



UNIVERSAL

Vidya Vikas Education Trust's

Universal College of Engineering

Approved by AICTE, DTE, Maharashtra State Government and Affiliated to University of Mumbai

Accredited with 'B+' grade by NAAC | Recognised as Linguistic (Gujarati) Minority Institution

Vol 03 Edition 9
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Coffee & Code ;

An Initiative by the Department of Computer Engineering

VISION

To be recognized as a department that provides quality technical education and research opportunities that eventually caters to helping and serving the community.

MISSION

- To groom the students to participate in curricular and co-curricular activities by providing efficient resources.
- To motivate the students to solve real world problems to help the society grow.
- To provide a learning ambience to enhance innovations, team spirit and leadership qualities for students.

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In Association with



(Computer Engineering Student Association)

Student Achievement



SE Computer Engineering Students got 2nd runner up under App Dev Domain in “ApScript Hackathon” hosted by IEEE Student Branch of A.P.Shah Institute of Technology, Thane on 6th & 7th February 2020.

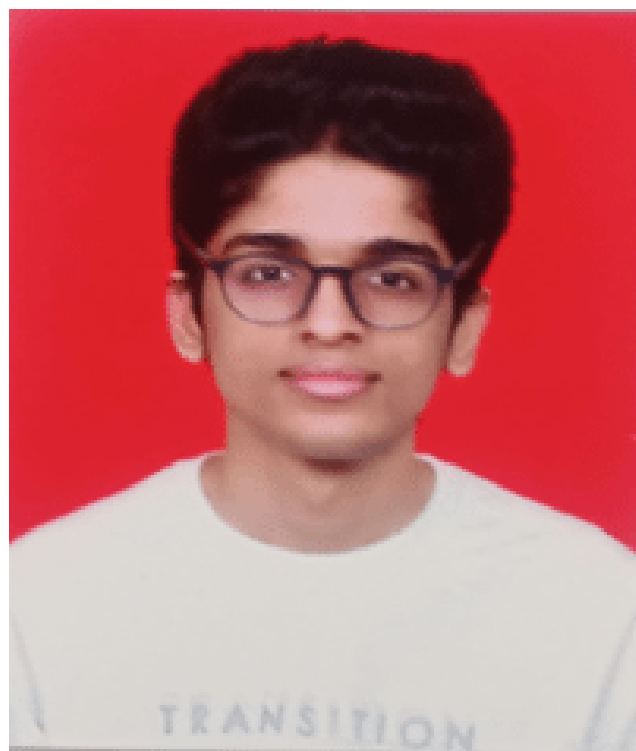
The team members include Saurabh Pandey (SE Div B), Janavi Panchal(SE Div B), Jaimitkumar Panchal (SE Div B). This hackathon provided an opportunity to prove their potential. They provided the solution for the problem statement, “Positive Psychology game-like app which will help develop a respect for rights and dignity of women and children & promote objectives of #BetiBachaoBetiPadao.”

They developed an application which portrays the current condition of women and children in today's society via a game wherein user can play various MCQ based, scenario-based and users perspective related different game modes and rank different answers on leaderboards based on majority votes. Their solution approach was innovative and justified the problem statement solution. Students contributed to teamwork showing team spirit. They applied the divide and conquer strategy to provide the solution by dividing the task among themselves. Janavi contributed for Admin Section, Login Register page, Profile section, Home page,Leaderboard section. Jaimit designed UI of game section, Admin backend, Feed section,Quiz . Saurabh completed Login ,Register backend, Edit profile, profile Section,Perspective game. Their work is appreciated by the judges and provided future scope in their application

