## HW11: Think Aloud Usability Study

**SWE 432 Fall 2016**

**Due: 12/1 before the start of class**

In this assignment, your project group will conduct a think aloud usability study of your project web app to identify four usability issues and make changes to address three of these usability issues.

**Step 1: Design and Conduct the Study**

The usability study will

1. Involve 4 participants, who may be friends, family, coworkers, or students in this class but **may not** be members of your project group
2. Consist of a single task that should last 4 - 8 minutes and **must** be at least 2 minutes long. Your task should have an overall objective but might enumerate several inter-related objectives (e.g., plan a home remodeling project, including listing materials you need to purchase and the steps you will take)
3. Identify and report critical incidents that occur during the tasks
4. Collect subjective reactions from participants through a brief open-ended post-task interview conducted immediately following the task.
5. Analyze critical incidents and participant reactions to identify at least **4** usability issues.

You should first design a study:

1. Design a task that exercises one or (ideally) more of your web app's scenarios. Your task should describe a fictional scenario and a specific objective for the participant to accomplish within this scenario. A task might involve interacting with software other than your web app (e.g., searching the web, and using your app to record notes).
2. Write down a one or two paragraph description of your scenario and task that you will provide to participants.
3. Conduct a pilot test to ensure the task is understandable and of the right length and difficulty, revise your task, and repeat (as needed).

After finishing the design of the study, you will then conduct the usability study with 4 participants. During the study, you should observe carefully, make sure participants think aloud, and be sure to carefully take notes on any critical incidents you observe.

**Step 2: Identifying Usability Issues**

Review your notes to identify critical incidents. Based on these critical incident, you should then consider carefully what underlying causes might have led to these critical incidents and compare similar incidents across multiple participants for similar underlying causes. From this, you should then prepare a summary listing 4 usability issues. For each issue you should

1. Describe the number of participants that experienced this issue.
2. Give at least one example of a critical incident that occurred illustrating the issue, including (1) the goal the user was trying to achieve, (2) the actions that user took, and (3) the problem that resulted.
3. Describe what aspects of the underlying interaction design of your web app might have caused this usability issue to occur.

**Step 3: Addressing Usability Issues**

In this step, you should select 3 of the 4 usability issues you identified in Step 2. In Step 3, you will make a change to your app’s design to address these issues. For each change you make, you should

1. Clearly reference one of the usability issues you identified in Step 2.
2. Describe what changed. How is the behavior and/or appearance of your web app different than before?
3. Provide a screenshot depicting the old design of your application and a second screenshot illustrating the new design of your application.
4. Carefully describe how you expect this change will address the usability issue.

**What to submit**

1. Submit a single document through Blackboard containing (1) the provided fictional scenario and task you gave to participants, (2) a description (as described in Step 2) of each of your 4 identified usability issues, and (2) a description of each of the 3 changes you made to address these usability issues. The document should also have the name of all members of your group. Only one group member needs to submit this document.
2. For the changes to your app, submit to the Github repository that your group has used in the past HWs (or send the instructor and TAs email if this has changed). Create a HW11 pull request from your branch into hw-submissions. Merge the pull request. Create a HW11 release from hw-submissions. Deploy your application to Heroku, and ensure that the link to your deployed app on Heroku is in the Readme page for your project on Github.
3. Each partner should **individually** submit their statement of contributions to the HW11 statement of contributions assignment on Blackboard. You should **not** duplicate any of the content submitted in (1) or (2).