MECH-ZINE 2021-22

16th Edition

Mechanical Engineering Newsletter

Forward From The Editorial Team

Mechzine is a flagship quarterly newsletter cum magazine of the Department of Mechanical Engineering. We at the editorial board are pleased to provide the readers with a diversity of articles catering to diversified fields. The dynamic accomplishments and involvement of the students have provided our writers with a wealth of interesting topics to share with you. Outside the academic realm, our students are involved in many organizations and activities.

Credits

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Content

100%
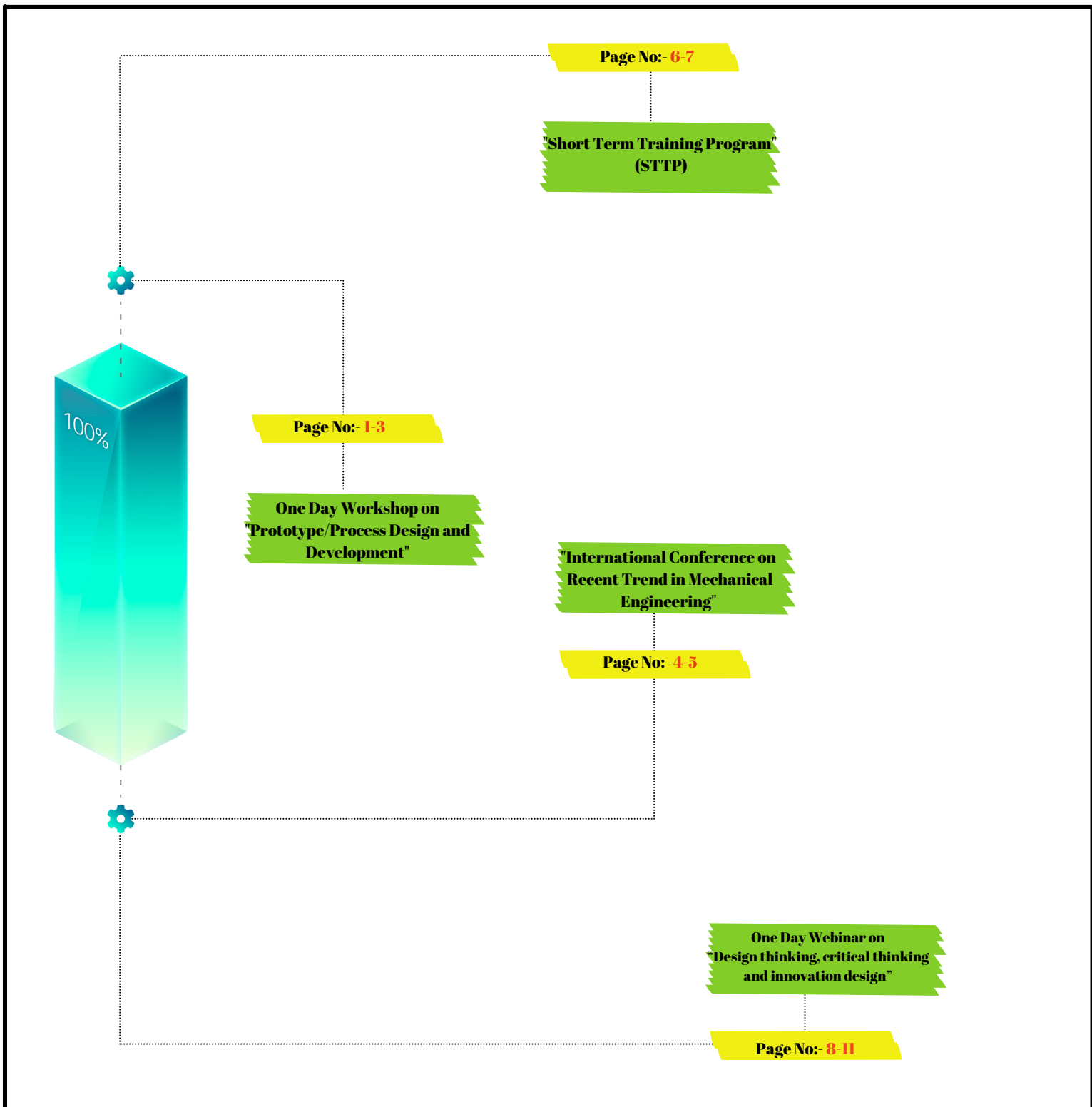
One Day Workshop on "Prototype/Process Design and Development"

What is a Prototype Design?

