Informatics 134

Project in User Interaction Software

Conducting Evaluations

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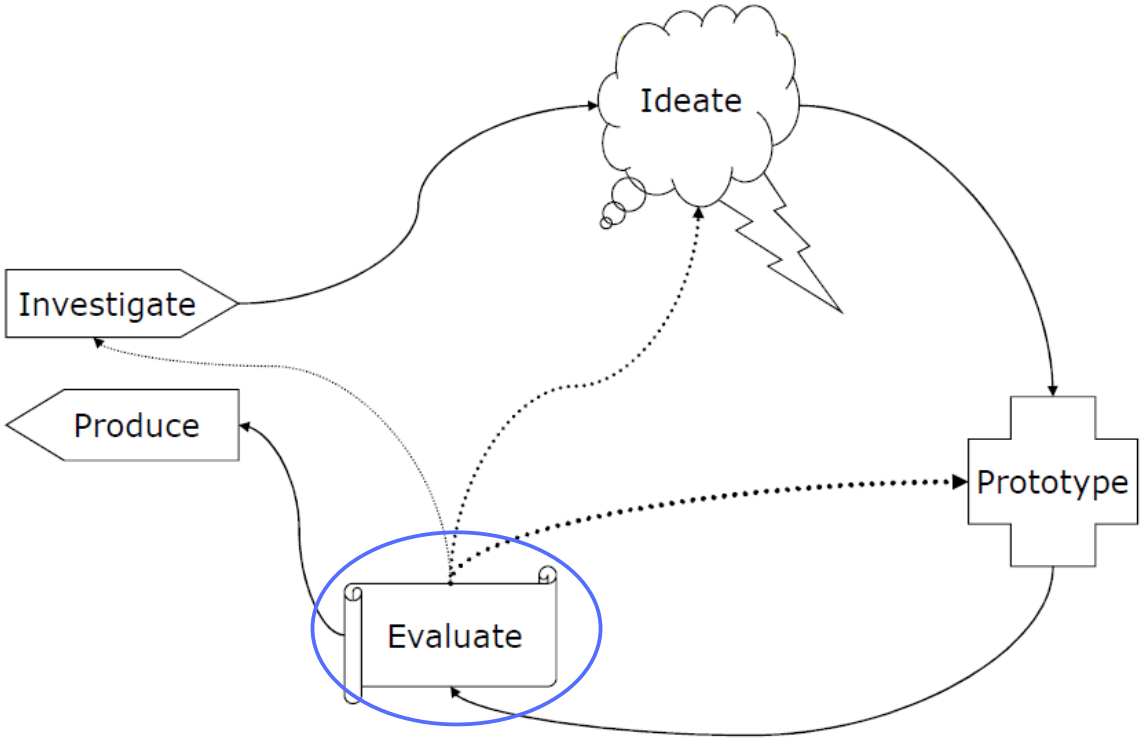

Evaluate

- Discover problems
- Assess progress
- Determine next steps

Conducting Evaluations

Why Evaluate?

Why?

- **Feedback on design directions and ideas**
- **Discover major issues**
- **(Help to) resolve disagreements**

Where?

- **In laboratory (controlled)**
- **In natural settings (uncontrolled)**

Many Approaches to Evaluation

Usability goals

Effectiveness

Efficiency

Safety

Utility

Learnability

Memorability

User experience goals

Satisfying

Pleasurable

Rewarding

Fun

Provocative

Many Approaches to Evaluation

Usability goals

- Effectiveness
- Efficiency
- Safety
- Utility
- Learnability
- Memorability

User experience goals

- Satisfying
- Pleasurable
- Rewarding
- Fun
- Provocative

When to Evaluate

Early design of an artifact

Evaluation of working prototype

Refining or maintaining a product

Competitive comparison between two products

Exploring a new design concept

Demonstrate performance for a procurement contract

Types of Evaluation

Analytic (design judgment – users not involved)

- Often called “discount evaluations”
- Standards enforcement
- Heuristic evaluations
- Cognitive walkthroughs

Empirical (involves users)

- Usability testing
- Field studies
- Click-through studies

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Cognitive Walkthroughs

Cognitive Walkthrough

An analytical type of evaluation

- Have experts analyze your prototype in a detailed way to understand how users will understand it
- Best for understanding novel (first experience) use, not expert use
- Can be done with a small number of experts
- Experts evaluate for ease of learning

Cognitive Walkthrough

Define required inputs

Select Interaction Task

Task should be one that would be common or typical for a potential user

Should be representative of what users would want to do with the system

Define Interaction Sequence

Tasks should be broken down until any further division yields obvious subtasks

E.g., type “run” at prompt, NOT type “r”; type “u”; etc.

Cognitive Walkthrough

Walk through action sequences

- Provide prototype or other representation of interface to evaluator
- Ask evaluator to perform action
- Address each step of task sequence in turn
- Capture information
  - Successes, failures, evaluator comments, other relevant or useful information

Cognitive Walkthrough

Create believability story

For each task, ask evaluators:

1. Will the user know what to do at this step?
2. If the user does the right thing, will they know that they did the right thing and are making progress toward the goal?

For each answer, capture:

1. If yes, common supporting evidence
2. If no, why not?

Cognitive Walkthrough

Identifying Tasks

Each Task Includes

Description used to prompt users

State of system (where to start?)

Successful completion (where to end?)

Example:

1. Description:

   Name three important events that took place in the 1770s in America

2. System State:

   Timeline is set to the 1980s

   Article on space shuttle is displayed

3. Successful Completion:

   Participant verbally reports the names of three events by using the timeline.

Cognitive Walkthrough Demo