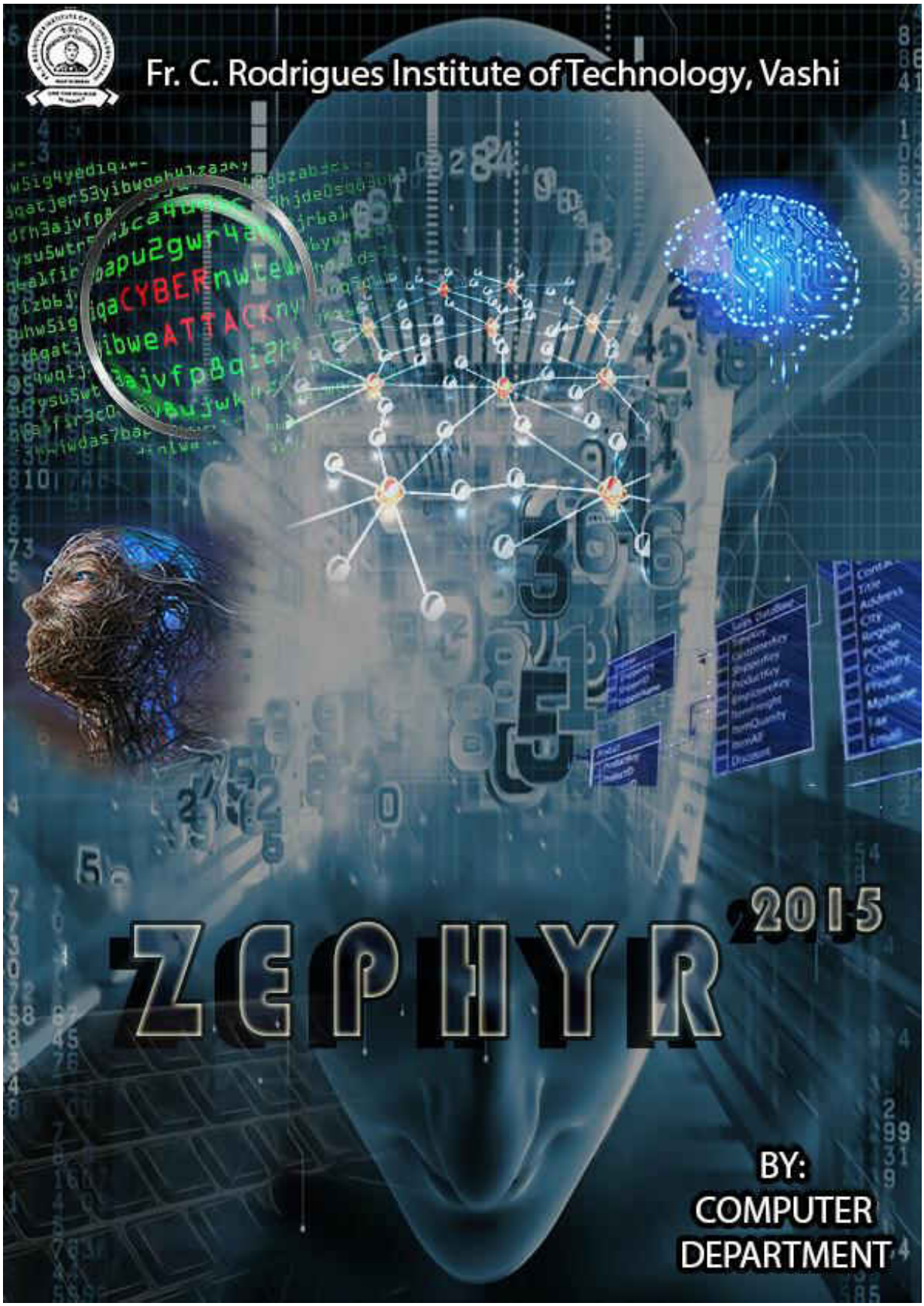
Fr. C. Rodrigues Institute of Technology, Vashi
ZEPHYR
2015
BY:
COMPUTER
DEPARTMENT

FROM THE HEAD OF THE DEPARTMENT

Prof. Harish Kumar Kaura
Head ,
Department of Computer Engineering

Let me congratulate Computer Engineering students for bringing out the Departmental Magazine **ZYPHYR-2015**, in time. This magazine gives students a platform to share technical as well as non technical skills.It highlights students' achievements and show case of their talents in extra-curricular and co-curricular activities.

I am very happy that we have made a very significant progress in undertaking final year projects in the latest topics in the areas of cloud computing, data mining, parallel computing, network security, image processing and Digital Forensics. Some of the projects undertaken recently involves development of innovative applications using laptops, smart mobile devices, robots and advanced image processing techniques.

The placements of the students have been extremely well. Around 40 students were eligible for placement and all these students were placed, well before the end of the semester. The Final year students of our department have bagged 5^{th} ,6^{th} & 11^{th} ranks for the year 2014-2015 at University level, out of approximately 5420 students .

The ready availability of technical and other information, due to high speed internet and latest wireless tablets and smart mobiles have enhanced the learning potential of the students tremendously. I believe that the students of current generation, are much more intelligent, knowledgeable and can achieve the goals that are set in their life.

DEPARTMENT DETAILS

The four year Computer Engineering Degree Course was started in the year 1994 and it was accredited for three years from 2006 and reaccredited for two years w.e.f 2012. B.E Computer Engineering course offered introduces the student to the world of programming starting with the basics and slowly leading towards the high end programming technologies.

The Computer Engineering Department has well equipped labs with the latest Servers, Desktops, Laptops interconnected by Wired and Wireless LANS.

Besides this, Computer Department Association – ACESS (Agnel Computer Engineering Students Symposium) plays a major role in conducting various workshops and Short term courses like Storage Area Network (SAN), BigData Analytics-Hadoop,Web Designing, Open Source Technologies, Python, Robotics, Advanced Mobile Technology etc. to keep the students at par with the requirements of the industry and to make them successful professionals. Apart from this, students are encouraged to become members of professional societies like CSI, IEEE etc.

Department has well qualified faculty members who are specialized in various areas .Students implement real time-projects which are mostly research oriented guided by faculty in the final year as part of their curriculum which trains them to be highly competent computer software professional needed by industry . During the curriculum, the department provides a platform for students to present/publish technical papers in National and International Conferences.

Contact Details :
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FACULTY OF COMPUTER ENGINEERING DEPARTMENT

SR.NO.	NAME OF THE FACULTY
1.	Mr. H.K. Kaura
2.	Mrs. M.Kiruthika
3.	Mr. Amroz Siddiqui
4.	Mrs. Vijayalakshmi P.B
5.	Mrs. Smita Dange
6.	Mrs. Shweta Tripathi
7.	Mrs. Rakhi Kalantri
8.	Mrs. Sandhya Pati
9.	Mrs. Shagufta Rajguru
10.	Mrs. Dakshayani G
11.	Mrs. Kavita Shelke
12.	Mr. Mritunjay Ojha
13.	Mr. Rahul Jadhav
14.	Mrs. Swati Kinhekar
15.	Mrs. Rupali Deshmukh

R & D Projects

Sr. No	Fields of Research & Development
1	Parallel Computing
2	Advanced Graphics
3	Data Mining
4	Image Processing
5	Advanced Networking System
6	Wireless Sensor Networks
7	RFID And Wireless Technology
8	Mobile Applications
9	Digital Forensics

EVENTS ORGANIZED FOR STUDENTS BY COMPUTER ENGINEERING DEPARTMENT

Sr. No.	Name of the Seminar / Conference / Competition / Short Term Training Programme	Speaker	Convener
1.	**Project Poster Presentation** Competition for Final Year Projects		Mrs. Smita Dange
2.	**ACESS'2014** Seminar on "Large Scalable Visualization Environment on Scientific Application"	Shri S.K.Bose	Mrs. Shweta T
3.	Seminar on "Cyber Security"	Mr. A.R.Patil	
4.	Seminar on "Entrepreneurship"	Mr.Vikram Bhatti	
5.	**ACESS'2015** Seminar on "Cyber Crime Investigation and Computer forensics"	Mr.Sachin Dedhia	Mrs. Shweta T
6.	**CRYPTEX'14** Workshops on : a) Android App Development b) Python c) Web Designing d) Core Java e) Coding& Gaming	Conducted by Students of VI Semester	Mrs. Vijayalakshmi

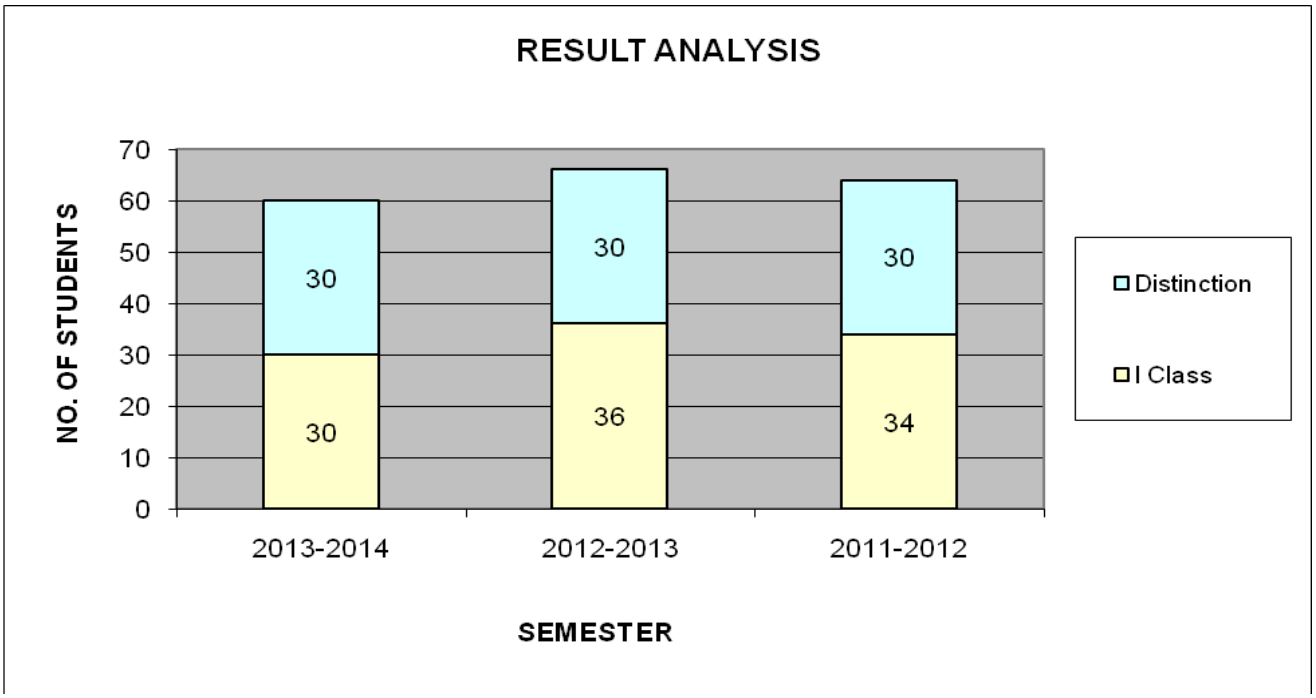
STTP / WORKSHOPS / CONFERENCES ORGANIZED BY COMPUTER ENGINEERING DEPARTMENT

Sr. No.	Name of the Seminar / Conference / Competition / Short Term Training Programme	Convener
1.	FDP on "BigData Analytics-Hadoop" by TCS, 15-16 April,2015	Mrs. M. Kiruthika Mrs. Smita Dange (Co-Convener)

