INSIGHT

Computer Engineering Department's Newsletter

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UPCOMING EVENTS

Faculty Incharge:
Asst.Prof. Manisha Fal Dessai
Student Incharge:
Mr. Nigel Mendonca

VISION

To be recognized as a center of excellence in the field of computer engineering, engaging with and maintaining a strong association with leading organizations, nurturing professionals and entrepreneurs with a positive mind set coupled with societal concern.

MISSION

- To keep pace with the latest software and hardware development within and beyond the curriculum so as to nurture competent professionals.
- To enhance research opportunities and entrepreneurship opportunities in the department by promoting application based education and partnership with the industry.
- To foster a holistic learning ambience by inculcating professional behavior, problem solving skills, student-faculty collaboration and socio-ethical awareness.

DEPARTMENTAL DETAILS

R & D Knowledge Sharing Initiative

The Department of Computer Engineering, Don Bosco College of Engineering, Fatorda-Goa, organized its monthly Knowledge Sharing Sessions, under the R&D cell on 7th December, 20th December 2021 and 24th January 2022. The Knowledge Sharing Session initiative involves activities whose main motive is to update Faculty members with the latest trends in Technology and Research and to learn something beyond academics.

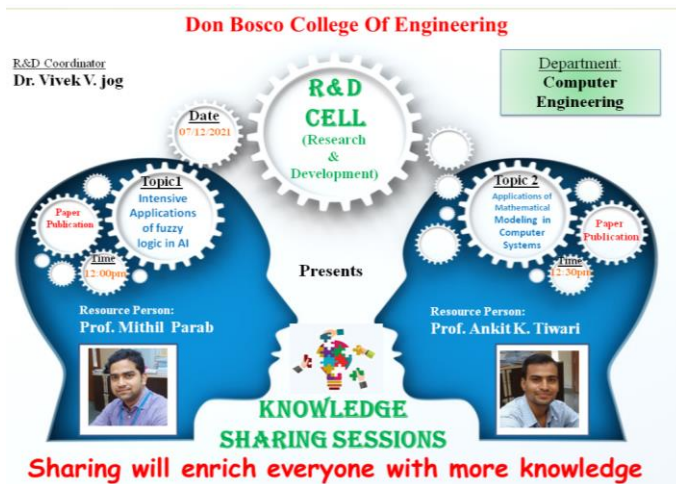# R&D Cell Knowledge Sharing Session on "Red Tacton"

The Department of Computer Engineering, Don Bosco College of Engineering-Fatorda-Goa, organized its monthly Knowledge Sharing Session, under the R&D cell on October 9th, 2021. The Knowledge Sharing Session initiative involves activities whose main motive is to update Faculty members with the latest trends in Technology and Research and to learn something beyond academics. The session was taken up by Prof. Merwyn D'Souza and Prof. Amey Tilve on "Red Tacton" through the Google Meet platform.

Prof. Merwyn D'Souza started the session by explaining the overview of Red Tacton. He introduced the concept of Red Tacton, the working of Red Tacton and the features of Red Tacton. Prof. Merwyn said that "Red Tacton is a new Human Area Networking technology that uses the surface of the human body as a safe, high-speed network transmission path". Prof. Amey Tilve explained the different applications of Red Tacton like one-to-one services, intuitive operations, personalization, new behaviour patterns and security applications. He said that Instant Private Data Exchange can be done just by shaking hands and then personal profile data can be exchanged between mobile terminals on the users. The event was coordinated by Dr. Gaurang Patkar and Dr. Vivek Jog. The session was indeed an interesting one and was enjoyed by all faculty members and received good feedback from the audience.

R&D Cell Knowledge Sharing Session on "Intensive Applications of Fuzzy logic in AI & Applications of Mathemical Modeling in Computer Systems"

