

Sprint #1 - Practicum Project Proposal

Vamsi Gadireddy, George Singhal, and David Strube

vamsig@gatech.edu, gsinghal9@gatech.edu, and dstrube3@gatech.edu

Abstract—This is our team's proposal for the practicum project for Sprint #1 for CS 6440 - Intro to Health Informatics. The primary project proposed is Project #4 - MedCardsWeb Application, Native Application. The secondary project proposed is Project #2 - Creating a mobile friendly My Family Health Portrait tool, Web Application. Both of these projects fit into the Unit of Focus of "Health Interoperability & Tools" and both fall under the Primary Topic of "Healthcare Technology, Tools & Scripts".

1 AREAS OF FOCUS

1.1 Unit(s) of Focus

The Unit of Focus of the project "MedCardsWeb Application, Native Application" is "Health Interoperability & Tools". Likewise, the Unit of Focus of the project "Creating a mobile friendly My Family Health Portrait tool, Web Application" is also "Health Interoperability & Tools".

1.2 Topic's Primary Area of Focus (or External/TA Mentor Topic Area)

The Primary Topic of "MedCardsWeb Application, Native Application" is "Healthcare Technology, Tools & Scripts". Likewise, the Primary Topic of "Creating a mobile friendly My Family Health Portrait tool, Web Application" is also "Healthcare Technology, Tools & Scripts".

1.3 Any particular secondary areas of focus

Neither "MedCardsWeb Application, Native Application" nor "Creating a mobile friendly My Family Health Portrait tool, Web Application" has a secondary area of focus.

2 BACKGROUND AND SIGNIFICANCE

As the number of people accessing medical and other information from mobile devices grows, so too does the need to create a mobile friendly interface for accessing this information. The interface for this information must take into account format and accessibility concerns as well as having a responsive design.

3 PROBLEM

Administrative duties and obligations of doctors and nurses are among the numerous obstacles and problems that come with providing top notch healthcare in our modern healthcare system. The requirement of fast presentation and interpretation of large amounts of information is another. A great deal of precious time is often spent trying to make this information digestible for all parties concerned so as to decide how best to provide appropriate care. When data is misinterpreted or ignored or lost, people suffer needlessly and die well before their time.

4 PROPOSED SOLUTION OR IDEA

We propose to collaborate with the mentor Julien Thomas MD, MPH, of Emory Healthcare to work on an application that organizes data appropriate for a particular specialty based on chief complaints. This application will also integrate clinical tools to save time and cognitive energy. Ideally, this application will assist medical professionals to make decisions about therapies that their patients may need.

Alternatively, we propose to collaborate with the mentors Muin Khoury, Wei Yu, and Ridgely Fisk Green of the Office of Genomics and Disease Prevention, and the Office of Genomics and Precision Public Health (OGPPH) at the Centers for Disease Control and Prevention (CDC) to create a mobile friendly My Family Health Portrait web application.

5 COMPLEXITY OR EFFORT

Regardless of which proposal / mentor we are selected for, the level of complexity or effort required for this undertaking will be significant. Mobile applications come on a wide variety of devices, especially those on Android. Applications designed for both iOS and Android can be limited in the types of devices they are intended for, whether it be for a phone or tablet or watch or something else. It would be best, at least for the initial effort, to focus on just one or two types of devices (phone and/or tablet) and just a few models of each type (specifically the devices that the team members and/or mentor(s) can test with). This will make the initial development of the final project limited in how effective it will be in achieving its final goals, but hopefully will lay the groundwork for future efforts to continue in pursuing those goals.

If we are selected for the mobile application project, we will need to gather all the relevant information that the mobile application will be dealing with. Likewise, if we are selected for the mobile friendly web application, we will need to begin by viewing the current web application

on all mobile devices we are testing with to see how much work needs to be done to make the web application more mobile friendly.

6 TENTATIVE TEAM MEMBERS & ROLES

The tentative team members are as follows: Vamsi Gadireddy, George Singhal, and David Strube. Vamsi has experience in Python, Java & Android app development and so his role would be that of data scientist and developer. George has experience in Architecture, Database, Java, Full stack and so his role would be Architect. David has experience in native mobile application development (Objective-C and Swift in iOS, and Java and Kotlin in Android), so his role would be mobile developer.