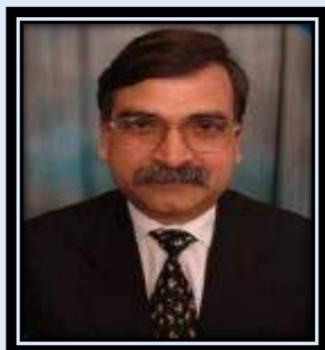# BYTES

...More is different

VISION

To be recognized globally for delivering high quality education in the ever changing field of computer science & engineering, both of value & relevance to the communities we serve.

MISSION

1. To provide quality education in both the theoretical and applied foundations of Computer Science and train students to effectively apply this education to solve real world problems.

2. To amplify their potential for lifelong high quality careers and give them a competitive advantage in the challenging global work environment.

Bytes

Message from Director Desk

At the outset, I congratulate the CSE Department and Specially the Newsletter editorial board for their hard work in bringing out the improved version of Newsletter "Bytes". Through this newsletter I appeal to my dear students to do best to achieve for what you are here, make use of learning recourses extensively and regularly take part in technical paper presentations and seminars. I wish the best for all our students and the members of the institution who reiterate their aims at providing the best in academic and extra-curricular activities.

Prof. (Dr.) R.P. Maheshwari
Director, RKGIT

Message from HOD Desk

It is my great pleasure to extend heartfelt greetings to the readers of our new improved issue of newsletter "bytes". This newsletter provides a platform to the students to sharpen their writing talent and strengthen the academic activities of the department. I congratulate and thank all the students and Faculty members who have made tiring efforts to bring out of this newsletter and wish them all success.

Dr. Sachi Gupta
Head of Department
CSE, RKGIT

"We want to move from people needing windows to choosing windows to loving windows"

- Satya Nadella
CEO, Microsoft

FULL NAME

Satya Narayana Nadella

DATE OF BIRTH

19th August, 1967

EDUCATION

B.E - Manipal Institute of Technology

MS - University of Wisconsin

MBA - University of Chicago

Originally from Hyderabad, India, where he was born on August 19, 1967, Nadella now lives in Bellevue, Wash. He holds a bachelor's degree in electrical engineering from Mangalore University.

As Microsoft's third CEO (succeeding Steve Ballmer and Bill Gates), Satya Nadella brings a relentless drive for innovation and a spirit of collaboration to the role. He says he joined Microsoft 22 years ago because he saw how clearly Microsoft empowers people to do magical things and ultimately make the world a better place. Many companies, he explains, "aspire to change the world. But very few have all the elements required: talent, resources and perseverance. Microsoft has proven that it has all three in abundance."

Inside

Editors

Ms. Pooja Vajpayee
Asstt. Professor, CSE Department

Mr. Manish Gupta
Sr. Lecturer, CSE Department

Students' Editorial Board

Prashant Vats

Shalini Singh

Jyoti Yadav

Sumit Singh

Akansha Raizada

Prashant Saxena

Tech Bytes

Sixth Sense Technology
Shalini Singh, IIIrd Year

It's the beginning of a new era of technology where engineering will reach new milestones. Just like in the science fiction movies where display of computer screen appears on walls, commands are given by gestures, the smart digital environment which talks to us to do our work and so on, these all will be possible very soon. You imagine it and sixth sense technology will make it possible.


Sixth sense device invented by Pranav Mistry is a prototype of next level of digital to real world interfacing. It comprises of a camera, a projector, a mobile cum computing device and colored sensors which are put on the fingers of a human being. The device efficiently senses the motion of the colored markers. Using them it provides us the freedom of directly interacting with the digital world. This technology enables people to interact in the digital world as if they are interacting in the real world.

Need to make a call? Extend your hand on front of the projector and numbers will appear for you to click. Need to know the time? Draw a circle on your wrist and a watch will appear. Want to take a photo? Just make a square with your fingers, highlighting what you want to frame, and the system will make the photo which you can later organize with the others using your own hands over the air. The key here is that Sixth Sense recognizes the objects around you, displaying information automatically and letting you access it in any way you want, in the simplest way possible.

Thanks to Pranav Mistry, a genius who introduced mankind to this futuristic technology.