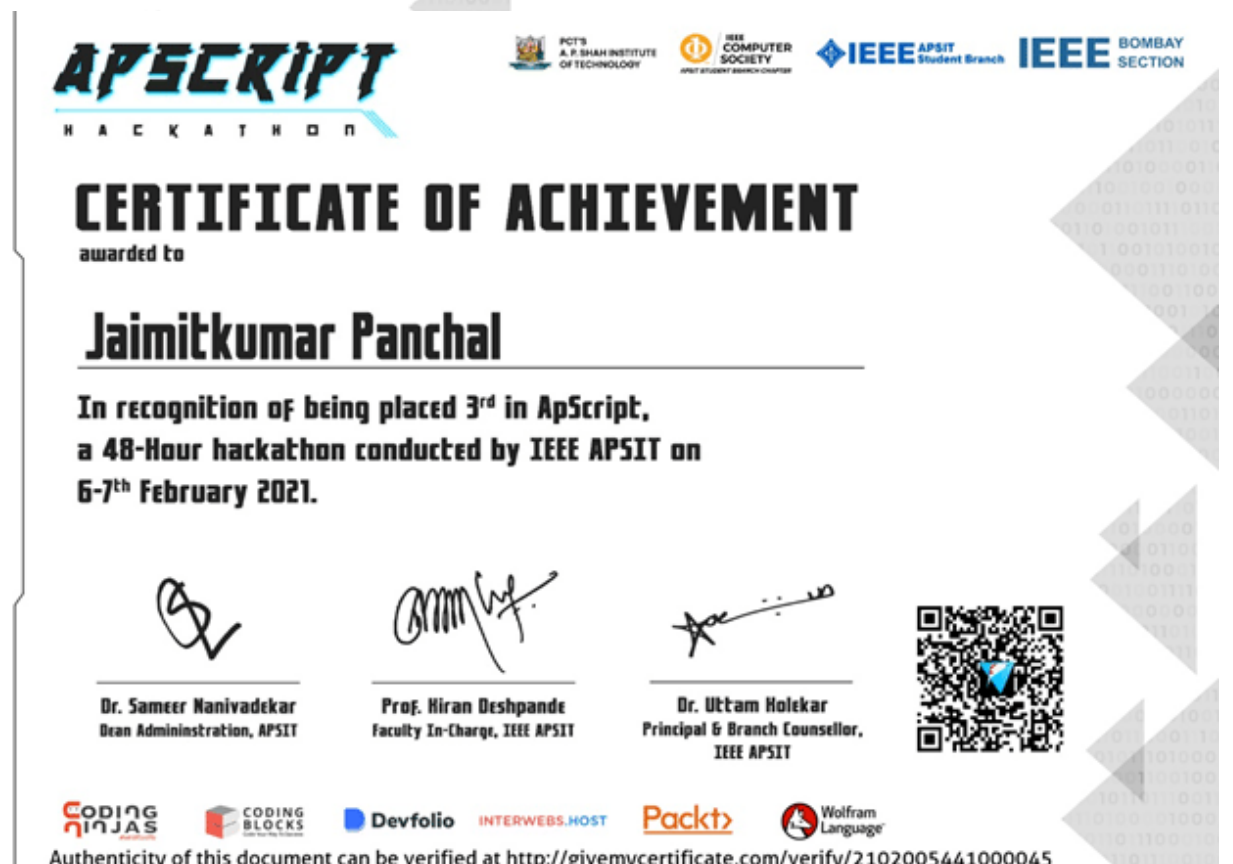


JANAVI PANCHAL

JAMITKUMAR PANCHAL



SAURABH PANDEY



Introduction to Genetic Algorithms



A genetic algorithm is a search heuristic that is inspired by Charles Darwin's theory of natural evolution. This algorithm reflects the process of natural selection where the fittest individuals are selected for reproduction in order to produce offspring of the next generation.

The notion of Natural Selection:

The process of natural selection starts with the selection of the fittest individuals from a population. They produce offspring which inherit the characteristics of the parents and will be added to the next generation. If parents have better fitness, their offspring will be better than parents and have a better chance at surviving. This process keeps on iterating and in the end, a generation with the fittest individuals will be found.

This notion can be applied to a search problem. We consider a set of solutions for a problem and select the set of best ones out of them.

Five phases are considered in a genetic algorithm.

1. Initial population
2. Fitness function
3. Selection
4. Crossover
5. Mutation

Initial Population:

The process begins with a set of individuals which is called a Population. Each individual is a solution to the problem you want to solve.

An individual is characterized by a set of parameters (variables) known as Genes. Genes are joined into a string to form a Chromosome (solution).

In a genetic algorithm, the set of genes of an individual is represented using a string, in terms of an alphabet. Usually, binary values are used (strings of 1s and 0s). We say that we encode the genes in a chromosome.