The Department of Computer Engineering had its Knowledge sharing session on 7th December 2021 at 2.00 P.M. The speakers for this session were Asst. Prof. Mithil Parab and Asst. Prof. Ankit Kumar Tiwari. Prof. Mithil Parab spoke on 'Intensive Applications of Fuzzy logic in AI'.
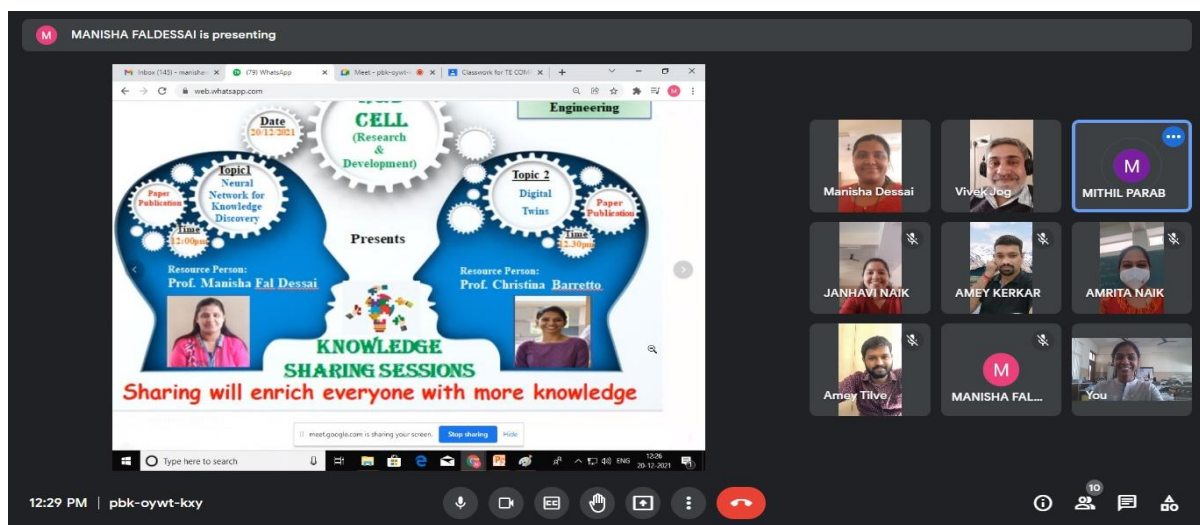
Following points were covered in the session.

- Why do we use Fuzzy Logic?
- Architecture
- Membership Function
- Fuzzy Logic vs Probability
- Applications of Fuzzy Logic
- Advantages & Disadvantages

Process control and understanding the fuzzy logic was demonstrated using an example where input was temperature and Output was Fan speed. The session ended with faculty feedback and Q and A Session. Prof. Ankit Kumar Tiwari presented on 'Applications of Mathemical modeling in computer systems. He explained in detail about Mathematical modeling which can be thought of as an iterative process made up of the various components. He spoke dealing with raw data sets. Dealing with data can also be overwhelming. Other times, datasets may be prohibitively large and students are not equipped with the tools to interpret key trends. Linear regression or high degree polynomials are often used to fit data in such cases. The session ended with faculty feedback and Q and A Session
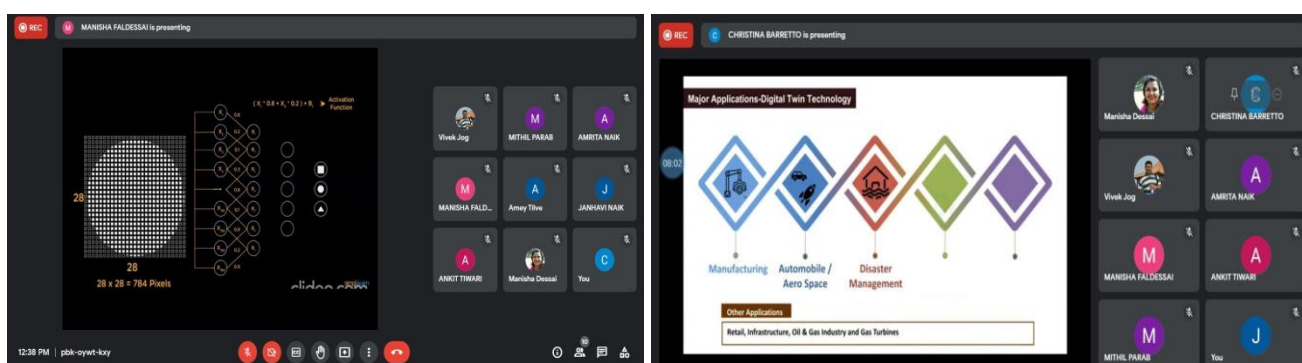
R&D Cell Knowledge Sharing Session on "Neural Network for Knowledge Discovery & Digital Twin Technology"

On 20th December 2021, the Department of Computer Engineering organized a knowledge sharing session as a part of an activity for the R & D Cell. The speakers for the session were Asst. Prof.

