Extracting Interaction Design Requirements

SWEN-444

Selected material from *The UX Book*, Hartson & Pyla

Design-informing models

User needs & requirements

Contextual analysis

Contextual inquiry

Design

Create interaction design concepts

Analyze

Understand user work and needs

Prototype

Realize design alternatives

Verify and refine interaction design

Evaluate

1st edition

2

Software Engineering
Rochester Institute
of Technology
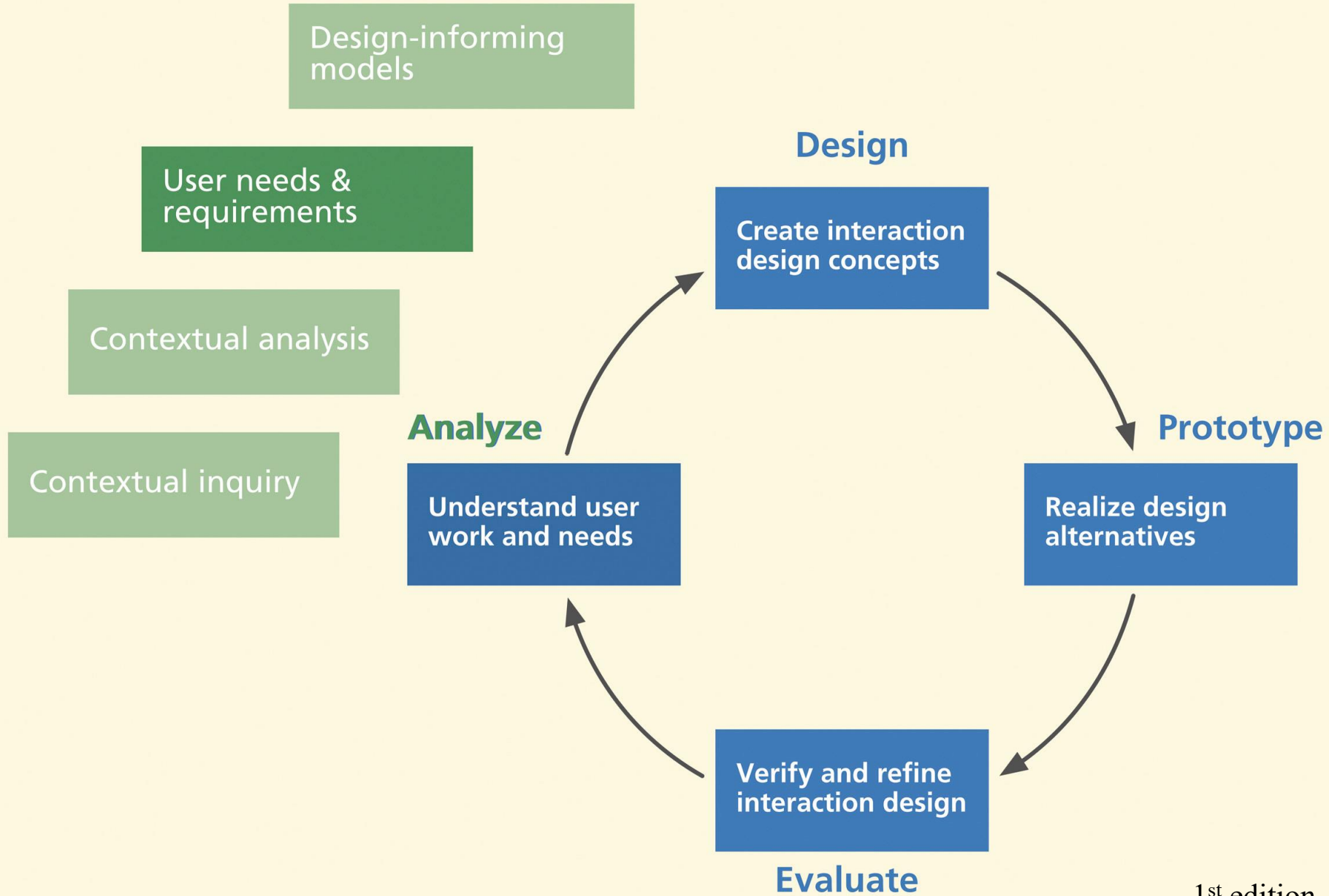
UX Requirements means interaction design requirements - What is required to support user work activity needs

