Event Report
Organised by Ecell, Jadavpur University

Title of the Event: “CNC Machine for PCB Prototyping” by Ecell, Jadavpur University

Event Date: 29th June, 2024

Event Time: 9.00 a.m to 3.00 p.m

Venue: TEQIP Building ,Jadavpur University, Room 301

Faculty Coordinator in Charge: Prof. Aranyak Chakraborty, Prof. Pranibesh Mandal

BRIEF INTRODUCTION

The Entrepreneurship Cell (E-Cell) of Jadavpur University proudly hosted the "CNC Machine for PCB Prototyping" workshop on 29th June,2024. This event was a significant part of our initiative to provide hands-on learning opportunities and bridge the gap between innovation and practical implementation, focusing on turning groundbreaking ideas into successful startups.

Objective of the Workshop:
The workshop aimed to provide a comprehensive understanding of how CNC (Computer Numerical Control) machines can be utilized for PCB (Printed Circuit Board) prototyping. The core theme was "Innovation/Prototype Validation – Converting Innovation into a Startup." This involved not only understanding the technical aspects of PCB prototyping but also exploring the journey of transforming innovative concepts into viable products and startups.

EVENT HIGHLIGHTS

Expert Sessions

Industry experts kicked off the workshop with an introduction to CNC machines, detailing their role in PCB prototyping. They discussed various types of CNC machines, their functionalities, and the specific features that make them suitable for PCB fabrication.

The experts provided an in-depth overview of PCB design principles, including software tools used for creating PCB layouts and the translation of digital designs into physical prototypes using CNC machines. They also discussed the importance of precision and accuracy in the prototyping process.

Insights were shared on the manufacturing process, including material selection, component placement, and soldering techniques. The experts highlighted common challenges and how to address them to ensure high-quality prototypes.

Training Session

Participants were given the opportunity to engage in a hands-on training session with CNC machines. This practical approach allowed them to see the entire PCB prototyping process from start to finish.
The session covered the process of preparing PCB designs for CNC machining, including steps for converting designs into machine-readable formats and ensuring they are optimized for fabrication
Participants learned how to operate CNC machines, including setting up the machine, loading design files, and configuring machine parameters.
Practical training included the fabrication of PCB prototypes, focusing on the techniques for component placement and soldering. Participants were guided on how to troubleshoot common issues and ensure the prototypes meet design specifications.

The training also included a segment on best practices for PCB prototyping, such as maintaining machine calibration, selecting appropriate materials, and performing regular maintenance. Participants were equipped with knowledge on troubleshooting common problems that may arise during the prototyping process.

Innovation to Startup Journey

The workshop emphasized the journey of transforming innovative ideas into successful startups. Key topics included the importance of prototype validation, iterative design processes, and refining prototypes based on user feedback.

Strategies for validating prototypes in the market were discussed, including techniques for gathering and analyzing feedback, understanding customer needs, and assessing market demand.

Attendees learned about the critical steps for ensuring that prototypes are not only technically feasible but also commercially viable. The session included insights into developing a business model, identifying target markets, and planning for product launch and scaling.

Interactive Discussion

The Q&A session provided an interactive platform for participants to engage directly with the experts. Attendees were encouraged to ask questions related to CNC machine operation, PCB design, and any challenges they faced in their own projects.

Participants received personalized advice on how to address specific issues in their prototypes. The session allowed for in-depth discussions on optimizing designs, refining prototypes based on feedback, and strategies for effective market validation.

Discussions also covered how participants could integrate CNC prototyping into their innovative projects and startup ideas. The experts provided guidance on leveraging prototyping for product development and market entry.