FACULTY PUBLICATIONS*

Sr.No.	Name of the Faculty	National Conference	International Conference	International Journal
1.	Mr. H.K. Kaura	04	04	05
2.	Mrs. M.Kiruthika	10	11	14
3.	Mr. Amroz S	02	-------	03
4.	Mrs. Vijayalakshmi	02	08	02
5.	Mrs. Smita Dange	09	05	07
6.	Mrs. Shweta Tripathi	05	02	06
7.	Mrs. Rakhi Kalantri	05	03	05
8.	Mrs. Sandhya P	04	02	07
9.	Mrs. Shagufta	02	02	03
10.	Mrs. Dakshayani G	01	03	06
11.	Mrs. Kavita S	-------	02	05
12.	Mr. Mritunjay Ojha	01	03	06
13.	Mr. Rahul Jadhav	02	01	02
14.	Mrs. Swati K	01	01	02
15.	Mrs. Rupali D	01	01	03

*- Till date



LIST OF TOPPERS (2014-2015)

FINAL YEAR

1) Mr. Ramakrishnan Narayan **81.46%** (5^{th} University Rank Out of 5420)
2) Mr. Shete Rushikesh **81.33%** (6^{th} University Rank Out of 5420)
3) Mr. Avasthi Naman **80.40%** (11^{th} University Rank Out of 5420)

THIRD YEAR

1) Ms. Vaidya Pranjali **9.019 CGPA**
2) Ms. Agarwal Sanchita **9.006 CGPA**
3) Mr. Shinde Deepak **8.883 CGPA**

SECOND YEAR

1) Ms. Divya Kulkarni **8.913 CGPA**
2) Ms. Mansi Kulkarni **8.803 CGPA**
3) Mr. Danish Chaus **8.77 CGPA**

FINAL YEAR TOPPERS

Mr. Ramakrishnan Narayan

5th University Rank

Mr. Shete Rushikesh

6th University Rank

THIRD YEAR TOPPERS

Ms. Vaidya Pranjali

Ms. Agarwal Sanchita

Mr. Shinde Deepak

SECOND YEAR TOPPERS

COMPETITIVE EXAM DETAILS

Year	Nature of examination	No. of Students	
		Appeared	Qualified
2014 – 2015	GATE	11	6
	GRE	6	6
2013 – 2014	CAT	01	01
	GATE	08	08
	GRE	09	09
	TOEFL	09	09
	MMS	01	01
	XAT	01	01

2012-2013	CAT	02	02
	GATE	11	10
	GRE	08	08
	TOEFL	08	08
	MAT	01	01
	CMAT	03	03

CAMPUS PLACEMENT 2014-2015

Sr.no	Company	No. of Students Placed	Pay Package
1	TCS	28	3.16 Lacs
2	PERSISTENT	02	3.2 Lacs
3	IGATE	03	3.15 Lacs
4	CAPGEMINI	01	3.5 Lacs
5	IBM	01	2.9 Lacs
6	ORACLE OFSS	01	4.2 Lacs
	Total	**36**	**3.35 Lacs(Average)**

CAMPUS PLACEMENT 2013-2014

Sr.no	Company	No. of Students Placed	Pay Package
1	TCS	14	3.16 Lacs
2	NSEIT	02	3.27 Lacs
3	PERSISTENT	04	3.2 Lacs
4	IGATE	02	3.15 Lacs
5	INSCRIPT	01	2.7 Lacs
6	NEEBAL	01	4.0 Lacs
7	ATOS	05	3.4 Lacs
8	IBM	01	2.9 Lacs
9	YODLEE	01	3.8 Lacs
10	ORACLE OFSS	02	4.2 Lacs
11	TECH MAHINDRA	01	3.2 Lacs
12	ALLERIN TECH	01	3.6 Lacs
	Total	**35**	**3.33 Lacs(Average)**

CAMPUS PLACEMENT 2012-2013

Sr.no	Company	No. of Students Placed	Pay Package
1	TCS	28	3.16 Lacs
2	NSEIT	02	3.27 Lacs
3	INSCRIPT	02	2.7 Lacs
4	ATOS	14	3.4 Lacs
5	ORACLE OFSS	03	3 Lacs
6	MAXVAL	02	2.8 Lacs
	Total	**51**	**3.05 Lacs(Average)**

PAPER PRESENTATIONS IN NATIONAL , INTERNATIONAL CONFERENCES AND INTERNATIONAL JOURNALS

Student Publication Record 2014-2015			
Sr. No	**Student Name**	**Paper Title**	**Details**
1	Sainath B Gadhe Ganesh Chinchansure Amar Kumar	Women Anti-Rape Belt	COMPUSOFT –IJACT, **International Journal** of Advanced Computer Technology ,Volume –4 ,Issue 4,ISSN:2320-0790, Page No:1632-1636
2	Shashank Nigam Pratik Malkar	Ubiquitous Heart Disease Detection System	**International Journal** of Advanced Research in Computer Science and Management Studies , Volume 2 ,Issue -12 ,ISSN -2321-7782 , Page No :310-319
3	Snigdha Parthan Aditi Deodhar Pranoti Nage	"Visualizing and Analyzing Industrial Samples Using Non-Destructive Testing"	**International Journal** of Software and Web Sciences (IJSWS), Issue 11, Volume 1, pp. 35-39, ISSN (Online): 2279-0071
4	Upasana Dugad Chaitrali Mahanwar Nimisha Rajeev	Indoor Surveillance System using Image Processing	**International Journal** of Software and Web Sciences (IJSWS), Issue 11, Volume 1, pp. 35-39, ISSN (Online): 2279-0071
5	Rupesh Jaiswal Nikhil Ambad Aditya Jadhav	Devanagari to English Converter	**International Journal** of Computer Application, Volume 1, Issue 5 ,ISSN: 2250-1797 ,Page No :91-101
6	Sayali Goregoankar Pooja Durge	Understanding The Working Of Oauth Protocol	**International Journal** of Computer Science and Engineering (IJCSE) ISSN(P): 2278-9960; ISSN(E): 2278-9979 Vol. 3, Issue 6, Nov 2014, 1-10
7	Parag Nemade Vaibhav Jaybhaye Neethu Menon	Designing Virtual Lab s Using cloud Computing	**C**OMPUSOFT –IJACT ,**International Journal** of Advanced Computer Technology ,Volume 3 –

			Issue X ,October 2014 ,ISSN:2320-0790
8	Sayalee Pote Minal Ugale Rohan Choudary	Ad-hoc Reporting Using Hadoop	**International Journal** of Advanced Research in Computer Science and Software **(IJARCSSE**) Volume 5, Issue 2, February 2015 ISSN: 2277 128X Pg No : 505-508
9	Priyanka Nathani Pooja Patil Monika Chakane	An Application for Customized Helpline	**International Journal** of Computer Technology and Applications (IJCTA),Volume 5 ,Nov-Dec 2014 ,ISSN :2229-6093 ,Pg :1859-1862
10	Vineet Mishra Pallavi Nigam Sutar Samrat	Developing a Computer Forensic Framework	**International Journal** of Engineering Research and Technology (IJERT) **,** ICNTE2015 Conference Proceedings, Pg No :161-165
11	Rushikesh Shete Aayush Vats Aaditya Panikath	Penetration Testing	**International Journal** of Engineering Research and Technology (IJERT) **,** ICNTE2015 Conference Proceedings, Pg No :229-234
12	Akshat Bansal Amitabh Tiwari Jay Sheth	Parallelizing PARM	**International Journal** of Advanced Technology in Engineering and Science (IJATES), Vol-2, Issue-12, Dec-2014,ISSN:2348-7550 Pg. No. :589-596
13	Akshat Bansal Amitabh Tiwari Jay Sheth	NFS and SSH from a Linux Cluster Point of View	**International Journal** of Advanced Technology in Engineering and Science (IJATES), Vol-3, Issue-1, March-2015,ISSN:2348-7550 Pg. No. :856-862
14	Naman Avasthi Palakh Jude Rhea Thomas	Web RTC Enabled Video Communication	**International Journal & Conference** International Journal of Engineering Research and Technology (IJERT) **,** ICNTE2015 Conference Proceedings, Pg No :153-156

15	Yadhu Prakash Kahan Prabhu Shruti Kamtekar Sainath Gadhe	Incorporation of Swarm Intelligence in Autonomous Cars	**International Journal** of Computer Science and Information Technology (IJCSIT), Vol-5, Issue-5,2014, ISSN:0975-9646 Pg. No.: 6307-6309
16	Naman Avasthi Palakh Jude Rhea Thomas	Browser Based Video Communication using WebRTC	**International Journal** of Computer Science and Network, ISSN NO :2277-5420, Volume – 4, Issue-2, Page No. 437-443, April-2015
17	Narayanan R Shraddha Parkar	License Management System using Android based Mobile Biometrics	**International Conference** on Emerging Trends in Technology, Science and upcoming Research in Computer Science , ICDAVIM-15; Date: 25th April, 2015
18	Shruti Kamtekar Sarang Paithankar Priyanka Deshmukh	School Bus Tracking System	**International Journal of Innovative Science and Modern Engineering™ (IJISME),** ISSN NO: 231 – 6386, Volume-3 Issue 5, April 2015

Student Publication Record of 2013-2014			
Sr. No	**Student Name**	**Paper Title**	**Details**
1	Amiraj Dhawan, Parag Oak, Rahul Mishra, George Puthanpurackal	Path Based Mapping Technique for Robots	**International Journal** of Advanced Research in Artificial Intelligence(IJARAI), Vol. 2, No.5, 2013
2	Amiraj Dhawan , Anuradha Bhat , Soumya Sharma	Automated Robot with Object Recognition and Handling Features	**International Journal** of Electronics and Computer Science Engineering**(IJECSE)** , Volume 2, Number 3 ISSN- 2277-1956
3	Amiraj Dhawan, Vipul Honrao	Implementation of Hand Detection based Techniques for Human Computer Interaction	**International Journal** of Computer Applications **(IJACT)** (0975 – 8887) Volume 72– No.17, June 2013
4	Rohit Jha, Alfy Samuel, Ashmee Pawar	A Domain-Specific Language for Discrete Mathematics	**International Journal** of Computer Applications **(IJACT)** (0975 – 8887) Volume 70– No.15, May 2013
5	Kalpesh Adhatrao , Abhishek Aswar Aishwarya Iyer ,	Parallelizing Network Flow Using ϵ-relaxation Algorithm	**International Journal** of Electronics and Computer Science Engineering **(IJECSE)** , Volume 2, Number 3 ISSN- 2277-1956
6	Aditya Gaykar, Nivedita Sharma, Abhijit Bhandarkar	Parallelizing Network Flow Algorithm Using Push-Relabel Method	**International Journal** of Emerging Research in Management &Technology ISSN: 2278-9359 (Volume-2, Issue-6)
7	Kalpesh Adhatrao, Aditya Gaykar, Rohit Jha, Vipul Honrao	A Secure Method For Signing In Using Quick Response Codes With Mobile Authentication	**International** Journal of Student Research in Technology & Management Vol 1(1) Pg 01-11 Vol.1 (1), March 2013, pg 01-81 [ISSN 2321-2543] [ISBN 978-8192578-11-8]
8	Vipul Honrao, Sayali Patil, Pravish Shetty	Gesture Controlled Robot using Image Processing	**International Journal** of Advanced Research in Artificial Intelligence **(IJARAI),** Vol. 2, No. 5, 2013
9	Kalpesh Adhatrao, Aditya Gaykar, Amiraj Dhawan, Rohit Jha , Vipul Honrao	Predicting Students' Performance Using Id3 And C4.5 Classification Algorithms	**International Journal** of Data Mining & Knowledge Management Process (IJDKP) Vol.3, No.5, September 2013 ,Pg No.39-52