Manisha Fal Dessai and Asst. Prof. Christina Barretto. The topics chosen by speakers for the session were Neural Network for Knowledge Discovery and Digital Twin Technology.

Asst. Prof. Manisha Fal Dessai started the session with the Introduction to Data Mining and Neural Network where she spoke on Evolution, Characteristics and Learning algorithms of Neural Networks (NN). She related Artificial NN to Human Nervous system. She also explained in brief following topics in NN like Activation functions, Perceptron, Feed Forward Neural Network, Back Propagation, Knowledge Extraction using NN, Recent Advances and Current & Future Applications in Neural Network.

Next, Asst. Prof. Christina Barretto spoke about an upcoming technology known as Digital Twins. In her video presentation she gave a brief introduction and history of this technology, before moving on to the types and common misconceptions. She also described the various applications and available research options in DT Technology. She emphasized that Digital twin technology — combined with the latest machine learning and artificial intelligence tools — is helping companies across many industries reduce operational costs, increase productivity, improve performance, and change the way predictive maintenance is done. The event was coordinated by Dr. Gaurang Patkar and Dr. Vivek Jog. Both the presentations ended with a question and answer session.

R&D Cell Knowledge Sharing Session on "Neural Network for Knowledge Discovery & Digital Twin Technology"

The Department of Computer engineering had its Knowledge sharing session on 24th January 2022 at 4.00 P.M. The speakers for this session were Asst. Prof. Siya Naik and Asst. Prof. Amey Kerkar. Prof. Siya Naik presented on "**Hybrid Approach for Color Image Segmentation**".

Following points were covered in the session.

• What is an image and how we process an image

• Region based Segmentation

• Watershed method and its advantages and disadvantages.

• Marker-Controlled method and its advantages and disadvantages.

- Mean Shift method and its advantages and disadvantages.
- We also saw how the hybrid approach solves the problem.

We saw that Watershed method results in over segmentation of an image. So Marker-Controlled method was used. We also saw that Mean-Shift methods results in blurring of an image. So by combining Mean Shift and Marker-Controlled watershed problem of over segmentation and blurring of an image was solved. The session ended with faculty feedback and Q and A Session. Prof. Amey D.S.Kerkar presented on "Recent Trends in Opinion Mining".
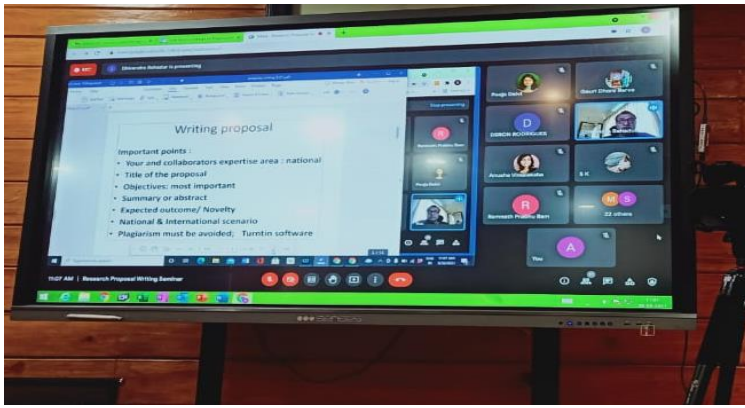
The following points were covered in the session:

- What is opinion Mining
- Part-of-Speech Tagging algorithm
- Feature mapping algorithm
- Opinion orientation and summarization
- Application of opinion Mining –Smartphone Recommender system.

We were shown the overview of smartphone recommender system and the summary generated along with the recommendation page. Various intermediate stages of processing were explained with examples. The session ended with faculty feedback and Q and A Session

One - Day Seminar on "**Research Proposal Writing**"

The Computer Engineering Department of Don Bosco College of Engineering organized a one day seminar on "Research Proposal Writing" on 30th Sept 2021. The convenor of the seminar was Dr. Gaurang Patkar. The coordinator of the seminar was Prof. Amrita Naik.