Fitness Function

The fitness function determines how to fit an individual is (the ability of an individual to compete with other individuals). It gives a fitness score to each individual. The probability that an individual will be selected for reproduction is based on its fitness score.

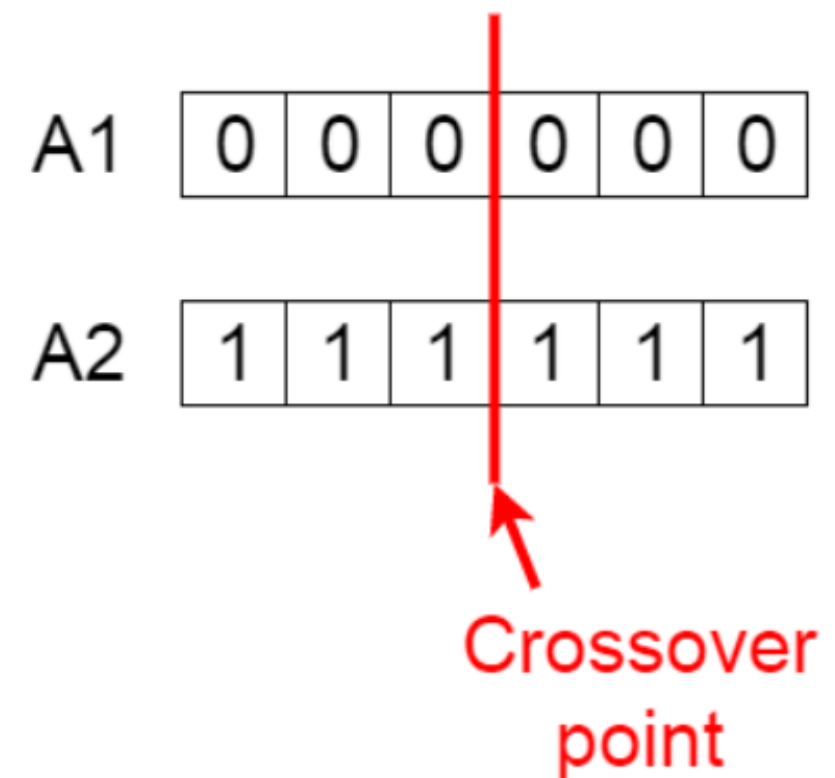
Selection

The idea of the selection phase is to select the fittest individuals and let them pass their genes to the next generation.

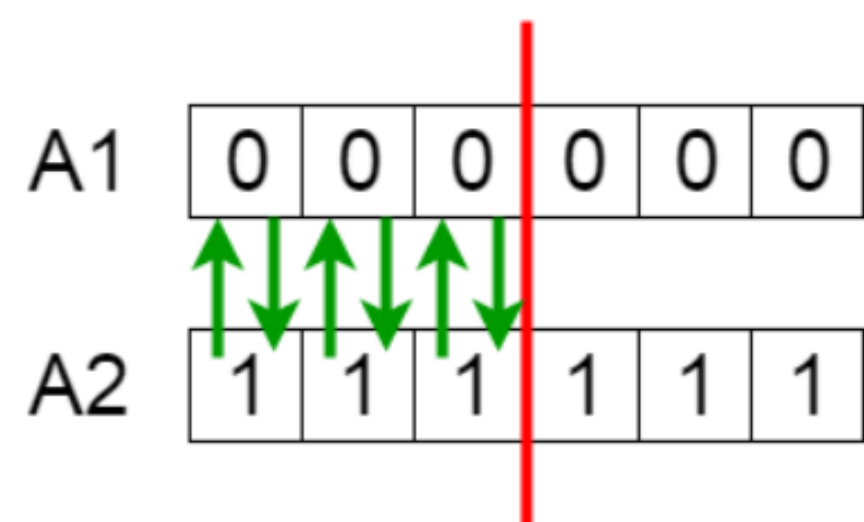
Two pairs of individuals (parents) are selected based on their fitness scores. Individuals with high fitness have more chances to be selected for reproduction.

Crossover:

Crossover is the most significant phase in a genetic algorithm. For each pair of parents to be mated, a crossover point is chosen at random from within the genes.



Offsprings are created by exchanging the genes of parents among themselves until the crossover point is reached.



The new offspring are added to the population.