10	Sylvia Francis , Pulkit Jain , Debabrata Pal	Comparison Based Different Techniques of Intrusion Detection and Prevention	**International Conference** on Electrical ,Electronics and Computer Science Engineering (**ICEFCS) 2013** ,25th Aug 2013 ,Nagpur ISBN:978-93-83060-11-5 Pg No: 9 -13
11	Varsha Varadarajan, Snehita Kolapkar Monica Saini	Scalability Issues And Solutions In Wireless Networks	Annual Technical Paper Meet-2013 The Institution of Engineers (India) Pune Local Centre
12	Digja Khanvilkar, Thankaselvi Kumaresan, Sheryl Mathias	Study of Mobility and Handoff in wireless networks	Annual Technical Paper Meet-2013 The Institution of Engineers (India) Pune Local Centre
11	Rohan Putta , Gayatri Shinde, Punit Lohani	Object Detection Using Image Processing For an Industrial Robot	**International Conference** on Computer Science and Mechanical Engineering (**ICCSME)** , by IRAJ institute Pune 15th September 2013
12	Sayantika Kandar Swapanali B, Hanu Jindal	Survey tool and Technique Used for Data Analysis	**International Conference** on Advanced in Electrical ,Electronics ,Mechanical and Computer Science,22nd September2013 ,Hyderabad Pg No 37-44
13	Adarsh Kenia, Sneha Kadam, Pooja P	In-Vehicle Infotainment Systems	**International Conference & Journal** Raj International Conference on Advanced Computational Engineering and Networking -2014 , 15th September
14	Pratim Kar, Sumedh Koshe, Aniket Gosavi	Study Of Vulnerabilities Of WLAN Security Protocols	**International Conference** on Computer Science and Mechanical Engineering (**ICCSME)** , by IRAJ institute Pune 15th September 2013
15	Akshay Mohite, Anand , Rohan k	Comparative study of Barcode, QR code and RFID System	**International Journal** of Computer Technology and Applications (**IJCTA)** ,Volume 4 –Issue 5 ,Sep-Oct 2103 .Pg 817-821
16	Vivek, Shrikant, Mayur Bangare	Software Defined Networking –A Networking Paradigm to meet the emerging trends	**International Journal** of Advanced Researched in Computer And Communication Engineering **(IJARCCE)**Volume 3 ,Issue 2 February 2014.
17	Nitin Cyriac, Aditya Mandhare Soniya Nemade	Web Personalization	**International Journal** of Computer Technology and Applications **(IJCTA)** Volume 5 ,Issue1,January –February 2014

18	Amal Jose, Avinash Mugale, Mayur Bhangare	Intelligent Interface for an Electronic Keyboard	**International Conference** on Science and Technology 2014 at S.B.Patil College of Engineering ,Indapur-Pune on 21and 22nd Feb 2014. Page no 89
19	Oshin , Merlyn, Priyanka	Processing of Sputum Images for Diagnosis of Lung Cancer	**International Research Conference** on Recent Advances in Engineering and Technology **(IRCRAET)** ,Pune –March 2014
20	Thankaselvi K, Sheryl Mathias, Digja Khanvilkar	Energy Efficient Tracking System Using Wireless Sensors	**International Journal** of Advanced Computer Technology **(IJACT)** Volume 3 ,Issue 4 ,April 2014
21	Varsha V, Monika Saini, Snehita K	A Smartphone Based Navigation System for the Visually Impaired	**International Journal** of Advanced Computer Technology **(IJACT)** Volume 3 ,Issue 4 ,April 2014
22	Rahul Sharma, Raunak, Akshay Sanganal	Li-fi Technology Transmission of Data through Light	**International Journal** of Computer Technology and Application**(IJCTA)** Volume 5 ,Jan-Feb 2014 .Page No 150-154
23	Akshay Mohite, Anand , Rohan k	RFID Based Toll Collection System	**International Journal** of Computer Science and Information Technologies , **(IJCSIT),**Volume 5 ,Issue 2 ,April 2014 Page No 2582-2585
24	Keerthi Priya, G Deepak Rao, Swathi Kandala	Secure fingerprint using Mosaicing	**International Conference & Journal** on Advances in Engineering & Technology-2014 (**ICAET**),8 & 9 January 2014
25	Nikhil Jamdade, Sushant Borse, Deryle D'souza	Anti-piracy Systems to prevent Collusive Copyright Protection in P2P Network	**International Conference & Journal** on Advanced In Engineering and Technology -2014 ,Organized by Anjuman College of Engineering & Technology,Nagpur . 8th and 9th January 2014. **Published in IOSR Journals.**

Student Publication Record of 2012-2013			
Sr. No	**Student Name**	**Paper Title**	**Details**
1	Neeta Kokane, Shraddha Pulse, Ajinkya Pisal, Akhil J	Comparison Of APU Vs. Discrete CPU & GPU	**National Conference** -" NIRMAN-2013" held at A.C.Patil College of Engineering inFeb 22-23 2013 ,Navi Mumbai.
2	Deepak Patil, Pritam Pachpute, Sushant Dhende, Miron Mangalath	Temperature Predication Using Artificial Neural Network	**International Conference** on Recent Advances and Challenges in Engineering and Management ,RACEM-2013 at VIT ,Mumbai
3	Haresh Kedar, Anuradha Bhat, Rahul Jain	Ethical Hacking	**National Conference –**"NCETETA 2013" held at D.Y.Patil College of Engineering and Technology ,Kolhapur
4	Prashant N, Parish Vyas, Rahul Tolani	Advanced Aid for Visually Impaired for Reading Text Online	**International Journal – IJEAT,** ISSN: 2249 – 8958, Vol-2, Issue-2, Dec-2012
5	Kalpesh Adhatrao, Aditya Gaykar, Vipul Honrao, Rohit Jha	A Secure Method For Signing Up in Using Quick Response Codes With Mobile Authentication	**National Conference** -" NIRMAN-2013" held at A.C.Patil College of Engineering inFeb22-23 2013 ,Navi Mumbai.
6	Aishwarya Iyer, Komal Rahate, Prajakta Sawant	Comparison of approaches to intra-body communication	**Indian Journal** of Computer Science Engineering **(IJCSE**)–ISSN-0976-5166 ,Vol-3, Issue -5
7	Soumya Sharma, Diviya Mahajan, Rithvik Ranadive	Machine Readable Travel Document using Visible light Communication	**International Journal** of Eng Inventions **(IJEI**) March 2013
8	Soumya Sharma, Javid Khan, Diviya Mahajan, Rithvik Ranadive	Augmented Reality –An Emerging Technology	**International Journal** of Engineering Science & Research Technology (**IJESRT**) ISSN-22779655 March 2013.
9	Yogini Chaudhari, Geetika Chauhan, Pooja Dalvi , Jayshree Gavit	Mobile Payment using NFC Tap and Pay	**National Conference** -" NIRMAN-2013" held at A.C.Patil College of Engineering inFeb22-23 2013 ,Navi Mumbai.
10	Kaushik Gogoi, Binay Rai, Pradip Talekar	Image and Video Enhancement Using Super Resolution	**National Conference -Equinox** Nascent Trends in Information & Communication Technologies by Terna Engineering college –Navi Mumbai in 11th to 13th March 2013
11	Tanvi Amin, Prajakta Sawant, Dhanavantri Tilak	Author Identification for Marathi Literature Using Data Mining	**International Conference & International Journal** of Global Technology Initiatives **(IJGTI)**) ISSN (Print)-22776591 ISSN(Online)-23201207 ,March 2013.

12	Gauri Naik , Madhavi Khedekar, Mahalakshmi Krishnamoorthy	Comparison of RSSI Techniques in Wireless Indoor Geolocation	**National Conference** on Computing and Communication Systems (**NCCCS**) held at Dr.B.C.Roy Engineering College Durgapur ,India,21-22 Novemeber 2012
13	Rahul Mishra, Miron Mangalath, Gauri Naik	Automated Web Micros For Firefox	**International Journal** of Emerging Research in Management and Technology(**IJERMT) ,**ISSN-2278 9359
14	Vishal Patil, Mahalakshmi K, Parag Oke	A Statistical Approach for Document Summarization	**International Journal** of Advanced Computer Technology(**IJACT**),ISSN-2319-7900
15	Deepak Patil, Pritam Pachpute, Haresh Kedar	Image Driven Augmented Reality by using Image Processing	**International Journal** of Emerging Research &Technology,ISSN: 2278-0181 (Volume-2, Issue-4)
16	Divya Chaudhari, Disha Victor, Kunjan Gawande	Human Computer Interaction :Overview of Eye Movement Based Interaction	**National Conference** held at LT College of Engineering ,Navi Mumbai on 13th October- 2012
17	Alfy Samuel, Awani Marathe, Chaitali Kharangate, Tanvi Amin	Human Computer Interaction :Overview of Brian Machine Interaction	**National Conference** held at LT College of Engineering ,Navi Mumbai in 13th October 2012
18	Abhijit B, Abhishek Aswar, Pratik Ashwekar, Aparna Markandeya	A Sentiment Analysis –A Survey	**National Conference** -" NIRMAN-2013" held at A.C.Patil College of Engineering inFeb22-23 2013 ,Navi Mumbai.

Student Recognitions 2014-2015				
Sr. No.	**Student Name**	**Faculty**	**Project Title**	**Details**
1.	Vineet Mishra Pallavi Nigam Samrat Sutar	Mrs. Shweta Tripathi	Computer Forensics Framework	Got accepted by Cyber Cell of Navi Mumbai Police and the project is successfully deployed
2.	Somesh Gupta Ripal Bhavsar Alfiya Bohra	Mrs. Kiruthika M	Sub Contract Management For a Food Joint	Successfully Deployed at Taste IT Solution ,Mumbai
3.	Gagan Bisht Rohit Dang Gaurang Sadafule	Mrs. Kiruthika M	Supply Chain Management	Successfully Deployed at Taste IT Solution ,Mumbai
4.	Shruti Kametkar Priyanka Deshmukh Sarang Paithankar	Mrs. Shweta Tripathi	GPS based School Bus Tracking System	**Secured 1st prize in project competition INFINITY'15** at Bhartiya Vidyapeth College of Engi neering Nerul
5.	Shruti Kametkar Priyanka Deshmukh Sarang Paithankar	Mrs. Shweta Tripathi	GPS based School Bus Tracking System	**Secured 2nd prize in the event Project Exhibition Tech Expo** organized by Team Trinity of D.J. Sanghvi College of Engineering

STUDENT ACHIEVEMENTS

SEMESTER- VIII

PROJECT POSTER PRESENTATION WINNERS(P-CUBE)

2014 – 2015

PROJECT		
	PROJECT TITLE	**TEAM MEMBERS**
I PRIZE	A Secure Web Application for an Event Management	Aayush Vats
		Aaditya Panikath
		Rushikesh Shete
	Parallel Computing using Data Mining Algorithm	Amitabh Tiwari
		Jay Sheth
		Akshat Bansal
II PRIZE	Computer Forensic Framework	Vineet Mishra
		Pallavi Nigam
		Samarat Shete
	A GPS based School Bus Tracking System	Sarang Paithankar
		Shruti Kamtekar
		Priyanka Deshmukh
III PRIZE	An Android based Conductive Safety Belt for Women	Ganesh Chinchansure
		Sainath Gadhe
		Amar Kumar
	Ad-hoc Reporting tool Using Hadoop	Rohan Chaudhary
		Sayalee Pote
		Minal Ugale
IV PRIZE	Gas Leakage Detection with an Automatic Valve Closing System	Darshana Patil
		Sribala Chokkalingam
		Saurabh M.
	Devnagari to English Conversion	Rupesh Jaiswal
		Aditya Jadhav
		Nikhil A.