You Should Know
Shreyashi Jain, IIIrd Year

The **Internet of Things (IoT)** is a scenario in which objects, animals or people are provided with unique identifiers and the ability to transfer data over a network without requiring human-to-human or human-to-computer interaction. Explore it!
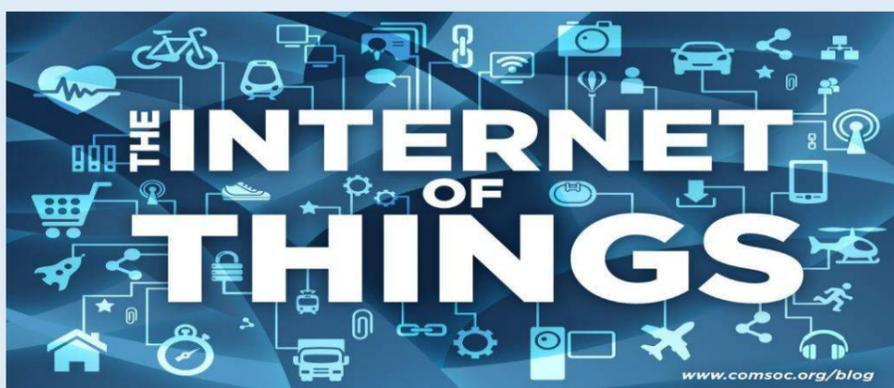
Digital Locker
Prashant Vats, IIIrd Year

Digital Locker is one of the key initiatives under the Digital India Programme. A beta version of the same has been already released by the Department of

Electronics and Information Technology (DeitY), Govt. of India. Digital Locker is aimed at minimizing the usage of physical documents and enable sharing of e-documents across agencies.

With the help of this Portal, the sharing of the e-documents will be done through registered repositories thereby ensuring the authenticity of the documents online. Residents can also upload their own electronic documents and digitally sign them using the e-sign facility. These digitally signed documents can be shared with Government organizations Or other entries.

Major Objectives:

➢ Enable digital empowerment of residents by providing them with Digital Locker on the cloud
➢ Enable e-Signing of documents and make them available electronically and online Minimize the use of physical documents
➢ Ensure authenticity of the e-documents and thereby eliminate usage of fake documents
➢ Secure access to Govt. issued documents through a web portal and mobile application for residents
➢ Reduce administrative overhead of Govt. departments and agencies and make it easy for the residents to receive services
➢ Anytime, anywhere access to the documents by the resident
➢ Open and interoperable standards based architecture to support a well-structured standard document format to support easy sharing of documents across departments and agencies
➢ Ensure privacy and authorized access to residents' data.

Google Driveless Car
Akansha Raizada, IIIrd Year

Driving a car is an art, maybe that's why the government waits until you're 18 years old (or 16 in some countries) to give you chance to earn a driver's license. Not only should you be able to direct the car, but also have a keen sense of safety. Nevertheless, all the rules and regulations enforced to ensure safety fail to eradicate the occurrence of accidents. On a different note, the smaller details like the speed, gear changing, and fuel consumption can affect the environment around you in the form of emissions of gases. When more of fuel is burnt than required, there is more of incomplete combustion of gases causing the emission of gases like carbon monoxide (not to mention that you get lower mileage too). This happens at very low and very high speeds. Therefore driving a car at an optimum condition involves a balance of delicate forces. It requires good understanding

and experience of the working of a car.

This contains an intelligence Software that combines input from video camera inside the car, a LIDAR sensor on the top of vehicle, radar sensors on the front of vehicle and position sensor attached to the one of the rear wheel that helps to locate the car position on the map at the same the hardware components are introduced in the car these are SWITCH, BATTERY, TOPCONE, INVERTER, FAN, VELODYNE,ROUTER ,REAR MONITOR COMPUTER, APPIANIX PCS by all the components combined together to drive a car without driver.

Agricultural Robot
Pooja Bhagwani, IIIrd Year

Agricultural Robots or **agribot** is a robot deployed for agricultural purposes. .The main area of application of robots in agriculture is at the harvesting stage. Fruit picking robots, driverless tractor / sprayer, and sheep shearing robots are designed to replace human labor. In most cases, a lot of factors have to be considered (e.g., the size and color of the fruit to be picked) before the commencement of a task. Robots can be used for other horticultural tasks such as pruning, weeding, spraying and monitoring. Robots can also be used in livestock applications (livestock robotics) such as automatic milking, washing and castrating. Robots like these have many benefits for the agricultural industry, including a higher quality of fresh produce, lower production costs, and a smaller need for manual labor.