Mutation:

In certain new offspring formed, some of their genes can be subjected to a **mutation** with a low random probability. This implies that some of the bits in the bit string can be flipped.

Genetic Algorithms (cont.)

Before Mutation

A5

1	1	1	0	0	0
---	---	---	---	---	---

After Mutation

A5

1	1	0	1	1	0
---	---	---	---	---	---

Mutation: Before and After

The mutation occurs to maintain diversity within the population and prevent premature convergence.

Termination:

The algorithm terminates if the population has converged (does not produce offspring which are significantly different from the previous generation). Then it is said that the genetic algorithm has provided a set of solutions to our problem.

Comments:

The population has a fixed size. As new generations are formed, individuals with the least fitness die, providing space for new offspring.

The sequence of phases is repeated to produce individuals in each new generation who are better than the previous generation.

SOURCE: <https://towardsdatascience.com/introduction-to-genetic-algorithms-including-example-code-e396e98d8bf3>

How to prepare for panel interview?

If you are the kind of person that gets nervous at the prospect of a one-on-one interview, the panel interview can be quite intimidating.

The panel – or board – interview, is when you will face three or more managers and decision-makers in the interview situation. Whether it is due to time constraints or simply the strategy of the company to bring in multiple perspectives, panel interviews are increasingly common, and the chances are that you will have to face one at some point in your career.

Now, while answering questions from a group of people simultaneously might feel to you like facing an interrogation, the good news is that there is plenty you can do proactively, to perform well in the panel interview.

Just as you would approach another piece of the recruitment puzzle, the key is to be well prepared.

Do Your Homework:

If you are called to interview for a job you want, the first thing you are going to do is find out who will be asking the questions. The panel interview is no different – there are just a few more people to find out about. Ask your recruitment consultant or company contact who will be interviewing you ahead of time.

Then take the time to think about what each person might want to know. It is likely that the panel will consist of an HR manager, the person that you will report to directly, a technical specialist, or manager.

It is also possible that someone from a team or business area that you will work alongside if you get the job will join the panel. Therefore, it is important to think about what each person will ask based on their job expertise.

Write down the types of interviewers you are expecting and the area of expertise. Use this document as your foundation to prepare for the panel interview.

Brainstorm Potential Questions:

Once you have your list of interviewers, put yourself in the position of each person and make a list of the questions they might ask. An HR manager will want to know if you are a good fit for the company culture. They might want to know how you have handled previous workplace situations or colleagues. If you are being interviewed by a technical manager, it is likely you will have to answer technical questions, so brush up on your experience, your knowledge and rehearse your answers. A marketing or finance manager might want to know how good you are at handling budget or communicating – and thinking holistically about how your technical job impacts other teams.

Take the time now to think about how you will answer questions that come from different perspectives. Be sure to write down your potential questions and your possible answers on the interview preparation document you started.

How to prepare for panel interview? (cont...)

You should also take time to write out questions that you will ask of the panelists. They want to see that you have taken initiative to get to know the company and are interested in learning more. Have a few questions in mind for you to ask these questions.

Know Your Strengths:

Just as you would for a one-on-one interview, identify your areas of strength and experience that you are going to want to showcase.

Use your resume as a framework and be prepared to talk at length about the points, and information you have shared here. Your interviewers are going to want to know more about who you are, what your skills are, what you have done, and how you might approach day-to-day challenges within their organization.

It will be important to think about how you want to position yourself and what areas, experience, and competencies you want to showcase during the interview.

Write out your ideas and the points you want to make sure you express during the interview. Use this to practice and review before the interview.

Engage with Everyone:

Yes, everyone. You already know who is going to be in the room with you, so think about how you might answer questions – and elaborate on your answers – to meet the needs and concerns of different interviewers.

