INFORMATION TECHNOLOGY

January, 2012

NOSTALGIA

EXPERIENCE & EXPOSURE

IN NEAR FUTURE *NOSTALGIA* WILL BECOME A MUST READ

It gives me immense pleasure to know that "Nostalgia", the monthly News-Letter from the Department of Information Technology goes on print from this month. I congratulate the *Nostalgia* Team for their effort in bringing up this News-Letter.

Nostalgia is also considering the Alumni of the above mentioned Department. This News-Letter keeps the reader updated about the current events of the Department, lists the achievements of the present studying students and Alumni of the college, etc.

Nostalgia offers the students and faculty a platform to share their ideas and thoughts about trends and issues in relevance with Information Technology.

I expect that *Nostalgia* would not only be just a success in the print form but in near future it also becomes a must read magazine for many students.

- *Mr. David Raju N.*

STUDENT ACHIEVEMENTS

O Three students from IT department Mr. B. Aditya, 2/4 IT, Mr. Ali Intakhab, 3/4 IT & Ms. Sneha K., 3/4 IT through our college team (30) participated in "The Hindu E-Plus Inter-Collegiate Competitions" held in Vizianagaram, Visakhapatnam on 29th January, 2012 and won 2nd best overall championship trophy and cash award.

O Three students from IT department Mr. B. Aditya, 2/4 IT, Mr. Ali Intakhab, 3/4 IT & Ms. Sneha K., 3/4 IT through our college team (30) participated in "The Hindu E-Plus Inter-Collegiate Competitions" and were declared the overall winners conducted on 21st January, 2012 and won trophy & cash award.

O Ms. Nidhi Sanghi, 3/4 IT student has been selected in Xperience Cognizant to become 2012's Cognizant Campus Ambassador.

It's not a faith in Technology. It's faith in people.

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ALUMNI COLUMN

Name: Ashwini Reddy
Batch: 2010
Currently working with *Infosys*

Name: Achyuth Bukkapatnam
Batch: 2010
Currently studying at *North Caroline state University*

Name: Shravan Kumar Malla
Batch: 2011
Currently working with *Oracle India Pvt. Ltd.*

Name: Anupama Boppana
Batch: 2011
Currently working with *Cognizant Technology Solutions*

I didn't finish college, which is really weird because they awarded me the Alumni of Distinction recently.

- Joely Fisher

If giving points to some students to achieve greater diversity is a quota system in violation of the Constitution, how can the awarding of points to the children of less diverse alumni be upheld?

- Adam Schiff

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FACULTY COLUMN

FIELD PROGRAMMABLE GATE ARRAY (FPGA) – Part-1

By:- Mohd. Misbahuddin

This article will be continued as Part-2 in next Edition.

FPGAs are programmable digital logic chips. It means that you can program them to do almost any digital function.

Here's the general workflow when working with FPGAs:

- You use a computer to describe a "logic function" that you want. You might draw a schematic, or create a text file describing the function, doesn't matter.
- You compile the "logic function" on your computer, using software provided by the FPGA vendor. It creates a binary file that can be downloaded into the FPGA.
- You connect a cable from your computer to the FPGA, and download the binary file to the FPGA.
- That's it! Your FPGA behaves according to your "logic function".

Keep in mind that

- You can download FPGAs as many time as you want - no limit - with different functionalities every time if you want. If you make a mistake in your design, just fix your "logic function", re-compile and re-download it. No PCB, solder or component to change.

- The designs can run much faster than if you were to design a board with discrete components, since everything runs within the FPGA, on its silicon die.
- FPGAs lose their functionality when the power goes away (like RAM in a computer that loses its content). You have to re-download them when power goes back up to restore the functionality.

There are (at least) 5 companies making FPGAs in the world. The first two (Xilinx and Altera) hold the bulk of the market.

- Xilinx invented the FPGA and is the biggest name in the FPGA world.
- Altera is the second FPGA heavyweight, also a well-known name.
- Lattice, Actel and SiliconBlue are smaller players.

Xilinx

Xilinx has traditionally been the density and technology leader. Xilinx general philosophy is to provide all the features possible, at the cost of extra complexity.

- Biggest and most flexible (feature-full) devices.
- Complex architecture, powerful devices.

Altera

![Altera logo]

Altera philosophy is to provide the features that most people want while keeping their devices easy to use.

- Lean and efficient devices architecture.
- Powerful devices.

FPGAs Vs CPLDs

Are FPGAs and CPLDs the same thing? No both are programmable digital logic chips and are made by the same companies. But they have different characteristics.

