TRIGGER

Volume 24

troika.dcetech.com

troika 2011

technovision

intrusion

Mist

brainwave

bits bots bytes

todo en uno

ether avatar

junkyard

radix

envision

design pro

spac

THE ONLY CERTAIN
THING YOU CAN SAY
ABOUT THE FUTURE IS
THAT IT HASN'T HAPPENED YET

LET'S
CREATE
IT

**ST
ERICSSON**

▶ Contents

From the Editor's Desk...

"The most important thing in science is not so much to obtain new facts as to discover new ways of thinking about them."

The idea of TROIKA is the force which TRIGGERS this very spirit of innovation, ingenuity and out-of-the-box thinking. As I sit at my desk this morning, I can't help but marvel at the amount of hard work that has gone into realizing this great idea of such colossal proportions. Since its very inception, when it was supported by just three pillars, TROIKA has always been a platform for students to showcase their technical prowess and imagination and be handsomely rewarded for it.

TROIKA has come a long way since then. Over the years, each team that associated itself with TROIKA brought its own share of exciting new ideas and fashioned the fest with its own creativity. Now in its 24th year, it is has become a confluence of technical talent from across the country and one of the biggest technical festivals of India. In the spirit of innovation, this year, two new events Intrusion and Todo En Uno have been added to the existing ten events. Thus TROIKA has something for everyone, be it hacking, designing, software or hardware design, robotics or coding.

It has been a wonderful journey for the entire TROIKA team right from the conceptualization stage to the final implementation of great ideas. We have constantly strived to improve, enhance and innovate. Each of us has learnt a great deal and yet there is so much unknown. The strong emotional bonds of camaraderie that have been forged will last through the years.

I wish to express my gratitude to the 'Trigger' team for their invaluable contributions. A special 'thank you' goes out to the design team.

We would also like to thank our IEEE Branch Counselor Prof. Asok Bhattacharyya for his guidance and support throughout.

Here's hoping for an even better TROIKA next year which sees us scaling new heights of success and conquering unchartered territories.

▶ Dr. P.B. Sharma
Vice-Chancellor
Delhi Technological University

It is a propitious occasion that the release of "Trigger" is getting juxtaposed with the first anniversary of the upgradation of Delhi College of engineering to Delhi Technological University (DTU). DTU redefines and revigorates the sundry aspects of engineering per se with due emphasis on the troika of education, research and innovation, giving commiserate regard to incorporation of world class curriculum. It focuses upon the integration of science and engineering and enables the students to conjure up research driven industry relevant innovations. DTU is all about building upon our engineers' unfettered strengths and harnessing opportunities. DTU is about establishing a perpetual and omnipotent network with world class universities. With IEEE being its professional spine, DTU is bound to assimilate unequivocal international recognition. Leverage from the strong alumni base will further DTU's conquest towards assuming global recognition. It will add sheen to the already talented phalanx of our students with the student community conscientiously seconding my speculations. And being situated in the national capital gives it a demographic advantage hence DTU can never fall short of success.
Technology is the limitless extension of human thought. With the rapid pace at which technology is progressing, it is indeed a daunting task to keep a tab on and be acquainted with all the developments. It is my pleasure that even with such a humongous task at our hands, IEEE DTU (erstwhile DCE) has managed to cater to this very need of the student community with unfailing diligence. The vast body of knowledge which currently exists in every field of engineering endeavor and the rapidly advancing frontiers of knowledge require that professional engineer are continuously in touch with their counterparts through professional societies.

I am happy that the annual technical journal of IEEE DTU, "Trigger" is being regularly brought out to showcase the achievements of IEEE DTU student branch as also to provide a window to the latest technology and product innovation being developed by the students and faculty.

I wish the publication all success.

IEEE Student Branch

► **Professor Asok Bhattacharyya**
Branch Counsellor
IEEE-DTU Student Branch

TROIKA 2011, the annual technical fest hosted by IEEE-DTU Students Branch, is ready to take off for yet another of its famous four day journey. Trigger, annual TROIKA publication, recognized in the student fraternity as a journal of great repute and status will mark the start of the eventful expedition TROIKA is. I am proud to say that TROIKA as an event has grown to great height and can be said to be one of the most prominent technical festivals where students from various parts of country present and enhance their skills .

The IEEE STUDENT BRANCH at DTU was established more than two decades ago. Now, it has become one of the most active student branches in the Asia Pacific region. Dcetech.com, created and managed by IEEE- Delhi technological University student members , is one of the largest student community portals.

The past few years have witnessed our students branch members on go right from August . TechWeek, comprises of a series of workshops to inculcate superior technical skills among the students received various accolades. The highlights of techweek were workshops by ADOBE, IBM, CISCO, Siemens and a series of workshops by teachers and students on various topics from robotics to ethical hacking. Segregating the managerial events like Panache , the multimedia quizzing extravaganza and SPAVe , the hunt for the entrepreneur from the traditional TROIKA bouquet and giving them a separate identity of their own was the idea behind the revamping of REPERTOIRE. Both the events were successful and drew a large crowd.

Troika following its long standing tradition will introduce many more new events, like Intrusion and Todo en Uno. The organizers have completely revamped the event formats of RADIX, Brainwave, Bytes and Bots and Design Pro. I would also like to comment on the outgoing IEEE council's splendid performance in all spheres of technical activity during this year.

IEEE Student Branch

JEEBANANDA PANDA
TROIKA CO-ORDINATOR

TROIKA, the annual technical fest has become a brand in itself over the past few years. It has become synonymous to creativity and excellence. Besides providing a chance to everyone to showcase their knowledge and hold on the basic nuances of technology, it also provides a platform for all those interested to improve their organizational skills by holding an event of such magnitude.

TROIKA has come a long way since the time it was first held and is also constantly climbing the ladder of improvement. Our IEEE student branch has won various accolades over these past years for their commendable effort and vision.Notable is the hardwork and diligence of the students throughout the year from organizing techweek to holding Repertoire.The student community has displayed great perseverance and skills and I am proud to behold them to this.

