

A Brief History

The need for a centralized internal transit system was felt when the use of private vehicles was banned at IIT Bombay. After having used jeeps, auto-rickshaws and LPG-powered white buses in the past, IIT Bombay needed a more concrete transport system that would cater primarily to the student community.

IITB's *Tumtum* service was modeled on the lines of IIT Madras' campus transport system. The aim was to provide bus transport and facilitate commuting within the campus. It was well understood that the internal transit system was a facility for the students and that the Institute was not obliged to provide such a facility.

It was decided that the rolling stock would be bought by the Institute and would be leased to an independent body called the Student Welfare Society. The society had to be registered under the Indian Societies Registration Act before it could begin its operations, and it was expected that would take some time.

To avoid delay, it was decided that the Security Section would be temporarily entrusted with the responsibility of operating the Institute's internal transit system. The necessary funds for buying the rolling stock were sanctioned. Lots of effort went into obtaining the necessary permissions, registrations and approvals from the authorities outside IIT Bombay. A survey was conducted and it was found that a large number of students favoured the coupon system.

After some trial and test runs the highly awaited *Tumtum* service finally began its operations in August 2007.

Operations

The day to day operations of the *tumtums* are funded by cash collected through coupon sales and distribution of authorized monthly/quarterly passes.

The Student Welfare Society will be a registered, non-profit body that will have among its members student representatives and the Dean of Student Affairs. It will be primarily responsible for the monitoring and operation of the Institute Transport System. In future the society may be given more responsibilities pertaining to Student Welfare.

The registration is pending and the society is expected to come into existence very soon.

The maintenance of vehicles is a major exercise on weekends. Often, the vehicle has to be sent to a standard workshop outside the campus, for necessary repair and replacement activities. Because of common cases of overload and overdrive, spare parts like clutch plates, brake shoes and shockers need to be replaced frequently. Interestingly, some parts like the road spring, which ordinarily don't

The Tumtum

Vineet and Karthik highlight the urgent need for responsible student use of the Internal Transport Service

need replacement for the entire lifetime of a vehicle, had to be replaced within 8 months of operation. A consequence of the 8:30 *tumtum* overload, perhaps.

There are a total of 9 vehicles in service at the moment. All these vehicles run on CNG. CNG is not available during the night and hence all vehicles have to be necessarily refueled during the day. In order to avoid the interruption of services during the peak

only the most competent drivers are hired. However, the drivers receive daily wages and their wages have to be at par with the Institute norms for skilled labor. These wages are obviously not competitive enough. Although there are a total of 17 drivers, each one of them has a heavy workload of 8.5 hours per day.

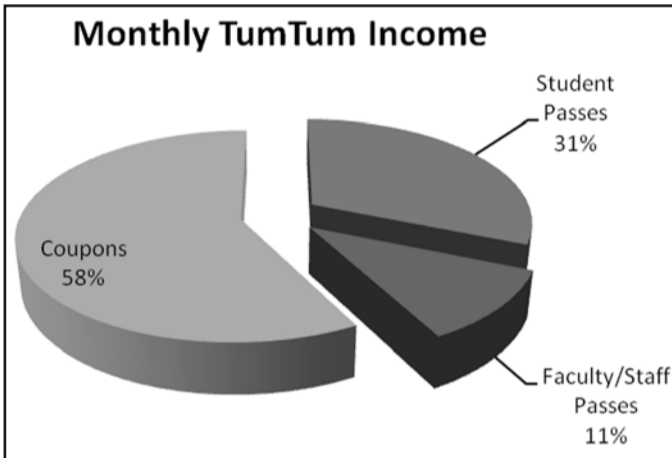
All these factors result in a substantially high attrition rate. The Security Section recently lost almost 40% of the drivers to BEST, where they were promised slightly higher wages and lesser workload. Loss of staff to lucrative opportunities elsewhere is quite common, but the Security Section is troubled by the fact that there is a serious lack of competent drivers. A large number of applicants even fail to produce the basic requirements for the job like a HSC qualification and a valid driving license.

It is estimated that, given the current demand, the Institute needs 12 vehicles to avoid overburdening and disruption of schedule. The institute had spent over Rs. 1 crore and purchased a rolling stock of 8 vehicles. The 9th vehicle was purchased on a loan from the institute.

The Dark Side

Authorities have pointed out that the *Tumtum* service is a facility which is being provided to the students at IIT Bombay on a non-profit basis. A lot of effort and resources have gone into initiating the system and, if this service becomes non-self sustainable at any point of time, then it will have to be discontinued.

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hours of morning, most of the vehicles are sent for refueling in the afternoon. The uncertain traffic conditions lead to an almost daily disruption of the schedule in the afternoon.

The Security Section is extremely cautious about the safety of students and it recruits drivers after an extensive background check. The strict requirements ensure that

After every major newspaper and publication in the world has used every possible adjective to describe an occurrence, with every single person having read at least a part of it, will a student newsletter of a technical institute offer anything new?

Well, very frankly, no. This article is about the worst financial crisis to have hit the global markets in recent times. It has been written by a group of undergraduates who are majoring in a discipline as different from finance as Ridley Scott from Kanti Shah. Yet, we thought we should write this, not because we know more, but because it would help us put forward our grossly simplified thoughts on this highly complicated problem and, through discussion with our readers, would help us to better our level of understanding.

If anyone finds anything unclear, please feel free to contact us on our email IDs provided below.

So you wake up every day, pick up the newspaper and read almost the same headline that you read the day before. A carefully structured juxtaposition of the words "Wall Street crisis", "Subprime Mortgage", "Credit Crunch", "Lehman Brothers", "Federal Treasury" and, recently, "Bailout, \$750 Billion". And it makes you wonder, what is all this? And how did things get so bad?

The Big Crash

Rahul and Joshua explain exactly what the I-Bank crisis is all about

Why the housing sector?

In the US, owning a house is considered to be the best investment a person can make. The US government encourages people to buy their own houses by providing incentive in the form of tax cuts on the mortgages paid by them. Further, a person can use his house as an 'ATM card', drawing credit based on the value of his house. Now, post the dotcom crash in 2001, Alan Greenspan, then Chairman of the US Federal Reserve, slashed the interest rates (down to 1%).

This, combined with the encouragement provided by the US government to buy houses, made people in the US borrow a lot of money (in the form of loans, with a very low interest rate). Mortgage institutions (including I-Banks) also took advantage of this huge demand for loans by providing a large number of the now notorious 'subprime mortgage loans'.

Wait! Subprime what?

Usually, when you take a loan from a bank, you need to show your credit history, whether you have defaulted in the past or not. You also need to provide something known as collateral (an asset that can be taken over

Snapshots

Campus Reporter results

We've picked our winners! See one of the prizewinning cartoons on **pages 3 and 7** and the results on **page 8**

The Factual Rank

According to the latest India Today survey, IITB's factual rank is 21st in the country. So what is this factual rank, and how is it assigned? **-page 2**

Embezzlement

A quick guide to how Mess Embezzlement occurs and what students can do to prevent it **-page 5**

Time Management

A few pointers on how to manage everything we IITians always seem to have going on **-page 8**

The LAN

Everyone's guide to how the LAN works, and more importantly why it hasn't been all that great recently **-page 7**

by the bank in case you default). You also need to show that you have a job with a steady income. A subprime loan is a loan that is given to a person with a bad credit history, with nothing to show as collateral (except the house that the person would buy with the money) and in many cases, with no job too.

Now, why would an institution give such a risky loan? Two reasons. Firstly, during the period 2002 - 2005, the US housing market was undergoing a tremendous boom. This means that a house that was bought for \$100,000 today would be worth, say, \$150,000 in a year's time. Hence a mortgage institution could always take control of the house in case the person defaulted, and could sell it at a profit. Secondly, the banks would charge a higher interest rate on a subprime loan. Note that the incredible numbers of subprime loans were made based on this one assumption: The price of houses would keep on increasing.

Sounds good...

...but wait, it gets better. The loans were further bought by two giant institutions; the Federal National Mortgage Association (Fannie Mae) and the Federal Home Loan Mortgage Corporation (Freddie Mac). These are private institutions with a high level of government backing.