Conclusion and Vote of Thanks

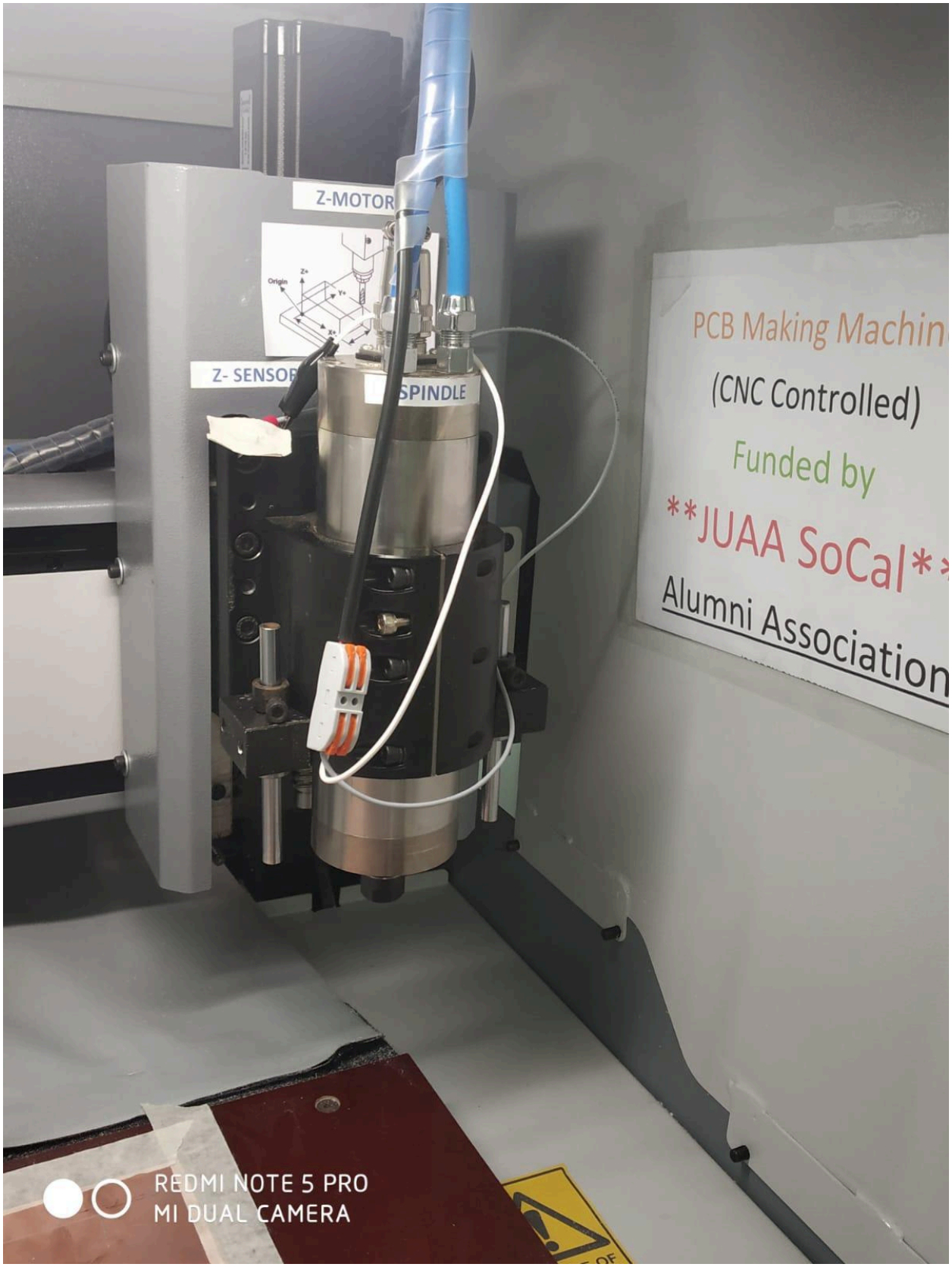
The event concluded with a heartfelt vote of thanks from the E-Cell team to all participants and teachers for their cooperation and enthusiasm.

EVENT ATTENDANCE

Sl. No.	Participants	Institution(s)
1	Anil Roy	M.B.H.S
2	Meraj Biswas	M.B.H.S
3	Sagar Majhi	M.B.H.S
4	Dip Biswas	M.B.H.S
5	Rimi Majhi	M.B.H.S
6	Sahid Ali	M.B.H.S
7	Muskan Khatun	M.G.H.S
8	Nargis Khatun	M.B.H.S
9	Isika Mandal	M.B.H.S
10	Asama Khatun	M.G.H.S
11	Suriya Khatun	M.G.H.S
12	Jasmin Khatun	M.B.H.S
13	Rehan Ansary	M.B.H.S
14	SK Anas	B.I.A
15	MD Ohab	B.I.A
16	Nasima Khatun	M.G.H.S
17	Afrena Khatun	K.V.G
18	Rifa Parven	K.V.G
19	Ruhi Khan	K.V.G
20	RINKU Khatun	S.S.A
21	Merajul Biswas	M.B.H.S
22	Rohit Biswas	M.B.H.S
23	Prithi Majhi	M.G.H.S
24	Churni Khatun	M.G.H.S
25	Jasmin Khatun	M.G.H.S