 The determination and persistence of our student members is the reason behind this huge success. As coordinator TROIKA 2011, I praise them for their hard work and initiatives taken and wish them all the best for the future.

IEEE Student Branch

Rahul Batra
Chairman
IEEE-DTU Student Branch

It is a great honour for me, as the chairman, to bring for you the annual technical fest of IEEE-DTU, Troika 2011.

IEEE-DTU student chapter works round the year for the epitome of all technical and innovative fests, Troika. IEEE-DTU has always strived to raise its foundations ever higher and higher the pillars of Technology and Management.

It is our endeavor to bring education and industry ever closer in order to implement conceptualization and applicability of the knowledge we all gain through our college lives and beyond.

TROIKA is an opportunity for youngsters across the country to showcase their talents in the form of upcoming innovations in Science and Engineering.

IEEE-DTU student branch has grown over the years into a huge platform for students learning traits of organizing, management and participation which will uphold them as strong individuals of tomorrow. Troika involves a series of technical events which garner large participation from amateurs and professionals alike. Every year, the fest sees demonstrations of various unique technologies in multi-faceted streams.

IEEE-DTU brings together an amalgam of people with firm basis in technical ideologies and this has resulted in the formation of groups like the WMG and SIGs.

I would like to thank our branch Counselor, Prof. Asok Bhattacharya, for his constant support and guidance.

The editorial team has put forth their best for TRIGGER and we wish all the best to all who come for a beginner's step towards fulfilling their dreams.

Thank you team!

IEEE Student Branch

gr⊙wth

The journey continues ...

- A "Miniratna" Category-I, Government of India Enterprise
- Over 34 years of experience from Concept to Commissioning of Hydroelectric Projects
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RADIX

Karthik reddy   Rubal
Jatin Maggu   Arunima
Vaibhav Tripathi   Shashank
Snehashish   Saikat

RADIX

Robotics is the engineering of robots along with their design, manufacture, application, and structural disposition. Robotics is related to electronics, mechanics, and software. The ultimate robot-engineering test, this event consists of either digitally operated or programmable robot and mechanically controlled robots. It involves the coming together of various contests, each individually testing the robotics skills of participants in solving predefined problems in robot design.
Radix comprises of four events:

|The Battle Of Touselen|
|Wild Wiesel|
|Life On The Edge|
|Light Thy Path|

JUNKYARD

"Imagination is the beginning of creation.
You imagine what you desire,
You will what you imagine,
And at last you create what you will."
- George Bernard Shaw

This is just what Junkyard will demand of you. It is the ultimate test of thinking on one's feet, and of resourcefulness. With nothing more than imagination to give you a head start for solving the given problem in designing new contraptions from scrap, this competition is a must for all those creative brains with a penchant for challenging themselves.

JUNKYARD

anshul jain
subhanshu goyal
aayushi jain
arunima dheer

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TECHNOVISION

Vipul Gupta
Sakshi Arora
Twinkle Gupta

TECHNOVISION

"Just as energy is the basis of life itself, an ideas the source of innovation, so is innovation the vital spark of all human change, improvement and progress."

: Theodore Levitt

Need is the mother of all inventions, and in today's world, where the necessities are multidimensional and limited resources to suffice them, it becomes imperative to come up with realistic solutions to fulfill these requirements. Technovision is an avenue for showcasing these very solutions.

One of the three pillars of Troika, Technovision is the technical paper presentation, that provides budding engineers to share their original research with the rest of the scientific community, in the form of technical papers.

Papers are invited in the following categories:
1.   Electrical and Electronics Engineering
2.   Computer Science and Information Technology
3.   Bio-Technology
4.   Renewable Energy and Sustainable Technology

The students are tested on the basis of the authenticity of the chosen topic, the experimental confirmations, the comprehensive research performed and the practical implementation of the proposed ideas. A presentation before an experienced panel of judges forms the final frontier of the competition.

Technovision is the ultimate convergence of brilliant ideas, viable technology and innovations for a better tomorrow. Come and witness what the future has in store for us!

ELECTRICAL AND ELECTRONICS ENGINEERING

WIRELESS DATA TRASNMISSION SYSTEM FOR AIRPLANES FLIGHT DATA RECORDER

Ankan Ashish , Dinesh Chaubey , Varun Kumar Malhan
MAEER's Maharashtra Academy of Engineering, MIT, Alandi

This paper is on the urgent need of today's Aviation Sector which comes under communication field. We are making wireless system i.e. a real time Flight Data Recorder (FDR) in which the data(Parameters like Engine Temperature ,Fuel Level, Speed ,Location (Latitude And Longitude etc.) getting stored in real time, in the plane's FDR(commonly known as Black Box), same data will get transferred to our Personal Computer(PC) which is at ground. The data will be transferred via XBEE-RF Module (long range). Also, the Global Positioning System (GPS) device will send the Position coordinates logged by the micro-controller at periodic intervals. After processing the data, the data will be uploaded to the server via the GPRS/Internet Connection. The program resident on the server will process the data and map the position on a digital map. The digital map view can be accessed through and other PC's using the Protocol, thus giving real time positioning and different parameters of the plane on ground. This paper focuses on sufficient data for analyzing the air disasters as short term application, and reduction of air disasters as long term goal.

RFID BASED SECURITY SYSTEM

Kriti Jain#1, Mehak Garg#2, Juhi Saraswat#3
Electronics and communication, Mody Institute Of Technology And Science

Radio Frequency Identification (RFID) is one of the most exciting technologies that revolutionize the working practices by increasing efficiencies and improving profitability. This technology has much greater possibilities such as individual serial numbers for each item and the possibility to read these numbers at a distance of several meters. Although RFID is not actually a new technology, but it is being applied in new ways, spurred by technological advances and decreased costs.

