



ACA-tale-psy

- the unknowable of all things to a certainty

Volume2

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RFID Random Bits Drug Addiction

RFID technology requires neither line of sight, nor human intervention, and allows storage in the order of bytes to kilobytes; this technology promises the automation of tracking high item volumes, while requiring a much lower degree of human intervention. As the ID of each tag is determined by the center frequency of the resonance, the number of unique ID's is limited by the swept frequency range and the width of the resonance.

He woke up one morning, waved his magic wand and all the lawless pieces arranged themselves neatly into a beautiful picture and the problem was solved! The most flattering compliment that we received was from Prof. Adleman - "... in my mathematical life I have been most fascinated by two problems - Fermat's last theorem and **primality** testing. Happily, both are now resolved."

The most common **drug on campus** is the chemical 1,3,7-trimethylxanthine, which is extracted from a variety of plants, and is served as part of several concoctions that are commonly imbibed in a cocktail with various other substances, and is sold by opportunist traders under a variety of different brands. In its purest form, it is odorless and white and can come in fleecy lumps, glistening needles, or just plain white powder.

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Solitaire Indian Naval Google

Well, that's the basic idea of the game, but there's lots more to this than just Start Menu->All Programs->Games->**Solitaire** (Assuming Windows XP).

In the **Indian naval** sphere the emergence of technologically advanced stealth ships added new dimensions to its galore. The first of its kind and of course

To search for an ISO image of a CD: search as follows inurl:Adobe filetype:iso ,or inurl:microsoft filetype:iso.The search engine started as a research project when Page and Brin were students at Stanford University.

FROM EDITOR'S DESK

"I was searching for" internet security" on Google when incidentally one of the sponsored links was pointing to Nokia 6600 mobile. Thought the search engine is still sleeping early in the morning"

15 minutes later

"I checked my mail and saw my brother was asking suggestions about mobile phones that he wanted to buy"

Is this a coincidence?

Of late Google has launched a new site Orkut – a social networking site made by an employee (called Orkut) who incidentally spent 1 day per week in this personal project of his. The result is brilliant and the site has become such a rage. Its popularity in our very own IITK is amazing. We have communities ranging from IITK, IITK-CSE to "Hall2 ke lukkhe". I am sure at one point or the other we must have marveled at the simplicity and efficiency of the site. Orkut offered some distinct features that made me stop and have a feel of the underlying graph structure. Apart from routine things like my profile view counts, there was a functionality to send messages to my friends (my immediate neighbors) and my friends of friends (my potential friends). An interesting feature it has is the ability to express my online status. The moment I log in, my photograph appears on the top of the friend list of all my friends. Good way to know which of your friends have recently been online. We all wanted the invitation to join Orkut. Similar was the case with Gmail. Entry is strictly by invitation. Its termed by many experts as the strategy of viral marketing, the most effective of all strategies of marketing. Even in today's digital world nothing can beat mouth to mouth publicity. Words of mouth incur least marketing cost but have strong convincing power between acquaintances. Not to undermine Gmail promised the 1 GB space to conquer the mature email market. Gmail's marketing also benefits from the carefully maintained reliable image and reputation of Google. If it is from Google it has to be the best. Orkut kind of social networking sites are very popular and fairly omnipresent. I wonder what lead Google to jump into this bandwagon. If I was Google then what was my younger brother Orkut providing me?

To begin with I had lots of data. Well for every person in Orkut I could have all the information I could ask for. What could I possibly do with this data? Orkut's terms and policy had lots to say on this. The page states in clear terms:

Contd in page 3 ...

FROM PRESIDENT'S DESK

We organized a fresher in CS101 and the turnout was good. Also the dance performances and the skit was great. We also organized an introductory lecture for Unix and Java for students of first year so that they get acquainted with the basics. The next big event this semester was bringing Microsoft to IIT Kanpur in the form of .NET Club. Mr. Ashwini Kumar, the student evangelist from Microsoft gave an introductory tutorial on .NET Architecture. The foundation stone for .NET club has been layed with overwhelming response from the students not just from the students of CSE department but also from students of other department. Post Newsletter we plan to hold some more activities, move ahead with our .NET club, and organize a picnic. I would like to thank the faculty of the Computer Science department for their cooperation and support. I would also like to thank the ACA members of previous batch who provided us with great platform and also for supporting us throughout this year as well. We plan to get a T-Shirt out very soon. Please mail your suggestions for T-Shirt. Please feel free to mail your suggestion about the activities you want ACA to organize. I would like to reiterate that ACA is the department's organization and the successful functioning of the association is only possible if you all contribute to it intellectually as well as in other way possible.

**With Best Regards,
Abhinav Pathak
President
Association Of Computing Activities**

By submitting, posting or displaying any Materials on or through the orkut.com service, you automatically grant to us a worldwide, on-exclusive, sublicenseable, transferable, royalty-free, perpetual, irrevocable right to **copy, distribute, create derivative works of, publicly perform and display such Materials.**

Infact the site even tells me that:

Personal information collected on this site may be **stored and processed** in the United States or any other country in which orkut.com or Google Inc. or agents maintain facilities, and by using this site, you **consent** to any such **transfer of information outside of your country.**

Orkut stores two kinds of data:

- Traffic data (number of my profile views).
- All the contents (my email id to my favorite food).

And that too without a time limit. Surprisingly, similar issues in the past had been very seriously taken up by digital rights organization with huge hooplahs created for data retention for ISPs or .NET's passport (which was later scrapped because .NET passport users would (unwittingly) allow Microsoft to collect information on which sites they visited, whom they mailed, what they bought where). The differentiating factor here is that Orkut/Google has your consent in all this.

To sum at this point I have **huge data.** And I must add a well structured data (remember the tedious registration process of Orkut) – a good candidate for all the data mining studies done in this department and exactly the kind of demographic data that marketing guys would give one hand and leg for. And not just that I also have the entire world's right to store them and process them the way I want and wherever I want.

Now data mining has provided a great way of clustering this information as well. But what could be the better way of doing it if we let the user cluster themselves. Like Google's low cost but effective viral marketing strategy where we ourselves are tempted to do its marketing (of course we have our own valid reason for the same), here Orkut too gives us reasons to do the clustering ourselves. Gmail by invitation was perhaps not the best way to store relationship network map as Orkut is. Your friends are immediately around you. Your immediate sphere of influence can be received by just one query on this well-managed graph like structure. Not just that we have our communities that clearly points to a group of people really really interested in say *one-eyed monsters*. These **networked individuals** can easily be exploited by advertisers and the like. For ardent Google fans (I am one too) let me add the disclaimer that Google might really be interested in knowing how many friends Tom has or how many friends of friends Tom has. Or how many degrees Tom is away from Dick. However such data would be great to have for businessmen and academics alike. A peep into Orkut's terms and privacy revealed the following:

When you invite new members into your network or send messages through the orkut.com service, **we collect and maintain the information associated with those messages, including email addresses and content** on secure servers. As with any social networking service, you should use care when disclosing your personal information to strangers. Be advised that if you send messages or post material containing personal information, that information may be collected and used by others. In order to provide the best possible service and detect and correct site errors, **we collect aggregate information about use of the site (such as which pages are most often viewed) and we collect information about your computer, such as browser type, browser language, and IP address.**

You know what this means, even if you sit in your home without lifting your finger, your generous friends that invite you to Orkut would cause Orkut to atleast have your email id and an idea of your positioning in the relationship map.

Till now we do not just have data but also the **relevance of the data** in context of:

- relationships (the relationship map)
- and also in context of the information (communities like one eyed monster).



Now let's try to glue everything together. Now how to access all this information when say you are doing Google search? Well there is a concept of cookies, best illustrated in the following paragraph again from our Orkut's privacy page:

We send "cookies" to your computer and use such cookies as described here. A **cookie is a piece of data that identifies you as a unique user**. We use cookies to improve the quality of our service and make the service easier to use for our members. We do this by storing user preferences in cookies and by tracking user trends - for example, we use cookies to allow you to automatically log in to the service after the first user session. Most browsers are initially set up to accept cookies. You can reset your browser to refuse all cookies or to indicate when a cookie is being sent. **Be aware, however, that some parts of orkut.com may not function properly if you refuse cookies.**

So at the point you get into your Orkut, Orkut knows where you are, what you speak, what messages your friend has sent you and also whether you are there online or not.

The final glue comes from Orkut's loud and clear association with Google. Not just it conspicuously speaks itself to be in "affiliation with Google", it also removes ambiguities in its following privacy terms:

We may share both **personally identifiable information about you and aggregate usage information** that we collect with Google Inc. and agents of orkut in accordance to the terms and conditions of this Privacy Policy.

What amazes that these pieces of terms and conditions that seem harmless when read independently can lead to some great results when being tried to compose together. With those steady steps over httpsphere, the days wont be far away when your sister messages you for some suggestions on good digicam (siblings can be real demanding sometimes) and before you check her message your Google search for one-eyed monster (I have started liking them after Monster Inc) have good Digicam links shining as the sponsored links. And to think of it, if your sister is the most popular girl of your class (remember the profile counts), the boost it would cause to that camera sales. The above is just a "use case", for all you know proposal for Orkut would be containing more such use-cases. The modus operandi is simple. Google integrates its Orkut and Google search services. It already has the cookies in place. The cookie contains the primary key for your entire data- **the unique user id**.

Just to add that if we can think of it then why not Google? And of course, with your due permission.

References:

<http://www.orkut.com/terms.html>

<http://www.orkut.com/Privacy.html>

I am glad that finally this year's magazine is out and we have some good articles, some new bees trying their hand at journalism and some more good technical stuff. I thank faculty and students for their contributions and cooperation. I also thank Dr. Mainak Chaudhuri for his support and guidance, and Dr. Amitabha Mukerjee and Dr. Bhaskaran Raman for their contributions.

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E-WASTE

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We all know the positive effects of the electronic age. For a balanced view, we should also be aware of the negative side and the hidden costs, so that we can work toward mitigating these. Electronics production as well as its after-life is not so environment- or human-friendly. Here are some excerpts:

- Silicon production is a very resource intensive process. A six-inch wafer takes about 285kWH of energy, and about 8,600 litres of de-ionized (pure) water. A typical chip production site could consume as much as 4-8 million litres of fresh water per day.
- E-waste includes a wide range of chemicals, several with known severe health effects. These include Lead (in monitors, solder in PCBs), Cadmium (in chips, IR detectors), Mercury (in flat panel displays, cell-phones, batteries, etc), Chromium, Barium, Beryllium, plastics including PVC, etc. When old electronics goes to landfills, these seep into the soil and water, and find their

way into us. [In California and Massachusetts, landfilling of CRT monitors is banned; Lead has been banned from petrol].

