

CSC318 DESIGN OF INTERACTIVE COMPUTATIONAL MEDIA
Instructor: V. Pandeliev

PHASE 4: Interactive Prototype and Usability Testing Plans

NOTE: This phase relies on some guidance from CUPE 3902 members and so requirements may be augmented if the strike persists.

PURPOSE

In this phase you will review and evaluate your individual prototypes and combine their best features into an overall system concept. You will demonstrate this concept using a set of group-designed interactive prototypes which illustrate various aspects of your system. You will submit two proposed interaction sequences and a plan for conducting usability testing on your prototypes.

DUE

On Friday, March 13 (MW) or Tuesday, March 17 (T):

- conduct informal evaluation of your prototype with:
 - o Stakeholders
 - o Group members
 - o Experts

By 12:00 on Monday March 16:

- A single document containing all written work on Blackboard.
- Copies or versions of all prototypes generated for your combined system, electronically or in person to me as appropriate at the beginning of class (Monday 11 am or Tuesday 4 pm).

On Friday, March 20 (MW) or Tuesday, March 24 (T):

- o Bring copies of instruments to evaluate your design with peers outside your group

WORTH

8% of your total course grade – value of each section is shown in brackets below.

WHAT TO DO

This phase will be completed in four stages:

1. Evaluate individual designs (1%)

Before deciding which aspects of the alternative solutions should live on and which should not, you will need to evaluate your mockups. For this purpose you can use one of these methods:

- **Quick informal user feedback from your stakeholders.** Do this if your users are readily available. Note that you will need to do full usability testing with users in Phase 5, so if they are difficult to access, you may want to “save” your users for that testing.
- **Expert reviews** may be done if experts are easier to find than users. You may use your classmates from other groups as experts, or students having taken this course previously.
- **Heuristic evaluations** conducted by your group
- **Cognitive walkthroughs**, where your group members play users’ roles and craft a believable story

Alternative solutions should be judged in terms of their support of **design requirements**, **usefulness** in dealing with the defined problem and **perceived appropriateness** for your target users. Explain to your evaluator(s) your problem definition and the target audience you are addressing. Give them some idea of the tasks/activities your users will perform with your system, **not how** they will perform those tasks. Ensure that you **DO NOT bias** your inquiry by putting answers into the mouths of your evaluator(s). Summarize the feedback in an appropriate way, including quotes.

Document, briefly, the results of your Alternative Solutions Evaluations and develop **implications for design** from these evaluations. You will use these implications to develop your ultimate solution to your chosen problem.

2. Create prototypes for a combined solution (4%)

Review your **alternative solutions** and **implications for design** developed in Phase 3 and Assignment 4. Take all the best ideas from your alternative solutions and their evaluations, and create a solution that combines all the best ideas. Create prototypes of this solution.

Prototypes should communicate the essential features of the system being designed and its style of user interaction (i.e., its look and feel). A prototype should suggest what the system will **do**, what its **essential characteristics** are, what it will **look** like, and how it is to be **used**. It should illustrate a **small but essential** subset of system functionality. You will test some of this functionality in Assignment 5.

You should use a **combination** of methods that are appropriate and with which you can be maximally effective in communicating your designs. These methods include:

- sketches and storyboards
- physical models
- video sequences and animations
- interactive sequences expressed in computer prototyping media

The exact number of different prototypes you create will be determined by your system’s complexity and functionality and the complexity and functionality of each prototype. **One of your prototypes must be interactive.** You may use the development medium of your choice (Flash, HTML, Visual Basic, etc.), but **check its suitability with your TA or myself before you begin development.**

Your prototypes must be presented/submitted for evaluation with Phase 4. You may need to retrieve them immediately in order to start your usability testing.

3. Interaction Sequences (1%)

Think through, design, and present one or two key interaction sequences, describing **what users will have to do** in order to accomplish tasks with your system. You may use a format similar to Task Analysis from Assignment/Phase 3. These interaction sequences may be used as foundations for tasks in your usability testing.

4. Usability Testing Plans (2%)

You will be **testing and evaluating** your System Prototypes in Assignment 5 and reviewing the **suitability** and **viability** of your design concepts. Here you are asked to prepare the Usability Test Protocol and Instruments, similar to those of Assignment 2, but focused entirely on evaluating your prototypes with your users.

Prepare the documents for your Usability Testing. These will include:

- Research Protocol
- Consent Forms
- Research Instruments – Test Scripts, Questionnaires, Interviews, Observation Plans, etc.

You may use the templates provided with Assignment 2 for guidance.

Your usability test should probably follow the typical test flow:

- Introductions to test, participants, purpose of study, confidentiality, payment, explanation of prototype, setting expectations & rules, introduction and practicing of the **Think Aloud** protocol
- Participant background questionnaire – verifying they do belong in your target user group
- Brief inquiry about current practices related to your problem space
- Task Performance assessment – depends on system and its intended usage, this could be:
 - Exploratory self-guided investigation of your system prototype OR
 - Directed task performance of specified tasks
- Follow up questions assessing user experience and users' conceptual model
- Assess system functionality against users' priorities

You will be piloting the usability tests for your system in the tutorial slot on March 13/17.

WHAT TO SUBMIT

1. A single **document** containing:

- a brief discussion of the evaluation of each individual prototype
- implications for design
- two interaction sequences
- usability testing protocol and instruments

Please name your document “VP.P4.Group[Number].pdf”

2. In addition, you will submit to me versions or copies of **all prototypes** for the combined solution. If possible, aim to submit versions that do not impede your evaluation of the system. If unique prototypes are submitted (e.g., physical mockups or specific rare hardware), indicate to me that you will need them in order to conduct your usability tests.

3. Finally, bring **5 copies of each usability testing instrument** to the tutorial time slot on **March 20/24** in order to administer them to your peers.

REMINDER

You will be helping your classmates by participating in their usability studies and product reviews. Please remember to make detailed notes after each Usability Testing session you participate in as a subject in order to report the details of your experience for **Assignment 5**.