POSTER		
	PROJECT TITLE	**TEAM MEMBERS**
I PRIZE	Supply Chain Management	Gagan Bisht
		Rohit Dang
		Gaurang Sadafule
	Visualization &Analysis of 3 D Scientific Data	Aditi Deodhar
		Pranoti Nage
		Snigdha P.
II PRIZE	Implementing OAuth for a Music Store	Sayali Goregaonkar
		Pooja Durge
		Tushar Kajale
	A Customised Helpline System	Priyanka Nathani
		Monika Chakane
		Pooja P.
III PRIZE	Home Based Data Server Using Raspberry PI	Gaurav B
		Raju K
		Dhaval K
	Virtual Lab using Cloud Computing	Parag Nemade
		Vaibhav Jaybhaye
		Neethu Menon

MODEL		
	PROJECT TITLE	**TEAM MEMBERS**
I PRIZE	A GPS based School Bus Tracking System	Sarang Paithankar
		Shruti Kamtekar
		Priyanka Deshmukh
	Mapping Human Health To Internet	Shashank Nigam
		Pratik Malkar
II PRIZE	Development of an Intelligent Solar Tracking System	Kahan Shailendra P.
		Akash Prabhu
		Taher C.
	Video Telephony Using WebRTC	Palakh Jude
		Rhea Thomas
		Naman Avasthi
	Sub Contract Management For a Food Joint	Somesh Gupta
		Ripal Bhavsar
		Alfiya Bohra
III PRIZE	Automated RFID Mounted Inventory Management	Shais Shaikh
		Yadhu Prakash
		Gaurav Samant
	Click to Call Using WebRTC	Jayashree Khandekar
		Chinmay Mulay
		Ashish Patil
	Indoor Survillence System using Image Processing	Nimisha Rajeev
		Upasana Dugad
		Chaitrali Mahanwar

SEMESTER- V

SUMMER PROJECT PRESENTATION WINNERS

2014-2015

	PROJECT TITLE	TEAM MEMBERS
I PRIZE	College Management System over offline WLAN network	Vishalan Gharat
		Chinmay Lad
		Mukesh P
		Deepak Shinde
	Mobile Security (Using Gesture Protection)	Ashwin Joshi
		Aditya Nimbalkar
		Anurag Patil
		Omkar Narvekar
II PRIZE	Time-Table Generator	Aditya Landge
		Ankit Pandey
		PreetamWalvekar
		Saurabh Tyagi
	Cloud Computing	Aishwarya Chaudhari
		Komal Hirdekar
		Harshala Bhoir
		Saraswati Biradar
III PRIZE	Bar Chart Generator	Niharika
		Lipisha Chaudhary
		Priti Govalkar
		Manasi K.
	Hospital Management System	Mandar Bhamare
		Sushil Dubey
		Praharsh Fulzele
		Akash Kumbhare

Programming as a sport

"Programming as a sport" this phrase best describes competitive programming. It is a mind sport which challenges you to use your computer coding skills to solve a given problem in the most efficient manner and within time constraints. As computer engineers, one of the most important skill sets which we are expected to possess is writing a good code. Competitive programming helps us to sharpen this skill while having fun! The programming which we learn as part of our academic curriculum focuses on independent algorithms and functions which are very often not interrelated. While, the problems which feature in coding competitions challenge us to apply all of these algorithms together in such a way that the resulting solution is as efficient as possible.

So how does this work? Well, the programs which we write and submit are evaluated by a virtual judge which compiles and runs the code, it checks the code for different test cases and if it our program is correct and gets executed within time and memory constraints, then our code is accepted, else it may display errors and ask us to optimize our approach. Some of the top websites to start with competitive programming are: SPOJ (Sphere Online Judge), CodeChef, CodeForces, TopCoder, ProjectEuler, etc. These websites host regular coding competitions, besides, they also have a huge problem archive which can be referred to, while practicing. Just in case the solution is too difficult, websites like CodeChef and CodeForces allow us to view other members' submissions as well.

Why should you try Competitive programming? First of all, solving a coding problem yourself gives you a great deal of satisfaction, and if this doesn't make you happy enough, the prizes surely will. Competitive programming these days is being used by top software recruiters to attract the best programming talent. There are websites like HackerRank and HackerEarth which allow you to compete for jobs. TCS CodeVita is another coding competition which is used to identify potential talent. Even dream companies like Google conduct the Google CodeJam, while Facebook conducts the Facebook HackerCup in search of the best brains, to work for them. If you try hard enough, you could possibly be the next winner!

So, if you are new to Competitive Programming, here are a few tips to start with:

1. Start by solving practice problems on SPOJ, this will give you an idea about what is expected by the compiler. Solve at least 200 questions over a period of two months.
2. Next, move on to CodeChef and CodeForces, solve another 200 questions (this time, you may skip the beginner section), this will make you familiar with the type of algorithms which are most often repeated.
3. The most important thing while practicing is not to copy the code. You may take online help to clear your doubts, but never copy paste a code written by another user.
4. Learn new and efficient algorithms, refer to multiple books and online resources and try to implement these concepts on practice problems.

Finally, when you have practiced enough, start competing for real! Happy Coding!

- Blaze Rodrigues,
Computer III

Why Android Will Still Be Popular 10 Years Down The Line

Just try to live without your SMARTPHONE for a day or two, it is difficult right? You can say it is almost impossible. Smartphones have become an integral part of our lives since they provide us with many other functions other than calling and messaging. Now since we are talking about SMARTOHONES, the three major operating systems in the market that smartphones run on are windows, ios and Android. Amongst them android has the largest share. This article is just about that. The big question is what makes android so special? But the bigger question for me is why android will still be so popular 10 years down the line? Now for that, I have to believe that it WILL go strong even after a few years from now. Yes, I do believe that it will be most popular even then. Why? Well, let's look at the reasons I feel contribute to it.

CUSTOMIZABILITY

No one likes to wake up in the morning and look at the same thing on their phone each and everyday. That's where android has an upper hand. It is more customizable than any other OS out there in the market. I am sure you will agree on at least that one. There are thousands of themes, launchers, even live wallpaper for that matter that you can install for free and you can literally make a complete changeover of your phone. And since android is an open source, it is easy for developers to create new interface without any hassle. We just saw the latest version of android that is 5.0 or lollipop come out. Its just the right example of the level of customizability I am talking about. It is essentially the largest change in the interface if the android operating system till date. Whether it be the notification bar or the recent apps list or the app drawer, you name it, almost everything has changed except the basic UI. Now of course all of

this is not going change anytime soon, I mean the level of customizability will continue to grow and that makes customizability a major factor in android being popular even in the future.

LARGE NUMBER OF APPLICATIONS

As of now, there are over 1,300,3000 apps in the play store. Now that is a pretty huge number. Android Market created an opportunity for millions of application developers around the globe to show their skills and come up with newer applications for Android phones. Its users therefore have a wide variety of applications to choose from and can customize their phones for a personal experience.

Android opened numerous possibilities for both device manufacturers and application developers, while helping to reduce the cost of smartphones, thus making them accessible to the common man. Today, Android smartphones such as Micromax A60 are available at only Rs 6,500; and even high end phones, including Dell's Venue, are available at about Rs 30,000.

Summing it up, Android has taken user experience to the next level while keeping the prices of smartphones well within the reach of the common man, and that is why Android has become the number one choice among smartphone users.

I recently came across an app named mosquito repellent. It is funny right? Yes, but there are people who would actually believe that it will work. This shows the range of audience of we are dealing with here. And the variety and number of applications is only going to increase so I think this will also be a reason for its continued popularity.

POWERFUL DEVELOPMENT FRAMEWORK

Android gives you everything you need to build best-in-class app experiences. It gives you a single application model that lets you deploy your apps broadly to hundreds of millions of users across a wide range of devices—from phones to tablets and beyond.

Android also gives you tools for creating apps that look great and take advantage of the hardware capabilities available on each device. It automatically adapts your UI to look its best on each device, while giving you as much control as you want over your UI on different device types.

For example, you can create a single app binary that's optimized for both phone and tablet form factors. You declare your UI in lightweight sets of XML resources, one set for parts of the UI that are common to all form factors and other sets for optimzations specific to phones or tablets. At runtime, Android applies the

correct resource sets based on its screen size, density, locale, and so on.

