caused by intelligence among the fliers...to think such schemes to conquer or defend...when something is not required for mere survival,

intelligence is destructive when kept unleashed...and i am simply envious of these land creatures...their evolution lent them enough intelligence to ensure survival...and its enough for the universe!"

"Ah...i see your view..."

The night was wearing on...the silence of the place broken only by their wing beats sobered out the scene...the stars were out tonight...such a rarity during war times when camouflage smoke smothered most of the stars out. They were well beyond the gallery range now...

"My fatal fascination with the soil is not so blasphemous now eh?"

"Allow me to ask you something. Have you ever thought about a world...where there are beings...intelligent beings...who are lands beings...do you think that one of them, not unlike you now, will be wondering the exact same thing. Do you think it's possible that someone somewhere in some universe will be thinking...how it will feel to fly in the air...how wonderful it is to be an aerial creature...the freedom of movement in three dimensions in comparison with the two that he is used to...

Do you not think...that such a being might get such thoughts? If so, what do you think he might do about it...he will try to find a way to conquer his dreams...intelligence that you speak of might be useful here...soon, i am sure he will conquer the skies...but, my brother...if the sky is harmful to him...if he fails in mid flight, the fall might be great enough to kill him. He

will fear that...he will fear that...his intelligence will fear that. Its not therefore possible for such a thing to happen...we have to play to our strengths...and the ground is not our strength."

"But in such a world as you say...the utter fascination of flying might be overpowering enough for intelligence to find a way...like we have our shields. Inspite of the fear of their failure, we still venture out like its normal...now, how would it feel to be born a land creature...to have that mobility that these creatures enjoy...thats what i am thinking about..."

"Ah...i see that the war has not affected your power to dream my brother. Dream away my dear Narular...dreams are always good for the future...but, if you can show me a world with such beings whose thoughts of flying is overwhelming, then that will make my pulse period!"

"You know as well as i do thats not possible...we have not seen such a world of intelligence yet. Its a well know fact that to be intelligent, you need to have the power of flight. But it makes me wonder whether our forefathers were wrong in this..."

"I don't know whether they are right or wrong...but is your hunger satisfied now with thoughts enough to fill up the empty spaces?"

The sky started lightening a little now...the twin stars were almost about to rise...in normal times, this would have made a beautiful scene...but in such pressing times, the beauty of the scene fails to register in the disturbed mind...afterall, beauty is what the mind perceives.

"Maybe...i don't know...in any case, its time for me to report to the hangar. We are making our way on a mission to survey for some critical mineral deposits to help build some terrestrial
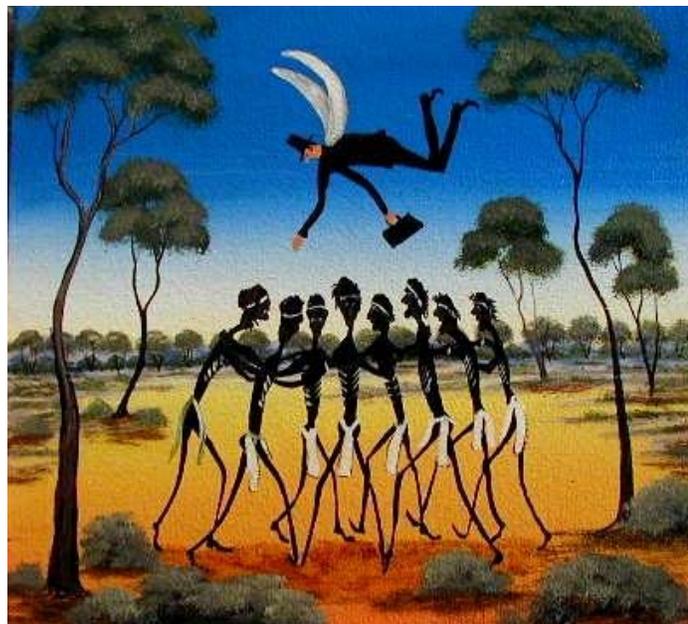
missiles...hmmm..."

"Ah...that does not sound bad. Where might you be heading off to...?"

"Wherever it takes. As you know, the critical minerals are almost extinguished in this galactic ring...we might be heading out to uncharted territory...will be an adventure to experience i am sure. I can tell you this...we have our eye on this particular planetoid

we have been observing for some time now...initial projections seems to suggest that its atmospheric composition is ideal for our needs..."

"Well my brother...i wish you all luck in this mission of discovery. Meanwhile, i suggest you keep your thoughts with yourself...its not healthy to spread such unconventional thoughts around in such...ahhh...might we say, delicate times..."

"Yes...thank you for listening...i am grateful..."

"Of course...anything for an old comrade in arms! And...this planetoid, does it have a name?"

"SS3RFTS-MW is the internal code given by our observatory. But interestingly, our philosophical scriptures seem to mention it from ancient times...but the information is incomplete...lost along the way. I believe it's called Earth..."

"Earth...a not too inspiring name...don't expect to find too much there my brother. Our ancestors seem not to be too interested in this planetoid enough to refer to it with a more intelligent name. Anyway, time to go..."

And with a strong but gentle push, the two Narulars soared into the rising twin stars...

D.R.E.A.M.

BY MEENAKSHI CHATERJEE ('05 PHYSICS & EEE)

Five childhood friends, bonded together by years spent in pranks and games, keep meeting every year - until tragedy strikes. Refusing to give in to what fate had in store for his friends, Dick battles on. A researcher himself he makes his DREAM come true.

"**G**reat to see you guys!"

The table was round. Dick, Adit, Elvin, Randolph and Miriam sat around it. Dick was beaming. His pleasure at seeing his childhood friends was apparent. He reiterated what he had just said.

"Man…I am real happy to be with you!"

The rest nodded in agreement.

Dick had always been enthusiastic. Growing up in the west coast of California was never peaceful with Dick around. The neighborhood where Dick lived, people still swore about his mischief. As if it wasn't enough, Dick gathered around him, his own gang of pranksters. Adit, Elvin, Randolph and Miriam joined him. Together they made the D.R.E.A.M. club- a name that bore all their initials.

Together they wrecked havoc. Other's discomfort became their source of delight. Complaints flooded their homes. Punishments, threats, persuasion – all proved futile. D.R.E.A.M stuck to their dreams- of making their neighborhood a living hell for its residents!

Finally seeing no alternative, they were sent to a boarding school. The strict regime and discipline was sure to break the heart of even the most obdurate mischief-maker.

So, it was more of a rude shock than a pleasant surprise when all five were sent back home even before the completion of their first term. "Absolute misdemeanor" was cited in the

life is but a DREAM for the dead

letter that accompanied their expulsion. It was another way of saying that they were caught red-handed stealing term papers from the Principal's office!

However, their home coming was short. Dick's parents were influential. So were Randolph's. They arranged for their wards to be sent to a different residential school, where a small donation went a big way in securing admission. Miriam joined her great aunt in her grooming school for young ladies. Adit stayed back and joined a seminary. Elvin- inspired by his father, aspired to become a lawyer. D.R.E.A.M was shattered. Each sought their own dreams now, where once the collective aspirations represented the individual's. Though they met whenever any of them was in town, the earlier zeal was missing. Each had somehow mellowed down. Dick still remained as energetic as before but much to the relief of his neighbors- didn't find interest in playing pranks.

Elvin passed the bar. He opened his own practice with the help of his father. Miriam carried on the mantle of heading the school after her great aunt expired. Adit started giving Sunday sermons to the congregation of faithfuls who soon lost interest due to his monotonous voice. Randolph began managing his family's timber business and converted the loss-making venture into a profit-making one. Dick became a researcher in biological science.

"Remember that incident at Los Angeles?" Randolph asked.

It brought Dick out of his reverie. He had been musing about their past for so long. Miriam answered in her usual soft measured voice.

"Of course! Randolph! It was such an adventure! I still remember sitting by the Catalina beach as you and Dick went scuba diving. Then suddenly your oxygen mask and other gear floated up- all of us became so hysterical! Meanwhile you were having a good laugh at us from the other side of the beach. We never forgave you!" Miriam admonished.

Miriam broke into peels of laughter. Randolph grinned, Adit maintained a poker face, Elvin nodded and Dick simply beamed.

It has been like this for the past five years now. Every time when they assembled the conversation veered to their past adventures. Every time the reaction from Miriam, Randolph, Elvin and Adit was the same.

"How come we never talk about our first biggest misadventure?" Dick quipped.

A wave of comprehension and recollection flooded other's faces. An animated discussion ensued about how they had managed to break into the Principal's office in the quest of their term papers. It was a well planned theft which just couldn't be executed to perfection. Each regretted being caught. Not for their act of stealing!

They had come up with the most bizarre excuses to account for their presence in the Principal's office in the middle of the night. What followed was something their parents have always tried forgetting.

Their voices drew Nicholson to the room. Nicholson stood outside the glass room- inside the five friends sat, chatting- unmindful of an outsider's gaze. The routine never varied, thought Nicholson.

"Professor Dick and his eccentricities!" he sighed to himself.

His mind turned the clock back by a decade. Prof. Dick had just revealed his sensational invention to the bewildered world. He had named his project – DREAM, as token of his friendship to his four close friends. DREAM actually stood for **D**ata **R**ecovery **E**ncryption and **A**ctualization **M**achine. It was a coding method far superior to those in existence. While other processes encoded data or images, DREAM was capable of encoding an entire human! The gene mapping of a human being had already been taken care of. Prof Dick took it ahead by a quantum leap. Overnight, his project became the topic of discussion at any gathering. Ethical issues were raised and quelled. Prof. Dick heeded none. His childhood stubbornness hadn't completely left him. He worked arduously at his DREAM- day and night. Suddenly, disaster struck.

His friends- Adit, Randolph, Elvin and Miriam who were traveling to meet him for their annual get-together, met with a head-on collision. Dick was informed while they were shifted to the nearest hospital for immediate attention.

When Dick reached "St. Mary's Hospital", the doctors had given up hope.

"It's all a matter of time now, till..." Dr. Eli the head physician left his sentence unfinished to avoid speaking the inevitable truth.

"It cannot be! I won't let it be! My friends will be with me forever!" yelled Dick, more to himself than to anyone else. He set about his work. While Dr. Eli and other physicians looked on, Dick got his apparatus in place. He had brought his DREAM project. Painstakingly, he sat with each of his friends, now a senseless vegetable, to recover and encode data. It took hours but never once did Prof. Dick flinch. Electrical signals went to and fro between man and machine.

Finally Prof. Dick finished his recording and encryption. His friends showed no signs of improvement and after a year of legal and ethical battles, they were taken off the life-support system.

Two years after that Dick had for the first time, resurrected his dead friends. DREAM was switched on. The virtual bodies of his four friends occupied four chairs around the table as Dick looked on with delight and sadness. The voices still had static noises and images had Gaussian disturbances. He had to better it. Every year he improved the quality. His DREAM never met his expectations.

Tonight – he noted with satisfaction, that his friends were almost life-like. He had actually been enjoying his chat with them. It was now time to go. He shuffled to his feet and switched off the machine. With it, his friends disappeared and with them their DREAMs.

> DREAM actually stood for Data Recovery Encryption and Actualization Machine. It was a coding method far superior to those in existence. While other processes encoded data or images, DREAM was capable of encoding an entire human!

AN AFFAIR TO REMEMBER

BY VERNON FERNANDEZ ('04 EEE) & SANDIP GANGAKHEDKAR ('05 EEE)

Champa Bhushan and Brij Bhushan met in Pilani 40 years ago, fell in love and got married. Their wedding reception was served by Volga restaurant in C'not. After their wedding they moved to US where they lived the American dream for 36 years. Brij started Reston Consultancy Group which does thriving business in the networking sector. Now Brij and Champa are back in Pilani. To teach for one semester and give back to the place where it all began. This is an affair to remember.

IN the year 1960, a young Brij Bhushan entered the gates of the Birla Engineering College, to study for his Bachelor's Degree in Electrical Engineering. His batch was the first of the newly conceived five year course. His batch also achieved another first when they graduated in December 1964, the first batch of the newly formed Birla Institute of Technology.

Mrs. Champa Bhushan finished her Bachelor's Degree in Electronics and Communications at the Jadhavpur University of Calcutta. Her brother, who was teaching at Pilani at the time, convinced her to do her Masters at BITS, instead of IIT Kharagpur which was her first choice. She joined BITS in 1964 to do her Master's in Electronics

and Communication. For Mr. Bhushan, fate played an important role here…

Mr. Bhushan returned in 1965 after being offered a teaching position by Prof I J Nagrath, the then HOD of the Electrical Department. While he taught here, he was also working on his Master's degree. Mrs. Champa Bhushan also taught here, from 1966 to 1969. They met while teaching, and the rest, as they say, is history. Mr. and Mrs. Bhushan hold the distinction of being the first couple in Pilani, as they were married here… (The reception was catered for by Volga). After their marriage, they headed to the United State of America for higher studies. After working in Bell Labs and Bell Northern Research, they moved to Washington DC in 1980.

In 1986, Mr. Bhushan was asked by his employer at that time, GTE Telnet to start and head a consultancy division. Feeling that, if he could do it for their company, he could as well do it on his own, he started the Reston Consultancy Group (www.rcg.com). In 1993, Mrs. Bhushan joined the company as well. Today it is a thriving business, well known in the networking sector.

In 2006, Mr. and Mrs. Bhushan returned to BITS, as guest lecturers for one semester. We spoke to them about their life, their work and BITS.

Can you tell us a little about your life at BITS?

Mr. Bhushan: We never had any festivals like Oasis in our day, but the level of participation in sports was much higher. We used to participate at the state level in Inter-collegiate events. I captained the Badminton team in my third and fourth year. At that time, the NCC was also more active among students. I reached the rank of Sergeant in the NCC, which is the highest rank a student cadet can achieve. C'Not, which even at that day housed old favorites like Annapoorna and Volga was also frequented a lot.

Mr. Bhushan's Birla Engineering College ID card from 1962
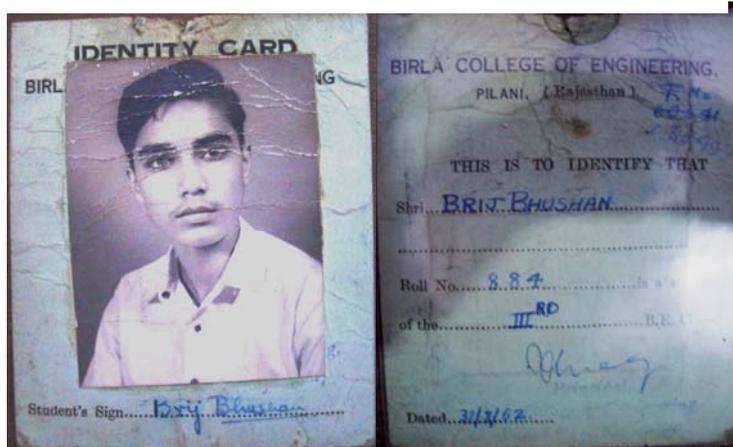
What was it like to start your own company?

Mr. Bhushan: It was a bit scary at first, but I knew I could do it. Since she (points to Mrs. Bhushan) was working at the time, I knew we wouldn't starve. It feels better to be my own boss.

Why did you decide to come back?

Mr. Bhushan: Prof. L K Maheshwari, had extended an open invite to all the alumni, asking them to come back and share some of their experiences. We met him once or twice in the past few years when he visited the States. In fact, this is like a sabbatical for us. We felt that we had to give back something to the Institute.

How do you feel about coming back?

Mrs. Bhushan: I was a bit apprehensive at first, but he convinced me. We made a trip down here last year to check out what we might need. The institute was very helpful, from receiving us at Delhi to taking care of our every need.

Mr. Bhushan: I usually plan for every contingency, leaving nothing to chance. I had even bought a set of condiments from Delhi, not sure if we could get the same in Pilani. On the first day we arrived, we found that the Institute had taken great pains to cater to every single need we might have. They even went to the extent of ensuring we had a tea-strainer. With the new facilities like Akshay, we have no trouble getting everything we need.