In this paper, security system will be presented using RFID techniques.

So, radio frequency identification based access-control system allows only authorized persons to enter a particular area of an establishment. The authorized persons are provided with unique tags, using which they can access that area.

The system is based on microcontrollers AT895C2 and comprises an RFID module, an LCD module for displaying the status and relay for opening the door.

COMPUTER SCIENCE AND INFORMATION TECHNOLOGY

Multi touch image recognition (MTIR) using Front Side Illumination (FI)

Aakanksha Goyal,Mona Garg,Shreshtha Joshi
Rajasthan Technical University,

When interacting with a regular desktop computer,indirect devices such as a mouse or keyboard are used tocontrol the computer. Results of the interaction are displayed on a monitor. Current operating systems are restricted to one pointing device. With the introduction of multi-touch, a new form of human computer interaction is introduced. Multi-touch combines display technology with sensors which are capable of tracking multiple points of input. The idea is that this would allow users to interact with the computer in a natural way. Due to recent innovations multi-touch technology has
become affordable. For its implementation a camera based multi-touch device has been constructed. To perform multitouch point tracking we used Touchlib, a free open source
multi-touch framework. To demonstrate the possibilities of multi-touch input
technology we created new rich media applications which are controlled by gestures. Existing software can benefit from multi-touch technology, this is demonstrated through
different applications simulated on computer. Multi-touch systems are often stand alone systems that do not have external input devices attached. In order to simplify
common tasks, a gesture recognition engine has been designed.
Through a set of experiments we evaluate how multi-touch input performs on tasks compared to conventional mouse input. Unlike interaction on a desktop computer multi-touch allows multiple users to interact with the same devices at the same time. We present measurements that show how collaboration on a multi-touch table can improve the performance for specific tasks.

BIO-METRIC ENABLED ELECTRONIC BILLING MACHINE

Sandeep Kumar Pandey
G. B. Pant Engineering College

This paper discusses about the idea of biometric enabled electronic billing machine (BEEBM) meant for the Fair Price Shops (FPS) to implement public distribution of ration in the country. This device is backed by central database system at the centre as well as at the state level.
The device will use biometric signature such as fingerprints for the authentication of the beneficiaries at
the Fair Price Shops. This would ensure proper transparency and accountability in the system as the existing system is very inefficient and corrupt. Central database is the most important aspect of this system as it will have many advantages. In this system the ration will only go to the targeted beneficiaries as the biometric signature of the beneficiary is used for the authentication. Thus there is no scope for fake signatures and fingerprints by the FPS owner itself. The ration that will leak into the free market will not be accounted in the system and the responsible authority will be held responsible for this. Use of electronic data and the biometric signature of the ration card holder will make the possession of fake ration card or multiple ration cards not possible any more. Thus it will also address the security concern of the nation as the ration card is used to establish the citizenship of an individual. This will also help the poorer migrating from one place to another within the country to take advantage of government policies at the other place as it will become easier to deal with the data in electronic form. This project is very practical and possible considering the technology and cost factor of the project. The administrative cost of public distribution system is said to be very high at present as well. Considering the number of FPS in India and the number of beneficiaries the cost of implementation of this project will not be unaffordable for the government if implemented.

RENEWABLE ENERGY AND SUSTAINABLE TECHNOLOGIES

Microbial Fuel Cell : Principles and Applications

Deeksha Lal
Delhi Technological University

As fossil fuels diminish and renewable sources are discarded, it will soon be difficult to keep powering the world even through this century. Efforts for search for sustainable sources of energy have led to the discovery that certain bacteria consume biodegradable compounds to harvest electricity, in the form of a technology called the Microbial Fuel Cells. Depending on the operational parameters and their selective nature, these bacteria may adopt several different metabolic pathways, and optimization of energy production requires further insights into these mechanisms. Although still mostly in laboratory phase, these cells have shown remarkable results in waste-water treatment and simultaneous power generation. The ongoing research indicates several ground-breaking applications of the Microbial Fuel Cells in diverse fields, the least not being the replacement of conventional modes of electricity production. This paper attempts to review this technology and its prospects as a major energy initiative in the years to come.

Revolution to Conventional Construction

Sudhanshu Chaudhary, Saurabh Gunecha
Delhi Technological University

Everyone is aware of the fact that the life on earth is degrading day by day. The quality of life on earth has gone from best to worst in the past 150 years. Global warming is a serious problem facing the world today as well as the world in the future. Moreover the world reels under the stress of economic recession and Peak oil, efforts are being made to minimize the use of energy, to maximize return on invested resources by recycling and optimum use of natural resources. Such efforts have culminated into the new Green building movement across the planet. Since buildings have considerable impacts on the environment, it has become necessary to pay more attention to environmental performance in building design. However, it is a difficult task to find better design alternatives satisfying several conflicting criteria, especially, economical and environmental performance. This paper presents a multi-objective optimization model that could assist designers in green building design. We shall be looking at those parameters that are usually determined at the conceptual design stage and that have critical influence on building performance .We shall look at life cycle environmental impacts in terms of expanded cumulative energy consumption, which is the sum of energy consumption due to resource inputs and abatement energy required to recover the negative impacts due to waste emissions. The objective is to reduce the negative impacts of built environments while creating healthy, comfortable, and economically prosperous places for people to live, work, and play. While green building construction may appear costly for consumers, new developments in the engineering field are providing increasingly cost-effective solutions.