26	Abhik Das	M.G.H.S
27	Dilip Das	M.G.H.S
28	Ranjib Biswas	M.G.H.S
29	Rishi Mandal	M.G.H.S
30	Rik Mandal	M.G.H.S
31	Ritam Mandal	M.G.H.S
32	Bablu Mandal	M.G.H.S
33	Neha Khatun	M.G.H.S
34	Sonu Ali	M.G.H.S
35	Sweety Khatun	M.G.H.S
36	Dilip Das	M.G.H.S

EVENT IMAGES: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Z- SENSOR
SPINDLE
PCB Making Machin
(CNC Controlled)
Funded by
JUAA SoCal
Alumni Association
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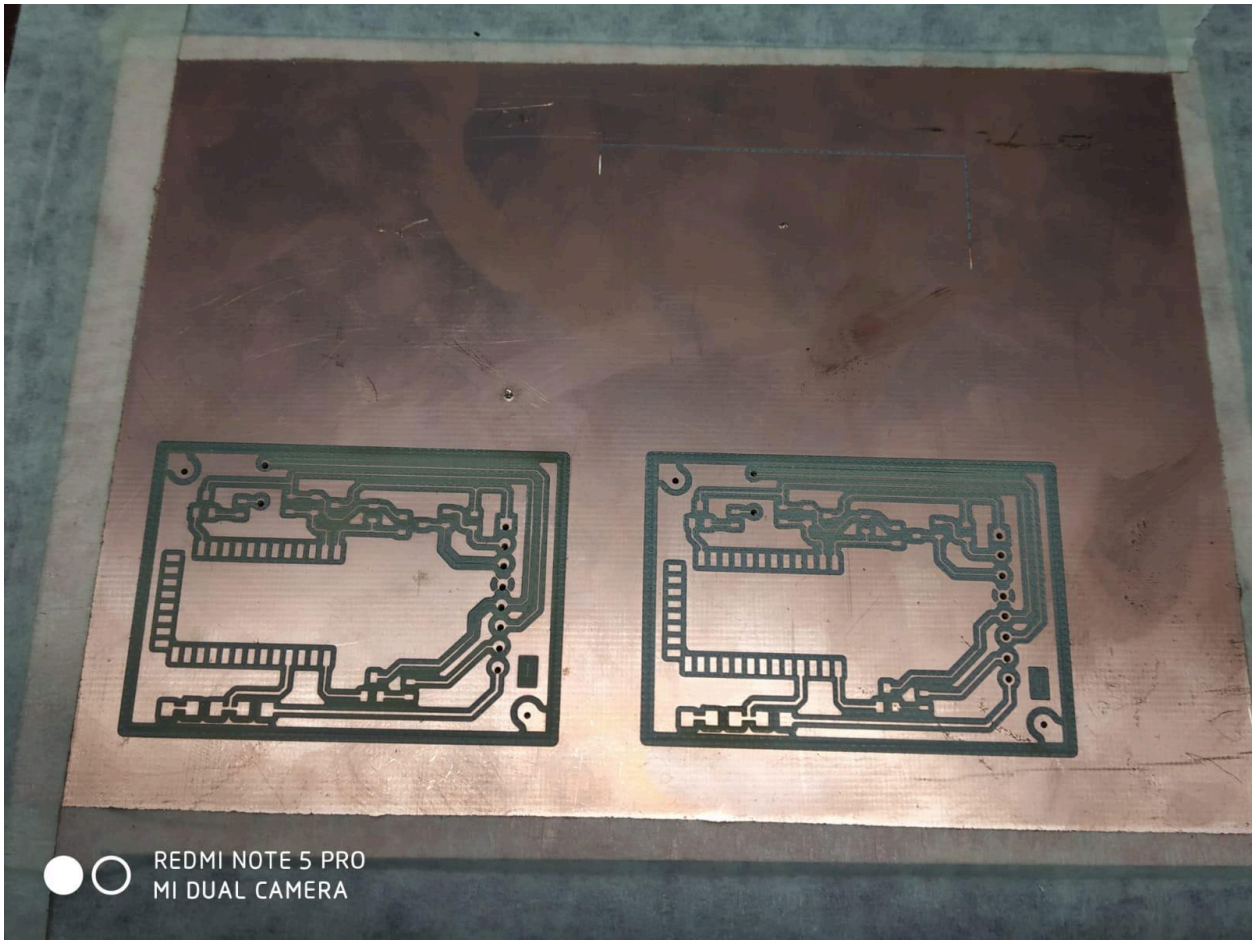
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