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The Big Crash

Now comes the most 'beautiful' part of it all. Seeing a nice opportunity to earn some large amount of money, the large Wall Street

(CDO). A CDO takes these subprime loans and slices them up into 'tranches' (like layers). The upper layer consists of

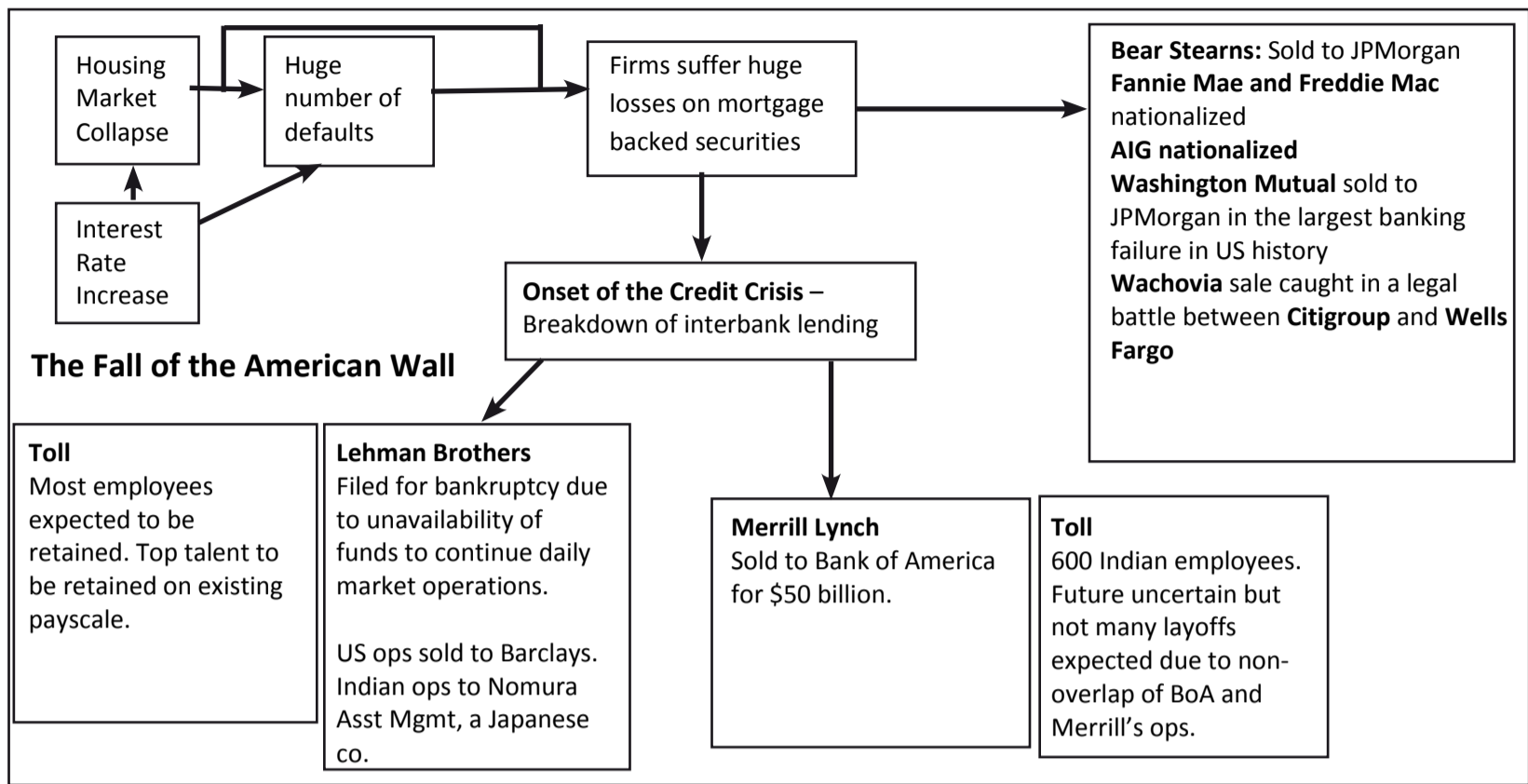
lobbying initiatives, the investment banks had made sure that they operated under the minimum of controls and oversight,

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Normally, if a mortgage institution gives a loan of \$100,000, it would recover an amount of, say, \$150,000 after a period of say 20 years, via monthly payments made by the borrower. But the institution's money would be 'stuck' for 20 years, in the sense that it could not be used productively during this period. Enter Fannie and Freddie. They buy these loans from the institutions for, say, \$120,000 and then recover the amount of \$150,000 themselves, earning a profit of \$30,000 in the process. Thus, the institution gets liquid cash, though the amount is a little less than it would otherwise have earned.

And these giants need not worry that their capital gets 'stuck' for a long period of time, since they sell what are known as 'Mortgage Backed Securities' (similar to stocks) to the common investors. A part of the \$30,000 profit that they earn is given away as dividends to these investors.

Cool. But how do investment banks come into the picture? And what are these CDOs we keep hearing about?



investment banks also got into the picture. These I-Banks bought the risky subprime loans that were made by the mortgage institutions. They then made packets of these loans (securities) that could be traded. Now, securities are rated by rating agencies according to the chances that the underlying assets will be defaulted upon – a better letter rating indicates that the bond is more safe. U.S. Treasury bonds, for example, get AAA+ ratings because of the negligible amount of perceived risk associated. Enter a special type of security called the Collateralized Debt Obligation

loans that are least likely to be defaulted upon, and so on. These upper layers got AA+ ratings from the rating agencies; the lowermost layers got BB- ratings.

Investors who wanted lesser risk (and were OK with lesser returns) went for the AA+ rated parts of the subprime loans, the risk takers went for the high returns-yielding BB- parts. Thus, the Investment Banks were able to form AA+ securities from absolutely risky, subprime loans. Brilliant! Furthermore, investors bought insurance on these securities. The insurance companies (like AIG) were more than happy to sell a large number of insurance products to people to protect them against possible losses due to the securities failing. Due to the perceived safety of the securities (because of their rating), the insurance companies kept on making out these insurances far beyond their covering capacity, which would have been accounted a very unsafe practice in any other market. Companies started insuring any kind of big loan with the guarantee of coughing up the cash should the loaner default. Just like mortgage-backed securities, these instruments (technically called Credit Default Swaps or CDS) were being bought and sold on the market at high premiums and companies who were dealing in them were raking in the profits.

And what was the risk involved in these transactions? A CDO could not fail unless there was a total collapse of the system, which could happen only if a large number of the loans could not be recovered, which could happen only if the underlying collateral also failed, giving the mortgage lenders no option but to give up. And that wasn't supposed to happen...since the assumption that 'the price of houses in the US would keep on increasing' still held ground.

Fabulous! So why didn't this romance last forever?

All this was fine till the day the housing market went crashing. Thousands of people began to default on their loans. The insurance companies and the buyers of credit default swaps, needless to say, did not have the cash to cover the claims. The investment banks—the Bear Stearns and the Lehman Brothers of the world – had gone deep into mortgage-backed securities or the credit default swap markets. As a result of years of high-paying

freeing them to take unreasonable risks while investing.

Now, when the system went bust, the only way these banks could have survived was by borrowing a lot of cash from the market and getting rid of their obligations based on CDOs and CDSs. However, Wall Street firms refused to trust one another. Banks had become extremely tight when it came to credit. No money was available. The 158 year old Lehman Brothers filed for bankruptcy. Bear Stearns narrowly avoided that by getting bought out by JP Morgan, along with the Fed's backing.

