Micro-survey top topics we’ll review today:
Problems with jumping into UI design
Personas
Visions
Stakeholders

**THIS WEEK:**
**Wednesday:**
- Personas, Scenarios

**DUE SUNDAY:** Project Part 2,
Checkpoint 1

**NEXT WEEK:**
Design
Why not go into UI Design now?

We're going to first work on INTERACTION design (by re-designing persona work as scenarios), and then INTERFACE design.

Problems with going straight to UI designs

- Interface designs are expressed in the context of a computational environment
- ...But that requires us to commit to a computational medium
- ...Our choice of computational medium influences our perception of what is and is not possible so we tend to commit to designs without fully exploring the design space
- ...Frames our initial, potential solutions in terms of technology rather than user needs
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Personas:

• How to develop personas – study the slides from Wed, Feb 21 for the steps; the hardest part is to start.

• You only need personas for the users central to your vision; other users’ considerations should be in your cultural model
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Vision:
• See visioning resources – Progress page, Wed, March 21
• Parts of a vision (2 longish paragraphs):
  – problems that will be solved
  – what currently works
  – how you will redefine and improve work practices
  – how you will use to measure success
• Implementation details, constraints in visions?
  – This comes back to the issue of designing UIs directly without designing interactions: if you do this you constrain the ultimate design and probably miss a better solution.
  – How to keep implementation out of a vision?
    • After you’ve written a vision, go back and look for places where you assumed implementation details or constraints.
    • Have someone else “inspect” it for implementation assumptions.
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Stakeholders:

– Primary stakeholders: people who will directly use your system
– Secondary stakeholders: people who may use things the primary stakeholders have created
– Important because: You don’t want to optimize one user role’s work at the expense of another role “downstream”
Work Redesign

Learning objectives:
1. Identify tasks to re-design from vision and personas.
2. Practice creating scenarios for re-designed work from persona tasks.

Adapted from Prof. Jamie Ruiz
Process of moving to design

✓ Brainstorm using consolidated work models and affinity
  - Identify problems/opportunities for improvement
  - Narrow down to what we want to work on

✓ Create vision

✓ Identify Personas, tasks you will redesign
  • Create Scenarios of tasks (re-designed work)
  • Create storyboards
  • Create low-fidelity prototypes based on the storyboards
EXAMPLE Vision

Assistants must generate reports for management that are “perfect”. Perfect mean that reports are accurate and in the exact format expected since they are passed up the management chain for review. Reports must use the latest data.

Assistants encounter problems because the raw data comes from a legacy system and the report generators (there can be multiple ones for a company) each require completely different data formats. Assistants must obtain raw data every day and determine what reports need to be regenerated, then perform complex transforms on the raw data to generate the reports. They must then verify that the reports are accurate and in the proper format.

We will improve this process by creating a system that preserves the data sources and report generators, but reduces the number of systems the assistant has to interact with directly, and significantly reduces the time required to check transformations and reports.
Lothlund Cog, Business Administrator
Lothlund has been working for 3 years at BigBiz company. During that time he has been in charge of reporting business results and trends to executives of the company. In order to streamline analysis so that executives can access the latest information whenever they want and perform their own analysis on the “raw” data, Lothlund’s job is to daily check company profit metrics from multiple systems and generate updated reports comparing company profits to profits reported in past reports. This job requires Lothlund to compare data from multiple systems (including legacy systems), each of which expect input instructions and generate output in different formats. Thus, actually deciding which sections of which reports need to be updated and with which data from which system is a time-consuming process requiring many data transformations.

Lothlund’s Goals:
Provide the latest data in perfectly accurate reports. Lothlund has procedures to create reports that will help management make good decisions for the business. ...

Lothlund’s Roles:
Data Cruncher. Lothlund runs comparisons between prior reports and data that is available daily looking for sections of reports that need to be updated, and then creating new reports with these updates. ...

Lothlund’s Tasks:
Compare prior reports and new data, decide what needs to be updated, download new data and update appropriate report sections. ...
Example Scenario of the user interaction

Lothlund opens the system on his screen, and is presented with a window allowing him to enter his user credentials.

He then is presented a window giving choices about creating reports. He selects “check reports against new data”, which will check the latest reports against new data from the legacy and other systems.

He is presented with the locations of previously updated reports which he can use for the comparison, or alternatively, he can browse to specify the location of reports that may need to be updated. He chooses the last set of reports that were generated (which have been selected by default) as the previous report(s).

He is presented with the name of the system(s) (containing new data) to compare against, and selects 3 different systems to compare with the old report.

The old report(s) are displayed side-by-side with the applicable newest data from each system, with the sections where newer data is available highlighted/called out so they are easily visible to him.

Lothlund selects the reports that should be recreated, and confirms the proposed sections to be recreated from the newer data. He also verifies the proposed names of the new reports that will be created and starts the process. Once the process is complete, Lothlund is notified, and given the option to view the new reports in a side-by-side display with the old reports, again with changes from the old reports highlighted. He does this for each of the new reports and confirms that the new reports are good. He then selects how the reports should be distributed, including direct mail to some people and uploading to the cloud followed by an alert for others.
Designing the Interaction

Goals:

• To engineer the interaction with the system from the user’s perspective
  – Input/Output
  – Guide how the user will use the system

• Tools
  – Scenarios and storyboards
  – Mental models of interaction
Scenarios

• Description of interaction with software
  – Goals, Expectations, Actions, and Relations

• Helps user understand how software will be used

• Need appropriate level of detail for design stage
  – During early stage evaluation:
    • Are goals and action/reactions reasonable (grounded in real data you collected)

• Create alternatives to explore the design space, errors, worst-case scenarios, etc.
Create Storyboards

• Working from the scenario, sketch storyboards for the user interaction.

Create Low-Fidelity Prototypes

• Working from the storyboards, create low-fidelity prototypes for the user interaction.
Scenario example - storyboards

- Makes scenario real
- Shows people, words, screenshots, whatever is appropriate
In-class Activity (35 min)

Work in your project team.

1. If you haven’t finished your personas, continue working on them for up to 15 min more.

2. Using your vision and personas, decide on at least 3 persona tasks work that you will re-design.

3. Create scenarios for the re-designed tasks; write out the scenarios and then start storyboarding if you have time.
Self-evaluation
1. What exactly did you do to help your team create the scenarios?
2. What will you do differently next time to contribute more?

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Add to self-eval or turn in anonymously, separately.
Today’s learning objectives were:
1. Identify tasks to re-design from vision and personas.
2. Practice creating scenarios for re-designed work from persona tasks.
Related Technique: Task Analysis

• Two different alternative views
  – Action-centric, i.e. those concerned with the steps involved in completing a task
    • Hierarchical Task Analysis
    • See TaskAnalysisGuide.pdf – redesign example included in it
  – Cognition-centric, i.e. how users think, solve problems, learn, remember, and visualize/model/understand to accomplish the task
    • Goals, Operators, Methods, Selection (GOMS)
HTA

Hierarchy description ... 
0. in order to clean the house 
   1. get the vacuum cleaner out 
   2. get the appropriate attachment 
   3. clean the rooms 
      3.1. clean the hall 
      3.2. clean the living rooms 
      3.3. clean the bedrooms 
   4. empty the dust bag 
   5. put vacuum cleaner and attachments away 

... and plans -- *only the plans denote order* 
Plan 0: do 1 - 2 - 3 - 5 in that order. when the dust bag gets full do 4 

Plan 3: do any of 3.1, 3.2 or 3.3 in any order depending on which rooms need cleaning
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