

CSE DEPARTMENT
MAGAZINE

ISSUE : APR 2018

MAHARASHTRA INSTITUTE OF TECHNOLOGY
AURANGABAD

Contents

- Department Activities.
- TechnoMIT-2K18.
- Department Accomplishments.
- Formation of The Programmers Club of MIT.
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DEPT. ACTIVITIES

RedHat Certified System Administrator

Jan 2018 Batch.

11 Jan 2018

Felicitation of Achievers and RedHat Batch



Event.Description(RHCSA_Jan)

The Batches of RedHat Certified System Administrator Started at Computer Science and Engineering Dept., January 2018. The registered participants had undergone a pre-training delivered by Prof. B.N. Kshirsagar, from 11th to 15th January 2018. The certification exam was scheduled on 30th January 2018

10 of the students scored 300/300 in the Certification Exam.

Following 10 students from CSED have completed Red hat certification -



- 1.Bhaskar Thombre
- 2.Yash Bhatia
- 3.Shubham Kamble
- 4.Jayashree Mundhe
- 5.Anubhav Chauhan
- 6.Lata Lokhande
- 7.Swati Mulje
- 8.Krishna Sharma
- 9.Sheetal Dongare
- 10.Kazi Roman

Infosys Campus Connect

Webinar.

11 Jan 2018



Event.Description(Infosys_webinar)

Webinar by Infosys before initiating the upcoming batch 2018 for Campus Connect Program FP 5, during first week of January 2018. Webinar was live from the Infosys Training Centre and was attended by Faculty of the Department and Third Year Students.



Webinar Schedule:

Topic	Date	Time
Overview of FP 5.0	8 th Jan 2018	2:30 PM – 3:00 PM
Python Fundamentals	9 th Jan 2018	2:30 PM – 3:30 PM
Python Data structures	10 th Jan 2018	2:30 PM – 3:30 PM
Functions in Python	11 th Jan 2018	2:30 PM – 3:30 PM
File handling and Exception Handling in Python	12 th Jan 2018	2:30 PM – 3:30 PM



Internet of Things

Workshop.

5 to 7 Feb 2018

All Day

Room 402

faculty_coordinator = "Smt. S.A. Deshmukh"

student_coordinator = "Ms. Mitali Dhat (TY)"

resource_person = "Mr. Tejas Rawal & Mr. Aniket Thorve"
+ " from miTu Skillologies, Pune"

Event.Description(IOT_Workshop)

Computer Science and Engg. Department has organized a three days workshop on Internet of Things (IOT) on the date 5th to 7th of February 2018.

The Objective is that the students will be able to know about new technologies in the market and using which student will be able to develop interdisciplinary project. And also this workshop will help to fill curriculum gap in the syllabus.

Total 59 students from TY and SY CSE and 5 faculty members were participated in the workshop. All of them got certificate from the miTu Skillologies Pune.



Students from SY & TY



National Entrepreneurship Challenge Finals.



Event.Description(NEC_Finals)

Created with the vision to promote entrepreneurship amidst all the campuses in India, and make people realise that coming up with an innovative idea is not rocket science, National Entrepreneurship Challenge is the first of its kind pan-India competition undertaken by The Entrepreneurship Cell, IIT Bombay.

The NEC Team at MIT envisions to help establish an E-Cell in our college, which in turn will help develop the startup ecosystem.

Qualified for NEC 2017-18 Finals and represented MIT at IITB on 25th Jan 2018, competed with over 70 team from all over the country, including the IITs and NITs. The Team Comprised of 18 Members from various Departments. Team Members From CSE Dept. are - Omkar Bahiwal, Naman Chakrawarti, Rutuja Naikwade, Manali Tawar, Bela Narkhede, Akshita Sinha, Pranay Kala and Muktader Shaikh.



Team Heads



**Surya Dev
Singh Jamwal**

**Marketing
Head**



**Omkar
Bahiwal**

**Team
Leader**



**Naman
Chakrawarti**

**Events
Head**



**Rutuja
Naikwade**

**Anchoring
Committee**

Free-Software InstallFest

The Programmers Club.