- FPGAs are "fine-grain" devices - that means that they contain a lot (up to 100000) of tiny blocks of logic with flip-flops. CPLDs are "coarse-grain" devices - they contain relatively few (a
- Few 100's max) large blocks of logic with flip-flops.
- FPGAs are RAM based - they need to be "downloaded" (configured) at each power-up. CPLDs are EEPROM based - they are active at power-up (i.e. as long as they've been programmed at least once...).
- FPGAs have special routing resources to implement efficiently arithmetic functions (binary counters, adders, comparators...). CPLDs do not.

In general, FPGAs can contain large digital designs, while CPLDs can contain small designs only.

STUDENT COLUMN

GAME DEVELOPMENT

By Teja Madiraju

![Counter Strike game image]

We were all born in the 1990s.We are witnesses to the golden age which saw the idea of video games take baby steps and slowly develop into a giant multibillion entertainment industry today. From the evergreen Super Mario and Street Fighter to the present day's Call Of Duty: Modern Warfare 3, we have seen them all and derived immense pleasure playing those games. But have you ever wondered how it all works?

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The development of a video game involves a large number of people from various fields like production managers, graphic artists, story writers, design experts,code developers, software testers etc. The process of creating involves the following three basic steps:

Step 1: Game Design

It starts with an idea upon which the game would be based. The design team comes up with detailed information about the concept, environment, gameplay, story and backdrop, requirements and schedule, target audience among other things.

Step 2: Production

This is where programmers come into picture. The programmers work with various members of the design team and write the source code for the game according to the descriptions given by the designers. For example, a 3D programmer works alongside a 3D graphic modeling artist who explains the layout of the game setting. This is converted into code using various programming languages.

The programming language that has to be chosen to write the code is based on the target platform (Windows, Playstation, Wii etc.). Many games involve multiple programming languages which are worked upon using a common platform called IDE (Integrated Development Environment). The most common programming language used for game programming is C++ as it supports object-oriented concepts and compiles in binary. Java and C also are good languages for coding for games.
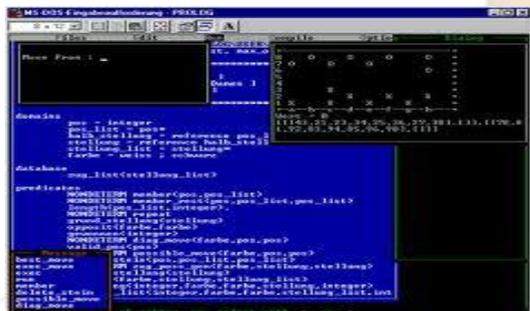
In order to perform tasks like sound processing, inputs, graphics rendering, pathfinding etc. various APIs and libraries are used. For graphics, APIs like Direct3D and OpenGL are used. Some developers create their own programming languages for large projects. QuakeC and UnrealScript are examples of such custom languages.

Step 3: Testing

Entertainment software testing is a highly technical field involving computing expertise. All commercial games are thoroughly tested by the Quality Assurance department of the company. The testers go through the entire game code from time to time and search for bugs. The details of the detected bugs are classified based on the complexity and sent to the coding teams. Sometimes the testing teams install alternate modifications in the game which are later on leaked into the user market (mostly via the internet). These leaks are called 'Cheat Codes'. After the game is developed completely, a series of trials are

performed on the game using 'Test Kits' which are similar to a consumer's gaming console, to check the interface, control ease, visual effects and other features. After this, the game is released into the market.

Game programming as a hobby:

Most universities in the west include OpenGL as a course for Computer Science students in order to acquaint them to graphics-related programming. Many programmers pursue game coding as a hobby because of the extensive scope it provides for developing programming skills. Python, Ada, C#, Lua are some of the programming languages used by beginners to develop games. Over the years, a large number of path-breaking game development concepts have been introduced by such self-made game programmers.

So, the next time somebody asks you how your video game works, you know the story!!

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MAKING OF ZOOZOOS

By Rahul V.

No, they aren't animated characters. They are human beings who were made to wear body suits. "The design of the characters is such that one gets fooled into thinking it is animation, which was indeed the very illusion that had to be created. In a sense, it is 'live' animation!"

Prakash Varma, ad filmmaker, Nirvana Films, has directed the commercials, reveals that the Zoozoos were a big challenge to create. The practical aspects of how they will move, talk, gesticulate and emote were very important. Essentially, costume design and artwork were crucial elements. It took them three weeks of pre-production to understand how it would work. There were two fabrics that were considered for the body suits, and one was rejected for it had too many wrinkles and was shiny. The wrinkles would have shown when the characters moved, thereby shattering the illusion of animation. So they chose the more practical, thicker fabric.

