A Report on one-day workshop
"Hands on Design Thinking"
Organised by Department of CSE-Artificial Intelligence &Machine Learning
on 13.11.2024

Report Submitted by: Mrs. N. Geethanjali, Assistant Professor, Department of CSE – AI & ML.
Resource Person Details: Mr. Arjun Pogaku, Assistant Professor, Department of Electronics & Communication Engineering.
Mode of Conduct: Offline.
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Department of Computer Science & Engineering – AI & ML has organized a **One Day Hands on Design Thinking Workshop** on 13/11/2024(Wednesday).

Welcome Address:

The event commenced at 10:00 AM with a warm and engaging welcome address to all by Mrs. N. Geethanjali, Asst. Professor, Department of CSE – AI & ML, Madanapalle Institute of Technology & Science **(**MITS), Madanapalle. The Indian Society for Technical Education (ISTE) is a national organization that promotes the growth of technical education in India. It supports educators and students through conferences, workshops, and industry collaborations. ISTE aims to enhance the quality of engineering and technology education across the country.

Keynote Address:
Dr. S. Padma, Associate Professor & Head, Department of CSE – AI & ML, Madanapalle Institute of Technology & Science **(**MITS), Madanapalle. The Head of Department (HOD)at an ISTE event typically emphasizes the importance of innovation and research in technical education. Design Thinking is about shifting your mindset, about approaching problems not as obstacles, but as opportunities for creative exploration. It's about realizing that no matter what field you're in, you have the ability to be an agent of change. It's about harnessing the power of human-centered design to make the world a better place. The HOD also encourages students to actively participate in ISTE activities to enhance their skills and broaden their horizons.

Dr. P. Ramanathan, Professor, ECE, Vice Principal – Academics, MITS, Madanapalle explained about the Design Thinking program. He motivated the students to enlighten themselves by utilizing the Presentation of Design Thinking program and Today, we're embarking on a journey. Not just a workshop, but an experience, one that will challenge us to think differently, break down conventional barriers, and embrace a new mindset—one that's user-centered, collaborative, and deeply empathetic.

Mrs. Vijaya Lakshmi Udayagiri, Assistant Professor, Department of English, National Council of Educational Research & Training. Mam has given inspiring words to the students, and she told like In the coming hours, you will have the opportunity to dive deeper into each of these stages, practice the tools and techniques, and collaborate with your fellow participants to solve a real-world challenge. But beyond the exercises and frameworks, what I hope you take away most from this experience is a new way of thinking.

Dr. K Sree Divya, Assistant Professor, Dept. of CST, MITS, Institute level ISTE Coordinator. She has told students as Design Thinking is a human-centered approach to innovation and problem-solving that emphasizes empathy, creativity, and collaboration. It has been widely adopted across industries, from product design to business strategy, healthcare, education, and social impact. This report explores the principles, processes, applications, and benefits of Design Thinking, offering a comprehensive overview of why it has become a dominant methodology for tackling complex challenges in a rapidly changing world.

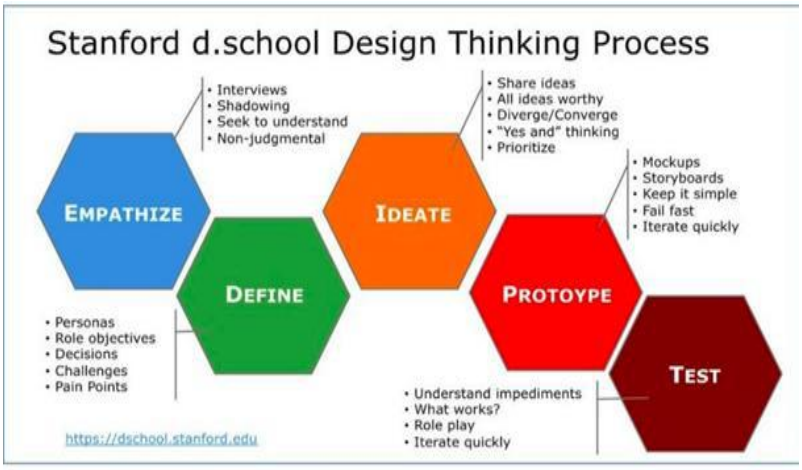
Resource Person Lecture:

Mr. Arjun Pogaku Dept. of ECE, MITS, Madanapalle. He explained about the importance of ISTE and how we can utilize that membership. The Arjun shared the following points in the presentation.

A resource person speaking about ISTE would explain how the organization helps improve technical education by offering workshops, conferences, and training for teachers and students. They would mention ISTE's role in connecting academia with industry and encouraging innovation. Overall, ISTE supports both educators and students in staying updated and improving their skills.

The Design Thinking Process:

Design Thinking is often portrayed as a linear process, but in reality, it's a **non-linear, iterative** approach. While there are many models, we typically break it down into five stages:



- **Empathize –** Understanding the needs, experiences, and challenges of the people we're designing for. It's about getting out of our own perspectives and immersing ourselves in the users' world.
- **Define –** Making sense of the information we've gathered, synthesizing it into insights, and defining the core problems we need to solve. A well-crafted problem statement is key to a successful design process.
- **Ideate –** Generating a wide range of ideas, brainstorming without judgment, and thinking as creatively as possible. This is where we stretch our imagination and explore potential solutions.
- **Prototype –** Bringing ideas to life in a tangible way, quickly and cheaply. Prototyping isn't about creating the perfect solution; it's about learning through iteration and testing.
- **Test –** Refining the solution by testing it with real users, gathering feedback, and continuously improving. Testing helps us learn what works, what doesn't, and how we can better meet the users' needs.

