Name of the Programme : MSc in Data Science
Course Code : CSD-522
Title of the Course : Design Thinking for Data-Driven App Development
Number of Credits : 4(4L-0T-0P)
Contact hours : 60 hours (60L-0T-0P)
Effective from AY : 2023-24

Pre-requisites of the Course	None	
Course Objectives	This course helps you learn 1. The basics of Design Thinking in an experiential way. 2. This course aims at an empathy-led data-driven app development approach for data scientists. 3. The learners will launch a fully functioning app in a real app store at the end of the course.	
Content	Introduction to Design Thinking – Course outline and projects, Intro to the Design of Everyday Things, Intro to Design Thinking in software apps, Project management. Empathize phase (Iteration #1) - Emotional and intellectual map of the user stories from interviews, User story creation and Customer Journey Mapping	**15 hours**
	Analyse phase (Iteration #1) - Stated needs and unsaid/latent needs, Root cause analysis, Multiple perspectives of customers and manufacturers, Frame conflicts from popular movies. Solve phase (Iteration #1) Structured and unstructured creativity, Dynamics of group thinking, Optimal conditions of creativity, Natural creativity, Concept creation via group activities, Silent brainstorming, inventive principles and concept consolidation	**15 hours**
	Test phase (Iteration #1)/ Empathize phase (Iteration #2) - Basics of prototyping, Assumptions in creation of new concepts, Features rather than ideas. Basics of Digital Marketing, User Experience Design, Website Development	**15 hours**

	Analyse phase (Iteration #2) Solve phase (Iteration #2) - Introduced problems via the solution from iteration #1, the subsequent ideation process in iteration #2, apply solutioning and analysis tools in iteration #2, subsequent testing and field trial skills required for iteration #3, analytical tools and data-oriented tools on iteration #3. Test (Iteration #2) / Empathize (Iteration #3) - Basics of obtaining insights from feedback from a live audience. Analyse (Iteration #3). Test phase (Iteration #3) - Launch of the App.	**15 hours**
Pedagogy	Lectures/ Tutorials/Hands-on assignments/Self-study/Flipped classroom	
References/ Readings	1. Norman, D. A. (1988). Design of Everyday Things. *New York City, NY, USA: Doubleday*. 2. Marc, S. (2012). *This is service design thinking: Basics-tools-cases*. Bis Publishers.	
Course Outcomes	1. Recall the basics of Design Thinking 2. Apply Agile method to developing software 3. Design an App using the principles of Design Thinking 4. Develop an App for Android and Collaborate with other developers using git version control method	