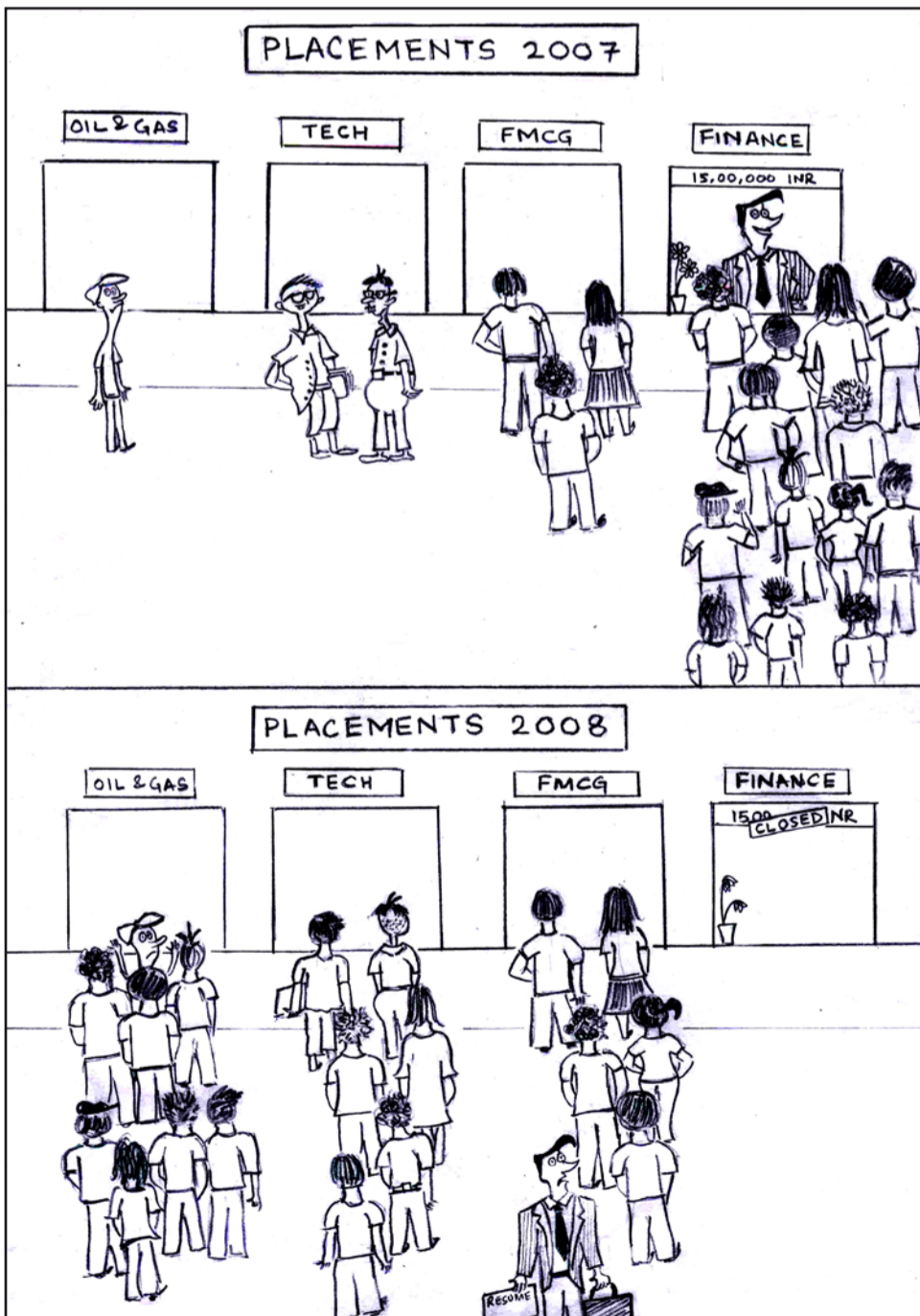
Merrill Lynch was bought by the Bank of America. Fannie Mae and Freddie Mac as well as AIG were deemed too important to be allowed to collapse, and were rescued (and nationalized) by the US Treasury. Morgan Stanley and Goldman Sachs ditched their sole I-Banking existence and adopted the consumer banking + I-Banking model. Washington Mutual, a US bank, collapsed, resulting in the largest banking failure in US history. Citigroup, UBS and others had losses amounting to billions of dollars.

Wall Street had changed, forever.

After spending around a trillion dollars of American taxpayer money to bail out some of the above mentioned organizations, the US Treasury came up with a plan, asking for \$700 billion to buy the underlying 'toxic' bad loans and attack the problem at its root. After much political deliberation, the plan has been accepted by the US Government. It remains a huge question whether this plan would help, or whether we will be pushed into an extended period of financial mayhem. It is unfortunately a question too difficult (and risky) to answer – but it is one which will critically impact the shape many of our career paths will take, so it is definitely worth thinking about.

(We present some important events and their consequences on the job scenario in the box provided.)

(Rahul Dash and Joshua Abraham are fourth year students of the Department of Electrical Engineering. They can be contacted at rahul_dash@iitb.ac.in and joshua@iitb.ac.in)



Constructions once used to happen much faster at IIT Bombay. Hostels 12 and 13 were completed in a record 2 years. Now, the new constructions seem to take forever to be completed. We interviewed Prof. R.K Malik, Dean Planning, to find out why. Here are the essential details of what he had to say.

Major reasons for delays in construction projects around the institute:

1. Before Hostels 12 and 13 were built, we were free from the bureaucratic procedures of the Bombay Municipal Corporation (BMC) for the approval of any new construction. A Public Interest Litigation filed against the hostels for being too close to the lake changed everything. Since then, for any new construction in the institute, we now require BMC clearance along with clearance from the Ministry of Environment and Forests, aviation clearance for tall buildings, and a host of other approvals from the naval colony firing range and the Tree Authority of India, depending on the size and location of the building.

2. The recent boom in the infrastructure industry means that L&T (who constructed hostels 12 and 13) and other high end players are no longer interested in projects

What's the deal with the delays?

Archana, Gauri and Gautam look at the reasons behind construction delays

as 'small' as ours. We have to make do with smaller builders whose efficiency is considerably lesser; and this hurts construction speed.

3. The sudden increase in traffic around Powai makes transportation of materials like concrete and sand to IIT very time-consuming, leading to an inherent delay in the system.

4. Major infrastructural projects such as the Mumbai Metro are given preference over smaller projects when it comes to raw materials for construction, especially sand. When we have to go to places as far as Nasik for sand, it is no wonder we are not the fastest in town.

Amidst all these challenges, the constructions in insti chug along and here's how they are doing:

In **hostels 12 and 13**, new areas for constructing fresh rooms have been identified after juggling around parking and utility space between the upper and lower

stilts. Things are on track for around 70-80 new rooms before the start of the next academic year.

A hostel for project staff has been planned, which will be up in two years. It is expected that only half the hostel will be occupied by the project staff and around 300 double rooms may be available for the burgeoning student population, which should solve the problem of accommodation for the next year, at least.

Hostel 10: The new building will be up before the start of the next academic year. The foundation is laid, and the construction is now expected to progress faster. The old H10 building will remain as it is - no decision on its fate has been taken yet.

Computer Centre: The new CC was to be exactly superimposed on the old CC area. However, due to some miscommunication with the architect, the final plan spilled out of the original area triggering a series of clearance troubles. It will take at least

another 2 years before the buildings are up.

Convention centre: The building, complete with furnishing, Wi-Fi and other amenities, should be ready by August '09.

The Sports complex: The practical completion date is October 2009.

Bioschool and the high capacity lecture hall: The tendering process was completed recently. It will take some time before the construction begins and another 1.5 - 2 years for its completion. Until then, one has to be content with a model of the proposed construction on the 2nd floor of the MB.

All these are definitely sufficient reasons for the delays. However, if more students come in and we have nowhere to accommodate them due to further delays, it would certainly be most unfortunate.

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The IIT Bombay community first started paying attention to rural problems during the severe drought that hit Maharashtra from 1970-73. Prof. P. K. Kelkar, the then Director of IIT Bombay, sanctioned two positions for RAs who would look into solutions for rural problems. An Appropriate Technology Unit (ATU) was also formed, with Prof. Anil W. Date (presently Professor, Dept. of Mechanical Engg. and Head, CTARA) as its convener. Prof. Date would visit various voluntary organisations and find ideas which could be worked on as B.Tech projects by IIT students. Several innovative designs such as a paddy drier and a mango pulp drier were made; unfortunately, none was seriously implemented. Finally, The Centre for Technology Alternatives for Rural Areas was established in July 1985. The Centre has been headed by Prof. Date (1985-91), Prof. S. D. Shah (1991-98), Prof. P. Vasudevan (1998-2002), Prof. Gaitonde (2002-2005) and Prof. Date (2005 onwards).

The M.Tech. Programme

The idea of an M.Tech. programme was first mooted by Prof. Date in 1989; however, due to an unwritten rule that only full-fledged Departments could conduct their own academic programmes, the idea never took off. In 2000, however, Prof. Ashok Misra, on taking charge as Director, expressed an interest in the idea. And so in July 2007, the M.Tech. programme in Technology and Development finally took off, and has since become the major focus of CTARA.

The selection procedure is rigorous- after clearing the GATE, students are required to frame a Statement of Purpose and to clear a written test and an interview. In 2007, the programme had 170 applicants, of whom 10 were finally selected and in 2008, 11 (including 2 girls) were selected from out of 450.

Says Kalyan Tanksale, a 1st year student of the Programme with a background in Electrical Engineering and a year's work experience as a lecturer in Pune, "Our country produces many engineering graduates who, unfortunately, don't know how to apply their skills to the problems

CTARA – Exciting opportunities

Harish, Ritika and Gauri talk about some interesting research happening in the Centre for Technology Alternatives for Rural Areas

of society." And so, the purpose of the programme is, in Prof. Date's words, to train engineers "to work at the interface of technology and development".

