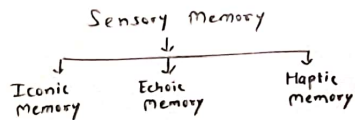


## HMI Module 2 - Chapter 2

### Design and Software process

#### Importance of human characteristics in design

- Perception
- memory & Mental Models
- Movement Control
- Learning
- Skill
- Sensory Storage



#### Mental Model

- Internal representation of a person's current understanding of something

#### Design Process

- 5 Phases
  - 1) Requirement gathering
  - 2) Analysis
  - 3) Iteration & Prototyping
  - 4) Implementation Phase
  - 5) Deployment
  - 6) Support Phase

#### Goal-directed Design Process

- Combines techniques of ethnography, stakeholder interviews, market research, literature reviews, detailed user models, scenario-based design and core set of interaction principles and patterns
- 5 Phases
  - 1) Research Phase
  - 2) Modelling Phase
  - 3) Requirement Definition Phase
  - 4) Framework Phase
  - 5) Refinement Phase

#### Types of users

- Beginner Users
- Intermediate User
- Expert User

#### Usability Engineering

- Based on basic designing & detailed designing, software lifecycle processes & working model.
- Allows use of diverse ideas & criteria to determine the success of working model & its use in different fields
- Major decisions taken initially in basic design phase & feedback analysis at each & every phase is very important in usability engineering.

#### Mistakes performed while designing

- End user knows everything
- End user understands complex operations
- End user behaviours can be ignored

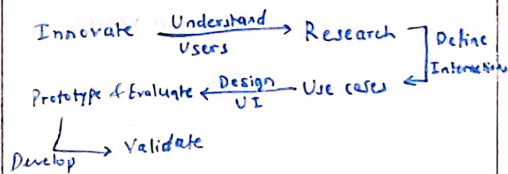
#### Design Rules

- Understand inputs (raw material used for making system)
- Understand computer - Tools, Specifications, Limitations
- Understand Users (People using system)

#### User Concerns

- Interaction design
- Information architecture
- Visual Design
- Functionality
- Usability
- Typography
- User Interface
- Content Strategy

#### User Centric System Design



#### Personas

- Description of individual people who represent group of users that would interact with your system.
- Help to determine, communicate, measure & contribute to the design quality of the product

#### Steps in constructing persona

- 1) Identify user behavioural pattern
- 2) Arrange interviews as per user behaviour
- 3) Recognize user behavioural pattern

- 4) Generate various user characteristics & relevant goals
- 5) Check for completeness of goals
- 6) Explain all attributes & behaviour of user
- 7) Design various persona.

#### Goals

- Basic drivers for users
- Goals will motivate the usage pattern to get better results after using the product.

#### Universal Design

- Used for designing products so that they can be utilized by maximum people.
- Must provide uniform user experience
- Design must be simple & cost effective

#### 7 Principles of universal design

- 1) Equitable use
- 2) Flexible
- 3) Simple & intuitive
- 4) Perceptible info
- 5) Tolerance for error
- 6) Low physical efforts
- 7) Size & space for approach & use