BY PROF. ARUN LAKHOTIA

Journey from the Thar to the Mojave

Dr. Lakhotia talks about a quest for more than just a million dollars. He can be contacted at arun@louisiana.edu

"**EVEN** though we were in the middle of nowhere in the Mojave Desert, the atmosphere was charged. Helicopters were whirring overhead, with photographers hanging out the sides. The place was packed with supporters of Caltech, CMU, U of Florida, and the likes. In the midst of this excitement I was leading Team CajunBot (see www.cajunbot.com), a participant in the DARPA Grand Challenge. The challenge: To build an autonomous ground vehicle that would traverse around 200 miles of desert road in under ten hours.

Team CajunBot had made this far after some intense filtering. There were 106 initial applicants, who were filtered to 35 after design review, to 25 after a site visit, and then to 15 after a demonstration in an obstacle course in the California Speedway.

Here I was, leading Team CajunBot, while I had never tinkered with vehicle, electronics, power supplies, and generators. In the "Workshop" course in BITS I could not make my candle stand. In EEE lab I had a hard time getting transistors onto circuit boards. The only batteries I am comfortable handling are the ones in flash lights. Thanks to my early experiences at BITS shaped by Dr. Aditya P. Mathur, now in Purdue, I love programming languages and compilers, which is a far cry from robotics.

It was no surprise then when, a few days earlier, I heard Kunal Mohanlal on the other end of the phone asking "What are you doing building a robotic car?" The question got

repeated several times as the article on my team in the Times of India of March 9th made its round. The questioners were my batch-mates from BITS, the ones who have known me for 27 years. These were people with whom I had shed boyishness in the Vyas Bhawan and with whom I had contemplated the purpose of life after receiving 2/20 in Calculus I.

Even after two and a half decades of our shared experience, I could answer their probing question by a simple phrase, "Operation G.M.B." They'd retort, "But we lost that one." And I'd say, "Yet it was fun and we gave them a run."

Showcasing BITSian Innovation

In BITS Operation GMB was a project a handful of us started on a whim, on the way to C'Naught for an evening chai. The goal: To challenge the top dog in, of all things, the Student Union election. The top dog (Hi Sherif) was assumed to be the winner. No one was stepping up to challenge him. We figured it was our duty to make the top dog sweat and earn the title. Thus, the "B" in GMB stood for the staple food of the Giant Panda. We succeeded in our goal, getting enough votes to instill some fear, but not enough to be stuck with running the SU.

The venture in DARPA Grand Challenge was just another way to relive the days of BITS, or maybe an attempt to fight mid-life crisis. It started on a whim.

Within three months it snowballed into a mega affair, with 23 members in the team, several sponsors, massive coverage in CNN, daily updates in the local print and TV news, and that article in the Times of India. The highpoint, though, was when a competitor from an esteemed university came up and said "We are rooting for you to take the ball from" the top dog.

Though the race ended with a whimper, with all the bots out within 7.3 miles, the experience, or should one say, the trip, was incredible. An unknown team, with no track record in robotics, had, in a matter of months, put together a pretty credible robotic vehicle that sent some jitters among the competitors. Mission accomplished.

Did BITS play a role? It did in more ways than one. Yes, the technical training I received in BITS, refined further through a Ph.D. in Case Western Reserve University, was valuable in this whole adventure. But the challenge was not in technology; it was in integrating people who knew the relevant technologies and in not being intimidated by 'authorities.' Quite coincidentally, I was prepared for taking on that challenge by the first Operation G.M.B in the middle of another desert many years ago.

Books by BITSians: Reetela Safar (A Sandy Journey)

Utkarsh Rai ('83 batch Maths & CS), Managing Director of Infinera India, Bangalore (100% subsidiary of Infinera US, an optical networking company) released a book of short stories in Hindi on NRIs last year. These stories, written while he was in the US during mid 90s are developed from his interactions with the Indian community. The stories are compiled into a book.

These stories touch the right cord. Written in a style that leaves one feeling that these stories were unfolding in one's own house or in one's neighborhood. The stories are very emotional and raw, conveying many bitter truths.

There is a story of a widow who has been invited to the US to take care of the daughter-in-law at the time of her maternity. She is exploited and discarded as her usefulness gets over with time. Another story deals with the dilemma of marrying a professional or a non-professional wife, and the attack on the male ego when the professional wife starts earning more than her fragile husband. A third story revolves around a dark complexioned girl who cannot find anyone to marry her, causing tremendous mental agony to her and her family. She eventually comes to the US where she regains her confidence.

Reetela Safar is named after one of the stories. A beautiful if tragic story, it narrates the migration of the younger son of a farmer family to the US, the torture of his wife by his family when he is unable to send the expected dollars back home. The story of parents who went bankrupt to support their son's studies in the US, and how they cope with his ungrateful attitude towards them. There are funny moments too. One hilarious story describes the attempts of Indian parents to get their pampered daughter to marry an Indian (or should I say, a FOB – fresh off the boat).

Overall a very interesting must read. For a copy or if you are thinking about a mini-TV series (since many BITSIANS are in the media business) contact utkarshrai@yahoo.com for some outstanding plots.

Anuradha Gupta