You've come back to teaching as a profession after more than three decades in the industry. What are the biggest differences?

Mr. Bhushan: Teaching is a profession that requires a lot of dedication. The lack of monetary recompense is a huge deterrent for people wishing to become teachers. However, if you are sure that this is what you want to do, I say go for it. In the industry, though such a large number of people are well paid, only a very small percentage of them are happy. The teaching profession has a much larger percentage of people who are

happy and satisfied. You can see it in Pilani. Once you've taught for five to ten years, you can stay a teacher forever. There is a barrier between the industry and teaching in India, which will reduce gradually as more and more Research and development work in universities occurs.

Now that you are teaching at BITS again, do you find the attitudes of students have changed?

Mr. Bhushan: Well, the students are definitely a lot more disciplined and eager to learn. In our time, the teacher would be tested to see if they could control the class. I guess this focus comes from the amount of competition these days.

Seeing as you've studied both in the United States and India, what do you find different in the style of teaching?

Mrs. Bhushan: The textbooks, course materials and course structure are usually all the same, but the universities in America lay a lot more emphasis on hands on experience. They teach you to think critically, while here, students are taught to learn critically. I'll give you an example from my class here at BITS… the students were given a problem for an open book test, that was exactly the same as the problem in the text-book. Only a few values were changed. However, most of the class the problem copied directly out of the text, and thus lost marks. The skills to think rationally are not imparted.

Mr. Bhushan: The Indian way of teaching is different. You can't change one institution. You need to steer the entire education system. I believe it'll happen slowly in the coming years. In

Mr. Bhushan, at his office in the TBI wing.
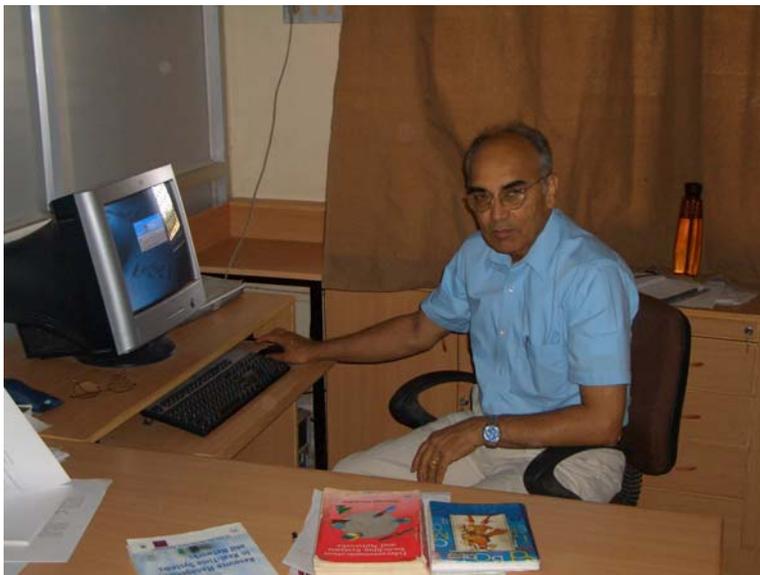
any case, Indian students do well over there, learning the skills needed really fast.

Mrs. Bhushan: There's another difference. In the western countries, students are very curious. They question everything; from their teachers to the textbook. They are encouraged to do so. For some Indian students, the textbooks are Gospel truth, even the misprinted ones.

The inevitable question: How do you think BITS compares to the IITs?

Mrs. Bhushan: The IITs and their alumni are much better organized. Among BITSians, the Alumni network is more social than business oriented. The IITs also have much better PR, which comes from their organization. Otherwise, there isn't any difference in the students.

Mr. Bhushan: Most of the Indian engineers working in my company were IITians, and they would rib me about being a BITSian. I said, 'you may be from IIT, but at the end of the day, your paycheck carries a BITSian's signature'. I also feel that in the coming years, with the quota system and other factors, the quality of students entering the IITs will reduce. At

this time, BITS should capitalize by widening the dragnet and getting an even better quality of students. At least BITS has not spawned an ancillary industry which prepares people for our entrance exam. We should maintain the quality, perhaps by a constantly changing exam pattern.

What advice do you have for the students of today?

Mr. Bhushan: One of the first things I would like to tell them is not to be content with only

Mrs. Bhushan, in her adjoining office.

one degree. There are only about 35 PhDs in computer science in India every year, while the jobs requiring PhDs are almost a hundred. You might take four to five more years to get your higher degree, but you'll make up the money in the next five years because of the difference in the pay scales. Never think you can come back to studies after joining the industry… it just doesn't happen. So decide

now which higher degree you wish to pursue, and do it.

If studying for a higher degree, should students prefer going for an MS or an MBA?

Mrs. Bhushan: The choice completely depends upon the student. Based on his or her skills, abilities and interests, the student must make the choice. You might not be mature enough to make it just now, but the world is too competitive to wait for you. There is a need for proper career counseling and career advice.

Mr. Bhushan: The student should decide which stream they're heading into by the end of the third year. Once you've made your decision, you ought to stick with it. And yes, career counseling could really help at this time.

In your opinion, are there any downsides to studying in Pilani?

Mrs. Bhushan: Pilani is an excellent place, but the students lead a very sheltered life here. They aren't exposed to the outside world. The students have no experience with bureaucracy before they start their jobs.

Mr. Bhushan: The Practice school training does help, but the students are still very sheltered. However, they will soon learn what they need to in the school of hard knocks.

BRAND – WHAT IS IT - HYPE OR REALITY?

BY DEEPAK SHARMA ('91A1)

Deepak Sharma is a Senior Consultant in the Strategy & Change Practice of IBM Global Services, and focuses on the sales/marketing transformations, brand strategy, business process optimization and organization strategy. Deepak can be reached at deepak@ritmba.us
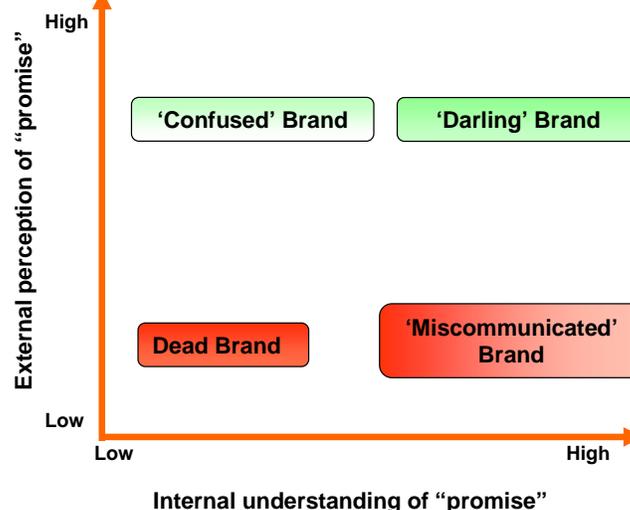
"Our brand is the red and green symbol"; "My Company's brand is our tagline XYZ…." "Nike's brand is whoosh symbol", "Our products are too technical to have a brand – only end consumers need a brand" "We need a brand – let's create a new symbol and visual" – These and similar statements are uttered in hallways, meetings and corporate boardrooms on a daily basis. The true understanding of Brand eludes many of us (including myself for a long time) and requires a very deep understanding of an organization's business imperatives, markets, customers, products and competencies (to name a few). There is enough literature out there on brand, brand strategy, architecture and the sorts (See list at end of article) and I will not be providing gory details in this article. The aim of this writing is to provide some fundamental definitions and examples along with an easy way to relate to brand and to understand the true meaning/definition of a brand. This fundamental knowledge can then be used to build upon and expand as required to

execute a flawless and successful brand strategy for any organization.

Defining a Brand
While many definitions of brand can be found – A simple and powerful way to describe brand as a "Set of Promises". This "promise" has to be understood at the very deepest levels and requires internal

External perception of "promise" (vertical axis, Low to High)

- 'Confused' Brand
- 'Darling' Brand
- Dead Brand
- 'Miscommunicated' Brand

Internal understanding of "promise" (horizontal axis, Low to High)

understanding to match with external perception of the 'promise'. For example the brand promise of FedEx is Reliability – If you use them it will get there on time – This is something that is understood extremely well both within the organization and also externally by its customers (consumers and businesses). A key thing to note here is that externally it is the perception that matters more (the age ole cliché works well

here – perception is the only reality) and internally (to the organization) the true understanding is critical. The intersection of these two lead to the brand being highly successful or 'darling' brand is what I call it in Figure 1.

Starbucks is a 'darling' brand that is now entering the danger zone of moving into the 'Miscommunicated' brand level –Why? – Starbucks "promise" has always gone beyond the coffee to include the ambience that comes with it – A third place for the day (Office – Home and Starbucks). They are now expanding to provide their product at other locations (Home drinks, Drive thru and Stores) – It will be interesting to see if they can nurture their brand promise and manage the external perception to match their internal understanding – which is now to focus more on the product and the experience derived from it – rather than the ambience in which the product is served! (This is quite a controversial topic in brand circles and I am merely stating my humble opinion here!)

So how does one really get to understand brand promise internally? A very easy and insightful tool is the Brand Value Pyramid (Explained in great detail in the book – Brand

Asset Management by Scott Davis). In his book, Scott calls the top the Pinnacle of Brand – a state achieved by very few brands – I like to call it the WoW factor or the highest level of the promises offered by your brand. A frequent argument I hear is that in the technology industry (say Semiconductors) it is not possible to create a brand value pyramid – I believe that is not true – it merely requires a way of thinking to get to the WoW factor – As a hypothetical example a technical product may provide things like low power, number of inputs as a feature/attribute with the benefit being easy board layout and the WoW factor being "hassle free" board design that works right the first time – As you see we have taken a technical feature and converted it into an emotional value – "Hassle Free".

A quick last word on brand promise - In order to truly achieve high level of internal understanding of the "promise" one should develop multiple Brand Value Pyramids for products and functions (such as HR, Finance) within the organization. Then take the WoW factors of all the brand value pyramids and ensure they
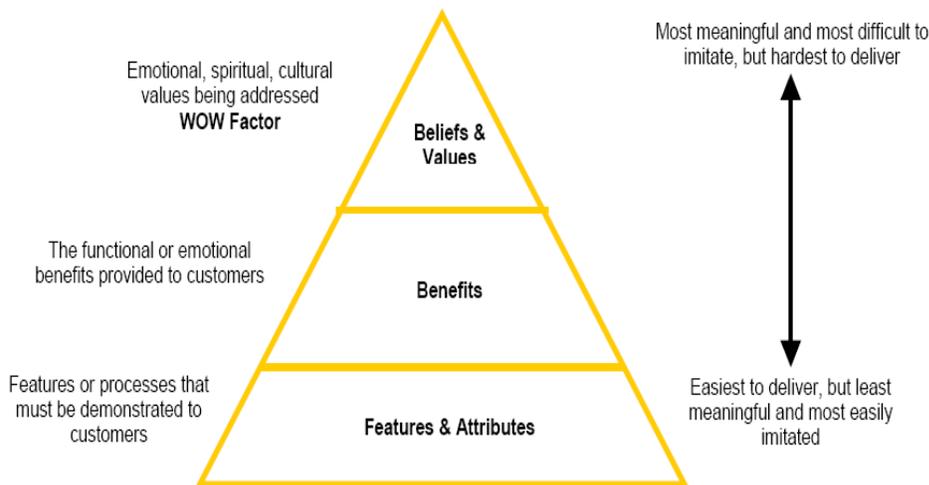
Brand Literature for Further reading

Brand Portfolio Strategy – David Aaker
Brand Asset Management – Scott Davis
Confronting Reality – Larry Bossidy, Ram Charan
Emotional Branding – Marc Globe
Building Strong Brands - David Aaker
Websites – Whisper Brand Strategy, Prophet.com, BrandChannel.com
Various articles in Harvard Business Review, McKinsey Quarterly, Strategy + Business (Booz Allen Hamilton)

tie to the overall WoW factor of the corporation – This way the brand promise gets effectively assimilated within the people, products and processes of the organization i.e. embedded in the DNA of the organization.

Hype vs. Reality

The confusion occurs since a majority of folks consider the brand visual and advertising to be synonymous with the brand. In the next section, I will attempt to clarify the differences between these.

Let us begin with the brand visual – A brand visual is a symbol that drives the brand message for external communication. It can be a combination of a name (Intel Inside), Graphic (Nike's

Whoosh) or Tagline (BMW – Ultimate Driving Machine). They key thing to remember is that the visual is a symbol and not the brand itself. The symbol could change over time (automobile companies change their taglines every 3-5 years) in order to create the appropriate perception in the external world about the brand promise. As long as one is aware of this difference and probes deeper on the visual to understand the brand promise – there will be no confusion and clarity of the brand will be maintained. So on the internal side (being part of the organization) one has to understand the deeper promise and not confuse the visual as being the brand. (There is a whole debate on brand naming – I won't say much but leave you with this – We all know what a Black Hole is but how many know what a Gravitationally Totally Collapsed Object is? If you don't get it feel free to contact me)

Advertising is the next step and one way to look at it is that advertising is the vehicle on which the brand visual rides. Here I am taking advertising in its broadest form – i.e. any touch point with the customer – website, promotion, flyer, media ad, print ad, email blast etc. So it

Emotional, spiritual, cultural values being addressed
WOW Factor

The functional or emotional benefits provided to customers

Features or processes that must be demonstrated to customers

Beliefs & Values

Benefits

Features & Attributes

Most meaningful and most difficult to imitate, but hardest to deliver

Easiest to deliver, but least meaningful and most easily imitated

is a way to communicate the brand promise but not the brand itself. It is more about explaining and grabbing attention then demonstrating (A true brand will demonstrate its promise to you on the emotional level).

One has to guard themselves, the organization and even the customer against believing that the symbol or advertising is the brand itself. It is this wrong belief that leads people to think of brand as hype rather than reality. The reality is the brand promise that has to be understood and then communicated both internally and externally.

In some ways these are sequential steps:

Brand Identity (defining the promise)

↓

Brand Visual (Symbol to drive the message)

↓

Advertising (Vehicle on which the visual rides)

In conclusion, I believe Brand is a reality. Every product, organization has a brand – the question is whether it is a darling, confused, miscommunicated or dead brand. Brand is a very powerful

part of the organization. In today's world a strong brand strategy is required to be tied to a strong business strategy. I believe in Scott Davis's hypothesis that a brand is really an asset and can be managed as such to deliver quantitative results (topic for another article). While there is tons of literature and authorities on brand strategy, brand portfolio etc. the foundation in defining and understanding the brand promise is the first and critical step towards success and as someone once said to me "You need to build the brand (promise) and the reality (actual product/service/experience) behind the brand"

WORLD'S BEST BRANDS (?)

BUSINESS STYLES OF WOMEN: NICE GIRLS DON'T GET THE CORNER OFFICE

BY PUSHKALA ('95 MMS) AND ANURADHA GUPTA('86 MMS)

Interviews with successful BITSian women about their business styles and what works…

Are Men from Mars and Women from Venus - even in their business styles? Enough has been reported about the glass ceiling, double standards and other barriers faced by women in management. But amongst us BITSians, we see evidence of many successful women handling their professional lives par excellence. We interviewed some such women to find out what makes them tick and what makes them flinch.

Punita Pandey, Founder and CEO, NetCustomer doesn't believe there are any innate differences in the business styles of men and women. Going by her example, her career captured as a case study in leading Management schools, the proof of the pudding is in the eating.

Our contention is that there may not be innate differences; however, cultural differences do creep up in some settings.

Women have had roles and role expectations which have shaped behavioral patterns over the years, though things are fast changing. Has this influenced their business styles? Are they conforming to trite expectations?

