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Course Code: CSE332

Semester: VII

USABILITY DESIGN OF SOFTWARE APPLICATIONS

Course Objectives:

This course will help the learner to enhance their innovation and creative thinking skills to venture usability design in building software applications

UNIT - I

8 Periods

Interaction Design: Good and Poor Design – Interaction Design – Process – Goals – Design and Usability Principles. **Understanding and Conceptualizing Interaction:** Problem Space – Conceptual Models – Interface Metaphors – Interaction Paradigms – Conceptual models to Physical Design.

UNIT - II

8 Periods

Understanding Users: Cognition – Knowledge from Physical to Digital World – Conceptual Frameworks for Cognition – Informing Design. **Designing for Collaboration and Communication:** Social Mechanisms – Ethnographic Studies – Conceptual Frameworks.

UNIT – III

7 Periods

Process of Interaction Design: Activities – Characteristics - Lifecycle Models. **Identifying needs and Establishing Requirements:** What, How and Why – Requirements – Data gathering – Data Interpretation and Analysis – Task Description – Task Analysis.

UNIT - IV

7 Periods

Design Prototyping and Construction: Prototyping and Construction – Conceptual Design – Physical Design – Tool Support. **User-centered approaches to interaction design:** Importance - user-centered approach - understanding user's work - involving users in design. **Evaluation Framework:** Paradigms and techniques - DECIDE evaluation framework.

TEXTBOOK

1. Rogers, Yvonne and Sharp, Helen. *Interaction Design: Beyond Human-Computer Interaction*. John Wiley & Sons, Fourth Edition, 2003.

REFERENCES

1. Cooper, Alan, Robert Reimann, David Cronin, and Christopher Noessel. *About face: the essentials of interaction design*. John Wiley & Sons, Fourth Edition, 2014.
2. Goodman, Elizabeth, and Mike Kuniavsky. *Observing the user experience: A practitioner's guide to user research*. Elsevier, Second Edition, 2012.
3. Schneider, Jonny. *Understanding design thinking, lean, and agile*. O'Reilly Media, Incorporated, First Edition, 2017.

UNITWISE LEARNING OUTCOMES

Upon successful completion of each unit, the learner will be able to

Unit I	<ul style="list-style-type: none"> Understand and conceptualize user interface and interaction requirements Distinguish conceptual interaction models to physical user interaction designs
Unit II	<ul style="list-style-type: none"> Describe different cognition conceptual frameworks on interaction design Illustrate the collaboration and communication of users for eliciting usability requirements
Unit III	<ul style="list-style-type: none"> Demonstrate the activities and processes involved in good interaction design Collect, interpret and analyze interaction design data and develop use cases
Unit IV	<ul style="list-style-type: none"> Create interaction design prototypes from conceptual design to physical design Evaluate interaction design prototype using DECIDE framework

COURSE LEARNING OUTCOMES

Upon successful completion of this course, the learner will be able to

CO No.	Course Outcome	Knowledge Level
1	Distinguish conceptual interaction models to physical user interaction design	K2
2	Describe different cognition conceptual frameworks on interaction design	K2
3	Illustrate the collaboration and communication of users for eliciting usability requirements	K3
4	Demonstrate the activities and processes involved in good interaction design	K3
5	Collect, interpret and analyze interaction design data and develop use cases	K4
6	Create interaction design prototypes from conceptual design to physical design	K6