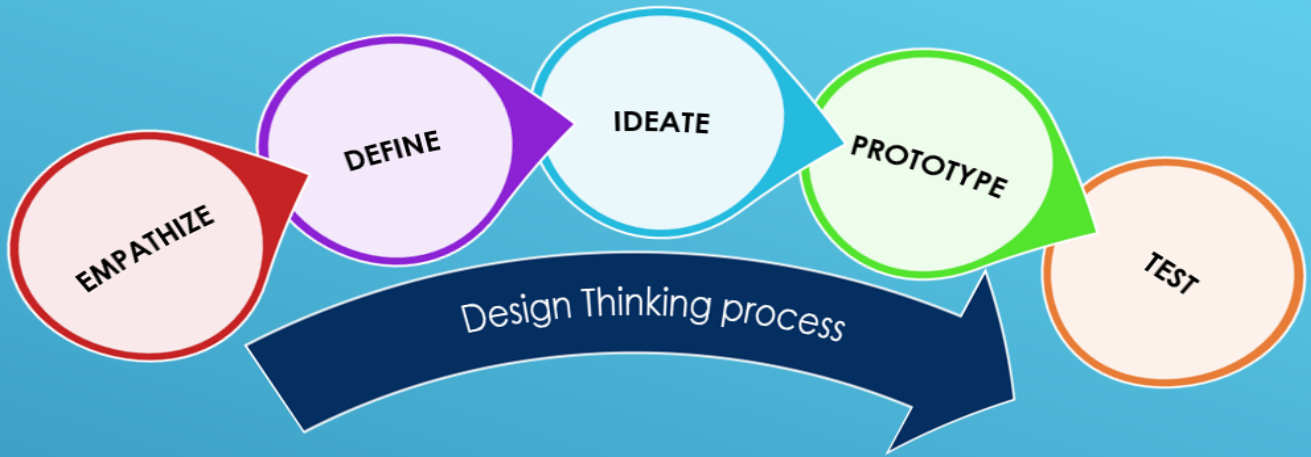# VALLURUPALLI NAGESWARA RAO VIGNANA JYOTHI INSTITUTE OF ENGINEERING AND TECHNOLOGY

CENTRE FOR PRESENCING AND DESIGN THINKING
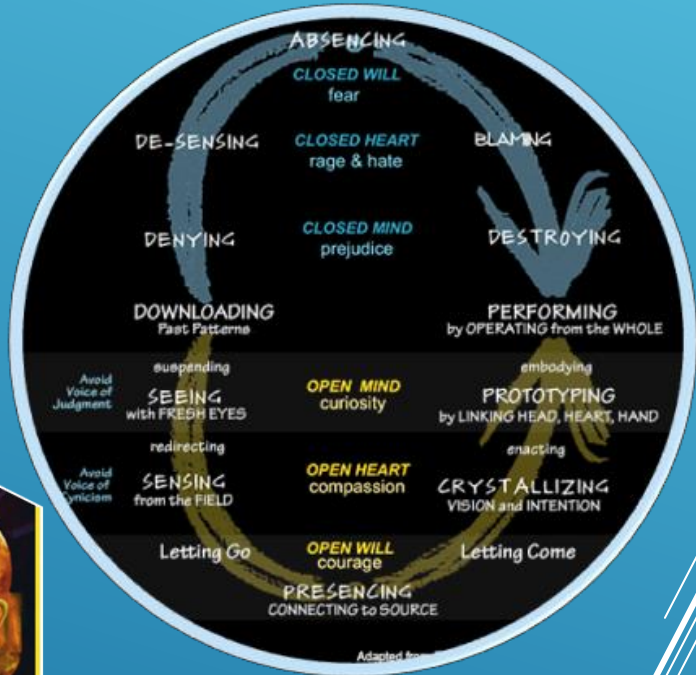
Estd. 1995

CPDT

EMPATHIZE

DEFINE

IDEATE

PROTOTYPE

TEST

Design Thinking process

Presencing

Design Thinking

Pursuit

ABSENCING

CLOSED WILL
fear

DE-SENSING

CLOSED HEART
rage & hate

BLAMING

DENYING

CLOSED MIND
prejudice

DESTROYING

DOWNLOADING
Past Patterns

PERFORMING
by OPERATING from the WHOLE

Avoid Voice of Judgment

suspending

OPEN MIND
curiosity

embodying

SEEING
with FRESH EYES

PROTOTYPING
by LINKING HEAD, HEART, HAND

Avoid Voice of Cynicism

redirecting

OPEN HEART
compassion

enacting

SENSING
from the FIELD

CRYSTALLIZING
VISION and INTENTION

Letting Go

OPEN WILL
courage

Letting Come

PRESENCING
CONNECTING to SOURCE

Adapted from

Centre for Presencing and Design Thinking (CPDT)

To foster

Design Thinking and application of multi-disciplinary knowledge to address global challenges

CPDT was established in 2017 with the Vision "to be an institution that fosters design thinking and applies multi-disciplinary knowledge to address global challenges". The Centre is born out of the belief that design must be an integral part of learning for graduating engineers. The Vision, Mission, and Objectives of the Centre are formulated with **Society** at the core of the ideology and an outlook that all engineering, science, and technology are meant to improve life conditions and sustainability.