We expect women to be assertive, not aggressive. A tough guy would be revered, but a tough lady may be considered 'brittle as nails'. Of course, different countries, different cultures and different kinds of companies and changing times have varying work environments. The corporate world is not just about working hard; it is also about working smart.

Sangeeta Patni, Country Head of Extensio Software, formerly CIO of Eicher Motors and Anu Gupta (writer and Executive Committee member, Lend a Hand) were both at Hindustan Lever for seven odd years. Around this time, **Indira Parekh, who was a Professor at IIM (Ahmedabad), of Organizational Behavior,** interviewed a number of women managers to investigate how more women could be encouraged to stay on and work in a rather dog-eat-dog, competitive environment, right up till they reach senior levels in the company. Considering this was over ten years back, a lot has transpired and the work environment is hugely better. However, some of the observations back then were:

1. Women often need to work twice as hard to prove themselves
2. Women need to market themselves, get mentored and avoid the 'good girl' trap. They need to indulge in the back-slapping, camaraderie (to the extent they are comfortable) and network to get results.
3. Women need examples of other women in leadership positions for inspiration, whether they are hired externally. Since this discussion, a lot of women in HLL and outside, BITSians and non BITSians have climbed the corporate ladder and been inspiring trailblazers.
4. Women need to highlight their achievements and results while negotiating their annual performance appraisals and not hold themselves back

When we got round to interviewing women about business styles, we tried to find out what made them successful, not necessarily different from men. There were two inherent assumptions that got ratified – that the current work environments are better and that women are now using any differences in business styles, if at all they exist, to their advantage.
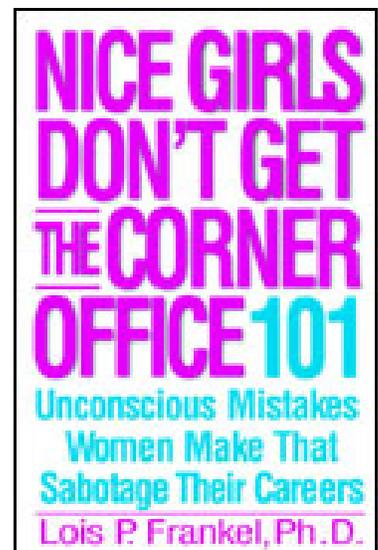
Work and Leadership styles

A key concept that ties most of the women we interviewed is managing change and multitasking. Most women we interviewed do opine that they haven't been blatantly or overtly prejudiced against.

Ruchi Tandon, Senior Manager at Amazon: "The key to thriving in a fast paced industry is to flourish in change - manage change, survive change & be instrumental in driving the change."

Syamala Lanka, General Manager, Wipro Technologies, alludes to this when describing a certain organization transformation initiative that she was leading: "I faced many hurdles because of general resistance to change, differing leadership styles and people's fear of losing control. I overcame some of this by frequent communication at all levels and addressing concerns directly."

Anu Khendry, Assistant Vice President, Quality at Satyam: "The environment at my work place has been merely results oriented and that suits me just fine. But this wasn't always true. During my early years, my male bosses did wag a finger when I left on time. But I was upfront and straightforward about my dual responsibilities at home and in the workplace. I went on to earn the respect of my colleagues by achieving goals within the time frame that was set out for me."

Seema Thomas, Manager, SAP, a fast-tracker: It is not just about work, but projecting what work one is doing that is equally important. I managed projects for my office last year, which constituted 25% of their revenues but in good spirits I took a grand vacation after the project instead of organizing debriefing meetings with executive management. With the benefit of hindsight, this is not a

Edward M. Moldt, managing director of the Snider Entrepreneurial Center at the Wharton School of the University of Pennsylvania, says that a women's approach is "one that is right for the times."

He feels that leaders today have to be "strong enough people, so that they're capable of hearing the ideas of others and really empowering them to use some of those ideas in changing businesses and in making them successful." And since women are "very comfortable with having to persuade people, to encourage, to motivate," they meet this challenge well.

mistake I am likely to repeat. Five years in SAP have taught me that hard work alone doesn't count; I have to work smarter, work with mentors, establish a network and also make the results I work so hard to achieve, known.

I can't take colleagues and seniors home for a meal cooked by the wife – because I am the wife! I have made some trade-offs along the way since I am a woman and a Mom, but I don't regret them one bit. My advice is, "Women should not feel constrained, they should just persist…kids grow up, they leave, hang on to your careers." Today, I am in a position where I command respect and can dictate terms, through sheer grit – it is easy to say that results speak louder than words, but words do help too…"

Vandana Malaiya, Director of Trianz- a Management Consulting Firm in Bangalore and an active member of TiE for Women: "My style has evolved over the years. I began as an aggressive individual who strongly defended her work and work decisions and moved on to becoming more patient while still maintaining the assertion. I do feel that being assertive helps but if one is working in an organization where men are threatened by women in senior positions, then one needs to tread with caution."

Anu Brookins, Senior Vice President, Bank of America: "My many years of experience have taught me to communicate well with top executives. I try to speak their language and this has led them to respect me over the years… Because I was able to explain things to others and break down complex concepts into simple terms, I was able to prove my value to the organizations and leaders I worked with.

I believe in stretching myself to the limit to realize my maximum potential. When I took up my current job, it seemed like an uphill task because I had little domain knowledge. But the sheer confidence in myself and the challenges I was facing excited me enough to reach out further and rise to the top. Being bold in stretching one's boundaries is something that I strongly advocate."

Networking

Talking of relationship and people skills, there is a well known stereotype that women are very relationship oriented.

Successful women however seem to have a penchant for not only making good relationships but also using them to their advantage, to network and generate ample opportunities in their careers, and stay in the know how about the 'right' job openings

Ruchi and Seema: "Most men form a buddy system over a beer in the evenings, or a game of golf. Many women are left out of this circle because of familial responsibilities. In trying to cope with this I (Ruchi) try to make the best use of time during work hours to build good professional relationships."

Anu Gupta:"I am a people's person, and that would have been my temperament, even if I was a guy – not in a softie sort of way, but to form my dart board and identify others' skills and strengths to target in a symbiotic state of networking! There is plenty of opportunity for camaraderie during work hours, stopping by for a minute at a colleague's desk, hobnobbing over lunch, or going down to the Paan Shop (a

favorite haunt outside Lever House where a lot of informal business decisions were taken) with colleagues – all of this while one commands respect and is known to be task oriented.!"

Vandana Malaiya: "I am gender neutral and believe in parity for both the sexes at work place. By this I mean that I do not change my style of interaction based on who I am dealing with - men or women. I keep all relationships at work professional and work related. However I regularly maintain my network and since I enjoy networking, this has helped me surge forth. "

Seema Thomas: "I do network with colleagues within my organization and outside and work equally well in cross-functional teams since I have all kinds of experience behind me, from global program management to sales and support, customer relations to software development – to marketing!"

Anu Brookins: "By being

sensitive to others, clear and concise in communication and genuinely caring. I have been able to form good work relationships and maintain them."

People Skills and Team Building

Business Management, which was very male dominated until very recently has witnessed over the years, a plethora of men managers who have been aggressive, action oriented and tough. People like Lee Iacocca come to mind at this point. But a new generation of women management is on the rise which is changing the way people look at managers. These women are good listeners, often empathetic and encourage open work atmospheres. Many studies show and many businesses agree that women are suited to be good leaders for these reasons. Openness is especially crucial in today's world where businesses are becoming more and more transparent – and flexible.

Ruchi: "Managing people is

FORTUNE three most powerful women in business. (L to R) #1 Indira Nooyi (CEO PepsiCo), #2 Anne Mulcahy (CEO Seros) and #3 Meg Whitman (CEO eBay)

about grooming them; growing them; making them independent. I lead many teams and often find the rules of the game similar to parenting, where one needs to mould a child to become ready for the world. Women have an innate ability for this and can hence become great people managers."

Syamala Lanka of Wipro Technologies:"I agree. But there has to be a clear line between being empathetic and tolerating non performance."

Seema Thomas: "I believe in team building, considering the political dynamics of the team internally and externally. Office politics is unavoidable; it is there in small organizations as well as big ones and you can not control it but can control your reactions and responses."

Anu Khendry: "I revel in an open and collaborative atmosphere where teams sit together to make decisions. I sometimes lead teams that have older men but because of my open minded ways of dealing I find it easier to connect with them. My teams have achieved many milestones and awards during my tenure."

Opportunities, not Constraints

Pregnancy and kids do add some constraints to the professional life of a woman – but provide richness to the lives of both women and men. Many women find themselves in the all too familiar Catch-22 situation between professional achievement, parenting and marriage, but most of the women we interviewed have taken breaks and either returned to the same company or have

taken that time to switch careers/companies. Some have worked part time in the interim or done flexi hours. Almost all of them feel that companies are becoming more women friendly these days – encouraging women to return, keeping in touch with them or offering them small projects while they are away, ensuring that they are abreast with developments at work or encouraging mentor relationships for growth and for a smooth return back to the work force

Conclusion

The work environment is better than ever for both women and men. Stereotyping is stereotyping and differences are differences, but women and men do not differ in their abilities and potential, given equal opportunities for growth, ceteris parabis, in other words!

"Nice Girls Don't Get the Corner Office" – A book review of Lois P Frankel's Best Seller

At meetings and in the Board Rooms do you often use equivocating phrases like "Perhaps we should….", "Maybe we should consider…." ? Do you take office politics and professional put downs personally? Do you almost always soften serious messages with a smile? Do you find always feel the need to be liked?

Then maybe you need to take the evening off and read Lois P. Frankel's "Nice Girls Don't Get The Corner Office". The book has a practical take on how women behave unconsciously in the corporate world. It talks about how women have some deeply ingrained and self defeating behavior that may be the root cause of why they don't move higher, faster!

Lois talks about 101 unconscious mistakes that women have known to make in their professional careers. The author, who is a president of a corporate coaching firm, has gleaned these mistakes from women whom she has coached over the years. She provides specific examples for each mistake and follows it up with coaching tips thus creating an action plan for improvement.

The point that she stresses over and over again is that women often tend to behave like "good girls" even at the workplace because such behavior is constantly encouraged all through their life. Good girls are always pleasant, they smile more often, and they aren't loud and serious. So much so that the tendencies to behave like a nice girl extends to every aspect of a woman's life.

She therefore advises women to play the business game actively and strategically, to network and make use of useful contacts, to blow one's own horn when needed and to put forth their skills onto the table confidently. In short she tells all women to "Quit bein a girl!"

NETWORKING

By SANGEETHA
NARASIMHAN ('97 CS)

Sangeetha Narasimhan joined BITS in 1997 as a student of Computer Science. After four seemingly sheltered years at BITS that she feels taught her some of the most important lessons of her life, Sangeetha joined Cisco Systems as a Software Engineer. Now, she is dealing with that concept called "Networking" in more ways than one.

I sometimes wonder if there is someone out there who shares my affliction, my phobia. It is not the fear of heights, reptiles or water, though I'm amply scared of them all. We should talk about them some other time. But today, I'd like to confess that there is this one word which used to affect me with a nameless dread. Networking.

The irony is in the fact that I work for a networking company. I could engineer two pieces of hardware to talk to each other with ease. But when it came to building business relationships, I didn't know where to begin. I suppose this is rather a common problem and one that afflicts both men and women. There could be different reasons why a person may find it hard to build such relationships. It could be a natural diffidence or disinclination to talk to strangers or acquaintances, a feeling that you are wasting someone's time, finding it tough to maintain relationships already made or the thought that networking is not really essential for a successful career.

Women face other obstacles like cultural barriers, the lack of immediate and approachable role models, the glass ceiling and the boys' club, among others. Although the increase in the number of women in the workplace across most, if not all, professions has done us proud, we are still a minority in the management levels. In these and entrepreneurial roles, the importance of building relationships both in the workplace and outside can hardly be overstated.

Knowing people in one's workplace, industry or on the outside can do wonders. It will help you get a foot in the door, gain valuable inside information, serve as a link to other influential people, provide better prospects when you are on the lookout for a job and allow you to bounce ideas off people and get their advice. One just needs to be open to the idea and take the first step.

I'd like to think I have taken mine. In my case, it was naiveté that was stopping me. The idea of consciously investing time and effort in building a relationship so that it would serve me well at some point seemed false to me. Moreover, I thought I would be inconveniencing people by asking for their help and guidance. I guess I was waiting for friendships to happen.

I now know better. Most people love to help and are flattered if you seek their guidance. I was amazed at how much time and effort they were willing to invest in me purely to help me out.

Once I had the conversation going, building a relationship came naturally. These days I look to make acquaintances with new people, not just at work, but even at other hobbies I pursue. It never ceases to amaze me how much I learn from just listening to their experiences or sharing mine over a cup of coffee or a *hi-howare-you-doing* phone call. For the present, this is my happy medium between friendships and strategic business relationships.

Like they say, no man is an island. No woman should be one either.

Of Mummies, Roman Heads and The Physics of Medical Imaging: An Interview with Dr. Rajiv Gupta ('76), Engineer Turned Doctor

INTERVIEW BY ANUPENDRA SHARMA ('87 ECO INSTRU)

Dr. Rajiv Gupta completed his BE (Hons) in EEE and MSc (Hons) in Physics from BITS in 1982. He briefly worked for Tata Burroughs Ltd in Bombay as a Software Engineer, before leaving for SUNY Stony Brook for an MS & PhD in Computer Science. He spent the next three years at USC, researching VLSI circuits. In 1990, Gupta joined the GE Corporate R&D Center in Schenectady, NY where he worked on Computer Vision and Medical Imaging. It was during an assignment in a hospital in Nancy, France, where GE was building their first 3-D Angiography system that he got interested in medicine. After returning from France, he left GE to pursue a career in medicine. He finished his MD degree from the Cornell University in 2001, and currently is Director of Siemens' Ultra-high Resolution Volume CT Lab at Massachusetts General Hospital in Boston, as well as a faculty member of Harvard Medical School where he teaches a course in Anatomy.

Dr. Rajiv Gupta has won several awards including First prize, Boston IDEAS 2005 Conference (October 2005) for his robotic invention for performing minimally invasive surgery, First Prize Winner, MIT Fourth Annual IDEAS Competition, 2004-05, the Roentgen Resident/Fellow Research Award, RSNA (June 2004), Special Prize for Innovative Technology (June 2002) and the Dushman Award (1999), the highest team-award at GE Corporate R&D center. He also won numerous management awards at GE, and the NTSE Scholarship in 1976.

Let's start with a little bit about you. Where did you grow up, go to school?

My earliest memories take me back to a dusty village in Rajasthan called Mulsisar. It is about 3 hours from Pilani by bus, deeper in the desert. My mom was a principal of an elementary school in Mulsisa, and my dad worked in the library at BITS, Pilani. In 1969, we all moved to Pilani to join my dad. I went to the Birla Higher Secondary School initially. In the 10th grade, I switched to the Birla Public School.

What made you choose BITS?

Well, I actually started at IIT-Kanpur first. I paid the 1st semester fee, and was all set to go to Kanpur, when I got selected for National Science Talent Search Scholarship. In those days, you had to pursue pure sciences in order to qualify for the scholarship. My heart was set on Physics, but my parents wanted me to do engineering. They thought, probably rightly, that

would enhance my employability. BITS provided an ideal option for me. I could pursue a both an engineering degree and a science degree simultaneously. So I started at BITS in 1976. IIT-K still has not returned my admission fee, thanks to the bureaucracy there.

Looking back at it, that was perhaps the most crucial decision I ever made. BITS gave me a solid foundation in both disciplines. The stuff I learned at BITS, especially the courses in the first 3 years, I use routinely in my current work. I loved BITS's emphasis on providing everyone with a basic foundation in the sciences, especially Math, no matter what your degree objectives were.

When was the last time you went to Pilani? Are you planning to go back anytime soon?

I was in Pilani in 1995. I go to Pilani, every time I go to India. Unfortunately, I haven't been home in the past 11 years.