- Between 1997 and 2007, the U.S. alone is expected to produce about 500 million obsolete computers (due to high rate of obsolescence). [Translates to about 1.58 billion pounds of Lead].
- A European study has estimated e-waste to amount to as much as the plastic packaging in municipal solid waste. [So much for "say no to plastics"].
- Free trade in e-waste results in the economic path of least resistance – these wastes are exported to countries such as China, India, and Pakistan. These places offer cheap labour, and have little environmental or occupational regulations enforced. An estimated 50-80% of e-waste from the U.S. ends up in these places for salvaging and dumping.
- The Basel Convention was formed in 1989, and most countries have signed its international treaty banning the export of e-waste; with the significant exception of the U.S.
- The Guiyu area of China has been an e-waste processing centre since 1995. Due to severe groundwater pollution, drinking water is now transported to Guiyu from 30km away.
- E-waste import is legally banned in India, but there are reports of continuing import. New Delhi is an e-waste processing centre. All work is done by bare hands, hammers and screw-drivers, without any personal protective equipment. Child labour is routinely involved. E-waste which does not have resale value is openly burnt, or taken to landfills.

Facts, excerpts, and pictures from:

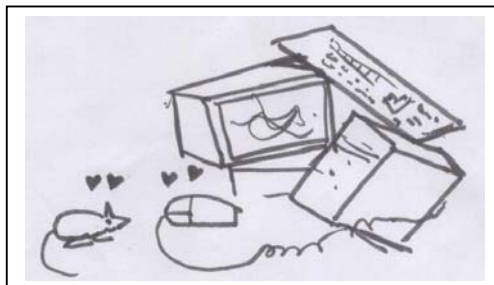
Silicon Valley Toxics Coalition: <http://www.svtc.org/>

Electronic Waste Guide: <http://www.ewaste.ch/>

Toxics Link: <http://www.toxicslink.org/>



Burning of circuit boards for solder and copper in Delhi.
© Toxics Link India



Young boy separating parts from circuit boards, Delhi. © Toxics Link India

THE BIRTH OF THE SILICON BRAIN

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A gorgeous Sunday evening of December, 1970 in San Jose, California. Christmas was last Friday. It is cold, but still pleasant. Everyone is enjoying the Christmas week-end and making plans for the New Year celebration. If you take a cab from the airport, it takes you about fifteen minutes to reach Santa Clara. You navigate a little more and soon you will find a window on the second floor of a large building beaming out rays of powerful light. You might wonder who is working at 7 O'clock of such a wonderful Sunday evening. You take the stairs and enter the room. It is an electronics testing laboratory. The tables are stuffed with oscilloscopes, logic analyzers, printed circuit boards and what not. You don't even know the names of all the instruments. In the middle of the large lab you find a gentleman sitting in front of an oscilloscope and sweating profusely. This person is known to be soft-spoken, always smiling, terribly smart, and very hard working. He is never seen wasting time on unnecessary gossips. Nobody has seen him losing temper ever. But today you find him on the verge of a nervous breakdown. Something serious must have happened. You hear him whisper, "This must be a bad die. Let me try another one." With trembling hands he loads a two-inch wafer into the prober, lowers the probes onto the die, and stares eagerly at the oscilloscope. Sigh! No signal! No life! He starts changing the wafers madly. But nothing happens. He sits down on the floor covering his face with his hands, "How did I make such a mistake?" Suddenly, that twinkle, which disappeared during the last twenty minutes, re-appears in his eyes. He quickly picks up a microscope and puts a wafer under it. "Oh no! All the gates are floating! How did they overlook the buried-layer contacts?"

One month later. A Friday of January, 1971. Dr. Federico Faggin is spending yet another night alone in the microprocessor testing and verification lab of Intel. A new set of 4004 microprocessor wafers has arrived late in the afternoon. Federico first puts a wafer under the microscope and makes sure that the gates are properly connected this time. He puts the wafer on the prober, pushes the start-test button of the connected oscilloscope and there appears a nice square wave signal. He whispers in delight, "The clock is available." The tests continue. Hours pass by. At around four in the morning Federico returns home satisfied to find Elvia still awake. Both share the excitement of reaching a major milestone. The first silicon brain is born.

<http://www.cse.iitk.ac.in/users/aca>

GOOGLE INTO GOOGLE

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"We have a mantra: 'Don't be evil,' which is to do the best things, we know how for our users, for our customers, for everyone. So I think if we were known for that, it would be a wonderful thing": Larry Page

"Obviously everyone wants to be successful, but I want to be looked back on as being very innovative, very trusted and ethical and ultimately making a big difference in the world": Sergey Brin.

Larry Page and Sergey Brin need no introduction. When you want to find one Web page among the billions on the Internet, where do you start? – Google.com

How it started

The search engine started as a research project when Page and Brin were students at Stanford University.

"Myself and my partner, Larry Page, were just doing research in managing large amounts of information," says Brin. "That's called data mining, which means finding patterns in them. And eventually we turned to the World Wide Web, which is basically most of human knowledge, all together in kind of a very heterogeneous dispersed form."

The name was supposed to be "Googol," which is the mathematical term for a 1 followed by 100 zeroes.

They didn't quite start in a garage. Instead, they started in Page's dorm room. But in the great tradition of invention, they later moved to a garage.

Page and Brin dropped out of Stanford and rented a room from Susan Wojcicki. Today, she is Google's director of product management.

"I had bought a house, so we decided we'd rent some of it out to a student," Wojcicki says. "We thought, 'Well, they'll probably just be there during the day while we're at work. We won't notice.' But they were actually there 24 hours a day, all the time. But in the end, it worked out well. And we got free Internet access at the same time."

A buddy named Craig Silverstein dropped out to help them, becoming Google's Employee Number 1. Today, Employee Number 1 Craig Silverstein is Google's director of technology.

Brin was born in Moscow, and his family came to America in 1979. His father was a math teacher, but he became a university professor in the United States.

Page was born in East Lansing, Michigan. Page's father taught computer science, and as a result, Page got his first computer when he was 6 years old.

"Googling" has become so commonplace that it is now a verb. The average Google search takes about a half second, driven by 10,000 interconnected Google computers. If one goes to the Googleplex in hopes of peeking behind the curtain and seeing the Google computers at work, they'll be disappointed.

... contd on Page 15

The game started in April, 1969 when Busicom, a Japanese calculator manufacturer, visited Intel (founded in 1968) with a custom design project. The project consisted of design of seven different chips including a programmable decimal computer with ROM (Read Only Memory)-based macro-instructions and shift register data memory. Busicom was looking forward to using these chips in an array of products ranging from desktop calculators to billing machines. At that time Dr. Marcian E. "Ted" Hoff, Jr. was the manager of the application research department of Intel. At the beginning Ted refused to proceed with the design due to its amazing complexity and the magnitude of custom design involved. Intel was in business for only one year then and it did not have so many experienced researchers to carry out this mammoth work. However, the contract was attractive and Ted decided to follow an alternative approach. He proposed the design of a general purpose computer, which today is called a microprocessor. With the experience he gathered at Stanford, Ted could easily see how the processor could be programmed to function as a decimal calculator. The initial architecture was laid out during July, August, and September with the help of Stanley Mazor, who joined Ted's group after leaving Fairchild. The design consisted of four chips, namely, a 2-Kbit programmable ROM with a 4-bit I/O port (code named 4001), a 320-bit dynamic RAM (Random Access Memory) with a 4-bit I/O port (code named 4002), a 10-bit serial-in, parallel-out and serial-out static shift register (code named 4003), and a 4-bit CPU (code named 4004). Busicom approved the Intel architecture in October. Masatoshi Shima, the principal designer of Busicom, worked with Intel architects until December to make sure that the intended products can be manufactured with the proposed chipset. Before he left for Japan, Intel promised the first silicon to be ready by July, 1970 i.e. a seven-month design cycle.

Dr. Federico Faggin was hired by Intel in April, 1970 as the project leader of the Busicom chipset. Intel felt that it did not have engineers experienced in random logic design to carry out this project. So Federico at Fairchild seemed to be the perfect choice. On the first day of his job at Intel, he came to know that Shima would be arriving next day to investigate the progress made over the last four months. But nothing actually was done since Shima left Intel, and at the time Federico joined, Ted and Stanley were no longer involved with the project. In summary, Federico did not have any experienced engineer in his team. As expected, Shima was furious to see the state of the project and he almost decided to withdraw the contract. Federico somehow managed the situation, came up with a completely new work-plan to carry

out the chipset design, and promised that the first silicon would be available in December. Federico came up with numerous innovations and worked 70 to 80 hours a week to make this seemingly impossible deadline achievable. Shima stayed with Federico till October to help him out on various technical aspects of random logic design with silicon gate technology. By November, the 4001, 4002, and 4003 chips functioned perfectly. Finally, in January, 1971 the first microprocessor saw the light of the day. In March, Federico sent the first assembled calculator board to Busicom. The board consisted of one 4004, two 4002's, three 4003's, and four 4001's. By April, Busicom finished verifying the prototype and gave a green signal to Intel for starting commercial production.

One thing that bothered Federico from the very beginning was that Intel would never be able to market its first microprocessor because the Busicom contract dictated that the 4004 be exclusively designed for Busicom products only. Also, the market management department in Intel failed to realize the usefulness of 4004 in anything other than calculators. Federico, just to disprove this hypothesis, designed a production tester using 4004. Fortunately, during the second half of 1971 Busicom started having financial difficulties and Intel took full advantage of that. The contract was modified so that Busicom would pay less in exchange of giving the exclusive right of 4004 to Intel. In November, 1971 the first microprocessor hit the market under the name Intel MCS-4 (Microcomputer system 4-bit). Federico was also leading another microprocessor design project (code named 1201) since the completion of 4004. This microprocessor was more general purpose and more powerful compared to 4004. In April 1972, 1201 was released to market as the first 8-bit microprocessor under the name 8008. Intel8008 turned out to be a tremendous success in the general purpose computing market. Before leaving Intel in October 1974 to start his own company named Zilog, Federico contributed to yet another 8-bit microprocessor, which came in market under the name 8080. These three initial silicon brains paved the way for Intel into the microprocessor business. Of course, the introduction of 8085 and subsequently 8086 completely changed the state-of-the-art at that time, but that is a story for another day.

Further Reading:

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2. F. Faggin. The Birth of the Microprocessor—My Recollections. Invited paper at the Microprocessor Forum, October 2001.

DRUG ADDICTION IN COMPUTER SCIENCE AT IITK

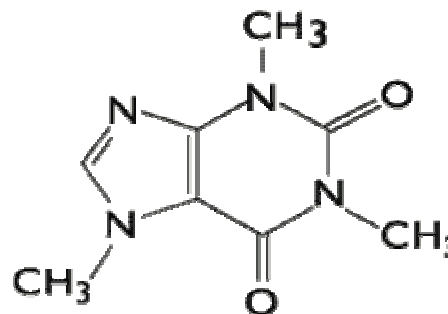
Amitabha Mukerjee
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When I joined IITK I did not realize the extent of the drug problem on campus. Some people used to think that drug addiction is limited to students, and even then to a small fraction of students. But the fact is that drugs control the lives of a very large part of the entire population on campus. Even more alarming is the fact is that this population even includes some faculty and staff. The dirty secret in this institute is that the largest number of confirmed addicts, who may be identified as basket cases for drug addiction, may actually belong to the faculty and staff.

Students who join IIT, and parents who accompany them to the orientation programs often see only one side of IIT and the hostel life. What they do not realize is that in every hostel, there is at least one significant, well managed facility, which is frequented by drug addicts, where a suite of instruments are available for imbibing drugs in your favorite format.