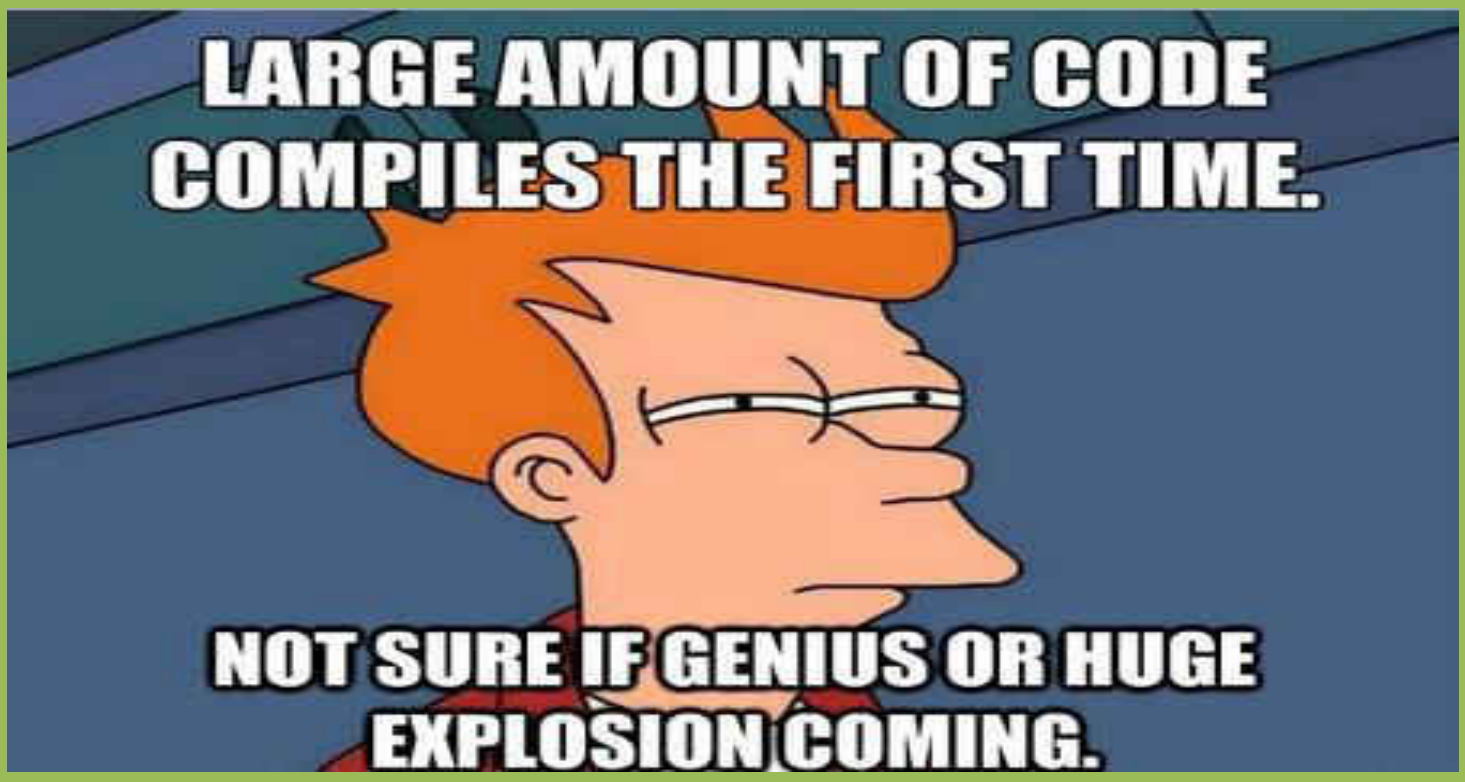
To help you develop efficiently, the android development tols offer a full Java IDE with advanced features for developing, debugging, and packaging Android apps. Using the IDE, you can develop on any available Android device or create virtual devices that emulate any hardware configuration.

PERSONAL OPINION

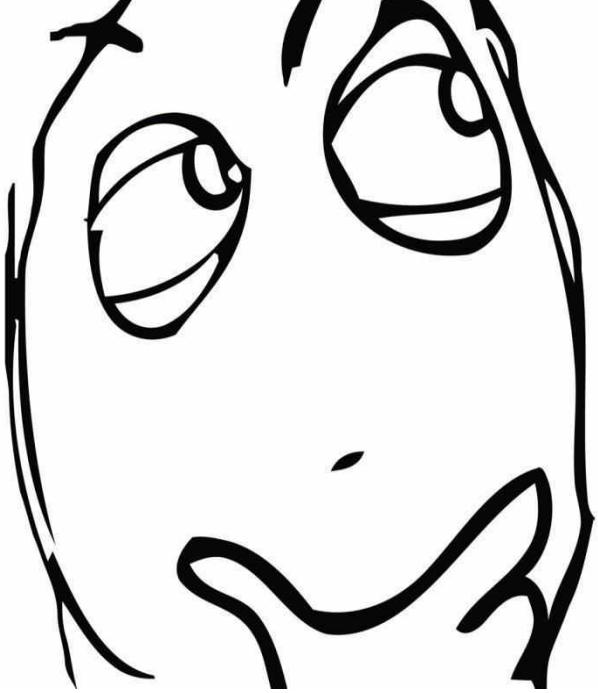
Being an admirer of google, my views may have inclined a bit towards android but statistics show that it is the most loved mobile operating system. Moreover, since android is the most used OS, you get paid equivalently if you develop something put it up on google play store. In the future I am sure that google will come up with a much better version of android, its what they have done over the years. Also I like what google aims to do with android. Considering the range of phones(in terms of price) available that run android, it is clear that google wants to reach out to all the classes of the society. You can buy an android phone for Rs. 3000 and even for Rs.45000. it's not that other operating systems are not good or anything but with android, as a user or developer you can do much more and guess what?, its FREE!!!!

-Harshal Parmar, Computer-VII

MEME BYTES



Out Of The Box



Consider a rectangular grid of 4×3 with lower left corner named as A and upper right corner named B. Suppose that starting point is A and you can move one step up(U) or one step right(R) only. This is continued until B is reached. How many different paths from A to B possible ?

Answer:

Now let's look at some sample paths we can figure out by inspection.

If we start at A and move towards B, we find we can follow the path

RRRUU

(where R = Right one unit, U = Up one unit),

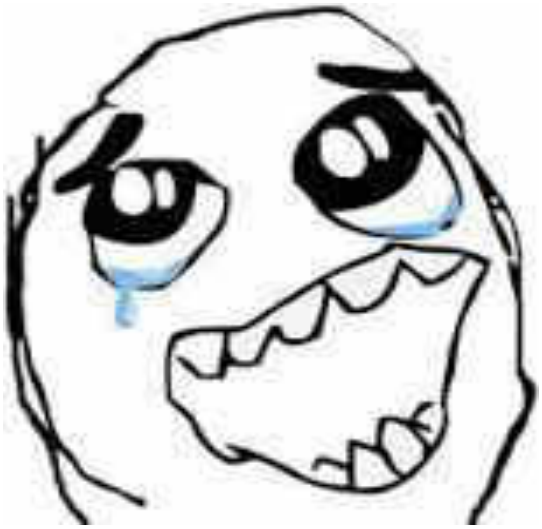
UURRR,

RURUR,

RRUUR,

and so on.

By analyzing our good routes, we see that every good route consists of 5 moves and we have 3 R moves and 2 U moves. We canuse this to generalize a formula to find the number of possible routes.



Since as we've shown, order does not matter in our paths (we can have an R in any place of our 5 moves), we can use our combination formula:

$C(N,R) = N!/(N-R)! * R!$

The number of how many good routes we have can be found by finding how many combinations of 3 R's we can have in our 5 moves, so we want to calculate:

$C(5,3) = 5!/(5-3)! * 2! = 10$

-Anish Nair, Computers VII

I'm light as a feather, yet the strongest man can't hold me for more than 5 minutes. What am I?

Answer: Breath

The Smallest Guide to Encryption

Most people mistake this word as "only meant for hackers and programmers" but it's only the name that is complicated. In fact, understanding how it works is quite simple!

Simplified definition: Encryption can be defined as the process of conversion of some information in such a way that it can be understood/decoded/rendered only by the people who are authorized to do it.

So if you want to send some data to your friend and you don't want anyone to be able to access it even if they confiscate/eavesdrop the piece of data, you should probably encrypt it. The unreadable copy of data can also be called a ciphertext. So how does this actually work??

There are millions of algorithms (ways) in which you can encrypt/decrypt data. It is used extensively by governments, military etc. to exchange information. But deep inside, it's a sophisticated procedure. A single slip-up in any part of the encryption can be used as an opening or attacking point for hackers. Hackers have several ways of undoing the encryption so there are always new algorithms and cracking methods coming up.

In most cases there is a password to decrypt the data which is known only by the ones who are authorized.

Here are a few ways (not all) in which a hacker can undo the encryption or gain access to the unencrypted data:

By infecting the file with a trojan horse or a virus before it is even encrypted

This sounds crazy!! Some hackers first send a hidden virus or a trojan horse to the victim's system. The victim never knows that his system is infected. The virus is of such a kind that it sends the encryption/decryption passwords to the hacker or he gets a better idea on how it can be broken. Genius!!

Brute force attacks

This attack sounds simple but its not so. The idea is to keep guessing the password in every possible way until you find the correct one. This process might take hours, days or even years with little chance of completion. The resources and the time required to correctly figure out the password grows "exponentially" with it's length and difficulty. That is why we are asked to keep long and difficult passwords which contain numbers and symbols while registering on some websites!

Cold boot attack

This attack is possible if the attacker has physical access to the victim's computer. The hacker "cold-boots" the victim's computer in the middle of encryption process without completely shutting it down (e.g the reset button). So in any lightweight OS when system is restarted suddenly, the details of running processes are dumped to a file whose location is already known to the attacker. This method requires a deep understanding of a computer's internal processes and is not always successful.

There are several other methods such as keylogging, cryptanalysis by rainbow tables and countless more.

So coming back on talking about encryption, there are various software and hardware which encrypt data in a chosen format and

some also help in cracking it!! Here are some of them:

Encryption/Decryption software: TrueCrypt, Symantec Endpoint Encryption, BitLocker Drive Encryption, BestCrypt

Cryptanalysis (cracking) software: Aircrack-ng, Ophcrack, Cain and Abel

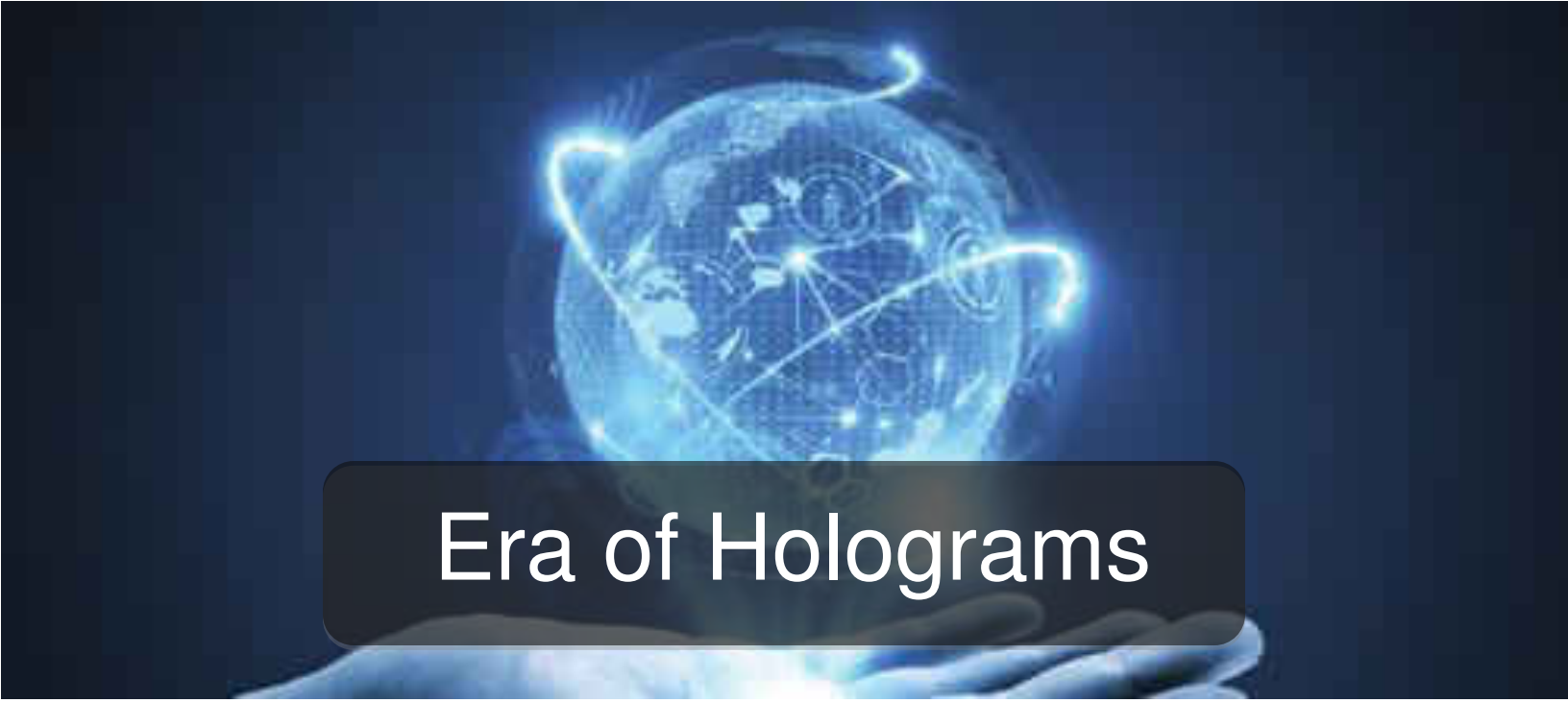
- Aayush Pathak, Computers V

Did You Know?