"A prototype is a simple experimental model of a proposed solution used to test or validate ideas, design assumptions and other aspects of its conceptualisation quickly and cheaply, so that the designer/s involved can make appropriate refinements or possible changes in direction".

The One Day Workshop on "Prototype/Process Design and Development" was held on 12th March, 2021 organized by the "Mechanical Engineering Department (MED) of Maharashtra Institute of Technology, Aurangabad and Institute's Innovation Council (IIC)".

Mr. Tukaram Varak (Sr. Faculty, CAD CAM Guru Solutions Pvt. Ltd.) were the speaker of the Workshop. Dr. Ashok Keche (HMED), Dr. Swamini Chopra (MED & IIC) & Mr. Nihit Agrawal (CSED & IIC) were the members of the organizing committee.

MHRD'S INNOVATION CELL (GOVERNMENT OF INDIA)

INSTITUTION'S INNOVATION COUNCIL (Ministry of Education Initiative)

NAAC A

Maharashtra Institute of Technology, Aurangabad

Invites your for One day Workshop on

Prototype / Process Design and Development

Mr. Tukaram Varak
Sr. Faculty, CAD CAM Guru Solutions Pvt. Ltd.

12th March 2021 | 3.00 pm to 5.00 pm

- **The Objectives of the Workshop :-**

1. To promote importance of Prototype and Process Design among students.
2. To encourage the students to implement Prototype and Process design and development to cater the needs of society at large.

- **List of Participants :-**

Vaibhav Purushottam more	Kapil Ramesh Pawar	Bhushan Vijay nile
Vikaspuri Goswami	Om Bakale	KIRAN SANTOSH CHAVAN
Gawai Pankaj	Wajed Quadeer Shaikh	Sarita Abhimanyu Bhavar
PIYUSH TUKARAM NARSALE	Apparao manikrao khude	Jawale Awanti Ashok
Sayyad Mohammad Saad Ashpakali	Pranav Vishnu Bhoyar	Mujahid Ansari
Tushar Jamdar	Sonne Sitaram Shivaji	Dr. Aniruddha Chatterjee
Shaikh Md. Sohel Md. Asif	Mirza Adeel Afraz Baig	Bharat Dattatray Gurav
Sohail Khan Abbas Khan Pathan	Gaurav Janardhan Narwade	Dr. Saurabh Tayde
Purushottam Balkrushna Shinde	sachin suresh wavhal	Tonde Shyam Gajanan
Pratiksha Suresh Kakde	Pritamkumar Sadashiv Tupe	Parmeshwar Solanke
Vedant Vatsal	Kulkarni Prathmesh Pradeep	Rushikesh Ramesh Nagapurkar
UMESH DEVSING SHIRALE	Gopal Balaji Pandit	Vijay dilip kadam
Vedant Vatsal	VITTHALU ROHIT BHIMRAO	Pratiksha Suresh Kakde
Pranav Sambarkar	Momin Mohammad Saeeduddin Mohammad Raziuddin	Jaydeep Shivaji Tagad
Shinde Shrinath Nandkumar	Shaikh Mohammed Saqib	Akshay Rajendra Prabhune
Jaykumar Shreeram Dhage	SHAIKH ALTAMASH SHAIKH JAHANGEER	Gaurav Devanath Jadhav
Vaibhav Navnath Tayade	SHAIKH ALTAMASH SHAIKH JAHANGEER	MANGESH SUBHASH SONAWANE
Tushar Dhanraj Banswal	Parmeshwar Laxman Solanke	Sandeep Ganpat Dhawale
Sachin Devidas Parve	Pratik Sirsat	Akash Prakash Wankhade
Prajwal Sanjay Andure	Rahul Vinayak Phadnis	Tonde Shyam Gajanan
Kahite Sameer Dharamraj	Chaitanya vinod Chousalkar	Telang Balaji Shivaji
Aher Shubham Sambhaji	KIRAN MOHAN THOMBARE	Sumit Rambhau Vane
Saurabh Prashant Joshi	Jadhav shubham	Abhishek Santosh Galande
Prathamesh Gadhekar	Ravi Babanrao Makhane	Akshay Babasaheb Wagh
Vishal anil daigavhane	Dondalkar Tanmay Rajendra	Gopal sham kharadkar
Parmeshwar Laxman Solanke	Shelke Keshav Bhimrao	Harshal Narayan Oza
Balaji Mehtre	Umair Raisuddin Momin	Nandkishor Dalvi
Shaikh Rehan Jaleel	Jawale Awanti Ashok	Sapna Birdilal Ghunawat
Gopal sham kharadkar	Bansi Panditrao Wavhal	Rahul Rajesh Srivastava
Pratibha Baban Gaike	Rakesh raju singare	Sadanand Surya
FARHAN MIYA SHAIKH	SIDDHESH GANESH KANGIRE	More Rohini Vidhyabhushan
SINGH YASHWANT GUPTESHWAR	Shirish Jaiswal	Vikaspuri Goswami
Bhushan Raghunandan Deshmukh PASIKANTI SWAPNIL NARSAYYA	Pratik sirsathe	Pravin Anil Dhayde
	Pratik sirsathe	Jeevan Munde
Aniket Suresh Limbekar	MANGESH SUBHASH SONAWANE	Tejas Santosh Dhote
Mahesh Babu Sonule	Pratiksha Suresh Kakde	Avinash shivaji bhone
		Alwan Salman Salam
Rushikesh Nagapurkar	Tejas Santosh Dhote	Rajat Sugandhi