OPEN CONSUMPTION OF DRUGS ON IIT CAMPUS

There is an impression among people that drug consumption on campus is on the decrease. However, this is utterly false. In fact, the situation has come to such a state that the drug addicts can openly form groups that meet in cabals -- increasingly you will find that groups of men and women who meet quite openly and loudly in all kinds of venues across the institute. In fact, a number of these cabals have been active for several years now, and the membership includes senior people, who have quietly arranged a number of drug-imbibing rooms where the institute community can quietly top up on drugs in what must be among the most competitive prices anywhere in the world. These rooms, in case you did not know, are operational even during office hours, and are frequented by students, staff, faculty and even the occasional outsider. Late at night under naked bulbs the dealers sit, and you will find endless streams of students from every hostel lining up for their nightly dose. Hundreds of soiled rupee notes will change hands, and then the addicts will sit in little groups on some nearby grassy patch in the darkness, infusing their cherished cocktail drug combination. This may sound unbelievable but, here, in this exalted campus of IIT Kanpur, right inside the homes of the faculty, when students visit, there are faculty members who routinely offer drugs to the students.



On festive occasions, even strangers have been offered drugs on a routine basis. The most common drug on campus is the chemical 1,3,7-trimethylxanthine, which is extracted from a variety of plants, and is served as part of several concoctions that are commonly imbibed in a cocktail with various other substances, and is sold by opportunist traders under a variety of different brands. In its purest form, it is odorless and white and can come in fleecy lumps, glistening needles, or just plain white powder. More often it comes in various granular powders, or sometimes in dried shredded pulp form. It is soluble in water (upto 2.17%), and is consumed in doses that average 40 mg but can go up to 170 mg a shot.

DRUGS IN COMPUTER SCIENCE

And nowhere is it worse than in Computer Science. While this department is known for its open stance towards its students, it is also one of the most open places for drug addicts. Perhaps this has some connection in history -- the more open a society, as in the Netherlands, the more prone it is to suffer from drug addiction. Perhaps it has also something to do with the excessive levels of projects and home works, but late into the night you can find people getting their kicks in dark corners just outside the CSE building. But this is not limited to the nights -- you may not know it, but when the new CSE building was being planned, a special room was made available for drugs consumption, especially for the faculty.

NEUROCHEMISTRY

Neurochemically, trimethylxanthine acts on the brain by blocking adenosine receptors, essentially preventing neurons from slowing down. Like amphetamines, it also increases the levels of dopamine in the brain, leading to an alleviated sense of pleasure. People intoxicated with this drug are subject to symptoms of diuresis, flushed face, and gastrointestinal complaints, and may exhibit muscle twitching, rambling flow of thought and speech, cardiac arrhythmia or tachycardia, and psychomotor agitation.

Fortunately for this campus, there have been no reports of any drug deaths relating to trimethylxanthine overdose. However, such deaths are well-known from other campuses, and we must remain vigilant to prevent such cases here. I am informed that some drug addicts feed the stuff to dogs, and that such dogs have died -- however I must admit, due to the overall aura of secrecy surrounding this matter, such facts are impossible to verify. But it is a proven fact that trimethylxanthine is more toxic to dogs than to humans.

Molecule of 1,3,7-trimethylxanthine, the chemical underlying various cocktail forms of the most widespread drug addiction on IITK campus. Among other side effects, recent research has highlighted how consumption of this drug increases the addict's risk of diabetes mellitus type 2 [Salazar-Martinez 2004].

MEET THE ADDICTS

Would you like to meet some of the addicts in computer science? Why, it is quite a simple matter. You just have to go to the faculty tea room, or to the canteen next door -- and you will find tons of CS people imbibing the drug, in dark fluid cocktails, served either hot or cold. The drug is also known as caffeine, and the most common cocktails are called tea, coffee and Pepsi. It is a strongly addictive drug, more harmful than many banned substances. The typical dose contains about 30-150 mg per serving. And a student like you died in North Carolina after consuming the equivalent of 200 dozes. So stay away from these dangerous drugs yourself, and spread this message to all your friends!!

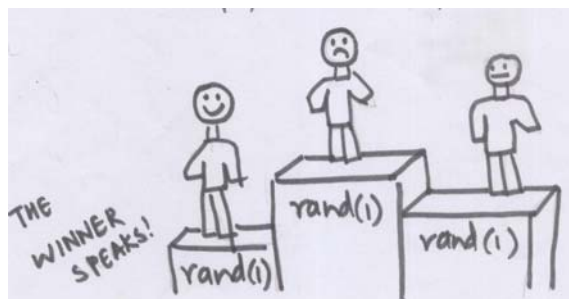
JOB DATABASE OF COMPUTER SCIENCE FOR CURRENT BATCH

| Companies | Number of Students Selected (MTech) | Number of Students Selected (BTech) |
|---------------------------------|-------------------------------------|-------------------------------------|
| Amsoft Systems | 2 | |
| Veritas software India Limited | 9 | |
| Atrenta | 2 | |
| TechSpan | 1 | 1 |
| IndusLogic | 1 | 3 |
| Persistent | 2 | |
| APPULSE Retail Software | 1 | |
| MENTOR GRAPHICS | 2 | 2 |
| SAMSUNG India | 2 | 1 |
| DE Shaw, Hyderabad | 1 | 2 |
| ST Microelectronics | 1 | |
| Intel, India | 2 | |
| Texas Instruments | 1 | |
| Adobe Systems | 1 | 3 |
| Sybase | 6 | |
| Oracle India | 4 | 1 |
| Tata Consultancy Services (TCS) | 1 | |
| Infosys SET Labs | 1 | |
| ITC, Calcutta | | 1 |
| NextTag | | 1 |
| McKensey | | 1 |
| Inductis | | 2 |
| E-valueserv | | 2 |
| Trilogy | | 2 |
| IBM | | 1 |

A FEW RANDOM BITS

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I was the first student in my batch to arrive in Hall 2. I was surrounded by some ten second-yearites, mostly student-guides, in the hall quad soon after my arrival. My IIT education started immediately thereafter as I learned how to introduce myself and to use all the essential swear-words. In such a situation it is necessary for the freshee to feel frightened so that he can be made to say or do whatever the seniors want. Now I knew that touching a freshee was forbidden and that this rule would be strictly adhered to. The seniors acted (or tried to act) very mean and tough but then they were all terrible actors. I could not help smiling when they put on this act and so I had to perform the *smile wiping* routine several times. Thus I entertained them through the rest of the afternoon and in the evening I was given a grand treat by the seniors. We all had dinner at the Treat followed by a show of the Titanic in Heer. As we were walking back to Hall 2, it started raining. Everyone was now in a jolly mood and kept on walking in the rain, singing and cracking jokes. I loved it! It had been a great day and I had made lots of friends. Among them was Rajat, a second yearite in computer science.



One day, in the second year, we had a very short class. The class consisted simply of the description of a problem which we were asked to think about. Suppose that two persons A and B living far away from each other and each having a wireless transmitter and receiver wish to have a private talk. The **only** way that the two can communicate is by broadcasting and receiving radio signals. An **intelligent** eavesdropper C also has a receiver and can listen in on any message that is being broadcast across. The problem is how can A and B have a private talk even though C is listening in on them and even though A and B do **not** share any prior secret code. The last part needs some further explanation: if A and B both knew the Chinese language and C did not, then they could talk in Chinese and C would have no clue of what is actually being shouted across. It is also known that even if A and B share a common string that is unknown

to C, then this string can be used to construct a kind of code or secret language that will be known only to A and B and not to C. This code can then be used for secure private communication. But in this problem A and B are complete strangers and do not share any secret key or code. To summarize, how can two complete strangers have a private conversation when their only line of communication is being tapped upon? After a little thinking I decided that this was impossible. Whatever algorithm that A chooses to encode his messages, there has to be some way for B to decode it. And B has to be able to deduce this decoding procedure from the earlier parts of the conversation. Clearly, C being intelligent can follow the same line of reasoning as B and deduce the decoding algorithm from the previous parts of their conversation. I was eagerly looking forward to the next class and sure enough, the class began with the instructor admitting that it was not possible to solve this problem ... *unless we make one small assumption*. The assumption is that A has a coin that she can toss and the outcome of a coin toss is available only to her. In computer science lingo, A has access to a source of *private random bits*. The instructor went on to describe a five-line algorithm called the RSA algorithm. It makes use of this assumption in a very clever way and solves the above problem in an almost magical manner. I was stunned! A few random bits had made feasible a task that had been assumed to be impossible for decades. The instructor was Prof. Manindra Agrawal. This algorithm was discovered by three mathematicians: Adleman(A), Rivest(R) and Shamir(S). One might therefore expect it to be called the ARS algorithm but there is an interesting story behind the discovery of this algorithm and its name. The story goes that R and S first started looking for such an algorithm on reading a seminal paper by Diffie and Helman in which the authors had suggested the idea of a public key cryptosystem for the first time. R and S proposed candidate algorithms to their colleague A who consistently managed to dispose them by discovering some weakness or flaw. This went on for 40 iterations until they managed to find a satisfactory solution. A was reluctant to become a co-author but R and S persuaded him otherwise and so the authors of their paper were listed as R, S and A - in that order.

RIDING THE SEAS – MODERN INDIAN NAVAL SHIPS

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And that's how it became famously known as the RSA algorithm. One crucial step of the algorithm consists of determining whether a given number is a prime number or not. At about the same time, an efficient algorithm was discovered for primality testing but although it was very fast, the algorithm had one small problem. When the algorithm is run on a given input number n , it needs to make some random coin tosses and then with *very high probability* correctly determines whether n is prime or not. This is good enough for all practical applications but then this small probability had been nagging mathematicians. Does there exist an algorithm which was fast and also did not use any random bits in its operation? All available evidence indicated that the answer was yes, but a proof was elusive.

In my sixth semester, I was doing a project jointly with Rajat and my batch mate Nitin. Rajat told us that he was working on the primality testing problem as his B. Tech project. He was following an approach discovered by Agrawal and Biswas. He had come up with an experimental conjecture which if true would settle this question. We were very excited when we heard about this conjecture and went to Dr Agrawal as fast as we could and told him that we would like to work on this problem.

On the first day of our final year the two of us met Dr Agrawal. In a very serious tone he said to us, "We shall now meet every Monday at 3 in the afternoon." But we soon discovered that we could meet him whenever we had something to talk about or discuss with him and whenever we went to him, he would put aside whatever he was doing and listen to us and work with us. And so it turned out that subsequently we did not meet at Monday 3 pm even once! Much later, I came across all these famous professors at Princeton who barely had enough time for their graduate students and I realized that we were very lucky to have an advisor who was so accessible and treated us more like colleagues than as students.

Contd in page 12

Weapons technologies have been the decisive factor in ensuring military victories in every age. Emergence of superior weapons technologies in warfare have not only ensured surprise, a battle winning factor but also enabled nations numerically inferior to win battles over more superior adversaries. Weapons technologies have moreover enabled overcoming of limitations of terrain and strategic depth.

