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
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