The goal of engineering is to improve the future and make people's lives easier. Future engineers will require a convergence of design and problem-solving skills to work in an integrative manner. Thus, a bottom-up strategy for comprehending and resolving societal issues is Design Thinking. Empathy in turn understanding the needs of users is an integral part of solving human centred problems. Further, problem solving requires to relate and reflect on the issues which in turn is a **Presencing** process.

Presencing is about bringing the best future possibilities into the present and acting to ensure the best future. It's about time that Technology looks back on its path of development and steers clear of negative environmental impact, paving a new path towards Sustainable and Inclusive Development where the Nature and its components receive the benefits of Technology directly and indirectly. It is thus time to act with a vision for the Future. "Presencing" is coined as a portmanteau of "presence" and "sense" but goes beyond these — it is about **Being Present, Sensing and Observing the Environment, Experiencing the learning, and Extrapolating it to other times and realms.** Presencing is also about bringing the best future possibilities into the present and acting to ensure the Best Future

Mission

- To empathise students to understanding and respecting social, economic, and cultural aspects of diversity and devise solutions for the best user satisfaction and user experience
- To enhance engineering, science, and technology skills through integration of design thinking
- To create focused attention among students towards solving real-world problems and contributing to the Society through Direct and Indirect Societal Impact

Objectives:

- To help thinking and doing design related to engineering, science, and technology
- To hone soft skills along with innovation, entrepreneurial, decision-making, and other managerial skills
- To develop a conscious, confident, and empathetic personality as an engineer while bringing ethics into one's way of personal as well as professional life
- To encourage students to develop maximising utility for the Society at large than to exert themselves to a merely satisficing outlook

MOTIVATION AND DESIRED IMPACT:

The CPDT has been working to build on inclusive and multidisciplinary culture of ideation and innovation in budding engineers through education. This transformation will not only require teaching new technologies but also teaching new ways to question and ideate. Design Thinking approach focuses on the root of the problem and brings out the human, end-user expression of the problem. Students at VNRVJIET use Design Thinking as one of the many tools to discover, identify, and understand the problem before setting out to solve it. The juxtaposition of Presencing and Design Thinking together close the loop of Being present, Sensing and Observing, Analysing, Ideating and Prototyping solutions to problems at any level and for any context.

The Centre for Presencing and Design Thinking (CPDT) was founded with the purpose of fostering personal, professional, and societal transformation, aiming to cultivate a comprehensive outlook on life and society as a whole towards life and society at large.
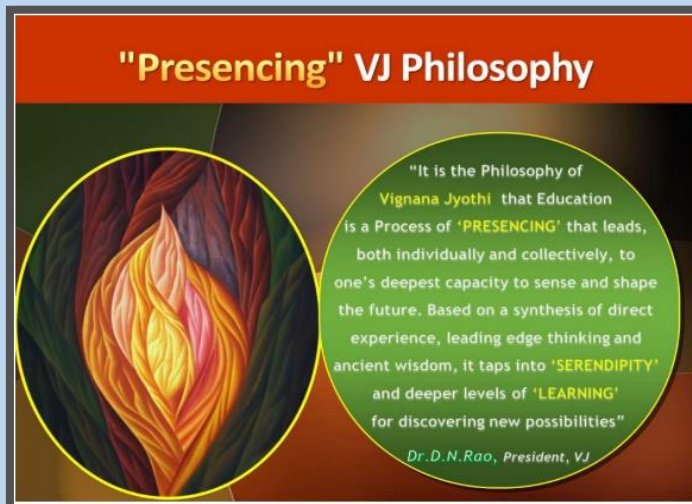
Life is a process of Presencing and Presencing is in turn a process of Design Thinking." — Dr. D.N. Rao

Dr. D N. Rao, Mentor CPDT, Former President, Vignana Jyothi

Presencing: VJ's Philosphy

- *Being present (with Breath, Heart, Memory, Intellect, Enthusiasm, and Soul), sensing (through interactions between teacher and student), experiencing, and extrapolating*

- *Presencing is in a way a natural extension of the karma principle*

- *What you do today has implications tomorrow and thus you consider the best possibilities for tomorrow to devise action for today.*

"Presencing" VJ Philosophy

"It is the Philosophy of Vignana Jyothi that Education is a Process of 'PRESENCING' that leads, both individually and collectively, to one's deepest capacity to sense and shape the future. Based on a synthesis of direct experience, leading edge thinking and ancient wisdom, it taps into 'SERENDIPITY' and deeper levels of 'LEARNING' for discovering new possibilities"

Dr.D.N.Rao, President, VJ

PRESENCING

To be present
- Body & Breath
- Mind & Intellect
- Soul & Divinity

Sense & Experience

Extrapolate

Presencing: MIT's Way

- *Learning that depends on feeling, tuning in to, and "bringing-in-to-the-present" all future possibilities. … Presencing is always relevant when past-driven reality no longer brings you forward, and when you have the feeling that you have to begin again on a completely new footing in order to progress. … Presencing means that you link yourself in a very real way with your "highest future possibility" and that you let it come into the present.*