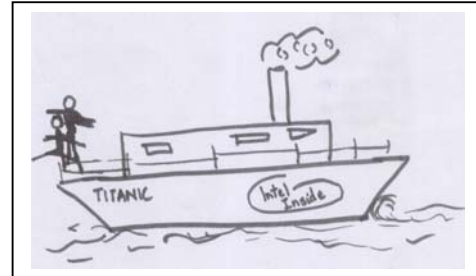
The twentieth century was significant in the history of warfare in terms of development of weapons technologies - century of two global conflicts and a host of other regional conflicts. It was in this century when the stalemate of the First World War was broken by the invention of the tank and the beginning of air power. The Second World War saw the refinement of the tank and its application to mechanized warfare. Along with all this the naval warfare also became more technologically advanced and specialized.

But it can be stated with a great amount of certainty that the twenty first century has been a defining century in the history of Indian Navy in terms of transformation of warfare. Needless to say that this spectacular transformation of war took place due to the advances made in weapons technology. In the Indian naval sphere the emergence of technologically advanced stealth ships added new dimensions to its galore. The first of its kind and of course comparable to the best in the world has been INS Talwar. Bristling with latest AA, SSM, Sonar and weapon systems INS Talwar was commissioned on 18th June 2003, which will go down as a Sea Mark day in its history. A ship that can compete with the best in the world is now one of the latest brides of the Indian Navy. INS Trishul, the second of three Krivak class stealth frigates was launched at the Baltiyski shipyards on the Neva River in St Petersburg soon after and a third is due to follow shortly.

Packed with the state of the art weapons systems, these ships features the Trebovaniye-M combat information and control platform which is a fully distributed combat management system consisting of sensors, actuators, remote terminal units and capable of real-time data processing. The system is an advanced up-to-date information acquisition/processing and target designation data transmission facility. It centrally controls all the different platforms of attack and defense weapons onboard, independently generates combat missions based on situation analysis, determines optimal number of missile firings, displays information on the state of ship-borne weaponry and transmits data to protection systems if required. It is capable of processing information coming simultaneously from 250 sources.

It operates autonomously and is capable of automatically locking on to 10 targets and tracking them. Interconnected via an Ethernet LAN, Trebovaniye-M features eight full-colour operator workstations and three central servers. Individual items of combat system equipment interface to Trebovaniye-M via two separate bus interface units. Raw radar data from a phased array and target tracking radar is received through a data reception unit and fed into the system. Applications are coded in C++, running under the QNX real-time operating system. The QNX micro-kernel provides services such as thread scheduling, inter-process communication, and uses synchronous message passing to communicate with other OS modules. All OS modules run in their own memory protected address space. It also provides conventional synchronization services like semaphores, conditional variables, and spin locks. Qnet, the QNX transparent distributed processing mechanism facilitates individual nodes in the network to access and use resources from any other node on the network.

The most vital characteristic of any real-time operating system is how responsive the operating system is in servicing internal and external events. These events include external hardware interrupts, internal software signals, and internal timer interrupts. One measure of responsiveness is latency, the time between the occurrence of an event and the execution of the first instruction in the interrupt code. The average latency of the systems provided onboard these ships are 1.6 microseconds, and a maximum of 4.1 microseconds on a 200MHz Pentium machine.



In effect, such systems provide a host of services which emphasize time and memory efficiency along with rapid and deterministic event response which not only reduce navy's life cycle costs through reduced manning requirements and a reduced logistics burden but also provide the highest levels of ship survivability and operational readiness.

A few random bits .. (contd from page 11)

By the time we graduated, we had most of the pieces of this proof but had no clue how to put it all together to get a clear picture. The crucial final steps were taken by Dr Agrawal. He woke up one morning, waved his magic wand and all the lawless pieces arranged themselves neatly into a beautiful picture and the problem was solved! The most flattering compliment that we received was from Prof. Adleman - "... in my mathematical life I have been most fascinated by two problems - Fermat's last theorem and primality testing. Happily, both are now resolved."

A small party was held at Prof Biswas's house and alcohol was flowing around. I had been a complete teetotaler until then but Dr Agrawal was very persuasive. And that was how I got drunk for the first time in my life - in front of half the CS faculty and their families! Some weeks later Dr Agrawal asked me "So do you sometimes drink in the hostel nowadays?"

"No", I said innocently.

"No?!. What do you do in the evening then?"

After primality, we scanned a list of open problems proposed by Prof Adleman and observed that two of the problems, factoring quadratic polynomials over finite fields and finding quadratic non-residues in finite fields are really equivalent problems. A few days later, Prof Hendrik Lenstra came on a visit to IIT Kanpur. Two decades ago, in one of the major results in this field, he had given a provably efficient algorithm for factoring polynomials over the field of rational numbers. So we were quite excited on meeting him and showed him our observation. His reaction - "It's a nice observation but I have known it since I was an eight-year old kid!" I felt discouraged. I had no formal knowledge of algebra and number theory and thought that maybe I should spend a year or two learning mathematics before attempting some other big number-theoretic problems.

In a workshop later that year Prof. Lenstra and Prof. Pomerance examined Rajat's conjecture. Based on some earlier work by Adleman and Pomerance, they showed that under some very plausible assumptions, Rajat's conjecture is false. Ironically, it was this conjecture that had guided us and had enabled us to approach the problem with confidence and strong spirits. Earlier Adleman and Pomerance had offered a prize of \$620 for a closely related conjecture and finding a counterexample to Rajat's conjecture would give a counterexample to this other conjecture as well. During our work we had tried very hard to find such a counterexample but could not find one. Our conjecture had such a short and simple statement that it was hard to believe that it was turning out to be true in our experiments by mere chance alone. And so I learned that sometimes even in research ignorance can be bliss!

The following year, there was a remarkable paper by Impagliazzo and Kabanets related to the determinant identity testing problem. In this problem the input is a matrix whose entries are all multivariate polynomials. The task of our program is then to determine whether the determinant of the matrix is the identically zero polynomial or not. Impagliazzo and Kabanets had shown that if one could derandomize the determinant identity testing problem then one would also obtain very strong (super-polynomial) lower bounds on the formula size for the determinant of matrices. Determinant formulae and their sizes have been studied for a long time by mathematicians, including the mathematician Lewis Carroll. A well-known story tells how Queen Victoria, charmed by *Alice in Wonderland*, expressed a desire to receive the author's next work and was presented, in due course, with a royally inscribed copy of *An Elementary Treatise on Determinants*.

Dr Agrawal was very excited when he came across the Impagliazzo-Kabanets paper and he started working on it immediately. Working on such problems with him is very challenging but its also exciting and a lot of fun. The Impagliazzo-Kabanets result has given computer scientists a promising line of attack towards the goal of proving lower bounds for arithmetic functions. Even after decades of intensive research the lower bounds that we do have for most problems are very pathetic. For example, it is easy to see that a randomly chosen boolean function requires circuits of exponential size but unfortunately the state of CS theory is such that we cannot even exhibit any explicit function that requires super-linear circuit size!

Internship - Je l'aime !

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Beautiful beaches rife with the fairer sex or sunny days in the Indian Silicon Valley with an impending PPO. Delusions of grandeur or is it reality...? And if true, then which one...? Ummm....now that's a tough one to crack!

—
Disclaimer: This article does not answer the above questions. Any inferences made are purely the result of the reader's misguided ability to reach logical conclusions, acquired (probably) during the discourse of Discrete Maths.

—
It starts when you hear your friendly neighborhood (read EE guys) talking about Germany. Mark it - That's the clue! Now brush up your school level letter writing skills and pen a persuasive (not pleading) cover letter, attach your resume and then.....well... you know what to do next....

In case you never heard of the internship laws, or have just heard them in muffled tones of the EE coterie, I enlist them for the benefit of all.

The first law of Internship:

Availability of funds with the 'mail recipient' is the single most point that determines whether you are offered an internship position or not.

...Contd in page 16

RENDEZVOUS – THE CSE DEPARTMENT SPEAKS...

Abhijit Bagri
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Are we what we are made out to be? Will we be what the society, our parents, this institute and we ourselves expect us to be? Not that all these hopes are the same. There are differences- yes, but definitely there ARE expectations.

The 'cream' of Indian academic talent- that's what Computer Science junta is perceived as. Ok, some of us cracked a tremendous rank in what is claimed as the toughest exam of the globe. True, this really doesn't mean that we are miles above others who are as much in the same league as us-intellectually, or for that matter any other adverb you might wish to fit. To believe that we would be stupid. What is true is that we are in a department which is, if not the best, one of them in the country. The saying of Spiderman oddly fits in here "*With great power comes great responsibility.*" A department stays at the top not just by its faculty but also by us, the students. I am sure it pains a lot of people see the cream go putrid.

Looking for suggestions to write for this newsletter, I came upon writing a critique of the department- a hell of a job for a guy as unseasoned as me. Investigating and collecting opinions, I found a problem so glaring and yet, so correctable. Yes, it's us. Maybe it's not the only one, but I am convinced it's the best that deserves attention.

I sent out a small questionnaire to the faculty to know what they felt about us. Some of the feedback was revealing. A sneak peek. Most of the faculty who responded gave us the highest marks for intelligence- all A's (excellent) and B's (Good). We also score for being hard workers. Where do we lack? Sincerity? No A's, a few D's (poor and the lowest grade that was possible here). We know this is true. 'Fraud' is almost an aim for a chunk of us.

We also appear to be just too crazy for grades. Professor Deepak Gupta made an additional comment of students being "**very*" grade conscious. Not that they want us to forget them. Most didn't choose we shouldn't worry about grades at all when asked how much they would like us to think of grades while taking a course. No one chose "The entire course is designed to grade a student" while almost all ticked "Grades are important too, but not everything." To note only one said "Don't worry about grades at all" A sufficient comment would be that maybe we are in a department where we could get the best opportunity to think apart from the grades.

What would you like UG student pass outs from CSE, IIT Kanpur to do most:

1. Start a company (11%)
2. Research in India (14%)
3. Research abroad (20%)
4. Become a faculty in some college, even if they don't do research (0%)
5. Work in an existing company and reach the top post (9%)
6. Do anything he/she feels he is good at, even if it is non departmental (46%)

Most professors agree there is a decline in quality of students and we lag in extra curricular over other departments. A lot that can be put to right here. Some believe research is getting stagnant, while others marked we are at par with the world. Of course, none picked, we nose dived or that we have been progressing a lot. Most believe graduates from CSE, IITK have a strong theoretical base over a practical approach.

There are things where we fall low on expectations. This is a department with outstanding facilities, excellent faculty, immense opportunities and to my mind the best philosophy. I should say we are spoilt.

We should feel haloed to be in a department where we can use what we learnt for four year for rest of our professional lives. The message is our professors believe us to be intelligent and see potential in us. Maybe we 'should' think about not ruining the high flag of CSE, IITK.

