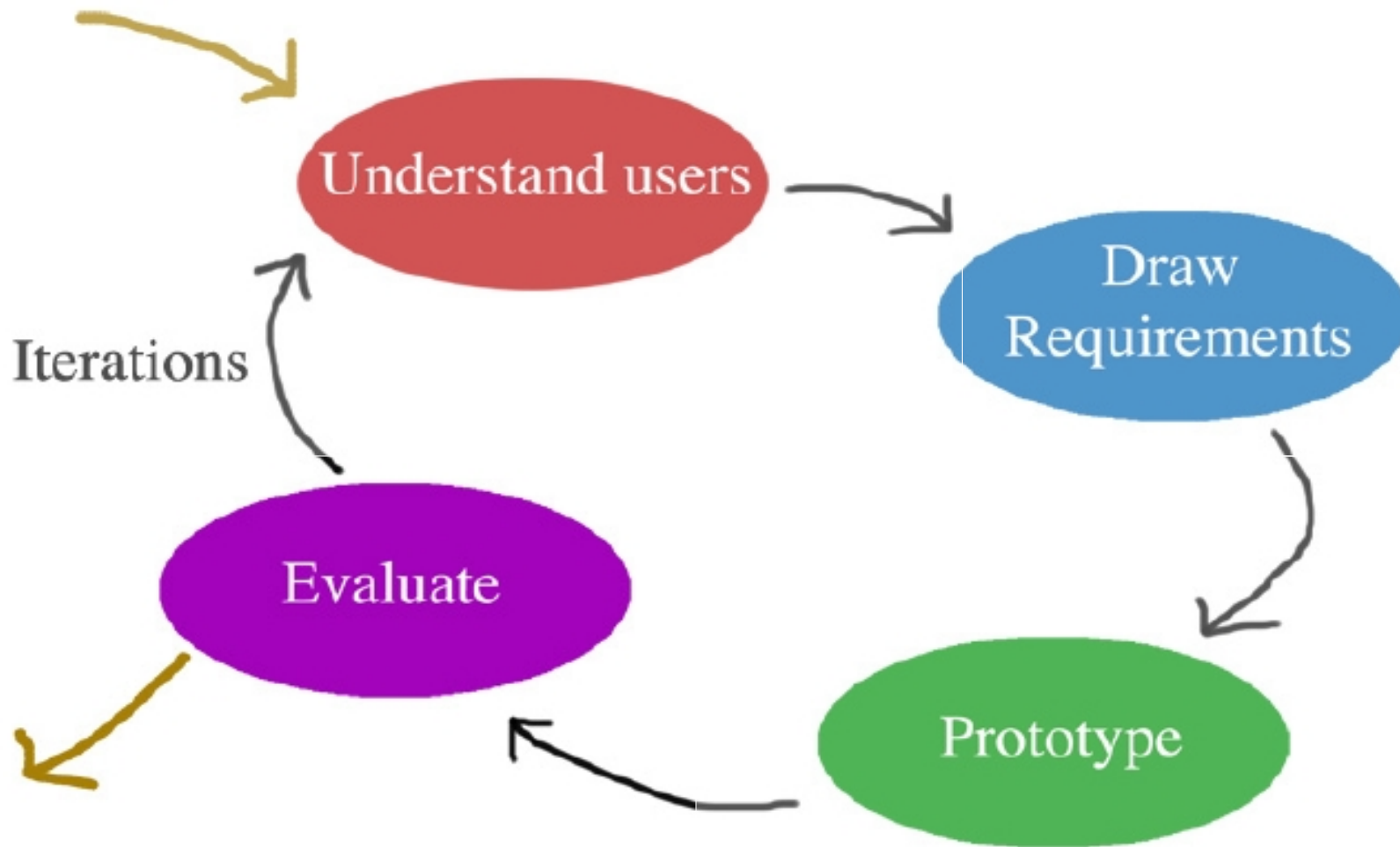


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The User-Centred Design Process



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Evaluation is the phase of the design process when the effectiveness of the system and its responsiveness to the set of requirements is assessed.

