COMP#BUZZ

A COMPUTER DEPARTMENT NEWSLETTER

Government Engineering College, Rajkot

GOVERNMENT ENGINEERING COLLEGE RAJKOT

INDEX

Vision & Mission

Government Engineering College, Rajkot (GECR) was established in the year 2004 with a vision to provide technical education to the students to make them technically competent and ethically sound to meet the growing demands of the industries and for benefit of the society as a whole. Government Engineering College, Rajkot is a Government institution affiliated with Gujarat Technological University (GTU) and recognized by the All India Council for Technical Education (AICTE), New Delhi.

The Department of Computer Engineering, established in 2004, is one of the most dynamic departments of Government Engineering College, Rajkot. The department has consistently maintained an exemplary academic and research records.

Vision

- To provide value-based technology education in Computer Engineering.

Mission

- To bring out graduates who can solve challenges of industry and society by applying computing techniques.

- To develop partnerships with industries, government agencies and Research and Development organizations for knowledge and resource sharing.

- To encourage faculties and students to participate in reputed conferences, workshops, seminars and other such technical activities.

- To motivate students/graduates to be entrepreneurs.

- To impart human and ethical values among students in the service of society.

Principal sir's Message

Greetings of Diwali and a very Happy New Year to all of you! I hope that the Diwali holidays have refueled you to start working and studying again. More so as the University exams are approaching.

In the months of September and October the Computer Engineering department has organized many workshops to help students sharpen their skills and get acquainted with new technologies and methods in contemporary Computer Technologies.

The department hosted an online workshop on Cloud Computer and Big Data Applications sponsored by GUJCOST. The workshop was attended by sixty plus faculty and students members across India. The department faculty and convener also hosted two sessions of sessions under the umbrella of Impact Lecture Series supported by IIC and funded by IIC-AICTE on Engineering Design and Incubation with Mr. Parth Sejpal , Mr. Hitesh Bheda, Mr. Bhavin Dabhi and Mr. Vishal Sarvaiya as expert speakers. I have been told that many students participated in these workshops and found them very informative.

As some of you might already know, we've had a supercomputer facility set up by GUJCOST in our college since 2017. There were also many webinars conducted in the last few days on Deep Learning, Machine Learning and Data Science under the banner of Super Computing Facility at GEC Rajkot. I hope they were all equally interesting and helpful. I encourage all students and faculty members to take advantage of these resources for their projects and research.

More than anything, I would like to encourage the students to prepare well for the upcoming exams. It is more difficult now to appear for the University exams after almost a year of no University level exam. But with hard work and perseverance you can surely come out in flying colours. I'm sure the faculty members are already giving their best to prepare the students well and assist in any way possible to achieve this goal. I wish everyone the Best of Luck!

BEST REGARDS,

Dr. C.H. Vithalani

Principal of Government Engineering College Rajkot

"Any growth requires a temporary loss of security"
- Madeline hunter

HOD sir's message

My dear students and faculty, wish you a very happy Diwali and a prosperous New Year! I hope that you have all had a wonderful time during the holidays with your families and did not find it too difficult to get back to work and study. I'm sure this time provided you with enough rejuvenation to start studying again.

In the month of October,we had an excellent opportunity to organize a GUJCOST sponsored online workshop on Cloud Computing and Big Data Applications with Dr. Narottam Sahoo as the Chief Guest.

Students interested in the business and software management side of IT, also got great exposure to attend two sessions under the umbrella of Impact Lecture Series supported by IIC and funded by IIC-AICTE on Engineering Design and Incubation with with Mr. Parth Sejpal , Mr. Hitesh Bheda, Mr. Bhavin Dabhi and Mr. Vishal Sarvaiya as expertspeakers.. I have been told that many students participated in these workshops and found them very informative.

As we all know, in December 2017, GUJCOST set up a supercomputer facility known as PARAM Shavak in our college. I would once again like to invite anyone who is interested, to take the benefit of this facility for their research. There are several frameworks like Torch 7, Caffe, Tensorflow, Keras, MXNet, Thano and, Paddle; performance libraries like CUDA toolkit, cuDNIN, 00cuSparse, cuBLAS, and TensorRT; visualization tools like DIGITS, and TensorBoard available.

Since the last newspaper was published,we have had several workshops organized by our college to educate the students about upcoming technologies in Computer Engineering under the flagship banner of Super Computing Facility at GEC Rajkot. On October 16, 2021, we had "Getting Started with Deep Learning" webinar by Mr. Nishant Gandhi, who is presently working as a team lead at DataRobot in Boston, US. We also an AMA session on Machine Learning on October 22, 2021 with Mr. Subhaditya Mukherjee,a Masters students in AI at the University of Groningen, Netherlands. Last but not the least,we had a "Practical Debugging for Data Science" webinar given by Mr. Manu Joseph, who is a Lead Data Scientist at Thoucentric in Bangalore, India,on November 20, 2021.

I hope that these workshops and activities have helped the students in getting familiarized with new technologies in the IT industry. I would also like to draw everyone's attention to the final exams that will most likely be given by the University soon. I wish everyone All the Best and hope you will prepare and perform well.

BEST REGARDS,

Dr. Chirag S. Thaker

Professor & Head Computer Engineering Department,
Government Engineering College, Rajkot

"When people throw stones at you', convert them into milestone."
-Sachin tendulkar

Decode Codechef (An Event to Introduce)

Decode Codechef is the Introduction Event of a new team and a splashback of activities done by the previous team. Our Intended outcome behind organizing this event is to introduce CodeChef and college chapters to the students and to guide them on how to use CodeChef efficiently and how to start their CP journey with CodeChef.

The actual Outcome of this event is we have lots of new members joined in this chapter and we have seen a way better response than we expected. Our President has built the discord server that can help this community to grow so we have launched that server after this event. We have shared feedback forms after the event to get to know how else we can improve.

New core team of codechef club:

- Faculty advisor : Haresh Rathod
- President : Shaktirajsinh zala
- CP lead : Saurav Sutaria
- Media lead : Janvi desai
- Event lead : Abdullah malek

Details :-

- **Date of Event**
  08th September 2021
- **Time**
  10:00 am to 11:30 am
- **Number of students registered**
  175
- **Number of Students Participated**
  120+
- **Type of Event**
  Introduction of Codechef GEC Rajkot, New Team & Codechef
- **Learning Outcomes**
  Getting Started with Competitive Programming & Codechef Launch of Discord Server & Executive member Recruitment
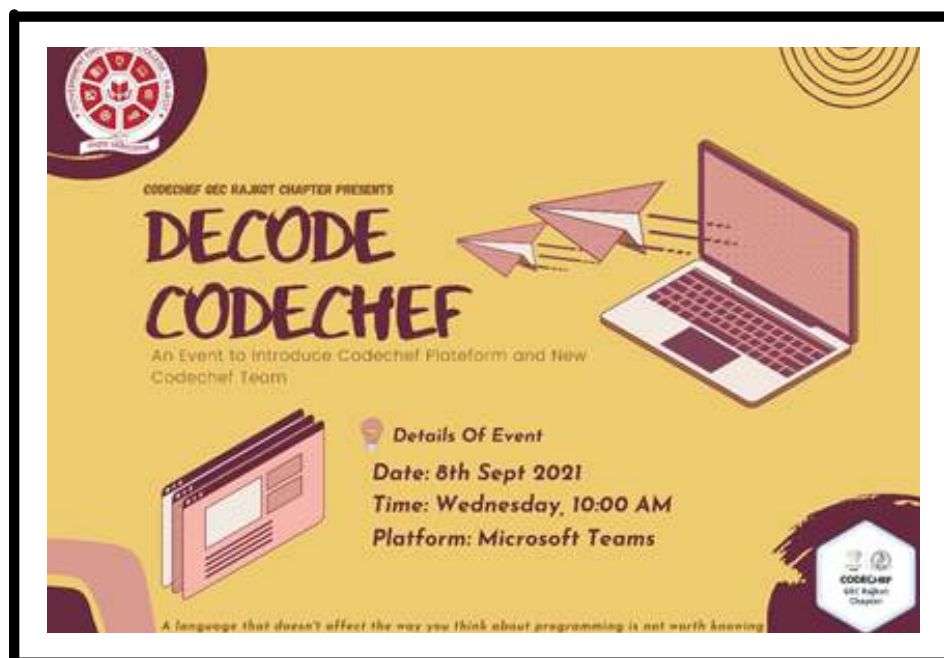
Ignite CP with Expert (Expert Session)

Our main goal was to make students aware of competitive programming, to introduce them to CP, what it benefits it, and how CP is beneficial in their career, and to introduce them to the various CP contests happening around the world. The expected number of participants was around 80-90.

