Cognitive Walkthrough

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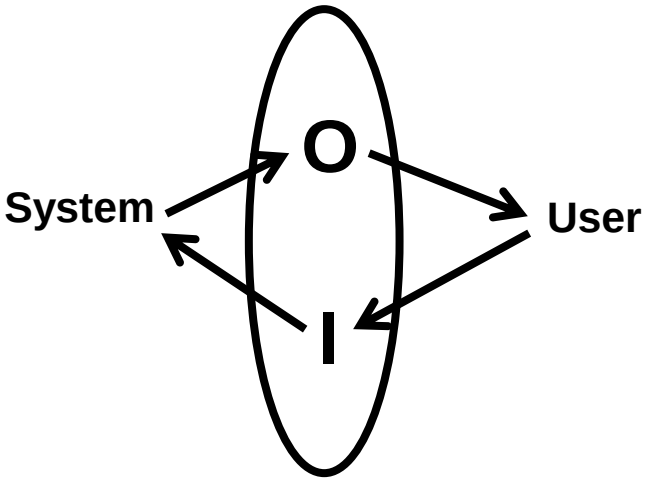
- **Early design evaluation** using **low fidelity prototypes**
- One or more **evaluators inspect** the user interface
  - **Perform** a set of **tasks**
  - Evaluate **understandability** and **learnability**
- **Simulate** user's problem solving process at each task step in the interaction
- **Quantitative data is not collected**.

Based on Theory of Exploratory Learning

- The **user sets a task goal** to be accomplished with the system (for example, "check spelling of this document").
- The **user searches the interface** for currently **available actions** (menu items, buttons, command-line inputs, etc.).
- The user **selects the action** that seems likely to make progress toward the goal.
- The user **performs the selected action** and **evaluates the system's feedback** for evidence that progress is being made toward the current goal.



CW: How-to

- Select the **participants**
  - Who will be involved?
  - What are their characteristics?
  - Input: **user profiles** (knowledge of task domain, UI)
- Select the **tasks** to be examined
- Select the **interfaces** (screens) to be evaluated

CW: How-to

- **During** the walkthrough:
  - **Present the task**
  - **Ask user to perform task**.
  - **Record observations**
  - Accept input from all participants: do not interrupt demo
- **After** the walkthrough:
  - Analyze observations
  - Make interface changes
  - Plan the next evaluation

CW: How-to

- For each task's walkthrough, evaluate the **gulfs of execution and evaluation**:
  - Will the correct **action** be **evident** to the user?
  - Will they **know what to do**?
  - Will the user **notice** that the **correct action** is **available**?
  - Can they **find** the interface object for the **next action**?
  - Will the user **interpret the response** from the action **correctly**?
  - Does **feedback** tell users they have made a **correct/incorrect action**?
  - Will the user **know what to do next** in response to the previous action?

Thinking Aloud Technique

- Encourage users to **continuously** "**think out loud**" as they are using the system
  - I.e., **verbalize their thoughts** as they use the system
- Easy to learn and perform, feedback direct from the user
  - Applies to all forms of usability testing
- Unnatural, not quantitative
- Want ad hoc feedback, not reasoned responses

Walkthrough Activity

- Conduct a walkthrough for the **five tasks (HTA's)** for your project;
- From the project team, roles are:
  - **Expert** - states what each task is
  - **Scribe** – takes notes
  - **Evaluator** – acts as the primary user
  - **Observer** – watches the evaluator interact with the system
- **Volunteers** from **another team** will be the **evaluators**
- Afterwards, the team discusses possible fixes to identified problems

One person may have more than one role

Walkthrough Activity (cont)

- **Volunteer evaluators** – attempt the tasks, "**thinking out loud**"
  - What execution action decisions and why?
  - What evaluation interpretations?
  - What uncertainties in actions and interpretation?
  - Are items on the screen affecting your decisions positively or negatively?
  - If you are stuck on a step, ask the evaluators for help
- Team **observers/scribes** use the **walkthrough checklist** in myCourses
- Each team - submit **volunteer checklists** and **team reflection notes** to "Class Room Activity/Cognitive Walkthrough" Dropbox