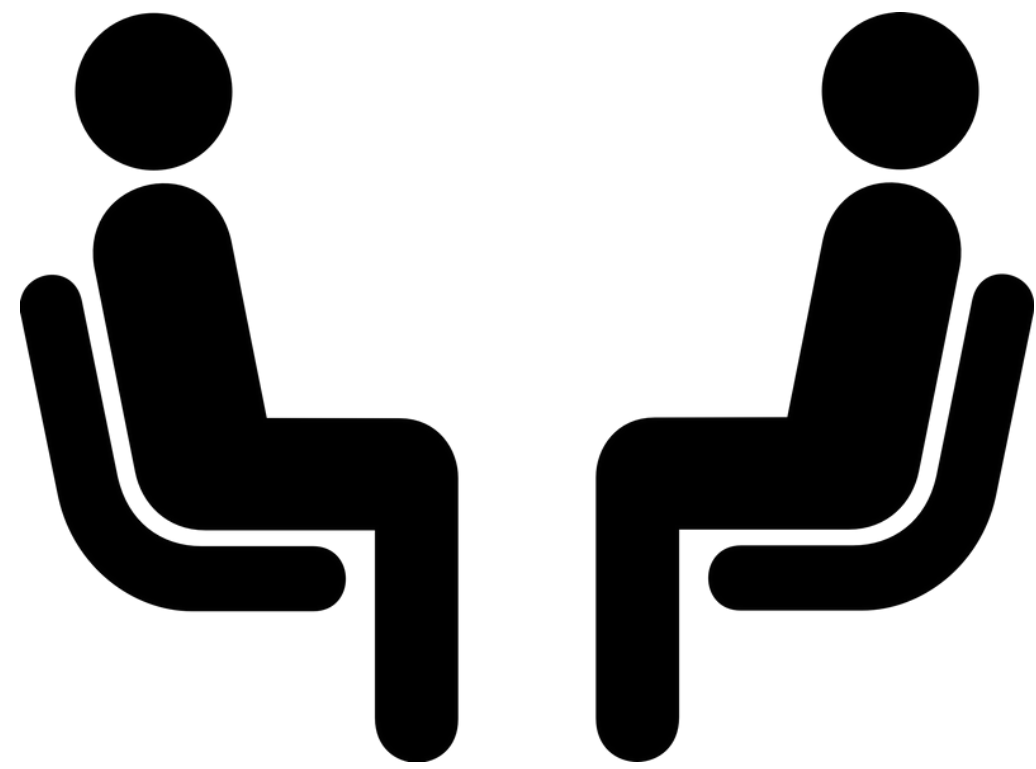
If one person asks you a specific question, answer it directly, but be prepared to offer something more in order to engage the perspective of the other people on the panel.

Say a technical director asks you something specific; go ahead and answer, but why not mention that you have done something or built the skills to communicate technical solutions to other teams – showcase what you have done that demonstrates value to more than one interviewer.

Using the same interview preparation document, practice communicating the value to the different panelist types. For example, consider creating a table of answers for each type of panelist for each strength or skill you want to highlight.

Now, you might think that it is too much of a challenge to prepare broader answers to specific questions, especially if you are nervous or under stress. But remember this: you (too) are in control.

If you take the time now, to invest in practicing for your interview, you will definitely feel and be more prepared.



You Are in Control:

It is really worth stressing this point. Take your time, pace yourself. No matter how nervous you feel or how much you want the job. Remember that you too can control the tempo of the interview.

- Do not be afraid to take notes if you need to. If you have not fully understood a question, do not hesitate to stop and ask someone to repeat something or to be more specific.
- Look your interviewers in the eye (if this is the culturally appropriate norm).
- Listen carefully to what they ask.
- Think before you speak.
- If you are cut off in the middle of an answer, do not feel that you cannot circle back and stress something that you think is important to share.
- Be honest about your skills and strengths – companies place a high value on honesty and integrity.

Most of all, try to enjoy the process. See it as an opportunity to showcase the amazing things you are capable of contributing to the company. And no matter how stressful it feels, be sure to thank each member of the interviewing panel. You never know who or when you might meet again.