The programme aims at training students to take a broader view of any problem. In addition to courses concerning the 3 key factors in rural areas- Water, Soil and Energy- students do courses in areas like Economics, Sociology, Public Policy and Governance, Project Management, System Dynamics and Appropriate Technology. Many of these are conducted by faculty from other departments, including Civil, Energy, HSS, SOM, CSRE, Mechanical and IE&OR.

Field visits to various NGOs / co-operatives in rural Maharashtra and

nearby states are organised every other weekend. In addition, students do a 10-week rural internship in the summer.

The Karjat Check Dam

In 2006, on the initiative of Prof. Milind Sohoni (CSE), CTARA built a 70 m long and 6 m high check dam at Gudhvan Wadi near Kashele (Karjat Taluka) by enlisting the participation of villagers, the Academy of Developmental Sciences (founded by Mr Darshan Shankar in 1979 of which Prof. Date was the Director), a Pune-based contractor (Gangotri), and, of course, several enthusiastic IITians. The dam was successfully built, but later it developed a leak because of the local terrain being extremely prone to faults. Although the fault-fissure was plugged by gravity-grouting, it appears that pressure-grouting is necessary to fill the gap.

The CTARA Workshop

Located in the basement of the Mechanical Engineering Department, the workshop

was set up in 1984 with just a drill, lathe, shaping machine, and a few other basic tools. Today, the workshop houses prototypes of various designs made at CTARA over the years, including a pedal-operated battery charger and its variants - a pedal-operated hydraulic pump and foot pedal-operated potter's wheel (similar to a sewing machine). Also present are a seed planter (digs into the soil and plants seeds simultaneously) and a hot air paddy drier (dries paddy in just a few hours). The shed outside houses, among other things, a bullock cart made entirely of metal, built by 2 visiting German students. At present, the workshop is developing a 'potato puffer', whose end product is similar to puffed rice.

Food Processing Laboratory projects

The activities of this lab are co-ordinated by Prof. Narendra Shah, CTARA, and the recent work has been sponsored by the Khadi & Village Industries Commission (KVIC). Among its successes:

- A solar dryer, tested for *shatavari* (asparagus), *amla* and guava leaves, and stevia leaves (see below).
- Vacuum technology for *sneha* oil (a herbal oil for relief from muscle and joint

pains) extraction at lower temperatures. This process takes only 5 hours as opposed to the conventional process that lasts about 100 hours and requires much more fuel.

- Processing technology for stevia leaves. Stevia leaves, after processing, are 250-300 times sweeter than sucrose, and have an enormous potential as a natural sugar substitute.
- Increasing the shelf life of jaggery / gur, which can be achieved using a suitable multi-layered polymer film.

What Impact?

Admittedly, none of CTARA's projects has made a significant impact in rural India yet. Says Prof. Date, "Unlike agricultural institutes, technical institutes in India assume only teaching and research functions, and do not have mechanisms in place for the extension of the technologies they develop." He also rues the lack of entrepreneurs willing to invest in rural technologies. "However," he says, "Our greatest contribution to rural India has been the exposure/training we have provided to B.Tech., M.Tech. and Ph.D. students."

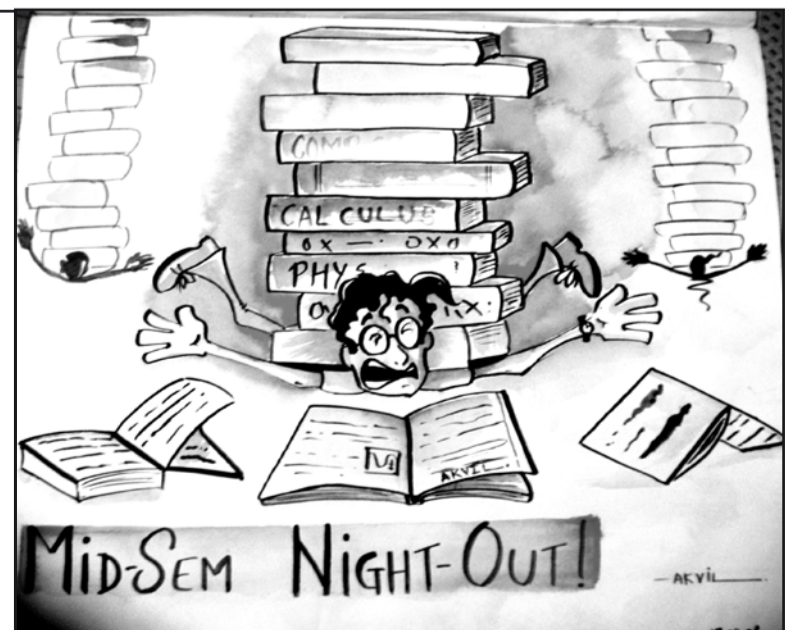
(Harishchandra Ramadas and Ritika Goyal are second year students of the Physics and Electrical Engineering Departments respectively, while Gauri Joshi is a fourth year student of the Electrical Engineering Department. They can be contacted at harishchandra@iitb.ac.in, ritika_goyal@iitb.ac.in and gaurijoshi@iitb.ac.in)

Student Profiles

The 2008 batch has 11 students, many of whom have a few years' work experience, and includes

- * 3 mechanical engineers,
- * 3 agricultural engineers,
- * 2 software engineers,
- * 1 biotechnologist,
- * 2 electrical/electronics engineers

CR winner: Knightout- Akvil



Editorial

To be absolutely honest, had someone not mentioned the river *Kosi* in connection with the Bihar floods to me, I wouldn't have known where it was. With that confession off my chest, I must say that my lack of knowledge while extremely shameful, is also something common among most IITians on our campus.

We live on this beautiful campus for 8 months each year. The only contact we have with the outside world is during brief visits home, when we actually read the newspaper or watch the news. The US presidential campaign, the terror in Jammu and Kashmir, the Olympics, the Bihar floods, all these pass us by with hardly a murmur, so lost are we in our own lives and problems. Such ignorance certainly doesn't bode well for us, now or in the future. We tut tut when we hear of new violence in Kashmir or in the east, but it takes a Lehman crash which could affect our job opportunities to jerk us out of our stupor. For a brief period of time, we follow the news avidly and talk of budget cuts and Iceland being sold on ebay. But even so, the only change we've made is to rewrite our résumés to aim them at consulting companies instead of finance. When the world is undergoing a fuel crisis, we still leave our comps and lights on 24 hours a day. While we hear of food prices rising, we still waste colossal amounts of it in our messes.

Of course when the news finally seeped down to us, we started a fund collecting money for the Bihar flood victims. But is that all we can do? We are after all, IITians: touted to be the most intelligent engineers in the country. Can we clear our consciences

by saying we did all we could to help, seeing as we donated a 100 rupees from our mess accounts? This wasn't always the case. In 1984 when Bihar flooded, a team of students from IITB travelled to Bihar and set up a mechanism to drain flood water from inundated fields, saving the livelihood of hundreds of farmers. But in 2008 when Bihar floods again, we set up a donation account. When we have far more modern technology, the internet and so many more resources at hand, money certainly isn't all we can give.

There are still, a few bright lights- people we can take inspiration from. Take Anand Mohan, an IITD graduate who went back home to Bihar to say goodbye to his parents before joining a job in an Australian mining company. After watching people starving in relief camps, he and his friends set up a group named *Aastha* Volunteers to look after the flood victims. They solicit and manage donations to buy food supplies for people in the camps.

While our lack of information about the world beyond what immediately concerns us is shocking, what is more frightening is our lethargy towards even the events we know about. When people live in terror in J&K, in desolation in Bihar, in constant dread of bomb blasts all over the country, if we think that we are living in a safe cocoon with our own little concerns and minuscule problems, we're simply kidding ourselves. We weren't always this selfish. And now, we can't afford to be.

- Nithya Subramanian

The Tumtum

Contd. from page 1

So far, Security Section has deftly managed the entire revenue and expense structure of the *Tumtum* system. After having successfully operated the service for more than a year, it is confident that the model is fully self-sustainable and will remain feasible for the years to come. There are minor issues like overloading of vehicles, the subsequent need for high maintenance and an ever increasing demand for internal transport, which can only be taken care of by purchasing more vehicles.

