CS2043, Project 1, Software System

**Health and Fitness monitoring system**

Team profile

Mohamed Mesbahi El Aouame, UNBSJ BscCs student

Third year student at UNBSJ. C++ Programmer and AI enthusiast. Interested in embedded systems development in the domain of IoT, as well as neural networking and deep learning techniques.

Michael Guo,

Lindsay Mullett, UNBSJ BscCs student

Educated in data management and object orientated programming. Learning proper software development. Motivated to improve implementation and efficiency of systems relating to precision medicine.

Overview of the System

Client – person who would purchase device and upload personal data to be monitored and measured to be used for self-improvement and medical treatments. User can create account to assess own data. Client would need to own a smart watch for measuring vitals and recording physical data

System – Website and app connected personal device. Device will measure physical data and store it with the client’s profile accessible through a website. User friendly interface for client to upload and monitor data. Interface for healthcare professionals to connect to in the evet of urgent medical care. It is required to keep medical information and personal information separate.

Stakeholders: Can be used by all types of people ie.

* Fitness motivated
* Diabetic
* Genetic disorders
* Doctor
* Expecting mothers
* High risk individuals
* Personal Trainers
* Nutritionists

Functional System Requirements:

|  |  |  |
| --- | --- | --- |
|  | Description | Priority |
| REQ-1 | The system should allow the user to create his own profile and modify it | 5 |
| REQ-2 | The system should be able to store the personal health data uploaded by users from any machine(computer/mobile) into a database | 5 |
| REQ-3 | The system should provide 4 types of accounts: one for health professionals, one for personal coaches and nutritionists, one for regular users and one for users at risk (people with diabetes, genetic conditions, chronic diseases...) | 3 |
| REQ-4 | For the regular users account, the system should have these features:  - | 2 |
| REQ-5 | Connecting actors to the user. Allowing the different types of professionals to modify plans plans and provide recommendations to users. |  |

Use-case scenarios

|  |  |  |
| --- | --- | --- |
| Use Case | Description | Requirement satisfied |
| userProfile | Allows user to create his/her personal profile and modify its access/information | REQ-1 |
| Health care professional |  |  |
|  |  |  |
|  |  |  |

Diagrams

A picture containing diagram

Description automatically generated

What type of Architectural Pattern?

Layered style

Development phases:

* design
* construction
* testing
* Documentation

Software development management plan

Goals and Scope (categories and subgroups):

Pinpoint the objectives that need to be achieved in light of the collected information:

Structural aspects:

Documents for submission:

Team profile

Schedule

Monday 16th – problem and solution, use case/class diagram

Requirement specification

Design Description

Diagram

Code

Testing

Website and application

Website:

Data Base – client profile and subscribed services

Main classes - visitor interested in app, members, health care professional, personal trainer, nutritionist, website administrator

Members- fitness/nutrition, critical monitoring, casual monitoring

Health care – Doctor, nurse, pharmacist