Redesign

*How to improve it?*

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**Thursday**

**Morning**
- Generative walkthrough
- Revised concept, storyboard #2

**Afternoon**
- Video prototype #2

**For Monday**
- Final poster
- Final video prototype
- Final presentation slides

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**Exercise: Generative Walkthroughs**

Analyze, critique and reconstruct storyboard I from the perspective of instrumental interaction

<table>
<thead>
<tr>
<th>Scenario or storyboard</th>
<th>Instrumental Interaction</th>
</tr>
</thead>
<tbody>
<tr>
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</table>
What are socio-technical principles?

Social scientists conduct extensive field studies and provide deep insights in the form of socio-technical principles about how people interact with technology in context.

But it is difficult to translate these principles into specific designs.

So …

How do we incorporate socio-technical principles into the design process?

Generative Walkthroughs: Creative redesign

Structured walkthroughs
Systematic critique of design artifacts, such as scenarios & storyboards

Focused brainstorming
Generation of novel ideas, based on socio-technical principles

Structured walkthroughs
Systematic critique of design artifacts, such as scenarios & storyboards

plus

Focused brainstorming
Generation of novel ideas, based on socio-technical principles
Generative Walkthroughs

1. Analyze the interaction point:
   - Does the design principle already exist?
   - If so how?
2. Critique the interaction point:
   - What works?
   - What does not work?
3. Reconstruct the design of the interaction point:
   - Use the principle to improve the interaction
     (you can modify the interaction point or the story)

Interaction instruments

Conceptual model

Two levels of interaction: mediation

Instruments and modes

An instrument turns a mode into an object

Activating a mode = activating an instrument
   Spatial mode: pointing

Temporal mode: selection

Cost of activation
Generative power: Three design principles

Reification
- Extends the notion of what constitutes an object

Polymorphism
- Extends the power of commands with respect to these objects

Reuse
- Provides a way of capturing and reusing interaction patterns

Example: Text search instrument

Classic search:
- Sequential
- Modal

Search instrument:
- Show all occurrences
- Allow replacing occurrences in any order

Augmented scrollbar

Polymorphism

Extends commands to multiple object types
- Common examples: Cut, paste, delete, move

Input polymorphism
- Brush picks up color and width

Output polymorphism
- Brush affects text and shapes

Homogeneous groups
- If applicable to one object, then applicable to a group of same-type objects

Heterogeneous groups
- Applicable to a heterogeneous group if it has meaning for individual object types
Reuse
Captures interaction patterns for later reuse

Input reuse
Reuse previous commands
Example: redo, history, macros

Output reuse
Reuse previously created objects
Example: duplicate, copy/paste

Generative walkthrough
Instrumental interaction:

What are the user’s objects of interest?
If they are ephemeral*
– make them persist
If they are persistent
– make them interactive
If they are interactive
– make them instruments

* ephemeral: last a short time, then disappear

Exercise: Generative Walkthroughs
Analyze storyboard 1 from the perspective of instrumental interaction
<table>
<thead>
<tr>
<th>Revise the design concept</th>
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</thead>
<tbody>
<tr>
<td>Consider results of the generative walkthrough</td>
</tr>
<tr>
<td>Reassess your design concept</td>
</tr>
<tr>
<td>Can you create a simpler, more powerful concept?</td>
</tr>
<tr>
<td>Consider your first design</td>
</tr>
<tr>
<td>Who is it really for? Can you be more specific?</td>
</tr>
<tr>
<td>What should it do? Is there an overall design angle?</td>
</tr>
<tr>
<td>State the concept in one sentence:</td>
</tr>
<tr>
<td>What is the user's problem and what is your original solution?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Revise your design concept</th>
</tr>
</thead>
<tbody>
<tr>
<td>Explore breakdowns</td>
</tr>
<tr>
<td>Identify at least three possible breakdowns</td>
</tr>
<tr>
<td>How do they affect the design of your system?</td>
</tr>
<tr>
<td>How can you address them?</td>
</tr>
<tr>
<td>Modify your design with the revised concept</td>
</tr>
<tr>
<td>Include three new interaction points</td>
</tr>
<tr>
<td>Show how to address some breakdowns</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Exercise: Storyboard 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revise your first storyboard to reflect ideas from the walkthroughs according to your revised design concept</td>
</tr>
<tr>
<td>Include at least two, ideally three breakdowns and three new interaction points</td>
</tr>
</tbody>
</table>
Video Prototype 2

Copy video prototype #1
(or start a new one)

Follow storyboard #2
Update the titlecards
Identify where to add new interaction points
Modify any remaining interaction points

Presentation

Final presentation 13 – 17 Mon. 5 Nov.

Oral presentation
10 minutes:
- title slide (Title includes system name, group #, your names)
- user profile & personas
- design problem & design concept
- design diagram
- video prototype (maximum 5 minutes)
- justification (key improvements & why)
- conclusion

5 minutes:
- class discussion (group members ask questions)
On grading

Some exercises have grades:
- story interviews (individual)
- storyboard & video prototype #1
- storyboard & video prototype #2
- * final presentation
- * final poster

Other exercises are marked as having been done
(but if exercises are done well, it can help your grade)

* graded by external jury and us

Hand in or upload: due: Monday, 4 Nov

- Ipads
- Folders with unused tools materials
- Storyboards #1 and #2
- Video prototype (4-5 minutes)
- Presentation slide
- Poster
- Course evaluations (anonymous)

Final reminders

To be graded by a jury:
- Final presentation with Video Prototype 2
- Final poster

Hand in or upload:
- Ipad
- Design folder with supplies
- Paper folder with filled in handouts
- Physical mock-ups

Remember:
- 10-minute talk
- 5 minutes for questions

Fill out the final evaluation form