Best option for a B. Tech student at the end of third year wanting to do a project/internship would be:

1. Abroad in some university (21%)
2. Abroad in some company (10%)
3. In India in some university (0%)
4. In India in some company (45%)
5. Have a vacation (21%)

Best way to utilize the summer holidays for a B.Tech student at the end of two years would be:

1. Do a project under the CSE department (15%)
2. Do a project, not necessarily in CS (15%)
3. Try for an internship in some company (15%)
4. Pursue some hobby (32%)
5. Enjoy his/her vacation (23%)

How much time do you expect a student to put in course related work:

1. All the time he has left (0%)
2. At least 6 hrs/day apart from lectures(0%)
3. 3-4 hrs/day (69%)
4. About 2 hrs (11%)
5. Depending on load of the day (20%)

Do you think some computer science basic knowledge should be made a pre-requisite for those seeking admission in the department:

Yes 0%

No 100 %

Its 'ok' to enjoy life, but to misuse a privilege is probably sin. Even if some of us claim we ended up here by mistake, ignorance or pressure, I just would say each of us, by choice or not, has become a Spiderman. Its responsibility we have, and responsibility we need to deliver. In any case, we have nothing to lose, do we?

.....GOOGLE into GOOGLE (contd. from page 6)

"We use commodity PCs, the kind of things that you could go down to your local Radio Shack and buy," says Silverstein. "We have over 10,000 of these things all hooked up together. And it's certainly not all in one location, because that's very vulnerable. So, we have it spread out in various locations throughout the country, various locations throughout the world."

"When you type something in, you can say, you know, 'What is the average rainfall in the Amazon basin?' And you know, that'll work fine, actually," says Silverstein. "But when you're searching for something, it helps if you phrase it in the form of an answer. And maybe Web pages will pop up." One may get better results by typing, "The average rainfall in the Amazon basin is."

Few tips for searching on Google (known as Google Hacks)

Remember few things:

- Google is NOT case sensitive
- Google has a hard limit of 10 keywords.
- Google ignore stop words
 - a, about, an, **and**, are, as, at, be,
 - by, from, how, i, it, is, it, of, on,
 - or**, that, them ,this, to we, what,
 - when, where, which, with
- But you can force the stop word by placing a + in front of it.
 - Pirates +of +the Caribbean
- The order of you keywords matters
- Google does support whole-word wildcards (*)

Query Modifiers:

- site:domain** - find search term only on site specified by 'domain'. Ex: mundhra site:iitk.ac.in
- inurl:terms** - find sites containing 'terms' in the URL of the page Ex: inurl:microsoft "virtual PC"
- allinurl:** microsoft windows
- filetype:extension** - search documents of type 'extension' Ex: inurl:o'reilly filetype:chm
- intitle:terms** - search within the title of the document Ex: intitle:"School of Rock"

Few of my favorite ways of using these modifiers are:
Suppose I have to search for an ISO image of a CD, I'll search as follows

```
inurl:Adobe filetype:iso ,or  
inurl:microsoft filetype:iso
```

The one which I like the most is this combination which gives in the result the directory listing of peoples web folders which have the required permission.

```
?intitle:index.of? mp3 Michael Jackson
```

As we know that the directory listing is of the form

```
"Index of /some folder"
```

The most common names of these folders are mp3,

Alternate Query Types

link:links - link: search within 'links'

Link: www.apple.com

cache:url - display Google's cached version of a 'url' page

cache:www.iitk.ac.in

References:

1. www.ABCNEWS.com
2. www.cbsnews.com
3. Google 201: Advanced Googology

...Internship - Je l'aime ! (Contd from page 13)

The second law of Internship:

The cover letter and the resume should be concise. Unless your cover letter is crap (which, in general, won't be) the 'mail recipient' would look at your resume except when it conflicts with the First law.

The third law of Internship:

The choice of whether I should work during the internship or enjoy/visit places is *not* there. You just have to enjoy. End of story (told and retold by all interns of all previous batches! Proved by induction).

On a more somber note, the cover letter should encompass, in short, your field of interest, dates of availability, research work done and any exemplary achievement. Keep it precise and to the point. Better dump all the gory details in your resume. Ethically you should mail only at places/research groups in which you are interested and not tweak your interest according to that of the mail recipient. In general, there are more chances of been accepted if you have done prior work (projects) in the field that you are applying. The only reason why you should spam, and get spammed by rejection letters, is to test the claims of our cc authorities of better spam handling and faster mail servers! One potential benefit of searching for Internship openings, rather browsing through university pages/professor profiles, is increased awareness about the research undertaken in other institutes. This and the internship field in which you would work can be used as pointers for the BTP topic.

(These are some of the reasons that should be used to convince people who plan to deprive the students from the pleasures of applying for internship). For the aspirants of post graduate studies, this is a golden opportunity to get a paper published. Also, if you are working in an industrial research lab a patent might just be in the offing.

Traditionally, targeting countries like Germany and France is more fruitful than the brits or the yankees. Moreover you can easily obtain the Schengen visa and travel around a lot of EU states. Incidentally if some of the far sighted intellectuals have taken up the foreign language course as preparation for internship, beware of the Murphy's Law. It does play pranks. In case you scooped up some French then you might be spending the summer in U.K and if you learnt a wee bit of german, most probably you will end up in Switzerland or France.

In a university internship the only problem that you would face is – cooking. Everybody has access to a state-of-art kitchen but developing culinary skills is 'the' most difficult part. So if you know cooking that's good otherwise learn it. A smarter way out of this is to quickly make friends and invite them for pizza, for the next five days you will be flooded with dinner invitations (courtesy can, sometimes, be used to our advantage!) The best part is, if you chance to have some 'cool' flat mates. But then that's another story.....or should I say another, more beautiful, perspective to internship...??
----end (phew)



.NET CLUB: DO YOU C SHARPLY ENOUGH?

ACA
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Microsoft .NET has been around in the industry for about 3 years now. In this time period it had a tremendous impact on the developers, the types of applications they build and the way they built it. Microsoft had promoted .NET as being the "next generation development platform" and certainly .NET brings together a bunch of innovations and technologies to make applications more integrated - both during and post-development.

IIT Kanpur and specially the CS students had been waiting for quite some time to get a closer look on the possibilities they have using the .NET development framework. The .NET promotional talk from a Microsoft evangelist was specifically for this purpose. The huge turn up from the students' community debarring the bad weather was a clear indication of the students' inclination in learning this new technology.

The talk was also marked by the start of the .NET club @ IITK which was started with the aim of helping the students in building new applications using .NET.

A two hour lecture seemed quite short considering how vast the .NET programming environment is. But the basics of .NET and the building blocks of the .NET framework like the CLR (Common Language Runtime) etc. came out very elegantly.

Microsoft, in the past, has been instrumental in promoting development of applications that "seamlessly integrate" with each other. XML web services are the most significant step taken by it in this direction. The push towards promoting interoperability and integrated systems was evident in the talk too with the demonstration of how to consume a web-service provided on a LINUX platform through a JAVA application by various Microsoft products and applications - including ASP.NET web applications, Microsoft Office Suite, Windows applications and even by embedded systems running Windows CE.NET.

A remarkable issue that Microsoft seems to have handled extremely well is the existence of a complete IDE that has all the features needed to develop any type of application using .NET - be it a web based solution, XML Web service, Smart device application, Console based application or a Windows application. A uniform interface for all types of application development is a feature that is even lacking the present day enterprise level development suites.

After showcasing all the exciting possibilities students have on switching to .NET a motivation for learning and applying one's ideas through a couple of international level programming contests was simply superb.

We will soon be beginning the club activities. For more information log on to <http://www.cse.iitk.ac.in/users/aca/dotnet/index.html>

For mail subscription go to <http://www.cse.iitk.ac.in/users/aca/dotnet/dotnetsubscribe.html>

STRONG AI AND THE CHINESE ROOM ARGUMENT

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Artificial Intelligence (AI) is usually defined as the science of making machines do things that require intelligence when done by humans. This definition, like most others, uses the word *intelligence* in its definition, leaving that term completely unexamined. Mainstream thinking in psychology regards human intelligence not as a single ability or cognitive process but rather as an array of separate components. Research in AI has focused chiefly on the following components of intelligence: learning, reasoning, problem-solving, perception, and language-understanding.

AI has had some success in limited, or simplified, domains. The five decades since the inception of AI have brought only very slow progress. Early optimism concerning the attainment of human-level intelligence has given way to an appreciation of the profound difficulty of the problem.

Philosophers have been around for much longer than computers and have been trying to resolve some questions that relate to AI. Two of their questions which have received considerable attention are:

- 1) Can machines act intelligently?
- 2) Can machines really think?

The first question characterizes what is called the "Weak AI" hypothesis, as named by the philosophers. This notion of AI puts forth the idea of machines that act *as if* they are intelligent. The thing that needs to be made clear here is that the underlying mechanism to produce this attribute of *intelligence* might be different from the way the human mind works. Weak AI simply says that electronic digital computers are powerful instruments helping us to model and thereby understand the mind. The second question relates to the notion called the "Strong AI". Strong AI asserts that the machines which exhibit intelligent behavior are *actually* thinking rather than *simulating* thinking. The computer age's first serious attempt to give a criterion for mentality and an important goal for AI forms the core of Alan Turing's best-known paper 'Computing Machinery and Intelligence'. It is surely the most famous, most widely read and reprinted, and the most influential article ever to have been published in a philosophy journal. The criterion that Turing argued for, involved the simulation of behavior (specially, linguistic behavior). He called it the 'imitation game', today well known as the *Turing Test*.

Turing famously rejected the questions like 'Can machines think?', deeming them 'too meaningless to deserve a discussion'. He proposed to recast it as a question about a game. In this game a computer programmer has to render it impossible for a human 'interrogator' to tell from typewritten output alone, whether that output is generated by a human or a machine. Turing and his defenders then insist that if a machine cannot be distinguished from a human being under these conditions we must credit it with intelligence.

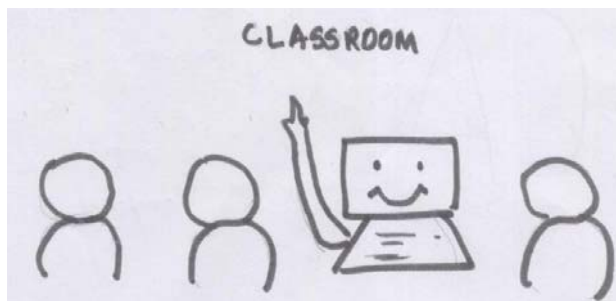
Many philosophers have claimed that a machine that passes the Turing Test would still not be *actually* thinking, but would only be a *simulation* of thinking. One of the most famous arguments in this respect was put forward by an American philosopher John Searle (1980). The thought experiment that he devised is well known as 'The Chinese Room'. It works as follows: we have a large box with a slot in it. If you push a question, written in Chinese, through the slot, after a few minutes an answer, also written in Chinese, will get pushed out through the slot. A Chinese-speaking person may converse with the box for several minutes, and come to believe that the box, or something in the box, understands Chinese. But then we open the box, and inside we find a graduate student and a large collection of books. The student here plays the role of a CPU and the collection of books can be considered as memory. The student, who only speaks English, looks up the incoming characters in the books, then follows various rules (also printed in the books) to assemble an answer, which he then pushes out through the slot. Note that he doesn't translate the characters into English; he follows the rules blindly. But since he doesn't understand what he's written, there really is no understanding of Chinese going on inside the box.