  — Dr. C. Otto Scharmer, Co-founder of the MIT Leadership Lab

- **Core Elements: Co-initiating common intent, Co-sensing the field of change, Presencing, Co-creating strategic microcosms, Co-evolving through innovations.**

Courtesy:http://leadership.mit.edu/the-essence-of-theory-u-and-presencing/
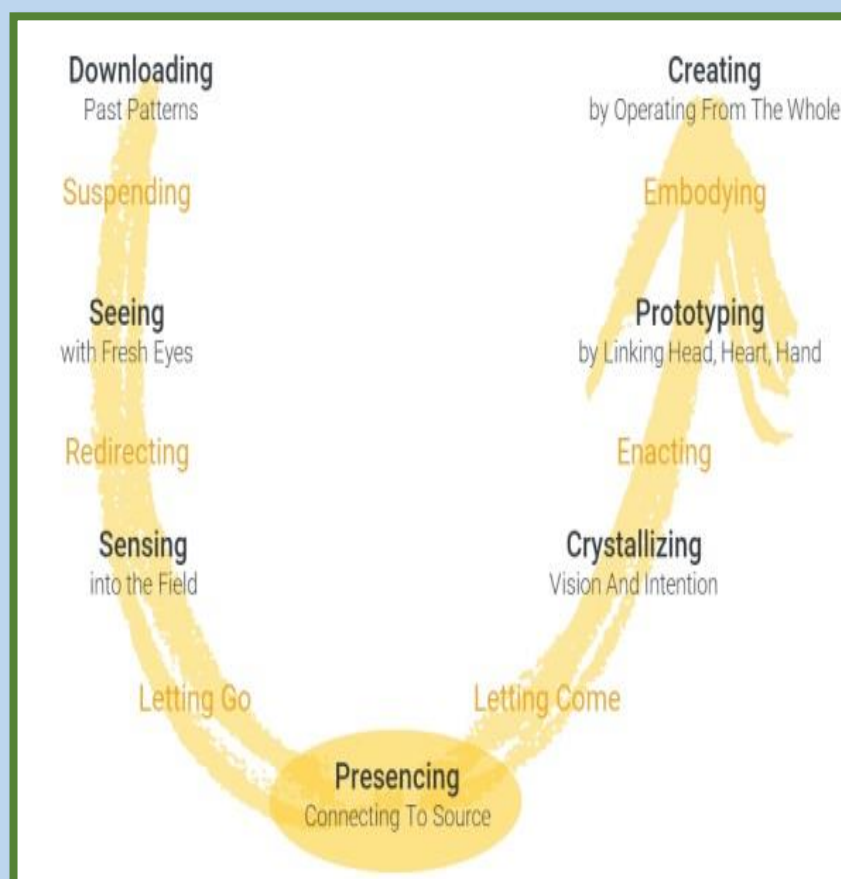
Design Courses in the Curriculum:

- The Institute has integrated Design Appreciation courses into the curriculum for I B.Tech and III B.Tech. students, tailoring the content to meet the specific needs of each branch in collaboration with the respective Boards of Studies and the Academic Council.

- Design classes are conducted in a highly unconventional manner for maximum effectiveness and enjoyment. A team of 3-5 teachers co-teach these classes, encouraging interdisciplinary peer groups with gender diversity. Students are guided to document their learnings through formal reports, slideshows, and physical demonstrations of design models and prototypes.

- The CPDT team has developed a specialized "Happiness and Wellbeing" course, incorporated as a value-added component in the R-22 curriculum with the approval of the Institute's Academic Council.

I year: Design Sensitisation (Mandatory) - 1 Credit

- Design Overview and Motivation
- Understanding Design Process
- Doing Design: Problem Discovery and Definition
- Doing Design: Customer Service Experience
- Communication Skills for Design
- Responsible Innovation and Sustainable Design Approaches
- Design Project (Interdisciplinary)

III year: Design Thinking leading to Project (Mandatory) – 2 Credits

- Working with Creativity and Empathy
- Design Methods: Developing Products and Services
- Strategy Design
- Design and Sustainability
- Integrative Engineering Design Solutions
- Capstone Project (Interdisciplinary)

The projects are evaluated and assessed by relevant **Industry experts.**

III year: Design Thinking Theory Course for B. Tech CSBS (Mandatory) – 3 Credits

- CSBS (Computer Science and Business Systems) is an Industry (TCS) initiated B. Tech Programme started in 2019.
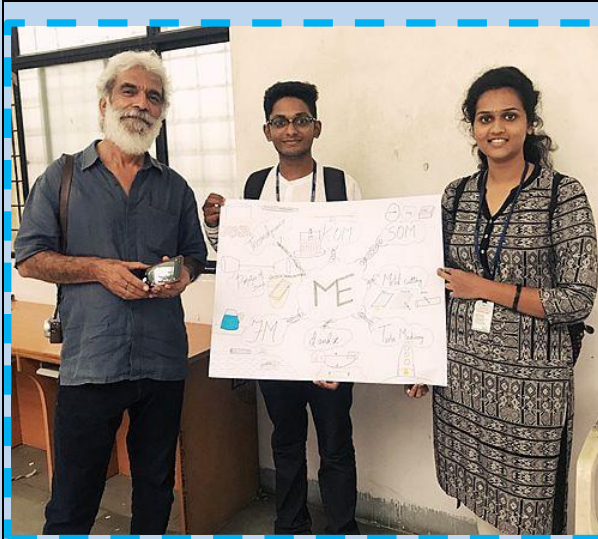
Mr. Jogender Phangaal at our Institute	Students working on Design Projects
Students working on multidisciplinary projects	Solving real life problems