More than 100 students from over 13 colleges all over India have joined the sessions. Many of them were not aware of the ongoing CP competitions like ACM-ICPC, CodeChef SnackDown, Facebook hacker Cup. Through these sessions they got to know a lot about such kinds of contests, many of them learned how to use CodeChef for CP and how to start their CP journey.
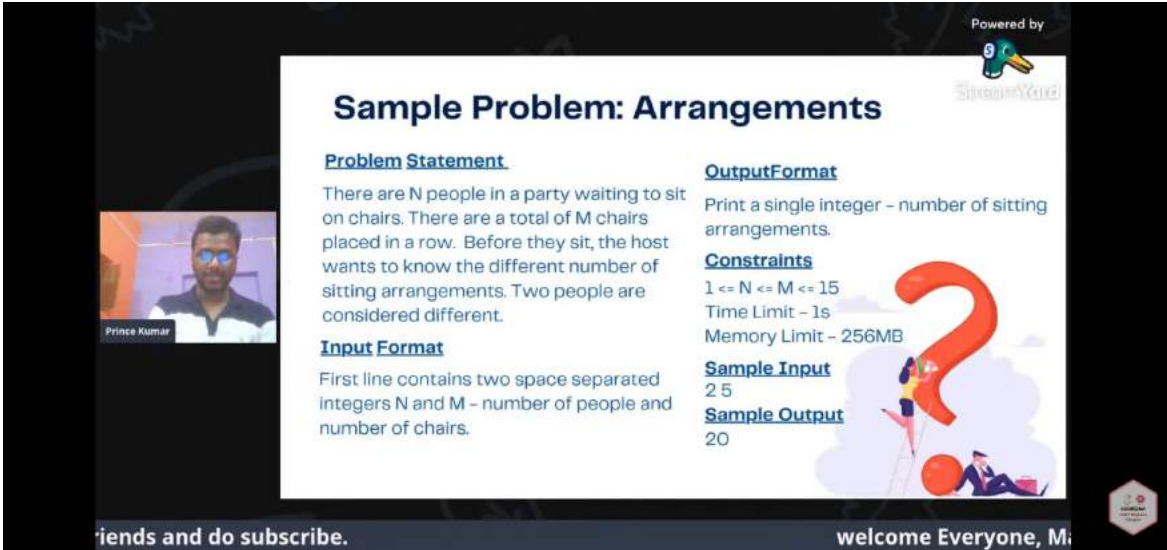
Details :-

- **Date of Event**
  10th October 2021
- **Time**
  05:00 pm to 06:05 pm
- **Number of students registered**
  109
- **Number of Students Participated**
  110+
- **Type of Event**
  Get Started with CP and how to improve in CP.
- **Learning Outcomes**
  Getting Started with Competitive Programming & Codeche Tips from Expert, how CP help students in career

● ● ● Photo Gallery Of the Event ● ● ●

Compiled By:

**NIYATI
KANERIYA**

Comp Sem-3;

**SHYAM
DHOKIYA**

Comp Sem-3;

**SACHIN
KANZARIYA**

Comp Sem-3;

Introduction to GDSC

This was our first event with the new lead and team, The session started at 10:30 am on 11th September 2021, Saturday on Microsoft teams, 103 Students registered for the session, and 90 participated in the event, this session's main aim was to create awareness about GDSC on our campus. The sessions started with the speech of our computer department's HOD Dr. Chirag Thaker sir, whose motivational words have filled a great enthusiasm in every student, sir told us that many industry leaders near our city are appreciating the 3rd year of GDSC at the GECR campus and also inform us about RITA (Rajkot IT Association) which will benefit us for getting jobs and internships. Then we had a small fun activity where we played a quiz on an online platform, due to this the energy of all the students have reached the next level and they are very much excited for the coming up part of the event. After that our current GDSC lead Harshil Kaneria talked with Jemik Patel who is past the GDSC lead of our campus. They talked about experiences as a lead, best moments with this club, and Jemikbhai encouraged students to take more benefits from this opportunity.

Then we introduced GDSC to the students, like what is GDSC, what we do at GDSC, then we explained the benefits of joining GDSC, how it will be useful to students in their academic and professional growth as well as overall development. Then we discussed the whole year's timeline for this year. What future events we will plan for this club and which campaigns will be started for the development of students' technical growth.

- **Date of Session**

  11th September 2021

- **Number of Students Participated**

  90

- **Time**

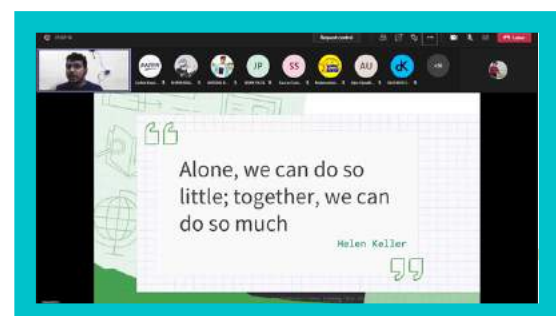 10:30 AM Onwards

- **Youtube Url :**

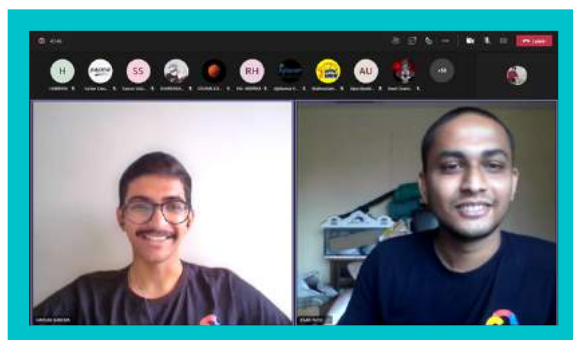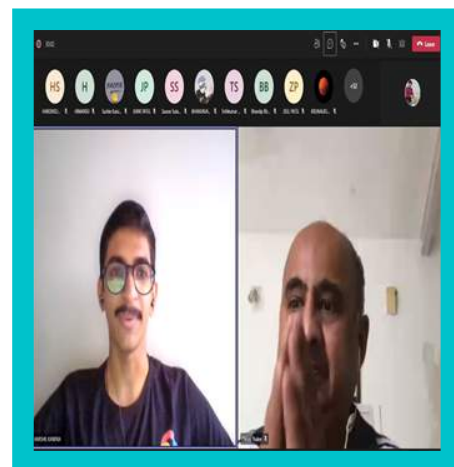 Introduction to GDSC

- **Learning Outcomes The students are knowing about**

  1. GDSC community and how it will work,
  2. What are the benefits of this community
  3. Upcoming events timeline

- **Type of Event**

To make students aware of Google Developer Student Clubs.

All You Need To Know About Open Source!

It was the second event with the new lead and team. The event was live on YouTube at 11:00 am on 26th September 2021, Sunday, 60 Students registered for the session, and 350 participated in the event, the main aim of the session was to create awareness and make students know about open source.This event was in collaboration with four GDSC in total, GDSC GEC Rajkot,GDSC SRCASW, GDSC ADIT and GDSC Kalindi College, DU. The speaker of the event was Anubhav Sinha. He is a software engineer at Amazon, GSoC'19, Educator at Newton School, and Ex-Chairperson of IEEE SB JIIT. Akansha - GDSC SRCASW lead, the host of the event, started the session by welcoming all. Anubhav sir started the session by giving very basic questions like what is open source, what is open source software, how to start contributing to open source. He discussed prerequisites for beginners. He also answered the questions like how to select good projects and how to pick issues. He shared his journey of open source. He shared his experience with the Oppia team. He explained the benefits of contributing to open source. He explained things about Hacktoberfest and Google Summer of Code, Git and GitHub, MLH Fellowship. He has also given a live demonstrations for more clarification. Then he answered the queries and questions from the viewer or student side. At the end of the session, there was a quiz organized on Kahoot. There were 10 questions. The session ended by thanking everyone.

- **Date of Session**

    26th September 2021

- **Time**

    11:00 AM Onwards

- **Name of speaker**

    Anubhav Sinha

- **YoutubeUrl**

    All You Need To Know About Open Source!