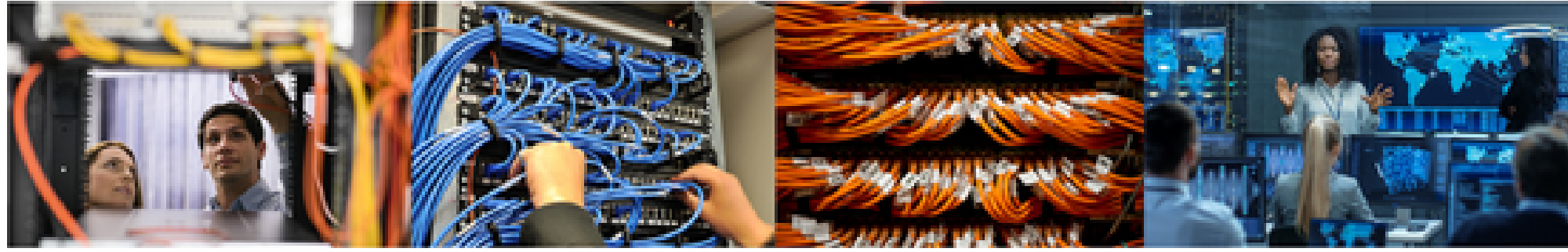


SOURCE: <https://www.netacad.com/careers/career-advice/networking-applying-interviewing/how-to-prepare-for-a-panel-interview>

Courses By Faculty

Networking Essentials

Universal College of Engineering

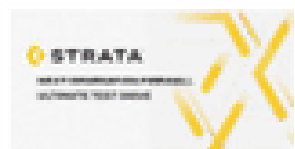


Course Details

UCoE_002
Networking Essentials (English - 2.00 - Instructor-Led)
01 Mar - 01 Jun 2021
Dr.Jitendra Saturwar

[HTTPS://WWW.NETACAD.COM/PORTAL/WEB/SELF-ENROLL/M/COURSE-389363](https://www.netacad.com/portal/web/self-enroll/m/course-389363)

Network Security Fundamentals-Universal College of Engineering-03/08/21



Teacher: Dr.Jitendra Saturwar

In this course, students will learn the fundamentals of network security and identify the concepts required to recognize and potentially mitigate attacks against enterprise networks as well as mission critical infrastructure.

[HTTPS://PALOALTONETWORKSACADEMY.NET/COURSE/VIEW.PHP?ID=1358](https://paloaltonetworksacademy.net/course/view.php?id=1358)

ENROLLMENT KEY : Ucoe@789

Faculty Achievements



Dr. Ekta Upadhyay has also actively organized and coordinated various ICT aCademy FDP's and Workshops for the Universal College of Engineering, which has ultimately benefitted the Teaching Fraternity of UCOE.

A Snapshot of various events conducted under ICT Academy are shown in the adjacent Table.

Dr. Ekta Upadhyay had received an invitation to join as the Technical Program Committee member of the **IEEE International Conference on Computing, Communication, and Intelligent Systems- ICCIS-2021** held on 19th-20th February 2021. She had reviewed 10 technical papers in the areas of Machine Learning, Artificial Intelligence, and Image Processing.

S.No	Faculty Name	Program Name	Start Date	End Date	Venue	Department
1	Hezal Lopes	Emotional Intelligence (Online Live FDP)	23-Feb-21	27-Feb-21	Sky Campus	Computer Engineering
2	Ancy Almeida	Emotional Intelligence (Online Live FDP)	23-Feb-21	27-Feb-21	Sky Campus	Computer Engineering
3	Shivam Shukla	Productive tools in AutoCAD (Online Live FDP)	22-Feb-21	26-Feb-21	Sky Campus	Applied Science & Humanities
4	Sagar Butle	Productive tools in AutoCAD (Online Live FDP)	22-Feb-21	26-Feb-21	Sky Campus	Civil Engineering
5	Dr. Jitendra Saturwar	Fundamentals of Machine Learning (Online Live FDP)	16-Feb-21	20-Feb-21	Sky Campus	Computer Engineering
6	Dr. Ekta Upadhyay	Creative Thinking (Online Live FDP)	28-Dec-20	2-Jan-21	Sky Campus	Computer Engineering
7	Hezal Lopes	Creative Thinking (Online Live FDP)	28-Dec-20	2-Jan-21	Sky Campus	Computer Engineering
8	Mrs. Sharvari Sagar Patil	Flutter UI Design (Online Live FDP)	21-Dec-20	26-Dec-20	Sky Campus	CSE
9	Sridhar Iyer	Flutter UI Design (Online Live FDP)	21-Dec-20	26-Dec-20	Sky Campus	Computer Engineering
10	Silviya simpson D'monte	Emotional Intelligence (Online Live FDP)	13-Oct-20	17-Oct-20	Sky Campus	CSE
11	Sridhar Chandramohan Iyer	Introduction to Angular JS (Online Live FDP)	21-Sep-20	26-Sep-20	Sky Campus	Computer Engineering
12	Marina Thomas	Creative Thinking (Online Live FDP)	14-Sep-20	18-Sep-20	Sky Campus	Applied Science and Humanities
13	Dr.Jitendra Saturwar	Cybersecurity Essentials (Online Live FDP)	17-Aug-20	22-Aug-20	Sky Campus	Computer Engineering