BIOTECHNOLOGY

TISSUE CULTURE STUDIES ON DENDROCALAMUS STRICTUS

Beena Kanwar Shekhawat
Forest Genetics and Tree Breeding Division
ARID FOREST RESEARCH INSTITUTE

Bamboo Dendrocalamus strictus, the world's fastest growing and environment friendly giant grass has now gained international recognition and priority, leading to its recognition as an important non woody timber resources. The multifarious uses of bamboos confronts serious problem due to over exploitation of its natural populations. The rapid introduction of new varieties through auxillary bud proliferations from nodal segments has been demonstrated to be the most effective way to improve the production of plantation species. In this work we report a protocol for the production of multiple shoot formation. Bud break was achieved in 20- 25 days in different media compositions of Murshige and Skoog medium supplemented with benzyl amino purine (BAP) (3.0 mg/L). Multiple shoots were separated and regular sub cultivating was done on pre- established cultures on MS medium supplemented 3.0 mg/L BAP. Bud break was achieved in 20- 25 days in different media compositions. Maximum percentage of bud break was achieved MS medium supplemented with BAP (3.0 mg/L). Multiple shoots were separated and regular sub culturing was done on pre- established cultures on MS medium supplemented 3.0 mg/L BAP. It induced shoot multiplication, producing 3-6 number of shoots.

VIRUS DETECTED ENZYME PRODRUG THERGAPY (VDEPT)

Kumud, Annu Singh, Shipra Mathur
M. Tech Biotechnology
Amity University, Noida

Abstract- An approach involving viral- mediated gene therapy for the treatment of neoplastic disease is described. This therapeutic approach is called "virus detected enzyme/ prodrug therapy" (VDEPT). The VDEPT approach exploits the transcriptional differences between normal and neoplastic cells to achieve selective killing of neoplastic cells. VDEPT is a two- step treatment for solid tumors. In the first step, the gene for a foreign enzyme is delivered and targeted in a variety of ways to the tumor where it is to be expressed. In the second step, a prodrug is administered that is selectively activated to the drug by the foreign enzyme expressed in tumor. A VDEPT approach can be used for the following typed of cancer i.e. brain cancer, hepatocellular caricona, gastro intestinal malignancies, Liver cancer, ovarian and pancreatic cancer, breast cancer, glioblastoma multiforme, Aelonocariconoma of prostate, Malignant mesothelima. In this article, disadvantages and advantages associated with VDEPT and future perspective for improving current systems are discussed.

DESIGN PRO

Talking about the present, when packaging matters more than the product, there is a great need for development of one's skills in the areas of designing and advertising, which not only assist in escalating the brand recognition and recall value, but also help a great deal in enhancing the market share if the product. Design Pro is an event that is dedicated solely to this end.

A one of a kind competition, Design Pro tests the aesthetic sense of the students. With competition judging their abilities at animations, poster designing, website designing and advertising, this event aims at sensitizing the students towards the needs of marketing.

It consists of the following sub events:

ANIME: The Animation competition
GRAFFITI: Billboard designing event
PRODIGY: Poster Designing contest
CREATIVE SUITE: Web Designing competition

These events gauge the students' prowess of various softwares, applications and languages such as Photoshop, Coral Draw, Dreamweaver, Flash, Javascript, HTML, and PHP etc. With pre defined problems and extempore tasks, this event is a true measure of one's ability to think on one's feet!

An open invite to all those who are aesthetically proficient! Come and unleash your power of Creativity!!

DESIGN PRO

Team

Samridhi Kumar

Ajir Gupta

Kunal Yadav

MIST

Mist is an online code breaking game aimed at testing your observational and analytical skills. Look around the webpage, the URL, the images and the source code and find the answer to get to the next level. With international participation this year, Mist has just gotten bigger and better.

STUDENTS' PROFESSIONAL AWARENESS CONFERENCE

Team
Ajir Behari Gupta
Anshul Jain
Astha Tanwar
B Queenie

DEL TECH

...esents

design

TROIKA

TROIKA 2010
SOLO

designpro

Creatively Unleashed,
Ideas Empowered,
Imagination Unleashed...
Do you dare it in you to be a
Design Pro?
Express yourself in 3 different subevents

1. Poster Designing,

2. Animation, and

3. Web Designing

Saturday 22nd February 2010

For more details contact

Akshat Behl   9971312561
Aishwarya Mishra   9278256746
Raghul Gupta   9971169606

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...A 2010

TROIKA '11
PRESENTS

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DELHI TECHNOLOGICAL UNIVERSITY
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Rohit Ku...
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ENVISION

Astha Tanwar
Rohan Kalra
B.Queenie

ENVISION

Envision is a software development competition that aims at extracting ingenious ideas from participants who use them in evolving potentially path- breaking concepts.

The event is subdivided into two categories:

1.Dexterity (Predefined category)

A specific problem statement, with a set of rules, is given to the students well in advance of the event. They are required to design software pertaining to the specified problem. This year teams have to design a system with encryption and decryption modules for a text message.

The software shall be judged based on the performance of algorithm used in the software, interpretation and implementation of the problem statement, taking into consideration the efficiency and adaptability of the algorithm used.

2.Ingenuity (Open category)

Software designed by students is invited under this category. There are no specifications for this category. It is simply a competition of creativity, innovation and ingenuity.

In both categories, the software shall be judged based on the performance of algorithm used in the software, interpretation and implementation of the problem statement, taking into consideration the efficiency and adaptability of the algorithm used.

Atooms To Moolecule

Shubhajit Saha, Bengal Engineering and Science University.
Maya Agarwal, Bengal Institute of Technology.

Goal

Atooms to Moolecule is a game where you are in a Chemistry lab. Your task is to make molecules and solve different puzzles of Chemistry lab. You can arrange atoms to make ring, linear, small or big molecules.

The Basics

Atooms to Moolecule is played in Chemistry lab in different lab equipment. The lab equipments can be test tube, beaker, conical flask and other. The basic goal in each level is to make different kinds of molecules with different objectives. Drag the atoms to make bonds with nearest atom. Make bigger and bigger molecule.

To make a complete molecule all the atoms in the molecule must be sleeping which can be achieved by using all their bonds.

OBJECTIVE

Very few games are both entertaining and educational, and so children are not allowed to play games for long. But atoms to molecules have both the characteristics, so it make our idea very unique and useful. We always wanted to see atoms coming alive out of my textbook in different behavior jumping around.