Searle's claim rests upon the following four axioms (Searle 1990):

- 1) Computer programs are formal, syntactic entities.
- 2) Minds have mental contents, or semantics.
- 3) Syntax by itself is not sufficient for semantics
- 4) Brains cause minds

Therefore, says Searle, the fact that an entity acts like it understands is no proof that it *really* understands. From the first three axioms he concludes that programs are not sufficient for minds. In other words, a system running a program might be a mind, but it is not necessarily a mind just by virtue of running a program. According to Searle, the point of the Chinese room argument is to provide intuitions for axiom (3). But the reaction to his argument has shown that it provides intuition to those who were already inclined to accept the idea that mere programs cannot generate true understanding. Few accept Searle's objection, but there is little agreement as to exactly what is wrong with it. Many arguments have been presented that show what might be wrong. Many say that the fallacy is in the deduction that if the individual parts of the system do not understand the Chinese, the whole system is incapable of doing so. In the problem presented above the only partial entity that would have the capability to understand Chinese would be the grad student, whom we considered as a "Chinese illiterate" to begin with. But if we ask the whole system, in Chinese, whether it understands the language or not, the answer would be a "Yes" (in Chinese).

Another characteristic of the arguments advanced by Searle is that they make 'intelligent' a mysterious word. For Searle, an entity that behaves intelligently



may always turn out to be faking it -- if we can just figure out how to look 'inside' it. The Chinese room argument requires that the intelligence test, that is devised to find out whether a machine is truly *intelligent*, should be stricter than the one that humans could pass. One of the arguments put forward along these lines is as follows:

John. D Jones says: (An associate professor at Simon Fraser Univ. Canada.)

"Suppose, for example, that a spaceship lands on earth tomorrow and an alien emerges. How are we to tell if the alien is really intelligent? We could try giving him tests or drawing conclusions from the fact that he's the one who's built a spaceship and reached our planet, not vice-versa; but Searle's Chinese Room argument has already ruled these out. So, can we look inside?"

Assuming the alien will humor us for a while; we strap him on an operating table and prepare our X-rays, CAT scans and electron microscopes. But having got him on the table, it strikes us: we haven't the faintest idea what we're looking for. If we look at the alien's brain, we can expect to see matter in motion. But we already know that matter in motion obeys the laws of physics, and the laws of physics are of only two kinds: there are deterministic laws, governing the behavior of macroscopic matter, and there are probabilistic laws, governing the decay of quantum wave-functions under measurement. Science knows of no other way for matter to behave. So it seems that we're putting the alien through a test that none of us could pass: for Dr Bird to call him intelligent, his brain has to behave in a way that contradicts the known laws of physics. But we've never seen any other system behave in such a way, so why are we looking for it now? "

Searle's arguments are directed at the Strong AI, which according to him is 'a precise, well-defined thesis: mental processes are computational processes over formally defined elements'. The Chinese Room does not prove anything in particular about Strong AI . However, it is clear that Searle has, indeed, refuted Strong AI. There are many people who accept Searle's refutation and his position has its supporters in the philosophical community. It might even turn out that Searle is right about Strong AI. Just because a refutation is not a proof does not mean that its conclusion is wrong.

Further Reading :

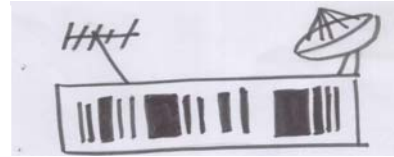
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- 3) <http://www.alanturing.net>
- 4) Artificial Intelligence: A Modern Approach. Stuart Russel, Peter Norwig

RFID'S - A PROMISING NEW TECHNOLOGY

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1. Introduction

The use of optical barcodes in tagging items has been the primary mechanism for automated tracking of articles, goods, freight etc., through a chain of business operations.



Optical barcode technology has several limitations. First, they require line-of-sight and good illumination for reading. An implication of this requirement is that they usually require manual intervention to facilitate reading, thereby, significantly slowing the process of automation. Secondly, the barcodes themselves being a physical entity (as opposed to an electronic medium), the information density (bits/cm) offered by these devices is very small.

Radio Frequency IDs (RFID's), is an emerging technology that promises to overcome these limitations in a significant manner, as well as offering to enable newer applications that barcodes cannot support. An RFID system consists of a collection of readers and, potentially, millions of items that are tagged by RF-tags, each of which is a small integrated circuit with an antenna onboard. When a tag is within the range of a reader, the tag is read, and thereafter, it is processed using conventional information technology, such as, networks and database systems. Since, RFID technology requires neither line of sight, nor human intervention, and allows storage in the order of bytes to kilobytes, this technology promises the automation of tracking high item volumes, while requiring a much lower degree of human intervention. In this article, we will look at what RFID's are, why they are so important and what could be the implications of adopting them on a large scale.

2. Working of an RFID system

The RFID system includes a host system and RFID equipment (interrogator and tags). The host system runs an application program, which controls interfaces with the RFID. The RFID equipment is composed of two principal components: tags and interrogators (also called Readers). The tag is intended for attachment to an item, which a user wishes to manage. It is capable of storing a tag ID number and other data regarding the tag or item and of communicating this information to the interrogator. The interrogator is a device, which communicates with tags in its field of view. Additionally, the interrogator can use its transmitted RF carrier to power the tag. When a tag enters a read zone, its data is captured by the reader (stores the data into tag in the case of writable tags), and then transferred through standard interfaces to a host computer, or transmitted over a data network to database servers. Writable tags [8] include a small amount of writable memory (EEPROM/SRAM) in addition to the ROM present in read-only tags, typically of the order of a few KB. A cross between the two systems is the concept of a "virtual" RFID tag [6], which uses a physically passive tag but uses this information to look up a "virtual" active tag in a database that it can read from and write to. The advantage of using a virtual tag is lower cost, since no writable memory is required for the tag.

2.1. Types of RFID Tags

Classification 1:

1. Resonant analog tags (chipless)
2. Tags with chip and antenna.

Fabricating the tag's chip and bonding it to a potentially complicated antenna structure is more expensive than simpler technologies, such as resonant analog tags. Resonant analog tags are inexpensive and easily fabricated by either choosing an inductor and capacitor or trimming a magnetostrictor strip to the appropriate length. This type of tag consists of magnetically coupled resonance. As the ID of each tag is determined by the center frequency of the resonance, the number of unique ID's is limited by the swept frequency range and the width of the resonance. Although this is far less than that possible with chip tags, these analog tags can be read much faster and all tags can be read simultaneously without additional delay or complication. [7]

Classification 2:

1. Read & Write
2. Read-only

The difference between read/write tags and read-only tags is the capability for information to be rewritten to the tag. Rewriting is costly and hence read-only tags are far more economical than read/write tags.

Classification 3: 1. Active tags 2. Passive tags

An active tag has a small battery attached, which allows the tag to transmit to the reader. To reduce complexity and therefore costs, the battery can be removed to form a passive tag. These tags are powered by the radio waves from the reader as it tries to read it. Consequently, passive tags have longer lifetimes while the lifetime of an active tag is related to the lifetime of the power source.

While reading large amounts of tags, the possibility of collisions is very high. However with the existing anti-collision protocols, a reader can read up to 200 tags per second. The simplest protocol is, whenever a collision occurs, the reader asks those tags to transmit, whose first bit is one. If collision occurs again, then it considers 2 bits and so on until it avoids collision. Some more details of RFID's are given in the following table [15].

| | Active RFID | Passive RFID |
|-----------------------------|---|--|
| Communication Range | Long Range (100m or more) | Short Range (3m or less) |
| Multi-tag Collection | Collects 1000 of tags over 7 acre region from a single reader. Collects 20 tags moving at more than 100 mph. | Collects 100 of tags within 3 meters range from a single reader. Collects 20 tags moving at 3mph or less. |
| Data Storage | Large Read/write data storage (128KB) With sophisticated data search and access capabilities available. | Small Read/write Data Storage (128 B) |
| Cost Range | \$20 to \$200 | 40 cents to \$15 |

2.2. Standards Progress:

Most companies and organizations agree on the need to establish common, globally accepted standards, and manufacturers are busy working together in standards groups to try to reach consensus. Standards efforts are forging ahead both in the U.S., at the American National Standards Institute (ANSI), and globally, at the worldwide International Organization for Standardization (ISO) [3].

ANSI's NCITS-T6 256-1999 Radio Frequency Identification Technology standard is an enabling force focusing on RFID-based item management. Finalized in 1999, ANSI 256 is the first standard defining a single application-programming interface (API) between RFID tag and software. This common API approach promotes interoperability, drives market expansion, and encourages manufacturer competition.

3. Advantages over Barcode Technology

- Requires less human intervention and increases degree of automation.
- Puts a wealth of data at your fingertips
- No line-of-sight access is necessary
- Tags can be reprogrammed on the fly
- Data modification is allowed
- Access security (using data encryption / decryption)[2]

Disadvantages over Barcode Technology:

- Reading distance is limited for a reader
- Tags closed by a metal shield may be invisible to the reader
- Frequency range is limited
- Collision in reading the data (when certain limits are exceeded)
- The prohibitive cost, particularly for active tags

4. Potential applications of RFID's:

- **Tracking Railway Wagons:** Each wagon will contain one RFID tag; the readers will be kept along the track in a way such that they can read the tags. The RFID readers will send the data to a monitoring system, which may support queries on wagon location, expected time of arrival etc.
- **Supply-Chain Management:** For better management of supplier retailer transactions, each item can be tagged with an RFID. As a result, each item in the supply chain can be tracked completely from source (manufacturing plant) to final destination (the customer). As an example, Wal-Mart, the world's largest

retailer, is advising their top 100 suppliers to have RFID systems in place for tracking pallets of goods through the supply chain by January of 2005.[4]

- **Express Parcel Tracking:** While packing, each parcel will be tagged with an RFID. The readers will read the tags while keeping in the van and taking from the van. A parcel can then be tracked continuously throughout its journey, allowing a customer to see exactly where it is at any given time.
- **Document Tracking:** Sometimes it is very important to track the location of important documents such as insurance papers, FIR statements etc. By tagging RFID's onto the documents themselves, this is made possible. Large repositories of documents like in a legal firm can be managed better through RFID tagging.[4]
- **Library Resource Handling:** Books and other material could be tagged with RFID's while RFID readers could be kept around the bookshelves. Whenever a book is taken/kept from/in the shelf, the reader will detect it and send it to a tracking unit, which can even help locate misplaced books.
- **Airline Baggage Tracking:** While entering the airport, each person and his luggage will be tagged with RFID's so that when ever a suspicious condition occurs investigation of things will become more easier (for instance, locating a suspicious person's baggage).
- **Automated Toll Collection:** RFID's can be attached to cars and readers positioned at tollbooths such that when a car passes a tollbooth, the reader captures the tag information and using this information, automatically bills a car owner for the appropriate toll amount. Such systems are already in place in the United States, including the E-Z Pass [9] system in New York State, FastTrack in California and SmartTAG in Virginia.
- **Assembly Line Optimization:** An RFID tag is attached to each machine part as it moves through the assembly line(for example, an automobile engine). The tag stores information about the processes the engine has been through as it moves along the assembly line. This ensures that the correct parts are installed on each engine. Currently Ford Motor Co. uses RFID tags to enhance its automobile manufacturing processes.
- **Asset Tracking:** Tracking of valuable items in offices, labs, warehouses, pallets and brand authentication.[4]

THE FORCE

Anshul Gandhi
ganshul@

I was floatin around
in the forest of dreams,
in the citadel of joy
and the ocean of gleams;

it was so beautiful
it was so ideal,
i knew it was just a dream
it wasn't real;

Lo and behold!
i could feel a force,
"come with me..
follow my course

do as i tell you,
and you will see
everything will look
the way you wanted it to be"

i did as i was told,
cause i knew it was for me,
at the end,i was so happy
so confident,so glee;

i could have all i wanted
and this was reality,
i achieved it all,
except immortality;

though it's not a forest of dreams,
it is still a garden of success;
though its not a citadel of joy,
it is still a mansion of happiness;

and though its not the ocean of gleams,
it is still an oasis of lights;
now,i am almost done with my life,
i have won all my fights,

but in the end
i have to say,
the force that did this all
was IITK.

