BACKGROUND

In today’s society people are becoming more and more dependant on smartphones as they provide a means to perform basic tasks like acquiring transportation, purchasing food and managing our finances. As smartphone usage continues to grow, so does the range of available applications. Apps on our smartphones are now able to provide fitness tracking and even guide us through mindfulness practices and meditation. Developers are leveraging our reliance on smartphones to create innovative mobile solutions to everyday problems. Apps have become an integral part of many of our daily lives and therefore I think mobile application development is a very important skill for any software engineer to have. Through my computer science education and my internship experiences I have learned a lot of necessary fundamentals including data structures and algorithms, database systems, object oriented programming as well as front-end and back-end frameworks. Despite all of this, I have had minimal experience working on mobile development. Therefore, for my senior project in Computer Science, I hoped to develop this skill by creating a mobile app.

OVERVIEW

For my senior project I will be building an iOS app due to the fact I am more familiar with the Apple development environment and currently have access to Apple devices. For this project I have decided to use the programming language Swift because it was developed by Apple specifically for iOS development. It has thorough documentation, a vibrant online community and many online tutorials available, which will all be useful as I teach myself this new skill.
For my application I want to implement a mobile variation on a travel journal. As a frequent traveller, I am always looking for ways to document my trips, whether that’s through photographs, physical journals, social media or just jotting down notes on my phone. The goal of this application is to get all of this information in one place, allowing you to browse through your photos and videos, your favorite sites and restaurants, jot down notes and more all within the application. Since I’m new to iOS development I’m not quite sure how long implementing these basic features will take, but, time permitting I’m also hoping to add a social component to the app, allowing you to view and share trip itineraries and recommendations with friends.

GOALS

- To gain experience owning a project through all steps of the development cycle, from ideation to execution. For academic problem sets and internship projects I’ve always been given a set of specifications or guidelines for what was expected of me, so this project will be a deviation from that as I will be outlining my own expectations.
- To become proficient in iOS development. I will be teaching myself Swift as well as using xCode, both of which I’ve had minimal experience with in the past.
- To create a fully functioning iOS application that fulfills all aspects of my specification and is user friendly, intuitive, and fully tested for bugs.

TIMELINE

Preliminary Research

- Learn Swift and familiarize myself with XCode and the iOS environment. In order to get comfortable with iOS I will be making smaller starter apps as a way to make tangible progress. Below are a few documents I will use to get started.
○ https://swift.org/documentation
○ https://www.lynda.com/iOS-training-tutorials/

● Research other relevant app components including
  ○ API’s to integrate with
  ○ different databases I can use

Project Specifications

● Finalize project specification by deciding which features are the most useful and will provide the most opportunity for learning.
● Design UI mockups as dictated by my proposed specifications.

Implementation

● Develop the iOS app in accordance with the UI mockups and specifications.

USER FLOW

Home Page

● Sign Up / Log in flow for Users

Map View

● User can see all of the places they have traveled to as pins on a map and can click to expand and view more information.

Add Trip View

● User can add relevant information about a trip including
  ○ Location
  ○ Date
  ○ Photos/ Videos/ Audio
  ○ Recommendations
Journal notes, etc

Trip List View
- User can see all of their trips in list view and can click to expand and view more information.

Discover View
- User can search for a location in order to surface trips made by others.

DELIVERABLES

Progress Benchmarks
- Simple apps created for learning iOS development
- Walkthrough documenting how to use the app
- Written report documenting my process

Final Product
- Fully functioning iOS application that fulfills all aspects of my specification and is user friendly, intuitive, and fully tested for bugs