Health App

Development Plan

Version 1.3

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#### **Project Overview**

When adolescent patients with chronic medical conditions transition from their pediatrician to an adult physician, some issues arise. Sometimes the new physician cannot easily access the patient’s medical history, or the patient doesn’t always remember the details about their medical history.Due to reasons like these, the adult physician may make decisions without knowing the patient's full medical history, and this can lead to further complications for the patient. The solution is to create an application to provide the patient’s past and current information to the adult physician. The patient will log into the app and enter information about their medical history. The app will also store and display the patient’s information when needed.

#### **Project Purpose, Scope, Objectives**

The goal of this project is to create an iOS mobile application for patients between the ages of 16 to 25 with chronic medical conditions. This application will help patients keep track of their medical history, and help them be more involved during the transition process. The patients will be able to enter information regarding their past and current medical history, medications, upload documents etc., on their smartphone, and be able to retrieve and present this information when needed. The app will also include a reminder notification feature. The patient can set these reminders to notify them of upcoming appointments, and have the ability to turn these reminders on or off. The patient will also receive a notification every month on whether they would like to update their medical information. The application will have a print feature where the patient can send their medical data from their phone to a printer for a paper copy of the data. The user can also export the summary as a PDF format.

The online version of this project will include an additional feature which will allow patients to sync their data to a server in order to retrieve the data from a different device. Patients can also share their data with their physician by sending a PDF template of their data through Bluetooth.

The app’s main user will be the patient. The app’s GUI will contain the following functionalities: the app’s display layout, the ability to input patient information, upload documents, and control the app’s reminder feature.

#### **Team Organization**

* **Gayatri Patel** - Team Lead / Frontend Lead
  + Overlook and efficiently manage team’s responsibilities, represent team to professors, TA, and client, and overlook frontend workflow and manage any conflicts that arise.
* **Gopika Menon** - Presentation Lead / Source Control Lead
  + Manage PowerPoint presentations and confirm team members completed their designated sections, overlook GitHub workflow and manage any conflicts that arise (work with QA Lead).
* **Thanjila Uddin** - Documentation Lead / Architecture Planning Lead
  + Overlook, manage, and submit documentation on time to Blackboard, assist team in designing code architecture for application.
* **Melissa Heredia** - QA Lead / Backend Lead
  + Overlook GitHub workflow and manage any conflicts that arise (work with Source Control Lead), ensure team members submit quality code, and overlook backend workflow and manage any conflicts that arise.

#### **Problem Resolution Policies**

If a problem arises such as a team member does not submit code or misses meetings without notifying the team, the team will go through the following steps to resolve the issue. First, the team will address the issue to the team member. If the issue is not resolved, then the team lead will directly talk to the team member. If the team lead is not able to resolve it, the issue will be brought to the TA’s attention. The last step is to bring it to the professor’s attention.

If a team member is absent from a meeting, the other team members will update them immediately. Disputes with technology issues are resolved through discussion and valid reasoning.

#### **Project Plan**

The Health App team will have in-person group meetings on Mondays and Wednesdays at 2:30 PM in the UGL. The team will also meet via Skype at least two times every week. Client meetings will take place every Thursday at 6 PM. In case the client is not available on a Thursday, the team will schedule the client meeting based off of the client’s availability that week. Due to schedule conflicts, most client meetings will take place via Skype. TA meetings will be held every Wednesday at 5:00 pm in 2207 Maccabees.

The team has several methods of communication. A WhatsApp group has been created to discuss project goals, questions, and issues. In-person and Skype meetings will also serve as a way to communicate with other team members. A shared folder in Google Drive is used to store team documentations, presentations, resources, and information obtained from client and TA meetings.

#### **Project Schedule**

Below is the project schedule with deadlines set for each week:

September 25

* Gather requirements from client and start on documentation
* Go through tutorials for Xcode and Swift
* Create basic UI for main page of Health App

October 2

* Team has Requirements documentation and presentation done
* Implement functions for filling out a form and saving data on the phone

October 9

* Present the requirements gathered to class
* Implement functions to upload an EKG image to the app, use camera from app to take picture of document, and save image

October 16

* Team has finished creating the presentation for first prototype
* Implement functions to allow app notifications for patient’s scheduled appointments

October 23

* Present the first prototype to class
* Test features and work on test plan
* Team has Design Specification documentation and presentation done

October 30

* Present Design Specification to class
* Team has finished creating the Test Plan presentation
* Create login feature for Health App

November 6

* Present Test Plan to class
* Team has finished creating the presentation for second prototype

November 13

* Present second prototype to class

December 6

* Project must be finished and team will present the final presentation to class

#### **Configuration Management Plan**

We will be using a private repository on GitHub as the source control for this project**.** The main features of the application will have their own separate branch on GitHub (known to the team as a “feature branch”). To further develop on a feature branch, team members will create their own local branch. When development and testing is completed on a feature branch, a pull request will be submitted and all conflicts should be resolved in order to merge the code to the master branch. Once all of the team members review and approve the pull request, the code will be merged and the changes will be verified in the master branch.

#### **Technologies**

Our team will be developing an iOS application using the following technologies:

* Swift - programming language used to create app
* Xcode IDE - software used to write in Swift
* SQLite - embedded database to maintain app’s data
* SQLCipher - encrypts the embedded database
* HTTPS - allows for secure communication over a network between the iOS application and the AWS server
* AWS - server used to host the online application
* XAMPP - create a local web server for the online application’s local database
* PHP - scripting language used to create the API for the online application
* MySQL - database which stores user’s data
* macOS Sierra - operating system to develop app
* Oracle VM VirtualBox - virtual machine used to house the macOS