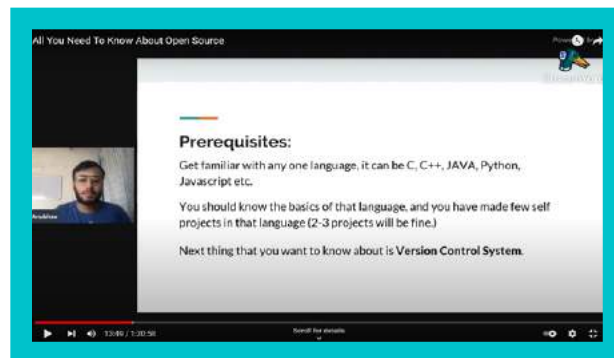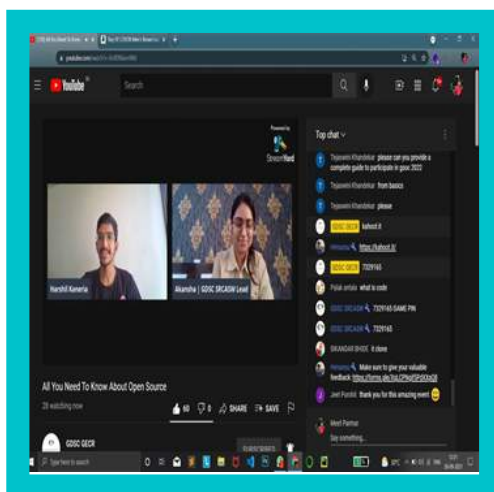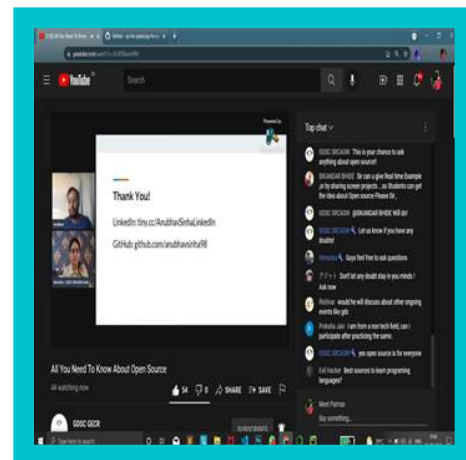- **Number of Students Participated**

    350

- **Type of Event**

    To make students aware and know about open source

- **Learning Outcomes**

    The students are knowing about
    1. Open Source
    2. How to begin with open source
   3. Steps to contributing at open source

Everything about Hacktoberfest

It was the third event of GDSC GEC Rajkot. The event was organized on Google Meet at 6:30 PM on 1st October 2021, Friday, 74 Students registered for the session, and 120 participated in the event, the main aim of the session was to make students know about Hacktoberfest. This event was the collaboration of GDSC GEC Rajkot and GDSC GEC Gandhinagar. The speaker of the event was Mr. Ayush Kumar. He is a software developer, expert in Machine Learning and cloud technology, open-source contributor, and mentor. Divyesh Vyas - the Core member of GDSC GEC Gandhinagar, the host of the event, started the session by welcoming all. Ayush Kumar, the speaker of the session, started the session by giving the basic idea of GitHub and its uses and functions. He covered all the points to begin with GitHub. Then he talked about Hacktoberfest and the process of participating in it and its benefits. He has given a live demonstration for more clarification. How to put a pull request in GitHub. Then Divyesh has covered - How to register in Hacktoberfest and how to make your profile. After that, the speaker covered the process of Google Summer of Code and how to find a project and organization of your interest. He talked about the basic need to contribute to open source. He also talked about the MLH Fellowship and the Linux mentorship program. Then he answered the queries and questions from the viewer or student side. He motivated all the students to participate in Hacktoberfest as well as GSoC. The session ended by thanking everyone.

- **Date of Session**

   1st October 2021

- **Time**

   6:30 PM Onwards

- **Name of speaker**

   Mr. Ayush Kumar

- **Youtube Url :**

   Everything about
   Hacktoberfest

- **Number of Students Participated**

   120

- **Type of Event**

   To make students aware and know about
   Hacktoberfest

- **Learning Outcomes**

   The students are knowing about
   1. What is Hacktoberfest ?
   2. How to participate in Hacktoberfest?
   3. How to use GitHub?
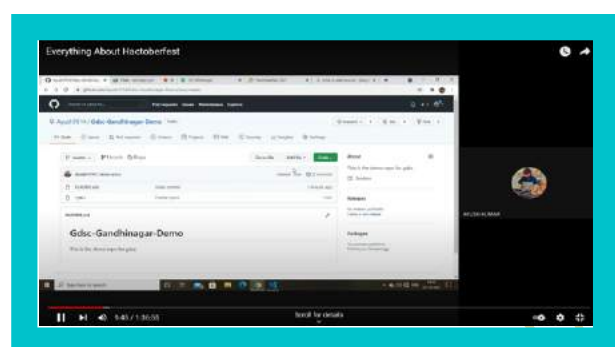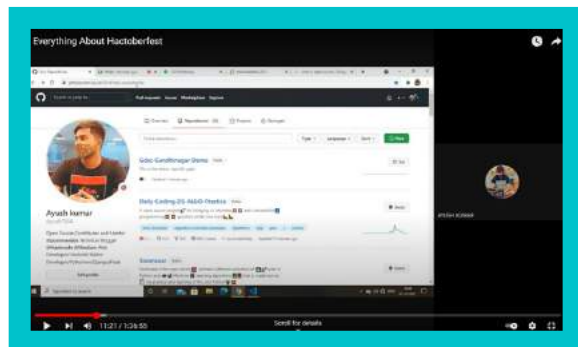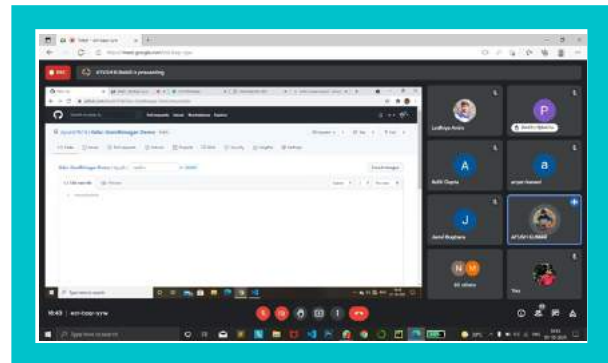
Hack the Hackathon

The event was organized on Microsoft Teams at 11:00 AM on 31st October 2021, Sunday, 45 Students registered for the session, and 134 participated in the event, the main aim of the session was to make students know about Hackathon.

This event started with welcome wishes and by congratulating those who completed 30 Days of Google Cloud and then the Discord Server of GDSC GECR was announced.

Then speaker of the event, the winning team of Hackathon was introduced - Mukund Kulkarni (working at TCS as migration analyst) , Ajay Nagotha (working as software developer at Rao Information Technology Pvt Ltd.) Yash Chavada (In GRBBRR as angular developer) , Aman Jurani (working in Hubilo as backend developer)

All participants were free to ask questions. Host and GDSC lead Harshil Kaneria has asked some very interesting questions regarding Hackathon. They answered all the questions from Harshil as well as all the participants. They talked about the

Smart Gujarat Hackathon and Smart India Hackathon. They shared their journey and experience, Problems, and fun activities which they faced. They also talked about what was the environment of the Hackathon, what was their motivation to do so, and was the key point of winning and participating in Hackathons. They discussed their project problem statement and its solution.

Then he answered the queries and questions from the student side. They have given some suggestions for internships and placements. He motivated and guided all the students to participate in the Hackathon. The session ended by thanking everyone.

- **Date of Session**

    31st October 2021

- **Time**

    11:00 AM Onwards

- **Name of speaker**

    Mukund Kulkarni and his team

- **Youtube Url :**

    https://youtu.be/ctVc7tIBJsw

- **Number of Students Participated**

    134

- **Type of Event**

    To make students aware and know about Hackathon

- **Learning Outcomes**

    The students are knowing about
    1. What is Hackathon ?
    2. How to participate in the Hackathon?

