Final Work proposal

Fitbit data acquisition and treatment.

The aim of my project is to acquire data of one of the most famous *activity band* (Fitbit) and process it.
Fitbit has an official API, that allow users to connect with their BBDD and obtain the raw data registered with your activity band, with the purpose of giving support to developers to build third-applications.

In my case I will have two goals on the project. The first one is achieve the connection , which is protected with a OAuth 2.0 protocol to avoid malicious connections, and study the provided API.

OAuth protocol is a common security protocol used by a lot of applications like that, and MATLAB doesn't have a specific library to use it, so as a secondary goal I will try to build a library to help other users to use Fitbit API, and if I can, do a generic OAuth library to MATLAB.

The main objective of the project will be to think how can I process the data that I get from my band, and obtain new information and features, tanking advantage of MATLAB power to handle big quantities of data.

Fitbit's API give me the possibility of having access to *Activity (steps, calories burned, distance, floors, elevation), Heart rate, Sleep information, Body weight (introduced by the user)* and more.

I have chosen this project because I'm studding telematics speciality, and I like to understand how works this kind of security protocols, and how to interact with official API's.
Moreover I enjoyed a lot this subject, and I just want to continue with this entertainment, doing a project that I will really enjoy and that is not only a subject project but is a project of my daily life. This is the way where I really have the best of me, and when I obtain the best results.

Finally I've thought a lot of times how we could take advantage of that activity bands to help people with health problems, and I think that doing a project like that will bring me closer to have some good idea.

I hope the project is adequate for the subject.

Documentation:

Fitbit API: https://dev.fitbit.com/docs/activity/