Home

Savitribai Phule Pune University
Third Year of Artificial Intelligence and Data Science (2019 Course)
317525: Elective I Laboratory Design Thinking

Teaching Scheme:	Credit	Examination Scheme:
PR: 02 Hours/Week	01	Term Work (TW): 25 Marks Oral(OR): 25 Marks

Prerequisite Courses: Programming and Problem Solving, Software Engineering

Companion Course: 317522(B) Design Thinking

Course Objectives:

- To identify the opportunities and challenges for design thinking innovation and empathize And ideate for it.
- To describe the solution by prototyping the design

Course Outcomes:

On completion of the course, students will be able to–

- CO1: Frame and Design Challenge by performing STEEP Analysis, Conduct Interviews, design and ask 5x Why and 5W+H questions.
- CO2: Demonstrate the activities to empathize with the users by creation of Empathy Map, Persona Development, Customer Journey Map.
- CO3: Define and ideate process of design thinking and perform brainstorming, selection of ideas, create a storyboard and design paper prototyping or digital prototyping for chosen design challenge.

Guidelines for Lab Conduction

1. Students should be asked to form a group of 3 to 4 students and identify design challenge to provide the solution to real life engineering problems within the social, environmental and economic context.
2. All the assignments should be conducted using the templates provided in the reference books.
3. The faculty member should help student to identify Online free or open source tools like diagrams.net, LucidChart, Draw.io, Creatly, Openboard, Microsoft whiteboard etc. which will help students to collaborate and draw diagram.
4. After every assignment, student group should be asked to demonstrate their design and discuss findings.

List of Assignments (All Compulsory)

Group A

1. Inspiration Phase: Perform STEEP analysis by using MAKING SENSE OF STEEP ANALYSIS & STRATEGIC PRIORITIES TEMPLATE and Frame Your Design Challenge. Conduct Interviews, design and ask 5x Why and 5W+H questions
2. Empathize Phase: Observe the user and design Empathy Map, Generate persona/User profile and Customer Journey map

Group B

3. Define and Ideate: Share Stories and learning from research- Cluster Insights into themes, Create Insights statements, create ‘How might we’ questions
4. Prototype Phase: Brainstorm, select your ideas, create a storyboard, determine what to prototype, start prototyping, Design Paper Prototype/digital Prototype, test your prototype and get feedback, Create your Action plan, create pitch,share yoursolution, perform reflection

Group C

5. Study and present any two case studies of Design thinking from https://www.design-thinking-association.org/explore-design-thinking-topics/external-links/design-thinking-case-study-index
   or
   Refer any white Papers available on Internet for case study on design Thinking

Learning Resources

Text Books:

1. Michael Lewrick, Patrick Link, Larry Leifer , "The Design Thinking Toolbox: A Guide to Mastering the Most Popular and Valuable Innovation Methods", March 2020 edition, ISBN: 978-1-119-62921-4, WILEY Publication.
2. Mr Lee Chong Hwa (Lead Facilitator), "The Design Thinking: Guidebook"

Reference Books:

1. IDEO (Firm), "The Field Guide to Human-centered Design: Design Kit", 1 st edition, ISBN978099140631-9, IDEO 2015.
2. Jeanne Liedtka, Tim Ogilvie, and Rachel Brozenske, The Designing for Growth Field Book: A Step-by-Step Project Guide (Columbia University Press, 2014)

e-Books:

1. Design Thinking , A guide to Creative problem Solving for Everyone. Andy Pressmanhttps://1lib.in/book/3656420/e95cd0
2. The Design thinking Playbook: Mindful Digital Transformation of Teams, Products , Services, Buisnesses and Ecoystems , Michael Lewrick https://1lib.in/book/3603473/24dab2

MOOC Courses:

- https://nptel.ac.in/courses/110106124
- https://www.simplilearn.com/learn-design-thinking-basics-free-course-skillup

@The CO-PO mapping table

PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	1	2	1	--	-	-	-	-	-	1	2	2
CO2	1	2	2	-	-	-	-	--	-	2	2	2
CO3	1	2	2	-	-	-	-	-	-	1	2	2