5. The RFID Scenario in India:

Many of the Indian software majors, including Infosys Technologies, TCS, Patni Computer Systems and Satyam Computer Services have entered the RFID-enabling software market. Particular emphasis has been laid on solutions for supply-chain management, logistics, asset tracking and product authentication. Patni Computer Systems has completed a pilot project [10] allowing a Wal-Mart supplier to integrate RFID compliance with its existing business infrastructure, in addition to developing a general-purpose RFID solution framework called SmartVision[11]. Satyam Computer Services has partnered with OATSystems, whose product OAT is the world's leading RFID-based software platform, to deliver its RFID solutions [12]. Infosys Technologies [13] and TCS

[14] both provide end-to-end RFID solutions from analysis of the existing business process to the final product roll-out. In addition, companies like Patni Computers and Infosys have joined EPCGlobal Inc., a worldwide consortium of companies interested in evolving a common standard for RFID adoption.

6. Conclusions

RFID promises to enable a sea-change in the landscape of automated tracking of items, goods, freight, inventory etc. through a business operations chain. In this article, we have briefly reviewed this technology, its advantages and disadvantages, presented applications where this technology can be advantageously deployed, and surveyed its current status visavis the Indian software industry.

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7. *Resonant and Chipless Tags* http://www.media.mit.edu/resenv/pubs/papers/99_05_CHI99_Tags.pdf
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http://www.maritimesecurityexpo.com/whitepapersarticles/C_RFIDnet.pdf
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12. *Satyam's RFID Initiative*
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13. *Infosys' RFID Solution*
http://www.infy.com/retail_distribution/radio_frqncy_identification.asp
14. *TCS' RFID Solution*
http://www.tcs.com/rfid/downloads/rfid_value_proposition_final.pdf
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REDISCOVERING SOLITAIRE

What goes into winning this game??

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The first thing that comes to the mind when one thinks about solitaire is "that silly windows game where you have to form sequences of cards based on their suits". Well, that's the basic idea of the game, but there's lots more to this than just Start Menu->All Programs->Games->Solitaire (Assuming Windows XP). I am going to stick to the simplest possible version of this game and assume that there is no scoring system and also that this relates to the default settings on the Solitaire (Windows) game. There are also facts that I have compiled from a few references. Also, not all things are perfectly true because there are a few conclusions that have been derived by observing the general nature of the game.

What is this game all about?

This is basically a single player game where one tries to arrange all the 52 cards($13*4$) into 4 groups(one for each of the suits---hearts, diamonds, clubs and spades) of 13 cards each, such that each group comprises of a single suit and the cards within each group are arranged in an ascending order(ace, two,.....,king). One starts off with 7 open cards such that the n^{th} open card has (n-1) closed (hidden from the player) cards under it. This accounts for 28 cards. The remaining are kept in a group of 24(8 collections of 3 cards each) hidden cards, from which you can draw cards (all 3 cards of a collection are visible, but only the top card is allowed for drawing) when you require.

Moving an open card over another is possible only if the cards involved are of oppositely colored (Hearts and Diamonds-RED; Spades and Clubs-BLACK) suits and if the cards differ by exactly one rank. In that case, you can move the lower ranked card onto the higher one. You can also similarly move a group of cards onto a card if all lower cards below the card in the group that heads it, are arranged in the order as mentioned above.

Conventions used

I would like to have a few notations defined here for ease of explanation.

- **Column:** - one of those 7 open cards' pile and it might be empty, have "open cards" or also "hidden cards" (those placed faced-down below the open ones).
- **stack:-** the group of 24 cards will be referred to as "stack"
- **triplet:-** any collection of three cards in the stack
- **Foundation:** - any of the four (one for each suit) final piles to which all cards of that suit are to be moved in ascending order.

The strategy

There might be many possible strategies of going about this game. We shall look for all possible things we can do in a given move (priority-wise) and just repeat the steps till we win or till there are no more possible legal moves left.

1. Use the stack. That is, uncover the first triplet from the stack so that you have another "open card" to make your future moves.
2. The next thing is to move any open ace from the columns to its respective Foundation. If there are no open aces in the columns, try the open card at the stack. This is done so that we can have another card (the one below the ace) to play the game with or, if we are lucky, an open column to utilize later on.
3. Try and look for vacant columns. We could keep track of this by having a boolean which indicates whether or not a column is empty or have an integer variable to indicate how many vacant columns are there. This helps to decide further moves by expanding the scope of moves. Whenever one has a choice where two cards of same rank and/or suit are open, play the one that will make it easier to uncover any hidden cards that are there at the bottom of the columns.
4. Next, try moving columns onto other columns. This should be done only if it frees the hidden cards (if present) under that column. If you can't directly uncover the hidden card by moving the column but even if you can adequately reduce the distance to that card, then do it. One can use an "if" condition to check whether the moving of a card on another is compatible with the rules or not. That is, whether they are of oppositely colored suits and if so, whether they are of consecutive ranks. This should handle the algorithm for the step of moving a card over another. You can encapsulate all this algorithm into a method, say "check move(destination card)". If there are columns with no hidden cards under it, move it only if there is a king waiting to occupy its position(you can check with the boolean variable that holds the result for the waiting of a king, as declared before). This step is performed to free up the hidden cards behind the columns.
5. Next, one can start looking at the open card at the stack. If you can move that card onto any other open card in your columns and if it does allow for future moves which will uncover hidden cards, only then must you proceed. If the open card at the stack doesn't satisfy these conditions, try another triplet from the stack.

Devising an algorithm that will look into whether a move allows for further moves would be a very tedious and involving task, so let's leave that for now. To check whether the open stack card can be moved onto any other card, one can simply use the "check move" method defined above, by calling it on the open stack card.

6. The only other major move left is moving an open card (either column or deck; priority given to column and that too one that will help uncover hidden cards more quickly) to its foundation deck if possible. To check for

compatibility, one can simply use an “if” condition that checks whether the foundation deck corresponding to the suit of the card in question has the card just below the rank of the card we want to move.

There is a lot of caution to be exercised here. This is a very sensitive move. You see, once you move a card into the foundation deck, it can't be recovered. So it is kind of lost to the player. What happens because of this is that the cards that could have been moved onto it will now have to look for some other destination card. Also, if both cards of same rank and color are lost to the foundation decks and lower ranked card of opposite color is still in the game, it can not be moved onto any other card. So, it restricts a number of moves, perhaps even vital game winning moves. What one must do is to check whether the cards (of opposite color and one less rank) that can be moved onto the card in question are already in their respective foundations or not. If they are, one can easily move the card in question into its foundation deck if possible. That is the reason why aces can be discarded to their respective foundations without taking any caution because there are no cards that can be moved onto aces!!

For this step, the following algorithm can be utilized (assuming card1 is the “open” card to be moved and suit1, color1 and rank1 are its respective dates).

- check whether the foundation deck of suit1 is filled up to rank = (rank1 – 1) or not.
- If yes, then check whether the foundation decks of suits with color other than Color1 are filled up to rank \geq (rank1 – 1) or not.
 - If yes, then move card1 onto its foundation deck.
 - If no, check if the foundation deck of color == color1 but suit != suit1 (that is, the other suit of same color as color1) has cards up to rank \geq rank1 or not.
 - if no, then move card1 to its destination deck.
- end.

The last part of this algorithm is something that one can debate upon. What it actually does is it checks if there exists, on the game, another card which can take its place when it comes to moving a card on itself. That is, it checks if there exists on the game, that card which has the same rank and color as this but is of some other suit. If it does exist, then we can use that card when it comes to moving a lower card onto it. This might complicate matters but if there are no other moves left, this is an open option.

7. If none of the above steps can be executed, well then, my friend, we will have to deal again. It is not necessary that every game of solitaire can be won. If you look on the web, the most general answer you get is “one of every 4-5 solitaire games can be won!!”. So, there exist such deals in solitaire which can't be won too!!.

(for a full program on the above procedure, please check out <http://www.fastgraph.com/player.html>)

Tricks

Now, this completes the major strategy of this game. There are other complex strategies that exist, but I will mention only a few over here.

→ Whenever faced with a possibility of steps, use that which will uncover any or most of the hidden cards. This can be done by comparing the number of hidden cards below the columns that are in question.

→ Always try out all the cards in the deck before making a move, since they might contain cards that will help you make a move of greater priority than the one you were going for in the first place. This can be done by comparing the priority numbers (one can use an integer variable for this) for the possible move for all open deck cards and then play the one that has the highest priority.

For more strategies try the following links-

http://www.chessandpoker.com/solitaire_strategy.html

<http://www.semicolon.com/Solitaire/Articles/Klondike.html>

Well, this is just a drop in the ocean of the possible strategies one can employ to handle this popular card game. Working through this article I discovered the complexities in such a simple and “harmless” looking game as Solitaire. I don't know what complexities other games might possess. It's a tough game to build a game. Believe it!!

THE FINAL SOLUTION

Anonymous



One death is a tragedy, one million is a statistic. -*Stalin*

As a part of the VIKALPA, "The Final Solution", a movie based on post Godhra Gujarat incidents, is being screened by the SFS. On February 27, 2002 at Godhra junction, a pre-planned Muslim mob attacked the Sabarmati Express carrying *kar-sevaks* returning from Ayodhya and burnt 65 people alive including women and children. As the news spread, tension mounted in Gujarat resulting in communal riots, which saw a huge loss of life and property. This movie is based on those communal riots and is a good effort by the "secular" director in exposing the Hindu communal forces.

But one thing which eludes me is the name of the movie: THE FINAL SOLUTION. For those who are not familiar with what the final solution was, it is the term used by the world to denote Adolf Hitler's *solution* to the "Jewish problem" i.e. complete elimination. It refers to the genocide of Jews leading to a drastic drop in Jewish population in Europe. As a follow up of this "solution", as many as 6 million Jews were killed, either shot or tortured to death in the hundreds of concentration camps spread all over Europe. Almost all European Jews were made to leave their homes and property at the hands of Nazis and work as laborers in the Nazi war factories. That was his final solution. But do the post Godhra incidents qualify to be called the "Final Solution"? Was the order of magnitude worth comparing to the Final Solution? Was the entire Muslim population wiped out? Were post-Godhra incidents unparalleled and unprecedented in history in terms of losses to life and property as was the mass murder of 6 million Jews? Or coming to the motive, was the aim of Gujarat riots the extermination of a particular segment of population (read Muslim here) as was Hitler's aim (Jew here)?

