User Interface Design

Interface Design

- Initially users must adapt to complex systems
  - For being technical
- Now technology must consider human ease
- Usability matters a lot!!!!

Interface Design

Golden rules for UI design

(by Theo Mandel)

1

Place the user in control

2

Reduce user's memory load

3

Make a consistent interface

Principle 1: Allow users to maintain control

- Define interactive modes that allow the user to let them do whatever they want freely
- Allow flexible interaction
- Allow user interaction to be uninterruptable and undoable

Principle 1: Allow users to maintain control

- Allow creating customized operations
- Hide technical internals from casual users
- Design for direct interaction with on-screen objects

Principle 2: Reduce User's memory load

- Well designed system doesn't test user's memory
- Reduce demand to learn more
- Establish meaningful defaults

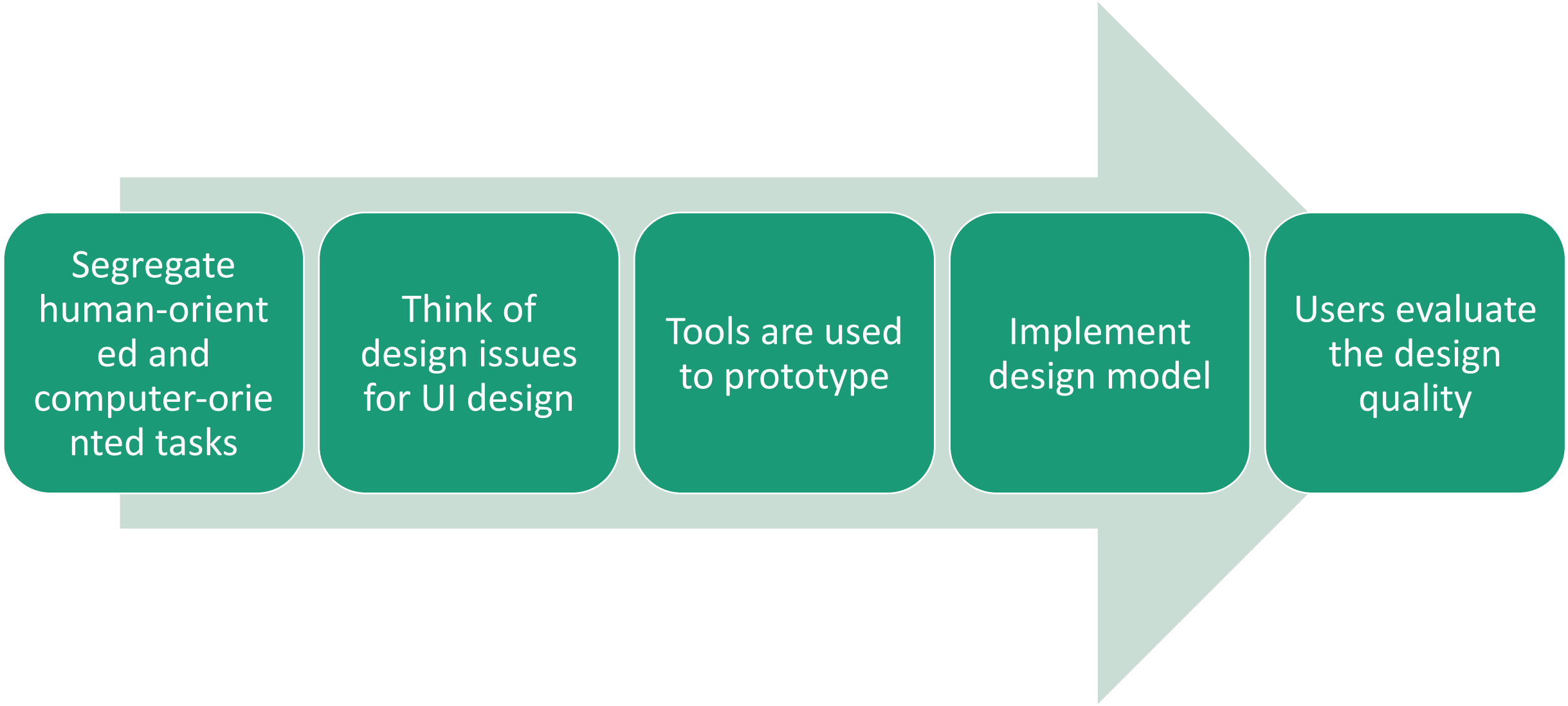
Principle 2: Reduce User's memory load

- Define intuitive shortcuts
- Visual layout should be near to real-time systems
- Disclose information in a progressive fashion

Principle 3: Make consistent interface

- Allow users to put tasks in meaningful context
- Maintain consistency across a family of applications
- Don’t make changes in system against user’s previous habits, until you are compelled to do so

UI Analysis & design



UI Design models

User model

- Analyze all end user profile
- Like age, gender, physical abilities, education, culture, preferences etc.
- User types:
  - Novice
  - Knowledgeable, intermittent users
  - Knowledgeable, frequent users

Design model

- Design realization of end user's model

System perception/mental model

- End user's perspective of a system

Implementation model

- The interface look & feel along with supporting information (books, manuals, videotapes etc.) showing interface semantics.

UI Design models

- Hence, an effective design is one in which the user mental model and implementation model coincides

UI analysis & design Process

- Iterative process ~ use spiral process model
- Four steps are:
  - Interface analysis & modeling
  - Interface design
  - Interface construction ~ involve prototyping approach
  - Interface validation
- Since its spiral model so these steps need to be processed again and again

What is a good Design?

- You need to design an application that shows the video of the security cameras in the home
- Options???
  - A user must input the camera name to view the video
    - What if he forgets the name?
  - We will list the cameras name from which he selects and view the video