- **Work activity notes are not requirements**
- Requirements bridge contextual inquiry and analysis to design
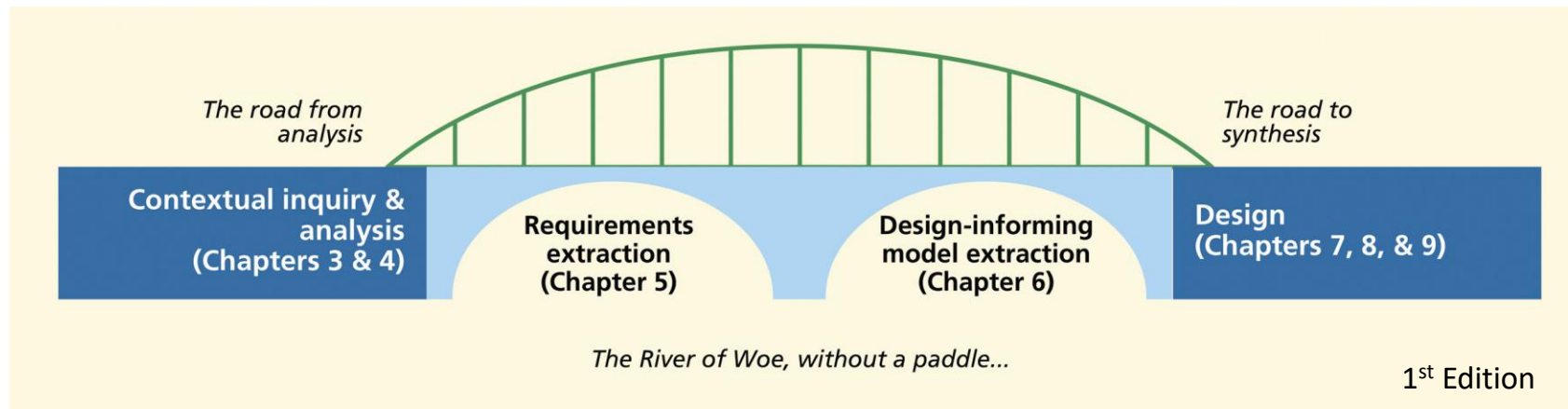
- What to look for?
  - **Functionality** of course
  - **Usability** goals
  - **Emotional impact** – "fun", "boring", …

How to Extract UX Requirements

- Walk the WAAD one note at a time
- What **user needs** are **implied** by a work activity note?
- Translate each user **need into** one or more UX design **requirements**
  - **Consolidate** notes to condense ideas
  - **Extrapolate** notes to broaden
  - **Filter terminology** to achieve consistency (e.g. alarm, alert)
  - Switching from inductive to deductive reasoning

UX Requirements Statements

- ## Generic structure of requirement statement
  - Major feature or category name
  - Second-level feature or category name
  - UX Requirement statement [WAAD source node ID]
  - Rationale (if useful): Rationale statement
  - Note (optional): Commentary about this requirement

  Note: Well written requirement statement = "shall"

Example 1

- Work activity note: "I am concerned about privacy and security of my transactions"

Security

Privacy of ticket–buyer transactions

Security and privacy of ticket-buyer transactions shall be protected. [C19]

Note: In design, consider timeout feature to clear screen between customers.

Example 2

- Work activity note: "I sometimes want to find events that have to do with my own personal interests"

Transaction flow

Recommendations for buying

Ticket-buyer purchases shall be supported by recommendations for the purchase of related items. [DE2].

Implied system requirement: During a transaction session the Ticket Kiosk System shall keep track of the kinds of choices made by the ticket buyer along with the choices of other ticket buyers who bought this item. [DE2].

Note: Amazon.com is a model for this feature.

Importance of Deduction

WAN: "I use my calendar to schedule meetings with my co-workers"

UX requirement: "Users shall have support for automated coordination or negotiation of schedules with the calendars of other users"

Need to find balance between extrapolating and "inventing" requirements

Validate

- Review with customers and users
- Prioritize in collaboration with customers and users
- Resolve identified issues

Usability Is …

- **Ease of learning**
  - Faster the second time and so on...
- **Ease of Remembering (memorability)**
  - Remember how and what between and within sessions
- **Productivity / Task Efficiency**
  - Perform tasks quickly and efficiently (for frequent users)
- **Understandability**
  - Of what the system does; important in error/failure situations
- **User satisfaction**
  - Confident of success and satisfaction with the system

"MULES"

Team Activity

- Remember that "requirements" are interaction design requirements.
- Do a walkthrough of your work activity affinity diagram. Select 10-12 different, interesting, and representative work activity notes
- Extract interaction design requirements by deducing the requirement(s) implied.
- Write the requirements statements using the generic structure of the requirement statement given in the book/lecture.
- Document relevant quantified usability goals for learnability, memorability, efficiency, understandability, and satisfaction. Example usability goals for a Calendar app:
  - Users shall have no more than two false attempts in rescheduling appointments
  - Users shall learn setting recurrent appointments within 150% of the benchmark times.