Siddharth Mullapudi, a student of I B.Tech. (ME), answers a question by President-VJ, Dr. D.N. Rao, in an interaction with members of Governing Council

Capacity Building

- Seven faculty members completed the PG Diploma in Innovation and Design Thinking course offered by Sloan School - EMERITUS Institute of Management (Singapore) in collaboration with
  - ➢ Massachusetts Institute of Technology (USA)
  - ➢ Tuck School of Business (USA)
  - ➢ Columbia Business School (USA)

Dr.N.Sandhya — Professor & Head, AIML & IoT
Dr.Archana K.Bange — Sr. Asst. Professor, ECE
Dr. C. Kiran — Associate Professor, EIE
Dr. N.Aruna Kumari — Asst. Prof. in Mngt. H&S
Mr.Ch. Naveen — Asst. Professor, ME
Ms. Keerthi Priya Kasturi — Asst. Professor, CE
Mr. Nagraj Shett — Asst. Professor, AE

- Seven faculty members were sponsored for the certificate program in design thinking for customer-centric innovation from IIM Kozhikode in 2021-2022.

Dr.G.Radhika — Asst. Prof. EEE
Dr.K.Vijay Chandra — Asst. Prof. EIE
Mr.S.Bhanu Murthy — Asst. Prof. ME
Dr.B.Prathyusha — Asst. Prof. H&S
Mr.M.V.Krishna Rao — Asst. Prof. CSE
Ms. P. Prasanna — Asst. Prof. CSE
Dr. C. Kiran — Associate Professor, EIE

- Faculty members are encouraged to pursue design courses through MOOC platforms.
- Dr. N. Sandhya attended the 10-day Certificate Course on "Medical Innovation & Design Thinking" at BITS-Pilani Hyderabad in 2019.
- Dr. K B Archana attended the foundation program "Leading from the Emerging Future: From Ego to Eco" conducted by the Presencing Institute of MIT in Berlin in June 2023.
- Dr. C. Kiran participated in a five-day workshop on "Innovation, Design, and Entrepreneurship (IDE)" in Chennai, Tamil Nadu.
- Faculty were sponsored for the Visual Thinking workshop by Mr. Piyush Modi's startup.

Faculty members Attending Design Workshop at NID, Ahemadabad

Leading from the Emerging Future: From Ego to Eco, Berlin, Germany

Theory U Presencing Foundation Program with in-person Guest Speaker Otto Scharmer, Founder PI, MIT US

Workshop on Visual Thinking

NPTEL Course on Design Thinking

Innovation, Design and Entrepreneurship (IDE) Workshop

Medical Innovation and Design Thinking Course

- Faculty attended Design Workshops, Seminars at the National Institute of Design (NID), and conferences by the World Design Organisation and Indian School of Business (ISB), Hyderabad.

Faculty Interacting with DON NORMAN during design Conference, 2019
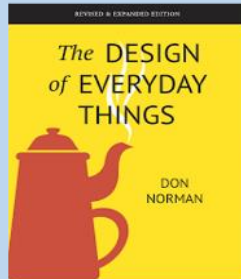
Design Thinking Book by DON NORMAN

Faculty at design Conference at NID, Ahmadabad and Gandhinagar, 2019

- Six faculty members completed design courses through the SWAYAM-NPTEL Portal.
- Six faculty members completed the Design Thinking course conducted by IUCEE (Indo Union Collaboration for Engineering Education).
- Few faculty members underwent training through the ATAL portal and ICFAI.
- Three faculty members received training in HAPTITUDE, focusing on enhancing happiness in their work life and improving the happiness index.

- Students, faculty and industry experts during the workshop, (right) Navya, Rishitha, Hemanth and Tejas

VNR Vignana Jyothi Institute of Engineering & Technology conducted a five-day Design Thinking Certificate programme. The workshop was organised to sensitise students to design methodologies. Students presented their learning in the form of models, posters and presentations.

The framework of Design Thinking has paved way in sensitizing the team to throw light on prevention & mitigation of COVID-19, the outcome of which leading to the generation of post lockdown Restart Manual for wellbeing of everyone.

