Title: User-Centered App Prototyping

This project on app prototyping was one of the two major assignments in the Special Topics in Communication course focusing on mobile media. This course was last offered in spring 2018. Students were expected to complete this assignment before mid-semester break. Mainly seniors and juniors with a prior coursework in graphic design enrolled in this 300-level course.

Idea:

Since creating "highly usable and accessible products for the users" is the goal of a user-centered design approach, designers focus on the users and consider their needs in each phase of the design process by involving prospective users of a product through a number of research and design techniques (Interaction Design Foundation, n.d.). Therefore, this assignment was planned in a way that students could implement user-centered app design process through two interrelated tasks: 1) creating a user-driven iPhone app prototype for a new entrepreneurial idea, a service or an entity/initiative that does not have any existing app or student version of an existing app and 2) carrying out user experience studies among the app's potential or target users on the app prototype.

Goal:

- To offer students an opportunity to *experience* a user-centered app design[1] process for smartphones, i.e. from idea testing and conceptualization to prototyping to user-testing.

Implementation of this project:

This project was assigned about four weeks before the deadline. Since the project included multiple tasks/deliverables, students worked in a small group of 2 or 3 members[2].

Task 1: Students had two options for app design – creating an app design for a new entrepreneurial idea, a service or an entity/initiative that does not have any existing app or student version of an existing app.

First step for this task was to conceptualize and test an app idea or an app redesign idea among the users. Since almost all students in the class were iPhone users, students were asked to design an app prototype for iPhone. While conceptualizing the app idea, students also had to come up with personas or identify potential users for testing the idea and get feedback on initial sketches/design of the app.

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[1] App design project is not an app development project since the latter dwells on coding languages for app development.

[2] Since enrollment in this course in spring 2018 was 17, it was not possible to keep all group size to 2.

In the *second step,* students created sketches of app screens and sought potential users' feedback on them. During this phase, each group was asked to recruit at least five representative users for their app to receive initial feedback. In most cases, they end up identifying representative users in their family and friend networks and campus community. For a student version of an existing app, students also had to read reviews for that app in App Store to identify iPhone users' dissatisfaction with that app and find ways to address those frustrations in their design.

Third step for task 1 was to create an interactive prototype that can demonstrate how the app will actually work when it will be developed. For app prototyping, each group was expected to design at least 10 app screens along with the icon for the app. Student's graphic design background was useful in this phase of design. Students were expected to build an app prototype with either of these prototyping tools – MarvelApp or InVision. Additionally, while working on this app prototype, students had to follow the human interface guidelines for iOS for "visual design," "icons and images" and "bars" (such as navigation bar) in addition to accommodating the users' preferences that they gathered in the second step.

Task 2 was a logical next step in a user-centered app design process to refine and revise the design to achieve higher level of usability. Each group had to carry out user-testing research on app prototype. Since the class had partnered with the UserTesting.Com's University Partnership program, each student received a code for conducting three tests. Each group had 2 to 3 members; therefore, they were able to request minimum six tests for their app prototype. To implement user-experience research, each group was asked to create at least three tasks for UserTesting.Com's testers to replicate on their respective app prototype and share with their testers the URL address to their app prototype via UserTesting.Com's dashboard. With InVision or MarvelApp, students can generate a link for their app prototype. Additionally, students were able to select age-group, income-range, gender identity options to recruit appropriate testers or potential users for their app on the UserTesting.Com's dashboard.

Students received test results via email within 24 hours after submission of test requests. Each test result was received in video format that showed a trained app tester's interaction with the app prototype while performing the tasks as suggested by each group. Upon receiving all test results, each group had to identify strengths, weaknesses or areas for improvement and recommendations regarding their proposed app design.

Take-aways for the students:
I did not solicit student feedback or reaction specific to app prototyping. But my personal observation was, students really enjoyed this assignment because of creativity, interaction with target users of their app and freedom to create something new. I think this assignment taught students the importance of designing user-centered app to avoid, or at best reduce, accessibility and usability issues. From qualitative comments section of students' course evaluation, I was able to identify several comments that appreciated the lessons on prototyping:

"Creating app prototype was a very tedious, but extremely rewarding and educational. I really enjoyed seeing my idea come to life through the different app screens and getting feedback on Snap&Find. This project taught me that what you think is going to work best might not be the best option [for the users]."

"I learned about a lot of different tools and techniques to prototype apps and create mobile-friendly website."

"Focus on app prototypes and a strong component in making a website/app appealing and potentially profitable."