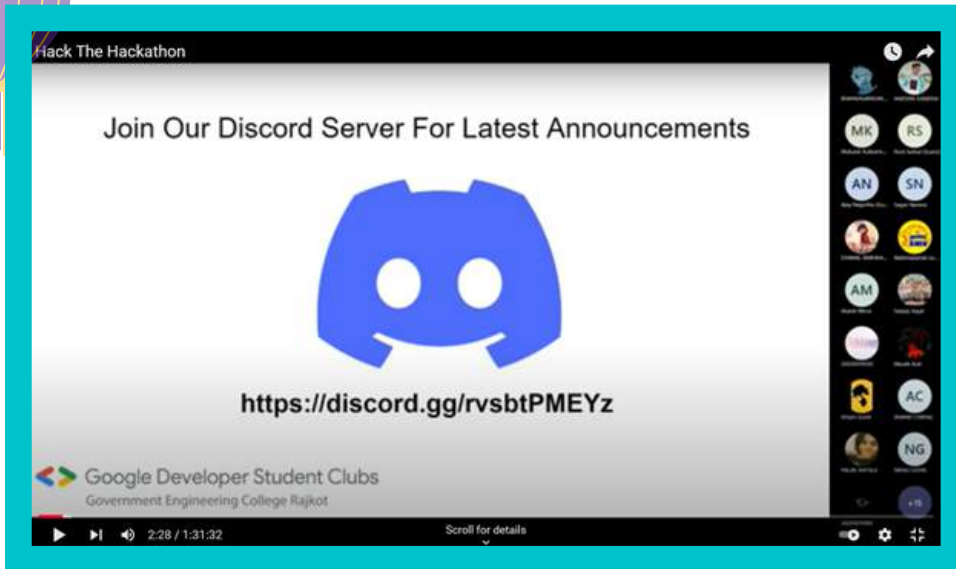● ● ● **Photo gallery of the event** ● ● ●
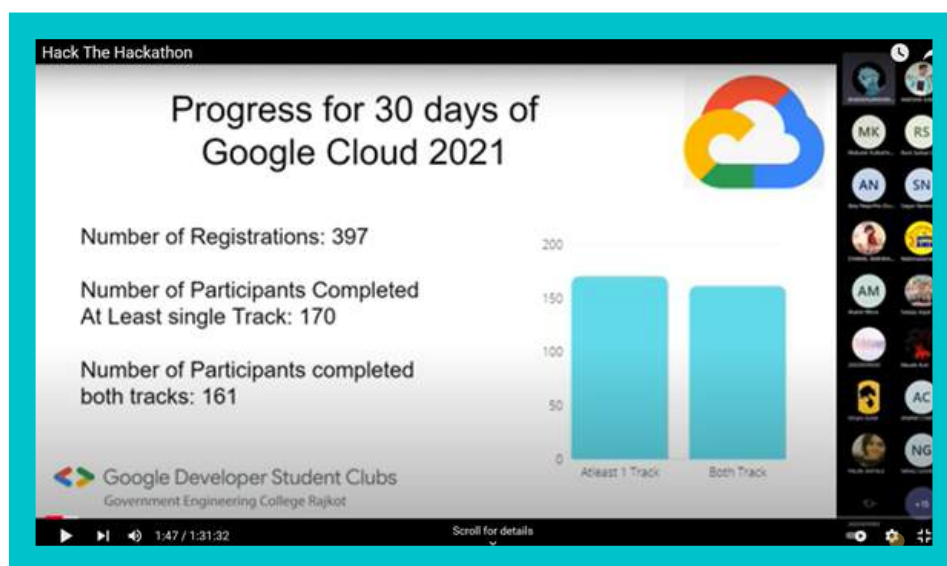
Compiled By:

NIYATI KANERIYA

Comp Sem-3;

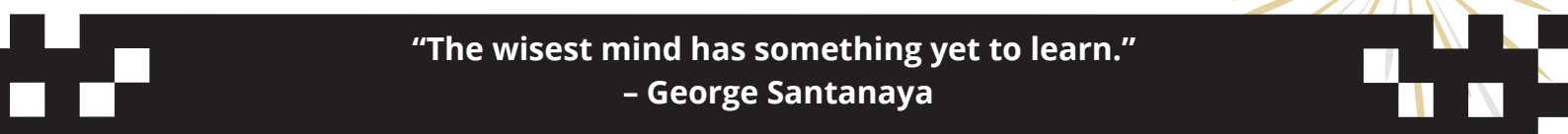**SHYAM DHOKIYA**

Comp Sem-3;

SACHIN KANZARIYA

Comp Sem-3;

30 days of Google Cloud

30 Days of Google Cloud - has been organized from 27th September to 27th October 2021. 397 students have registered for this program. 171 students have completed at least one track and 162 students have completed both the track successfully. The 30 Days of Google Cloud program provides an opportunity to kickstart your career in the cloud and get hands-on practice on Google Cloud - the tool that powers apps like Google Search, Gmail, and YouTube.Along the way, learn & practice concepts like computing, application development, big data & machine learning using cloud & "Campus Facilitators" were there who are specially trained on Google Cloud to help. Track 1 was Cloud Engineering Track and track 2 was Data Science & Machine Learning Track and both the tracks have 6 skill badges. With the completion of tracks, students will get the certificate and swags.

Track 1: Cloud Engineering Track

1. Skill Badge: Getting Started: Create and Manage Cloud Resources
2. Skill Badge: Perform Foundational Infrastructure Tasks in Google Cloud
3. Skill Badge: Setup and Configure a Cloud Environment in Google Cloud
4. Skill Badge: Deploy and Manage Cloud Environments with Google Cloud
5. Skill Badge: Build and Secure Networks in Google Cloud
6. Skill Badge: Deploy to Kubernetes in Google Cloud

Track 2: Data Science & Machine Learning Track

1. Skill Badge: Getting Started: Create and Manage Cloud Resources
2. Skill Badge: Perform Foundational Data, ML, and AI Tasks in Google Cloud
3. Skill Badge: Insights from Data with Big Query
4. Skill Badge: Engineer Data in Google Cloud
5. Skill Badge: Integrate with Machine Learning APIs
6. Skill Badge: Explore Machine Learning Models with Explainable AI

30 Days Of

Google Cloud

We have created one website for tracking the progress of students' achievement for this 30 day of Google cloud event in collaboration with BaudhikGeeks. In which students can track their progress for this challenge and the website has a scoreboard feature also to compare other student's progress as well.

Event duration

27th September 2021 to 27th October 2021

Number of Registrations

397

Number of Participants Completed At Least single Track

171

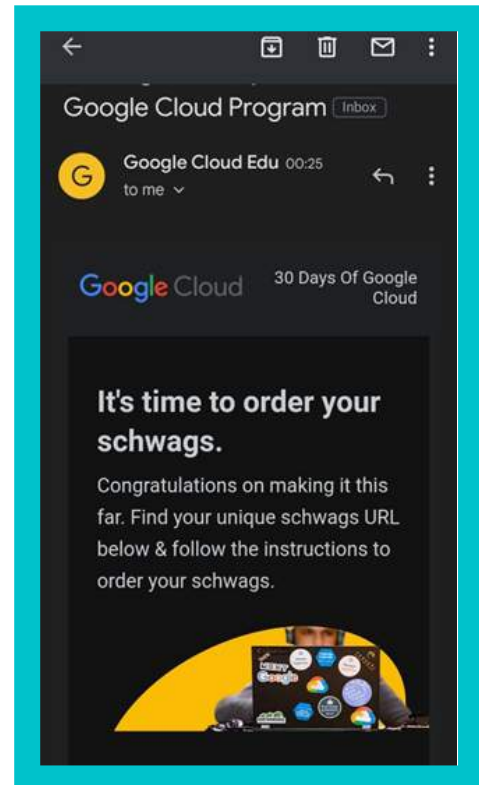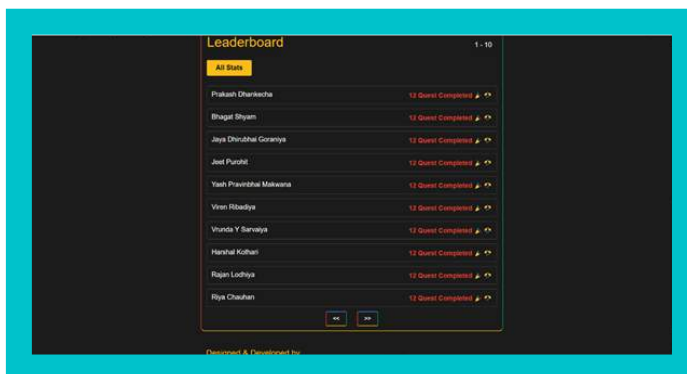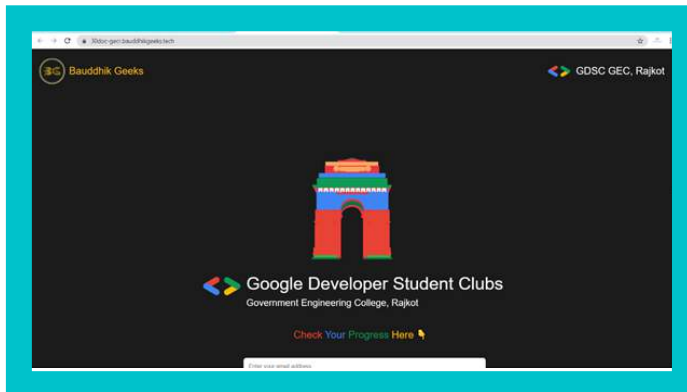## Number of Participants Completed both Tracks

162

Learning Outcomes

The students are knowing about
1. Career in Cloud
2. Get hands-on practice on Google Cloud

• • • Photo gallery of the event • • •

Compiled By:

NIYATI KANERIYA

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SACHIN KANZARIYA

Comp Sem-3;

Computer Based Control in Database

Overview :

The different forms of countermeasure to threats on the computer systems from physical controls to the managerial procedure. In spite of the range of the computer-based controls that are pre-existing, it is nothing that the security of DBMS is good as that of an operating system, due to close association among them. Today, a lot of computer-based controls are available in a multi-user database environment.

Computer–based control available in the database :

Most of them are as follows.
• Authorization and Authentication
• Access controls
• Views
• Backup and Recovery
• Integrity
• Encryption and Decryption
• RAID tools
• Let's discuss it one by one.

Authorization and Authentication :

The granting of rights or privileges that enables a subject(user) to have legitimate access to a system or a system's object, is called Authorization. Authorization controls can be built into the software and govern not only what system species the user can access, but also what the user may do with it. The process of authentication involves the authentication of subjects requesting access to objects.