Purpose of Restart Manual

To create a framework to provide Standard Operating Procedures (SOP) to be followed in the post-COVID-19 situation at the VNRVJIET Campus to ensure safe and smooth conduct of classes and other activities.
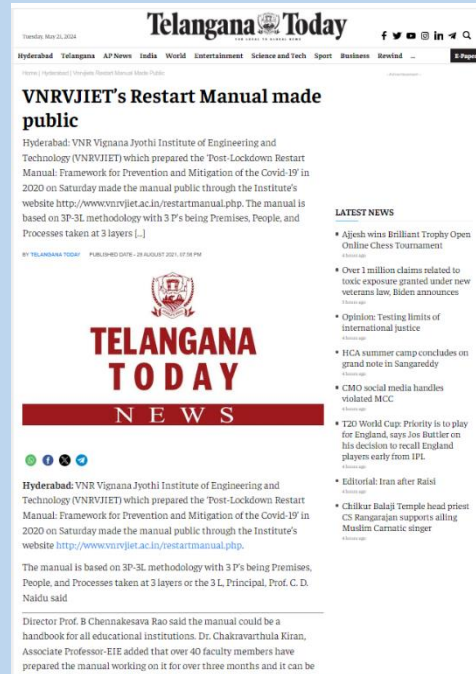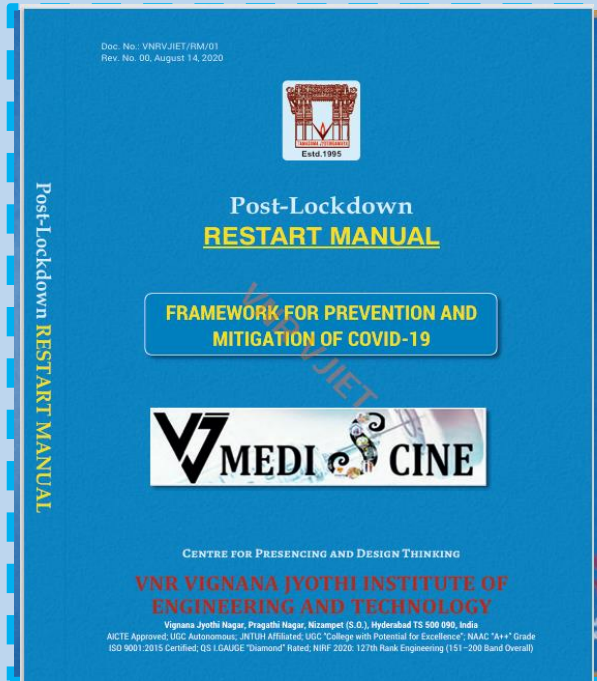
Post Lockdown Restart manual from CPADT

https://docs.google.com/forms/d/e/1FAIpQLSfGLgQGLzMGYf6jvf929Yzgka7tyJ2YRqQme2IHTRc_ep4zg/viewform

Certificate of Copyright for "Post Lockdown Restart Manual'

Journey of CPDT

- **Faculty members, both internal and external, are provided training in Design Thinking through workshops and webinars conducted in online and offline modes.**

- **Workshops are organized for students from other institutes during technical fests.**

- **Special workshops are conducted for school teachers and children to emphasize the significance of design thinking and innovation.**

CPADT: Training Teachers at VJPS

Design FDP for Internal Faculty

Design Thinking Workshop for School Children

CPDT in NEWS

VNR VJIET hosts Design Thinking

CITY BUREAU, HYDERABAD

The VNR Vignana Jyothi Institute of Engineering & Technology (VN-RVJIET) has conducted a five-day Design Thinking certificate programme in association with IdeaLabs, Hyderabad. The workshop took the participants through 40 hours of classroom learning and hands-on activities conducted by industry experts.

About 200 students of all engineering disciplines participated in the programme that was aimed at sensitizing students to design and design methodologies. During the event, student teams presented their learning in the form of models, posters, and presentations to industry experts.

Speaking on the occassion, Pankaj Diwan, MD-IdeaLabs said "Design Thinking is highly recommended by industry experts to help engineers empathise with their users and design better products. The most interesting part of the programme was to weave students of different disciplines of engineering into teams."

Dr. D.N. Rao, President-Vignana Jyothi, said that it is important to learn design-related skills since it gives a great leading edge against their peers. He shared his experience as an innovator explaining how design elevates engineers to a higher level by bringing in concepts like empathy and aesthetics which are usually missing in engineering education.

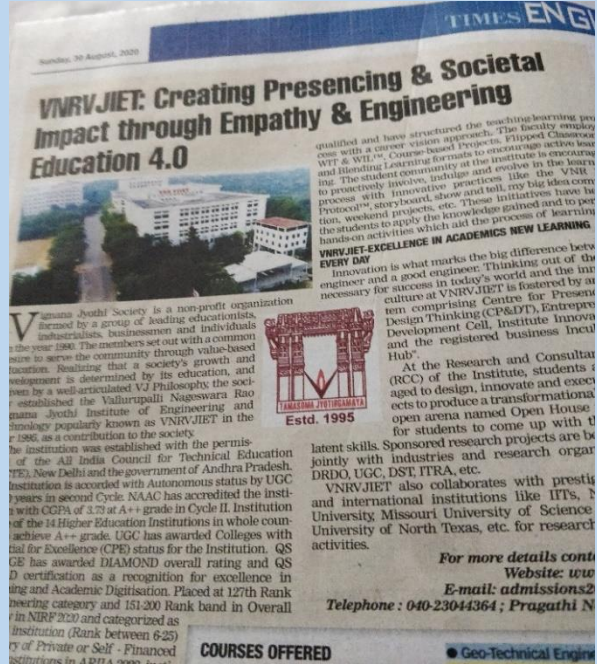*Team D Gang presenting their idea of 'Insulin Patch', a smart wearable device with an accompanying mobile app.*