The seminar was attended by 74 participants from various disciplines. The participants of the seminar were faculty from various colleges all over India - Jhulelal Institute of Technology, Nagpur, NSHM Knowledge Campus Durgapur, West Bengal, Sushant University, Haryana, Kuruskehtra University, Kuruskehtra, Deenbandhu Chhotu Ram University of Science and Technology Murthal Sonipat , Haryana, Dr APJ Abdul Kalam Technical University, Uttar Pradesh, PSS Central Institute of Vocational Education, Madhya pradesh, Bharati Vidyapeeth's College of Engineering, Delhi, NIT Surathkal, Manipal Institute of Technology, Karnataka, Galgotias University,Uttar Pradesh, Vellore Institute of Technology, Tamilnadu, Amrita School of Engineeering, Tamilnadu, Gitam University, Karnataka, National Institute of Technology Goa, National Institute of Oceanography, Goa, Indian Institute of Technology Goa, Govt College, Khandola, Goa, Goa College of Engineering, Padre Conceição College of Engineering, Shree Rayeshwar Institute of Engineering and Information Technology, Agnel Institute of Technology and Design, Goa. The seminar also included participants from Botho University, Botswana and Gyalpozhing College of Information and Technology, Bhutan.

The seminar started with an informative talk delivered by Dr. Dhirendra Bahadur from IIT Goa. Dr. Dhirendra Bahadur said -"The objective of a research proposal should be effective, crisp and to the point". He emphasized on research schemes/agencies available for young researcher. He also made the participants aware about research funding agencies which would provide grants for research in various fields. The second speaker of the seminar was Dr. Purushotama B.R, from NIT Goa. Dr. Purushotama B.R said "Words used in the research proposal should reflect the focus". He explained few components of research proposal and also mentioned few key points to the participants on how an effective research proposal could be written. The session concluded with vote of thanks and Q&A session.

STUDENTS CORNER

INSPIRUS 2k21 – Make It Happen

The Department of Computer Engineering , in association with C-CODES, of Don Bosco College of Engineering (DBCE), Fatorda, Goa, organized for the fifth time, an intercollegiate event called '**INSPIRUS 2k21-Make it Happen'**. It was a national event, where students in and around Goa attended and participated in various technical events held on 29 and 30 October 2021.

INSPIRUS has been a very successful event running for the past 5 years with maximum participation of students from various schools, higher secondary schools and colleges. Various events such as the 24 hours continuous Inspirathon (hackathon) in association with FIIRE, Rubik's Cube, Mindspark, Masked Hunter, Framed, Incarnate, Keyboard warrior, Code Trade, Runtime Terror were organised. A workshop on Agile Mindset and Engineering in Education & Digital Transformation Trends in Education was also organized for faculties and students. The Chief guest for the inaugural function was **Mr. Milind Anvekar** – President of Goa Technology Association, Vice President Open Destinations and Guest of Honor was **Mr. Nitish Raikar**- Chief Operations Officer, Kilowatt. Both the officials welcomed the audience and gave an eye opening speech about the immense importance of the ever-growing IT sector in both the current times and the upcoming future. The event details are as follows:

1. Inspirathon: Hackathon

The event began on the 29 October at 12 noon and lasted till 30 October 12 noon over a period of 24 hours. The event was organized in association with FiiRE (Forum for Innovation Incubation Research and Entrepreneurship) the incubation centre at DBCE, and One Shield Software. A total of 13 teams participated in the 24 hour long coding event. The main coordinator of the event was Mr.Oysturn Vas. The faculty coordinators were Prof. Mithil Parab and Prof. Amey Tilve.

2. Code Trade: Swap Coding

3. Incarnate!: Digital Comic Illustration

4. Framed: Photography

5. Keyboard Warriors: A speed typing event.

6. Masked Hunters:Treasure Hunt

7. MindSpark:Quiz Event

8. Runtime Terror: Coding-Decoding.

9. Rubik's Cube:

10. Workshops: 'Digital Transformation Trend in Education' and 'Bringing Agile Mindset and Engineering in education' for faculty from various colleges.

The event concluded with the valedictory function, the Chief Guest was Mr. Nitish Raikar, COO, Kilowatt. The Chief Guest spoke about his practical experience in engineering, job searching and his journey to become job ready from failures to success and quoted that "Career is the intersection between industry and line of business and that it is essential to be flexible and adaptable to be successful in IT industry". The C-CODES and INSPIRUS coordinator Prof. Merwyn delivered the INSPIRUS 2K21 report. A total of 271 participants took part in INSPIRUS 2K21.

The events winners of INSPIRUS 2K21 were felicitated with certificates and prize money. The event concluded with a vote of thanks by Prof. Amey Tilve.