Authentication is the process by which users are identified by the database management system and prove their identity to see the database.

To authenticate a user in the database environment, two elements are required as follows.

1. User ID
2. Authentication token

The user ID allows the security component to identify the user and by supplying the correct authentication token (a password known only by the user), the user identity is verified. After successful authentication of a user, the authentication user ID is mapped to an authentication ID.

One of the ways to make access controls for a database system is based on the granting and revoking of privileges. A privilege allows a user to create or access some database objects like-table, views, index etc...

Backup and recovery :

The process of periodically copying the database and its log file to offline storage media is called Backup.

In the log file, the backup copy and the information captured are used to restore the database to the present state.

Views :

The main concept of this mechanism is to provide a flexible and most powerful security mechanism by hiding parts of the database from certain users.

A View is a virtual table.

A view did not store any data any own, but it is like a window through which data from tables can be viewed or changed.

Base tables are said that the tables on which a view is a base.

Integrity :

In a database system, data integrity means the completeness, correctness, and consistency of data.

It is another form of database protection. In a relational database system, data integrity can be achieved using integrity rules or constraints.

Whatever changes are made to the database there is no loss of data consistency.

Encryption and Decryption :

Encryption is a technique used to protect sensitive data such as credit card numbers that are being transmitted via some types of communication network.

Encryption can be used to provide additional protection for sensitive portions of a database where the normal security mechanism of the DBMS is not adequate.

Plain text is said if the data is not encrypted in encryption.

- Cipher-text is said if the data is encrypted in encryption.
- Encryption is said if the process is converting the plain text to ciphertext.
- Decryption is said if the process is converting the cipher text to plain text.

RAID tools :

RAID can be expressed as "Redundant Array of Independent Disk". The hardware that the DBMS is running on must be fault-tolerant, which means the database management system must continue to operate even if one of the hardware components fails.

RAID originally stands for Redundant Array of Inexpensive Disk, but more recently the "I" in RAID has come to stand for Independent.

There are a number of different disk configurations with RAID, termed RAID levels as follows.

S.No. RAID level Type

1. RAID 0   Non-redundant.
2. RAID 1   Mirrored
3. RAID 2   Error-correcting codes
4. RAID 3   Bit- Interleaved parity
5. RAID 4   Block Interleaved parity
6. RAID 5   Block-Interleaved distributed party
7. RAID 6   It is an extension of leave 5

RAID (Redundant Array of Independent Disks) Technology

- Hardware that the DBMS is running on must be fault-tolerant, meaning that the DBMS should continue to operate even if one of the hardware components fails.
- Suggests having redundant components that can be seamlessly integrated into the working system whenever there is one or more component failures.
- the main hardware components that should be faulttolerant include disk drives, disk controllers, CPU, power supplies, and cooling fans.
- Disk drives are the most vulnerable components with the shortest times between failure of any of the hardware components
- One solution is to provide a large disk array comprising an arrangement of several independent disks that are organized to improve reliability and at the same time increase performance

Other countermeasures

- Not all countermeasures against threats to security are computer-based; should also consider:

Physical security

- Secure access to the physical location(s) where data is stored

Policies and procedures

Threats and Countermeasures

Scenario One:

- A laptop is stolen that contains a database with the names, DOBs, PPS numbers and blood types of 145,000 donors
- What type of threat to security does this represent?
- What countermeasures could have been used to prevent this?

Scenario Two:

- A national brokerage firm uses an electronic funds transfer system to transmit sensitive financial data between locations.
- What type of potential threat to security does this represent?
- What countermeasures could be used to prevent this?

Compiled By:

GAURAV WAGH
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AJITKUMAR VAGHELA
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Distributed Cloud

The first question that comes to our mind is, what is the cloud?

The cloud is the server that can be accessed over the internet which contains software and databases. Cloud servers are located in data centers all over the world. By using cloud computing, users and companies do not have to manage physical servers themselves or run software applications on their machines.

Microsoft OneDrive, Google cloud are some examples of cloud.

Now coming to our topic, Distributed cloud, In the context of information technology, distributed means something that is shared among multiple systems that may be based on a different location.

What is a Distributed cloud?

So, The distributed cloud is a public cloud computing service that lets you run public cloud infrastructure in multiple different locations - not only on your cloud provider's infrastructure but on-premises, in other cloud providers' data centres, or third-party data centres or colocation centres and manage everything from a single control plane.
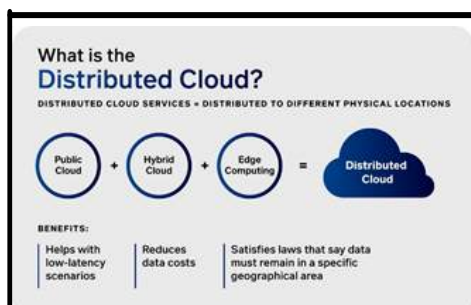
With this targeted, centrally managed distribution of public cloud services, your business can deploy and run applications or individual application components in a mix of cloud locations and environments that best meets your requirements for performance, regulatory compliance, and more. Distributed cloud resolves the operational and management inconsistencies that can occur in a hybrid cloud or multi-cloud environments.

Maybe most important, the distributed cloud provides the ideal foundation for edge computing - running servers and applications closer to where data is created.

How does a distributed cloud work?

In a distributed cloud, services (or servers) are distributed to specific locations to reduce latency (just like big tech giants do). If we think like a user then we can easily understand that low latency is the thing that any user wants. On the developing side, it has seemed that we can achieve a major performance gain by lowering latency and reducing the overall risk of outage or control plane inefficiency.

A distributed cloud takes not just an application but the entire computing stack and distributes it to the locations where it is needed, whether public cloud provider, on-premises, or in a third-party colocation facility.

The consuming cloud customer sees this distributed infrastructure as a single cloud entity, and the cloud provider manages all the elements of the distributed cloud from a single control plane.

The public cloud provider continues to be responsible for all cloud operations, including security, availability, updates, and governance of the entire distributed infrastructure. To paraphrase Gartner, the distributed cloud can fix what hybrid cloud and multi-cloud breaks.

Where to use the distributed cloud?

Distributed clouds offer a broad range of applications from smart edge computing to simplifying management of multi-cloud environments and hybrid deployments. But, commonly it is used in cases like...
1. Edge computing/ IoT
2. Content delivering network (CDN)
3. Scaling on demand

How does a distributed cloud work?

In a distributed cloud, services (or servers) are distributed to specific locations to reduce latency (just like big tech giants do). If we think like a user then we can easily understand that low latency is the thing that any user wants.

On the developing side, it has seemed that we can achieve a major performance gain by lowering latency and reducing the overall risk of outage or control plane inefficiency.

A distributed cloud takes not just an application but the entire computing stack and distributes it to the locations where it is needed, whether public cloud provider, on-premises, or in a third-party colocation facility. The consuming cloud customer sees this distributed infrastructure as a single cloud entity, and the cloud provider manages all the elements of the distributed cloud from a single control plane.

The public cloud provider continues to be responsible for all cloud operations, including security, availability, updates, and governance of the entire distributed infrastructure. To paraphrase Gartner, the distributed cloud can fix what hybrid cloud and multi-cloud breaks.

Where to use the distributed cloud?

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2. Content delivering network (CDN)
3. Scaling on demand

What is the difference between cloud and distributed cloud?

Traditional Cloud Computing is the delivery of IT resources and services on-demand, including servers, storage, and databases to name a few. These services are typically provided over the public internet or private network connection from

one of many hyper-scale cloud providers. Cloud services can be categorized as public cloud, private cloud (including on-premises data centers), hybrid cloud (the combination of public and private), and multi-cloud (including multiple public cloud providers).