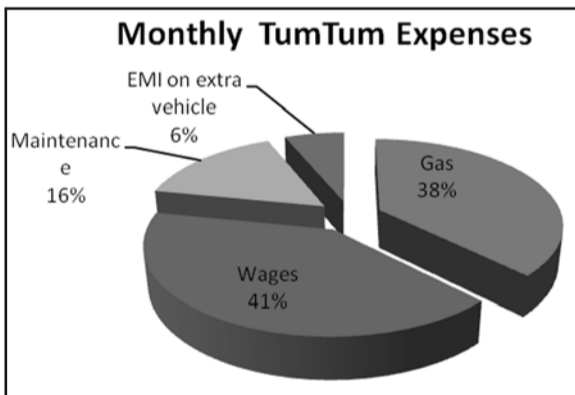
Another issue that must be of major concern to the whole student community of IITB is that of an increasing tendency to deliberately travel on *tumtums* without either a pass or a coupon. The staff at the Security Section is already pressed for time and is unable to take strict measures for vigilance and regular checking at stops. The only cases of ticketless travel that come to the surface are those reported by the *tumtum* drivers upon seizure of forged and expired passes. In September 2008 alone there were more than 80 unauthorized passes that were confiscated. Effectively, 10% of the total authorized passes issued each month are misused by the students. These are just the official numbers. During peak hours there is a large number of such students who attempt ticketless travel and are not caught because the vehicles are

overcrowded then, and the drivers have less time to question and examine each and every student.

The GSHA, Ashwin Soni, says that the fine at its current levels is not acting as an effective deterrent to prevent these cases of misuse of passes. He proposes a minimum fine of Rs 500 on being caught ticketless for the first time and a strict disciplinary action (Read: DAC) on being caught on subsequent occasions. The Dean of Student Affairs also agrees that the penalty structure has to be revised as there is a need for strict action against those who misuse the *Tumtum* service.

Honestly, the authorities believe that *Tumtum* service is a facility for the benefit of the student community at large and its operations are entirely funded from the revenue generated as a result of Pass and Coupon Sales, without any outside help. It is logical for them to expect us to act responsibly, for

Soon, we will be seeing several state-of-the-art Automatic Coupon Vending Machines (ACVM) on our campus which are connected to each other via LAN. Similarly, an extra vehicle has been added to the institute sponsored rolling stock to meet the increasing demand from students. These added facilities are funded entirely from the revenue generated by sale of coupons and passes.



IITB's Money: P = NP?

Ever had any questions about IIT Bombay finances? Manas and Sudarshan shed light on the state of the institute coffers

In light of numerous discussions on resource crunches and wastages, we felt the need to delve into the fundamentals of these issues to examine their significance. To this end, we crunched some numbers.

Non Planned Expenditure

Expenditure by IITB can be broadly categorized into Non Planned (NP) and Planned (P). The Non Planned expenditure is the recurring amount incurred each financial year. This includes salary, pension ben-

and Continuing Education Programs. This contributes to just less than Rs. 39 crores. Even after all this, each year, the Institute falls 5 – 10% short of the requirement. Last year, after continuous coaxing, the Government agreed to provide an extra Rs. 12 crore. This still left the Institute Rs. 9 crore short of the budget.

In the past, the institute had saved money from grants, the interest on which was used to pay the deficit. But, the situation has degenerated to the extent that the principal is

Institute Budget (2007-08)	
Particulars	Amt.(Rs. Crores)
Non-Planned Expenditure	
Pay, Allowances (including Scholarships)	50
Retirement Benefits & Pension	24
Administrative Expenses, General bills, Stationery, Conducting Exams	8
Department Expenses	5
Student Support Staff, Gymkhana, Hostel Subsidies, Health Facilities	8
Estate management, Temporary Labour Force Salaries	18
Water & Electricity	11
All India Entrance Exams	8
Total	132
Sources - Non-Planned	
Block Grant	72
Additional Grant	1
Institute Income	39
Total	123
Deficit	9
Planned Expenditure	
Ongoing Projects	7
New Buildings, Lab Equipment	58
Total	65
Grand Total Expenditure	197

efits, medical coverage, maintenance, operational, administrative and departmental expenses, electricity and water and hostel subsidy. For this part of the expenditure, the HRD ministry allots each IIT a block grant. This is calculated by factoring in the number of students in each programme based on the Government's perception of the average expenditure per student. In 2002, the total grant to IITB was pegged at Rs. 72 crores. It hasn't been changed since. Consequently, cost inflation and new pay scales for employees haven't been taken into account. This amount is insufficient, considering that the NP expenses for the year 2007-08 were Rs. 132 crores, a shortfall of Rs. 60 crores.

How do we cover the shortfall?

Some money comes from other sources of income which include consultancy, overheads of sponsored projects, All India Exams (JEE, JAM, GATE), Tuition fees

our own good. For the very same reason they do not want to add to the expenses of an already lean budget by employing extra 'ticket checking' staff.

However, the authorities and the concerned staff agree that, unless the students themselves realize the importance of the *tumtums* and act responsibly, any amount of arm-twisting won't help.

(Vineet Singh is a fourth year student of the Mechanical Engineering Department. Karthik Ramesh is a third year student of the MEMS Department. They can be contacted at vineetsingh@iitb.ac.in and rkarthik@iitb.ac.in respectively)

now being used to bridge the gap. Consequently, the interest accrued next year will decrease as well. "This situation may not perpetuate, given that the Government is reviewing the block grant later this year", says Prof. Shevgaonkar (Dean RM).

Planned expenditure

This money is used for asset generation, that is, procurement of major equipment, construction of new buildings and library expansion. However, there is a time lag between the money being promised and the money actually being received. In the interim, the Institute uses its own money to fund such projects.

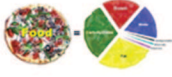
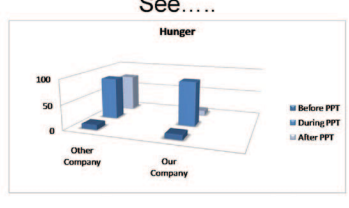
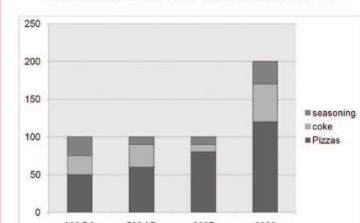
It is worth noting that the alumni contribution towards a donated building is 50% of the total cost. The money allocated for new projects reflects the Institute's contribution towards both donated and self funded buildings. While new buildings are coming up, the block grant is not adjusted for the additional maintenance cost. The planned expenditure for the institute in 2007-08 was Rs. 65 crore, of which Rs. 58 crore was for new projects.

In the light of the above, it seems obvious that, at one end, the Institute is funded sufficiently for Planned expenditures while it falls into deficit dealing with recurring expenses. Thus, it is very important that the Government takes this into account at the review later this year. Otherwise, not only will we be back to square one in the near future, but things will only get worse.

(Sudarshan Bhatija and Manas Rachh are 3rd year students of the Physics and Aerospace Departments respectively. They can be contacted at sudarshanb@iitb.ac.in and manasrachh@iitb.ac.in)

WATCH OUR VIDEO ON THE SITE ★ **THE LEISURE PAGE** ★ SPECIAL GUEST ON THIS PAGE: THE NO T-SHIRT CLUB

Powerpoint can be very useful. Sadly, it's often misused today, and so many presentations that we come across in IITB don't get their meaning across clearly. We propose a reform - all PPTs in IITB should be such that their meanings are immediately obvious.

 <p>Just Another Company Pre - Placement Talk IIT Bombay</p>	<p>Before we get down to PPT 1 - COMPANY PRE - PLACEMENT TALK</p> <div style="display: flex; justify-content: space-between;"> <div data-bbox="520 460 892 667"> <p>PIZZAS OUTSIDE</p> <p>BIG PIZZAS</p> </div> <div data-bbox="892 460 1260 667"> <p>NO OTHER COMPANY HAS EVER GIVEN SUCH PIZZAS IN A PPT BEFORE</p> </div> <div data-bbox="1260 460 1627 667"> <ul style="list-style-type: none"> • You are IITians • You are always hungry • You are hungry now </div> </div>		<p>See.....</p> 	
<p>Other Stats...</p> <ul style="list-style-type: none"> • We have over 43 billion employees • We have offices in over 34 million countries • Our Profits are over \$ 60000 Trillion • Huge cultural diversity - employees from over 29 million backgrounds • Expenditure on pizzas is just under \$ 59999 Trillion • We also serve coke with pizzas • And, mind it, we do not take seasoning lightly... 	<p>Distribution of Revenue in %</p> 	<p>So, PLEASE JOIN OUR COMPANY*</p> <p>*for even more such pizzas</p>		<p>Vaibhav Devanathan (name changed to protect identity) 05026013 BTP Final Presentation</p> <p>"Advances in Nuclear Physics"</p> <p>Guide: is a good movie. I recommend it</p> <p>Project objective</p> <ul style="list-style-type: none"> • To study advances in nuclear physics • To study the construction and working of a typical nuclear bomb, and to suggest possible design changes • To ensure that the bomb later reaches safe hands and has maximum use

The Top 9 Reasons to join InsIghT
<a break from the main theme of the page>

1. You get to represent the same 3 data points in bar graphs, histograms, pie charts and tables for the cover page article, thus boosting your DI skills for cracking CAT
2. We have a leisure page!
3. If not a writer, you can be the next most important thing, a **distributor**
4. Having extra papers in your room is always useful for certain purposes, *wink*
5. You get free membership into the Speakers' Club
6. You can run a Tehelka-esque exposé into the dirty scandalous race for the coveted H-7 Soc. Secy. post
7. You will get to take very interesting humorous topics and make them into interesting topics
8. You will get to ask 3 other InsIghT people their opinion and put it down as an extensive survey
9. Rather than focussing on writing articles, you will put videos on the LAN dreaming of being the next India TV

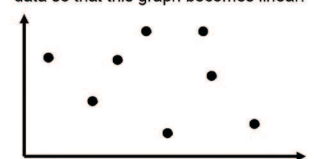

PPT 2 - BTP FINAL PRESENTATION

Work done

- Not too much. In fact, I don't think I did any work at all!
- I think I should be given a **Nobel Peace Prize***...
- ...because I totally abstained from doing work of any kind whatsoever on this evil topic, and thereby possibly saved 6 million people from death
- But, there is still Stage II...