TECH MANIA 2021

The Department of Computer Engineering- Don Bosco College of Engineering, organized Tech Mania 2021- an annual project competition for the final year projects on November 12, 2021. The Tech fest was powered by Stanza Info Tech Pvt. Ltd. The herculean task of judging such an event was brilliantly done by the eminent technocrats namely Mr. Rohan Warty, Managing Director at Xerviz Wlobal who is also The Secretary, Goa Technology Association. and Mr.Sohan Anvekar , Founder and CEO of YSM Media Labs pvt.Ltd.

The formal function began with the arrival of the Chief Guest Mr. Atul Jadhav, Chairman - Confederation of Indian Industry (CII), Rev.Fr. Kinley D'cruz- Director, Dr. Neena Panandikar- Principal and Dr. Gaurang Patkar- Head of Department of Computer Engineering. The Department's annual project book "TechSeed 2021" was released at the hands of the Chief Guest and the other dignitaries during the function. Addressing the gathering, Rev.Fr.Kinley D'Cruz said: "what makes a

good project is passion and hard work. Tech Mania allowed the final year students to showcase their talent, skills and innovative ideas through their projects. The Faculty and students of projects who have received funding from various prestigious Institutions such as DRDO etc were felicitated. These include Dr.Vivek Jog, Prof. Amey Tilve, Prof. Christina Barretto and Prof.Sweta Morajkar Rane. The Participants of this tech event also prepared short videos explaining their respective project titles, scope and implementation which were shown to the audience present for the prize distribution function. It really gave an insight on the efforts put in by the students to achieve the milestones in their final year project journey.

Mr. Atul Jadhav addressing the gathering spoke about his experience and the career path that he chose. He appreciated the Institute's efforts and faculty guidance to inspire the students to inculcate different innovative technical skills into their young aspiring minds. He ended his speech by asking the students to follow their dreams. Prof.Amey Kerkar, Department Project coordinator who is also the Tech Mania 2k21 coordinator proposed the vote of thanks. The program ended with the felicitation of the proud winners of Tech Mania 2021.

FIELD TRIP

The Computer Department of Don Bosco College of Engineering in association with FiiRE (Forum for Innovation Incubation Research & Entrepreneurship) organized a Field Visit at FiiRE on September 24, 2021 for the Final year Computer Engineering students of Don Bosco College of Engineering, Fatorda.

The Speaker for the day was Ms. Ashlesha de Noronha, the Community Manager of 'FiiRE''. The participants of the field trip toured the spacious and well-designed infrastructure of the Incubation Centre- 'FiiRE' also introducing the dedicated team that manages all activities of 'FiiRE'. She elaborated the aims and objectives of the Incubation Centre through a Power-point presentation along with the targets achieved so far with 60 Incubations to build 30 lovable prototypes of products to be introduced in the market while hosting events to invite new ideas and raising funds to support startups. Even during the pandemic, 'FiiRE' organized activities and invited Innovations online through Webinars and virtual workshops. The field trip was very informative and appreciated by the students. The faculty coordinator for the field trip was Dr. Gaurang S Patkar and Prof Manisha Fal Dessai.
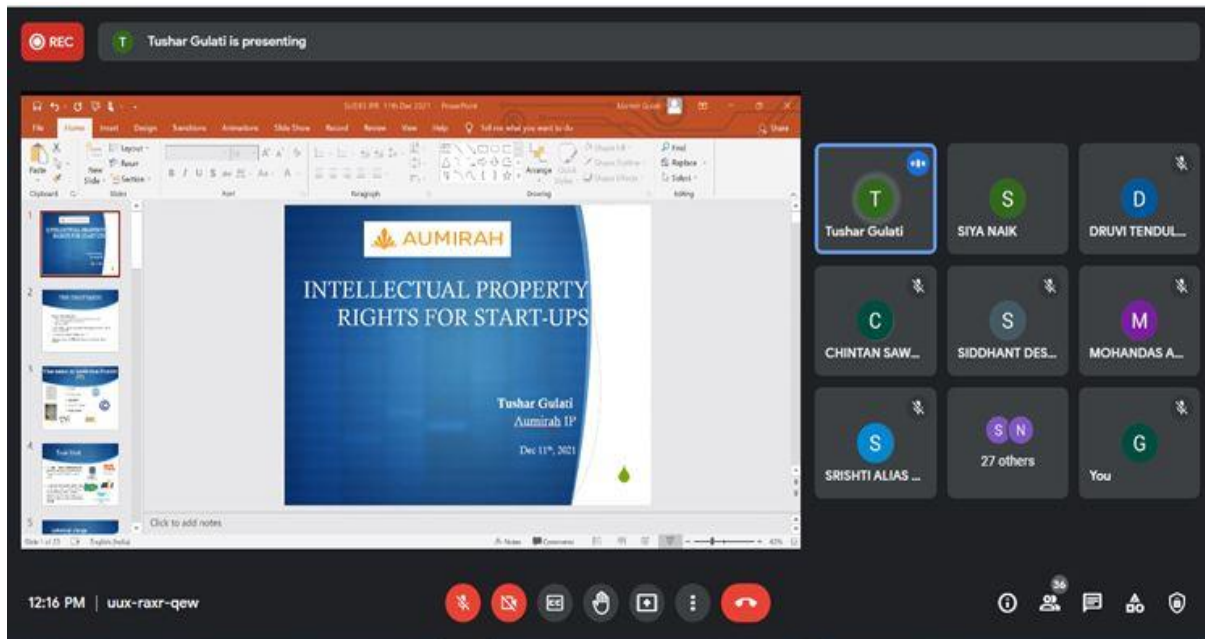