10 Feb 2018

1pm onwards

Room 402

faculty_coordinators = "Mr. Nihit Agrawal"
+ "Ms. Preeti Mishra"

student_coordinators = "Mr. Omkar Bahiwal"
+ "Mr. Naman Chakrawarti"



Attendees of the InstallFest



Event.description(InstallFest)

An InstallFest is an event where people interested in computers, free software and other geek topics meet and share knowledge and good delusions with small presentations. You'll also find people ready to help you install and use open source or other free software.

CSE Department organized an InstallFest Event where faculty and students may with their laptops for software installation/ updates, which you are working on in current semester/ otherwise. The entry was free and was volunteered by SYCSE students. It had a total of 35 Attendees

Volunteers -

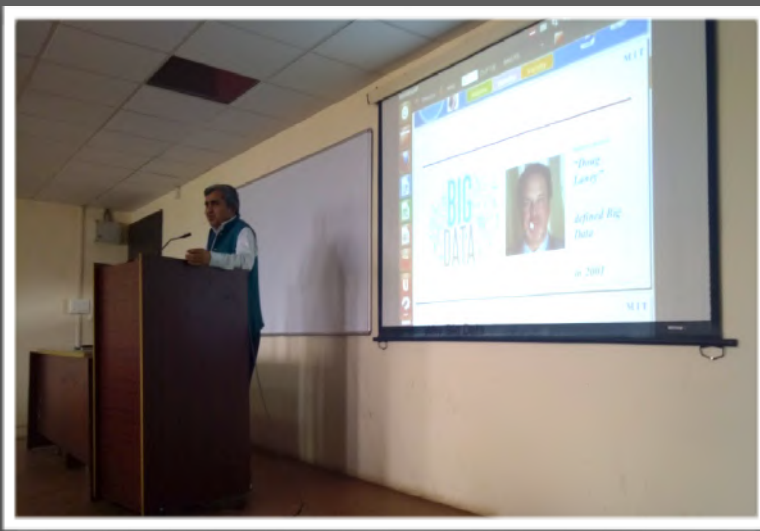
- 1) Rushikesh Shete
- 2) Saurabh Gadekar
- 3) Deven Sharma
- 4) Surya Dev Singh Jamwal

One-Day Big Data

Workshop.

7 Mar 2018

resource_person = "Prof B. N. Kshirsagar"



Event.description(BigData_
Workshop)

One day workshop for advance learners of TY(CSE) was organized on Big data.

Big data is data sets that are so voluminous and complex that traditional data-processing application software are inadequate to deal with them. Big data challenges include capturing data, data storage, data analysis, search, sharing, transfer, visualization, querying, updating, information privacy and data source..



Entrepreneurship Development

Interactive Session.

16 Mar 2018

resource_person = "Mr. Muktak Joshi"

Event.description(Entrepreneurship_Development)

Interactive session by Mr. Muktak Joshi, Director of StubHub India and Ticket Utils India Pvt Ltd on entrepreneurship development was organized by the department for SY CSE, TY CSE, TY ETC students.



Gender Sensitization

Seminar.

7 Mar 2018

resource_person = "Prof. B. P. Chaudhary"

Event.description(*Gender_sensitization*)

Department had organized seminar on Gender sensitization by Prof B. P. Chaudhary for girl students and Ladies faculty members under ICC. Sensitization in the domain of Humanities and Social Sciences, is seen as an awareness informed propensity or disposition which aims at changing behavior so that it is sensitive to certain issues. Gender sensitization may be seen as "the awareness informed disposition or propensity to behave in a manner which is sensitive to gender justice and gender equality issues."



**MAHARASHTRA INSTITUTE OF TECHNOLOGY,
AURANGABAD**



About

TechnoMIT is the state level event, annual technical festival organized by Computer Science and Engineering department of Maharashtra Institute of Technology, Aurangabad. It has given a platform for young engineers to showcase their technical brilliance. Being completely student organized festival, we believe in practical learning. With our thoughtfully crafted events, we wish to shape young minds and direct them towards finding creative solutions that will lead to a better tomorrow.