Staff Training on "Pro-Campuz Academic & Exam Model"

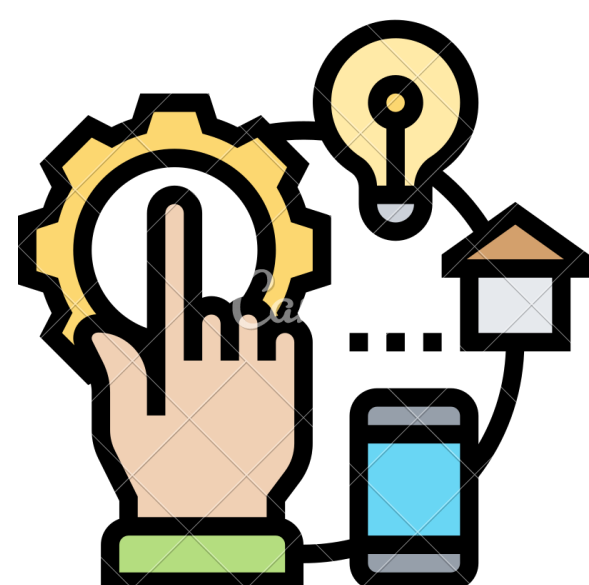
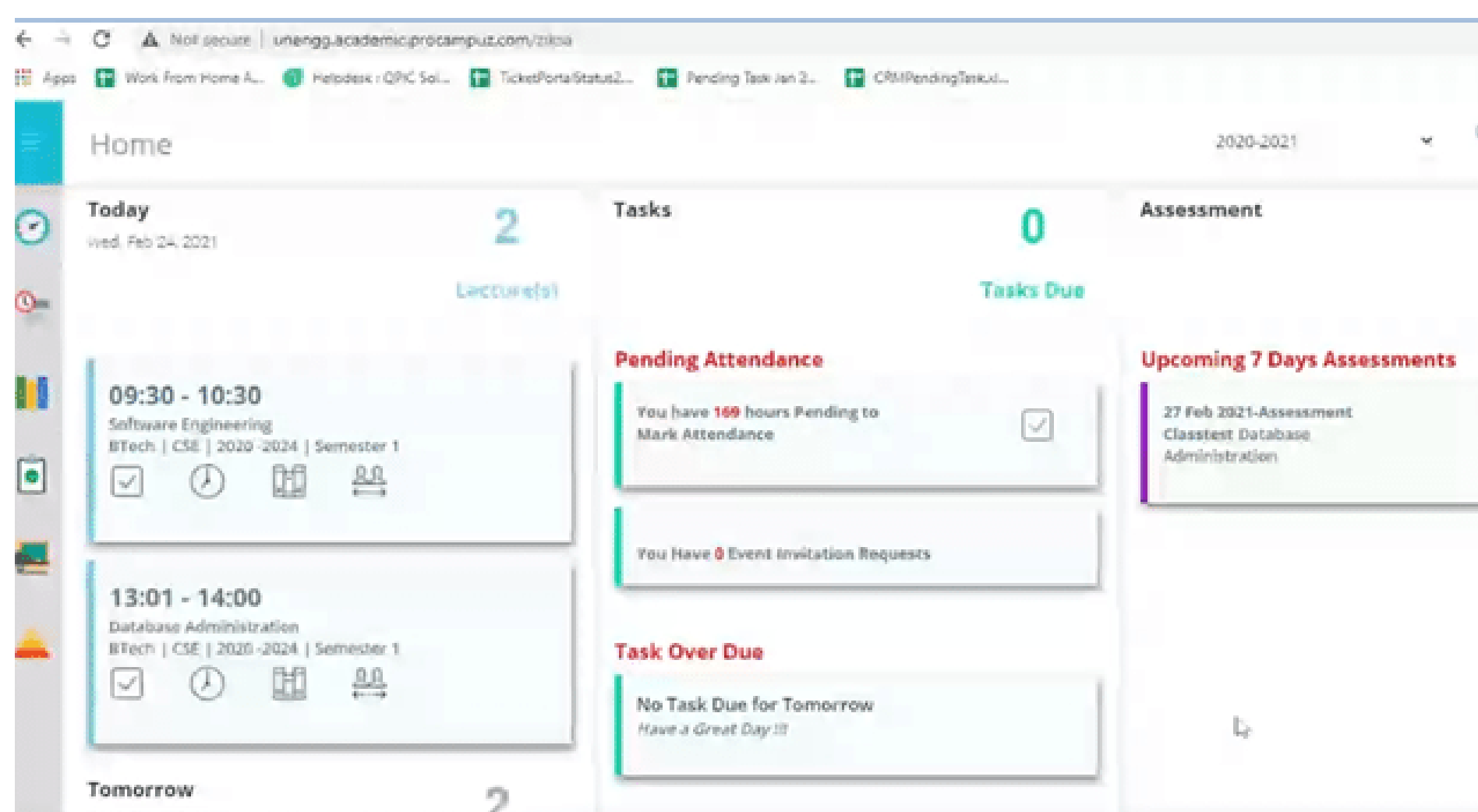
"Pro-Campuz Academic & Exam Model" virtual training was organized by ICTC for teaching and non-teaching Staff of Universal College of Engineering on 24 February 2021. A total of 45 people attended the training.