I am in no way trying to justify the riots. Riots of any kind are unfortunate and should be refrained from for a peaceful and prosperous society. For me a killer is a killer, no matter what his race or religion be. But what hurts me most is that the "secular enlightened" scholars of our nation discriminate between the killers. To them, a green cloth wearer is secular but a bhagwadhari is communal. They will remember Gujarat but they won't say anything about Godhra. To highlight the secular and tolerant face of their favored community, they would cite that the Imam of some mosque issued an appeal to all communities to maintain peace and harmony when the Gujarat riots were in full swing. But what they shirk away from answering is that what the Imam was doing just after the Godhra killings.

Was he sleeping before the riots broke out or didn't he care enough to condemn the Godhra killers, forget about issuing an apology on the behalf of a "small" misguided section of his community? Another example worth mentioning is a small incident inside IITK. It is small but aptly reflects the attitude of the "secular" community here. Last year after the India-Pakistan match a thread was started on the newsgroup by a muslim fanatic making a mockery of the hindu gods. To it came a reply which raised questions on the fundamentalist education imparted in the madarasas and the activities of SIMI. After this reply all the secular minded people woke up and criticized both parties and urged them to refrain from such mails and spreading communal hatred. But can they answer why they didn't condemn the initial posting in the first place. Or did they find the first posting to be secular enough?

The tales of the big "secular" leaders are even more painful. Congress supremo Sonia Gandhi and communist leader Somnath Chatterjee cry their throats out demanding justice to the victims of Gujarat riots but they won't pay heed to the cries of those who suffered at the hands of the Godhra killers. One can find many secular branded articles on the internet which make such shocking statements as calling the victims of Godhras the Hindu Militants! So for such secularists those two kids whose charred bodies were found alongside their mother's were also Hindu Militants! The findings of the Godhra enquiry commission set by the Ministry for Railways are even more shocking. It says that there was no mob, and the windows were 7 ft high from the ground so that no kerosene could go inside and finally the fire was attributed to an exploding gas cylinder.

The whole nation, including the secularists, praised the commando operation in the Akshardham temple in Gujarat which freed the temple from the control of Islamic terrorists. But when some terrorists in some part of Kashmir in order to save their lives from the bullets of the armed forces, it is these very secularists who are foremost in shouting against the infiltration of armed forces in the mosque. It is these secularists who revoked the POTA act in the name of minority rights. These secularists would not protest when the Mufti Mohammed Syed government decides to release many terrorists held in Kashmir jails calling them political prisoners. But they would come to roads when the Mumbai police arrest a Muslim girl for her connections with the terrorists involved in the recent Mumbai blasts. Hide in some mosque.

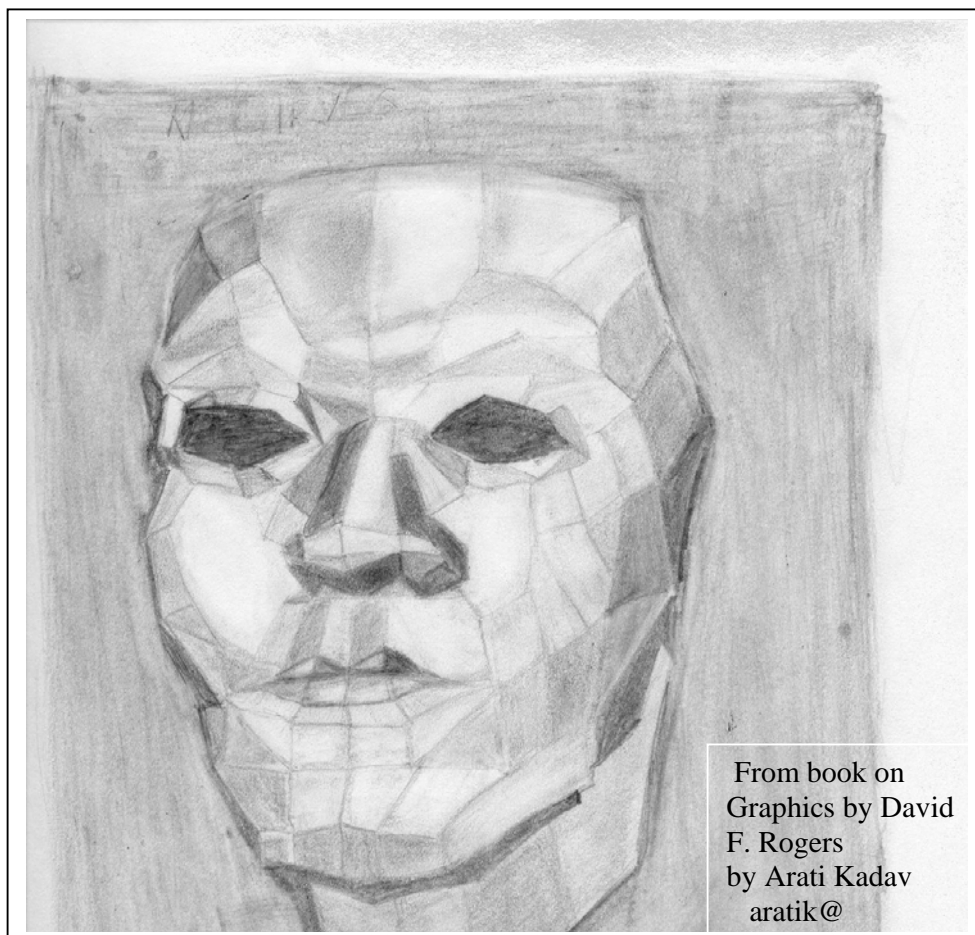
In the discussion following another movie screened in VIKALPA, “The Men in the Tree”, a student asked why VIKALPA didn’t make a movie on the Islamic fundamentalist education being imparted in thousands of madarasas operating in many parts of the country. And the reply by respected Kavita Joshi, a director and spokesperson of VIKALPA herself – there is no proof that any madarasa imparts fundamentalist training to young Muslims! How long are we going to act the ostrich pretending the problem does not exist? Why is the educated section of the society turning a deaf ear to many such issues? The reason is not far to seek. The communist brigade has created an environment where calling oneself a Hindu is seen as a derogatory comment. The moment you call yourself a Hindu, you are labeled as a communalist and fascist.



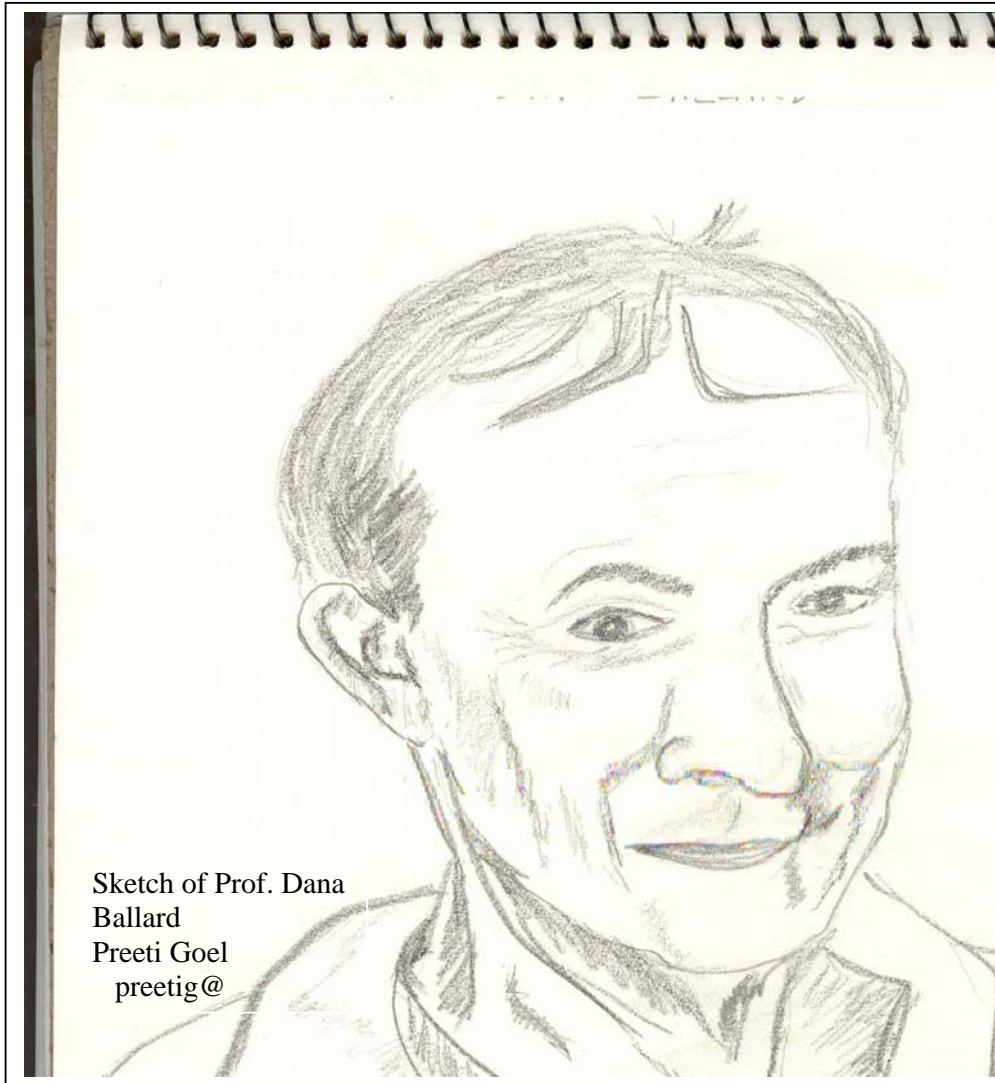
In this environment, young educated people prefer to distance themselves from their religion. What they forget is that Hindu is an identity – a social identity, just as Indian is the national identity. What your beliefs are today has got a lot to do with your upbringing, which in turn is directly related to your culture, your traditions or in other words your religion. We talk a lot about saffronisation of education, but why don't we pay attention to the communist infiltration in our history books which has been going on since the Nehru era? The need of the day for our generation is to recognize our lost social identity, to rebuild our society, to make a powerful nation. We need to throw off this robe of pseudo-secularism which distances us from our identity. At any stage, one must be proud to say, “I am a Hindu” just as he says, “I am an Indian”. We must revive our lost identity.

India has witnessed numerous riots ever since partition which has taken a heavy toll not only in terms of life and property but also disrupted the communal harmony which for long has held the nation together. Thousands have lost their lives in the communal fanaticism. If Gujarat was a case where more Muslims were killed, one can recall many riots where more Hindus fell prey. Here I would reiterate that a killer is a killer. But PLEASE DO NOT DISCRIMINATE BETWEEN THE KILLERS. When people make such movies PLEASE don't forget what happened in Godhra. I would like to appeal to the director of this movie to make a movie on partition or any of the countless other riots, but please don't call it "*the final solution*" just because you want to cash in on public sentiments.

■ a concerned writer



From book on Graphics by David F. Rogers by Arati Kadav aratik@



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