WORKSHOPS/ SEMINARS/ INTERNSHIP TRAININGS

1. Online Webinar on "Intellectual Property for Start-ups"

C-CODES in association with the Department of Computer Engineering of Don Bosco College of Engineering, organised a webinar on **"Intellectual Property for Start-ups"**. The guest speaker was Mr. Tushar Gulati, IPR consultant from Aumirah IP. The webinar was held for the T.E Computer students through Google Meet on 11th December 2021. The faculty coordinators for the event were Dr. Gaurang Patkar, Prof. Merwyn D'Souza and Prof. Siya Naik.

Mr. Tushar began the talk by introducing the participants to different types of intellectual property rights like patents, industrial design and copyrights. The students were informed of the importance of these rights and the methods by which these could be obtained. He further explained how inventions require to be novel, have an inventive step, be industrially applicable in order to be considered to be granted a patent. Mr. Tushar guided the students on the Patent filing application process in India. He also highlighted the importance of filing for Intellectual Property Rights.

The session then touched IPRs for mobile application software which included trade marks for Name and Logo and Patents for ideas and AI based applications/software. The session concluded with a Q&A session. Mr. Tushar said that "He who receives an idea from me, receives instruction himself without lessening mine". Overall the session was very informative, demonstrating real-life examples to provide a better insight on the topic.
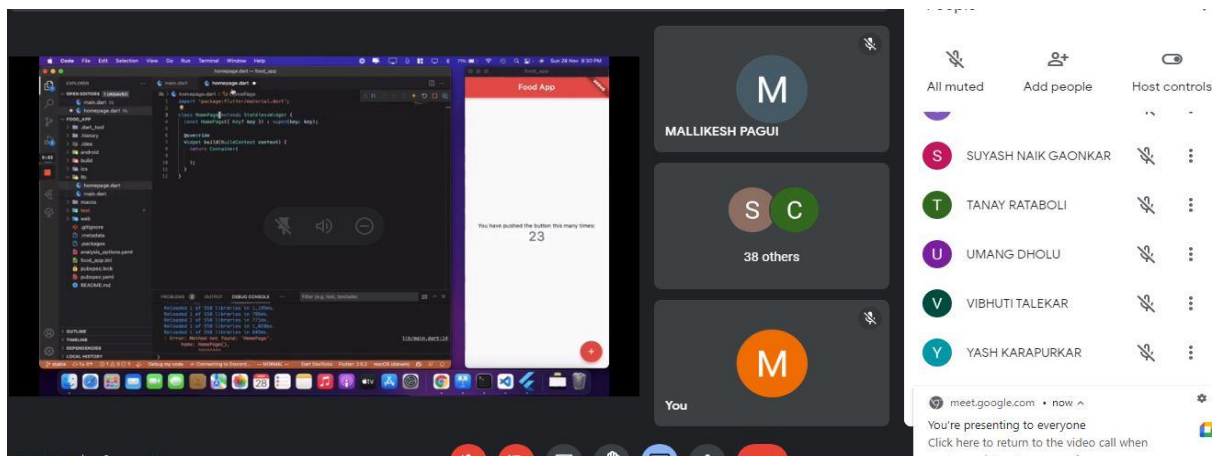