Medicine is a long career, and is very demanding on your time. Hopefully, when I have completed my training, I will visit again. I have lived in many places. But after all these years, Pilani still feels like home.

I'd like to hear about your most cherished moment from BITS
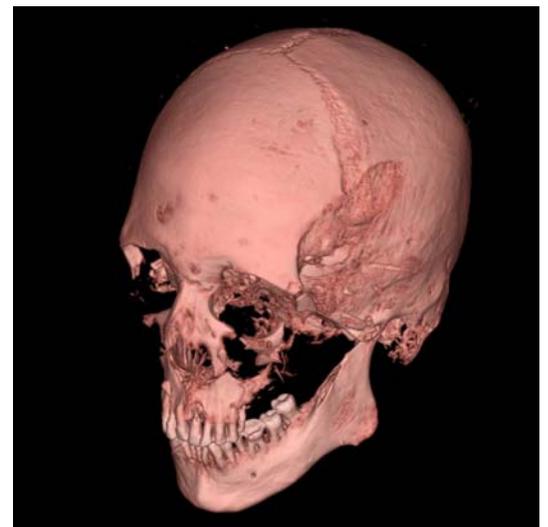
I was in 2nd year when Dr. Thatte gave me a research problem: find the equation of a surface that will focus parallel rays of the sun to a point. This surface could then be piece-wise linearized and cut in plastic to make a Fresnel lens. He and Mr. K.C. Gupta (Mechanical Engineering) had actually built a Fresnel lens based on empiric calculations. I worked on it the entire summer, and finally came-up with an equation that neatly defined such a surface. We later published a paper on it at the National Solar Energy convention. That was my first publication ever! In retrospect, it was a simple result, but I loved it.

CAREER SWITCHING

How long did you work as an engineer. Tell us about your experiences there, especially any interesting ones.

I worked as a full-time engineer for about 10 years, depending on how you count. I actually still think of myself as an engineer. It's not easy to forget stuff that they teach you at BITS. I still have fond memories of Drs. SK Sharma (Physics), Ghule (Physics), LKM (EE), Radhakrishnan, Patanaik, Mukherjee, Krishnamurthy, Iyer, Late Dr. Honda and Dr. Birbal Singh, and …. The list goes on and on. I have the highest admiration for the faculty at BITS. I have attended many universities; the level of dedication to teaching that I saw at BITS, is rare.

When did you decide to shift to medicine and out of engineering? Were there any specific turning points or incidents?

I was in Nancy, France when I first saw the practice of medicine from a doctor's perspective. I was closely working with a group of doctors in designing this new system for 3D Angiography. For the first time, I could see that there is actual problem solving in what a doctor does. It's not simply, "this pill for that ailment", but an actual algorithmic approach to treatment of disease that I was oblivious of until that point.

Is BE to MD a fairly typical career path in the USA. What

advantages does one have in this profession?

In US, transition from engineering to medicine is quite common. Most people don't change after working as long as I did. But MDs with a BS or MS in an engineering discipline are quite common. Most people really choose between engineering and medicine after a four year college degree. At that time, they are deciding to either pursue graduate school, or go to a medical school. A BS is a requirement for starting medical school in US. Unfortunately, in India that decision is made when you start high school. How does a 13 or 14 year old decide what they would want to be doing in their 30s, 40s, and 50s? I certainly did not know. I was pretty good in Biology; in fact I got my NSTS scholarship in Biology. I was interested enough in Bio that I took all bio courses I could in BITS as a EE/Physics major. Thanks to that, I had done enough courses in BITS to satisfy all the pre-med requirements in US! But since I was on the "Engineering" track, I had no other choice but to continue on that path.

Would you advise engineers to go into the medial profession?

Absolutely. Medicine is not for everyone. You have to like to work with people, work in a hierarchy, study for a very long time, and be prepared to master a large body of knowledge before you are allowed to make independent decisions. But the end of all that, the "Thanks" that you get from your patients is sincere. It's a good feeling to be able to help people in a very direct and personal way.

What did you find most fundamentally different between engineering and medicine?

The biggest difference is uncertainty, and our lack of understanding of human body. Man has built complex devices; but nothing compares with human body. Even for the most complex jumbo jet or spacecraft, you can get a bunch of people in a room who understand everything about that machine. After all, it was "man made". The same cannot be said about even the simplest system in the body. As they say in Nephrology,

"Even the dumbest nephron is smarter than the smartest intern." There is some truth to that.

We've heard horror stories about being a resident. What was it like?

It's long hours, and stressful work. But very do-able. If I could do it in my forties, I am sure younger people can handle it just fine.

What do your parents think about your switch to medicine? What about your wife?

My parents initially couldn't understand it at all. They thought that it was completely crazy for a father of two young children, with a comfortable well-paying job, a mortgage, and a promising career, to give up everything, resign his job, and go live in a dorm at some medical school.

They are happy that I am a physician now. Now they routinely call me for consultation, and I am constantly writing them prescriptions for this or that.

My wife was more understanding. She was a homemaker but had to start working once I started med school. In the end, it all turned out OK. In hind sight, all our fears --- how are we going to pay the rent, and what kind of school the kids will go to, etc. --- were so ill founded. My advice to anyone who is contemplating a career change: if it's for the right reasons, and if you have the burning desire in your heart, then just do it. All other things will fall in place.

PROJECTS

Tell us about the paper on the Egyptian Mummy.

Few months ago, we CAT scanned a 4000 year old mummy from the Museum of Fine Art at Boston. I was really impressed by how well preserved the skeleton was. Mummification really works! We found some very interesting osteotomies that were deliberately performed on the skull during the mummification process. It is quite clear from this exercise that ancient Egyptians really knew human anatomy quite well. For example, they knew just which bone surfaces to cut and which muscles to severe in order to disarticulate the jaw. We don't know if that was for getting deeper access into the pharynx, for ex-cerebration, or simply for a ceremonial purpose (e.g., to simulate the mummy to

talk in after life once the rigor mortis has set in).

Why did you take the stone head of a Roman and image it.

This was another fun project for MFA. We were just trying to understand the type of sculpting techniques Romans had 2000 years ago. It seems this bust is the oldest known example of a direct mask making from a living or dead person.

MEDICINE

What do you like most about the medical profession? What do you like least?

I love the interplay medicine offers between biology and engineering. I hate memorization that is required to pass all the exams needed to become a practitioner of medicine.

What is your most memorable moment in Radiology?

When I was six years old, still in my little village, I contracted this skin disease. Out of the blue, I started getting these deep, weeping ulcers on my body that looked horrendous, but surprisingly, did not hurt. Even though there were no doctors around, there was no dearth of "medical advice." My mother put all sorts of pastes and extracts on these ulcers; poured cow urine on them, boiled some "special leaves", and applied the water to them. But to no avail. Fortunately, after about 8 to 10 months, these ulcers spontaneously resolved.

I was in 2nd year of med school, taking a course in Infectious Diseases, that it hit me. Late one night, before a test, I was reading signs and symptoms of this tropical disease that it dawned on me: I had Cutaneous Leishmaniasis as a child. I was lucky that it did not turn into mucocutaneous or visceral Leishmaniasis. These other two are fatal. I must have contracted if from playing with stray dogs that carry the bug.

Do you believe India has a future in biomedical engineering?

I think India has a great future in Biomedical Engineering. We have the technical know-how and design expertise; we have a huge under-served market, and we have the medical know how. However, these three things --- engineering, marketing/ product development, and medicine, for the most part have remained separate. Forums that promote integration of these three disciplines will go a long way in promoting that future.

What do you foresee in India in medicine in the next 10 years? Will we ever become innovators like we did in software?

There are several places where India can play a great role. One is in drug design. It is a labor-intensive

undertaking, where you need a large pool of highly qualified people. India is already a leader in generic drugs. Another place where we haven't done

as much, and can do a lot, is in drug testing. The number of even "rare" diseases is quite staggering in India. So we can contribute a lot in trying out new and novel solutions for eradication of these diseases. Our role so far in developing high-tech medical equipment has been quite limited. So far we have only performed manufacturing activities in this arena. With time, I see more and more of research and development in biomedical engineering being performed in India.

Where is the world of imaging going? Will it truly change medicine like Andy Kessler says in the End of Medicine?

Imaging has already changed the world of medicine. In a survey of primary care physicians who were asked to rank different medical innovations that have affected their practice the most, ready availability of CT and MR ranked first. Imaging benefits most directly from computers and technology. In a way, Radiology follows some sort of Moore's law. Just like computing power and memory, the imaging data is also growing exponentially.

HOME

Tell me about your family

My wife, who is a native of Spain, is a Spanish teacher in a high school. My daughter, Samantha, 16, is a junior at Wayland High School. My son Alejandro Javier, 13, is in middle school. Knowing first-hand the hard work involved, both of my kids have given up on becoming a doctor.

Under the Spotlight – BITSians in Theatre

By Anupama nirmal ('98 fin) and sandhya krishnan ('99 info sys)

Intrigued by jazzy posters lining the mess notice boards we would stream into the Audi. We skimmed through the brochure in the dark, straining to see who all have been acknowledged. As the lights came on we took a few seconds to see through the make up and cheer loudly for the beloved friend on stage. We sat rooted in our seats, through the laborious scene changes, all to see the climax and the introduction of the cast and crew. For most of us, this was our last contact with theatre. This article follows the lives of some of those who lived their theatre dreams long after the Pilani spotlights went off.

An IT Dev specialist, an animal behaviorist and someone who "write[s] esoteric pieces of code for a German MNC". Rathish, Vivek and Sachin are brought together on this page by a common passion for theatre, one that made them juggle their academic and corporate lives, make plays and introduce more people to this lovely world of story telling.
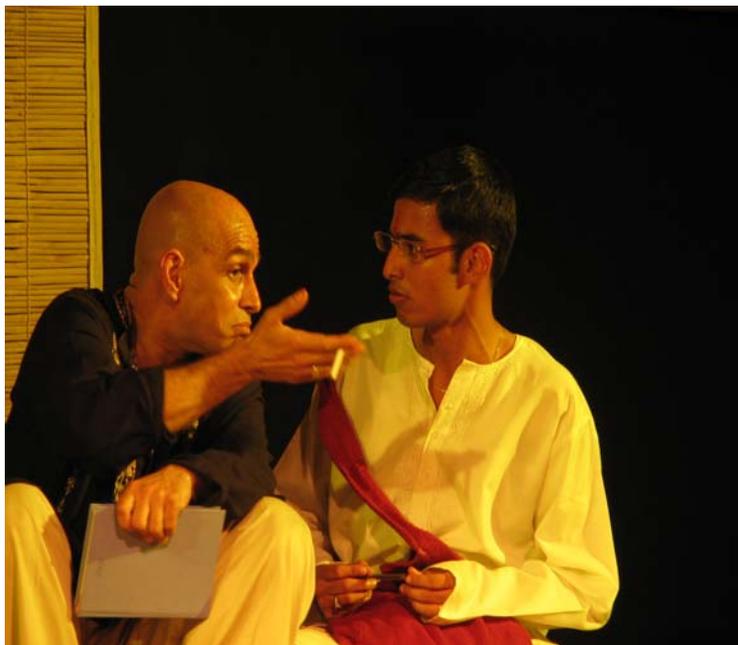
Rathish Balakrishnan (see pic), a C6ite of the 98 Batch is a part of

the Net Weaver Team at SAP Labs. At Pilani he was a well recognized face, seen at many Pilani Tamil Mandram plays, especially for his directorial

debut in his 'psenti' sem. He is now an active part of Misfit Theatre Group, an amateur theater group in Bangalore. As part of the group, Rathish has written, directed and acted in many plays. His group not just stages plays, but also moulds newbies to the fascinating world of theatre.

Known in BITS as Natta or Nandu, Vivek Nityananda, a Ph.D. student splits his time between cricket and plays. While at BITS (1997-2001) he was involved in directing, acting in and providing lights for English Drama Club's plays. Since graduating from BITS, Vivek has been channeling his efforts at

putting up a play every year. A brilliant flautist, he has also composed the music for a few plays. Sachin Dev an ET graduate from BITS (class of 2003) very skillfully juggles his RJing and weekly 40 hour dose of Enabling NexGen Products for SAP, along with theatre. At BITS he was involved in several EDC and Mime Club productions. He hopes to start a media-house/production company later on and may be a Radio Station too. Sachin along with other members of Join-the-Dots have just finished up the production of their second stage play of the year. Join The Dots is yet another theatre-group based in Bangalore, where the whole process of play production is not bound by a script. Here, the cast does the character-sketching themselves, leaving much room for innovation and creativity.

Rathish, Sachin and Vivek have all been pretty occupied putting up plays and spreading awareness on the magical ways of theatre. Sachin and Rathish have also been working keenly on popularizing theatre and bringing more people into their teams. Rathish and the Misfit Theatre Group organize workshops where new 'students' are given assignments and older members provide tips and insights from their own experiences in theatre. Sachin and Join-The-Dots organize frequent workshops focused on different aspects of theatre like acting, sound, script writing, expressions etc. Sachin has also

started a theatre-enthusiasts group at his office and had arranged for Join the Dots to put up a street play in his office. Much publicity is also being done via pamphlets, posters and mass-Email.

Joining these three in their love for theatre is Srikrishna (Okri), 98A7, who works for Dell while also directing plays for his theatre company "Version one dot oh!" (VODO). At BITS, he was involved in 9 productions and directed one English and three Kannada plays. "After I started working at Dell I wanted to do more theatre but found that it would be very difficult to work with full time theatre groups because of my work. I decided to get people like me together and form a theatre group." Nothing is as simple as it was in Pilani, he admits. "We were faced with many challenges. Staging productions in BITS had been much more easier, we had all the facilities, actors, space, audiences…everything."

After many hurdles, Srikrishna, Vivek, Namitha Vish (97 batch) and Diba Mirza (98 batch) put up a small show in the Bangalore Planetarium on Jan 1st, 2003 for friends and family with sketches adapted from Christopher Durang and Monty Python.

VODO began with a group of 5-7 people sitting on a rock in

Cubbon Park gathered to read Dario Fo's 'Can't Pay! Won't Pay!'. " We figured out a small play school to rehearse. The production went on for almost 3-4 months and we faced many challenges, many times we "almost" gave up but we fought all adverse situations, including the loss of one of the actors in an accident." He talks fondly of how, like many famous brand names today, VODO was a last minute attempt at a creative name. In Dec 2003, they staged their first big production of "Can't pay! Won't Pay!" to an audience of more than 200 people. VODO has

staged 17 successful shows of 5 plays ("Can't Pay! Won't Pay!", "Shadows in the dark", "Listen, Janamejaya", "Harvey"(see pic), "When the pythons followed The Actor").

Their "Shadows in the dark" won the Best Play Award during the "Young Director's theatre festival" organized by the Center for Film and Drama in Bangalore in 2005. The group has even traveled to Dharwad in North Karnataka to stage Sriranga's plays in English for the first time ever. "We have been invited to participate in a theatre festival next month being organized by the Government of Karnataka along with some of the oldest theatre

groups in Bangalore" he adds.Almost all of VODO productions have been staged to promote social causes and they have raised more than INR 400,000 for NGOs like Dream a Dream and Vishranti, home for senior citizens.

Did BITS have a part to play in all this?

All of them were involved in different aspects of play production much before BITS days. However, they insist that there is a lot that they had learnt by being part of BITS stage performances. According to Rathish ,"The foundation and the basic skills were set right there. Be it the fundamental skills to write a play-characterization, dialogue writing etc or to have a comfort level on stage." He also asserts that drama clubs at BITS do teach those involved the ABCs of discipline, creativity, teamwork and people management. The experience at BITS gifts one "more confidence; and therefore a strong urge to be more innovative; to try different things out." says Vivek.