We have always missed my chemistry lab so we decided to add a virtual chemistry laboratory.

DESIGN

Atom: It handle all the characteristics of a atom like Box2D shape, No of bonds, Angle of bonds, State of the atom, etc.

Bond: It contains no of bonds, connected atoms, Box2D joints, bond angle, and update bond angle with respect to time.

Equipments: It characterizes Box2D shape into different lab equipments. Lab area details like Clamp data, button data. Level details like temperature, Ph value, equipments name.

Formula: Displace a formula when a molecule is complete. It consists of Position, Origin, Size, String formula, atom count, no of rings, score.

RadiationSmoke: This class is use to generate smoke particle system for Radium used as game enemy. It contains atom previous position, maximum no of particles, swap angle, maximum particle displacement. The region of smoke is calculated from atoms previous position and current position and a random swap value is assigned. The smoke particles keeps travelling in the specified direction with the effect of zooming and fading out.

Level: It is master class, which assign Box2D gravity, equipments, atoms, lab components, level components, Box2D mouseJoint data, camera, scale and Box2D world.

Animation, AnimationPlayer: Create animation for the sprite sheet using different textures, looping condition, frameTime, frameCount and origin factor.

Camera2D: Contains the camera control for the level and lab area. It contains Viewport, Position ,Scale, Speed, ScrollWidth, ScrollBar and Matrix transform.

GamePlayScreen: This screen implements the actual game logic. It is just a placeholder to get the idea across. It maintain Toatal Score, LevelIndex, MaximumLevelIndex.

LabScreen: This screen implements the lab area. It consist of edit mode condition, equipments footers, equipments menu entry and toggle between edit modes.

YOUFIRE Addon

Rishab Arora , Bharati Vidyapeeth's College of Engineering
Anshul Goel, Delhi Technological University

youFire is an addon for Mozilla Firefox. It is aimed at individuals who use youtube for educational purposes (such as guitar lessons, tabs, or NPTEL and MIT OCW lectures).

1.   It automatically detects youtube videos being accessed
2.   Plots the youtube videos onto a graph which shows the path followed to that video
3.   Unlike firefox history, it is graphical and uncluttered

Software Used

The addon has been built keeping in mind the beta builds of Firefox 4 as it relies on HTML5 features for rendering of the graph.

•   The Mozilla Firefox addon SDK v1.0b2 has been used to program the background services for detecting URLs and extracting information from URLs and webpage data.

•   Basic plotting algorithms have been implemented in Javascript

•   Rendering of output is done by a combination of widgets and services from the SDK into an HTML5 format.

Languages Used

1.   Javascript
2.   JSON
3.   HTML5

Platform

Mozilla Firefox 4.0b11 OS: Any OS that supports firefox and Javascript

Audience

•   youtube enthusiasts
•   college students
•   hobbyists

▶ iManage

Prerna Singhal,Priyanshu Jain,Sakshi Garg
Delhi Technological University

"Plan your work for today and every day and then work your plan."
Tired of keeping a diary??Tired of managing papers?? Tired of sticking work-plans on your wall??? If the answer to any of these is yes, then its time to switch to iManage – a Mobile App customized for your daily needs. iManage gives you the liberty to manage your life on your mobile phone bringing the entire world in

your fist. Use it and carry your budget plans, expenditure details in your pocket. In today"s busy life, iManage

provides you with the facilities to carry your planner with you, create memos on the move.
Functionalities
Expenditure -It consists of the following functionalities
•	Daily Expenditure Details -The user can keep track of all the money spent on a particular day under various pre-populated categories like transport, household, entertainment and many more. This data gets saved in the database of the application.
•	Generate Report -In this the user can generate report in a particular duration for all the expenditure made by him on a specific category or in total. The data is retrieved from the database corresponding to the dates entered by the user.
•	Plan and View Budget -The user can plan or view his weekly or monthly budget and spend accordingly. The user can divide his money into different categories and can plan only once in a particular week or month.

The data is stored and retrieve from the database of the application.
⬜⬜Refresh -The user can delete the data that is no longer required. The data is deleted from the database.
● Time -The time management tool helps the user manage and spend time effectively. It consists of the following functionalities
⬜⬜Reminders
CREATE-The user can create reminders for any day and can later view or edit it (if required). The reminder is displayed/popped once on the day specified by the user at the starting of the app. VIEW AND EDIT-The user can view and edit the reminders set by him. REFRESH-The user can delete all the out-of-date reminders using this option.
⬜⬜Daily Planner -CREATE -This option allows the user to configure his day in at most five time slots and allocate task to each time slot. VIEW AND EDIT-The user can later view his plan for the day and can also modify it.
● Memo – "Keep a diary and one day it'll keep you".
CREATE -This option allows the user to create new memos with a suitable title. VIEW AND EDIT-In this option the user can select a memo from the list populated by the titles of memos. The user can then view and edit the selected memo. DELETE ALL -This option deletes all the memos.
• HelpLine -In emergency it is hard to recall even the three digits but don"t panic....iManage to the rescue

- Emergency Numbers -In this option user can get emergency call numbers like police, fire service, ambulance and many more for their local (in this app for DELHI) .
- Customer Tollfree Numbers-This option provides toll free numbers of various airlines, banks and many more.

Validations
The following validations are performed
- Date Validation -A function named "dateValidate()" is written which checks for a valid date. Invalid dates like „31-04-xxxx" are not allowed.
- Number Validation -A function named "numberValidate()" is written which checks for a valid numerical input. Invalid entries like „12as4" are not allowed.
- Schedule Validation -A function named "scheduleValidate()" is written which ensures that a planned day is not re-planned. It searches the database and checks if there are any records for the same date. If no, it return true. If yes, it return false.
- Past Date validation -It ensures that no data is saved on passed dates.