The production team divided the outfit into two parts: the body and the head. The body part of the outfit was stuffed with foam in some places, while the head was attached separately. To make it look bigger than a human head, a harder material called Perspex was used, which Was stuffed with foam (with scope for ventilation).

If one wishes to understand the size of this head, here's a fact. A human head would typically reach up to the mouth level of this giant Zoozoo head. They kept the hands and legs thin, which is why they cast women – and occasionally children – wearing the costumes. The thin limbs, contrasted with big bellies and a bulbous head, all add to the illusion that these creatures are 'smaller' than humans. Sets were created to suit the size of the Zoozoos.

Cinematically, this 'size' was a trick. The creatures look smaller than they actually are on screen, to portray a different world of sorts. For this, the speed of shooting was altered. Nirvana shot it in a high-speed format to make them look the size that they do. Furthermore, simple sets/backdrops were created and spray painted with neutral Grays – a colour of choice so that attention isn't diverted from the main characters. For a supposedly 'outdoor' shot, even the shadow of a zoo-zoo was kept 'live' and not done in post production. It was painted in a darker shade of grey on the ground. An even lighting was maintained throughout.

There was virtually no post production work done. The films were shot by Nirvana in Cape Town, South Africa, with the help of a local production house there, called Platypus. Incidentally, the same combination of people also worked on the 'Happy to Help' series last year.

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Finally, I got a permanent column in this news-letter where I get to put up a series for all of you. I'm excited about it. My protagonist name is Ishan and this story is fictional. This series will be reaching out to you through the eyes of Ishan. It's all about his college life. Happy reading…

It isn't a love story. It's my story. Ishan's story. Yeah! That's my name. It's once again the college time and as usual no great feelings are running through my nerves about the *first day thing of college* as another six months of academics lies ahead. Every morning at Xtan College of Engineering (XCE), student's life starts at canteen. It's definitely not for the breakfast. I'm in third year now in this college but trust me life is not happening at all. The worst thing happened to me at XCE, absence of pretty girls in my batch. Now probably you would understand why nothing was happening in my life, sadly they are extinct on campus. It was 10 by my watch and I walked into the class with lecturer still to come and heard all the "Hi, hello, etc." among guys and "*kaisi hai? Akansha badi moti dikh rahi hai yaar,* etc." among girls. Akansha is the only girl who gets acknowledged by most of the guys of our class. I silently went and sat on the last bench but hard luck for me as no one occupied the first bench, the last benchers were asked to make it to the first bench. Twenty minutes into class, enters Siddharth (Sid, I can't describe him because couldn't understand him yet but still he is my best friend) begging sir by interrupting the class "Sir! Please Sir! First day na Sir!!! Please Sir!" The same phrase got repeated numbers of times as finally sir had to give in as class was at halt. "Hey man!" said Sid as he occupied the seat beside me. "Hello! How did you write your backlogs?" I asked. Dude! It was just great. The girl sitting beside me was just awesome.

She made me sit for three hours .You missed it" Replied Sid. A backlog for girls is not a good idea I believe so let me not regret. The conversation went on as class hours passed by. The classroom's door opened and Raju, the office boy came in with the circular which was read out by Deepak Sir, the coolest faculty we have. We describe 'coolest' in relevance with the faculty giving us attendance despite of us being present in the class or not. The circular was about the launch of a magazine from our department in which I was selected as one of the ten members to complete the magazine and on the same day we were made to skip our lunch and instead made to attend the meeting. As I finished my lunch in two minutes and others were on time, it was all seen through the eyes of Head of Department, Ms. Archana Sukhdev as she was successful in giving me the ugliest look possible to which I had no option but to ignore and occupy the empty seat at the end of the row. She was the one person; every student would like to work with. She was a thorough professional for me. On my way to that seat, something magical happened that day as my theory of 'XCE having no pretty girls' failed as I saw the prettiest girl I have ever come across in my life. I just had to get her phone number now but it looked impossible. Luck favored and the circular having our names on it was lying in front of me. The most useless paper to the world became most resourceful to me as I asked the person beside me to write his phone number in front of his name and pass on. The hopeless trick worked, Sana is her name and I did get her cell number. Finally I had something to do in this college and the meeting was so interesting for me since it turned out to be productive. I love this magazine and trust me I have to really work

hard on it now. No points for guessing the reason ☺

At back of my mind, for the first time I wanted to become the Head of Technical Team and not the Chief Editor, though that is something most of the writers work for. I wanted that post as they are the people who get to interact with everyone after taking commands from the Chief Editor. Trust me Life was heaven then; I was made the Head of the technical team.