It is a two-day state level tech festival held on 6th and 7th of April 2018. Our festival was combination of Technical and Non-Technical events.

Our festival was for the students and by the students which is organized by a coordinators team of around 140

Agenda:

- To develop business and management skills
- To enhance technical skills with fun
- To learn how to work in a team

Organizers

(ACTS Committee)

Prof. D.R.Deshmukh
Faculty Coordinator



Pranav Joshi
President



Mitali Dhat
Vice President



Abhijeet Tedle
Treasurer



Altaf Chaudhari
Event Manager



Events

- C Programming
- LAN Gaming
- Mock Placement
- IPL Auction
- Poster Presentation
- Hunky Brain
- Extempore
- Hunts Arena
- Web Development
- Project Exhibition
- Idea Presentation
- Business Games
- Open Mic

C Programming

1. Hash Coder

Round 1: Crossword puzzle Round 2: Programming

2. Code Kshetra

Round 1: Quiz Relay

Round 2: C Programming Relay

Number of participants:

Hash Coder – 50

Code kshetra – 15 groups (i.e, 45 participants)



Web Development

Objective:-

1. Participants will learn basic concept of HTML and CSS.
 2. improves Ability to build website.
 3. Understanding basic structure of a web page.
 4. Participants will understand how to make more attractive website in limited time period.
 5. customise the layout and appearance of a web page.
 6. Participants will learn to read ,write and identify HTML tag in a page.
- No Of Group registered: 37 (i.e, 74 participants)



Idea Presentation

Objective -

This event was organized under the Technical event of CSE dept. – TECHNOMIT. The event was all about coming up with new and innovative ideas, it was purely to promote technical as well as creative approach of a student

BRIEF:-

Total 14 students participated in this competition from various colleges like GECA , JNEC , DIEMS , R.D.T.C, P.E.S and many more. In this event participants came up with new and innovative ideas to solve our day to day

problems and we were able to witness numerous technical as well as non- technical ideas.

Ms Subhashree Sawant from MC department was there to judge the participants along with the faculty coordinator Ms Swati Vishnu.

Treasure Hunt:

Number of Participant- 44 groups (4/3 member in each group)

i.e, around 160 participants

Brief About Event

1) First Round

In first round we give cheat to all 44 group. From this group 11 groups have same puzzle to which they have to solve to get the clue.

As they solve the puzzle successfully and get the clue they have to reach to that place and collect the task cheat from volunteer present there.

2) Second Round

In this round we hide 12 batches in different places.

And we give same puzzle to two teams. Those who find the batch first from two teams will select. And from this round we get 12 teams.



3) Round Three -

We hide the cheat of different color. That is 3 cheat of same color.

Every team get different color. And they have to bring the same color cheat at last. First of all we give first color cheat in class. They have to solve it and get clue out of it.

After getting the clue they have to reach at that place. After that they get second cheat of same color. Following the direction with the help of compass they get the third cheat. And the third cheat contain task which they have to perform. The three teams who came first will win.

Extempore

About event: Language used was strictly english.

This event had 2 rounds

Round 1:

Each participants were given 1 min to think and 2 min to speak on the topic picked up by him/ her from the draw of lots. This round had only non-factual topics

Round 2:

Two participants were given 1 min to think and 2 min to speak on the same topic picked up by the judge from the draw of lots. This round had only factual topics

Deep Maala ma'am was the judge and Asra anjum ma'am was the faculty coordinator.

Objective of this event was to develop spontaneity among students i.e. to think on the spot and express your thoughts. It channelizes their thinking process and strengthens speaking ability.

It was very tough competition this time. Winner was awarded with a cash prize of 500/-. We got total 24 entries this year for extempore out of which 20 were present.



Hunky Brains:

About Event: Hunky Brain is the quiz event which was specially held for geeks, fans and fanatics of TV series, anime and movies. The event had three parts.

1. Quiz: This was the first elimination round of the event. In this round, participants were given a question paper which consisted the MCQ questions about Anime, TV series and MARVEL Universe.