Distributed Cloud Computing discards the categories of public, private, hybrid, and multi-cloud. The distributed cloud presents to the user, organization as a single cloud platform, but in reality, it is comprised of multiple components that can include 'all of the above' – public cloud elements from the primary provider and one or more of its competitors, private cloud or enterprise data center, and third-party colocation partner. These varied elements are all managed as one by the primary cloud provider and consumed as one by the ultimate customer.
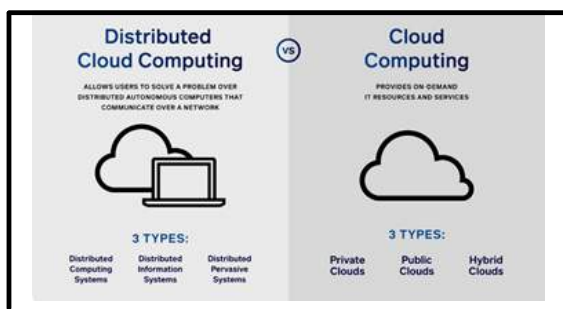
Advantages of Distributed Cloud:

- Improved visibility and manageability of hybrid cloud/ multi-cloud architecture: Distributed cloud assists any business gain more control over its hybrid multi-cloud infrastructure. It gives visibility and administration from a single interface with a set of tools.
- **Flexibility**: It makes it easy to install, implement and debug new services.
- **Scalability**: In distributed cloud systems, you can add more servers as you need
- **Faster content delivery:** Storing and distributing content from locations closer to users improves delivery speed. Content delivery network (CDN) on a distributed cloud improves streaming video content performance. It also improves the user experience.
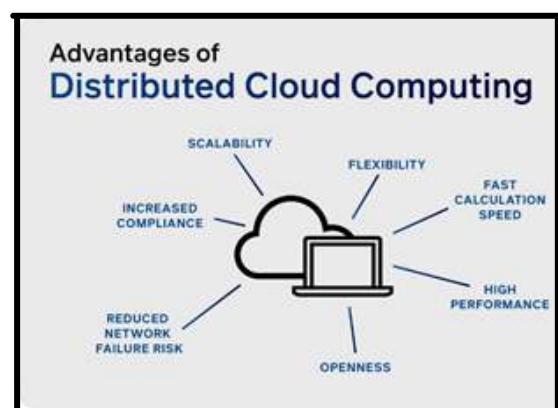
Disadvantages of Distributed Cloud:

- Difficult troubleshooting: Troubleshooting and diagnostics are more difficult due
  to distribution across multiple servers.

- Less software support: Less software support is a major drawback of
  distributed cloud systems.

- High network infrastructure costs: Network basic setup issues, including transmission, high load, and loss of information.

- Security issues: The characteristics of open systems make data security and
  sharing risks in distributed cloud systems.

Compiled By:

**ADITYA
BHATT**

Comp Sem-3;

**AKSHITA
CHAUHAN**

Comp Sem-3;

Alumni Interview

MR. SANJAY BAMBHANIYA

Introducing Mr. Sanjay Bambhaniya and Alumni of the computer department from batch 2020.

Mr. Bambhaniya has completed his schooling from Government School, Bhavnagar till 7th grade and completed 8th to 10th grade from Takshila Vidyalaya, Bhavnagar. His absolute new experience of college life began in 2016, routing the path of Government engineering College Rajkot leading towards his goal. At present, he is working as an IT professional and results-driven SEO specialist with six years of experience.

His perseverance towards his goals and his family's financial situation always motivated him to reach his goal and fulfill his dream. Respecting his father's approach to life about helping people, he thought of making it a part of his own life. He defines himself to be a very ambitious person inclined towards one's goal and stops not till it's achieved. He had learn-with-fun experience in GECR. He admires the way of teaching of the professors, the attitude of faculties towards teaching, approaching students and helping them to solve problems. Further, he mentioned the environment of the college saying it is well suited for a person who wishes to pursue their dreams with right guidance.

He showed a keen interest in digital marketing and discussed more it showing his interest in this technological area. According to him, the upcoming years are all about digital marketing, graphic designing, and app development- these are the areas where computer science student can focus more.

At present, he has his own IT company-BluDoz digital marketing-aiming to provide the best digital marketing solutions for businesses. He also told us about the internship for students which his company is providing and supporting the growth in youth. He is glad that he developed SEO and digital marketing skills which helped him start his own company, which is now making him 7 lakh plus a month. Facing global competitors and the spread of the digital marketing field is little bothering him right now but still has a high futuristic score in this field of digital marketing.

A very bright part about this journey of 4 years of engineering at GECR was he developed his personality from zero to Hero. He learned all the skills required for his overall personality development like communication skills, technical skills, analytical skills, handling leadership, etc. These were the golden years of his life and the most memorable ones.

Compiled By:

ALIFIYA KAPASI

Comp Sem-3;

AYUSHI MISTRY

Comp Sem-3;

MANSI GOJIYA

Comp Sem-3;

Supercomputer Facility Activity Details

GUJCOST has setup a Supercomputer facility – PARAM Shavak, at Computer Engineering Department of Government Engineering College-Rajkot in December 2017.

To contribute to the research and development of India, C-DAC has developed a low cost and energy-efficient solution, which is as good as a supercomputer in a box namely – PARAM Shavak DL (Deep Learning) GPU with related frameworks, performance libraries, and visualization tools

Team Supercomputer Facility:

Prof. (Dr.) C.H. Vithalani
Principal
Electronics & Communication Engineering

Prof. (Dr.) Chirag S. Thaker
Head of the Department – CE
Head – Special Initiatives at Institute

Dr. H. K. Molia
Assistant Professor - CE
Convener

Prof. S. R. Kotecha
Assistant Professor - CE
Team Member

Prof. R. J. Khimani
Assistant Professor - CE
Team Member

● ● ● **An Industry Outreach Talk on,
"AI, ML, and Data Science: Career Opportunities"
25–September–2021** ● ● ●

Mr. Nayan Dharamshi is a data science professional with ~ 10 years of hands-on experience in Python, R, Deep Learning, AWS, Databases, and Advanced Excel. Presently, He is working as a Lead Data Scientist at Kmart Group Australia's Global Capability Centre based out of Bengaluru, India. Earlier, He has been associated with organizations like Noodle.ai, Flutura, and Target in India building Data Science enabled products in the Retail and Manufacturing space. He was honored with a Gold Medal and 'Award of Academic Excellence' for consistent distinctions throughout his Bachelor of Engineering in Electronics and Communication from Sir M Visvesvaraya Institute of Technology (Sir MVIT), Bengaluru. He has also completed PGP in Retail Management from IMT Ghaziabad and has an MBA - Marketing Management from Christ University, Bangalore.

NAYAN DHARAMSHI
Lead Data Scientist,
KAS Services India

No. of Participants
419
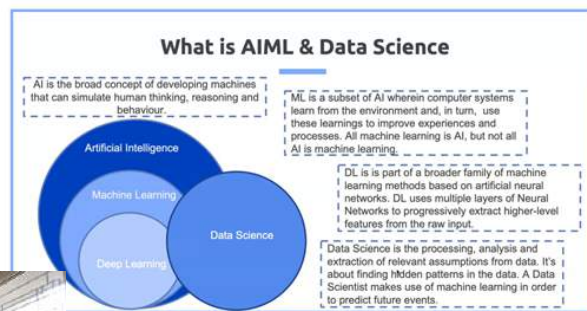
● ● ● A Webinar on,
"Getting Started with Deep Learning"
16-October-2021 ● ● ●

Mr. Nishant Gandhi is Leading an Explainable AI Team at an Enterprise AI company called DataRobot Inc in Boston, United States. He also has worked for a few startups companies in Bengaluru, India. Mr. Gandhi has completed a Bachelor of Engineering degree in Computer Engineering from Gujarat Technological University. He later pursued M.Tech. Degree in Computer Science and Engineering from Indian Institute of Technology - Patna. He has also earned a Master of Science degree in Information Systems from Northeastern University. His area of interest includes Machine Learning and Big Data Systems. He is also into Python and JAVA programming. He has delivered expert sessions at various institutes as well as recently in Boston Startup Week 2021.

NISHANT GANDHI
Team Lead – Explainable AI,
DataRobot, Boston, US

No. of Participants
427

● ● ● **AMA – Ask Me Anything Session on,**
**"Machine Learning"**
22-October-2021 ● ● ●

Mr. Subhaditya Mukherjee has completed a Bachelor of Technology - Computer Science from Vellore Institute of Technology, Tamil Nadu. Presently, He is pursuing his Master's, Artificial Intelligence at the University of Groningen, Netherlands. He is a regular content writer for Data-Driven Investor, Analytics Vidhya, and Medium. He is also an ML facilitator of Google AI & speaker at the TensorFlow user community. He has been an active researcher in the field of Machine Learning and Deep Learning. Learning Deep Learning in Deep is his passion. From writing technical articles to sharing project codes, from delivering expert sessions to having a TEDx Talk, He is everywhere. On the other side, He is a brilliant artist as well. He draws fantasy, far beyond excellence! Though being digital, his work has real imaginations, emotions.

SUBHADITYA MUKHERJEE
Studying Masters, Artificial Intelligence
University of Groningen, Netherlands

No. of Participants
451
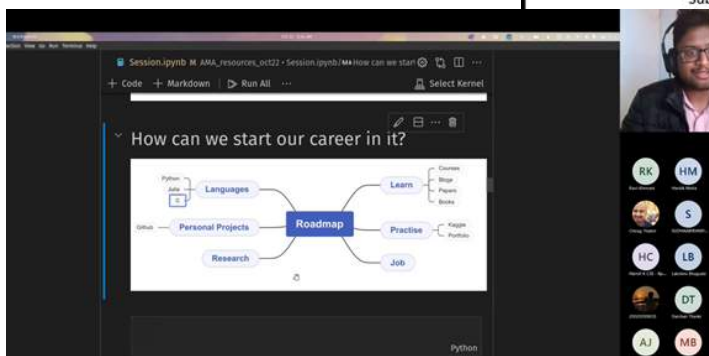
Faculty Training Participation

Training / Workshop / Webinar

Online Training on High-Performance Computing and Deep Learning organized by GUJCOST Gandhinagar & C-DAC

Duration

06-09-2021 to 09-09-2021

Participants

- Computer Engineering
  Prof. (Dr.) Chirag Thaker ,Dr. Hardik Molia
  Prof. Shyam Kotecha ,Prof. Ravi Khimani
  Prof. Trupti Kodinariya ,Prof. Nirali Madhak
- EC Engineering
  Prof. Miral Patel

Inauguration of QR-Code facility at Server Room

On 30th Oct, the QR code facility was inaugurated by Hon. Principal Prof C. H. Vithlani. Using this facility, anyone can scan QR codes to get information about different servers installed at server room.

