Release Plan

Team Name: EK Health, DataCare

Team Members: Lou, George, Octavio, Karthik, Robin, Kalpana, Marcos

Tentative Project Title: Voice-To-Text

Description: Create an automated framework in the field and in the office for healthcare professionals, who need security-enhanced voice-to-text apps to help with the transfer of patient information.

High Level Goals: Have a speech-to-text option which would be usable on different platforms.

Team Roles:

Octavio (OR) - Software Engineer, Scrum Master for Sprint 2

Kalpana (KC) - Software Engineer

Robin (RS) - Software Engineer, Liaison

Karthik (VT) - Software Engineer, Scrum Master for Sprint 1

George (GA) - Software Engineer

Marcos (MC) - Software Engineer, Scrum Master for Sprint 3

Lou (LG) - Software Engineer

User Stories for Release:

Sprint 1 (Scrum Master: VT)

1. Set-up Github - As software engineers, we need to setup a GitHub repository so that the team can efficiently progress.

    3 Points. VT

2. Research APIs - As software engineers, we need to research all the possible APIs and choose at least three speech-to-text API's which meet the following characteristics:

    Tasks:

    A. maximum recording length in minutes
    B. offline recording

C. translation accuracy
D. efficiency in terms of data usage and device performance

13 Points . GA, KC, RS, MC, LG, OR, VT

3. Research Android Speech Recognizer - As software engineers, we want to research this API, understand the limitations of it, and determine if it meets the criteria for our product.

13 Points. LG, RS, KC, GA

4. Research Pocketsphinx - As software engineers, we want to research this API, understand the limitations of it, and determine if it meets the criteria for our product.

13 Points. GA, LG, RS, KC

5. Research TLSphinx - As software engineers, we want to research this API, understand the limitations of it, and determine if it meets the criteria for our product.

13 Points. VT, OR, MC

6. Implement a voice-to-text prototype in Android - As software engineers, we want to build a working prototype of voice-to-text translation using our chosen API.

8 Points. LG, RS, KC, GA

7. Implement a voice-to-text prototype in iOS - As software engineers, we want to build a working prototype of voice-to-text translation using our chosen API.

8 Points. VT, OR, MC

8. Report status to product owner - As software engineers, we need to present the status of our prototype development to the product owner.

8 Points - LG, RS, KC, GA, VT, OR, MC

Sprint 2 (Scrum master: OR)

1. Network Status - As developers, we need to check when network is on or off.

Tasks:

A. Figure out threads in Java for faster offline mode loading times.
B. Check network state
C. Implement interrupt when network is lost
D. Create an interface for the network listener
E. Figure out how to alert user

8 points (KC, RS, MC)

2. Offline network - As developers, we need to understand the sphinx API for offline usage.

Tasks:

A. Create an interface for the network listener
B. Fix inaccuracy

8 Points (GA, OR, VT)

3. Training - As developers we need to find out how to train sphinx.

Tasks:

A. Understand how the training app works
B. Find relevant sample audio to feed the training app
C. Physically train Sphinx

20 Points (Everyone)

4. Google Speech implementation - Implement Google Speech when network is available.

8 points (LG)

5. Android Studio environment - As developers, we need to understand Android Studio and its basic functionality.

5 points (Everyone)

6. Xcode (iOS) Environment - As developers, we need to implement OpenEars (an iOS version of PocketSphinx) in an iPhone application

Tasks:

A. Learn Swift Basics
B. Learn OpenEars Framework Tutorial
C. Implement OpenEars in Swift (convert Objective-C to Swift)

13 points (VT, MC, LG)

7. User Interface - As a user, I need an option to start speech recognition so that my spoken words are transcribed into text after speaking into the microphone.

Tasks:

A. A user needs a button to click on to START the speech recognition process.
B. A user needs a button to click on to STOP the speech recognition process.
C. The spoken words must be transcribed into text.
D. The transcribed text must be editable by the user.

8 points (VT)

8. Hashing Dictionary of Words - As developers, we need to create a key-value pairs of words spoken so that there is a faster lookup of the same word if the user speaks that word.

Tasks:

A. Learn how to use Swift Collections (Dictionary).

3 points (MC)

Sprint 3 (Scrum master: MC)

1. As a developer, I need to access the DataCare's testing Database Server, so that the nurses can interact with a system that mimics the DataCare's web service.

Tasks:

A. Meet with the Datacare engineer and learn how to connect to DataCare's server. (4 ideal hours)
B. Learn how fetch data from the server, update data from the server, and push data to the server. (8 ideal hours)
C. Implement the fetch, update, and push on iOS and Android versions. (20 ideal hours on each platform)
D. Learn how to set up authentication with the server securely. Possibly look for resources on encrypting data on mobile phone if plausible. (5 ideal hours)

8 Story Points. (Android: RS, KC, OR, GA) (iOS: MC, VT, LG)

2. As a developer, I need to build interfaces for Android and iOS that are similar to each other, so that users feel comfortable switching their platforms and still feel they are using the same system.

Tasks:

A. Create activities for each of login/cases/ViewCase/EditCase/AddNote. (10 ideal hours)
B. Implement a tableview of “My Cases”. (10 ideal hours)
C. Implement a detailed view for each case and connect it to the parent table view (20 ideal hours)
D. Connect the offline voice recognition to the notes section.

(Android: RS, KC, OR, GA) (iOS: MC, VT, LG)

13 Story Points

3. As a developer, I need to load the most commonly used words by a nurse using DataCare’s web service into the application system, so the offline speech recognition accuracy increases.

Tasks:

A. Research how to load different word files. (2 ideal hours)
B. Implement limited dictionary that is accurate but smaller. (2 ideal hours)

(Android: RS, KC, OR, GA) (iOS: MC, VT, LG)

5 Story Points

4. As software engineers, we need to perform testing and ensure the speech recognition module we build is functional.

Tasks:

A. Test the offline voice recognition module. (3 ideal hours)
B. Test the application interface and UI objects. (5 ideal hours)

3 Story Points. (Everyone)

5. As a user, I must be able to read and have access to a user manual, so that I can understand how to login, view cases, edit notes for a case, and create cases.

Tasks:

A. Write an easy to read user manual. (3 ideal hours)

B. Implement a view in the mobile applications if plausible for user manual (5 ideal hours)

3 Story Points. (Everyone)

6. Network Connectivity - As software engineers, we want to maintain data consistency between the client and the server in possibly volatile network conditions.

Tasks:

A. Find out how to parse Json packets.

B. Establish when to sync data.

6 points. (Everyone)

Product Backlog at the end of release 1 :

1. Network Connectivity - As software engineers, we want to maintain data consistency between the client and the server in possibly volatile network conditions. 5 points
2. User Manual - As a user, I must be able to read and have access to a user manual, so that I can understand how to login, view cases, edit notes for a case, and create new cases. 6 points