3 D - Printing
Shri Rohan Srivastava, IIIrd Year

Three-dimensional printing or 3D printing (also called additive manufacturing) is any of various processes used to make a three-dimensional object. In 3D printing, additive processes are used, in which successive layers of material are laid down under computer control. These objects can be of almost any shape or geometry, and are produced from a 3D model or other electronic data source. A 3D printer is a type of industrial robot.

3D printing in the term's original sense refers to processes that sequentially deposit material onto a powder bed with inkjet printer heads.

Industry use:

Ultimaker now sells additive manufacturing systems that range from $1,300 to $2,750 in price and are employed in several industries: aerospace, architecture, automotive, defense, and medical replacements, among many others. For example, General Electric uses the high-end model to build parts for turbines.

Software's Used by FB
Shivang Sharma, IIIrd Year

At the scale that Facebook operates, a lot of traditional approaches to serving web content break down or simply aren't practical. The challenge for Facebook's engineers has been to keep the site up and running smoothly in spite of handling close to half a billion active users. This article takes a look at some of the software and techniques they use to accomplish that.

Here are some fact about Facebook:

•Facebook serves 570 billion page views per month (according to Google Ad Planner).

•There are more photos on Facebook than all other photo sites combined (including sites like Flickr).

•More than 3 billion photos are uploaded every month.

•Facebook's systems serve 1.2 million photos per second. This doesn't include the images served by Facebook's CDN.

•More than 25 billion pieces of content (status updates, comments, etc.) are shared every month.

•Facebook has more than 30,000 servers

In some ways Facebook is still a LAMP site (kind of), but it has had to change and extend its operation to incorporate a lot of other elements and services, and modify the approach to existing ones.

For example:

•Facebook still uses PHP, but it has built a compiler for it so it can be turned into native code on its web servers, thus boosting performance.

•Facebook uses Linux, but has optimized it for its own purposes (especially in terms of network throughput).

•Facebook uses MySQL, but primarily as a key-value persistent storage, moving joins and logic onto the web servers since optimizations are easier to perform there (on the "other side" of the Memcached layer).

Then there are the custom-written systems, like Haystack, a highly scalable object store used to serve Facebook's immense amount of photos, or Scribe, a logging system that can operate at the scale of Facebook (which is far from trivial).

But enough of that. Let's present (some of) the software that Facebook uses to provide us all with the world's largest social network site.

- ⬇ Memcached for PHP
- ⬇ Hip Hop
- ⬇ Haystack
- ⬇ Big pipe
- ⬇ Scribe
- ⬇ Hadoop and Hive
- ⬇ Varnish
- ⬇ Cassandra

Faculty Development Programme

A One Day Faculty Development Programme on "**Introduction to Cloud Computing**" was successfully conducted on Friday, 03rd July 2015 at Raj Kumar Goel Institute of technology, Ghaziabad by Department of Computer Science and Engineering. The Speaker was Mr. Praphull Nayak, Assistant Professor and coordinator of center for cloud technology, Department of CSE, Raj Kumar Goel Institute of technology, Ghaziabad. Dr. Sachi Gupta HOD CSE welcomed the participants and introduced the programme to all. The programme was coordinated by Dr. Lalit Kumar Saraswat (CSE) and Mr. Manish Gupta (CSE). The FDP programme received an overwhelming response with 40 participants from CSE, IT and MCA Department of Raj Kumar Goel Institute of technology, Ghaziabad.

