Software Engineering Assignment 1

BSCS14038 **BSCS14053**
BSCS14066 **BSCS14078**

1- **What are the requirements of your project?**

Answer: The project we are going to work on is related to our user health and their current fitness. All the users who require to get healthy and fit and have less body fat would be using our application. The basic requirements for our project will be user current body values in the start.

What is the age of our client, how much weight he has before he starts the plan, what is his height and all the other questions that include if the user is already having daily walk, what is the diet plan he is having right now and all those features that are required so that we can have a complete body chart & plan for him.

Our application will be having a complete signup process for this in which the users will be providing complete details for their verification so that they can be alerted on daily basis

This will be some basic requirements we will need for our system

2- **Do you think you need mathematical verification of correctness of your system or a part of your system? why?**

Answer: In the context of rigor and formality principle we'd need formality verification by using law of mathematics. Yes , We will be requiring correct mathematical values for our system because our application is basically based on Human body values and all the further steps are depending on these mathematical values that include weight, body mass, age, fat percentage etc. These values are not actually calculated through our application however they will be provided by the user itself.

3- **Can you separate various concern of your project from functional and quality perspective? Highlight the concerns and describe how can you handle concerns separately?**

Answer: Yes we can, the functional part of our system can be divided from its graphic interface part. As separate of concern help to improve complexity of a system and to concentrate on certain module at a time, we can work separately in the environment of our concern and then sum up the whole system as one application. As far as the quality perspective is related. The quality will be much preferred to be dealt as a whole team. According to our system we can have different separate concerns like

- Training module.
- Trainer module.
- Tutorial module.
- Dietary Plan module.
- Health concern.

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4- Identify some functional modules in your system. Discuss coupling and cohesion aspects.

Answer: Coupling refers to the interdependencies between modules, while cohesion describes how related the functions within a single module are. Low cohesion implies that a given module performs tasks which are not very related to each other and hence can create problems as the module becomes large. In our system the prominent functional modules are given below.

- Training module.
- Trainer module.
- Tutorial module.
- Dietary Plan module.
- Health concern.

We categorize these modules in such a way that there occur coupling and cohesion. These modules are entirely different and have no any dependencies over other modules which verify coupling term. Whereas in cohesion, if we pick any of these modules we'll come to know the relation between sub functional part in a single module (As dietary plan only covers diet routine of a user and have sub functions as how much calories a user should take in a day and many other parts which would be related to a certain module.).

5- Identify potential future changes in your system. Pick one potential change and discuss how would you address it in your system?

Answer: As we have described we are going to make an app related to health and fitness. Our purpose of choosing this idea was only is that this system extensible or not. In this system we can add many functional modules and can have many potential changes in our system. Initially we'd have simple app which would cover basic conventional functioning (readable and pictorial training tutorials, readable dietary plan etc) but later that we can extend it in such a way that it'd look more attractive for example if we add video tutorials in our system over pictorial readable tutorial it would look better, similarly we can have news feed section, uploading pictures of concerns, comments on uploaded pictures and rating certain user profile as trainer. These phenomenal things can be added as potential future changes in our system.

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6- What increments would you suggest if you are asked to build your system incrementally?

Answer: Incremental model in software engineering is a one which combines the elements of waterfall model in an iterative manner. It delivers a series of releases called increments which provide progressively more functionality for the client as each increment is delivered. . In this system we can add many functional modules and can have many changes in our system. Initially we'd have simple app which would cover basic conventional functioning

- Readable and pictorial training tutorials.
- Readable dietary plan

But later that we can have increments in our system in such a way that it'd look more attractive.

For example if we add

- Video tutorials in our system over pictorial readable tutorial it would look better.
- We can have news feed section.
- Uploading pictures of concerns.
- Comments on uploaded pictures.
- Rating certain user profile as trainer.

These could be our increments to enhance to our system functionality.