It can be argued that the plays that BITS students put up are quite comparable to the professional stage performances across cities. While working with a professional group in Chennai, this author recalls how surprised the others were to find how

seriously we BITSians took our rehearsals and the amount of professional techniques we used. "Comparing our quality - I guess we are right on top in terms of quality of actors and technicians (sounds, lights etc)." exclaims Rathish. BITSian plays are for BITSian *junta*, who are quite critical as well as demanding and as Vivek points out 'you have to have be at least half-decent if you don't want to be booed off stage'.

Even with all the experience and knowledge gained while working in a drama club at BITS, bringing out a production outside a college setting remains quite a challenge. According to Rathish one of the main reasons is the stark contrast in the very make up of a production team at and after BITS. He points out that at BITS, the team gets to spend quality time on the play. And in a team like that of Pilani Tamil Mandaram (PTM), one who joins, sticks with the group for four years. Whereas, the scene after BITS is quite different. Rathish tells us "Most of them have full fledged lives into which they try to fit theatre. And not everyone is interested

in doing it year after year." Finding suitable practice spaces and time slots would be further challenges. In BITS we had our whole semester chalked out. The timetable book each of us got on the day before registration told us the dates of our exam- there were few unforeseen emergencies.

These four have much enthusiasm for theatre, quite a bit of experience in producing plays and also the drive to overcome minor challenges in their way and do what it takes to stage a play. But how do these folks manage their time? As we have been told over and over again 'Where there is a will there is a way' and Vivek "squeezes in time" whenever he finds it. Sachin and his theatre group schedule meetings and practice sessions for the weekends. Sachin agrees that it is a great way to connect very easily with people and it's definitely worth the time it takes from his social life. Setting priorities straight and allotting time for each has helped Rathish balance his work and play. He feels strongly that "anyone who has had a fulfilling life in BITS (with departments, clubs, assoc, wing, acads and personal life), I guess,

can manage anything."

These people have been triumphant in finding a charming medium to express themselves in the most ingenious and articulate fashion. Through stage performance which last 2- 3hours they entertain and educate the audience while winning for themselves a sense of fulfillment. It's remarkable to note that an Institute somewhere in the Thar had not just prepared its graduates for flourishing careers in science and technology, but had also proved a fine nourishing ground to ignite and keep alive their love for arts and creativity.

FROM THE DESK OF RTN. & PROBIAN T.V.BALAN ('51 MECH)

AGING IS AFTER ALL IN THE PERSPECTIVE DEPARTMENT

Do you realize that the only time in our lives when we like to get old is when we're kids? If you're less than 10 years old, you're so excited about aging that you think in fractions. How old are you? "I'm four and a half".... **You're never 36 and a half**.... you are four and a half going on five! That's the key. You get into your teens, now they can't hold you back. You jump to the next number. How old are you? **"I'm gonna be 16."** You could be 12, but you're gonna be 16.

And then the greatest day of your life happens.... You become 21. Even the words sound like a ceremony.... **You BECOME 21** ... YES! But **then you turn 30**.... Oho what happened there? Makes you sound like bad milk.... He TURNED; we had to throw him out. There's no fun now.

What's wrong? What changed? You BECOME 21, you TURN 30, then you're **PUSHING 40...** stay over there, it's all slipping away ...

You BECOME 21, you TURN 30, you're PUSHING 40, you **REACH 50...** and your dreams are gone.
 Then you **MAKE IT to 60**... You didn't think you'd make it!

So you BECOME 21, you TURN 30, you're PUSHING 40, you REACH 50, you MAKE IT to 60 ... then you build up so much speed you **HIT 70**!

After that, it's a day-by-day thing. After that, you **HIT Wednesday**.... You get into your 80's, you **HIT lunch**. My grandmother won't even buy green bananas.... It's an investment you know, and may be a bad one.

ANOTHER FIRST FOR A BITSIAN

BY KARTHIKEYAN M (KAMKA) ('98 EEE)

Chinmaya Mishra ('98 EEE) becomes the first Indian to win the prestigious 2006 IEEE Solid State Circuits Society predoctoral fellowship. Kamka quizzes this humble genius on his latest accomplishment.

CHINMAYA

Mishra, a graduate student in the Department of Electrical and Computer Engineering at Texas A&M University, received the prestigious IEEE Solid State Circuits Society Predoctoral Fellowship for 2006. This honor is awarded to Ph.D. students based on their accomplishments and their great promise for future contributions to the field of solid- state circuits. This is an extremely competitive award and many world wide graduate students from top universities compete for this unique distinction. Chinmaya received his EEE from BITS, Pilani in 2002. It is noteworthy that Chinmaya is the first Indian to receive this award.

The humble genius shares his experiences and thoughts with Kamka. Below is an excerpt of their conversation.

Please give us a brief description of your PhD work.
I am currently pursuing the Ph.D. degree under the supervision of Prof. Edgar Sánchez-Sinencio in the Analog and Mixed Signal Center at Texas A&M University. My research work focuses on the design of RF and microwave integrated circuits specifically for broadband wireless systems.

The experience at A&M has been very rewarding both at personal as well as professional levels.

Chinmaya Mishra ('98 EEE)

How does it feel to be the first Indian to get the prestigious SSCS award?
I had not thought about it from that perspective, but now that you mention it, I feel humbled by the honor that I have received from the IEEE Solid-State Circuits Society.

How did the BITS experience help you in grad school in the US?
The education system in BITS is very similar to that in the U.S. which is a big advantage. Practice schools are a great opportunity that BITS provides. It gives you a new perspective to your research work and also helps you in deciding your career path.

What are the things that can be improved in BITS to help students applying to Grad school in the US?
More awareness about the U.S. universities and the specific research groups should be created. Information about state-of-the-art in specific research areas could be included in the course curriculum. This would help the students to gain knowledge about the on going research at different places and would help them decide more or less a specific area of work. This will help in the choice of the universities and research groups that one would like to pursue grad studies in.

How can courses at BITS be improved?
I feel some of the courses especially those that constitute the CDCs should span two semesters. In fact some of the CDCs should start early in the course structure. I felt that it is too much of course material in a very short time. This would definitely provide more time to understand and appreciate the course material and it would be instrumental in one's decision to pursue a certain area of work in the future.

Any specific advice for BITSians who are applying for a PhD, especially in Analog IC design?
Do extensive research on the universities and research groups especially for Ph.D. It is very important to have an idea of what you want to work on. These days the field of analog IC design is changing very fast, so it is very important to be aware of the changes.

A JOURNEY TO JEEVAN VIDYA

BY LAXMAN MOHANTY ('81 EE)

To live life, we need to understand it. Jeevan Vidya tries to help a person to understand what life is all about. (With inputs from Pawan Gupta)

IN June 2005, my wife and I attended a camp called "Jeevan Vidya" which was held in Mussorie and it was for 8 days and residential. An educational initiative called SIDH (Society for Integrated Development of Himalayas, see www.shidhsri.com for more about SIDH) had organized this camp. Pawan Gupta and Anuradha Joshi are founders of this organization. Pawan is a graduate from IIT, Delhi and Anuradha has done her PhD in Psychology. SIDH works with local students and try to make education as relevant and contextual possible. In fact, it has done some wonderful work like getting history of the local place written as a book by students and teachers. Pawan had come to IIM, Ahmedabad to share his experience of experimentation in education. After the talk, while chit chatting, he mentioned about Jeevan Vidya program and invited us to join.

In the summer we had some work in Dehradun and we decided to join the camp. About 60 participants comprising of school students of class VI to +3, local people, professionals and retired people attended the workshop. For us it was an experience to be in such a diverse group and the medium of instruction was Hindi. We were apprehensive that we may find it difficult to follow very correct and proper Hindi. The sessions were from 9 am to almost 6 or 7 pm with a lunch break of 1 hour and two short breaks for tea. We all sat on a floor while the facilitator was standing almost all the time. The view from the room was panoramic as the room appeared to be floating in the cloud with valley on the other end and majestic Himalayas visible from the windows.

Many of the participants were attending the camp for second or third time. They were no less enthusiastic than us. It was expected that children would not survive for the whole 8 days of the camp as the discussion might appear heavy to them and they might prefer to visit Mussorie market than sit through all sessions. But to our astonishment these kids not only lasted for 8 days they were also very enthusiastic participants. Much of humor and fun elements were provided by them. The sessions really went nice and the community living was wonderful. The food was simple but very tasty. Yoga and evening music sessions added to the delightedness of the camp. By end of the camp, we had made a lot of friends and till date those 8 days are some of the best days that we have spent so far in our life.

Jeevan Vidya deals with life-what it means to us, how we need to conduct it and how do we relate to everybody in the universe. This whole thought system was conceptualized by a Sadhak called Nagaraji. He stays in Amarkantak in MP. He wanted to know about the significance of life and existence and read almost all scriptures to understand that. But he could not find the answer he was looking for. Then he was advised to mediate which he did, but that also did not help him. Finally, he went about thinking and formulated a framework which seemed to answer many questions that arise with relation

to life. Some people who came across him learnt and understood the concept and they took upon themselves to spread it among more people so that they can gain from these insights and make an attempt to lead more balanced life.

The basic argument of Jeevan Vidya is that human beings live to be in constant happiness. But real happiness is different from the bodily happiness which is of temporary nature. The "main" (being) is different from body. The "main' is for ever while the body has a limited existence. Happiness of the "main" is eternal and desirable. A human being is the one which does not live with harmony in other elements of the universe and this has caused many miseries to all. The participants are supposed to self explore, the propositions, within themselves and NOT on the basis of any scripture/text, another individual (great or ordinary), or on the basis of any discovery based on instruments. They are encouraged to examine first within themselves, if readily acceptable (on the basis of giving us inner satisfaction ("ashwasti" and "tripti") then they are encouraged to see if this is also true for others and for all times (now, in future and in the past).

For instance let us take the proposal that "all human beings want to live in trust and respect. They are happy when others give them trust and respect and that they also feel happy when they can trust and respect the other, irrespective of the fact that they may not be able to do so." We can see if this proposal is readily, naturally acceptable to us. If so then we can see (again within ourselves) if this is true of all other human beings and for all times. The obvious

but wonderful thing is that we do not have to go around surveying to find what others feel about this proposal; we already know the answer without actually asking.

There are innumerable things about which we do not know anything about the other but we know about the other when it comes to the essentials! The whole fulcrum of self - exploration is based on "natural

> **THE WHOLE FULCRUM OF SELF - EXPLORATION IS BASED ON "NATURAL ACCEPTANCE"**

acceptance". Now if you look at the "I" we know that it consists of Selection, Thought and Desire and then Bodh (understanding) and Anubhav (realisation). The first three Selection, Thought and Desire are active in all of us and these are collectively formed by either our conditioning (which is usually the case) or they come from Anubhav and Bodh (which collectively is being referred as sahaj swikriti or natural acceptance). This Anubhav and Bodh remain uncontaminated irrespective of the conditionings. The more we invoke our "sahaj swikriti" the more we start evaluating our pre conditioning.

When the desire, thought and selection are in alignment with Anubhav and Bodh then there is harmony in the "I" leading to happiness. Again when we look at what the "I" wants (happiness, respect, trust, peace etc.) we see that they are needed perennially. But all needs of the body (food, clothing, shelter,

physical facilities) are required in intervals (one can not eat all the time!) and with some change.

Jeevan Vidya camps have given wonderful results with engineering students. One incident which Somji, our facilitator, narrated was really interesting. He was facilitating a camp for college students. The college authorities had nominated all the naughty and trouble making students for the camp. One of them was really troublesome. He was a student leader. One evening Somji found him crying alone. On questioning he found out that his main purpose was to make Somji angry and disrupt the sessions but in no way he could succeed and he was crying over his failure. Later on that particular student became one of the very serious participants of the camp.

Deeper analysis of Jeevan Vidya has convinced us that this kind of experience can even be taken to school level and students can be helped to understand life. Isn't irony that we are made to live life for years after years without being enlightened about it? Dr Abdul Kalam, our President, in his Independence Day speech this year has extolled the virtue of Jeevan Vidya concept. He wants more colleges and schools to adopt this program.

We feel everybody should go through the process to learn to handle the ambiguities of life. It is not that by attending just one camp one will have all answers. But at least the process must have started and one can take it forward to resolve many issues that one faces.

A Person's World is only as Big as his Heart

RANVIR K TREHAN ('61) is the single biggest BITSAA donor till date. BITS Pilani recently commissioned a tennis trophy to honor Ranvir's contributions.

Ranvir Trehan who graduated in 1961 from the erstwhile Birla Engineering College, Pilani, donated a whopping US$ 50,000 for the Prestigious campus networking project BITS Connect and is the single biggest donor in the alumni history of the Institute. The SETA Corporation in Washington DC which is a $100 million supplier of IT services to the US Government was founded by him. In USA his name figures as one of the 100 persons with most influence on Federal Technology strategy. Ranvir Trehan is a widely respected Internet and Telecommunications/ Infrastructure Pioneer.

Ranvir K. Trehan, President

After completing his engineering from Pilani, Mr. Trehan received his masters from the University of Michigan. He has published numerous research articles, and has taught graduate courses in engineering and operations research. He has been an invited speaker for many organizations including the Commission of the European Communities, National Academy of Sciences, and the Fall Joint Computer Conference.

Ranvir was the first ever student to attend erstwhile Birla Engineering College on a sports scholarship! Ranvir has fond memories of how he had to go to Pilani (on a camel) and how he and his mates would go to Delhi just to watch movies!

BITSAA is proud to announce the Ranvir Trehan Tennis running trophy to be given to the winner of the Tennis tournament at BITS Open Sports Meet (BOSM) - 2006 as a token of thanks for his contribution to BITSConnect.

Ranvir Trehan BOSM Tennis Tophy and Certificate
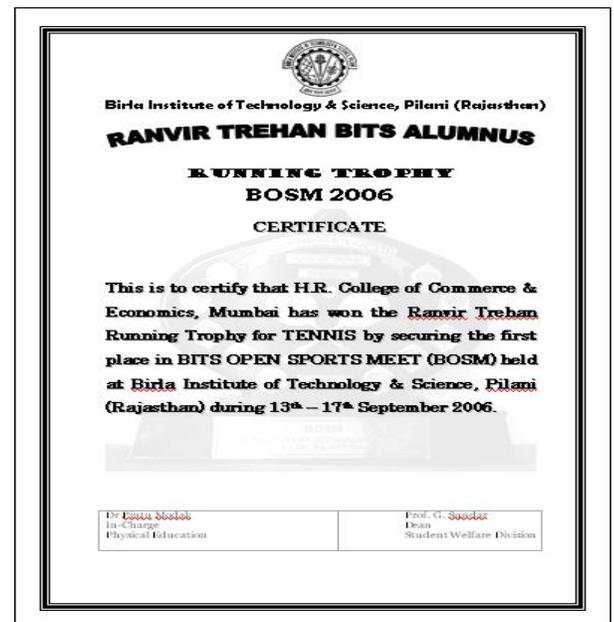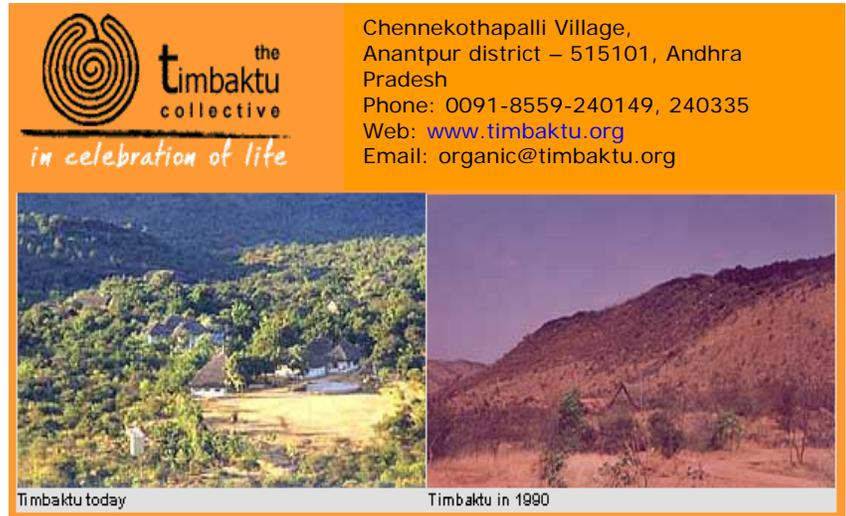
FROM PILANI TO TIMBAKTU

BY ASHIS PANDA ('98 CIVIL)
[STORY TELLING / TWISTS & TURNS : ARUN "THE KING" MAHARAJAN ('99 E&I)]

The tale of not two cities…but of two BITSians in a journey with a difference…making a difference.

