



Dronacharya College of Engineering

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Information Technology

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From Editor's Desk :

Nothing of great consequence can be achieved in any field of human endeavour may it be academics, fine arts, sports, business etc without disciplined application of mind, without persistence and without unrelenting tenacity. **Dronacharya College of Engineering, Gurgaon** holds all these qualities for moulding Dronacharyans as competent technocrats.



We, at **DCE**, impart high-quality and relevant technical education designed to meet the needs of industry. In order to accomplish our vision and mission, we teach our students the value of integrity, excellence, dedication and accountability to lead in a technology-driven global environment.

Dronacharya College of Engineering, Gurgaon has enviably emerged as a premier engineering college in NCR & Haryana and achieved gratifying goals, hit tantalizing targets with an unprecedented zeal and zoom. Believing that education is an effective medium of social transformation, the college hosts a variety of activities wherein the students and faculty members participate and contribute actively. In addition to this, they are committed to achieve excellence in other activities like Research & Publication, Fabrication & Design of Projects, Consultancy and Entrepreneurship.

Editor, (Dr. Sunil K. Mishra)

From HOD's Desk :

"Don't be afraid of your fears. They're not there to scare you. They're there to let you know that something is worth in it."



The memories of the past keep up our confidence and the hope of the future is what we live for, but the present is the one that keeps our essence alive. This is what the Department of Information Technology believes in.

The students, faculty and staff members have been working with great determination and diligence, as we believe in scaling one peak after another, for the march towards excellence which never comes to an end.

The Department has well equipped computing laboratories with branded systems and a rich repository of software covering a wide spectrum of applications. Guest Lectures, National Level Symposium, Debugging Contest, Quiz Programmes, Group Discussions and Aptitude Tests are arranged periodically for the development of students. The department organizes visits to Industries and provides good scope for enhancement of knowledge to the students by guest lecturers of eminent people from Industries and Academics.

The department has created history by achieving 100% result in University exam and 100% placement of all the eligible students. The department always encourages the students to participate in various National/International conferences/workshops.

I wish all the students BEST OF LUCK for the university examinations!

Head of Department, (Prof. (Dr.) Jitender Kumar)

Outstanding Achiever of The Department :

Hacking is both an art and skill. It requires different types of mindset and intelligence. **Himanshu Sharma**, a Dronacharyan is an ethical hacker who now works for the betterment of the web and cyber security. Aged just 19, Himanshu Famously known as **h4ck3r**, a student of IT 20011-2015 Batch has already achieved fame for finding security loopholes in Apple, Google, Microsoft, Ebay, Samsung, Adobe, iFixit, IBM and Facebook. He has also helped Zaain Ul Abeedin and Harbhajan Singh to recover their Facebook fan page after it was taken over by another Hacker. He has been a speaker at various cyber security conferences conducted across the country such as Hack Anything Conference at **Lovely professional University, Jalandhar, Defcon Conference at Bangalore, HatCon Conference at Kanpur, Girls Engineering College (KGEC), Kanpur.**

In an interview by "**Youth Incorporated**" Magazine in **August 2012** Issue, he discussed about Indian companies like Google India and PayPal India have started bug bounty programs where security researchers are paid to report a bug. The department is proud of this outstanding achiever for creating a milestone.



Workshop on Identing, Inventing and Patenting :

The Department of Mechanical Engineering at **Dronacharya College of Engineering, Gurgaon** organised a two-day workshop on Ideating, Inventing and Patenting from **19th-20th October 2012** in association with **Inventi-NovoTrail Consortium, Bhopal**. The objective of this workshop was to inspire the students taking research, innovation and patenting as their carrier.

The eminent personality and Vice-President of **Inventi-NovoTrail Consortium, Bhopal** , Dr. V. B. Gupta enlightened the participants regarding generation of ideas, innovativeness and patenting. Talking about the advantages of patentable ideas, invention and patent-protection, the Guest-speaker Dr. Gupta expressed that patents may also serve as a barrier to entry for competitors who are contemplating entering the market for patenting services. He also emphasised that the patent is a kind of contract between the inventor and society.

More than 150 students from various branches of engineering participated and were benefitted. Overall, the workshop was useful, informative and interesting to the students, faculty and other research scholars.

On 20th October, the workshop ended with certificate distribution ceremony and a vote of thanks by **Prof. (Dr.) S. K. Bagga**, Head, and Department of Mechanical Engineering.



The Guest speaker Dr. V. B. Gupta enlightening the audience



Dr. V.B Gupta Vice-President of Inventi-NovoTrail Consortium, Bhopal talking about Ideas & Applications



The mesmerized audience during the workshop

Faculty Development Program :

Two faculty members- **Dr. Vimla Yadav** and **Mr. Yashwardhan Soni** attended one-day faculty development program (FDP) conducted by eminent educators from NEN was at **Apeejay School of Management, Dwarka, New Delhi** on **21st November 2012**. The program enabled them to understand how to :

- Secure funds from Government agencies for innovation and entrepreneurship programs on campus like IEDC and EDC, MSME.