How to make a hotspot with your laptop?

1. *Run cmd as administrator*
2. *To check if you can make hotspot, type "netsh wlan show drivers". If the value of "Hosted network supported" is yes, then you can continue.*
3. *To set it up, type "netsh wlan set hostednetwork mode=allow ssid=hotspotName key=password". Keep a hotspot name and password of your preference.*
4. *To start it, type "netsh wlan start hostednetwork". To stop, type "netsh wlan stop hostednetwork".*

If you don't want to repeat these steps again every time you want to set up a hotspot, it is better to download any application that will do it for you.



Era of Holograms

With Microsoft introducing their new windows 10 they also introduced a mind-blowing new device i.e. holographic lenses (hololenses). This is like a huge leap through time and suddenly arriving in future, a future of holograms in our day to day life. Hologram is a technique involving Lasers, diffraction and suitable illumination of the recording to be made which enable to form a 3-Dimentional image.

The concept of holography was introduced in 1971 by Dennis Gabor who won Noble Prize for different methods of holography. The Hologram was an unexpected result when he was researching on improving the electron microscope at a British Thompson-Houston company in 1947.

Holograms is also being used in Movies, TV Shows etc.If u remember Star Trek there was a room called a Holodeck, which is just a huge holographic projection room which allowed the crew to touch and interact with the projections. Similarly in Star Wars Series and X-Men. Similar is the new technology from Microsoft.

Currently Musion, Holovis, Oculus Rift were the major contributors to the technology. Oculus also provides a SDK for users for development. Now, Microsoft introduced astonishing new features to us and with Mine-craft in their hands, this can change the world.

"When you change the way you see the world, you can change the world you can see"-Microsoft

Holograms can be used in scientific research, medicine, industry and many other fields.

Current Scope-

- Holographic interferometry is used by researchers and industry designers to test and design many things, from tires and engines to prosthetic limbs and artificial bones and joints.
- Holograms are used on credit cards and debit cards which provide added security measures to minimize counterfeiting.
- Holographic optical elements (HOE's) are used for navigation by airplane pilots. A holographic image of the cockpit instruments appears to float in front of the windshield. This allows the pilot to keep his eyes on the runway or the sky while reading the instruments. Now this feature is also used in many high end cars like AUDI and BMW.
- Sony Electronics also uses holographic technology in their cameras. A holographic crystal is used that allows the camera to detect the edge of the subject and differentiate it with the background. Hence, the camera can focus accurately in dark conditions.

Future Scope-

- This new technology can lead to a new era of Virtual Gaming.
- Holographic objects which form 3D intractable projections of its own.
- Security Purposes for banks, Safes etc.
- LCD TV's can be brighter and lighter with the use of new holographic technology.
- Optical computers will be capable of delivering trillions of bits of information faster than the latest computers.

- Anurag Patil,
Computer, Semester VII

Programmer's Woes

Polyglot's Test

Polyglot *(n.)* : A person who knows and is able to use several languages

Refer the C code below:

```
#include <stdio.h>
#include <string.h>

char strings[100][100];

int X(char S[]){
char *token;
int i=0;

token = strtok(S, " ");

while(token!=NULL){
strcpy(strings[i++],token);
token = strtok(NULL, " ");
}
return i;
}

void Y(int N){
char temp[50];
int i, j, pos;

for(i=0;i<N;i++){
pos = i;
strcpy(temp, strings[i]);
for(j=i+1;j<N;j++){
if(strcasecmp(strings[j],temp)<=0){
strcpy(temp, strings[j]);
pos = j;
}
}
strcpy(strings[pos],strings[i]);
strcpy(strings[i],temp);
}
}
```

```
int main()
{
    char allStrings[100];
    int n, i;

    fgets(allStrings, 100, stdin);
    allStrings[strlen(allStrings)-1]='\0';

    n = X(allStrings);
    Y(n);

    for(i=0;i<n;i++)
        printf("%s\n", strings[i]);

    return 0;
}
```

Can you figure out what this code is doing? In how many languages can you replicate this logic?

If your answer is…
1: Rookie
2: Craftsman
3: Master

We've given you three sample codes, each in a different language. Can you attempt in more?

PHP	C#	Python

<?php
 	
function X($all_lines){
$strings = explode(" ", $all_lines);
return $strings;
}
function Y($strings){
for($i = 0; $i < count($strings); $i++){
$pos = $i;
$temp = $strings[$i];
for($j = $i+1; $j < count($strings); $j++){
 	
if(strcmp($strings[$j],$temp) <=0){
$temp = $strings[$j];
$pos = $j;
}
 	
}
$strings[$pos] = $strings[$i];
$strings[$i] = $temp;
}
return $strings;
}
$in = fopen ("php://stdin","r");
$all_lines = fgets($in);
$strings = X($all_lines);
 	
$strings = Y($strings);
 	
foreach($strings as $x) echo $x." ";
 	
?>
	using System;
	
	class Program
	{
	static void Main()
	{
	string[] array = new string[10];
	
	for (int i = 0; i < array.Length; i++){
	array[i]= Console.ReadLine();
	}
	Array.Sort(array);
	
	foreach (string str in array)
	Console.Write(str + " ");
	}
	}
		strings = raw_input().split()
		
		for i in range(len(strings)):
		temp = strings[i]
		pos = i
		for j in range(i+1,len(strings)):
		if strings[j].lower()<=temp:
		temp = strings[j]
		pos = j
		strings[pos] = strings[i]
		strings[i] = temp
		
		print strings

-Niharika, Ayesha, Mukesh. (computer VII)

The Story of a Strong Password

How exactly is a strong password *unhackable*?

This might as well be the least asked question but we still do it! We all prefer keeping long and complicated passwords with digits, symbols, punctuations etc. only knowing a plain reason which not many understand (but still know) that it makes the password *stronger*. Ever wondered as to how can a password be strong? If not, there's no need to because the answer lies below.

A strong password is difficult to guess, hack, decode, decrypt and other geeky stuff. There's nothing more to it. But is there? Then how come it's so difficult to hack a 'strong' password?

So here's the thing. Hackers usually approach a password by guessing it (As crazy as it sounds), or if they are in your social circles they might try to be your best friend and gain your trust and then come to your place and set up your computer such that all the passwords can be seen by him (that concept is called social engineering). But that's besides the point, so let's stick to the scenario that he hasn't come to your place. There is an absolute zero chance of merely mind guessing it. So the next thing they do is intrude the servers of the very website holding your account (How? That is again beyond the scope of this article) and try to find your password (Because they are 100% sure it's in there). But even in the servers, the passwords of all the users go through some crazy encryption until they reach to their spot!

There are a lot of encryption algorithms that are crazy enough to make sure even the fastest and the most advanced decryption techniques fail. Most websites nowadays use algorithm like MD5, which is well known as "the one way encryption". You can encrypt something to MD5 easily but decryption can only be done by the almighty creator of mankind! (bear with me). It might take *centuries* to decrypt an MD5 hash. That is because any md5 key needs a *match* or a *reference* and the website gets its reference key when user enters the password during log in. A strong password has infinite possibilities and there are no references even in the world's biggest dictionaries.

And that is the reason you should not keep a single word or a phrase password like "Hello" because this is an easy word and the hacker can approach the MD5 key by simply matching a list of common dictionary words which are easily available even on the internet! This means 'Hello16647' is many times stronger than 'Hello'. As seen clearly, a simple word list cannot solve a complicated password, and creating a word list with every possible combinations and lengths of letters, symbols and numbers is next to impossible even if done by a computer (a normal one).

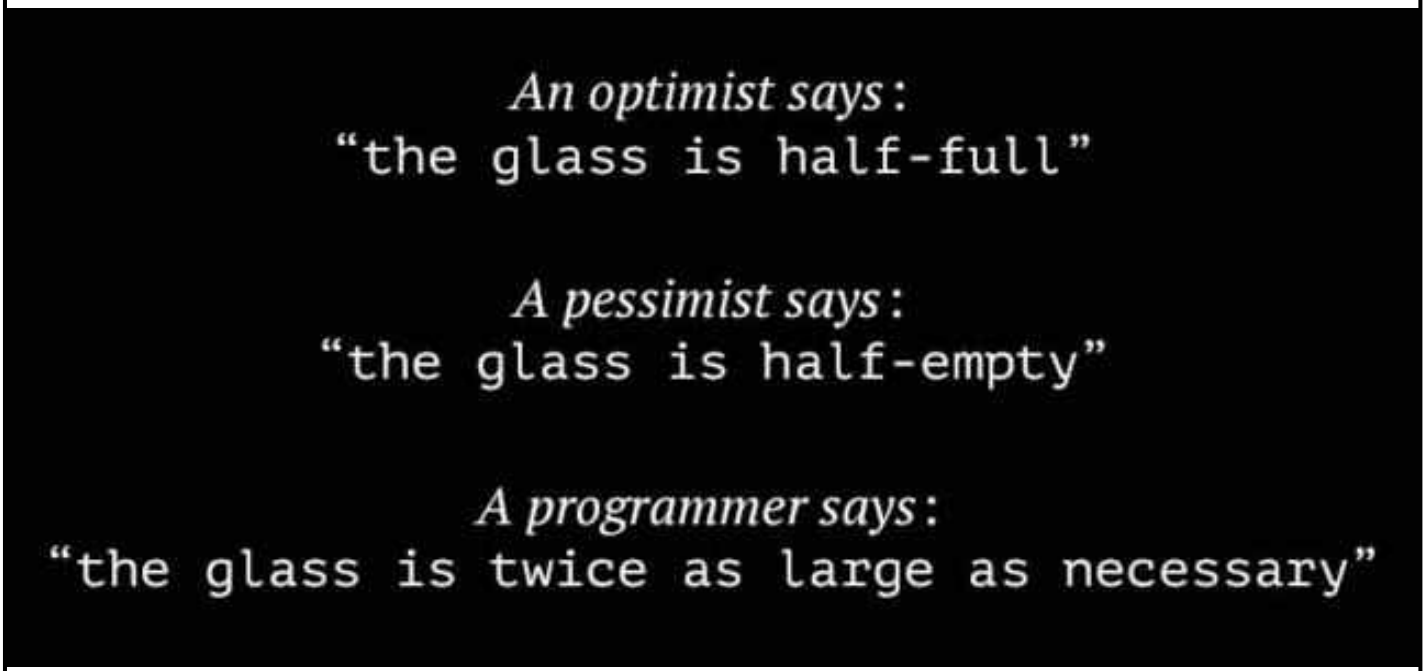
Although some limited lists do exist (though they're huge), Such word lists with all possible combinations of a certain set of characters are called "Rainbow Tables".

