PVP20

PRASAD V. POTLURI SIDDHARTHA INSTITUTE OF TECHNOLOGY
(Autonomous)
Kanuru, Vijayawada-520007

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING(AI&ML)

Human Computer Interaction

Course Code	20AM4703C	**Year**	IV	**Semester**	I
Course Category	PEC	**Branch**	CSE (AI & ML)	**Course Type**	Theory
Credits	3	**L-T-P**	3-0-0	**Prerequisites**	SE, STM
Continuous Internal Evaluation	30	**Semester End Examination**	70	**Total Marks**	100

Course Outcomes		
Upon successful completion of the course, the student will be able to		
CO1	Describe the fundamental concepts of human-computer interaction, design principles, interface frameworks, cognitive models, and emerging technologies to interpret user-centered system design.	**L2**
CO2	Apply design processes, prototyping, and evaluation methods to develop effective user interfaces.	**L3**
CO3	Use cognitive and communication models to analyze user requirements and design advanced interaction systems.	**L3**
CO4	Analyze user interface, cognitive and collaboration models, and emerging interaction technologies to evaluate and improve HCI systems.	**L4**

Contribution of Course Outcomes towards achievement of Program Out comes & Strength of correlations(3: High,2: Medium, 1: Low)

	PO1	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PSO1**	**PSO2**
CO1	2												
CO2	3												
CO3	3												
CO4		3									2		

Syllabus		
Unit No.	**Contents**	**Mapped CO**
I	**Foundations of HCI** **The Human**: Introduction to HCI, I/O channels, Human Memory, Reasoning and Problem solving **The computer:** Introduction, Text entry devices, Positioning, Pointing and Drawing, Memory, processing and networks. **The Interaction:** Models of Interaction, Frameworks and HCI, Interaction Styles	CO1
II	**Design Process** **Interaction design Basics:** Design Introduction, Process of Design, Scenarios, Navigation Design, Screen Design and Layout. **HCI in the software Process:** Software Life Cycle, Iterative Design and Prototyping. Design Rules, Design Rationale, Principles to Support Usability, Golden Rules and Heuristics,	CO1, CO2
III	**User Interface Layer** **UI Layer** and Its Execution Framework, Input and Output at the Low Level, Processing the Input and Generating Output. **Interactive System Development framework:** Model, View, and Controller (MVC), MVC Implementation with case studies. **User Interface Evaluation:** Evaluation Criteria, Evaluation Methods.	CO1, CO2, CO4
IV	**Models and Theories** **Cognitive models:** Introduction, Goal and Task Hierarchies, Socio-Organizational Issues and stakeholder Requirements Organizational Issues, Capturing Requirements. **Communication and Collaboration models**: Face-To-Face Communication, Conversation, Group Working.	CO1, CO3, CO4
V	**Future of HCI** Introduction, Multimodal Interfaces, Language Understanding, Gestures, Image Recognition and Understanding, Multimodal Interaction, Mobile and Handheld Interaction, High-End Cloud Service and Multimodal Client Interaction, Experiential Interaction, Mixed and Augmented Reality.	CO1, CO3, CO4

Learning Resources
Text Books
1. Human–Computer Interaction – Alan Dix, Janet Finlay, Gregory D. Abowd & Russell Beale, 3rd edition, 2003, Pearson (Prentice Hall) 2. Human–Computer Interaction: Fundamentals and Practice – Gerard Jounghyun Kim, 1st edition, 2015, CRC Press (Taylor & Francis Group)
Reference Books
1. Human-Computer Interaction by Alan Dix, Janet Finlay, Gregory Abowd, and Russell Beale, 3rd Edition, 2004, Pearson Education. 2.Designing the User Interface: Strategies for Effective Human-Computer Interaction by Ben Shneiderman, Catherine Plaisant, Maxine Cohen, and Steven Jacobs, 6th Edition, 2016, Pearson
e-Resources
1. https://onlinecourses.nptel.ac.in/noc25_cs38/preview. 2. https://www.youtube.com/watch?v=m3EzxNfpsr0. 3. https://www.geeksforgeeks.org/introduction-to-human-computer-interface-hci/.