Introduction of the Programme was as follows:
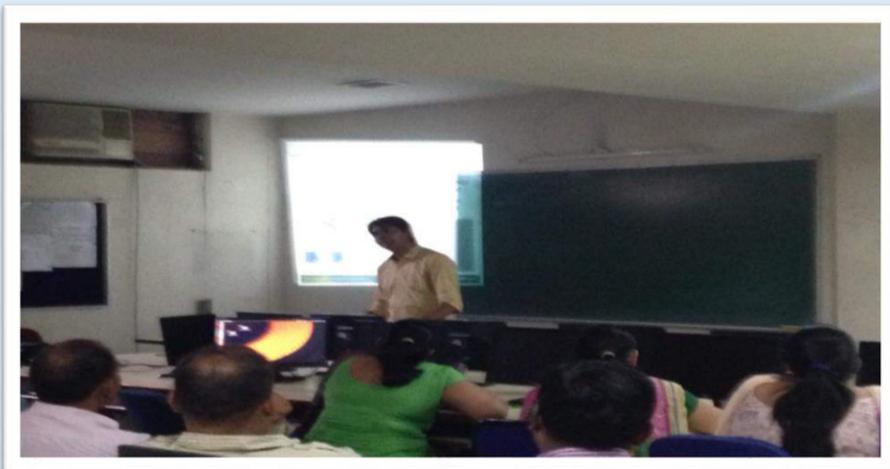
- Introduction to Cloud Computing.
- Use Case and Benefits of Cloud.
- Introduction to AWS.
- Use of cloud in Academics.

Cloud computing is defined as a type of computing that relies on sharing computing resources rather than having local servers or personal devices to handle applications. Cloud computing is a natural evolution of the widespread adoption of virtualization, Service-oriented architecture and utility computing. Details are abstracted from consumers, who no longer have need for expertise in or control over the technology infrastructure "in the cloud" that supports them. Cloud computing describes a new supplement, consumption and delivery model for IT services based on the Internet and it typically involves over-the-Internet provision of dynamically scalable and often virtualized resources. It is a byproduct and consequence of the ease-of-access to remote computing sites provided by the Internet.
All of them highly appreciated the Programme. They also observed that slides used by the speaker were good. They recommended that few slides having the framework and diagrams should be prepared.

-   Dr. Sachi Gupta

Upcoming Events

Event	Proposed Date
Talent Show	01st August 2015
Guest Lecture (Android)	22nd August 2015

I am delighted to be a part of RKGIT. I would like to thank Mr. Praphull Nayak, Mr. Manish Gupta, the whole CCT team and all the faculty members of the computer science department for their constant guidance and support. I would also like to thank the training and placement cell for the chances they created for all of us. I will always be thankful to RKGIT for helping me to reach the place where I am today.
LIPIKA MUKHERJEE
B.Tech-CSE Batch of 2011-15
IBM-Associate System Engineer

RKGIT has always given me the privilege to bring out the best in me. I am whole heartedly thankful to all my faculty members and friends who supported me in the hour of need. And for the budding talents I would like to share what I believe in "Work as such, you no longer have to introduce yourself".
NISHANT GOEL
B.Tech-CSE Batch of 2011-15
MetaDesign Solution Pvt. Ltd.

RKGIT has played a very important role in shaping my career path. The faculties, especially from the computer science department have been very supportive and guided me in every possible way. I would like to take this opportunity to thank Mr. Praphul Nayak, Mr. Manish Gupta and the whole team of CCT.I am thankful to my college and I say with pride that "I am an RKGITian"
Vaibhav Mishra
B.Tech-CSE Batch of 2011-15
Sopra India – Engineer Trainee

RKGIT is the best place for you to grow. Just keep your eyes intact on the latest technologies, grab the opportunities and the world is yours.
Also, enjoy every moment of yours in the college as you would not get this time again. But at the same time start building the foundation of your success.
RKGIT has the best faculties one wants for through guidance. Mr. Praphull Nayak and Mr. Manish Gupta Sir had helped us to indulge ourselves into the latest technologies. That was the turning point of my life.
Mohit D. Gupta
B.Tech-CSE Batch of 2011-15
To THE New Digital – Cloud Consultant

Workshop / Training

Hadoop - Big Data

A Guest Lecture on the topic "Hadoop- Big Data" on 16th July 2015, delivered by **Mr. Manish Gupta**, Sr. Lecturer, CSE Department (RKGIT). In one day workshop main aim is to understand the basics of Big DATA and Hadoop technology and current industry demand and future growth.
It was an enlightening session as he shared real life experience and focus on various aspects like data handling, retrieving and storage of structure and un-structured data.

Cloud Computing

Being **VMware** IT Academy Center, CSE Department of RKGIT organized a 15 days' workshop on Cloud Computing starting from 6th of July 2015. **Mr. Praphull Nayak**, Asstt. Professor, RKGIT was the trainer. He is VMware certified Cloud-Professional and has experience on establishing private Cloud and creating Cloud lab at RKGIT.
I want to give sincere thanks to Mr. Manish Sir and Mr. Praphull Sir for enlightening us in this emerging technology and building up our interest and also thankful to CSE Department.