Also, on refreshing reminders, only the reminders set for passed dates are deleted.
Tools Used
- Java Development Kit (JDK) 1.6
- Windows
- NetBeans IDE 6.9
- J2ME
- GUIs Developed Using LWUIT
- Emulator Platform -Java(TM) Platform MicroEdition SDK 3.0
- Device Configuration-CLDC-1.1
- Device Profile -MIDP-2.0

Note -The application has been tested on „NOKIA E63" having „S60" OS and „Samsung Corby PRO" having „TouchWiz UI" OS.

BITS BOTS BYTES

BITS- on the spot programming contest
This event puts to test the analytical and quick-thinking
skills of the participants. It's a two stage event- Preliminary round consisting of a
logic test. The chosen few are then
subjected to the programming round where they are
expected to solve the given problem in an efficient and
innovative way.

BYTES- online programming challenge
This online programming challenge tests the abilities
to apply logic quickly and accurately. The contest consists of two rounds and is time
constrained, expecting solutions to some of the toughest programming and algo-
rithm challenges in a short span of 6 hours using any of the available 41 languages.
The participants are pitted against the best in the programming arena with the con-
test script being specially designed to enable users all across the globe to participate.

BOTS-AI programming challenge
We have a game for you, but you got to play it with your mind not with your hands.
You need to program your player within the given rules of the game and emerge vic-
torious against your opponent. Sure the going is tough and the opponents are strong,
but get your moves right and you will be surprised with the rewards that come your
way.
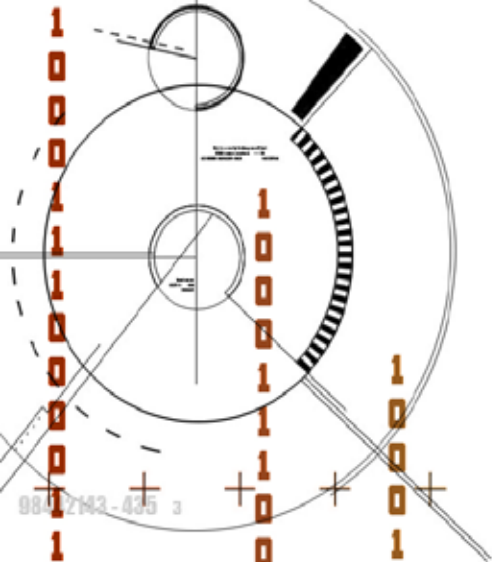
Bits Bots Bytes