- **<u>Takeways from the Workshop</u>** :-

  1. Exposing the Key Areas of Improvement in Your Design
  2. Helping You Iterate Quickly On Design Concepts
  3. Helping You Get Funded
  4. Making It Easy For Non-Technical Clients To Understand
  5. Reducing Development Time And Cost
  6. Helping You Choose The Suitable Variant
  7. Testing The Responsiveness Of A Design
  8. Creating A Robust Feedback Circle
  9. Keeping You Focused
  10. Help you to reduce the errors

- **<u>Conclusion and remarks</u>** :-

Prototypes help you communicate the look and feel of a design solution. However, a prototype should not be looked at a post-production product. Remember, it is designed to test the features, behaviour and appearance of a product in the development stages. The feedback and information you get from prototype testing are essential in creating and launching a successful design.

"International Conference on Recent Trend in Mechanical Engineering"

The conference on "International Conference on Recent Trend in Mechanical Engineering" was held at Maharashtra Institute of technology between 22nd-23rd January 2021.

The main objective of this conference is to bring together leading Scientists, Researchers, Industrialists Academicians and Engineering students from different universities, institutes and laboratories at one unique platform to share their experiences and exchange ideas focused on a wide range of subjects from the domain of mechanical Engineering.

The speakers guests of this conference were Dr. Mustafizur Rahman sir from Singapore, Dr. Pramod Parole sir from Nagpur, Srinivasa Rao Pedapati from Malaysia and Dr. Vincent ShanthaKumar also Dr. Naveenkumar Shrivastava from BITS Pilani Dubai campus. Giving the fruitful knowledge and given a talk on recent trend in mechanical engineering. Original contributions from Researchers, Academicians, Industry experts and Students addressing state-of-the-art research and describing their original unpublished researcher's work which is not currently under review by another conference or journal are invited to share their work in all the areas of Mechanical Engineering.

The conference theme is divided into four main streams of Mechanical Engineering as follows, however, the sub-topics are not limited to those mentioned:-

 1. Manufacturing Engineering.

2. Thermal Engineering.

3. Designs Engineering.

4. Materials Engineering.

"Short Term Training Program" (STTP)

This Short Term Training Program (STTP) was successfully conducted by Maharashtra Institute Technology Aurangabad On 19/06/2021 arranged by the Mechanical engineering department under the guidance of Honourable Director, Dr. Santosh Bhosle for making the students multidimensional and giving them some extra value in their curriculum journey.

STTP four-day program was free of cost for all Engineering And Diploma Students this mainly focuses on Mechatronics, Designing, PLC programming, Industry 4.0, Different software & their Uses , Study and Analysis of 3D printing in Industrial Applications. The main objective of the course was to offer technical skill and industryoriented training to the students in the field of Industrial Automation the course was also focused on To provide participants technical insights industrial Electro-pneumatic systems, 3D printing , PLC based industrial automation systems.