2.   Online Webinar on " Flutter - Design Beautiful Apps "

The C-CODES in association with the Alumni committee and Computer Engineering Department, of Don Bosco College of Engineering organized a webinar on 'Flutter – Design Beautiful Apps' on December 11, 2021. It was held via the Google Meet platform for SE Computer students. The Resource persons for the day were Ms. Sahili Desai (DBCE Alumni –

2021 batch) and Mr. Shubham Gupta, Flutter Engineer. There were 50 SE Computer Engineering students that attended the session.
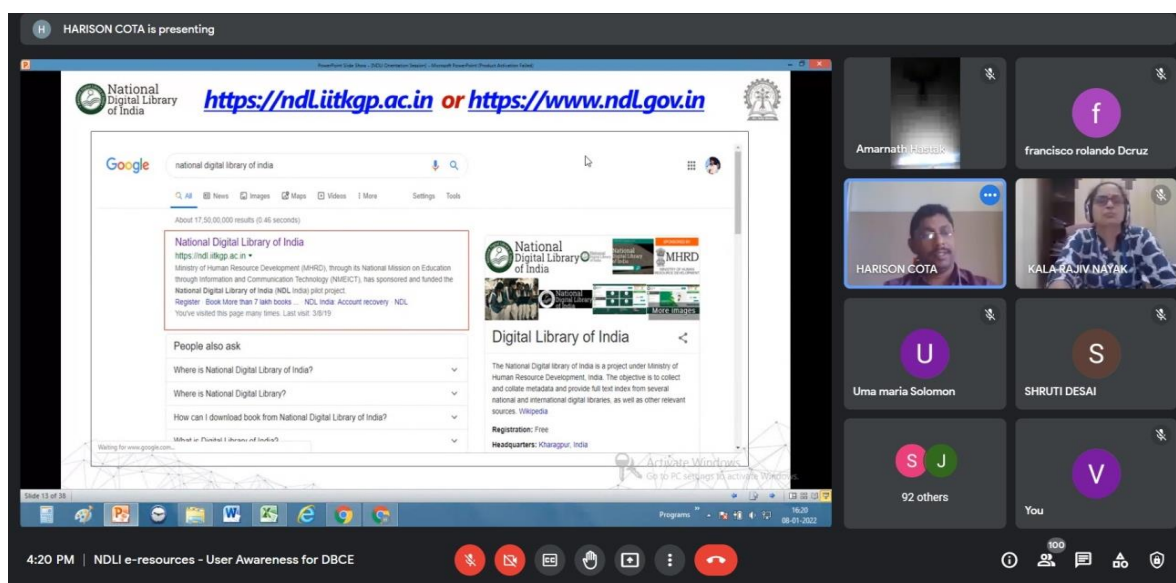
The session was divided into 2 parts. The first part began by introducing Flutter, a popular and powerful tool in the field of app development. This open source framework works on Google's Dart a client optimized programming language and can be used to create multi-platform apps. After the introduction, the students were briefed on UI design on Flutter. This was followed by live coding examples.

The second part of the session was based on Firebase which is used for database management. All the popular features of Firebase were explained. Mr. Shubham said that "The advance of technology is based on making it fit in so that you don't really even notice it, so it's part of everyday life." The session, along with the live coding helped generate a lot of interest in the students and ended with a question and answer session. The coordinators for the webinar were Prof. Merwyn D'Souza and Prof. Siya Naik. The student coordinators were Mr. Carson (TE Comp), Ms. Gauravi and Mr. Vadiraj (SE Comp).

3.   Online Webinar on "Users Awareness on National Digital Library of India (NDLI)"

The Department of Computer Engineering in Association with Department of Library, DBCE and National Digital Library of India Club organized a Webinar on "Users Awareness on National Digital Library of India" for NDLI Club members and faculties, on 8th JAN 2022 @ 4 PM through Google Meet. A total of 100 students attended the meet. Dr. Roland Gomes, Librarian delivered the welcome address and Prof .Harison Cota , Assistant Professor, Department of Science and Humanities, DBCE gave detailed description about e-resources content available in library.

The Presentation was demonstrated by Prof. Harison Cota and he gave a detailed description on NDLI. He also explained how NDLI is different from other resource repositories online. The event was concluded with a Q&A session among the participants. Dr. Roland Gomes, Librarian, delivered the vote of thanks. Prof Ankitkumar Tiwari from Computer Department was the coordinator for the webinar.