It's important to remember that these stages aren't always sequential. We may find ourselves jumping back and forth between them, refining our problem statement or revisiting our prototypes. Design Thinking is as much about **flexibility** and **adaptation** as it is about structure.

Key Mindsets of Design Thinking:

As we explore Design Thinking today, there are a few mindsets I'd like to encourage you to embrace:

- **Empathy over Ego –** Let go of assumptions and personal biases. Listen deeply to the people you're designing for, and engage with their experiences and emotions.
- **Collaboration over Competition –** Design Thinking is not a solo endeavour. It thrives in multidisciplinary teams, where diverse perspectives are not just welcomed but actively sought out.
- **Iteration over Perfection –** Perfection is the enemy of progress. Prototype, test, learn, and improve. Embrace failure as part of the learning process—it's not a setback, but a stepping stone toward success.

- **Curiosity over Certainty –** Keep asking “Why?” and “What if?” Be curious. Don’t settle for surface-level answers. Dive deeper and challenge assumptions, including your own.

Application of Design Thinking:

So, how do we apply these principles in real-world situations? The beauty of Design Thinking is that it’s not limited to any specific domain. It can be applied in virtually any context:

- **Business:** Whether you're developing a new product, refining a service, or improving an internal process, Design Thinking can help you innovate in ways that are truly meaningful to your customers and employees.
- **Healthcare:** In the healthcare industry, Design Thinking is being used to reimagine patient care, improve hospital experiences, and create more user-friendly medical technologies.
- **Education:** It can help educators design more engaging and effective learning experiences, tailored to the needs of today’s diverse student populations.
- **Social Impact:** For non-profits and social enterprises, Design Thinking is a powerful tool for creating solutions that address some of the world’s most pressing challenges— whether it’s in poverty alleviation, sustainability, or global health.

Benefits of Design Thinking:

There are several key benefits to adopting a Design Thinking approach:

- **Enhanced Innovation:** By focusing on human needs and fostering creativity, Design Thinking encourages out-of-the-box solutions that may not emerge in traditional problem-solving processes.
- **Improved Collaboration:** The multidisciplinary nature of Design Thinking promotes collaboration and knowledge-sharing across teams, leading to more comprehensive and innovative solutions.
- **User-Centered Solutions:** The deep empathy for users ensures that solutions are more likely to meet actual user needs, resulting in higher adoption rates and satisfaction.
- **Faster Prototyping and Feedback:** Rapid prototyping allows teams to test ideas quickly and make adjustments before committing to large-scale investments, reducing the risk of failure.
- **Continuous Learning and Improvement:** The iterative nature of the process encourages teams to learn from failures, improving solutions over time and allowing for continuous refinement.

Challenges and Criticisms:

Despite its widespread popularity, Design Thinking is not without its challenges:

- **Over-Simplification:** Some critics argue that Design Thinking oversimplifies complex problems, focusing too much on rapid prototyping and not enough on the depth of the problem itself.
- **Implementation Difficulty:** In some organizations, implementing Design Thinking can be challenging due to resistance to change, lack of proper training, or organizational structures that don’t support collaboration.
- **Time and Resources:** While the iterative approach can be highly beneficial, it can also be time-consuming and resource-intensive, particularly in larger projects or organizations without sufficient support.
- **Limited Focus on Execution:** While Design Thinking is excellent for generating ideas and prototypes, it may not always provide clear guidelines on how to scale or execute those solutions in the real world.

Design Thinking offers a powerful, flexible framework for tackling complex problems in a creative and human-centered way. By prioritizing empathy, collaboration, and iteration, it enables organizations to develop innovative solutions that resonate deeply with users. Whether applied to business, healthcare, education, or social change, Design Thinking can drive meaningful transformation and foster a culture of continuous learning and improvement.

As the world becomes more complex, the need for creative, user-centered problem-solving has never been more urgent. By embracing the principles of Design Thinking, individuals and organizations can position themselves to lead in innovation, create value for their stakeholders, and make a positive impact on the world.

Vote of thanks:

The workshop formally concluded with a vote of thanks delivered by **Mrs. N. Geethanjali Assistant Professor**, **Department of CSE – AI & ML**. She expressed sincere gratitude to the students for the time to share her expertise. She extended her thanks to the HOD, Principal, and the Management for their support to conduct the workshop.

Outcomes: At the end of Presentation, Students will be able to

- Participants will develop the ability to approach problems from new angles, break free from traditional thinking patterns, and generate innovative solutions.
- Students will search for new design thinkings to develop their projects.
- Participants will work in diverse, cross-functional teams, which will help break down silos and foster a culture of collaboration.
- Attendees will enhance their communication skills, especially in terms of active listening, providing constructive feedback, and presenting ideas clearly.