COSC 341: Human Computer Interaction

Course Project: Step 4

Due Date: December 6, 2024, 11:59 pm

In this step, you will implement your project by developing the Android app (or another mobile-supported application, such as iOS) to a stage where it is ready for user testing. The implementation should cover the four main tasks you identified in previous steps. TAs have provided feedback on your project step 3 submission in Canvas, with suggestions for the four tasks to consider in project step 4.

Build a vertical prototype. Develop a vertical prototype that addresses the four main tasks suggested by the TAs in your project step 3 submission. This prototype should be fully functional, meaning the interface should not only look correct (e.g., no static pages or activities) but also have core functionality working as intended (e.g., interactive pages), including error handling (e.g., A task cannot simply be a single page with UI elements displaying information). The goal is to give users a clear sense of what interacting with the system would feel like. Remember to apply the design principles we discussed in class.

Note: We are not interested, for example, in having you build a whole back-end system w/SQL Server. PLEASE consult with me if you need further information on major tasks / how much functionality is appropriate. My office hours: Tuesday 12:30 pm -1:30 pm and Thursday 11:00 am-12:00 pm. If the time doesn't work, send me an email. I will schedule a meeting time outside my class/office hours.

Conduct a heuristic evaluation. You will conduct a heuristic evaluation of your system. Recruit three members from other groups and use Nielsen's heuristics to identify some aspect of the interface that violates one of the heuristics. Your goal is to identify major problem areas of your interfaces through this method, what heuristic(s) have been violated to cause these problems, the severity of the problem, and to make recommendations on how to address them.

Incorporate users' feedback: Implement the recommendations suggested by users in the heuristic evaluation phase.

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You will submit the following components in **a PDF file** (six pages max):

- A brief description of your system explaining the four major tasks of the system (similar to what you submitted in project step 3).
- A brief description indicating that the following **design principles** are applied: *visibility*, *feedback*, *constraints*, *consistency*, *affordances*, *simplicity*, *matching*, and *help*. Also, include **screenshots** of the interfaces to show how the design principles are applied (highlight the interface/UI elements and write the name of the design principle you applied). Show at least two examples/screenshots for each design principle. You are supposed to submit a total of (2×8) 16 examples/screenshots.
- **A summary of problems identified** by each user, along with which heuristics were violated, severity, and users' recommendations. You can sort these in terms of severity, functional/conceptual area (i.e., in a way that makes sense for your system), or each heuristic.
- **Video**: Create a video showing how you expect your system to be used for the tasks. Please include audio explaining the tasks in the video; it will help the TAs evaluate the app better. Upload the video to any video-sharing site (e.g., YouTube) and share the link.
- **[Bonus] Update the prototype** based on the feedback collected from the heuristic evaluation. Include a summary of the changes (please highlight the updated interfaces and write what changes were made) that you have made based on the heuristic evaluation. There should be a minimum of three changes, and these changes must go beyond simply rearranging or modifying UI elements. There should be modifications that affect task functionality and enhance the overall user experience.
- Include individual heuristic evaluation results in **a separate pdf file**.

Deliverable:

1. A report, six pages max, A4 paper, PDF format
2. Another PDF file containing heuristic evaluations of individual users
3. Source code: Upload a zip file containing the following folders: **Code** and **APK**. The code folder should include all the Android codes, and the APK folder should only contain the .apk file

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Marking Guideline

Project Step 4 [25 marks]:

- [12 marks] Vertical prototype of four tasks (prototype should be functional. First, check for the description and then check the APK to see the prototype in detail). Deduct up to -10 if they are not major tasks (e.g., login activities or data management routines – e.g., adding, deleting, and editing a user).
- [8 marks] Design principles are applied (e.g., visibility, feedback, constraints, consistency, affordances, simplicity, matching, providing help)
- [3 marks] A summary of problems identified, with three users' heuristics, severity, and recommendation. Individual heuristic responses should be in a separate file.
- [2 marks] A video (with audio) showing how you expect your system to be used for the four tasks
- [**Bonus 3 mark**] At least 3 changes in the prototype with design fixes in another iteration. Updates should be highlighted in the document.

Other deductions:

- [-2] Submission instruction not followed (e.g., no apk or code)

Collaborating in Android Studio with GitHub:

Here is a small tutorial on initializing your Android Projects with git. This blog will help you better understand good git practices.

There are multiple ways to interface with Git such as the terminals like Git Terminal, lazygit or Git Clients like GitKraken, Github Dekstop or the built in Git Interface on Android Studio. Please work with any client that suits your workflow. For beginners with git we would recommend Github Desktop or Android Studio Git Interface.

Make sure you initialise your Git project with an appropriate gitignore for Android Studio. You can use the templates provided by GitHub (link here: https://github.com/github/gitignore/blob/main/Android.gitignore) or generate a new one based on your needs from gitignore.io