Justifying Your Design

Hao-Chuan Wang

The Whys

- When critiquing existing designs, you probably noted that you were asking following questions...
  - Why this problem?
  - Why this goal?
  - Why this method?
  - Why this technique?
  - Why this design?

Design Needs Justification

Design Processes

Start → Do some

Analysis

Finished?

Debug and redo → Do some

Testing

Design

Do some

Or writing, or sketching, or storyboarding, or wireframes, or prototyping, or...
Justification v.s. Evaluation

- Justification is not all the same as evaluation.
- Evaluation: Give people a keyboard, and see if they can type well.
- Justification: Explaining how the keyboard supports people to type, and why this is a good approach.

To Justify is to Convince

- Evaluation only is a weak form of justification
  - 80% of people type well with the keyboard
  - 80% of people like the keyboard
  - How many people were asked (80% out of 5 people)? Any possible biases?
  - Do people know what’s useful?
  - Users are not designers.

“Do you like X?”

- It’s like buying a jacket without trying on
  - Possibly won’t fit well.
  - People would even decide they actually don’t like it later on.
- But, it’s cheap and fast
  - Don’t use it as the only evaluation/justification.
Knowing Why Matters

- Even the evaluation is reliable, we need to know “what goes wrong” than “it doesn’t work” to learn and to revise the design.

Spout and handle cannot be at the same side due to physical rules/constraints.

Balance is the Best Thing to Do

Ways to Justify

- Draw statistics/feedback/observations (evaluation)
- Draw design principles (affordances, mapping etc.)
- Draw theories, especially when the task/scenario/goal is complex.

Drawing Theories

- Explain and predict human behaviors
- Generalizability
  - Applicable to a broad spectrum of situations
  - Inform design decisions
- Models of individual and group actions
Norman’s Model of Individual Action

- Goal
- Expectation
- Intention
- Execution
- Evaluation
- Perceptions

All Start from Goals
Goal: Search info about “stages of action”

Execution
Evaluation - Have I reached my goal?

Improved Design

- Summary/feedback supports evaluation!

Models of Group (Multiple Individuals)

- Input-Process-Output Model

IdeaExpander: Supporting Group Idea Generation with Dynamic Pictures

Justification

<table>
<thead>
<tr>
<th>Inputs</th>
<th>Interaction Process</th>
<th>Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individuals with diverse knowledge</td>
<td>Pictures are more ambiguous;Dynamic pictures triggered by ideas</td>
<td>Diversified ideas; Enhanced creativity</td>
</tr>
<tr>
<td>Dynamic pictures triggered by ideas</td>
<td>People share their interpretations.</td>
<td>An extra channel to spark ideas</td>
</tr>
</tbody>
</table>

Public Large Displays