*and, more importantly, an AA

In the rest of the page, we take a look at various things in IITB, and show you how simple things would be if people just used PPTs for them. For example, just imagine how it would be if Election manifestos were presented in the form of a PPT. We did, and the results are on our website. For this page, however, we have chosen two different topics.

<p>RESUME</p> <p>Non tech 11 slide version</p>	<p>Introduction</p> <ul style="list-style-type: none"> • Name • Sex • Age • Date of birth • Department • Height • Weight • Marital/extra-marital status • Biceps • Triceps • Waist 	<p>Projects - I</p> <ul style="list-style-type: none"> • Allotted projects • Attempted projects • Cogged projects • Ditched projects • Friends' projects • Second attempt projects • Ongoing projects 	<p>Projects - II</p> <ul style="list-style-type: none"> • Projects completed using google • Projects completed using sophies • Projects completed using senti to prof • Projects completed using DR1 • Projects completed using DR2 • Projects completed using scopus • Projects completed using Science Direct • Projects completed using Ctrl-C, Ctrl-V 	<p>Industrial Experience</p> <ul style="list-style-type: none"> • Experience just outside Main Gate • Experience just outside Kanjurmarg (Bhayander, Bhiwandi, ...) • Experience outside Bombay (Latur, Kolhapur, Solhapur, Nashik) • Experience outside Maharashtra (Gandhinagar, Belgaum, ...) • Experience Outside India (Kenya, Sri Lanka, Jamaica...)
<p>Positions Of Responsibility</p> <ul style="list-style-type: none"> • Posts I stood For • Posts I poltu-ed for • Posts I dreamt of • Posts I was jealous of • Posts I invented • Posts in which I was not elected • Posts in IITB • Posts my friends were selected for • Posts I think I am capable of 	<p>Extra curricular activities - I</p> <ul style="list-style-type: none"> • Activities that show my time utilization skills • Activities that show my social skills (number of servers, Facebook scraps) • Activities that show my physical abilities (DOTA, AOE, CS, WARCRAFT) • Activities that show my financial skills (amount spent at Mahinder, canteen, Xerox shop) • Activities that show my networking abilities (average size of daily downloads, number of posts in forums) • Activities that prove my CPI 	<p>Extra - Curricular activities - II</p> <ul style="list-style-type: none"> • Amount lost till date in poker • Total weight gained in 4 years • No. of DACs faced • Negotiation skills - borrowed over Rs.20,000 from friends • Hobbies and passions <ol style="list-style-type: none"> 1. Fan of Local kho-kho team 2. Fan of anti-wing's intra footer team 3. Avid reader of Insight, one among only four such people in the institute ☺ 4. Passionate traveller to Acad Office, Dean's Office, etc. 	<p>Awards and Achievements</p> <ul style="list-style-type: none"> • Awards considered for • Awards given to others • Awards I deserve • Awards eligible for • No of visitors for my valfi • No of pages in my profile • Awards I thought I would get • Awards I think I still may get • Awards I know I will surely not get 	<p>Hobbies</p> <ul style="list-style-type: none"> • Have read the following books - and follow them sincerely <ol style="list-style-type: none"> 1. You can win 2. You just might win 3. You may win 4. You might not win 5. You may lose 6. You can lose 7. You should lose 8. You will lose
<p>Conclusion</p> <ul style="list-style-type: none"> • Best at whatever I do • Sometimes also do whatever I am expected to do • End up doing neither • Thanks rahega • Treat assured 	<p>TOP SECRET</p> <p>REPORT TO THE PRESIDENT</p> <p>- by the National Security Council</p> <p>BOTTOM SECRET</p>	<p>Dear Sir</p> <ul style="list-style-type: none"> • We think we have identified a unique threat to the nation in the common IITian • Over the next two slides, we show how the IITian is very similar to a hardened convict, who has been in jail for over 20 years 	<p>How an IITian is similar to a person who has been 20 years in jail - 1</p> <ul style="list-style-type: none"> • Appearance: the IITian looks slightly worse • Odour: about the same • Condition of room: the prison cell is generally neater and more comfortable • State of finances: both tend to zero. The IITian sometimes gets boosters from loving parents • Knowledge of 'alternate' movies 	<p>How an IITian is similar to a person who has been 20 years in jail - 2</p> <ul style="list-style-type: none"> • Elections: Has rigged at least four major (Institute) and six regional (hostel) elections • Smuggling: The IITian has completed basic training, namely usage of the password 'Student!' • The low number of a certain type of people in both IITs and prisons forces him to make certain lifestyle changes • He usually gets stopped at airports • Number of wives of a criminal (in real life) = Number of girlfriends of an IITian (on Yahoo Messenger/Orkut)
<p>FRESHIE COURSES</p> <p>Many people learn many different things in their freshie year courses. However, there are a few things that <i>everyone</i>, sadly, learns from each course.</p>	<p>Physics Lab</p> <ul style="list-style-type: none"> • How to go back in time and change the data so that this graph becomes linear: 	<p>Workshop</p> <ul style="list-style-type: none"> • An alternate skill that may come in handy one day, if you get fired. 	<p>Chemistry Lab</p> <ul style="list-style-type: none"> • How to wear shoes 	<p>How an IITian differs from a person who has been 20 years in jail</p> <ul style="list-style-type: none"> • Appearance: There have been handsome criminals • The IITian is not (yet) in jail • He has access to the Internet • He has been coached along with equally passionate people for only 2 years • People (usually) fear criminals • He has access to international media like Insight
<p>Mathematics</p> <ul style="list-style-type: none"> • How to feel happy about getting 1/10 in a quiz (because everyone else you know got zero) • How to start hating the Greek alphabet, especially: <p>ε and δ</p>	<p>ACKNOWLEDGEMENT</p> <ul style="list-style-type: none"> • PPTs: Vaibhav Devanathan, Shreyas Sagri, Raveesh Vyas, Vishal Ranjan, Niranjn Srdhar • Resume PPT/InsIghT spoof: the No T-Shirt Club 	<p>REFERENCES</p> <ul style="list-style-type: none"> • For more PPTs, for our spoof job interview video, and for old leisure pages: <p>http://gymkhana.iitb.ac.in/~insight/leisure</p>	<p>REFERENCES</p> <ul style="list-style-type: none"> • For more humorous content about life at IITB: <p>http://notshirtclub.blogspot.com</p>	<p>THE END</p>

Prof. Parag Bhargava is an eminent professor of the MEMS department and an IITB alumnus. He passed out as a B.Tech in 1991 and completed his PhD from the University of Alabama in the USA. Counting his awards would take up the whole page, hence it would suffice to say that for a professor of his age it is an incredible achievement to win so many awards; foremost among them the coveted excellence in teaching award in 2008. He also won the first prize at the PAN-IIT conference in Mumbai on the topic "New environments for learning, teaching, research, creation, use and preservation of digital resources."

Why PhD?

The question which many an IITian has even today: why pursue a PhD degree instead of accepting lucrative job offers? – "I wanted to be my own boss and did not want to do as I was told." He was enthusiastic about entrepreneurship (which is still one of his interests; he is technical advisor to a startup); but his enthusiasm for technology and research drove him to pursue a PhD. Having already decided to come back to India, feeling a responsibility to give something back, Prof. Bhargava joined the MEMS department of IIT Kharagpur and served there for 7 years before shifting to IIT Bombay.