STUDENTS PARTICIPATION IN WORKSHOPS/SEMINARS/ TECHNICAL EVENTS & TECHNICAL COMPETITIONS

Sr. No.	Seminar/Workshop/ Technical Events/Conferences/Training programmes etc.	Date(s)	Organised by	Level of Students	Award / Prize won	Faculty Coordinator	Name (s) of Students
1	IEEE International Conference on RTEICT	27-28 Aug. 2021.	Sri Venkateshwara College of Engineering Banglore	BE	--	Siya Naik	Shubham Lotlikar, Gauri Bhatikar, Ugam Gaude, Avina Almeida
2	Big Data International Online Conference DB3D – 2021	19,20, 21 Oct 2021	Don Bosco College of Engineering (DBCE, Goa) and Binghamton University (UK)	BE	--	Merwyn D'Souza	Stella Tom, Sakshi Kadam, Shania Lewis, Aditya Hiranwale
3	International Conference on Evolutionary Computing & Mobile Sustainable Network (ICECMSN – 2021)	28th & 29th September	Department of CSE/ISE and Dept. of ECE, RV institute of Technology & Management, Bengaluru, India	BE	--	Amey K. Shet Tilve	Leeroy Fernandes, Sakshi Maurya, Meghana Sawant Prathamesh Prabhudessai

STUDENTS PARTICIPATION IN CULTURAL ACTIVITIES

Sr. No.	Type & Level of Cultural Activities	Date(s)	Organized by	Award/Prize won	Name (s) of Students
1	Rangoli competition at wildlife week	1 Oct 2021	Forest Department, Goa Govt	1st prize	Anushka Shetty
2	Elocution competition	26 Oct 2021	Goa shipyard on account of vigilance week	4th place	Vaughan D'Souza

FACULTY INITIATIVES

PAPER/ JOURNAL PUBLICATIONS and PAPER PRESENTATION

Sr No.	Author Name	Title of Paper	Details (journal name, volume, series, year)	National/ International
1	Amrita Naik	A Deep Feature Concatenation Approach for Lung Nodule Classification	Machine Learning and Big Data Analytics (Proceedings of International Conference on Machine Learning and Big Data Analytics (ICMLBDA) 2021	International
2	Siya Naik	Podcast Hosting using Spectral Gating and Speech Recognition Methodology	IEEE International Conference on RTEICT 2021, 27-28 Aug. 2021.	International
3	Merwyn D'Souza	Detection of Traffic Blackspots using Deep Learning for Autonomous Vehicles with Street View Imagery	Big Data International Online Conference DB3D – 2021 from October 19-21, 2021	International
4	Ankit Kumar Tiwari	Social Circle App	International Research Journal of Engineering and Technology (IRJET) 2021	International
5	Dr.Gaurang S Patkar	Feature Selection Approach for Oil Palm Fruit Grading Expert System	IEEE International Conference on RTEICT 2021, 27-28 Aug. 2021.	International
6	Amey K. Shet Tilve	Corpus Creation & annotation framework for sentiment analysis of Hindi News articles.	International Conference on Evolutionary Computing & Mobile Sustainable Network (ICECMSN – 2021)	International

WORKSHOPS/SEMINARS/EXPERT TALKS ATTENDED and CONDUCTED

Sr. No.	Seminar/Workshop/Short Term Courses/Conferences/ Training Programs etc.	Date	Duration	Organization	Name of the Faculty Participated
1	One week Atal Online Advanced FDP on "Application of artificial Intelligence in Research and Development"	22/11/2021-26/11/2022	1 week	csir-Advancd Materials and processes research institute, Bhopal	Amrita Naik
2	One week Atal Online Advanced FDP on "Data Sciences"	9/08/2021 – 13/08/2021	1 week	National Power Training Institute (southern region, neyveli)	Merwyn D'Souza
3	International Webinar on Inventory models for growing Items	7/08/2021	1 day	Biju Patnaik Insitute of IT and Management Studies, Bhubaneshwar	Janhavi Naik
4	3 day's Workshop on Cyber Security	24/09/2021 to 26/09/2021	3 days	Cybersecurity & Compliance consultancy, UK, FiiRE & Don Bosco College of Engineering.	All Faculties
5	Seminar on Research Proposal writing	30/09/2021	1 Day	Don Bosco College of Engineering	All Faculties

UPCOMING EVENTS

➢ Virtual Field Trip

➢ Online Webinar for Students