2. Visual Round: This round was based on visual presentation. Participants who cleared the first round were shown the pictures and videos of the shows and they have to write the correct answer of the given visual. E.g. Tell the name of this character (Picture of character)

3. Buzzer round: This was the final round of the event in which the participant who cleared the second round had to play against each other using buzzer. Questions were asked to participants and whoever pushed the buzzer first and answered correctly got the point.

Outcome: After the evaluation of all 3 rounds whoever had the most score, won.

Number of participants Registered – 30



Mock Placement

Brief about event : Under this event 3 rounds were conducted

Round 1- Aptitude Test : In which participants could analyze there logical skills.It was conducted by T.I.M.E Institute.

Round 2- Group Discussion : This round was conducted by Narsingh Gawali sir and A.B Bagul sir. A group of 7 students was made and each group were given a topic to be discussed among them.

Round 3- Personal Interview : In this round student had to face an interview which was conducted by Mr.Shakeel Siddique sir of T.I.M.E Institute.

Outcome : The main objective of this event was to make the participants aware of campus selection procedure so that they get experience of actual placement selections.



Poster Presentation

Event Objective:

The aim of posters is usually that they are presented with the author next to them. This means that a) a lot of detail is unnecessary, and b) you need to be prepared to answer questions and guide your audience through your poster. So, how do you make an effective poster? The poster should be able to tell a passerby what it is about at first glance. This is usually done using the title and supporting images. Make sure the information is properly arranged, that the poster is graphically appealing, and that data are clearly represented. Bear in mind that the clarity of the presentation stems from proper arrangement of information, and that to make the poster appealing, you need to keep the design of your poster simple.

Total Participants: 23 groups (46 participants)



PS Gaming

1) Smack Down 2005

Brief about event :-

Smack Down:

Entry Type : Individual

Competition Method : 1 vs. 3

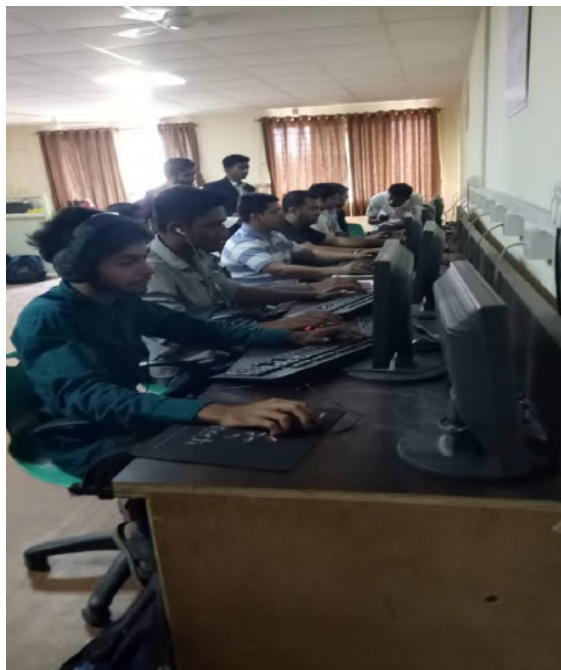
Smack Down Version : 2005

Round 1 : Out of 52 participants, one player was competing with other three participants and so on out of which total 13 winners was qualified for next round.

Round 2 : In this round one player was competing with only one player. In the similar way, the winner and runner-up was picked.

Outcome :- Participants enjoyed the event.

Number of Participants :- 1) Smack Down :- 90 participants



Mobile Gaming

1) Ludo King

2) MiniMilitia

Brief about event :-

Ludo King:

Members per Round : 4 Participants Competition Method : 1 vs. 3

MiniMilitia:

Members per Team : Single Participant

Number of Rounds: 1 (10 Min)

Participants were allowed to use their own Mobiles.

Players were given 2 minutes to setup their character and its Outfits before the game.. Outcome :- Participants enjoyed the event.

Number of Participants :-

1) Ludo King :- 120

2) MiniMilitia :- 50



Open Mic and Business Games

It was an event organised for students to showcase their talent and provide them a platform to boost their confidence.

