



ALVA'S INSTITUTE OF ENGINEERING & TECHNOLOGY

(Unit of Alva's Education Foundation (R), Moodbidri)

Affiliated to Visvesvaraya Technological University, Belagavi &

Approved by AICTE, New Delhi. Recognized by Government of Karnataka.

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MEMS LAB

PRODUCT DEVELOPMENT WORKSHOP REPORT

JUNE-2023

MEMS LAB REPORT

Report on Product development life cycle

Introduction:

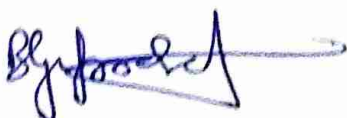
A seven-day workshop on product development life cycle using KiCAD software was conducted by the Department of Electronics and Communication Engineering at our college from June 8th, 2023 to June 15th, 2023. The workshop was aimed at providing hands-on experience to the participants on creating electronic product designs using KiCAD. The workshop covered various stages of the product development life cycle, including ideation, design, prototyping, testing, and manufacturing.

Day 1: Introduction to KiCAD Software

On the first day of the workshop, the participants were introduced to the KiCAD software. They were taught about the various features and tools available in the software that are used in the product development process. The trainers also demonstrated the proper way of installing and configuring the software on their laptops.

Day 2: Schematic Design

The second day of the workshop was dedicated to schematic design. The participants were taught about the importance of schematic design in the product development process. They were introduced to the various elements and symbols used in the schematic design and were given hands-on experience in creating schematic designs using KiCAD.



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Day 3: PCB Design

On the third day, the participants were introduced to PCB design using KiCAD. They were taught about the various types of PCBs, the components used in PCB design, and the design rules required for creating high-quality PCBs. The participants were given hands-on experience in creating PCB layouts using KiCAD.

Day 4: Component Placement and Routing

On day four of the workshop, the participants were taught about the importance of component placement and routing in the product development process. They were introduced to the various techniques used for component placement and routing and were given hands-on experience in arranging and routing components on PCB layouts.

Day 5: Gerber File Generation

The fifth day of the workshop was dedicated to the generation of Gerber files. The participants were taught about the importance of Gerber files in the manufacturing process and were given hands-on experience in the generation of Gerber files using KiCAD.

Day 6: Design Review and Prototyping

On day six, the participants were taught about the design review and prototyping stages in the product development life cycle. They were introduced to the various testing techniques used in the design review stage and were given hands-on experience in prototyping electronic designs using KiCAD.

Day 7: Manufacturing and Testing

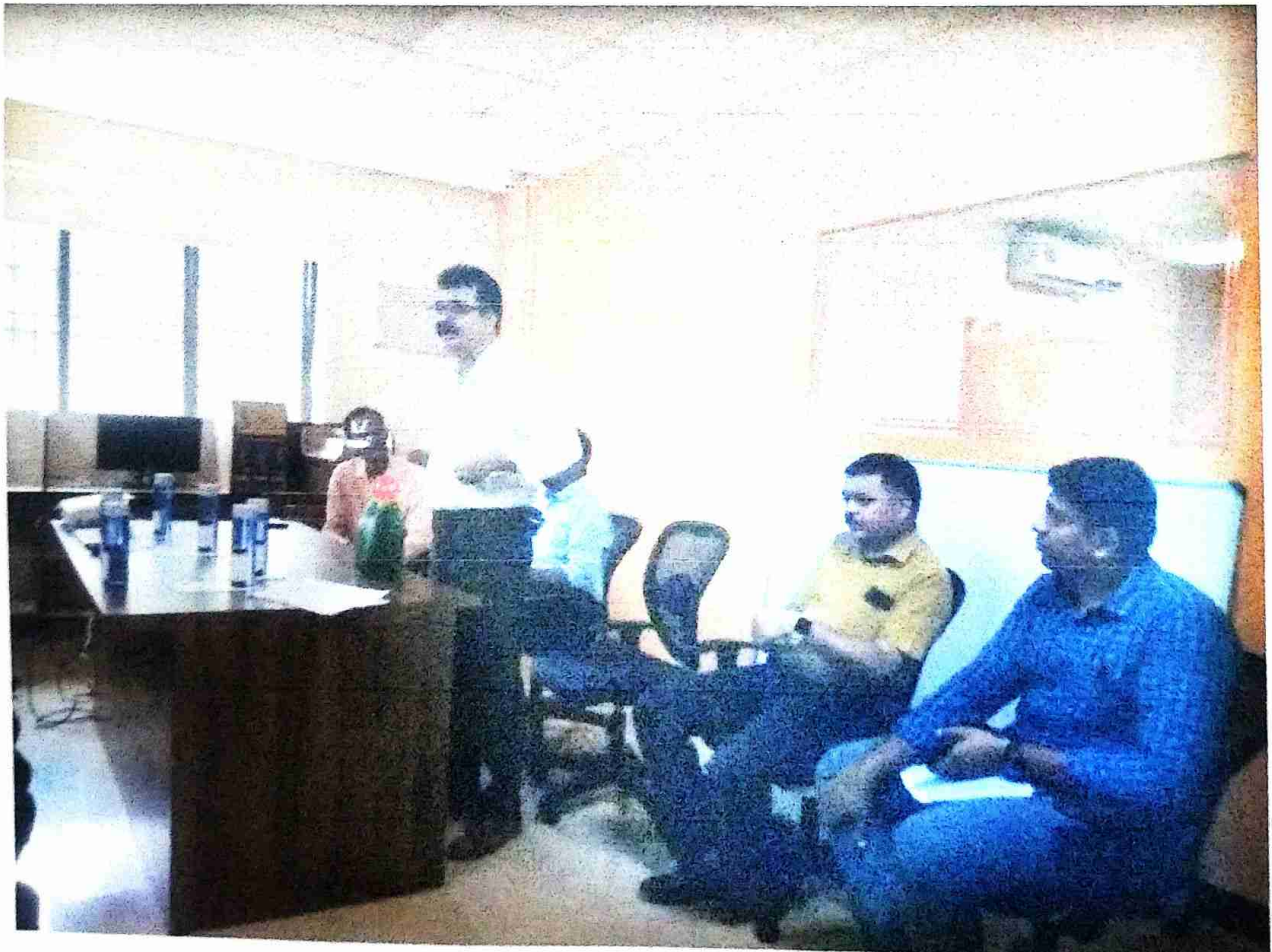
On the final day of the workshop, the participants were taught about the manufacturing and testing stages of the product development life cycle. They were introduced to the various manufacturing techniques used in the production of electronic products and were given hands-on experience in the testing of electronic designs using KiCAD.

