

6.813/6.831 • User Interface Design and Implementation

Massachusetts Institute of Technology

Department of Electrical Engineering and Computer Science

Spring Semester, 2011

GR3: Paper Prototyping

Prototype building

Prototype testing

Final hand-in Due Session 20

In this group assignment, you will do your first implementation of your term project, which will be a paper prototype.

There are several class meetings associated with this assignment (days and times shown above):

- The **building session** offers you an opportunity to start building a paper prototype. The course staff will be available to make suggestions, and some materials will be provided.
- The **testing sessions** will allow you to test a paper prototype on your classmates. The class will be divided into two cadres. For the first half of each class period, one cadre will run their prototypes while the other cadre serves as users. For the second half, the roles will be reversed.

You must do two rounds of testing, with a revision of your paper prototype in between. Each round must involve at least 3 users. Note that if you don't have time to run 3 users during the in-class testing sessions, you will have find users outside of class as well. After the first round, revise your paper prototype to address the critical usability problems and explore possible design alternatives.

Preparing for Testing

Before testing your prototype, you should:

- **Build your prototype.**

Draw the static background, menus, dialog boxes, and other windows. Decide how to implement the dynamic parts of your interface. **Hand-sketching is encouraged.** You don't have to prepare every possible screen in advance; it may be much easier to write responses on the fly.

- **Prepare a briefing for test users.**

This should be at most a page of information about the purpose of your application and any background information about the domain that may be needed by your test users (who may be classmates) to understand it. These are your notes for the briefing, so make them short, simple and clear, not dense wordy paragraphs. This is not a manual or quick-reference card. It should not describe how to use the interface.

- **Write your scenario tasks on separate index cards.**

Your scenario should have involved at least three tasks. You should write these tasks down to give to your users. Just write the concrete goal(s) of the task (e.g. "buy milk, tomatoes, and bread"). Don't write the specific steps to follow, since that's for your users to figure out. The tasks should be brief, roughly 5 minutes to run.

- **Choose roles for your team members.**

One person must play the computer. The other team members (if any) will be observers. We won't bother with a facilitator for these pilot tests. It may be useful for you to swap roles after every user on Testing Day, so that each of you gets a chance to try each role, but decide how you'll do it in advance.

- **Practice running your paper prototype.**

Every team member should practice playing the computer, learning the steps involved in making the prototype functional, such as rearranging pieces and writing responses. It isn't important to be fast, just competent and confident. A few trials are enough. Make sure your prototype can handle the tasks involved in your scenario.

Running the Tests

When you run your prototype on a user, you should do the following things:

- **Brief the user.**

Use the briefing you wrote up to describe orally the purpose of the application and background information about the domain. Don't waste too much time on this: 1 minute should be enough.

- **Present one task.**

Hand the index card to the user and let them read it. Make sure they understand the task.

- **Watch the user do the task.**

Take notes from your observations.

- **Repeat with the other tasks.**

Run as many tasks on the user as you have time for.

Bring extra materials on Testing Day. Having extra blank Post-it notes, correction tape, and index cards on hand will help you improvise if a user does something unexpected, or help you make small fixes to your prototype between users.

Playing a User for Your Classmates

On Testing Day, when you are serving as a user, you should:

- **Relax and enjoy yourself.**

You're not being tested -- the interface is. Part of the point of this experience is to feel what it's like to be users in a user test, so that you can empathize with them.

- **Be cooperative.**

Don't be intentionally dense, e.g. looking for Exit everywhere but the File menu. Interact with the interface as you would if you were really using it.

- **Think aloud.**

Help the observers understand what you're thinking by verbalizing your thought process. "Let's see, I want to enter this bottle of milk, so where's the scanner... oh, here it is. I'll scan the bottle like this, oops that didn't work, let me find the bar code..." You get the idea.

What to Hand In

Update your group's web page so that it contains a section **GR3 Paper Prototyping**, containing the following subsections:

- **Prototype photos.**

Digital photos of the pieces of your prototype. Show the prototype in interesting states; don't just show a blank window. Although you will iterate your paper prototype during this assignment, the photos only need to show one iteration.

- **Briefing.**

The briefing you gave to users.

- **Scenario Tasks.**

The tasks you gave to users, as you wrote them on the cards.

- **Observations.**

Usability problems you discovered from the testing. Describe what users did, but **don't record users' names**.

- **Prototype iteration.**

You did two rounds of paper prototyping. Describe how your prototype changed between those two rounds.

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