He is quite passionate himself about this idea. He says "Ask a random average person about how IIT has impacted you. His answer will definitely motivate you to ask yourself whether you are making a difference through whatever you are doing."

The Careers Series 1 – Prof. Bhargava

In our all-new Careers series, we bring you the experiences of IITB alumni who've been highly successful in their chosen careers, and try to find out how they did it

How to succeed

Why would anyone want to pursue a PhD as it means at least 3 more years of studying? – "The best part of being a PhD is that there is very little coursework; there's lots of freedom to do what you want to. You gain immense knowledge about your field of interest. A PhD programme offers close interaction with faculty members. It trains you to think creatively, which nothing else can really provide. In hindsight, I think that such training is quite indispensable in any field." The three cornerstones for a successful PhD are:

- A keen sense of observation
- The ability to understand that failure is more important than success
- A tendency to ask loads of questions
- The system

Prof. Bhargava enjoyed his life as a student in IIT Bombay. "IIT is a great place to spend your student days. I enjoyed going on hiking expeditions with friends. Looking back, my only regret is that I should have struck a correct balance between time for myself and time I spent with friends. It is something I learnt from my PhD days – that devoting time to oneself is a very reward-

ing tool that helps you improve."

As there were no computers and internet at the time, students used to spend more time discussing topics of interest. It was these very discussions that went a long way in cultivating the inquisitive spirit that stood him in good stead later in life.

We ask him how he felt when he first stepped into the hallowed portals of IITB as a Professor. "It took me a while to get adjusted to the system here." According to him, the main reason why the majority of students here are disinterested in their courses is because they have lost their passion for science cultivated during their high school years.

Also, IIT fails to offer a hands-on approach to courses. The labs, especially, are quite demotivating as they destroy the very essence of experiment. "An experiment is a process in which the results are unexpected, but we already know what the result is and hence it's just a formality to do lab sessions. Students never feel challenged here, nor are they forced to think on problems."

"You should be able to do things you want to do even if it means taking a high paying job, saving money and then quitting to do what you really love"

The IITian

We ask him about the difference between an IITian and someone from another college and why companies prefer IITians over others even though the others may have more sincerity and a better grasp of subjects. He says: "IITians are unconventional in their methods. Even though they may not know something they have the confidence to look up a reference and do the job. In a sense, IITians are definitely smarter in the way they go about things. There is something about the education here."

He compares the IITs to MIT and highlights the fact that we have a highly theoretical approach to studies. The learning lacks passion and due to the increasingly large size of classes, teachers find it difficult to manage research and teaching.

Conclusion

We requested Prof. Bhargava to give a few tips to students on career choices. He says, "You should be able to do things you want to do even if it means taking a high paying job, saving money and then quitting to do what you really love. You should have the capacity to take risks and make decisions at the right time."

We thank Sir for taking time off from his busy schedule to talk to us.

(Chinmay Nivargi and Karthik Ramesh are respectively fourth year and third year students of the MEMS Department. They can be contacted at chinmayn@iitb.ac.in and rkarthik@iitb.ac.in)

The Auto-crazy

Ever noticed that a lot of auto drivers on campus simply refuse to go out of the main gate? Tarun looks at the reasons for this

It is well known that it is illegal for licensed auto-rickshaw drivers to refuse a fare. But how many times have you walked till Main Gate to go to Galleria, and been refused by four autos on the way? In a sense, we are at the mercy of the auto drivers, Here is an attempt at delving deeper into the problem at hand and pondering over a long term solution.

It isn't just one or two rogue drivers creating the menace. There is a union of sorts - of more than two dozen autos plying on campus. They have collectively pledged not to trespass into the unknown lands outside the Main Gate. It makes perfect economic sense - for them. On an average, the Security Office reports that one auto-rickshaw earns Rs. 250 daily just by offering rides on campus. Given that more than 25 of them have been at work for over 5 months now, it is no wonder the autos are in absolute mint condition. On paper, though, this is entirely illegal.

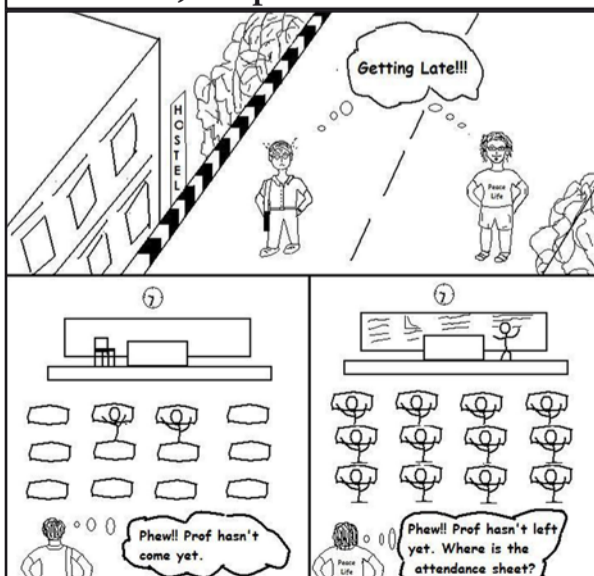
The Institute recognizes the gravity of the

situation and has prepared a list of the same - 25 names have been identified and the process isn't complete. Another important point to note is that the primary reason for their 'success' is the overworked *Tumtum* service. Autos simply outnumber *Tumtums*. Students, being impatient, naturally prefer the autos to the *Tumtums*, even though it costs more. Quantifying, a direct auto from Hostel 8 to Galleria costs Rs. 13. In most cases, students end up paying Rs. 10 till the Main Gate and another ten till Galleria from there. A *Tumtum* ticket combined with an auto ride costs Rs. 13 again. Somehow, students value 10 minutes much more than seven rupees.

As is usually the case, the Institute cannot take the first step by charging the violators a fine. The Institute has received 3 complaints in the last month and all were aptly handed over to the police. It was already established that they do have licenses to ply within the prescribed limits of the city. Hence it appears that there is no permanent solution other than increasing the efficiency of the *Tumtums*. Even if the rogue autos are forced outside, there is nothing stopping them from queuing outside Main Gate, which renders the solution redundant. In hope for a long term solution to the menace, we urge students to register complaints against such auto-rickshaw drivers. There are two methods for the same. One, note the license plate number of the vehicle and report it to the Security Office. Two, report the same directly to the Powai Police Station.

(Tarun Mathur is a fourth year student of the Mechanical Engineering Department. He can be contacted at mathur.tarun@iitb.ac.in)

CR winner: Juxtaposition- Himanshu



How does the Net work?

Prachur talks about our LAN system, how it works and why it sometimes doesn't work

The LAN of IITB – no conversation seems complete without it. Haven't we all complained about it a million times – about the speed, connectivity and, of course, the LAN ban? Here's a brief insight into the network that binds us all and the recent problems it has faced.

The IITB network has 5 routers placed at Hostels 3 and 8 which connect the rest of the hostels. Routers at the Computer Centre (CC) and at the CSE and Aerospace Departments take care of the Academic area and the Staff area.

The total bandwidth available till a month ago was 32Mbps – half of which came from a Reliance connection.

However, we have now upgraded to two connections of 64 and 8 Mbps and upgraded the existing connection to 32 Mbps, which gives us a whopping new total bandwidth of 104 Mbps. Of course, this means that speeds are going to increase while accessing external sites only. The change can be seen clearly while downloading a large file from an external site. The download speed goes up to a few hundred Kbps. The peak usage timings are in the afternoon and from 10 PM till midnight and speeds reduce visibly during this time period.

The LAN came under lots of criticism a few weeks ago because of its extremely slow speeds. The reason was that the Reliance connection was not functioning to its full capacity and, as a result, our bandwidth was effectively reduced to 16 Mbps. This led to the LAN upgrade. Even with the recent upgrade, we have not been able to use the

full bandwidth as it takes time to configure the system to use the new connections. The CC is performing the required modifications and updates.

Even after the upgrade, issues continue to crop up once in a while. There were particular weekends when the network hardly worked at all. One reason was netmon. Netmon is the collective name for four computers with numbers NM-1 to NM-4. One of these machines was not functioning properly, and this led to a heavier load on the other three machines, leading to worse speeds. That machine has now been fixed and is running smoothly.

How Do I Help

- Try and use Linux as much as possible (no, it's not because it's open source). Generally, Linux has fewer softwares that ask for regular updates
- Try and avoid using Yahoo messenger and other IM clients as they consume a large amount of netmon's processing time. Do sign out whenever you leave the room
- Avoid staying for a long time on sites which constantly update themselves (like Cricinfo)
- Do configure your updaters when installing your softwares. It's best for you and the network

Another problem that occurs repeatedly is that a lot of people do not configure their software updaters (like Adobe), meaning that these updaters keep on sending requests to netmon which are constantly rejected as they do not have the proper authentication. Even a couple of such unconfigured updaters in the campus eat up a huge chunk of netmon's processing time.