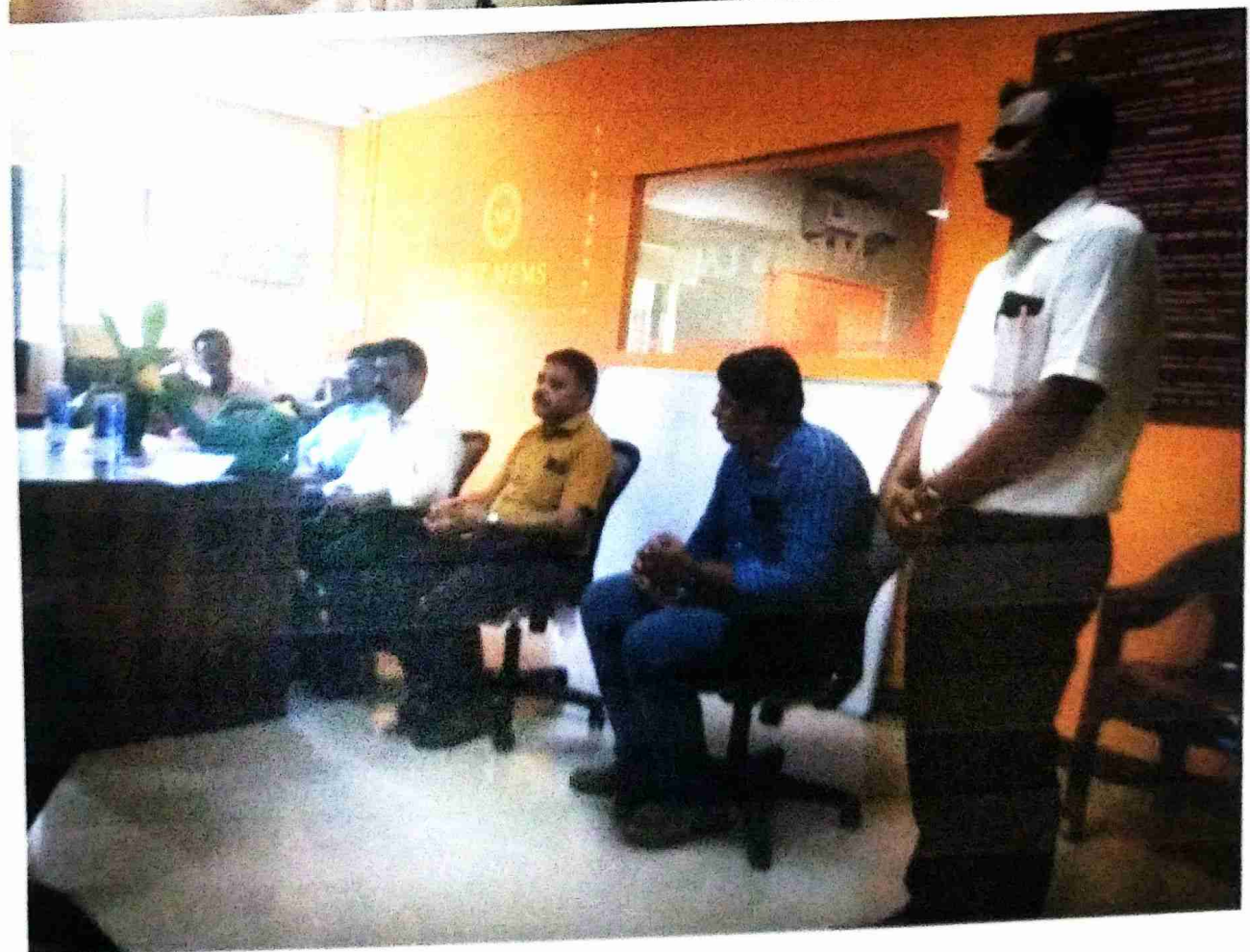
Conclusion:

The seven-day workshop on product development life cycle using KiCAD software was a huge success. The participants were able to gain hands-on experience in various stages of the product development process and were able to create their own electronic designs using the software. The workshop was a great learning experience for all the participants and helped them in enhancing their skills in electronic product development.

