

Bi-weekly Report 3 - OpenMRS - Diabetes

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Overview

During the past two weeks we have been looking into the data stored by the Fitbit smartwatch, searching for a way to fetch this data into our mobile app. Fitbit Charge HR is a wristband with continuous, wrist-based heart rate, all day activity tracker, sleep monitoring, exercise tracking and wireless syncing. Therefore we have been working on coding an android mobile app that will get the heart rate, distance, calories burned, floors climbed, active minutes, steps and number of sleep hours.

Furthermore, we have been improving our OpenMRS android client so that it has the following available options:

- online/offline mode
- allow user to continue filling form which was saved
- capture vitals from visit dashboard
- single patient synchronization
- access to patient details, vitals and visits

Problems encountered

We are still having some problems in getting the data from the Fitbit smartwatch using the Fitbit API, which is a set of methods that lets you retrieve and write data for a user's Fitbit account. The problem is the Fitbit uses OAuth 2.0 for user authorization and API authentication. The OAuth 2.0 framework requires the application to obtain an access token when the Fitbit user authorizes the app to access their data. The access token is used for making http requests to the Fitbit API. Before getting the access token the user needs to get a temporary access token. Therefore the process becomes quite complicated:

- using the client key, client secret, nonce, timestamp and request token url, the user will get a temporary access token and a temporary access token secret
- using the tokens from above the user can access the authorization page which will redirect them back to the application with a verifier
- using the verifier, nonce and timestamp the user will get the access token and an access token secret
- finally, using the tokens from above as well as the request URL, the authentication process will be complete

This is why we have thought of using the Temboo library which needs only the client token and client secret for authentication.

Furthermore, we are also encountering problems with connecting the OpenMRS android client with the OpenMRS server due to incompatible of version REST webservice module. In order to fix this problem, we tried to host one common server that the whole team can work which solved the problem as we managed to install the compatible version of REST webservice module. However, modifications are still being put into place before we can achieve our objective.

Tasks completed

- Team website is up with major sections completed
- We purchased Fitbit and started working on syncing data

Next Objectives

- Have an android app that can capture vital information from Fitbit and synchronise the data with OpenMRS webapp
- Making slight modifications to improve our website
- Start working on the group video presentation

Members Contribution

Diana

In the last two weeks I have been researching on a way to get the data from the Fitbit wristband to our mobile app using the OAuth 2.0 authentication process. In the end, I have found that using the Temboo library for the get requests is much easier and helps us get rid of unnecessary lines of code. Furthermore, I have been working on improving the OpenMRS android client as well as adding new modules to my OpenMRS localhost such as XForms, HTML Form Entry, Synchronization, Simple Lab Entry, Patient Summary, Google Maps Image Viewer, Atlas Module and Diabetes Management. Moreover, I have managed to upload our OpenMRS platform to an online server so that it will be available for everyone.

Sam

During the period of two weeks, I have been working on the OpenMRS android client and interaction between webapp and the android app in general.

Chevy

For the past two weeks, I have been working on uploading and troubleshooting the project website as our css and javascript would not load once I have uploaded it on the CS server. I have also been working on creating a responsive web design using bootstrap as our current website is non-responsive.