HELLO JUNTA…

My name is Ashis Panda (1998A2PS677). Currently, I work with a voluntary organization called Timbaktu Collective. I am married to Madhulika (1997A7PS019). Based on events in our BITSian life and other influences, we decided to get involved in direct full time work with rural people. In this note, I will try and chart out our path till where we stand now.

First, to get an idea of the work of the Collective, please take a look at our website www.timbaktu.org. I decided to work here because I had the opportunity to start a new venture, with small-holder dry land farmers, on motivating them to shift to methods using organic inputs and practices as opposed to their current practice of using toxic chemicals; and organizing marketing support for their produce. This would help improve net returns of the farmers by reducing input costs, improving soil fertility and yield, and by realizing better prices. I am responsible for organizing and managing the post-production work – procurement from the farmers at fair and transparent terms, organic storage of the raw material, processing and

Chennekothapalli Village, Anantpur district – 515101, Andhra Pradesh
Phone: 0091-8559-240149, 240335
Web: www.timbaktu.org
Email: organic@timbaktu.org

Timbaktu today   Timbaktu in 1990

handling of the different product stages and marketing – basically networking with customers, both rural and urban.

My BITSian life was fulfilling got to meet lots of interesting people and extra-curricular activities. I worked with the Civil Engg Association for APOGEE in my second semester. It was interesting and hard work. I made some good friends with seniors and my batch mates. Second year, worked even harder for the Civil Engg exhibition and we won an award! And from my second year till the end of my studies, I worked with the National Service Scheme (NSS). In the my third year, I had to choose between leading the Assoc work or leading the NSS work; after quite some thought, decided to continue with NSS. This

decision proved to be a turning point.

Ravi (a close friend and discipline mate) and I were playing Table Tennis in the common room downstairs. We had seen the NSS notice in the mess, mentioning a meeting in Sky (Lawns) and call for new volunteers to join. I don't know why, but we decided to go for the meeting. I think it started from there.

Some of the NSS seniors and the Professors in charge described some of the work NSS does. Then we went to meet school children and some villagers in Basgaon – a nearby village. One has to go through the sweepers' colony and beyond the Dairy gate. Then we also met with the construction workers who live beyond Meera Bhavan and behind FD I.

Ashis doing community work at IRMA

I was very disturbed with the conditions of the construction workers. The cramped houses they live in, the children being around the site, the dirt and dust. They all had migrated from areas in Jabalpur, Madhya Pradesh and Ajmer, Rajasthan. NSS was already trying to start a school for the children of the construction workers. I decided to join get into that work. We managed to get two teachers for the school, in the evenings we took tuitions – one volunteer takes one child, on Sundays we used to take them out to Panchavati, Sky and the Gliding club grounds.

We organized a stall during Oasis that year with stuff from the local bazaar and Delhi and crafts made by the volunteers like painted pots, decorated rings, lamps made in the BITS workshop. We had our backdrops and 'structure' too. During the pre-Oasis preparation phase, similar to the work at backstage and artndee, there used to be work in the nights, so it gave that 'doing work together' feeling. We got quite a lot of

good volunteers, who stayed behind after Oasis and did a lot of work. A lot of new ideas came with more and more volunteers. There were many who were ready to take things forward, which proved to be a good thing later on.

By my fourth year, I had decided not to go ahead in the technical line. Based on my Association work and NSS, I felt that I maybe good at management. I applied to and prepared for all the possible management schools – top and bottom ranked. While searching for schools, I came across the Institute of Rural Management, Anand or IRMA as it is called. The name intrigued me. I applied. The entrance test pattern was as expected, except an extra 'Issues of social concern' section. I got an interview call from IRMA and finally an admit.

My parents were again difficult to convince. They finally agreed because they thought I could get into firms that have rural operations and deal in agri-

finance or consumer goods and earn a lot of money.

I am fortunate to have met a number of people doing great work in many different areas and be influenced by them. However, the deepest influence on me has been Madhulika, my partner and soul mate.

Madhu, after her computer science degree from BITS, worked with Hughes in Gurgaon for a year, did her Masters in Telecommunication Information Systems from UT Austin, worked with Spirent Communications, Fortworth - Texas for about 1.5 years and returned to India in Oct 2005. While in the USA, she volunteered with AID Austin, and also did several courses and stints related to children's rehabilitation, child care and child development. You should see Madhu with children. Like a friend of hers once said "her whole body would smile when with children." She is a beautiful person.

Madhu and I spent a lot of time together in my second and third year (her third and fourth). We talked a lot to each other about the NSS work, the incidents that occurred everyday, the ups and downs. I think sub-consciously we have influenced each other a lot. There are so many things I appreciate better, because she feels strongly or likes them. In NSS, I spent most of the time organizing (read managing) to let her do the actual work with the children and the workers. I think even now our role division will be such, but we will know once we start working together again. Madhu had started work in NSS in her first year (that is two years before I got into it). I

was introduced to the whole work by her. But to do it full time as a career, we chalked it out after our decision to be together, which we made in my third year :-)

After her return to India in Oct 2005, she wanted to spend about two years time, in directly learning about work in this sector by interning with several organizations. Her basic interest lies in working on women's health, children's education and human rights issues of disadvantaged communities such as dalits and laborers. She has completed short projects with Timbaktu Collective regarding a study of net returns of dalit farmers through organic farming; with Sahayog, Lucknow on health issues of unorganized women workers and with Aid India, Chennai being with their health team.

She is currently in Chittorgarh, Rajasthan interning with Lok Shikshan Sansthan, which works with dalits and adivasis in the area, on helping them realize their rights. She is simultaneously doing her Human Rights Law course from the National Law School, Bangalore. She wants to ultimately work in Rajasthan, so as to be close to the children we worked with in Pilani.

But there are challenges, both unseen and obvious, on the professional and personal fronts.

> "I have never felt drawn to the 'corporate' world. I got some flavor of it during my PS I and II. But am somehow unable to imagine myself work in such contexts. Once I had made up my mind to pursue this career, I have not looked back."

Ashis Panda with his partner and soulmate Madhu

In a village, there are a number of forces and players involved. When we go out and talk about organic farming, it is something that eats into the pesticide traders business, so he or she is not going to keep quiet. There are government officers at the village who are bent on promoting chemicals still stuck with their green revolution paradigm, so they will conduct parallel demos about a new pesticide and how it better kills the old pest. And so on. The Collective has a lot of experience in dealing with and anticipating these problems while implementing projects at the village level. That is one reason why the Collective is working on many fronts – watersheds, forest regeneration, organic farming, dalits, child rights, savings and credit for rural women, disability and panchayati raj institutions.

Things are therefore complex and I think one answer is building an aware and capable group of farmers or villagers led by local leaders of the community who can take things forward and decide for themselves what is good for them.

We operate with a number of goals and optimizing a multi objective function is difficult. On one side, our work must directly benefit the farmer, on the other we have to be responsive to our customers and be professional about it. We are also interested in developing local markets and not just export and at the end of the day, we also want to make profit from the venture. Working with so many goals, requires a very capable team and a vibrant coordinated structure. How to get all of this together? I am still trying to do.

The cross section of people involved is mind boggling. One day I will be in a meeting with farmers, the next day in a meeting with a donor or customer in a plush office. My team itself for example, has people with very varied knowledge bases and

experiences. Only some can read and write, some work more with their hands, some like me more with the head. You have to be able to translate across these different segments. This factor is sometimes unnerving for me, because things are all worked out in my head, given the way I have learnt. But it is not so with the other people involved. So I need to reconstruct my thoughts, better understand theirs and be more responsive. These are skills which I am still grappling with.

I have been used to fast paced college life. For instance, witnessing spreadsheet programs respond in a blink of an eye and tell me how much profit, loss or output I would get. But here, I must deal with the actual pace of things at the ground level, where things have to be physically created with the people I am working with. And nature has a much greater influence here since we are so much closer to her. For instance, I see that the effect of rain on the farmers or villagers is far more than when I was in Chennai during my school days. I didn't feel the pinch of it so much. Farmers can lose an entire crop. All calculations of fixed asset, working capital required and sales estimates can go for a toss

Children in a Timbaktu School

and they simply have to wait for another year. A friend of mine once said "a break-even here is a super normal profit elsewhere".

I don't think I have come to terms with all this…not yet at least. Sometimes I think Madhu's approach to this work will be more original as she is simply starting from the ground with what is available. Her

"Thank you for reading this piece. We welcome you all to visit Timbaktu anytime you are around this part of the world. We would be happy to show you around and help you get a feel of the work."

~Ashis

learning will be more reality based, than applying existing models from course based

learning. I think I have a lot of unlearning to do, to deal with these situations better.

Having a support group of friends, peers and mentors and talking to them about the work and related issues helps a lot. And Madhu and I talk all the time.

My long term interest is in working with producers, primarily rural. This could be about marketing or production or anything related. I think I will work in situations that keep me in direct touch with the people I am working for – farmers, weavers, fisher people etc. I am also interested in starting ventures than working in existing ones. I think I like the challenge of setting up things.

I have to watch myself from sliding into a comfortable life. Staying in a village, like I am now will keep reminding me of the realities on the ground.

Yes, I have big dreams but I am constructing them with small steps, there is still a long way to go. I don't believe that I need to 'go up' levels, as long as I am working full capacity and with conviction, and things are happening.

How you can contribute to Timbaktu

http://www.timbaktu.org/involved.html

Financially

1. Individual grants for a general or specific purpose. These grants will have IT exemption. Timbaktu also has an FCRA account, so people based abroad can also contribute.

2. Giving loans at 5% interest per annum. So far, Timbaktu has raised about 7 lakhs from 19 'green' investors, who are friends of Timbaktu. These investors have visited Timbaktu or know the people who work here or are interested in such a social and eco-friendly venture, but also expect a return for it.

Volunteer

1. Volunteer with the children in Timbaktu schools, take up an area that interests you and help them learn that, like even teaching 'C' or crafts or math etc, though we have fulltime teachers.

2. Documentation including photo documentation, simple research studies, preparing reports, maintaining or improving our website, developing communication material, developing computerized information systems like a sales info database etc.

3. Expanding our friends-of-Timbaktu network, you can start a local chapter in your area and raise awareness about our programs; help raise funds both grants and investment for our work.

4. Forming an organic food customer group in your area and helping us network with them.

Story Tellers Comment

Well, at the start of writing this article, or rather at the start of thinking about writing this article, I did not imagine the suddenness with which the force of two people's lives would hit me.

I have quasi-volunteered for NSS myself during my Pilani days but somehow I never got stuck into it.Over the years since then, I have realized that sooner or later, every human needs to get in touch with their inner working and find out what it is that gives them utmost satisfaction. And one needs experience for this; thought alone is not enough.

You have just read about two people who have experience behind them and I can't help but say, they are now a source of inspiration for me.

As a person who is coming to terms with my own inner working, I appreciate Ashis and Madhulika for having jumped the line in this regard...wonderful!

Of course, every person has his or her own agenda, priorities and ambitions. But I pray that there will be relatively more people in the future whose agenda, priority and ambition involves simply helping other people in more ways than meets the eye.

With hope,
Arun Maharajan

AN END AND A BEGINNING

RAHUL CHETTRI ('75 BATCH)

25 Years after they bid goodbye to the raajma, kaali daal and other forms of mess food, the 1975 batch returned back to Pilani with a mission – A mission to take care of the caretakers! This, they ensured by insuring the Mess Workers.

EVERY *journey begins with a single step.* Some of you are no doubt thinking that this is a clichéd and hackneyed way to begin an article. Nonetheless, the aphorism is true, particularly in the case of a group that started a journey almost a year ago, but seemed to take the first step only in August of this year.

The story really begins many, many years before, when the members of this group were youthful and believed the Universe revolved around each one of us. We were students in a great institution, living and learning and enjoying life to the fullest (at least as much as our mid-sem exams and compres and sundry tests would allow us to). And there it was that we dined on such classics as *chhole bhature, raajma, kaali daal, phulkas,* cassata ice-cream, and the occasional *teethar.* Most of us paid no attention to those who served us the food, or those who sat sweating in front of hot clay ovens, or those who swept up after us, all with the utmost respect and humility.

Fast forward to September 2005,

The 1975 Batch at Sky Lawns

when one hundred members of the group got together again after 25 years and made resolutions to assist the mess workers (as they are called) in a meaningful way.

Initially, and with great enthu, we took steps to form a charitable organization, within which we created a Trust Fund. We made modest accomplishments in collecting financial contributions (in the region of Rs. 6 lakhs) from members of our group and then started floundering! We failed to generate a consensus on the specifics and the mechanics of what we can do that would most greatly benefit the mess workers. And the lack of direction appeared to inhibit many of the members from opening their hearts and their wallets. We held discussions and shared ideas, yet we had no accord. Time was passing by. Many gave up but a few kept plugging away.

That was when we met Uma. Uma is the spouse of one of our *gang* members and works in the insurance industry. She quickly and succinctly pointed out the pros and cons of different insurance schemes. Thanks to Uma's efforts we resolved all our outstanding issues and reached a consensus in a very timely manner. Within a month we had defined a course to steer and a timetable for reaching our destination.

Chandan Sengupta (one of the many co-pilots on this journey) emailed the group: "Decided that all mess workers are to be insured for Rs.

50,000 on Term Life Scheme, with Double Accident benefit. Service provider would be LIC and all preliminary activities would be handled by Mumbai branch with initial single point coordination by Shiva, hereinafter referred to as Mr.Uma"

Very early in the process we had decided to dedicate the program to the memory of one of our classmates, Borun Madhav Boruah. Those that knew him (and I consider myself one of the fortunate ones that did) remember his easy-going manner and ready smile, his strength and determination, his

Eashwar Koneru addressing the gathering At VKB Mess

gentleness and camaraderie. Borun was on his way to attend our group's Silver Jubilee anniversary celebration on campus last year when he met with a tragic accident, which he did not survive. Our program was to be named the Borun Boruah Memorial Scheme, and it was our intention of inaugurating it on August 20, his birthday.

The inaugural ceremony was held in the VKB Mess. The function was kicked off with an explanation on the purpose of our visit and how it all started.

A two-minute silence accompanied the garlanding of Borun's photograph, followed by a heartfelt speech on what Borun meant as a person and as a friend.

The intricacies and nuances of the Insurance Policy were explained to the mess workers in Hindi, following which the Original Policy was offered to Dr. Rao as a token of our small but significant step in initiating a process which we all hope will continue to grow with time.

A representative of the mess workers (some of you may remember Chhotu) thanked us for making a difference in their lives, followed by speeches of appreciation from Dr. Rao and Dean Mittal. Allow me to quote from Dean Mittal's speech: "*Eighteen reunions have happened before this one, and each year the students said something similar and left …. But the members of the 1975-1980 batch have ultimately demonstrated their commitment.*"

And so my friends, with that one step we have begun our journey. Make no mistake, it <u>is</u> a journey, for we intend to keep striving to improve the lives of those that served us with grace and dignity. For what we seek is a social transformation, however gradual, of this group of the underprivileged.

To that end we urge all of those in <u>every</u> batch to think back to the days when we took our food and our service for granted, and thought little of the needs of those who toiled tirelessly to put the food on our tables. We can …. no, we <u>must</u> do what we can to improve their life. So let me end

Shiva handing over the original LIC policy to Chief Warden Dr. Rao

this piece with an appeal: join us in this journey; give a little of your time and your ideas; spread the word to other BITSians (especially those who may not read the Sandpaper); organize fund-raising activities; help us build up the Fund so that the interest alone will be enough to ensure the program can be financially solvent into perpetuity.