Glimpses of the Event:









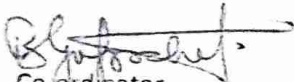
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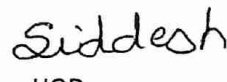
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26-05-2023

Through this we would like inform all the students that, AIET MEMS LAB of ECE department is organizing 7 days' workshop on "Product development life cycle" on June 8th, 2023 (Thursday). The interested students can register through the google registration link. The link will be shared in the group.


Coordinator


HOD


Principal
PRINCIPAL
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MJAR, MOODBIDRI - 574 225, D.K.

Timestamp	Name	USN	Phone number	Email
31/05/2023 17:16:30	VINOD RAJ GN	4AL20EC060	7019904236	vinodrajgn@gmail.com
31/05/2023 17:18:35	Rohan h	4al20ec043	8792222407	rohanhalesh@gmail.com
31/05/2023 17:19:20	Prajwal R	4AL20EC033	8792456845	prajwalprajwalr22@gmail.com
31/05/2023 17:19:58	Shubhashri S	4al20ec052	8431671249	shubhashree3108@gmail.com
31/05/2023 17:22:00	Vishwanath M	4AL20EC0630	8431916500	2001vishwanath@gmail.com
31/05/2023 17:33:24	Aishwarya A P	4al20ec001	9972059996	aishwaryaaish8846@gmail.com
31/05/2023 17:35:27	Aravinda	4AL20EC006	8073377846	4al20ec006@gmail.com
31/05/2023 18:57:50	Nagarjuna GS	4al20ec027	8618333210	nagarjunags2014@gmail.com
31/05/2023 19:12:19	CHAITHRASHREE M G	4AL20EC008	8088241372	chaitrashreemg12@gmail.com
31/05/2023 20:03:23	KARTHIK G SHET	4AL20EC016	+917411372046	shetkarthikg@gmail.com
31/05/2023 20:29:11	UMESH	4AL20EC057	9606569825	umeshmarati03421@gmail.com
31/05/2023 21:18:09	Prashanth VK	4AL20EC034	9353778436	loganathanprashanth004@gmail.com

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

Date: 18-09-2022

Number of students in batch: 24

Internship Schedule for MEMS Lab

Sl. No.	Day	Morning Session	Afternoon Session
1	Day 1	Demo Session: 1. Branch Line Coupler using MEMS	Practical Session: 1. Simulation of Branch Line Coupler using MEMS
2	Day 2	Demo Session: 2. Coaxial Cable for different impedance using MEMS Comsol Multiphysics	Practical Session: 2. Simulation of Coaxial Cable for different impedance using MEMS Comsol Multiphysics
3	Day 3	Demo Session: 3. Microgripper using MEMS Comsol	Practical Session: 3. Simulation of Microgripper using MEMS Comsol
4	Day 4	Demo Session: 4. MEMS Capacitive Pressure Sensor for High Sensitivity Applications	Practical Session: 4. Design and Simulation of MEMS Capacitive Pressure Sensor for High Sensitivity Applications

5	Day 5	Demo Session: 5. MEMS Surface Acoustic Wave Sensor	Practical Session: 5. Design and Simulation of MEMS Surface Acoustic Wave Sensor
6	Day 6	Demo Session: 6. Cantilever sensor in COMSOL	Practical Session: 6. Design of cantilever sensor in COMSOL
7	Day 7	Demo Session: 7. Swastic structure beam using COMSOL	Practical Session: 7. Design of swastic structure beam using COMSOL
8	Day 8	Demo Session: 8. MEMS based pressure sensor using COMSOL.	Practical Session: 8. Design of MEMS based pressure sensor using COMSOL.
9	Day 9	Demo Session: 9. Pressure analysis on cantilever structure using COMSOL.	Practical Session: 9. Pressure analysis on cantilever structure using COMSOL.



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10	Day 10	Demo Session: 10. Heat analysis of micro heater using COMSOL.	Practical Session: 10. Heat analysis of micro heater using COMSOL.
11	Day 11	Demo Session: 11. Fluid samples movement in microstructure using COMSOL.	Practical Session: 11. Analysis of fluid samples movement in microstructure using COMSOL.
12	Day 12	Demo Session: 12. MEMS accelerometer using COMSOL.	Practical Session: 12. Design of MEMS accelerometer using COMSOL.

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