Expert Talks / Online Sessions / Webinars Delivered

DR. CHIRAG S. THAKER

Professor & Head Computer Engineering Department, Government Engineering College, Rajkot

1. HOD Delivered an online expert talk on the topic of "NEP 2020: Achieving Education 4.0 through Technology Transformation in Education" as part of "Celebrating one year of National Education Policy organized by GEC Rajkot on 17 September 2021.

2. HOD Conducted two Online Expert Sessions as a resource person in 6th and 7th Online Faculty Induction Program at UGC-Human Resource Development Centre, Sardar Patel University, Vallabh Vidyanagar on 16-09-2021 (Tuesday) and 14-09-2021 (Monday) respectively (Tuesday) on topics Concept Map and Flip Class in MOOC and Moodle: Basics & Online Assessment.

3. HOD Delivered two online expert sessions on the topic of "Big Data Analytics & Industry Perspectives" on 25-10-2021 and "Big Data and It's Relevance to Big Data" on 26-10-2021 as part of DTE Approved and GUJCOST sponsored 5 days Cloud Computing & Big Data Applications organized by CE Department GEC Rajkot from 25 -30 October 2021.

Participation in Seminar / Conference:

1. HOD Participated in Online Training program on High-Performance Computing and Deep Learning jointly organized by Centre for Development of Advanced Computing (C-DAC) and Gujarat Council on Science and Technology (Gandhinagar during 6th to 9th September 2021.

2. HOD Participated in Training Innovation Ambassador Training (Foundation Level) conducted by MoE's Innovation Cell & AICTE during the period from 30-06-2021 to 30-07-2021 in Online Mode.

3. HOD Attended Online workshop on High Performance Computing for Engineering from 21-22 October 2021 organized by NSM Nodal Centre IIT Kharagpur & ANSYS under the aegis of the National Supercomputing Mission.

- **Prof. PRASHANT DHIRAJLAL MAHETA** from Government Engineering College, Rajkot for successfully completing the DTE approved and Gujarat Council Of Science and Technology (GUJCOST), DST, Govt. of Gujarat, sponsored One Week(5 days) online Workshop on "Cloud Computing and Big Data Applications" organized by Computer Engineering Department, Government Engineering College, Rajkot during 25th October 2021 to 29th October 2021

- **Prof. HARESH RATHOD** from Government Engineering College, Rajkot for successfully completing the DTE approved and Gujarat Council Of Science and Technology (GUJCOST), DST, Govt. of Gujarat, sponsored One Week(5 days) online Workshop on "Cloud Computing and Big Data Applications" organized by Computer Engineering Department, Government Engineering College, Rajkot during 25th October 2021 to 29th October 2021

Compiled By :

NIYATI KANERIYA
Comp Sem-3;

DIMPAL KADACHA
Comp Sem-3;

ASHISH ZAPADIYA
Comp Sem-3;

Essay Writing Competition

On the theme "Tribute to Freedom Fighters"
as a part of celebration of "સદ્ભાવના દિવસ"
Organized by NSS Committee, GEC Rajkot

Duration: From
08-Sep-2021
to
20-Sep-2021

NSS committee of government engineering college, Rajkot organized an essay writing competition to celebrate "સદ્ભાવના દિવસ" as a part of 'આઝાદી અમૃત મહોત્સવ'. The theme of the competition is 'Tribute to freedom fighters' to recall and recognize the great deeds of our Freedom fighters. As an outcome of this event students showcased the endeavor to get freedom by the freedom fighters of India. Through an essay, students exhibited that we got freedom after a lot of sacrifice of our Freedom Fighters

Details :-

Date & Time: From:
08-Sep-2021 to 20-Sep-2021
Venue:
Online Essay Submission through Google Form
Number of Participants:
42
Faculty-Coordinators:
Trupti M. Kodinariya, Assistant Professor, Computer Engineering
Sheetal J. Nagar, Assistant Professor, Computer Engineering
Judged by:
Mr. Dhaivat Shukla, Electronics & Communication Engineering
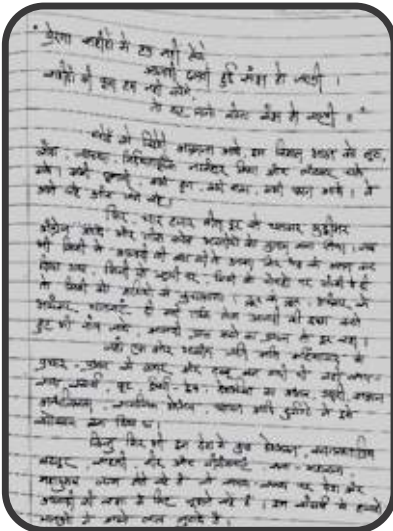
Winners of the competition :-

1st. Kanak Pinakin Arya
3rd Sem Computer Engineering

2nd. Akshay Pravinbhai Visapara
3rd Sem Electrical Engineering

3rd. Umang Dineshbhai Savaliya
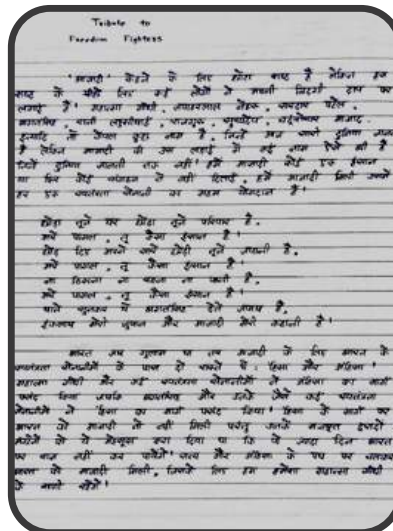3rd Sem Computer Engineering
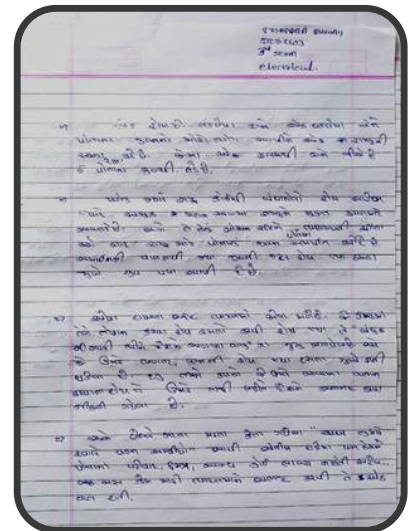
Photo gallery of the event

KANAK ARYA

Comp Sem-3;

VISAPARA AKSHAY

Comp Sem-3;

SAVALIYA UMANG

Comp Sem-3;

Compiled By :-

NIYATI KANERIYA

Comp Sem-3;

SHYAM DHOKIYA

Comp Sem-3;

SACHIN KANZARIYA

Comp Sem-3;

A "Webinar on Ethical Hacking"

In This Productive Session Which Was Given By Our Expert Mr. Mohammad Farook Pathan, Sr. Hardware And Networking Trainer, Tops Technologies At Ahmedabad, And Was Coordinated By: Prof. Sheetal J. Nagar. In This Session, All About Ethical Hacking Is Covered That How To Enhance The Knowledge And Bring Awareness About Cyber Security And Ethical Hacking Among The Students, How To Gain Knowledge About The Best Hacking Operating Systems And Tools, How To To Make Students Aware About Career Opportunities In Ethical Hacking.

In Simple Words, Ethical Hacking Involves An Authorized Attempt To Gain Unauthorized Access To A Computer System, Application, Or Data. Also Known As "White Hats," Ethical Hackers Are Security Experts That Perform These Assessments. So From This Informative Webinar, We Got To Know About The Importance Of Cyber Security, Types Of Hackers, And Types Of Cyber Security Attacks, Gained Knowledge About The Tools Available For Ethical Hacking AndObserved The Demonstration Of The Sample Ethical Hacking Explained By The Expert.

• • • Photo gallery of the event • • •

Compiled By:

NIYATI KANERIYA

Comp Sem-3;

SHYAM DHOKIYA

Comp Sem-3;

SACHIN KANZARIYA

Comp Sem-3;

Workshop on Cloud Computing and Big Data   Applications

An online workshop on "Cloud Computing and Big Data Application" was organized by Computer Engineering Department, Government Engineering College, Rajkot during 25th October 2021 to 29th October 2021, which was sponsored by Gujarat Council Of Science and Technology (GUJCOST), DST, Govt. of Gujarat.

