



BIT458

HUMAN COMPUTER INTERACTION

UNIT- I

Interaction Paradigms: Computing Environments, Analyzing Interaction Paradigms, Interaction Paradigms

Interaction Frameworks and Styles : Frameworks for Understanding Interaction , Coping with Complexity, Interaction Styles

UNIT- II

Interaction Design Process: Iterative Design, User-Centered Design, Interaction Design Models, Overview of Interaction Design Models

Discovery : Discovery Phase Framework, Collection, Interpretation , Documentation

Design : Conceptual Design, Physical Design, Evaluation, Interface Design Standards, Designing the Facets of the Interface

UNIT- III

Design Principles: Principles of Interaction Design, Comprehensibility, Learnability, Effectiveness/Usefulness, Efficiency/Usability, Grouping, Stimulus Intensity , Proportion , Screen Complexity, Resolution/Closure, Usability Goals

Interaction Design Models: Model Human Processor , Keyboard Level Model, GOMS, Modeling Structure, Modeling Dynamics, Physical Models

Usability Testing: Usability, Usability Test, Design the Test, Prepare for the Test, Perform the Test, Process the Data

UNIT- IV

Interface Components: The WIMP Interface, Other Components

Icons : Human Issues Concerning Icons, Using Icons in Interaction Design, Technical Issues Concerning Icons

Color: The Human Perceptual System, Using Color in Interaction Design, Color Concerns for Interaction Design, Technical Issues Concerning Color

UNIT- V

Text : Human Issues Concerning Text, Using Text in Interaction Design, Technical Issues Concerning Text

Speech and Hearing : The Human Perceptual System, Using Sound in Interaction Design, Technical Issues Concerning Sound

Touch and Movement: The Human Perceptual System, Using Haptics in Interaction Design, Technical Issues Concerning Haptics

Suggested reading:

- 1) Steven Heim, *The Resonant Interface: HCI Foundations for Interaction Design*, Addison-Wesley, 2007
- 2) J. Preece, Y. Rogers, and H. Sharp, *Interaction Design: Beyond Human-Computer Interaction*, Wiley & Sons, 2nd Ed., 2007
- 3) Ben Shneiderman , Catherine Plaisant, *Designing the User Interface: Strategies for Effective Human- Computer Interaction*, 5th edition, , Addison-Wesley, 2009