This is known as bombardment, and the CC can and has fined defaulters. In almost all cases, the defaulter has no idea that he/she is bombarding netmon, and is unpleasantly surprised when he/she finds a mail in his/her inbox informing them that, instead of having won a Nigerian jackpot of Rs. 500 million, they have been fined Rs. 500.

(Prachur Goel is a third year student of the CSE Department. He can be contacted at prachur@iitb.ac.in)

Brush, classes, lunch, lab, sports, bath, dinner, competitions, meetings, workshops, assignments, *lukkha*, projects, games, hostel, MB, Staff-C, department, SAC, hostel, LT, SOM, BJC, bed, treats, birthdays, movies, phone, poker, gossip, night-outs, email, sleep, 24 hours – just 24 hours.

Time management is all about being able to do justice to everything you want to fit in a day's work! It's becoming increasingly important in an IITian's life as he/she often wants to try his/her hand at several activities that can be time-consuming and tiring at the same time. We will try to capture several tips that have been proven to work in practice for various people in a hope that you will find a few of them useful.

Sleep

Last in your day, but first out here. Without 6 good hours of sleep, you cannot expect to be active throughout the day. Of course, more than sleeping regularly, it is even more important that we learn to compromise on our sleep in times of need and catch up with it later on – flexibility in sleep timings can buy you invaluable time when you need it the most. However, try not to meddle around with it too often, since doing quality last-minute work and sticking to deadlines is an art that needs to be developed with care, not tried out for the first time before an important endsem!

Food

We are the first to complain about mess food, but given the vast number of canteens and restaurants on campus as well as the variety of outlets that deliver food from outside, it would be

24 Hours

Aaditya Ramdas presents some innovative techniques of time management for the IITian

crazy to not have at least 3 square meals a day. From busy-bodies to room-dwellers, food is of utmost importance, and if you seem to manage fine without, trust that you'll do

much better with!

Will power

This is something that should never leave your side. You must have the internal energy and belief that you can do it - you will find that there is no limit to the amount that an IITian can fit into a single day and that things will smoothly fall into place - they just require the right lubrication from your side to reduce the friction.

Check It Out

Randy Pausch has a lot of very good principles and inspirational comments on time management and achieving your goals, which you can catch on a very famous video, the *Last Lecture*, which he gave several times till he passed away recently.

Stop Reading, Start Doing

There is more than enough that one can find to read about time management and other inspirational stuff – movies, videos, books, websites and seniors' *fundaes*. However, after getting a basic idea of some techniques used, you actually have to go out there and do it – start finding out what works for you and what doesn't, and what your limits are and how much you can stretch them. So, yes, put down this *InsighT* issue (okay, read the rest too) and get going – you'll soon know how to be busy, seem free and stuff unimaginable amounts of work into twenty four hours. All the best!

(Aaditya Ramdas is a fourth year student of the CSE Department. He can be contacted at aaditya.ramdas@iitb.ac.in)

Scheduling

Here are a few tips to schedule activities, so that you don't end up missing out on anything you had originally planned.

- **Google Calendar** is more useful than you can imagine. Filling your week with coloured boxes at different times of the day can sound tedious, but it's the safest thing to do if you want to be organized and don't want to trust your memory with hundreds of tiny details – especially because it does things like sending you an SMS before your event if you wish.
- **Post-it notes** (in physical and virtual forms) can help you keep track of your planned events at a single glance without you having to put in much effort apart from actually keeping your eyes open to see them. Random papers or blackboards on your wall help too.
- Divide activities into **short-term and long-term** and give more priority to the short-term activities with deadlines. You will notice that efficiency of work is much higher when you are closer to the deadline – hence it makes sense to leave some work alone till it's almost too late, as long as you know what you're doing.
- Learn and use *fundaes* about depth-first search (**DFS**) and breadth-first search (**BFS**) – If you Wiki them, you'll find a bunch of complicated looking flowcharts, but the idea's simple. When you have 10 things to do at the same time, it is perhaps better to nibble off chunks of each as you go along, instead of totally finishing one while leaving the others pending. Knowing our student minds, it's always the fun things that get done, while the more boring but perhaps more important stuff like academics get postponed. It's good to do a DFS and finish off things, but at other times it's more advisable to do a little bit of work on a lot of things that you have to complete (BFS) so that you don't keep putting some things off.
- **Miscellaneous** – use mobile phone reminders freely. Also note that friends/parents (or other personal assistants) can be of great help in keeping you on track during busy times.

We now have a Questech page on the site. Please do visit it – especially if you need to browse through interesting puzzles for placement season. The page also has the solutions to (some) problems that have appeared in previous issues of *InsighT*.

The Life and Times of P. Polpot

Let us not waste time in describing how the legendary P. Polpot was born when the stars were shining in the sky, and so on. We tell you only that he (though a baby) is in great danger from an oppressive Government and has to flee. You, along with Mr. A and Mr. B, are given the responsibility of taking him to safety.

To begin with you are assigned the task of collecting food for the journey. You go to the market, but unfortunately the food items have been sold out. There are two customers

Questech

there though, one with 5 bags of food and another with 3 bags of food. After a lot of discussion, the three of you agree to share whatever food you have equally.

1) You have 8 Swiss Francs to buy food. How much will you pay each of them?

Now, you are planning to flee the village. As you know, there are three of you: Yourself, Mr. A and Mr. B. But there is a mountain to climb! Since you are in good shape, you can climb it in 2 hours. Mr. A will take 10 hours, and Mr. B will take 5 hours. Luckily, there is a bike available, which can carry any one of you (+ the negligible weight of the baby Polpot + the remaining food) up or down in 1 hour.

2) P. Polpot is a baby prodigy. Assuming everyone travels at their own constant speed, what strategy does he suggest to minimize the time taken for the journey to the top of the mountain, and how much time would it take?

Hint: The answer is definitely less than 5 hours, and might even be less than 3!

So you have crossed the mountain and arrived at a safe place. Of course, there are guards waiting for you. And just to make sure that you haven't switched babies, they do the obvious: ask the baby Polpot a mathematical question.

3) Find the minimum n such that $999999 \times n = 111\dots11$ (any number of 1s). What did Mr. P. Polpot answer?

(Send in your answers to raoanupb@iitb.ac.in)

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ANNOUNCEMENTS

1. Website: We now have an external mirror for our site, <http://insightiitb.org>. We do our best to keep it updated daily.

Do visit it for loads of interesting and informative content - reports of institute happenings, supplementary material for the print issue, alumni articles, archives of our back issues (all the way back to 1998), an extensive video library, interesting pictures of the Institute, photostories and, of course, Campus Reporter.

We will also be starting a series of contests on our site in November.

2. Experiments: We're thinking of publishing a mostly - online issue in November. Only those students and faculty members who register for their copy of *InsighT* will receive a physical copy; the whole issue will be available in digital form for everyone. We could also mail everyone a PDF copy. What do you think of this idea?

Tell us by sending mail to insight@iitb.ac.in or leaving comments on our site. That goes for just about everything we do - make us do what *you* want by providing regular feedback.

3. Campus Reporter: The second round of Campus Reporter, the competition where we give prizes to those people who report campus events most creatively, concluded recently. We received a most encouraging response, with over thirty people sending us cartoons alone.

Our winners for this round of Campus Reporter are:

1. Prasham Rambhia - for his report on the Distinguished Lecture Series
2. Akvin - for his hilarious watercolour depicting midsem nightouts
3. Himanshu Kardam - for his cartoon *Juxtaposition*

They each receive a cash award of Rs. 350. You can see their entries on our website.

4. The InsighT Show: We've got a whole range of new episodes lined up for you! The new season kicks off with a spoof job interview, followed by interviews of the GSAA and GSSA. We are proud to announce that the Film Club will henceforth help us in making the *InsighT* Show bigger and better.

5. Panel Debates: We are looking to provide a platform for constructive discussion on various Institute topics. We start with an Open House session, on October 22, on the Biswas Committee recommendations. For the first time, Professors Biswas, Ballal and Suryanarayan will hold a session in the hostel area to explain certain measures, as also to get feedback on the new curriculum. Don't miss this session - watch out for our posters.

We will also, on November 4, hold a Panel Debate on the possible advantages and disadvantages of the strict regulation on senior - freshie interaction. Since this is a topic close to everyone's heart, we urge you to come for the debate and let your voice be heard.