Business Games were organised so as to develop the marketing skills and see what strategy students would use to promote their product and make maximum profit.



LAN Gaming

- 1) Counter Strike 1.6
- 2) NFS Most Wanted

Brief about :-

Counter Strike:

Members per Team : 5 Participants

Competition Method : 5 vs. 5

Counter Strike Version : Counter Strike 1.6

The team playing as Counter-Terrorist or Terrorists side was announced as per knife round. Total 30 rounds were played in each match. Need for Speed (NFS):

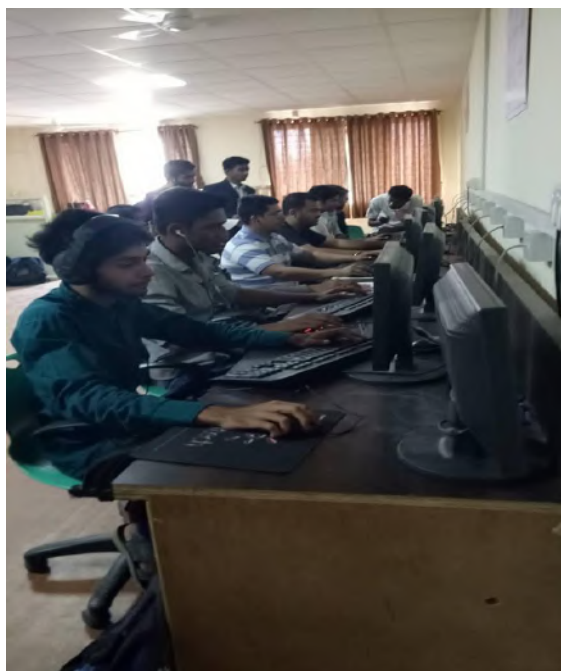
Members per Team : Single Participant Number of Laps: 3

Courses: Courses were given at random and was given on the spot. (Players were informed before the tournament of any such modifications.) Participants were not allowed to use their own profiles. Players were given 2 minutes to setup the car and its performance before the game.

Competition: All qualifying participants were competing in a Circuit mode in groups of 4 on LAN.

Outcome :- Participants enjoyed the event. Number of Participants :-

- 1) Counter Strike :- 12 teams (i.e, 60 participants)
- 2) NFS :- 40



IPL Auction:

Event Introduction:

IPL Auction event is a Non-Technical event , mostly organized for fun. This event include two round.

Round-1 i.e. Quiz round(questions based on IPL only.) and

Round-2 i.e Auction round.

A virtual amount is provided to all the participants to buy their desired player according to their ratings.

Outcome:

Participants enjoyed the event which was totally new concept in any technical event. Biding was fully energized and was managed in proper manner. PowerPoint slides where prepared for displaying players statistics. It was overall nice experience. Also participants learned how to utilize their budget to buy players and make good team with excellent rating.

Number of Participants:

IPL Auction included 35 teams (each team consisting of 3 members.) out off which only 10 teams were eligible for the Auction round.

i.e, Total 105 participants



Project Competition

The main objective of Project Competition is to contribute towards the Technology and Innovation. Describing students Software Development skills, Presentation skill, Technical skills, Communication skills. Best projects will be rewarded based on the Judges judgment.



Feedback

Enjoyed the event a lot. The management and hospitality was awesome. This was not just an event it was a FESTIVAL. I travelled long way from Ahmednagar for this event and was satisfied. Congratulations to MIT College.



Ajay Funde



Prasad Deshpande

Very well organized event. I appreciate that all the skills like Technical skills, Soft skills and also Talents were tested in the competitions held under TechnoMIT. One of the best event held so far in our college.

I am overwhelmed by the response of all the participants. Thanks to all faculty coordinators, my coordinators and volunteers, without whom this event would have not been possible. Congratulations to Team TechnoMIT 2K18 for such a great successful event.