Many people have been involved in the successful launch of the insurance program for the BITS mess workers, and they deserve our acknowledgement and thanks. To name all of them would take up most of this page. Nevertheless, we ask them to take a bow. If the readers wish to get more information or lend their assistance, feel free to contact Eashwar Koneru (konerueashwar@yahoo.co.in), Chandan Sengupta (chandansengupta_bits80@yahoo.co.in), Shreenivas Khare (shreenivaskhare@aol.com), or Rahul Chettri (rahulxchettri@yahoo.com).

Some of you, particularly the women readers of this magazine, are indubitably smiling in a self-satisfied manner and thinking that it took a woman to get this plane off the ground. To which I gracefully submit and acknowledge that you are correct. There is truth to that other clichéd saying: *Behind every great man there is a woman*.

BITS2BSCHOOL – MY EXPERIENCES

By SRIKANTH SRIDHARAN
(CHANDEE - '01 MECH)

MBA - CLASS OF 2008 - NATIONAL UNIVERSITY OF SINGAPORE
The experience I had interacting with fellow BITSians in this energetic forum went a long way in helping me with my MBA applications.

"TO begin with, I must confess that I did not get an admit in my dream BSchool. But that would not take away any credit from the kind of benefits I gained from BITS2BSchool.

When I joined the forum I was quite skeptical about the extent to which it might help me. But all these doubts were only in my mind. The founders of this forum had a clear vision on what they wanted to do in and with such a forum. It is not surprising that, every one of us who gained an admit during 2006 into the top BSchools all around the world would attribute some part if not a majority of their success to the extraordinary help which was available through BITS2BSchool.

I had no idea of the MBA application procedure and the intricacies involved (didn't even know such things existed) when I started dreaming about management studies. One fine day during the second half of 2004, I got an invite to join this group. I thought it would be like any other e-group – a spurt of activity and a prolonged lull. I was completely wrong.

Right from the word go, this forum had a purpose. The objective was clear and the energy was infectious. I have to mention that the propagation and exchange of ideas that went on in this forum every day pushed me towards my MBA dreams. I got a fair idea of when and how to take my GMAT from here. People shared materials, experiences, strategies and helped me in getting a good score. Actually, it was quite easy till this part – I had taken GRE earlier. But then came the real challenges; school research, rankings, mapping, short listing, essays, interviews, transcripts, school visits, networking, recos, specialization and many more – every possible aspect was a learning for me.

I still remember the mail from Anupendra regarding writing a good essay. It gave so much of clarity into what needs to be present in there and of course what not. With a good understanding of things, I took up the challenge and short listed my 5 prospective schools. The entire period from August 05 to April 06 was so much of interaction alongside introspection. I did manage to get interview calls from 3 out of the 5 applications. A success rate of 60% (in the interviews) was definitely good from how I evaluated myself. I did convert one of them and made it into the waitlist for another.

Effectively, I was not spoilt with choices gaining my only admit at the National University of Singapore. But all I can say is that I know that I tried hard and I did my best. An important reason for me to be able to say that is because I know I had the complete information when I went ahead with my applications. This was my single biggest gain from BITS2BSchool. I have also made some good friends and have a few good mentors to look up to whenever I am in a fix.

I must also add that I learnt about an important aspect, 'feedback' here. Consequently, I have a good idea of why I did not make it beyond the application stage in 2 of the US BSchools. And I am more than willing to share my experiences with anyone interested in that.

> **"I still remember the mail from Anupendra regarding writing a good essay. It gave so much of clarity into what needs to be present in there and of course what not."**

And today, with a good success rate during the first cycle, the BITS2BSchool forum is even more committed to bring in further success for all aspiring BITSians, utilizing the sheer power of networking. And many more people like me are waiting to help everyone out there who thinks he/ she is made for the Big league.

Thank you BITS2BSchool!

RUN FOR A CAUSE

BY KARTHIKEYAN VIJAYAKUMAR (KK) ('04 : MECH)

BITS.aid (A BITSAA initiative) organized "Run for A Cause" during the Bangalore marathon which enthused 25 BITSians to participate. This is the story of BITSians who ran and lived the 42.195 km Dream.

"*If you want to win something, run the 100 meter race. If you want to experience something, run the Marathon*" – Emil Zatopek.

Having had the opportunity to run both, the latest of which comes from my experience in finishing the recently held Bangalore marathon 2006, I am able to appreciate the truth in Mr.Zatopek' words better.

The preparation for the first marathon finish started more than a year ago, with dream of the marathon finish being implanted during the Pilani days. The 20 minute jogs at the gym grounds in Pilani was where the idea of a marathon finish flashed across my mind. It was one of the "desert dreams" and remained a day dream till I read the inspiring blog of a guy who ran the Chennai marathon

in 2004.

Vigneshwaran Chandran ('00), a first time runner and someone who completed the half marathon at Bangalore says "A Marathon is a personality builder. All the qualities required to complete a marathon like practice, perseverance and endurance are in fact required to achieve real goals in our life too. It was this reason that made me run the Bangalore half marathon."

The 20 minute jog was slowly turning into a structured run, with the idea of a marathon completion getting stronger by the day. However, the runs were lonely and monotonous. My idea of sport was a team event such as cricket and that was sorely missing in running. It was then that I came across some running enthusiasts in the company that I work in. We formed an informal running club

at the office and we used to feed off each other at the training runs. The "tea-break" at office was filled with talks about improving endurance, training schedules, running shoes and many others.

Having experienced the joy of running and the fun in training together, **Sudip Dutta** ('95), and I along a few others initiated the "**Run for a cause**" program at BITS.aid (http://www.bitsaa.org/BITSaid/runforacause.php). Through this program, we at BITS.aid provide the motivation and all the necessary support for a person dreaming about the 42.195 km finish. We also encourage the runners to raise money through the runs and contribute for the various projects that BITS.aid supports. The Bangalore marathon held on September 17th 2006 was the first marathon that the group got associated with.

About 25 people ran for BITS.aid at the Bangalore Marathon – some running the full marathon (42.195 km) , some doing the half (21.1 km) and some others running the 7 km celebration run. The aim was the same – to push ourselves to run the distance we haven't run before and raise money for a few projects – 'Yuva Foundation', 'Parikrama' etc. The preparations for the Bangalore marathon started 3 months before the actual race. With about 35 people in the group mailing list, we exchanged information, tips on training and also about our weekly practice runs. The group helped keep the motivation up and pushed the runners to stick to the training plan.

On the fund raising front, the "**Run for A Cause**" program has so far raised about Rs.62,000 since its inception. The money has been donated to 3 organizations – **Future Focus Foundation, Yuva Foundations and Parikrama.**

Anuradha Muralidharan ('00), who completed the half marathon (21.1km) at the Bangalore marathon running for BITS.aid says "'Run for a cause' was a great motivational source for me. All the training I had done before the marathon helped me cross the finish line comfortably."

Personally, it was an unforgettable experience running at Bangalore. Once the race started, I tried to get into a smooth pace. The fact that I had a few runner friends from Bangalore helped – these guys acted as "tour guides" as we set out discovering the city on the legs! The initial part of the marathon was organized pretty well, with the traffic kept away from the runners. We settled into a good rhythm and were averaging 6-7 mins per km. The weather was perfect for marathon running. But the running course must be rated as one of the difficult ones to run a marathon.

The first 21 km turned out to be pretty smooth for me. I paced it well and managed to complete the distance in 2 hours and 15 minutes. I was planning to complete the race within 5 hours and so far I was pretty much in

sight of the goal. But the undulating course was taking its

Getting ready to run. BITSians at the Bangalore marathon

toll on my knees. After the 25th km, I was having difficulties lifting my left leg. The left knee was in real pain and I decided to walk. One of my friends, on seeing me limp decided to walk along with me. Now, each km consumed more than 13 minutes and it would've been a monumental task, if I were to complete the rest of the distance alone. In the true marathon spirit, Shyam, a BITS-outsider who was running for BITS.aid, decided to walk along with me and gave up on his goal of finishing within 5 hours. Thanks to him, I managed to keep my thoughts of completing the marathon active.

After the 30th km, I pushed Shyam into running again. I convinced him that I will definitely finish the race. Off he went and I was running, walking, crawling the race alone. I caught up with a few runners who were walking as well. Though we didn't speak a word (mostly due to the immense exhaustion), we tried to stay together. At the 5 hour mark, I had 7 more km to go. At the pace I was going at now, it occurred to me that I will be able to complete

the run only after 6 hours. That thought was really killing and I decided to run despite the pain. I somehow wanted to complete the race within 6 hours. I urged the 3 runners around me to improve their speed and as I said this, I started running. I tried to slowly drift my thoughts away from the pain and the iPod helped me do that. With a mix of running and brisk walking, I was picking up speed.

With 30 mins to 6 hours, I had 3 more km to complete. Exhaustion coupled with the pain in my knee stopped me from running anymore. I was walking as fast as I could. Status -20 mins to go and 2 more km to complete. I caught with another runner and we decided, tacitly, to give it all to finish before six hours. Another km down and we had the stadium within our sight. 6 more minutes to go and we entered into the stadium. Once in, we were asked to go around the 400 mts track to complete the 42.195 km. 4 more minutes to go. I tried to run but stuttered to a halt. Walking fast, paced the last 400 mts rightly to last 400 mts rightly to finally complete the dream in 5 hours 59 mins and 55 seconds. I had done it!!!!. Shyam and all the other runners and their friends were at the finish line. An immense feeling of happiness overcame me.

It was a memorable experience running the marathon. Right from the start, we had so many people cheering us - The usually uncooperative traffic police was going the extra mile to

make the running experience better. Most of the runners urging and pushing the others to go for the finish line. Shyam throwing his goal away and walking with me, the boys at the water point staying on the

course for a long time to provide water and some friends waiting at the finish line with sandwiches and fruit juice.

If I contrast this experience with the one I had running the 100 mts, I don't have much to talk about the 100 meters experience. Though I was lucky to participate at the state level athletics during the school days, it was more of an "individual" experience. The practice for the 100 mts wasn't as much fun as the group training.

During the 100 mts days, I won a lot of medals but made a million friends during the marathon days. Marathon

<div style="background:#f6e6fb;">

The Road Comes Free….

The Mumbai Marathon is on January 21st 2007. Put on your shoes and catch up with Bombay on the run…If you wish to run with BITS.aid, shoot an e-mail to karthikeyan.vijayakumar@gmail.com or forsudip @gmail.com

</div>

is all about a group experience – helping and pushing the others to cross the limits and having lots of fun.

Now….Do you want to run the 100 meters or the marathon?

RUN BITS RUN!

BY SACHIN DEV ('99 ET)

Sachin recounts his experiences of running for a cause and for Bangalore.

I decided to finally shake off the shackles of laziness and run for the joy of running for Bangalore. I have to say I absolutely loved running it.

I had almost thought of pulling back from the it, before the big day, as I had had almost zilch practice runs except for one 5 KM practice run last week. But

then inspired by all the mails floating around and also since my flatmate was in roaring spirits to run, I decided to give in and run for a cause!

I registered the evening before for the celebrity run. After seeing the level of the enthu inside the stadium and from then on, my pulse were racing and I was all in for the

Sachin (Right). At the Bangalore Marathon

Marathon! I reached at 9.10 in the morning, finally, our exhilarated selves got running at

around 10, to my immense surprise, I jogged full tilt till the first 3 Kms, then slowed to a brisk walk. I met a couple of BITSians, running with different NGO's, chatted them up, all the while managing a decent jog. Even though I walked the stretch runs for the marathon between 5-6 Km and then started jogging again for the last 1 KM stretch, ending with a sprint the last 200M al the way till inside the stadium.

I loved the experience. I have vowed to practice and stretch my endurance limits. I found I wasn't the least tired after finishing the 7Km stretch and probably had it in me to a do at least the Half-Marathon next time. I enjoyed running and running for Bangalore, a city I love, added to the enjoyment.

BITSAA WOMEN'S COUNCIL

BY KRITHIKA KALYAN ('00 – E.T)

An update on the BITSAA Women's Council (WoC) activities. Join BITSAA WoC at http://groups.yahoo.com/group/bitsaa-woc

WITH a mission to "empower BITSian women worldwide to achieve unimagined possibilities and transformations through BITSian networking, leadership and economic prosperity", the BITSAA Women's Council was founded in mid 2005. At last count, there are around 334 women seeking a platform of connections, resources and opportunities.

Active participation from these empowered women has resulted in some very interesting initiatives. After having profiled many such women as part of the Spring 2006 Sandpaper edition, there have been many opportunities on the community forum to put forth the views and experiences regarding the various aspects of a women's life through monthly articles, online chats etc. Some such activities are highlighted below.

THE BWC MONTHLY

This monthly e-newsletter seeks to provide a sounding board for BWC members to share their thoughts, insights and experiences on a topic of their choice. Both the August and September issues were very well received. The first article by Sangeetha Narasimhan (97 Computer Science) on Networking in fact is part of the "Business and Strategy" section of this Sandpaper issue. A succinct, powerful and honest portrayal of a topic which has garnered lots of interest of late, it highlights a women's perspective on Networking.

The September monthly, penned by Rohini Prinja, gives tips and takes on how to crack a technical interview. Rohini, who graduated in 2003 from BITS with a degree in Computer Science, has given over 30 interviews with the various biggies in the Software Industry, the experiences and learnings of which she shared in the article.

ONLINE CHAT SESSIONS

"How to start a non-profit organization" was the topic of the first chat session held in order to gain an understanding into the aspects of running and being part of a non profit organization or a social enterprise. The session was chaired by Praba Subramaniam, who runs a fair trade eBay store called Saffron Trade for promoting hand-made accessories from India and Anita Balasubramaniam, co-founder of two social organizations - The Learning Network and Sangati. Both these women bring with them their invaluable and enriching experiences in this arena. The pros and cons of starting a non-profit organization or a social enterprise, especially in India was discussed along with a host of other related subjects on the matter. This informative and energetic conversation was also shared with the rest of the community, which led to more interesting discussions on the distinction between a non-profit and a social enterprise, including the key "sustainability" factor. More such engaging sessions are planned for the future, the next of which will happen on the very appealing subject of "Entrepreneurship"

THE BWC DIRECTORY

The BITSAA Women's Council is also embarking on an initiative to build a database of all the BITSian women around the world in various fields. This will be the vital element in setting up a directory for enabling connections to network, share and gain mutual benefits. Various details of the women have been invited and collected and these have been hosted as part of the Yahoogroups page.

THE BWC WEBSITE

The BITSAA Women's Council team is also working on a website which will be hosted with the other BITSAA International websites. This will serve as a repository of information related to the group including the key events, discussions and other activities.

BITSAA encourages more BITSian women to become part of this empowering experience. For more information visit http://groups.yahoo.com/group/bitsaa-woc.

BITS2MSPHD

In July 2005, a few BITSians decided to form an online forum to aid all those students aspiring to get an admission into the top tier Engineering schools for their masters and/or doctorate degrees. More than a year later, this virtual community seems to be growing and going strong, if these numbers are anything to go by! For more information, log onto http://groups.yahoo.com/group/bits2msphd

NUMBER OF MEMBERS - 788

NEW MEMBERS IN PART 6 MONTHS - 230

AVERAGE MESSAGES PER MONTH - ~ 70 MESSAGES

MONTH WITH MAXIMUM NUMBER OF MESSAGES - AUG 2005 (189 MESSAGES)

NUMBER OF MESSAGES EXCHANGED SO FAR – 964

BITSAA VIDEO

Are you proud to be a BITSian? Or are you wondering whether this is a trick question? If yes, then download and watch the BITSAA Video that was created for freshmen students at BITS Pilani campuses.