The Chief Guest of the Online Inauguration Ceremony of the Workshop was Prof. (Dr.) G. P. Vadodaria, Principal at GEC Bhavnagar. Prof. (Dr.) A. S. Pandya, Principal at AVPTI Rajkot and Mr. Ronak Rayani, President of Rajkot Information Technology Association were present in the inauguration ceremony as the Guest of Honors and sent their best wishes. Dr. Narottam Sahoo, the Advisor, GUJCOST spent his valuable time as the Chief Guest in the Valedictory Ceremony of the workshop. Dr. P. P. Kotak, Principal at Government Polytechnic Rajkot, Prof. (Dr.) S. M. Shah, HoD CE, L.D. College of Engineering Ahmedabad and Mr. Hitesh Bheda, CEO, NiviData Consultancy congratulated the institute for successfully completing the workshop.

Engineering Professors and lecturers from various institutes across India participated in the workshop. Participants gave valuable feedback regarding the workshop that, "The workshop was very well structured and a proper flow was maintained starting with the introduction to the Cloud Computing then its architecture followed by a security then it was shifted to the Big Data and its application. Moreover, it was really inspiring to listen many accomplished and experienced experts who shared the plethora of knowledge. The inclusion of the experts from the industry was really a cherry on the cake."

- **Name of Event :**
  Online Workshop on "Cloud Computing and Big Data Applications"
  From 25/10/2021 to 29/10/2021

- **Date & Time:**
  Session 1: 11:00 to 1:00
  Session 2: 2:00 to 4:00

- **Venue:**
  Online on Microsoft Teams Platform

- **Organized by:**
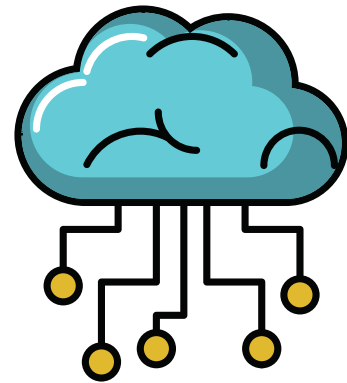 Computer Engineering Department

- **Program Coordinators:**
  Chintan R. Varnagar, Assistant Professor, Computer Engineering;
  Sheetal J.Nagar, Assistant Professor, Computer Engineering

- **Sponsored by:**
  Gujarat Council of Science and Technology, under Department
  of Science and Technology, Govt. of Gujarat

- **Number of Participants:**
  65

Compiled By:

NIYATI KANERIYA
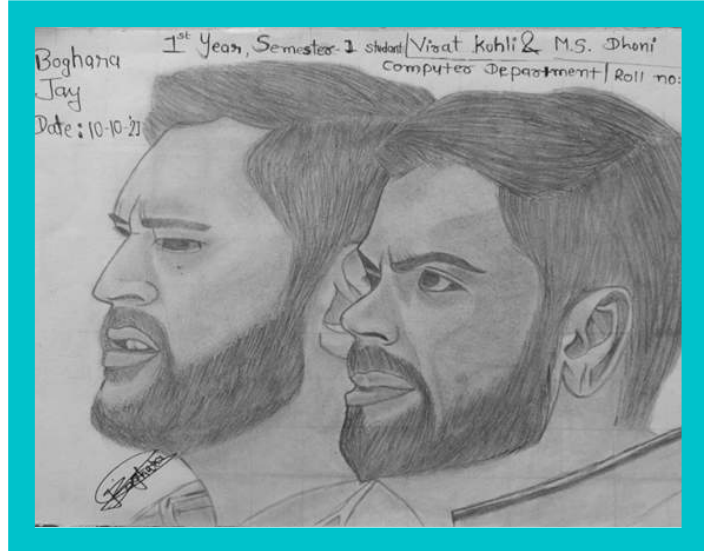Comp Sem-3;

SHYAM DHOKIYA
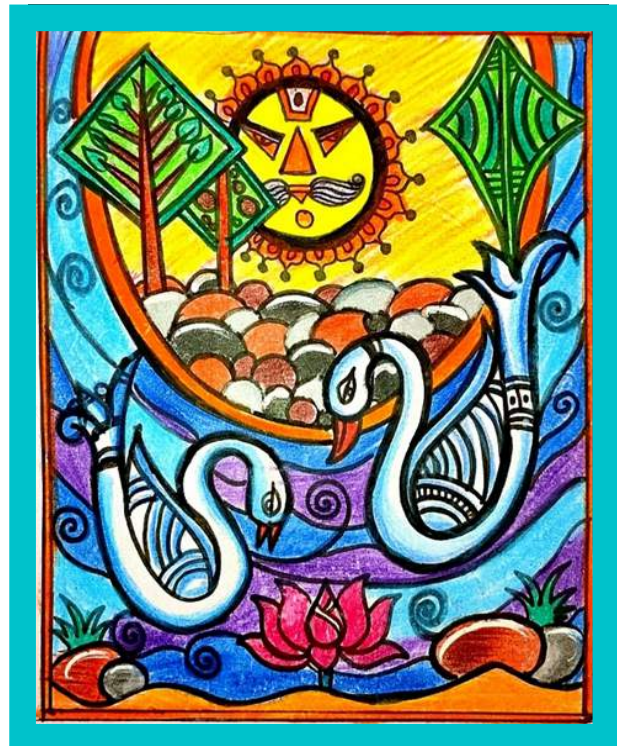Comp Sem-3;

SACHIN KANZARIYA
Comp Sem-3;

Student Corner

Name: Ayushi Mistry
Sem: 3

Name: Boghara Jay
Sem: 1

Name : Vegad Maulik
Sem:1

Name: Rishika Shrivastava
Sem: 1

"The aim of art is to represent not the outward appearance of things, but their inward significance"

Name: Alifiya Kapasi
Sem: 3

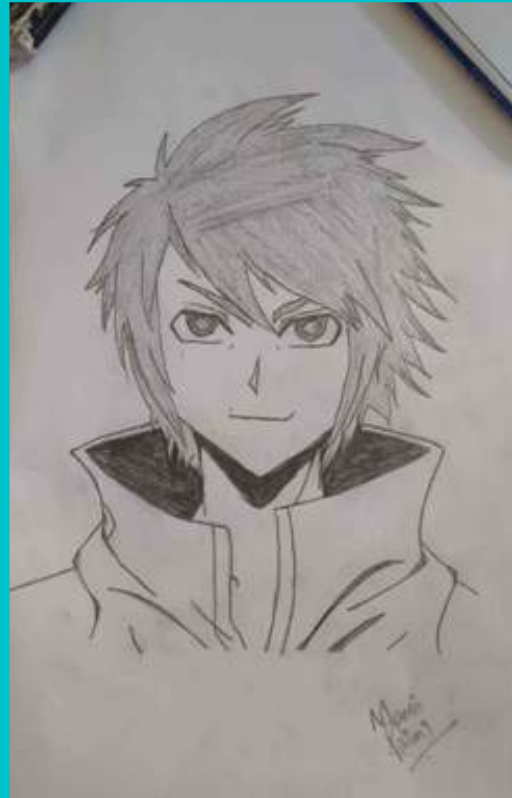

Name:Priyansh Khunt
Sem: 1

Name: Jayraj Gujariya
Sem: 1

Name: Khushi Bhatt
Sem: 1

Name: Priyanshi Patel
Sem: 3

Name: Mansi Raina
Sem: 5

Name: Vivek Kandoliya
Sem: 3

Compiled By:

**SHYAM
DHOKIYA**

Comp Sem-3;

**AKSHITA
CHAUHAN**

Comp Sem-3;

**ALIFIYA
KAPASI**

Comp Sem-3;

"Creativity is taking the best skills and techniques from experts around you and improving upon them."

COMP # BUZZ Team

Core Designers:

AJITKUMAR VAGHELA
Comp Sem-3;

DHARVI ABHANGI
Comp Sem-3;

DRASHTI ASHARA
Comp Sem-3;

KRINSI KAYADA
Comp Sem-3;

Content Creators & Editors

- **Akshita Chauhan**   3rd Sem
- **Aditya Bhatt**   3rd Sem
- **Sachin Kanzariya**   3rd Sem
- **Niyati Kaneriya**   3rd Sem
- **Shyam Dhokiya**   3rd Sem
- **Gaurav Wagh**   3rd Sem
- **Alifiya Kapasi**   3rd Sem
- **Ayushi Mistry**   3rd Sem
- **Dimple kadacha**   3rd Sem
- **Gojiya Mansi**   3rd Sem
- **Ashish Zapadiya**   3rd Sem

"Coming together is a beginning, staying together is progress, and working together is success." – Henry Ford