Pranav Joshi
President

DEPT.
ACCOMPLISHMENTS

- **Ms. Bharti Gurav** and **Ms. Devaishala Deshmukh** felicitated by Principal Dr. Santosh Bhosle on 1st January, 2018 for their successful participation in Infosys Faculty Enablement Program on “Big Data and Analytics” conducted by Infosys Limited at Pune Development Center. They were recognized as Best Project Group during the program.
- **Mr. B.S. Sonawne** published a Book on “Speech”
- **Mr. R.B. Mapari and Mr. K. R. Kandharkar** published paper on topic “Survey on change detection in SAR images with image fusion and image segmentation” in UGC approved journal – International Journal of Scientific Research in Science and Technology (IJSRST)
- **Faculty Recognition by Infosys**
Computer Science and Engineering Department hosts Infosys Campus Connect Training Program for Third Year students under Infosys Campus connect Program. Following faculty members from the department achieved faculty partnership level Bronze for year 2017:
 - Mr. B.S. Sonawane
 - Mr. Rahul Mapari
 - Mr. Nihit Agrawal
 - Ms. Preeti Mishra
- **Faculty Qualified GATE 2018**
Mr. Nihit Agrawal, Faculty of Computer Science and Engineering Department qualified GATE 2018 in Computer Engineering Stream with 92 Percentile.
- **Ms. Bharti Choudhari, Mr. Nihit Agrawal and Ms. Preeti Mishra** have successfully completed below courses from IIT BombayX and received Honor Code Certificates
 - 1) CS101.1x : Programming Basics a course of study offered by IITBombayX, an online learning initiative of Indian Institute of Technology Bombay.
 - 2) CS101.2x : Object-Oriented Programming a course of study offered by IITBombayX, an online learning initiative of Indian Institute of Technology
- **Mr. Nihit Agrawal** Delivered Expert Lecture at Nath Polytechnic Paithan on “MongoDB” on 17/02/2018
- **Ms. Preeti Mishra** Delivered Expert Lecture at Nath Polytechnic, Paithan on “AI- The Future” on 17/02/2018

STTP/FDP/TRAINING PROGRAMS ATTENDED BY STUDENTS

Sr No	Details of STTP/ FDP/ Training Program	Number of Days	Date	Attended By (Name of Students)
1	A scientific approach to Examination Preparation for students Speaker: Dr. S. Ramesh Babu	1 Day	08/02/2018 (10:00am to 05:00pm)	1.Naman Chakrawati 2.Pratik Sanjay Thole 3.Omkar Bahiwal 4.Deven Sharma 5.Amol Mhaske 6.Yadnesh Taklakar 7.Vivek Mahajan 8.Ashish Rathod 9.Sanskar Mane 10.Suyog Mahajan
2	Workshop on “Machine Learning and Big Data” Dr. Vitthal Rao V.K Patil College of Engineering, AhmedNagar	2 Days	20/02/2018 and 21/02/2018	Total students: 48
3	Three days’ workshop on Internet of Things (IOT) Resource Person : Mr. Tejas Rawal and Mr. Aniket thorve from miTu Skillologies Pune.	3 Days	05/02/2018 to 07/02/2018	Total Students: 59
4	Entrepreneurship Summit, IIT, Bombay. 12 Keynotes, 5 Seminars on Entrepreneurship, Attended.	2 Days	27/01/2018 And 28/01/2018	Omkar Bahiwal and Naman Chakrawarti

