Project Background

Today, many people’s daily lives could not be completed without smartphones. We use these smartphones for basic activities, like transportation (Uber, Google Maps) and food (Grubhub), to more recreational activities, like music (Spotify) and social media (Instagram). Smartphones can connect people to their surroundings and to others through mobile applications.

Much of my CS education at Yale has been theoretical. I would love to have a more practical experience to apply my skills. As a Computer Science major, understanding the app development cycle would provide me with a new set of tools with which I can apply my CS foundation. Thus, for my senior project, I will design, develop, test, and build a mobile application.

Project Overview

For this project, I will build an iOS app. iOS is an extremely popular platform, and it also is the platform that will be easiest for me to work on given my current resources (I personally have an iphone and a MacBook.).

Apps that allow users to track their own lives, privately or publicly are becoming increasingly popular. This is the entire point of social media platforms such as Instagram and Facebook. The “one second a day” apps (there are multiple) allow users to save one second of a video each day, creating a compilation at the end of the year. People want an easy way to remember their lives.
I have always been interested but struggled to keep up with a diary. I find remembering to write in the diary each day difficult, and often don’t know what to write. My app would enable people to quickly and easily keep track of their lives. Instead of one second of a video each day, my app would prompt users to write one sentence each day. It would provide users with prompts that could inspire them to write. It would notify them throughout the day, perhaps even through text, to remind them to write. Each day would have a headline, one sentence, but users could go deeper—expanding upon important days with more text, photos, or videos.

Over time, this would create a timeline for the users, enriched as they continue to participate. Users could go back and fill in past days; we could sync the app up with the photos app that could sync days with photos to remind users what happened.

If I have time, I could add a social aspect, and allow users to share their days with people also on the app who played a role in that day. I could connect with social media to allow users to see tweets, Facebook or Instagram posts, etc. on their personal timeline. I could add location data to the photos that would allow users to track their year geographically.

The project’s overarching goals are listed below:

1) First, I will finalize my App goals through user interviews. This will give me experience with creating my own goals for a project instead of reaching milestones set for me like I often do in problem sets. I will develop different specifications and user interfaces for a potential app. I will create UX mockups, likely using an application like Balsamiq, and then create the wireframes of how the pieces of the app should fit together.

2) Next I will begin implementation by designing the architecture of my application. I will design the data structures and choose the potential APIs I would want to integrate in order to meet my specifications in step 1.
3) Execute implementation, by learning how to create the app. I will need to learn new languages and environments to build iOS apps. I will maneuver new challenges in mobile app development as they arise.

4) Finally I will run a test cycle. I will improve my app through user testing and feedback to see what parts of my app are succeeding and which parts are not.

My class projects have exposed me to data structures, algorithms, and object-oriented programming techniques. I look forward to learning how to actually create an app. I have not used Xcode, the IDE provided by apple for iOS programming. Nor have I used Swift or Objective C, the coding languages available for iOS apps. I imagine learning these will be an intense but rewarding experience.

Approach

1) Learn about iOS development platform. I will choose a language to write my app in as well as research potential tools or environments with which I can create my app.

2) Use tutorials (perhaps through Lynda.com) to practice building very simple apps in advance of creating a larger app.

3) Create specs and wireframes. This, combined with step 1/2, should allow me to scope the application and decides which features will be most valuable, as well as achievable.

4) Create and iterate on application; I hope to begin with a simple version of the application and add features as I go.

5) Create a final report to document application and process

Source: http://zoo.cs.yale.edu/classes/cs490/15-16b/darakananda.nathaya.nd278/ provided inspiration for project setup.