Mobile Development for Social Change
Project Details

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Requirements
Students will work in pairs on a semester-long project to create an Android application for a local non-profit. All students in the group will receive the same grade for the project. The main expectations for this project are as follows. Completing these items ensures a grade of C on the project. In order to get a B or A, students must go beyond these expectations.

1. The satisfaction of the non-profit with the final product.
2. The inclusion of the following elements in the application:
   (a) basic event-driven Android elements, e.g., buttons, list pickers, etc.
   (b) appropriate responses to Android lifecycle events
   (c) a UI thread and a separate worker thread
3. A consistently working application that doesn’t throw exceptions or errors.
4. A user experience research report whose conclusions have been incorporated into the design of the application.
5. An in-class presentation about the design, creation, and use of the application.

Possible Extensions
In addition to the requirements above, students who want a B should do at least 3 extensions and students who want an A should do at least 7 extensions. Some possibilities are listed here, but other extensions may also qualify. To confirm the level of difficulty of your desired extension, check with the professor.

1. Easy maintainability for the non-profit. This might entail moving all structured data to an xml file that can be easily updated and imported into the project. This extension is highly recommended.
2. Innovative user interface that’s not only buttons and images but is truly new (like the CompassView app, see Chapter 4).
3. Use of internet resources (see Chapter 6).
4. Database use (see Chapter 8).
5. Notifications (see Chapter 10).
6. Use an action bar and other advanced UI techniques (see Chapters 10 and 11). This extension is **highly recommended**. It is one way to make your app look professional.

7. Make use of the hardware sensors (see Chapter 12).

8. Use of an external API, e.g., a Google map (see Chapter 13).

9. Create a widget (see Chapter 14).

10. Use of audio, video, or the camera (see Chapter 15).

11. In-app billing or other monetization (see Chapter 19).

**Deadlines**

There will be four major deadlines and several other minor checkpoints. These deadlines must be met - **no extensions will be given**. Meeting these deadlines will account for **20% of your project grade**.

1. **Jan. 24th 10am.** Groups chosen and a ranked list of three non-profits or on-campus groups handed in at the start of class.

2. **Jan. 29th 10am.** Non-profits or on-campus groups assigned. **Once you have been assigned a non-profit or on-campus group, you have made an honor code commitment to complete the project. This implies a commitment to not dropping the course after this date.** If you choose to drop the course before this checkpoint, please contact the professor by 10am.

3. **Feb. 4th 5pm.** Have scheduled **four** meetings with your non-profit for the four major project checkpoints, including one for this week.

4. **Feb. 8th 5pm.** **Project checkpoint: prototype.** Students should have chosen a partner, chosen a non-profit, and met with the non-profit to discuss their needs. A complete prototype of the project should be finished and approved by both partners and the non-profit. Students will also need to have their prototype approved by the instructor to ensure that it is ambitious yet attainable.

5. **Mar. 8th 5pm.** **Project checkpoint: prototype.** Students should have an outline prototype of their project finished. No polish or graphics are expected at this point, and placeholders are acceptable for large functional sections of the application, but all screens should be present and the flow from one screen to another should be working. This form of the application should be shared with the non-profit and any differences in expectations should be resolved at this point.

6. **Apr. 5th 5pm.** **Project checkpoint: completed.** The application should be done. The application should be shared with the non-profit, their feedback should be taken into consideration for revisions, and their help should be acquired (if necessary) in finding 10 potential users for a user experience study.
7. **Apr. 26th 5pm.** The user experience research should be completed.

8. **Apr. 30th and May 2nd in class.** Project presentations during class time.

9. **May 3rd 4pm. Project checkpoint: publicly available.** The application should be done and in the Google Play Store. A final meeting with the non-profit should have been held, including an evaluation of the non-profit’s satisfaction with the application. Results and conclusions from a user experience study involving at least 10 users, and the changes that were made based on this study, should be included in a written report. In the last week of class, pairs will be presenting their work and doing a demo of their application for the class.