DESIGN THINKING EXPO-2025

titled

“Psychomotor Domain Based Learning”

on 01.05.2025

Venue: 2nd wing, Electrical Department

In this project expo, all students have participated with high enthusiasm. The objective of the event was to encourage students to learn different skills like hard wiring, tools handling, trouble shooting of electrical wiring, team building, project planning and costing, Presentation skill.

Faculty Coordinator:

Prof. Rachana Patel, Assistant Professor, EED, LDCE
Prof. H.N.Raval, Assistant Professor, EED, LDCE

Prof. V.M.Dholkiya, Assistant Professor, EED, LDCE

Prof. D.R.Patel, Assistant Professor, EED, LDCE

The Patron of the events:

Prof.(Dr) Jyoti Iyer, Head of the Electrical department, LDCE.

IOT FOR SOCIAL GOOD

Project Idea: This project is an AI + IoT Smart Stick designed for visually impaired users. It uses an ESP32-CAM to capture images, sends them to OpenAI GPT-4o for analysis, and provides real-time voice guidance via a web browser. It also includes ultrasonic sensors, a buzzer, and vibration alerts to detect stairs and obstacles. The stick is low-cost, works with a mobile hotspot, and aims to improve daily navigation for blind individuals.

FARM PROTECTION

Project Idea: This project is farm protection from wild animals by without human temper. Project is loaded sensor based system which can protect farm from wild animals by detecting their presence and triggering alerts or deterrents. This system typically utilizes sensors like PIR OR ultrasonic sensors to detect animals, the system generates loud sound or fire scare and animal runs away due to this fear. Electrical fencing is also on option for achieving animals run out. But it can harm animals so we cant use it.

FARMER HELPING STICK

Project Idea: This team made project for farmer safety purpose which is stick. Farmer safety stick is a smart stick designed to protect farmers from insects while walking through tall grass. It has a vibrating mechanism powered by a small motor with an off-balance weight that creates vibrations to scare away insects. A buzzer is also added to produce sound that helps repel them further. The stick includes useful features like a torch for visibility and a USB port for charging. It is lightweight, easy to carry, and provides safety and convenience in the field.

MILK TESTING KIT

Project Idea: Our team designed a milk testing kit utilizing chemical methods to identify adulteration and assess milk quality. The kit works by introducing specific chemical reagents that react with harmful substances often found in adulterated milk, such as starch, detergent, or urea. These reactions produce clear color indicators, making the kit easy to use and interpret. The goal is to promote safer milk consumption through a practical, low-cost solution.

PARKING ASSISTANT

Project Idea: In today's time, we witness multiple issues on the area of systematic car parking. To resolve this issue we have emphasized and put our efforts on sensor based car parking. Due to unplanned and unorganized parking we observe multiple conflicts on multiple occasions. We basically used sensors on all possible parts of car through which we could avoid improper parking. This enable us to reduce the parking area and gives sufficient space for the doors of other cars to open. This will also allow us to access blind spots and avoid unfortunate accidents. This project will give assistance for well balanced and efficient parking.

BRTS FOOT REST

Project Idea: This is our project for transportation safety. The purpose of this structure is improve passenger safety while boarding and standing In BRTS bus station. It reduce slip and fall accidents while boarding at station.

HARVESTING ELECTRICAL ENERGY

Project Idea: This project aims to create electrical energy from mechanical energy in form of rotation of cycle wheel. It is eco-friendly and sustainable form of energy generation. It is easy to install and use. It uses dynamo that converts mechanical energy to electrical energy that can even charge electronic devices like mobile phone. We added capacitor and voltage regulator that converts ac signal to dc signal that can be directly used to charge mobile. This can be used in different public places like bus stop where people can enjoy cycling that has dual benefits of fitness and energy generation.

Student- Faculty interaction and evaluation

Each team was interacted and evaluated by all four coordinators of the expo. Following rubrics were considered to do evaluation.

project idea	model making	team work	presentation skills
(25 marks)	(30 marks)	(20 marks)	(10 marks)

Few team were come up with excellent project idea, those team were motivated to register in SSIP for upcoming phase. And few team were lack in presentation and hence faculties have motivated them to be focus on that. Few project model were not in working mode. Those team were motivated to focus on assembling and testing skill. Head of the department, Prof.(Dr.) Jyoti Iyer was also there through out the expo and appreciated all the team for their great efforts.

Expo was ended with kind and motivated speech of our respected principal sir. He has encourage student volunteers too.

Student feedback:

Kotadiya Harshil - "Participating in the Design Thinking Expo was an eye-opening experience that helped me apply classroom concepts to real-world problems."

Chocha Hardik Jayeshbhai - "The guidance and support from our dedicated faculty made a huge difference—they encouraged creative thinking and problem-solving at every stage."

Dodiya Dhruvi -"I learned how to work collaboratively, communicate ideas effectively, and adapt based on feedback—skills that are essential in any engineering career."

Gohel Gayatri- "This expo gave me the confidence to present and defend our project in front of peers and experts, which was a valuable learning experience."

Dhandhukiya Alpesh Narshibhai - "It was inspiring to see so many innovative ideas from fellow students, and it motivated me to push my own limits."

Manan Vaiwala- "Overall, the Design Thinking Expo helped me grow both technically and personally, and I truly appreciate the efforts of our faculty in making it a success."

CONCLUSION:

The Design Thinking expo showcased how creative problem-solving, empathy, and innovation come together to address real-world challenges. Through the process of empathizing, defining, prototyping, and testing, students learned the importance of user-centered design in creating effective and meaningful solutions. This experience not only enhanced their critical thinking and collaboration skills but also encouraged them to approach problems with curiosity and openness. The expo highlighted that design thinking is not just a method, but a mindset that can drive positive change in any field.