- Set up the teams, goals and system to successfully run a high impact innovation and Entrepreneurship Development Centre.
- Create Campus- Company program where independent student team ideate, evaluate new opportunities, build business models and deals with execution challenges.
- Develop the innovation and entrepreneurship program on campus.
- Set up business incubators and how to raise financial and technical support for running business incubators.

Technology Vision :

Apple's Fusion Drive:



Subodh Kant Pandey
(Roll No. 12386)



Fusion Drive incorporates the best of solid state drive and hard disk drive technologies. The novelty of the device stems from its capability to wholly integrate with the embedded operating system OS X.

The Fusion Drive has been designed as a solitary-volume device. This connotes that the operating system intelligently fuses the entrenched solid state and hard disk drives to offer a single hybrid drive to the user. The solid state drive component houses 128 GB of internal flash memory (classified as "**Not And**" or **NAND** storage) whereas the hard disk drive component can accommodate either 1 TB or 3 TB. Users may opt for any combination of these drives. The resultant volume capacity will, at all times, be the total of the memories. For example if a user decides to collate a 1-terabyte hard disk drive with 128-gigabyte solid state drive, the upshot would be a 1.128-gigabyte Fusion Drive.

The merging of solid state and hard disk functionalities is achieved largely due to the unique auto-tiering knowhow. Auto-tiering procedures are different from those relating to Redundant Array of Independent Disks (RAID) and caching, in spite of conspicuous similarities. The solid state drive component houses the central operating system and the various applications while the hard disk drive component stores the remaining framework. As device usage increases, the operating system intuitively keeps a track of the most accessed applications and files along with time and frequency data. These commonly used applications are then automatically transferred to the solid state drive component (if needed) without, remarkably, the Fusion Drive losing its solitary-volume status.

The Fusion Drive technology equips the solid state drive component with a drive-writing buffer of 4 GB. As usage intensifies, all further drive writes are lodged in this particular buffer. As the 4 GB threshold is reached, the drive writes are cleverly transferred to the hard disk drive component thereby increasing the nimbleness and resilience of the entire system. Notably these transfers occur seamlessly, in a latent manner, and can even withstand system crashes and other such interruptions.

The enviable speed of Fusion Drive was specially trumpeted by Apple's Phil Schiller, who proclaimed that even power-hungry jobs could be easily managed by this revolutionary storage innovation. Further, Fusion Drive could also copy a file belonging to a 4-gigabyte folder 3.5 times speedier and boot the system 1.7 times swifter than the hard disk drive.

Important facts about Fusion Drive:

- Fusion Drive would create backup copies periodically using Time Machine. In case of individual drive failures, however, users would require a complete restoration. Alternatively they could replace the faulty drive with substitute drives and tweak Fusion Drive to get their systems running again.
- The OS X operating system, as of now, provides no user interface to control Fusion drive settings.
- Apple's Fusion Drive is designed to work invisibly, so you won't see two separate volumes in the Finder: if you go for the 1TB version you'll see a single volume with 1.12TB of storage (1TB of hard disk space coupled to 128GB of SSD storage) and if you go for the 3TB you'll get 3.12TB.

Placement :



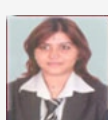

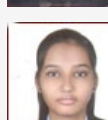
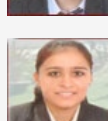
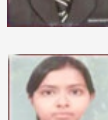

To groom the students for placements the department organizes an exhaustive Procedure of aptitude tests, mock selection process and interactive sessions. The department also provides the customized training program according to the company requirement. I feel proud to announce that our all the eligible students of **2008-2012** batch have been already placed. Ms. Monika Bansal a student of **2009-2013** batch has been placed in Zycus Incorporation, where only 04 students were selected out of more than thousand students of 15 different college.



Monika Bansal (Roll No. 12358)

University Merit Holders :

Department of Information Technology has rich history of producing maximum number of merits in the University examinations. The following students have secured merits in **Aug-Dec 2011** Examinations.

Sr. No.	Roll No.	Name	Univ. Rank	Photograph
1.	11367	Natasha	I	
2.	11396	Urvashi	VI	
3.	11360	Karishma Mittal	VII	
4.	11389	Shikha Gupta	VIII	
5.	12358	Monika bansal	VII	
6.	12351	Ira Arora	XIII	
7.	13452	Ritu Aparna	V	
8.	13462	Shafali Jain	XVI	

Publications :

The faculty members are also engaged in contributing research papers and articles in a number of conferences, seminars etc.:

- ✦ Dharmendra Pal, Bhanu Pratap Saini & Monika Bansal "Green Computing: A Technique for environment effective computing" ***Dronacharya Research Journal Volume IV Issue I, Jan-June 2012.***
- ✦ Tamanna Sehgal & Ritu Aparna " Probability estimation model for principal component analysis" ***Dronacharya Research Journal Volume IV Issue I, Jan-June 2012.***
- ✦ Maneela Tuteja "A Research Study on importance of testing & Quality assurance in Software development life cycle(SDLC) models" ***International Journal for Soft computing & Engg(IJSCE) Volume 2, Issue-3rd July.***
- ✦ Kritika Chaudhary "Comparison between secure TROPOS and VOSREP" ***International Journal of Software Engineering(IJSE) Issue II, February 2012.***

Projects :

Wear Ur World:

"Wear Ur World" is a wearable gestural interface that augments the physical world around us with digital information and lets us use natural hand gestures to interact with that information. With the introduction of the "Sixth Sense Technology", a computer can sense any sorts of feelings it gets in its surroundings. Our five senses are provided by nature. Now technology is going to provide you an addition sense named as "sixth sense". This is the time to imagine the time when there will be no distance between virtual world and real world.

This project implements augmented reality which is used to projecting information onto objects the user interacts. A newspaper can be augmented with projected dynamic live information. The system recognizes a user's free hand gestures as well as icons/symbols drawn in the air with the index finger like a 'framing' gesture takes a picture of the scene. The user can stop by any surface or wall and flick through the photos he has taken. It lets the user to navigate a map displayed on a nearby surface using hand gestures to zoom and pan. It can convert the handwritten document in to the document file which can be further edited. It lets you to generate weather report.



Project guide : Mr. Dharmendra Pal

Team Members :



Monika Bansal
(Roll No. 12358)



Deepak Kumar
(Roll No. 12344)

Multifunctional Autonomous Robotic System

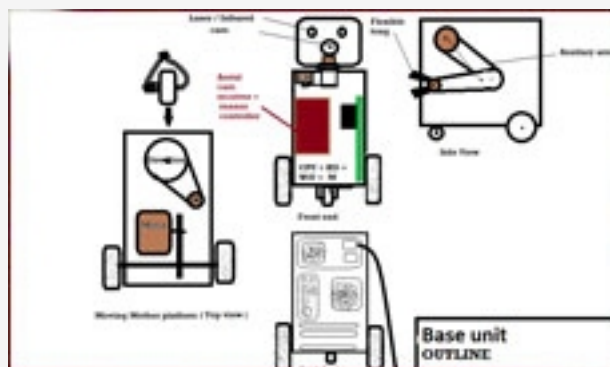
Project aims to develop an autonomous intelligent robotic system capable of doing ground and aerial surveillance, able in recognizing and tracking various objects, able in making simple 3D map of place, can carry out small scale robotic tasks, can work in hazardous situations such as defense tasks also is capable of remote controlling from any part of world via Web.

With the help of this system, one is able to track and recognize objects and further process this data via base unit, it can be used for special missions for security and in hostile land, it has capability of remote controlling through GSM network found abundantly so can be used in multiple places.

The System is customizable and being operated in Android OS which can be further loaded with other sensors for various mission specific tasks. The system is user friendly and help has been provided at every stage. User can generate the reports as per his/her convenience.

This multifunctional autonomous robot can be used in many fields to perform various tasks like : traffic surveillance or tracking of security threat, large area scanning, as UAV for secret surveillance, for viewing the large farms and supervising them, rendering 3d map of place, as home robot for assisting in small tasks like home security solutions .

Since every year spending on hi-tech defense equipment is increasing but due to importing of technology and equipments multiplies the real cost of such technical equipments so such multipurpose robotic system is of great use in our country.



Project guide : Mr. Vejender Hooda

Team Members :



Suryamani Sharma
(Roll No. 12389)

Student's Viewpoint :

I am highly obliged to be a member of Information Technology Department(IT). The faculty provided by our Department are highly Qualified, Helpful, Calm, Cooperative and Experienced. They Guide in times of need and work really hard for all the students to groom them and produce ideal citizens out of them. Our Department provides the best support to all its students and guides them at every single step and brings out excellent technocrats out of them. At the end, I would like to conclude that my Department is an ideal department with highly skilled teachers and hard working H.O.D sir.



Sonia Tewari
(Roll No. 13469) V SEM

Dronacharya college of Engineering, Gurgaon is famous for its placement records and discipline. IT is the fastest emerging branch and is playing role of a catalyst in our country's development. Our college has registered more than 93% overall result since its establishment. None of the things written above would have ever been possible without the persistent, guidance, support, determination and enthusiasm of the faculty of IT Department and of course H.O.D Prof. (Dr.) Jitender Kumar.



Megha Agarwal
(Roll No. 14444) III SEM

My experience in this college turned out to be very different than what I expected. Unlike any other professional institutes where the personal touch is often missing, this college treated us like a part of Dronacharya family. The teachers are very supportive and ready to go that extra mile to help the students as and when required. They helped me as a mentor as well as a professional. The department has always given us the liberty to present our views and give suggestions about what we want from our college and teachers giving importance to each and every student's perspective.



Swati Yadav
(Roll No. 13472) IT V SEM