Design Thinking Workshop conducted at the Institute in collaboration with IDEALABS

VNRVJIET: Creating Presencing & Societal Impact through Empathy & Engineering Education 4.0

CPADT Initiatives for Climate Change

CPADT Conducts event to bring awareness of Natural Ecosystem

Towards Innovation and a *self-reliant India* (Atmanirbhar Bharath)

SUCCESS STORIES

By integrating Design Thinking into the curriculum and promoting awareness among faculty and students at various educational levels, from schools to graduation, we have witnessed positive outcomes that contribute to

innovation and a *self-reliant India* **(Atmanirbhar Bharath)**. The following activities, achievements, and outcomes demonstrate our progress:

Design Sensitization workshop for CBSE school teachers, inspiring innovation and contributing to Make in India.

Implementation of Design Thinking principles adressing real-life problems and aligning with SDGs.
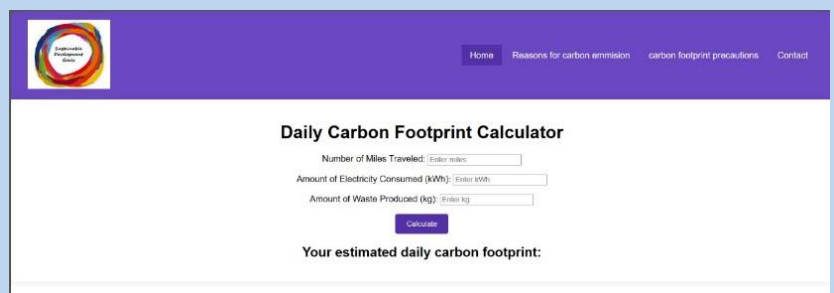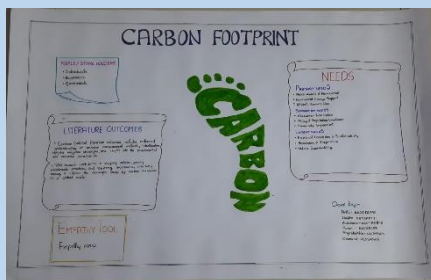
- **Trained 55 VJ Public Schools teachers in a one-day Design Sensitization session (June 2018).**
- **Facilitated a three-day Certification Course in Design Thinking for 188 students, delivered by industry experts (March 2018).**
- **Organized a three-day "Design Appreciation" course by Mr. Jogendra Panghaal, an international faculty at IICD, Jaipur, attended by over 50 students (September 2017).**
- **Conducted 6-hour Orientation Sessions on Design Sensitization for 200 faculty members from various departments.**

Success Stories:

1	Alltronics Technologies Mr. Raman Teja Venigalla (Founder)	Mobile Apps, IoT, and Other IT Services
2	Jarsh Innovations Mr. Sai Kausthub Kaundinya Y (Founder)	AC Occupational Helmets
3	Salcit Technologies Mr. V N Narayana Rao Sripada (Founder)	AI-powered Healthcare Tech
4	Solbots Technologies Mr. Mano Satya Sai N, Mr. Rahul H (Founders)	AI-powered Prosthetics

Design thinking in the curriculum has led to 4 successful start-ups
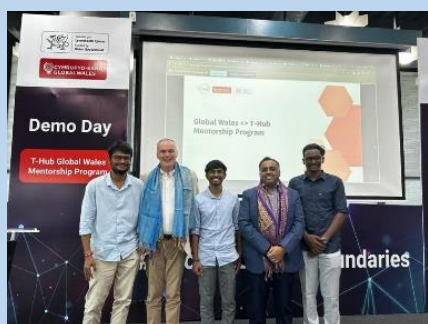
ATLAST, Inc. Mr. Gopichand Anumolu (Founder) Fuel Cell-based Sustainable Mobility Seed capital (₹6 lakh approx.)

iBS Global Mr. Raman Teja Venigalla Innovation & Tech Products and Consulting

Air Conditioned Helmet JARSH Innovations

Mr Nagireddy Mano Satya Sai

Founder of Solbots Technologies a robotic startup

Design thinking projects of societal Impact

Storyboard for voice assistant in the mobile since the start of using phone in the language convenient to them it is shown in the figures Fig - 5.1.2(i) and Fig – 5.1.2(ii)
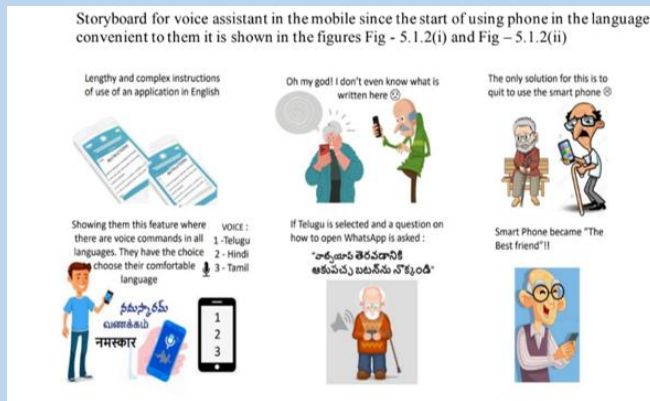
Title: BUILDING TECH-SAVVY 60+ Efficient utilization of smart phones technology by the senior citizens