Facebook is a god gift as that is the best possible way to interact with a beautiful stranger. That evening the first thing I had to do after reaching home was to send a *friend request*. I wish drinking was my habit but sadly I never tried it even once in my life but still I wanted to be *high* at that point of time and for me even a bottle of soda would work. I was two soda bottles down

As my friend request was rejected which I came to know after three days. I don't know why people try weird things when they want to virtualized being in Trance. Trust me; it was like lying on bed of thorns. I promised myself that evening, I would never co-ordinate with Sana ever again.

The next day, at 11 in the morning I woke up and felt that it was too late to attend the college so planned to make myself present in the afternoon session at college. I reached there by 1 pm and still had 30 minutes for sitting idle but I planned it to work for magazine- my soul mate. The last night rejection was worse than a break up and usually for most of the guys after rejection, becoming a workaholic is as common as getting 75% attendance without submitting medical certificate in XCE and I'm no different. Since then most of my time went in putting up the magazine as I requested Ms. Archana Sukhdev to make me the chief-editor as coordinating was something I wanted to keep at bay. Luck was on my side as she informed me of Rakesh Kumar suffering from Typhoid. The baton was passed. Once again it was the first time for me as I didn't pity Rakesh. Cell of emotions went missing from my body. In that particular month, our department released the

Edition before anyone could even start working on their respective editions. Even an a

acknowledgement from Ms. Archana, for which any student would kill the other, gave me no happiness. Emotions were still absconding.

One month break from magazine after a lot of hard work meant spending my time with Basketball, Sid and Soda. The entire semester went on similar line. It was second semester for me and my poor grades started improving like never before as I had no deviations to waste my time on.

One day during a break between the games of basketball quarters, a familiar voice was heard. I turned and found Sana standing behind me. "Hey! Where were you for so long?' asked Sana. I wanted to tell something which would hurt her but gained back my conscience and replied "Hello!" with a straight face. "Where have you been for so long Chief?" with a everlasting smile pasted across her face. I could only reply "Ah?!" after a pause of few seconds where I was cursing myself of keeping Ishan away from her. She went on to inform me about the meeting with Ms. Archana Sukhdev.

The next day at meeting I found no one except Ms. Archana, Sana and myself in her cabin. Initially I thought no one turned up but later in few seconds Ms. Archana spoke "I want both of you to organize a Technical Competition under the banner of our magazine. The only content filling up my mind was about me again taking the tolerance to ignorance from Sana. Ms. Archana wished us luck and another one week of slog.

Now let me take you away from my college life and allow you to know about my priority. My list of priorities starts and ends with Ornate Event Management Group (OEMG) which was formed by me and my friend Varun Negi. It had received a contract within a couple of months of its inauguration by the most reputed organization in India but we had to reject it as it meant taking a break from academics which seem impractical to me. I don't think that keeping you away from my college life will last longer so let me get back to the 'Technical Event' which was asked to put up by us. Something surprisingly shocking happened to me during the journey of putting up this event. See you in the next edition. Till then, take good care of yourself and stay safe for reading the next part of the series ☺

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APPLICATION CORNER

DROP BOX

By-: Neha Kanjani

Dropbox is a free service that lets you bring all your photos, documents and videos anywhere. Any file you save to your Dropbox will also automatically save to all your computers, phones, and even the Dropbox website. This means that one can start working on his computer at school or the office, and finish on your home computer. Never email yourself a file again!

This article is on how to use dropbox service, which is a web based file hosting service operated by *Dropbox Inc.*
This service uses cloud storage to enable users to store and share files and folders with others across the Internet using file synchronization.

For your system, you can download dropbox from *www.dropbox.com/install*
For your BlackBerry, you can download the dropbox application from *www.dropbox.com/blackberry/download*

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RESULTS OF QUIZ COMPETITION

Team Nostalgia organized a Quiz competition in January, 2012 for which a great response was acknowledged. The Winner and Runner-Up have been awarded cash prize and certificate. Ultimately the result was as follows :-

C. Rohith Reddy   –   Winner
G. Divi Teja   –   Runner-Up

SEND YOUR ENTRIES AT

The articles can be mailed by students and faculties for second edition at:
it.technospell@yahoo.com

Also catch us on *facebook* on the link mentioned below:
http://www.facebook.com/group.php?gid=123474171037593

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