TEAM
SAIKAT DEBNATH
ROHIT KUMRA

ansel
API

Building lifestyles since 1967

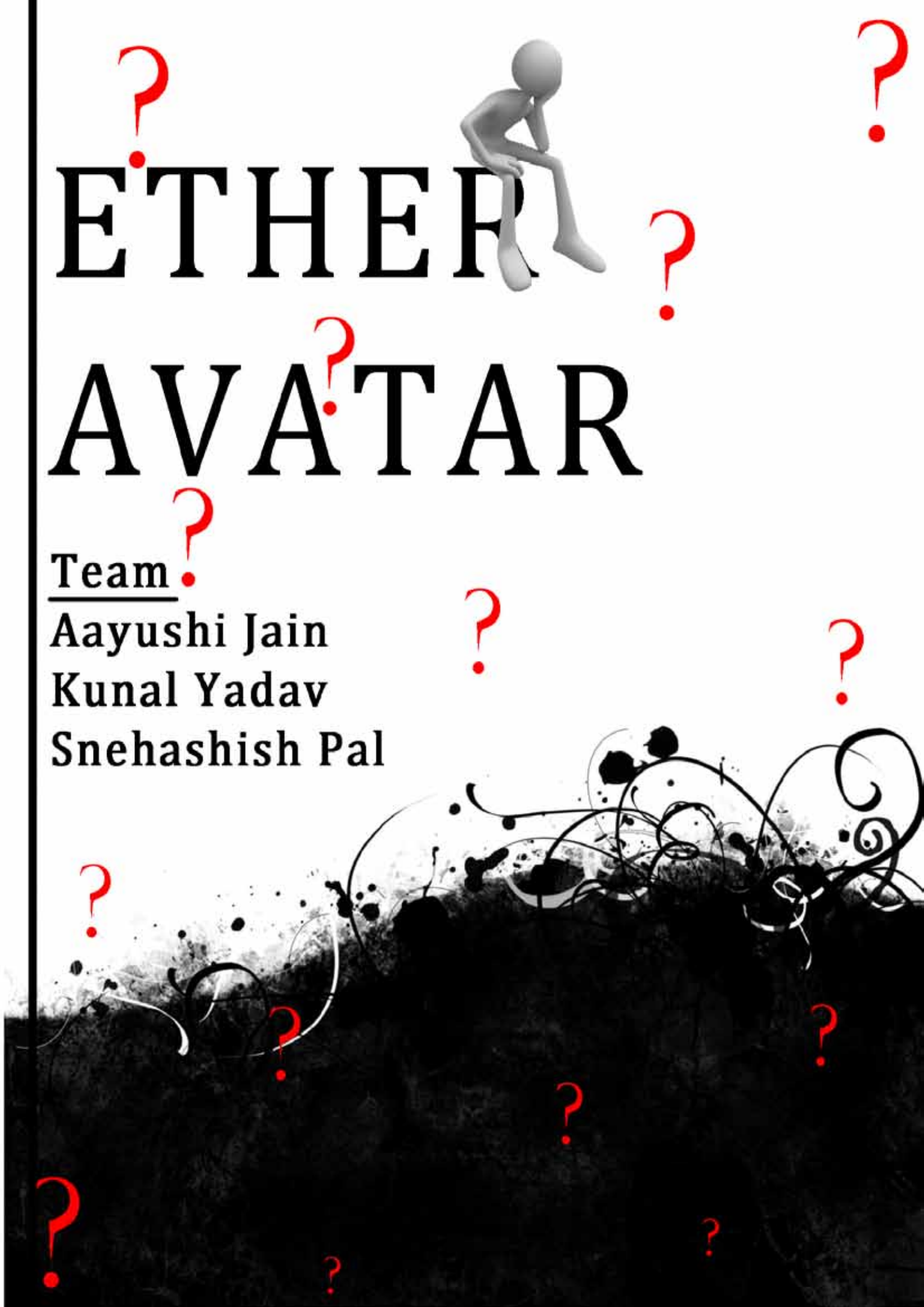With Best
Compliments from

ETHER AVATAR

Team

Aayushi Jain

Kunal Yadav

Snehashish Pal

ETHER AVATAR

"Perplexity is the beginning of knowledge."
- Kahlil Gibran

And you better be perplexed, because only with knowledge can you live through Ether Avatar. Participants bank on their strengths in different fields to progress through the levels of this brain-wracking, nerve wrecking quiz. Summon the best of your gray cells, choose your field of glory, and quiz on!

Participation is allowed in groups of two.

Survival in the preliminary round consisting of mixed sets of questions will pave your way into the mains where each team can choose a specific field and we shall quiz you on the same.

todo en Uno

Team

Rohit Kumra

Rohan Kalra

TODO EN UNO

Come and be baffled by the most curious amalgam of all! Todo en uno, or all in one, includes a combination of riddle solving, coding, quizzing, and much more to ensure that your wits remain out of place. It consists of various rounds where riddle solving, mental ability, logical reasoning and puzzle solving capabilities are tested and nurtured upon. No early knowledge or preparations are required.

Each team will consist of two members.
The event will be of several rounds. It will begin with the prelims and then consecutive rounds will follow. All these rounds will be elimination rounds.
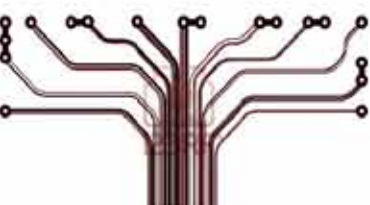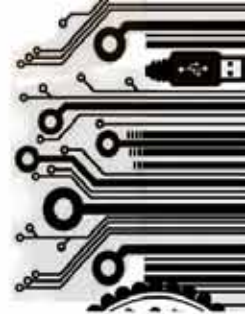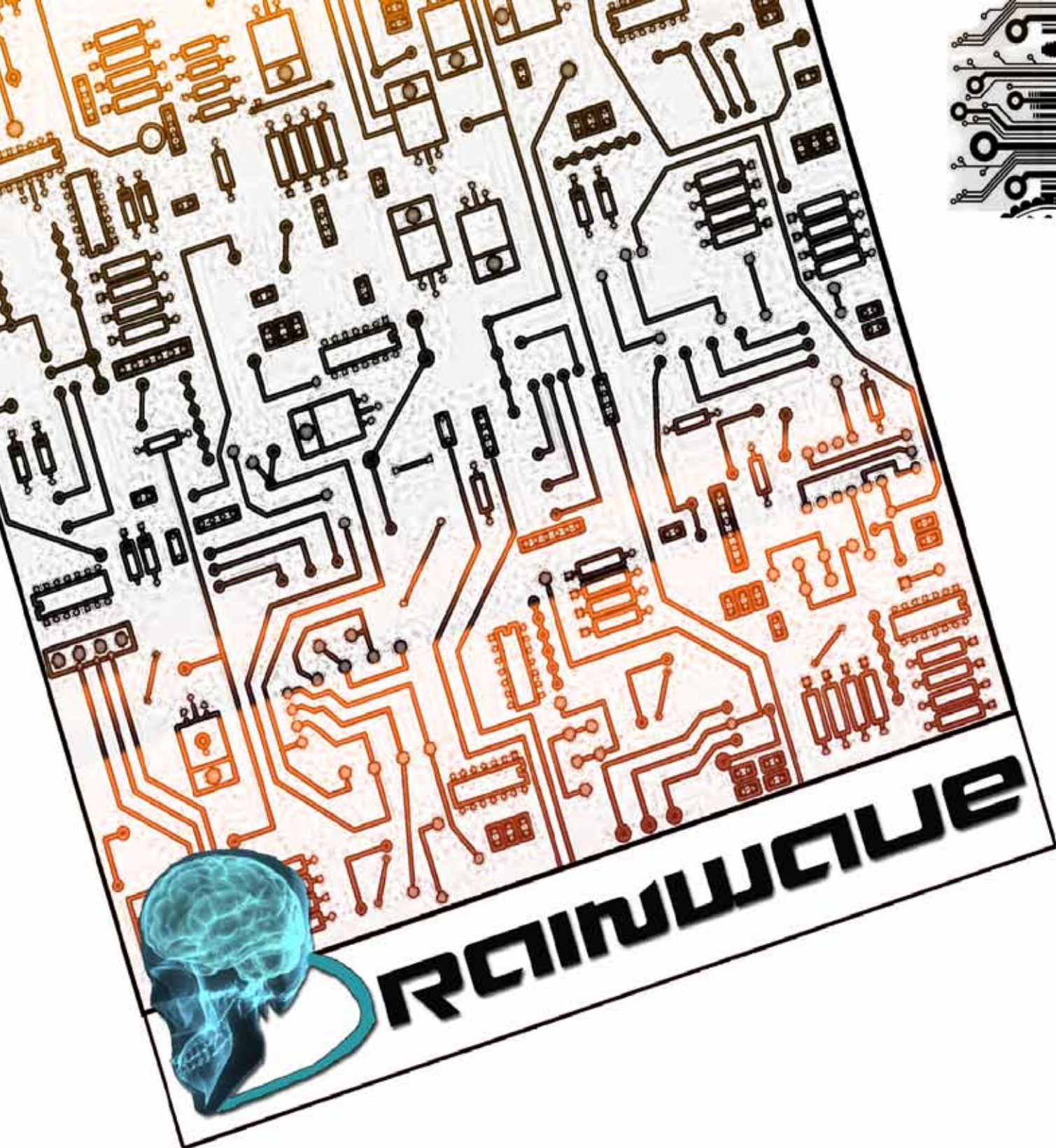The rounds are:
Fuse your mind
Mathemania
Talk with the images
Face the challenge

In the end, one team will emerge victorious.