However strong the password is, cheap tricks like extortion, phishing, keystroke logging still prevail. I've got some tips for that:

1. Change your password if you have logged in at your friend's house of at an internet center after coming at your home computer.
2. Never trust pages that ask for your facebook/google/other password. If they do make sure that there is 'https://' in that site.

- ***Aayush Pathak, Computer V***

Coder's Quips



Increase Your Phone's Battery Life

Our devices are powerful, our devices have huge bright screens, and our devices have quad core processors. Yet, our devices have batteries that quit in less than a day if you push your device too hard. Yes, sure we have power banks. But wouldn't it be awesome to have your phone besides you every time without having to worry about carrying a charger and power bank every time you leave your home? Here are a few tips that will help you get that 30-60 minutes more out of your device that you require badly but your device gives up on you, sadly!

1. **Use Wi-Fi over Mobile data** whenever you get the chance. Mobile data consumes more power to keep the connection strong. Same goes with calls; lesser the signal, more power is consumed to keep the signal strong! So find strong signals.
2. **Turn OFF your GPS.** It's one of the many features that suck the juice from your device. Use it only when you feel you're lost or need to navigate to some place! Same goes with Bluetooth and NFC.
3. **Turn OFF notifications from useless apps.** Apps like Flipkart, BookMyShow keep on giving useless recommendations like 50% off on this and that! This reduces the battery too. Long press on any useless app and press app info and deselect 'App Notification'.
4. **Turn OFF your Vibration settings/ Haptic feedback settings.** Adjust it to such a setting that's enough to alert you. More the vibrations lesser the battery life!
5. **Don't use live wallpapers.** They look cool but also consume power. Use a nice static wallpaper instead.
6. **Don't completely discharge your battery and use the prescribed charger.** Most of our phones have a lithium ion battery. Although charging it completely doesn't harm the batter that much due to the new technology but discharging

reduces its life. Also using third party or a bigger battery in order to charge it fast may heat up the device and hence reduce the battery life. Charge your phones when it reaches like 30%.

7. **Keep your phone in a cool environment.** This doesn't mean keeping it in a refrigerator. You shouldn't keep it near devices that heat up like televisions, laptops etc. The cooler the phone stays the more time it'll run.
8. **Kill the apps if you're not using them.** Don't just minimize apps. Multitasking puts a lot of load on the processor. This in return drains the battery. So whenever you know you're not going to use an app for some time, kill it and don't let it run in the background.
9. **Don't switch off your phones completely** if it's for a short time. It takes a lot more battery to start a mobile up than it actually running as usual.
10. **Don't use your device while charging.** Watching movies while our phone is charging is a common practice. But this heats up the device and hence reduces the life of the battery.

All the above tips may not be much but it definitely helps in increasing your phones battery life. So follow these tips and forget about those power banks and unnecessary begging for chargers!

-Avelon Pereira ,Computer V

Hello Bugs!!

Crypto Corner

Are you a cryptography enthusiast? Do you have a keen eye and flair for deciphering encrypted codes? If your answer is yes, then you have turned to the right page!

Crypto Corner features three encrypted codes. You will be given an initial clue for the first crypt. On decrypting one cipher, you will obtain a hint/key for the next cipher. The goal is to successfully decrypt the final cipher.
Are you ready? Pull up socks and bring out your pens, for you are about to get the first clue.

Initial Clue: FOUR THOUSAND TWO HUNDRED AND THIRTEEN

Cipher#1 – RHTINETE
Cipher#2 – RKPRCGVBAFZNXRYVSRRNFVRE
Cipher#3 – XEKWBXAGNYQICJZZDSYRWGIJSKNCRHVUESFUVEEQTRW

-Niharika. J, Computer-VII

A Test Of Many Things

It was just another day in college and we were told that a few guests are going to address the students after lecture hours. "What a drag....", "I'm already tired", "I wanna go home and complete my assignments.","Oh crap, I've got a test tomorrow.", "Let's all bunk!" and a lot of other thoughts and ideas had just set the perfect mood in the class. But then we remembered where we were and without asking any questions we assembled in the seminar hall. Our seniors were present too. The "guests" were a few people from Tata Consultancy Services and our college's placement department, who talked about a new division in their company which was defined as "Assurance" that dealt with software testing and how testing was important throughout the life cycle of a software and they also gave us some industry insight. And in the end they talked about an all India competition that they were conducting this year based on software testing called "TESTimony 2015" and that we were all free to participate. But at that time we were praying for the session to end and go back home. On that day earlier in the morning I was feeling a bit under the weather but still I decided to survive another day in college.

That's the best decision I ever made in my life.

Now I've had recent brushes with testing when I was a contributor to a small website that handled version control of a series of "Custom ROMs" for specific Android based devices (I found some bugs and gave some fixes, nothing big). I didn't think that the competition could be nearly as cool.

Next day in college I saw my friend Danish and we decided to team up and give it a shot. We were already registering for CodeVita together so we thought let's register for both and just try our luck. To be honest, Danish and I weren't the best

buddies (it was a 2 member team so everyone was by default going with their best friends) but I knew Danish to be an excellent coder and a person who could grasp things quickly. With him I was sure that our partnership would never be one sided (as most group/team projects/competitions are). The first round was an online MCQ test with a time limit of 60 seconds per question. Everyone who participated from our class decided to use the IT-Lab after college. As the clock started we went through the questions, most of them were based on the basics of software development life cycle and some of them were based on testing tools which I was luckily familiar with. We also fluked the answers to some questions. We also tried to find answers online (Of course we couldn't find any, the questions were too specific) but it did help to eliminate some options and make our approach easy. After 2 action packed hours, the test was over. A few days later we got an email saying that we've been selected for the next round. Later we found out that we were the only team from the college to get selected! That sounded crazy. That meant we were in the top 300 teams out of all those who have participated from all over the country. Now we knew we had to take the next round seriously. No more playing around. So we started looking up related topics and learning.

The next round was partly multiple choice questions and partly case study based. The MCQ test was much more challenging than before, still we managed to feel confident about some answers. The case study was gigantic. We had to make a report of our findings and make a video presentation. We somehow managed to do the most part of it. After a sleepless night, both the things were ready and we submitted them on the website. Now the final round would be between the top 10 teams out of the 300 selected for the second round. It was starting to feel like a dream. Another few days later the list of the finalists was out. When we logged in to campuscommune, we saw that the points on our profiles are ridiculously high.....it couldn't mean anything else. We opened the result list and THERE IT WAS! Our name was right at the TOP! I was pinching myself continuously all day. So many compliments and congratulations from teachers, friends, parents...it had to be a dream!

A couple of days later, we got a call from TCS telling us that the finale was to be held in the Chennai campus. We then came to know, how big the competition exactly was. More than 35,000 teams from all over India had participated in the competition. And we were among the top 10 teams! Seriously, we were dumbfounded.

They said they'll be taking care of the transport and accommodation. The finale was on 13th of August. We had a flight on 12th. With the blessings of our parents, teachers, mentors and a couple of laptops and an extra set of clothes, we set off. The accommodation in Chennai was top notch! The night before the finale, some officials and test designers from TCS came to the hotel where all the teams were staying and had a small chat, We got the chance to interact with the other teams over dinner. We were preparing through the night and managed to get a couple of

hours of sleep. No stone was to be left unturned. We set an alarm early in the morning and got freshened up. The bus to the TCS, Siruseri campus was waiting outside. The campus was visible from a long distance. It was GIGANTIC. I read a lot about it being one of the best looking office campuses in the country.

The employees and the event organizers gave a warm welcome. After multiple layers of security checks everyone assembled in a state of the art lab where the finale was about to be conducted. It was a 100% case study based round where we had to perform the test and provide the results in the form of test report and bug report. We were asked to choose random sealed envelopes which contained our problem statement(s). To our shock we got a topic that we didn't study much for. Upon reading it further, it seemed impossible. We thought about giving up, but then we decided that we've come this far, so we're not going down without a fight. We were given 4 hours to complete our tests and reports. We used the first hour to go online and read some documentation about the tools for our test. We were starting to get an idea. We started working on it. On seeing our progress the invigilator who was an expert himself kept dropping some hints periodically. We were running out of time. We made our reports in the last 30 minutes. One team had already finished by then. After the time up, the judges came to us for evaluation. They asked us some questions about our test and also gave some tips of their own. They had arranged rather nice buffet lunch for us in the afternoon. After that they gathered everyone in a huge auditorium. It was the prize announcement. After all we had been through we were hoping for the best.

The first prize was bagged by a team from Pondicherry. To our delight, we won the 2nd prize!!! Words cannot describe the atmosphere of that auditorium. I've never been any happier in my life. Another self pinching drive later we were told that the top 3 teams are going to have to make a presentation for their tests today. We were given a couple of hours and a mentor to help us with the structuring of the presentation. The other two winners gave a proper technical presentation (boring :p). Compared to them, out presentation was much more casual. We forgot everything that our mentor said and just went with the flow. It even had a few witty touches of humor coming from me that made everyone laugh (Sometimes the genius in me scares myself). The prize distribution took place after that. The first place holders got iMac computers, we got NEXUS 9 TABLETS!!! and the 3rd prize people got iPad minis. After that we were like filmstars on the red carpet! Everyone coming and congratulating us, especially appreciating our presentation, clicking selfies. Even the head of talent acquisition came up to us and had a chat! I wish I could stay there for a bit more but it was time for us to go. Our flight was booked that very evening. We bid farewell to our new friends from across the country and other new friends from TCS and it was over. Just like that! It all happened so fast. We learnt so much in just those few days and we were only able to do it because we were curious.

There is no better teacher than curiosity! There is no use writing assignments and cramming for tests if you aren't interested to know about that subject. Curiosity is something that others cannot cultivate in you, you have to do it yourself.

Looking back to a few weeks before. If i wouldn't have come to college that day you would probably not be reading this. Those 2 days in Chennai were the biggest and the most memorable ones in our lives. And again after a few days, the results of round 1 of codevita were announced and we got through there as well!! We are on fire!! We'd like to thanks the computer department and all our buddies for being such an awesome support all the way! Thank you!

- Aayush Pathak.
Computer Semester V

Did You Know?

1. ***Click on Start. Navigate to All Programs, Accessories and Notepad***
2. ***Copy and paste the exact code given below. Dim speaks, speech speaks="Welcome to your PC, Username" Set speech=CreateObject("sapi.spvoice") speech.Speak speaks***
3. ***Replace Username with your own name.***
4. ***Click on File Menu, Save As, select All Types in Save as Type option, and save the file as Welcome.vbs.***
5. ***Copy the saved file.***
6. ***Navigate to C:\Documents and Settings \All Users\Start Menu\Programs\Startup (in Windows XP) and to C:\Users\ {User- Name}\AppData\Roaming\Microsoft \Windows\Start Menu\Programs\Startup (in Windows 8, Windows 7 and Windows Vista) if C: is your System drive. AppData is a hidden folder. So, you will need to select showing hidden folders in Folder options to locate it.***
7. ***Paste the file. Now when the next time you start your computer, Windows will welcome you in its own computerized voice.***

MY FIRST ROBOT

This article is about e-yantra, a competition organized by IIT-B. It is an initiative of the e-Yantra project to bring the experience of Project Based Learning to engineering students.