Smart Parking system

Fig 5.1.3b: Car Entering Parking lot

Fig 5.1.3c : Fully occupied parking lot
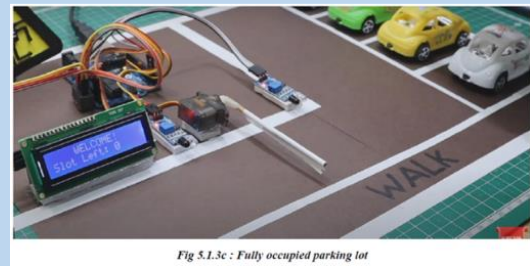
Publications, IPRs through CPDT

1. Sematic knowledge base Ontology framework for discovery stage of the Design Thinking using Web Ontology Language, 4th International conference on Advances in computing, Communication, control and networking (ICAC3N), IEEE 2022. Cited

2. Ontology Web Language Framework for Cognitive Design Thinking, ResMilitaris, Social Science Journal, Jan 2023.

Patents Using Design Thinking

1. Published patent titled "KNOWLEDGE-BASED INTELLIGENT SYSTEM FOR DESIGN THINKING" with Application No.202341052678 A, India, dated 01/09/2023.

2. Published patent titled "Knowledge Based Method to Recommend Suitable Crops for Soils with Indentified Nutreint Deficiencies" with Application No.202341037694-A, India, dated 18/08/2023
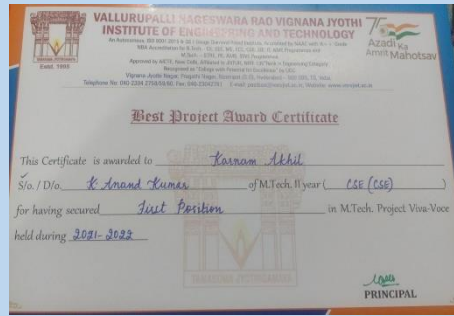
Building Ontology for Cognitive Design Thinking using Web Ontology Language received the best project award under PG projects.
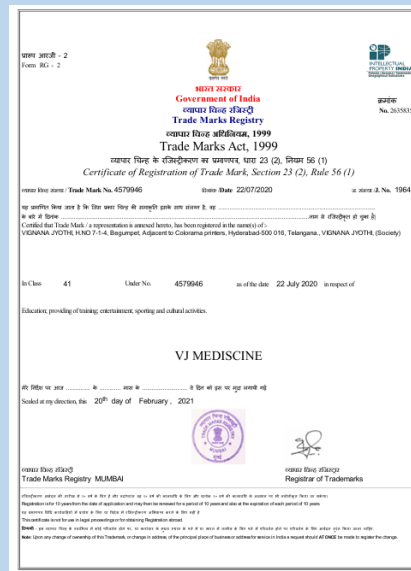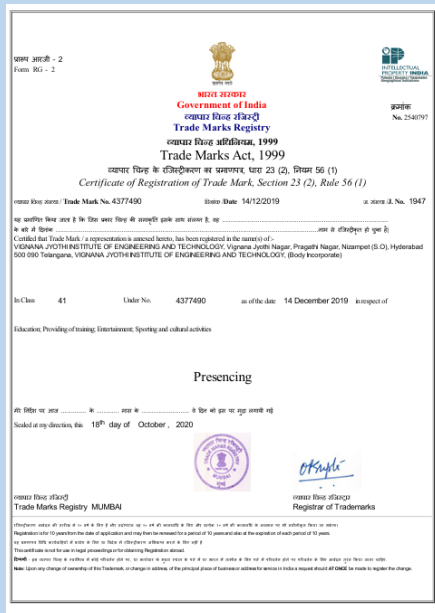
CPADT was instrumental in writing and publication of a book on "Post-Lockdown Restart Manual", a Framework for prevention and Mitigation of COVID-19 in August 2020.

Post-lockdown Restart Manual handed over to the Hon'ble Minister of Education in Govt. of TS, Ms P Sabitha Indra Reddy

CPDT, driven by an urge towards "Transformation of the Self and Society", designs its activities being mindful of the 17 Sustainable Development Goals identified by the United Nations Organisation.