BRAINWAVE

Team

Sakshi Yadav

Shashank Agarwal

Shaily Jain

Pallavi Bharadwaj

BRAINWAVE

If you are passionate to follow your dream or whatever highest aspiration you may have, then Brainwave is your chance to make it big. It is a confluence of reverie with logical reasoning and circuit conceptualization with simultaneous hardware development.

Brainwave is a hardware conceptualization contest which aims to showcase the latest among hardware design, their synthesis and enhancement. Divided into three categories, the event is set to challenge those who consider themselves to be hardware champions.

First is PLETHORA, an open hardware competition.We have advanced into the modern age with the power of ideas.This event invites those ideas which will serve as a platform for participants to display their electronic know how and designing skills. This event invites the original, the unconventional and the untrodden.

Next is Bravado which we in easy language call E-Junkyard. Believing in the concept of Reuse , Reduce and Recycle we invite participants to create Best out of Waste.

Last and the most awaited is ACUMEN. If you want to reach as high as your dream, come then catch it with UDAN KHATOLA (air-glider competition). If you fear that your worst nighmare may steal your dream, secure it with KHUL JA SIM SIM (electronic lock competition). And if you dream to combine the digital world with the physical world, then ABRA KA DABRA awaits you. Prove your skills by designing a 'gesture-controlled mouse'.

Efficient management of electricity

Harjot Singh, Keshav Peswani, Guneesh Paul Singh, Ashish Yadav
Delhi Technological University

An electric meter or energy meter is a device that measures the amount of electrical energy consumed
by a residence, business, or an electrically powered device.
Electric meters are typically calibrated in billing units, the most common one being the kilowatt hour. Periodic readings of electric meters establishes billing cycles and energy used during a cycle.
In settings when energy savings during certain periods are desired, meters may measure demand, the maximum use of power in some interval. In some areas, the electric rates are higher during certain times of day, to encourage reduction in use. Also, in some areas meters have relays to turn off nonessential equipment.
Electricity meters operate by continuously measuring the instantaneous voltage (volts) and current (amperes) and finding the product of these to give instantaneous electrical power (watts) which is then
integrated against time to give energy used (joules, kilowatt-hours etc.)
Electronic watt-hour meters use solid state circuits that produce electrical signals whose frequency or strength is proportional to the voltage and current being used. These signals are converted into energy measurements recorded by mechanical or electronic indicators. Electronic watt-hour meters are generally more expensive than electromechanical models, but are more accurate. They can provide such
features as the ability to record separately the energy consumed during different times of day and the ability to report meter readings by means of signals sent through the power lines to the power company.
In this project, we connect our equipment to the electronic meter and record its consumption for a particular period of time and then our appliance calculates its average electricity bill for the month.
Our equipment has 4 relays to which various appliances in the premises are connected on the basis of wattage. Eg- the appliances consuming high power are connected to one switch, the appliances consuming medium power are connected to another switch and so on. These relays can be directly controlled from our appliance. They can be switched on or off manually and can also be timed. In this way energy can be saved by switching off the relays of the lines whose appliances are not being used.

Applications
1. In homes appliances like tv, sound system etc remain on in standby thereby consuming power. So we can save energy by switching off those lines.
2. In large institutes, universities and colleges fans, tubelights and other devices remain on even after students leave the premises so using our equipment we can switch them off directly without bothering to go to every class and lab.
3. In industries where there are large number of machines we can connect different machines to different switches and thus we can control them directly, thereby can prevent wastage of electricity by avoiding useless running of machines.

▶AUTO STRING PUPPET

VIshnu Teja·Y, Deepansh Arora, Deepak Sharma
Jaypee Institute of Information Technology

Main idea of our project is to design a puppet which has both hardware and software interface i.e. deigning a puppet which can perform different moves in response to the music played in IPod, laptop (different moves corresponding to different frequency of the input).Manipulating a string controlled puppet to achieve lifelike bodily movement involves programming a microcontroller for performing different moves according to music that is given as input.

Dancing puppet is an easy replacement for the costly available dancing bot available in the market. Due to its attractiveness, it can be used for advertisement purposes. So, we think it as a great entrepreneurial idea to dive into. Moreover it is a perfect source of entertainment for all. We also want our puppet to dance man like motion standing in front of puppet using image processing.

Thus its commercial applications are varied in terms that in future it can be used for giving human like expressions to puppet, educating people and bringing awareness.

Dynamic Stabilization of a Hexapod

Ankur Jain
Netaji Subhas Institute of Technology

The ability of walking in a wide variety of terrains is one of the most important features of hexapod insects. In this paper we describe a bio-inspired controller able to generate locomotion and switch between different types of gaits for an hexapod robot. Motor patterns are generated by coupled Central Pattern Generators formulated as nonlinear oscillators. These patterns are modulated by a drive signal, proportionally changing the oscillator frequency, amplitude and the coupling parameters among the oscillators. Locomotion initiation, stopping and smooth gait switching is achieved by changing the drive signal. We also demonstrate a posture controller for hexapod robots using the dynamical systems approach. Results from simulation using a model of the hexapod robot demonstrate the capability of the controller both to locomotion generation and smooth gait transition. The postural controller is also tested in different situations in which the hexapod robot is expected to maintain balance. The presented results prove its reliability.

Hardware Description: A hexapod is a mechanical vehicle that walks on six legs which is a close chain kinetic structure. The mechanical component is known as the Stewart platform.

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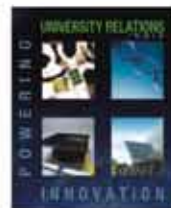
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