THE BITSAA Video was scripted, filmed, edited and produced by a group of '97 batch BITSians in the Silicon Valley. The objective of the video is to communicate BITSAA activities around the world to BITS freshmen students and their parents. To convey the idea that the BITS journey continues even beyond BITS Pilani, and there is a strong and well knit alumni network out there to help them in the journey.

"I'm proud to be a BITSian"

Download the BITSAA video at:
http://www.bitsembryo.org/files/bitsaa.wmv

A LIGHT GOES OUT OF OUR LIVES…

By GAYATHIRI ('93)

Soumya Srinivasan lovingly known as "Choms" lost her battle against cancer in Feb 2006. The batch of '93 deeply mourns the loss of the ever energetic Soumya.

FEB. 27, 2006

was a day of great loss to the 93/94 batch BITSians, and to anybody else who knew **Sowmya Srinivasan**. Cancer won a deftly staged five-year battle, tearing her away from family and friends. A battle which "Choms," as many of us know Sowmya, fought valiantly...like she alone could. In a strangely ironical way, the triumph was all hers, as Choms never once let the illness cow her spirits ...she lived life entirely on her own terms.

This October 08, 2004 post on her website http://jlt-chumma.blogspot.com stands testimony to the fact -- *"Why do most movies portray cancer patients as dying? I think science has improved a lot since the days of when cancer meant sure death..I think movies are one major reason why when people hear the word CANCER, they think that its the end of life..It is not... !!!! There's life before cancer, life with cancer and life after..So, people in the movie industry, please change your storylines to get in tune with the times."*

That's Choms for you -- very vocal and upfront. As Sunil, one of her best friends from her school days all the way through BITS, aptly puts it: "Two things about Sowmya - both experienced by me when I rode behind her across Chennai on

her bike plenty of times... her spirit and her command! She was full of energy, always one to stand up for her rights, push the envelope on everything... joyful! And her command on her bike, relationships and generally life and its vagaries was astonishing! She has definitely taught me the value of friendship and the permanent things in life."

Everyone who knew her echoes these sentiments. Choms was such a lively and cheerful person through her BITS days and much beyond. Aptly nicknamed "Enthu" by her batchies, Sowmya clung to her life and loved ones with the same enthusiasm that kept her plodding along so bravely the last five years. While cancer ravaged her body, her strong will power remained her only beacon of hope

slowly ebbing out of this fervent blogger who seemed to have an opinion on just about everything under the sun. An avid music lover, movie buff, and book worm, Sowmya lived life by the moment, so efficiently juggling her work, family and personal interests despite being terminally ill. She married her long-time fiancé Siju Menon just eight months before passing away. Siju has been her pillar of strength siding with Sowmya every step of the way. Our heart goes out to our BITSian friend, her husband, parents and siblings as we all stand on this threshold of grief, trying to come to terms with this massive loss that no emotion can aptly describe... These verses from an old Ben Johnson ode come pretty close to describing life as Sowmya lived it (and ironically, Sowmya was born in the month of May too):

> Sowmya was just 29 years old when she left us. We loved her with all our heart and the world is a lesser place for having lost her.

against a bleak medical prognosis. It's hard to imagine how one would have gotten even this far without wanting to give up hope or complain about life. And Sowmya's ebullient spirit and positive attitude are also why all of this seems so unfair to her.

Through her illness, she kept blogging away commenting on life's ups and downs and everyday matters. Her many blogger acquaintances across the world never had an inkling that life's

A lily of a day
Is fairer far in May,
Although it fall and die that night;
It was the plant and flower of light.
In small proportions we just beauties see;
And in short measures, life may perfect be.

Sowmya was just 29 years old when she left us. We loved her with all our heart and the world is a lesser place for having lost her. Sandpaper, along with the rest of BITSAA, salutes her indomitable spirit.

NAVIN PARTHASARATHY ('95 Phy EEE)

By SRIVATSAN BALASUBRAMANIAN ('95)

The wing of mtvites mourns the loss of their beloved wingee, Navin Parthasarathy. Navin's memorial home page: http://navin-parthasarathy.memory-of.com was created by the wing.

It was in the year of 1995 when a dozen people aspiring to become engineers from various parts of India were thrown together in the desert land of Pilani to lead the four best years of their life filled with fun, frolic and adventure. It is with pride that I write here that I belong to this wing and I spent my undergraduate life having riotous fun with these wonderful people. I would like to fondly reminisce here some of those undergraduate days that I spent with Navin.

Navin was truly a colorful personage. His bubbly enthusiasm and good sense of humor made him the focal point of all our attention. He was a thoroughly adorable person and all the good, healthy jokes that he played on us only made us like him all the more. Here is one incident that Navin pulled off on me.

It was only during my final year, that I received my first gate call from a friend that I had just made. By, the time, I could get down stairs and meet the girl, Navin had assembled all my wingies, got hold of an expert drummer from the other Physics wing, got him a bucket and two sticks, improvised a song in my name and her name, and had the entire wing dance like a bunch of lunatics. My friend could listen to the song and watch the dance from where she stood… I was so disoriented that I stuttered, stammered and fumbled for words. It was only when I led her far, far away from the echo of the drum beats and songs that I could finally get to talk to her. All of this for a girl who had just come to get back the book that I had borrowed from her!

Navin was brilliant in acads.

Navin Parthasarathy (95, Physics + EEE) drowned while swimming in a lake at Cornell University recently. Navin had just finished a PhD from University of California at Santa Barbara (UCSB).

There was something amusing about the way he did math. He worked with a small two-sided black slate and a white chalk piece. He would write down equations on one side of the slate, and once he used up this side, he would copy the result from this side to the next side and would start working on the second side.

Once he was finished with the second side, he would erase the first side and copy the result from the second side back on to the first side and start working from here. He would continue doing this back and forth.

Once I had asked him how to solve a particularly hard problem in solid state physics the night before the exam. I started counting the number of times he turned the slate before he solved this problem. He worked on the problem for about two hours before he came up with the final answer which matched exactly with the solutions at the back of the book. By then, I had counted that he had turned the slate over for about 93 times!! I told him I had lost him somewhere along the way upon which he quickly erased both sides of the slate, "Let's see what you did not follow" and started all over again.

Navin was an amazing conversationalist and an inspiring and persuasive speaker. His passion for photography, Karnatic music, writing and VLSI research was unparalleled in our wing. He was a responsible son and a protective brother. He had real class. Amongst other things, he had a heart of gold. I am glad that he lived happily as long as he lived.

Visit Navin's memorial home page at http://navin-parthasarathy.memory-of.com/

SELECTED CLASS NOTES

Notes listed by BITS Batch (Entering year). For a full listing, please visit the "Classnotes" section of the BITSAA Sandpaper website.

1950's

Krishna Vavilala ('56 EEE) alum was recently awarded 2006 Outstanding community service award in Houston TX by US Senator from Texas, Mr. John Cornyn. He was presented the award in the presence of several dignitaries like the Indian Ambassador, Ronen Sen and Houston Mayor, Bill White and Congresswoman Shiela Jackson Lee etc. in a glitzy function in Westin Oaks, Galleria attended by over 500 attendees.

1970's

Sushil Kumar Roongta, a 1971 graduate from BITS, Pilani has been appointed as the Chairman of Steel Authority of India (SAIL) Mr. Roongta started his career in SAIL in 1972 as a Sales Executive in the marketing department and held different roles in the company in the last 34 years. Known for his analytical skill and strategic thinking, he spearheaded several marketing initiatives for the company.

"76EEE056" at BITS, international IT expert - **Amit Sheth** was named the LexisNexis Eminent Scholar for Advanced Data management and Analysis at Wright State University. Sheth is currently a professor in the Department of Computer Science and director of the LSDIS Lab, both at the University of Georgia, and co-founder and Chief Technical Officer of Semagix, Inc., headquartered in White Plains, N.Y.

1980's

3i Infotech Limited, a global provider of IT solution and one of India's largest and fastest growing software product companies, has announced the appointment of **Mr. Anirudh Prabhakaran** as Chief Operating Officer (COO) for South Asia. Mr. Prabhakaran will be driving 3i Infotech's business in South Asia. Prior to joining 3i Infotech, Mr. Prabhakaran was Director - Sales & Marketing for Cable & Wireless with business responsibility for India and Sri Lanka for a comprehensive range of services encompassing remote IT infrastructure management and managed data services. Mr. Prabhakaran graduated from BITS, Pilani and did his PGDM from IIM, Kolkata

Dr. Rama Rao is an assistant professor and head of the Stem Cell Bioengineering Group, Department of Chemical and Life Science Engineering at Virginia Commonwealth University since 2005. Prof Rao graduated with a B.E in Chemical engineering and MSc in Biological Sciences from BITS Pilani in 1993, went to University of Texas at San Antonio for MS in Biotechnology and did a Ph.D in Biological engineering from University of Georgia in 2001

1990's

Chinmaya Mishra ('98 EEE) has won the IEEE Solid-State Circuits Society pre-doctoral fellowship in solid-state circuits for the academic year 2006-2007. This program ran from 1983 to 2002, but had been suspended from 2003 to 2005. The fellowship for 2006-2007 includes a stipend of $15,000, tuition and fees up to a maximum of $8,000, and a grant of $2,000 to the department in which the recipient is registered. Congratulations to our 2002 EEE alumni Chinmaya Mishra for winning it this year!

2000's

Yatharth Saraf is the first winner of the Dr. Ranjit Singh Chauhan Award for Undergraduate Research Congratulations to Yatharth Saraf, a senior in Computer Science at BITS-Pilani. Yatharth is the first student to win this prestigious award for the academic year 2004-2005. Dr. Ranjit Singh Chauhan Award for Undergraduate Research was set up by friends of Late Dr. R. S. Chauhan, a BITS-alum. The award carries a cash prize of Rs. 10,000 and a certificate.

BITSIAN AUTHORS

BY ANJUM HUSAIN ('98 E&I)

Laxman K Mohanty completed his BE (Hons) EEE from BITS-Pilani in 1985 and currently pursuing PhD from the same institute. Mr Mohanty has promoted Oricom, an one-point computer support organization in Orissa and Silicon School of Information Technology, an engineering college in Bhubaneswar. Currently, he is setting up a social enterprise in education, Future Focus Foundation (www.f2foundation.org), which trying to set up a network of rural and urban schools.

Mr. Mohanty has authored more than 20 books on computers both in English and Oriya for school students. His book on IT strategy for schools has recently been published by Sage Publications. He has also published a paper on corporate philanthropy (Management Review, IIM, Bangalore) and on status of IT in private Indian schools (Journal of Educational Planning and Administration, NIEPA, New Delhi). Besides these, Mr. Mohanty has published several articles in IJTE, University News, and IT4D. He teaches as a visiting faculty in a program for school principals at IIM, Ahmedabad.

ICT STRATEGIES FOR SCHOOLS
A Guide For School Administrators
LAXMAN MOHANTY *Silicon Institute of Technology, Bhubaneswar*
NEHARIKA VOHRA *Indian Institute of Management, Ahmedabad*

About the Book

Recognizing the potential of ICTs to make the classroom transaction of curriculum significantly more relevant and purposeful, principals and school administrators in India need to design appropriate IT strategies and oversee the entire implementation process in their schools. This book is guide to the use of ICT in schools, covering issues of pedagogy, curriculum and learning. In brief, it deals with

- Education uses of IT
- Criteria for selection of hardware and software
- Designing an IT-assisted curriculum
- Teacher recruitment, training and desired competencies
- Management and financial issues
- Possible problem areas: plagiarism, privacy, hacking

Lucidly written, with case studies highlighting successful strategies, this volume will be of immense importance to principals and administrators of schools as also students of education.

About the other Author

Neharika Vohra, PhD, in Psychology, University of Manitoba
A social psychologist focusing on group behaviour in organizations. Her training in Educational, Developmental, Social, and Cross-cultural Psychology have contributed to her multifarious interests in development and indigenization of Psychology, experiences of relocating, cross-cultural training, working in teams, leadership, psychometric testing and selection. Published and presented several papers in international and national journals and conferences

Buy Now!

http://www.indiasage.com
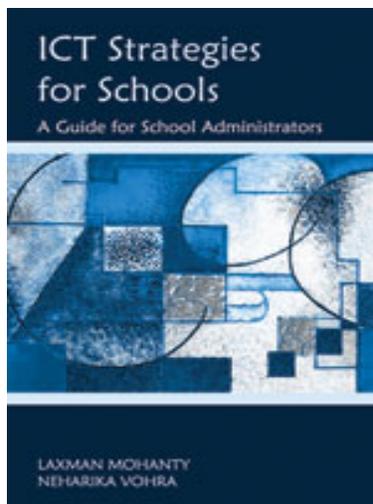
To order this book in North and South America visit www.sagepub.com and in UK, Europe, Africa and the Middle East visit www.sagepub.co.uk

"THE TECHNOLOGY FOR PRODUCING ROBUST SOFTWARE."

BIJAY JAYASWAL (1967EE) holds a B.Eng. (Hons.) degree in Electrical Engineering from Birla Institute of Technology and Science, Pilani, India and an MBA and Master's Degree in electrical engineering from Aston University in England. He is the CEO of Agilenty Consulting Group, LLC. He has held senior executive positions and has consulted in quality and strategy for the last 20 years.

His consulting and research interests include value engineering, process improvement and product development. He has helped introduce corporate-wide initiatives in reengineering, Six Sigma, and Design for Six Sigma and has worked with senior executive teams for effective implementation of such initiatives.

bijay.jayaswal@agilenty.com

Design for Trustworthy Software
Tools, Techniques, and Methodology of Developing Robust Software

Bijay K. Jayaswal | Peter C. Patton
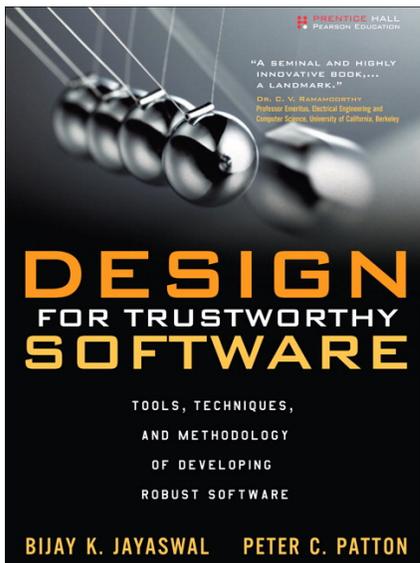
An Integrated Technology for Delivering Better Software–Cheaper and Faster!

This book presents an integrated technology, Design for Trustworthy Software (DFTS), to address software quality issues upstream such that the goal of software quality becomes that of preventing bugs in implementation rather than finding and eliminating them during and after implementation. The thrust of the technology is that major quality deployments take place before a single line of code is written!

Learn how to

- Plan, build, maintain, and improve your trustworthy software development system
- Adapt best practices of quality, leadership, learning, and management for the unique software development milieu
- Listen to the customer's voice, then guide user expectations to realizable, reliable software products
- Refocus on customer-centered issues such as reliability, dependability, availability, and upgradeability
- Encourage greater design creativity and innovation
- Validate, verify, test, evaluate, integrate, and maintain software for trustworthiness
- Analyze the financial impact of software quality
- Prepare your leadership and infrastructure for DFTS

Design for Trustworthy Software will help you improve quality whether you develop in-house, outsource, consult, or provide support. It offers breakthrough solutions for the entire spectrum of software and quality professionals–from developers to project leaders, chief software architects to customers.

About the other Author

DR. PETER C. PATTON is Professor of Quantitative Methods and Computer Science, at the University of St. Thomas, St Paul, Minnesota and Chairman of Agilenty Consulting Group. He has engineering and mathematics degrees from Harvard, Kansas, and Stuttgart.

BITSians get special 35% off the listed price!
Visit: www.prenhallprofessional.com/title/0131872508

And use the coupon code: TRUSTWORTHY when checking out. Offer ends November 15, 2006