Pro-campuz is Management Information System that contains various modules for academic and administration work. Mr. Karan Soni from ICTC coordinated the event, Mr. Deepesh Divakaran gave training on Academic and Exam modules. The system contains Subject Management, Assessment Management, Exam Management, Course Planning and Management, Student Dashboard, and Parent Login.

Mr. Aryan Raja demonstrated the Subject Management and Attendance, allocation of Student Batches, Course Planning, Course Exit Survey, Mapping of Course CO's to PO's. Along with these, Course File Preparation, Topic Planning, Selection of Mode of Teaching, Setting Question Paper's according to Bloom's Taxonomy, and Content Delivery was also explained.

The Attendance Management Module was well explained focusing on marking the attendance with the available options as mark all present, mark all absent, edit, and Topic tracking report. In Assessment Management Module, Evaluation by rubric or numeric, Mapping google meet link, Proctoring link features were demonstrated. In addition to that, the Assessment target with CO PO attainment was also explained. Checking the status of uploaded Marks and different Assessment level features, sharing the Course Material and Recorded Lecture Video, and sharing NPTEL videos were also explained.

Pro-Campuz also contains Student Dashboard and Parent Login where they can get access to information about upcoming events in College, upcoming Exams, Results, etc. Faculty can also maintain their information about Research Paper Publications, their Achievements which can be further linked to Appraisals. Event Management Feature is also included which will be helpful for organizing and planning different Technical and Non-technical Events in College such as Techfest, Paper Presentations, etc. The session was so informative and interactive where all participants gained insights into the Pro-Campuz.



The screenshot shows the 'Database Administration' module with a table of topics. The table has columns for SrNo, Topic Name, No of Hours Required, Module, and Mode of Teaching. There are 6 rows of data, with the 6th row partially obscured by a dropdown menu.

SrNo	Topic Name	No of Hours Required	Module	Mode of Teaching
1	Database install	1.00	1	Class Room Teaching
2	Data security	1.00	1	Class Room Teaching
3	User creation an	2.00	2	Interactive Teaching
4	Reporting and ql	2.00	3	Class Room Teaching
5	Database perfor	2.00	4	Class Room Teaching
6			-Select Modu	-Select Mode of T

Faculty Activities



Mrs. Hezal Lopes and Mrs. Ancy Almeida attended 10 Hours Online Live FDP on 'Emotional Intelligence' conducted by ICT Academy on 23 Feb to 27 Feb 2021.



Dr. Jitendra Saturwar attended 12 Hours Online Live FDP on 'Fundamentals of Machine Learning' conducted by ICT Academy on 16 Feb to 20 Feb 2021.

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You can send your articles to the following email ids:
sridhar.iyer@universal.edu.in, hezal.lopes@universal.edu.in , apurva.chaudhari@universal.edu.in