STTP/FDP/TRAINING PROGRAMS

ATTENDED BY FACULTIES

Sr. no.	Details of STTP/ FDP/ Training Program	Number of Days	Date	Attended By (Name of Faculty)
1	One day training program "Great to Greatness-Knowing Yourself " Speaker: Mr. R.H. Marlapalle (Executive Vice President -Strategic HR/IR & EHS) Endurance Group	1 Day	05/02/2018	1.Mr. Nihit Agrawal 2.Ms. Preeti Mishra 3.Ms. Aparna Chavan
2	Innovative methods of teaching college students Speaker: Dr. S. Ramesh Babu	1 Day	07/02/2018 (02:00 to 05:00pm)	1.Ms. Bharti B. Gurav 2.Ms. Bharti P. Choudhari 3.Mr. Rahul Mapari
3	Morals and Ethics for Teachers Speaker: Dr. S. Ramesh Babu	1 Day	09/02/2018 (09:00am to 12:00pm)	1.Ms. Aparna Chavan
4	Motivational seminar "Endless surfing on record waves" Speaker: Dr. S. Ramesh Babu	1 Day	09/02/2018 (02:00 to 04:00pm)	1.Ms. K.V. Bhosle 2.Ms. S.R. Choudhari 3.Dr. Saurabh H. Deshmukh
5	Workshop on "Machine Learning and Big Data" Dr. Vitthal Rao V.K Patil College of Engineering, AhmedNagar	2 Days	20/02/2018 and 21/02/2018	1.Mr. Prashant Khosre
6]Infosys train the trainer program on User interface Technology on 5, 6, 7 th Mar 2018 at Sveri's college of Engineering, Pandharpur	3 Day	05/03/2018 to 07/03/2018	1. Prof B. S. Sonawane 2. Prof S. S. Kankal
7	One Day workshop on "Spoken Tutorial"	1 Day	20/02/2018	1.Mr. J.S. Dhage 2.Mr. R.B. Mapari
8	Three days workshop on Internet of Things (IOT)	3 Days	05/02/2018 to 07/02/2018	1.Ms.S.R. Choudhari 2.Ms.Sushma Deshmukh 3.Mr. Prashant Khosre 4.Ms. Daivaishala Deshmukh 5.Ms. Asra Anjum



Infosys Train the Trainer Program
Sver's college of Engineering, Pandharpur



Felicitation of Ms. Bharti Gurav and Ms. Daivshala Deshmukh

Formation of The Programmer's Club

Programmers Club is the best platform for you to polish & develop your programming & technical skills. Programmers Club helps you to meet new people, interact, share and gain knowledge about different programming aspects and languages. It helps you to improve your technical as well as problem solving skills.

Faculty Coordinators : Ms. Preeti Mishra and Mr. Nihit Agrawal along with members from other departments.

Student Coordinators : Omkar Bahiwal and Naman Chakrawarti.

Objective : Self and collaborative learning on existing and upcoming technologies to promote interdisciplinary project development.

Proposed Plan :

1. Formation of MIT Programming Club, Feb 2018
2. Self and collaborative learning initiatives – Python, AI Techniques, Robotics
3. In-house services for FOSS- installation and repair
4. Conducting concept, idea and prototype competitions
5. Initiating multi-disciplinary project ideas



Learn Anything From The Internet.

Omkar Bahiwal, SYCSE.

The Internet is full of educational resources. You can learn just about anything you want. Many of the students today use internet mainly for social networking. They access the useful content only when it is the exam preparation period. I believe that college degrees are overrated most of the time, in not all but most fields. Many people graduate after years of studying, investing their time, taking on a lot of efforts and still can't get a job. While on the other hand, so many people without degrees work doing what they love just because they have the exact skills that the market wants. So, I have written this article to evince the resources of online learning to you. Using the Marvellous technology and infinite knowledge of the internet I have built various projects in Android, iOS, Web, Computer Vision, etc. I keep learning from the Internet, basically to solve the everyday problems and as per the requirements of my projects. I suggest you to find your topics of interest and start working on them. It will help you in choosing the right career path and develop the skillset you need for the pursuit of your goals.

Suppose you want to know about something, you can do a few things, you can ask someone, buy a book, try to figure it out yourself or go to a college, if that college offers the course on the things that you are trying to understand, you can go to college and take that course. You could get access to the information about the topics. Mainly books, journals and notes to put the information together, from an instructor or from a library. You might also find other people who are also interested in same topic you are. Similar things are with Learning on The Internet "A Digital World". A world where an internet connection gives you access to a staggering amount of information and resources.

A MOOC (Massive Open Online Course) is same as a college course, it has participants, it has facilitators, course materials, start and end date. It is a way of connecting and collaborating while developing digital skills. It has the same learning process as of a college course. Many such MOOCs are available to us on the internet. The most popular one in India is the NPTEL MOOC, which is mandated by our college, we have already learned C and Python programming in the last year through NPTEL. It offers over 250 courses from the IITs and NITs.