- Modes of evaluation

- Analytical
- Empirical

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- Analytical modality
 - Two stage process
 1. Determine the sequence or method by which the activity is performed (walkthrough)
 2. Analyse the steps in the sequence against usability measures
- Modelling multiple sequences
- Modality is limited: Can not take context into account or users perspective

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- Analytical techniques
 - Heuristic evaluation
 - Cognitive Walkthrough
 - GOMS analysis methods
 - Goals
 - Operators
 - Methods
 - Selection Rules

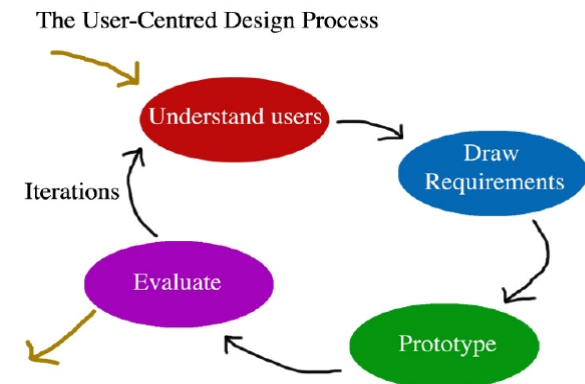
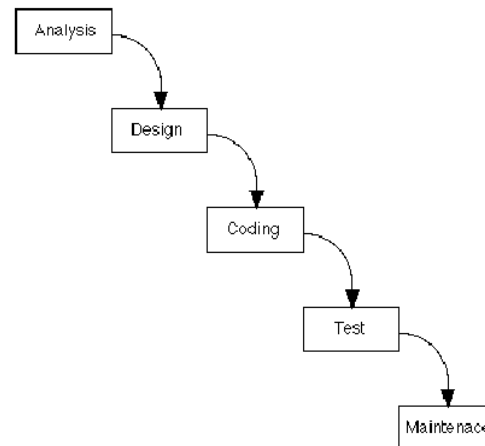
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- Empirical evaluation

- Based on the development of prototypes
- Testing carried out with people
- Two approaches

1. Summative: Evaluation carried out at the end of the development process

2. Formative: Evaluation carried out at the end of every iteration



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– Types

- Informal testing of prototypes
- Controlled experiments
- Iterative field tests
 - Observation
 - Co-operative evaluation
 - Thinking Aloud technique

- Introduction to HCI
 - Focus of HCI
 - Human centred approach to computing, HCI/CSCW/Interaction Design
 - Background to HCI: Cognitive Psychology & Ergonomics
- Core Issues from Psychology
 - Attention
 - Memory
 - Perception & Sensation / Modalities
 - Figure and Ground
 - Top down/Bottom up processing
 - Gestalt

- Don Norman's: “The design of everyday things”
 - Cognitive ergonomic principles to User centred Design
 - Theory of action
 - Mental models
 - Qualities of Design artefacts
- HCI Life cycle models
 - Waterfall
 - Star
 - User Centred Design (UCD)

- First Phase of UCD: Understand users
 - Methods of Understanding users
 - Task Analysis
 - GOMS
 - Cognitive Walkthrough
 - Methods looking at the Broader context of use
 - Cultural
 - Social
 - Physical
 - Ethnographically based Methods
 - Documenting human behaviours/Situations/Practices through fieldwork and collecting data accounts
 - Observation/Shadowing/Semi-Structured interviews/Participate observation

- Second Phase of UCD: Draw Requirements
 - Functional requirements
 - Non-functional requirements
 - Methods for drawing requirements
 - Affinity Diagrams
 - Brainstorming
 - Scenario Based Design
- International standards
- Third Phase of UCD: Prototyping
 - Why prototype
 - Levels of fidelity
 - Low-fi
 - Med-fi
 - Hi-fi

- Fourth Phase of UCD: Evaluation

- Modalities

- Analytical

- Techniques

- GOMS

- Cognitive walkthrough

- Heuristic evaluation

- Empirical

- Summative

- Formative

- Informal testing

- Field test (Co-operative evaluation)

- Controlled experiments