Dr D N Rao, Former President of Vignana Jyothi and Mentor CPDT addressing students during the event "Empathy Walk with Nature" , a Program to Sensitize students about the Importance of Nature

PRESENCING

"The Uncommon Wisdom"

I was sitting by the ocean one late summer afternoon, watching the waves rolling in and feeling the rhythm of my breathing. when I suddenly became aware of my whole environment as being engaged in a gigantic cosmic dance. Being a physicist, | knew that the sand, rocks, water, and air around me were made of vibrating molecules and atoms, and that these consisted of particles which interacted with one another by creating and destroying other particles. | knew also that the earth's atmosphere was continually bombarded by showers of 'cosmic rays,' particles of high energy undergoing multiple collisions as they penetrated the air. All this was familiar to me from my research in high energy physics, but until that moment I had only experienced it through graphs, diagrams, and mathematical theories. As I sat on that beach my former experiences came to life; | 'saw' cascades of energy coming down from outer space, in which Particles were created and destroyed in rhythmic pulses; I 'saw' the atoms of the elements and those of my body participating in this cosmic dance of energy; I felt its rhythm and I "heard" its sound, and at that moment I knew that this was the Dance of Shiva, the Lord of Dancers worshiped by the Hindus. - **Fritjof Capra, Scientist.**

- Being present (with Breath, Heart, Memory, Intellect, Enthusiasm, and Soul), sensing (through interactions between teacher and student), experiencing, and extrapolating

- *"Life is a process of Presencing and Presencing is in turn a process of Design Thinking."* — Dr. D.N. Rao, President-Vignana Jyothi Presencing is in a way a natural extension of the *karma* principle

- What you do today has implications tomorrow and thus you consider the best possibilities for tomorrow to devise action for today.

CPDT **conducted** a Two-Day Leadership Workshop on "Presencing: An Odyssey towards Future Envision of Vignana Jyothi". The workshop intended to incorporates Human stories, Leadership storytelling, Generative listening, and 3D mapping. The program was facilitated and led by an expert **Dr. Bhavani Ramamoorthi,** who is currently working at University of Jyväskylä, Finland, specialized as leadership trainer and dialogue weaver.

CPDT faculty members and few students of VNRVJIET participated in 16-week program conducted by Presencing Institute, MIT, US under Ulab 2X titled "The Liminal Edge: An Arena of Potential for Emerging Leaders. The program was led by Dr. Bhavani Ramamoorthy, Ms Preeti, leadership coach and Dr k B Archan. This lab is designed with the purpose of establishing a platform for collaborative innovation by introducing the U lab framework to a cohort of university students.
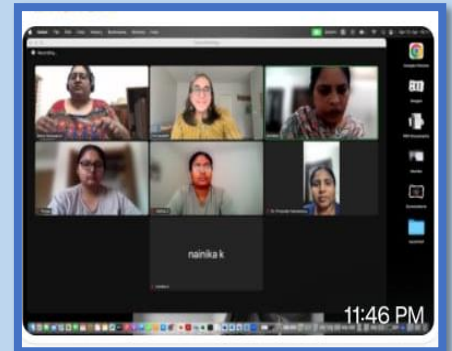
EMPATHY VISIT TO AGRICULTURAL INSTITUTE BY DESIGN THINKING STUDENTS

An event titled **"Synergy in Action: Bridging Engineering and Agriculture"** under Vignana Jyothi Institutions' along with Corporate Social Responsibility (CSR) cell with the aim for fostering collaboration between the engineering and agriculture students. This leads to empathize the peers and gearing up with problem statements in Agriculture domain with engineer an action.

Centre for Presencing and Design Thinking, VNRVJEIT, Hyderabad

To foster Design Thinking and application of multi-disciplinary knowledge to address global challenges through Centre for Presencing and Design Thinking (CPADT)

Estd. 1995

Vallurupalli Nageswara Rao Vignana Jyothi Institute of Engineering & Technology

Powered By
Highly Enthusiastic Multi-Disciplinary Faculty

Certified By
- PG Diploma in Innovation and Design Thinking from Emeritus MIT Sloan School US.
- Program in Design Thinking for Custormer Centric Innovation from IIM Khozikode.
- Design Thinking program from NID Ahemadabad.
- Presencing Foundation Program (Berlin, Germany) by Presencing Institute, MIT.

Contact Us
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cpadtvnrvjiet@gmail.com
9177033033

About Us
CPADT is established in 2017 with the Vision "to be an institution that fosters design thinking and applies multi-disciplinary knowledge to address global challenges".
The Centre is born out of the belief that design must be an integral part of learning for graduating engineers and managers. The Vision, Mission, and Objectives of the Centre are formulated with Society at the core of the ideology and an outlook that all engineering, science, and technology are meant to improve life conditions and sustainability.

Outcomes
Inculcating Design thinking ,has yielded
- Higher Placements
- More Start-Ups
- Incresed Particpation and Winning in Hackatons and Idea Contests
Leading to innovation and Self-reliant India (Atmanirbhar Bharath)

our services
01 Workshops for Faculty and Students
02 Training to Coorporate and Statrt-Ups
03 Workshops on Visual Thinking

Achievements

DESIGNING THEIR DREAMS

● Students, faculty and industry experts during the workshop, (right) Navya, Rishitha, Hemanth and Tejas

VNR Vignana Jyothi Institute of Engineering & Technology conducted a five-day Design Thinking Certificate programme. The workshop was organised to sensitise students to design methodologies. Students presented their learning in the form of models, posters and presentations.

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cpadt@vignanajyothi.com