Every individual wants to receive the best of education to achieve his or her dreams. However, the more the institution is good, the lower the probability is to get into it. Many universities provide world-class online learning material. The Harvard University's CS50 online course on "Introduction to Computer Science" is taken by millions around the world. Such courses provide you with an opportunity to learn from the best engineering colleges in the world. I personally find the MIT OCW (Massachusetts Institute of Technology, Open CourseWare) useful. I have learned many topics including Algorithms and Data Structures, Python Programming and Machine Learning from MIT OCW. Many other universities provide open course materials on various topics that are in our syllabus. Founded by MIT and Harvard in 2014, Edx.org is an amazing resource with courses from some of the top universities in the world. You can audit most of the courses for free or pay to earn a certification.

What about Practical Learning?. I have done some research on this topic. Most of the practicals related to computer science can be performed by yourself on your laptops. For other domains, the universities that I mentioned also provide online practical facilities. You just have to register an account and book a slot for practicals. In India, The IITs and other institutions of India (including our college) have initiated a project, which we have already used in our curriculum. The virtual labs provide us an intuitive way of performing lab experiments online using simulators, these virtual labs have a structured syllabus with the pedagogical aspects of learning taken in to consideration. So, I think It is not a big deal for a computer science student to perform practicals from Online Learning.

Google (Developer Training Programme) has also provided some quality learning material related their own technologies such as android, web, firebase, entrepreneurship, etc. You can choose from end-to-end training created by the Google Developers Training team, materials and tutorials for self-study, online courses and NanoDegrees through Udacity, Coursera and more. And when you're ready, you can take a Google Developers Certification exam to gain recognition for your development skills. Google Developers Training is part of Grow with Google, a program that equips people with the skills needed today to thrive in tomorrow's digital workplace.

There are Many educational organisations, some non-profit and some for-profit. Khan Academy has done a great work so far in providing free online education. Other For-profit companies are Coursera, Udacity, Udemy, etc. These companies provide all types of courses paid or free, with a certification.

Coding is one of the best skills to learn online—the work itself takes place entirely on a computer—but the quality of free teaching available ranges from expert-level to deeply flawed. Programmers tend to agree, though, that Codecademy, Free Code Camp, and HackerRank are all consistently well-designed and useful resources. Websites like CodeChef and Project Euler has a great set of programming problems to brush your programming skills. These sites will also introduce and help you prepare for a great sport called Competitive Programming.

Youtube has many channels that will help you in learning lots of things from writing, to arts to technical-know-hows, and even manipulative skills, YouTube has got you covered on almost every “how to do this and that”. You can learn, unlearn and relearn on YT while you keep improving your proficiency. Some youtube channels related to computer science are given at the end of this article. If you are facing any difficulties in a particular topic, you can always find or post your problems on forums like StackOverflow, StackExchange, etc. where other people who have experienced the same things can help you out.

We as Computer Science engineers learn lots of Programming languages, but ever considered learning a new spoken language. It is very interesting to learn a new language by yourself. I myself learned French from an app called Duolingo, It is the most popular language-learning platform in the world with around 200 Million active users. Babbel is another good platform to learn a language. Learning a spoken language will definitely help you increase your knowledge and will be helpful if you are aspiring for studying or working in a foreign country.

Here are the links to some of the resources mentioned in this article -

- MITOCW - ocw.mit.edu/
- NPTEL - onlinecourses.nptel.ac.in
- Harvard OL - online-learning.harvard.edu/
- MITOCW Youtube Channel - youtube.com/user/MIT
- Sentdex (Python)- youtube.com/user/sentdex
- Duolingo - duolingo.com/
- CodeChef - www.codechef.com/
- Google Developer Training - developers.google.com/training/
- Open Library (All kinds of Books)- openlibrary.org/

Each one of us so lucky to be born in this era where all the resources and the Infinite knowledge is available to us through the Internet. And now by reading this article you know where to find and how to access them.

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