Somewhere back in 2008, we all must have seen the movie "Iron Man". Being a young engineering student, seeing 'butterfingers' (a.k.a. dummy) piqued my interest and made me want to build a robot for myself.

After some research, I realized making even a simple walking robot is a lot harder than it looks. The concept might be simple, but actually making everything work well is another story. Also, I realized I'd no machine shop skills or money to fund the robot.

That's when my seniors introduced me to this competition called E-yantra. E-yantra provides a platform for engineering students to learn embedded systems. Embedded systems and robotics are interdisciplinary. The best part of this competition is that you don't need to build a robot from scratch; all the selected teams receive a robot named "Firebird V" worth Rs. 28,000 INR. What's more? You get it for free! All you need to do is build an arm/assembly, develop an efficient algorithm and code the robot.
Teams from all over India clash in this competition and the top three teams with the most efficient assembly and mechanism win. Also, Finalists get a chance for internship at ERTS Labs.

I'll brief you with the whole process. The registration for this competition starts in June. You are supposed to register as a team of four. A team can consist of students from any branch, but all members should belong to the same college. After forming the team and appointing a team leader, you need to give an aptitude test. This test contains basic questions from mathematics, logic and coding. Believe me; it isn't tough to get qualified in aptitude test. Among all the teams, 250 teams from all over the country are selected to participate in this competition. A few more teams are selected in another competition called e-YRC pilot, but unfortunately, that lies beyond the scope of this article.

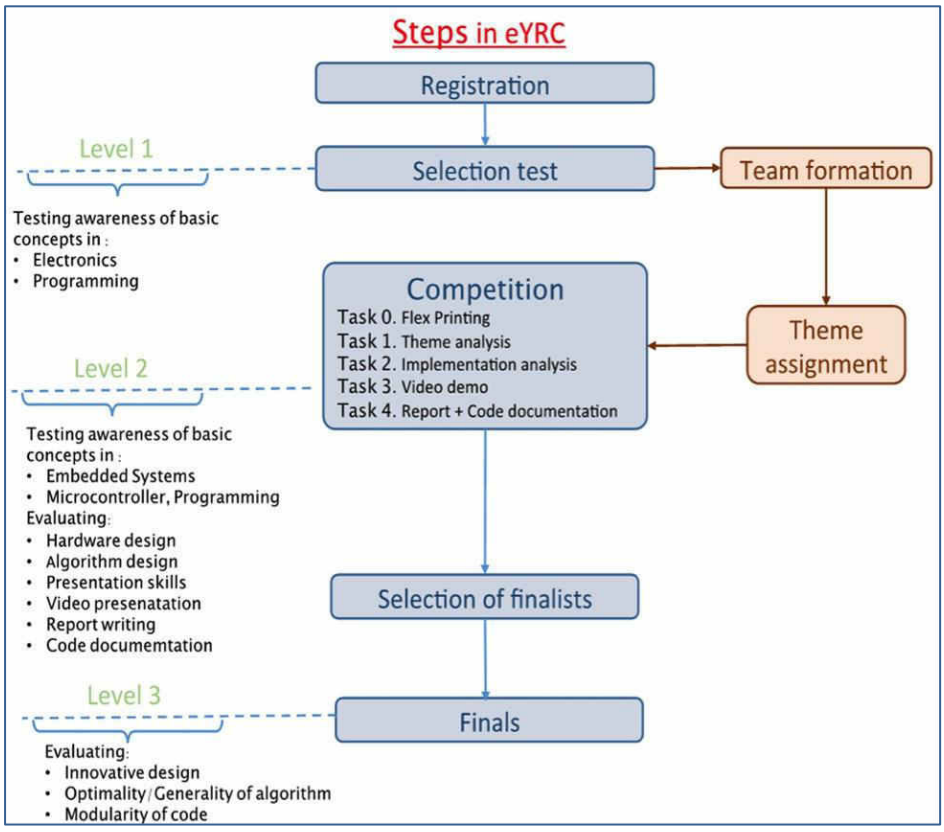
After getting selected, based on the discipline of study of the team members, teams are assigned themes. For example, teams with most students from mechanical engineering were assigned the fruit-plucking theme, as the main challenge of this theme is designing and building an artifact to pluck and collect the fruits. It is ensured that teams from same college have different themes. You'll be given roughly 4 months to devise a mechanism and implement it. Top 5 teams are selected for finals, which is held at IIT-B itself. Here is a flowchart that clarifies all that I've mentioned.

In the finals, you're supposed to show a working demo of your solution for the given problem in front of audience. The grand finale is held in a small auditorium where your live video is projected on a screen to the audience. You'll be given two runs. The best among these two scores is taken as the final scores. The grand finale is judged by professors and founders of ERTS. During my time, we also had the CEO of NEX Robotics and the H.O.D. of computer science department IITB as our judge. They ask viva questions on your solution after the run. These scores are also added to the final score. Based on these scores, the winners are decided.

All the winners (Every team who came first in the respective themes) are given an opportunity to intern at ERTS labs. Being an intern, you get a chance to work on a research project based on various interesting technologies currently in demand. We are allowed to choose from a list of different interesting projects which include:

1. Technologies like IoT, Core Image processing, Depth mapping, Machine learning.
2. Hardware like Raspberry Pi, Intel Atom board, X-bee modules, Sensor modules… you name it!
3. Algorithms like PID.

Before completing this article, I would



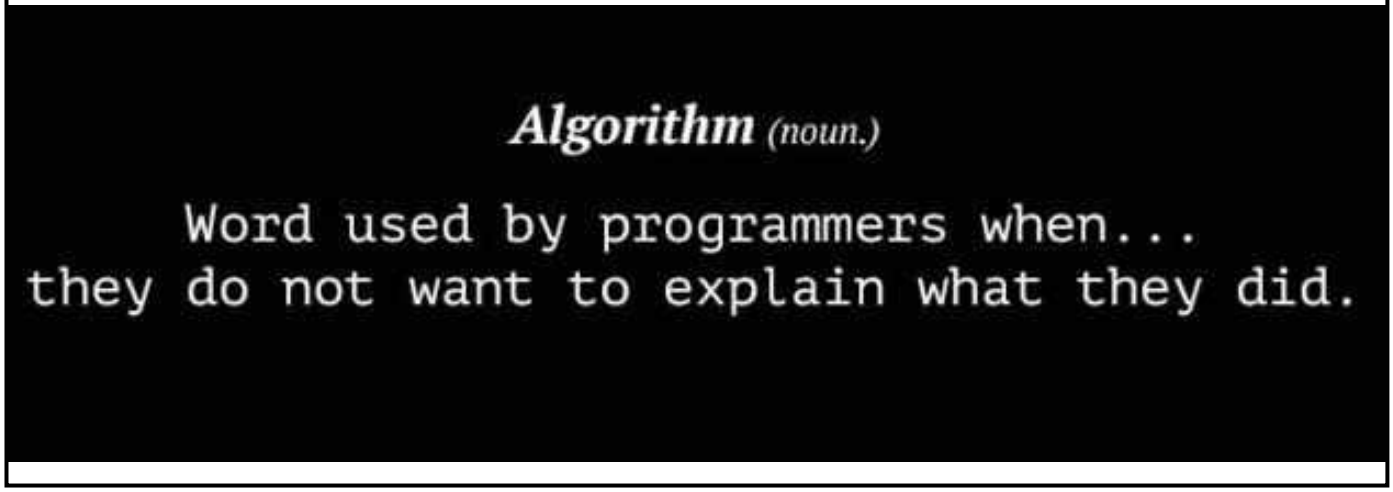
like to give few key-points you should remember while in this, or any, robotics competition-

1. DO NOT write a bunch of code without actually testing it on robot: In a theme like robotics, every minute detail like precision of threshold value matters. So keep testing your code under different environments and situations.
2. Use interrupts only when necessary: I believe clearing interrupts saves up a lot of time
3. Unless there's fire/smoke (or even sparks) coming out of your robot, always assume the problem lies with your code.
4. After you've built a basic prototype of your mechanism, start with traversal algorithm: From my experience, I've seen that traversal of arena turns out to be the toughest part of this competition for most teams in the later stages of a competition. Do remember to try your solution under different lighting conditions.
5. Spend a lot of time in testing rather than planning.
6. DO NOT give up: In the end, only about 5-10 teams manage completing the task given to them. So, even if you have a partial working solution, do submit and you'll have a fair chance of winning

That's about everything. If you've any queries, please contact me at: mukesh85tek@gmail.com.
If you are interested to see my robot, you can watch our video at: https://www.youtube.com/watch?v=_lBP_KKUlmc&feature=youtu.be

- ***Mukesh P, Computer VII***
  Winner of e-YRC 2014 in theme Warehouse Management

Coder's Quips



My Experience

Codevita, I'm sure by now, is a name that is familiar to every student in computer department. However, for the uninitiated, if any- Codevita is a competitive programming event organised annually by Tata Consultancy Services (TCS). This competition generally begins around July-August months of year and takes place in two phases.

Each phase has two rounds. Over one lakh participants try to clear both rounds to reach the finals in teams of two. Phase 1 is conducted for national coders and phase 2 for international ones. Apart from the nationality of participants, the two rounds in both phases have similar structure. To help students acclimatize with their compilers, TCS organizes two rounds of Mockvita before the competition. Top 15 teams from combined phase 1 and phase 2 results are chosen for the final round in February next year, where they clash to win lucrative cash prizes ranging from $3000 - $10,000, gadgets like iPad Air and so on. Apart from these obvious prizes, there is another advantage to this participation: TCS is using Codevita as a platform for recruitment. This year, top 1000 teams from round 1 were exempted from taking the aptitude test and writing the business correspondence test during their campus drive. In other words, they could directly appear for the interview. My team's interview was very casual with no technical questions and we were told not to wait back all day since we are practically selected. It was that easy to get one job offer in hand with a rank in top 1000.

I have participated in this competition since season 2, i.e. since my second year in 2013. But it's the third time that proved to be a charm. Although it would not do justice to my team's numerous days of practice, to call this achievement a charm. This year, I teamed up with my classmate, Mukesh P. We cleared round 1 with a decent rank of 988. The intense practice that preceded round 2 helped us bag a drastically higher rank of 10.

Needless to say, we were delirious on seeing the results! Ironically, our team didn't even make it to the list of Mockvita-2 results. This was because we were fooling around and wrote a small code to generate a random sequence of "Yes"/"No" output rather than processing the input properly to find the result. We were feeling a bit cheeky and wanted to test their own testing system. This code got flagged by the plagiarism checker and our team was automatically excluded from the results. If you're planning to experiment similarly, I'd suggest you to limit it in Mockvita only.

To sum it up, this has indeed been a very exciting experience! The joy of writing an efficient piece of code is unparalleled and this is what Codevita aims to demonstrate to all students. Speaking emotionally, I hope my juniors will carry forward this sentiment in the years to come. So, best of luck for all the upcoming seasons of Codevita!

-Niharika. J, Computer-VII

There was a green house. Inside the green house there was a white house. Inside the white house there was a red house. Inside the red house there were lots of babies. What is it?

Answer: A Watermelon