"Short Term Training Program" (STTP)

Student were able to acknowledge more after completing the course:-

 i. Understand the framework of Mechatronics system and its Components.
 ii. Identify applications different sensors and their basic principles.
iii. Develop an electro-pneumatic system and PLC program for said application.
iv. Learn 3D printing process and its industrial applications, through Industry 4.0 perspective.

After completing this program, attendees also got the certificate, for encouraging them to participate in the programs like this and to acquire knowledge at the same time.

One Day Webinar on "Design thinking, critical thinking and innovation design"

The One Day Workshop on " Design thinking, critical thinking and innovation design" was held on 06 th Jan, 2021 organized by the "Mechanical Engineering Department (MED) of Maharashtra Institute of Technology, Aurangabad and Institute's Innovation Council (IIC)".

Mr. Tukaram Varak, CAD CAM Guru and Mr. Prasad Kokil – MD, Sanjay TechnoPlast Pvt. Ltd. were the speaker of the Workshop. Mr. S. B. Patil, MED & IIC 2) Mr. Abhay Gore, MED 3) Mr. M. N. Farooqui, MED 4) Dr. Swamini Chopra, MED & IIC 5) Mr. Nihit Agrawal, CSED & IIC were the members of the organizing committee.

➢ **Design Thinking**

Design thinking is a human-centered approach to innovation anchored in understanding customer's needs, rapid prototyping, and generating creative ideas that will transform the way you develop products, services, processes, and organizations. By using design thinking, you make decisions based on what customers really want instead of relying only on historical data or making risky bets based on instinct instead of evidence.

➢ **Creative Thinking**

Creative thinking means thinking outside the box. Often, creativity involves lateral thinking, which is the ability to perceive patterns that are not obvious. Creative thinking might mean devising new ways to carry out tasks, solve problems, and meet challenges. It means bringing a fresh, and sometimes unorthodox, perspective to your work. This way of thinking can help departments and organizations be more productive.

➢ **Innovative design**

Innovative design is a process of identifying, pinpointing, and understanding the needs of the user or audience. Once the need has been identified, a solution can then be designed. This is where the brainstorming starts, and this when you need your creatives.

One Day Webinar on "Design thinking, critical thinking and innovation design"

- **Objectives**:-

1. To promote design thinking among students.

2. To motivate critical thinking and analysis of engineering problems.

3. To encourage students for innovative design to cater the needs of society at large.

- **List of Participants :-**

1. Tara Chhetri
2. Pooja Raghvendra Varade
3. Kalyani Suryawanshi
4. Amrapali Pandurang Borde
5. Shruti Dattatray Somawanshi
6. Ugyen Phuntsho
7. Varsha Ravsaheb Rode
8. Raj Sanjay Mudholkar
9. Shirish Harishchandra Jaiswal
10. Namrata Prakash Joshi
11. Ganesh Uttam Vankhede
12. Bhale Ketki Anant
13. Abhishek Santosh Galande
14. Vikaspuri Ompuri Goswami
15. More Rohini Vidhyabhushan
16. Sumit Pramodrao Gajarlawar
17. Sayyed sohel
18. Sangle Babasaheb Pradip
19. ROHIT BHIMRAO VITTHALU
20. Ashwini vijay Chabukswar
21. Krushna Narayan Murmude
22. Supriya babarao kumbhare
23. Pratik milind sirsathe
24. BHUSHAN HARICHANDRA SONWANE
25. Ajay Ramnath Ukirde
26. Gopal Balaji Pandit
27. AHER SHUBHAM SAMBHAJI
28. Sonne Sitaram Shivaji
29. Mahimi Yaseer Anwar
30. Kunal Pawar
31. Ayush Sharad Wadnere
32. Navpute Dnyandev Pandurang

- **<u>Conclusion and remarks:-</u>**

The structure of design thinking creates a natural flow from research to rollout. Immersion in the customer experience produces data, which is transformed into insights, which help teams agree on design criteria they use to brainstorm solutions. Assumptions about what's critical to the success of those solutions are examined and then tested with rough prototypes that help teams further develop innovations and prepare them for real-world experiments.