Prashant Vats , Student-Editor, Bytes

Student Corner

Website to look for:
Prashant Vats & Sumit, IIIrd Year

Labnol.org
- **Digital Inspiration** is the one of the best blog in india, blogging about Howto Guides & Software tutorials lead by **Mr. Amit Agarwal**.

yourstory.com
- **YourStory.com** is **India's no.1 media platform for entrepreneurs**, dedicated to passionately championing and promoting the entrepreneurial ecosystem in India.
- **YourStory** was started in October 2008 by **Shradha Sharma.**

codecademy.com
- **Codecademy** is an online interactive platform that offers free coding classes in 8 different programming language.
- Python, PHP, jQuery, JavaScript, AngularJS, and Ruby, as well as markup languages HTML and CSS

## *Gadget you are looking for:*
Sumit & Srajit, IIIrd Year

Intel Compute Stick	MyID Key	Microsoft HoloLens

Intel Compute Stick

One Small Stick, many cool uses

1. Turn your HDMI television or monitor into a home entertainment computer.

2. Transform an HDMI display into a computer with a quad-core Intel® Atom™ processor-based device.

3. Create a thin-client platform from any HDMI display with the Intel® Compute Stick.
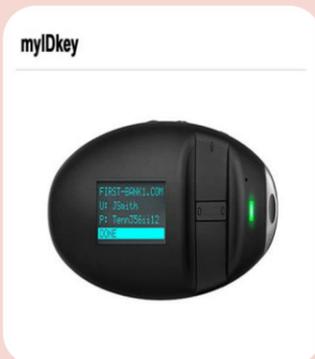
The team at myIDkey recognized a familiar pain point in the life of most digital users: remembering passwords. With that in mind, they created the most complete solution for securely saving, managing, displaying and protecting personal IDs, passwords and files. Using biometric technology, myIDkey authenticates your identity and safely displays your information on the go.

Microsoft HoloLens is a smart glasses unit that is a cordless, self-contained Windows 10 computer. It uses advanced sensors, a high-definition stereoscopic 3D Optical head-mounted display, and spatial sound to allow for augmented reality applications, with a natural user interface that the user interacts with through gaze, voice, and hand gestures.

Find Output:
Vikash, IIIrd Year

(Mail your answer to bytesrkgit@gmail.com)

Q1)
```
Void main ()
 {
  Int v=30;
  Char s [] = {"Vikash"};
  Printf ("Enter No :");
  Scanf ("%d", &v);
  Printf ("\n Enter string");
  Gets(s);
  Printf ("\n the no is: %d", v);
  Printf ("\n the string is: %s", s);
 }
```
What will be output and why?

Q2)
```
 Void main ()
{
 Int a=10;
 Printf ("%d %d %d", a, a++, ++a);
}
```
What will be output and why?

Funny Quiz:
Prashant Vats, IIIrd Year

1. A little girl kicks a soccer ball. It goes 10 feet and comes back to her. How is this possible?
2. An electric train is moving north at 100mph and a wind is blowing to the west at 10mph. Which way does the smoke blow?
3. Before Mount Everest was discovered, what was the highest mountain in the world?
4. A man dressed in all black is walking down a country lane. Suddenly, a large black car without any lights on comes round the corner and screeches to a halt. How did the car know he was there?
5. A truck driver is going down a one way street the wrong way, and passes at least ten cops. Why he is not caught?
6. If you divide 30 by half and add ten. What do you get?
7. Does Britain have a 4th of July?
8. Some months have 31 days, others have 30 days. How many have 28 days?
9. There's a 1 story house where everything inside and outside of it was PURPLE. So what color were the stairs?

PLACE TO VISIT : Biking through LADAKH
Prashant Vats, IIIrd Year

A creative way to kick off a bike trip through Ladakh would be to ride into it from Manali. You will save two days of acclimatizing, which would be imperative if you flew into Leh. Biking into and around Ladakh is the Holy Grail of biker-trails anywhere in the world. Terrifying mountain passes, thin air, the awe of the beauty around you—no other route offers as much. You may rent bike at affordable price (Rs.1000/ Day approx.). And don't miss the sightseeing at Rohtang Pass, LA haul Valley, Tanglang-La, Khardung-La, Nubra Valley and other.