**BAHRIA UNIVERSITY, Karachi Campus)**

# Department of Software Engineering

# ASSIGNMENT # 01 – Fall 2022

# CLO 01

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| Course Title: **Software Construction** |  | Course Code: **SEC-311** |
| Class: **BSE – 5(B)** |  | Shift: **Morning** |
| Course Instructor: **Engr. Misbah Perveen** |  | Date: **26th Oct 2022** |
| Due Date: **01st Nov 2022** |  | Max. Marks: **5.0 Marks** |

**Question No. 1: [CLO#01, 5.0 marks]**

Sometimes, we are in a situation when we want to cook something delicious but we are short on ingredients at our home and we are confused about what to cook with the ingredients we have. We are also working on our per day calories count to maintain our health. For that purpose we need a mobile application whose purpose is to search out all the recipes, which we can cook with our available ingredients along with amount of calories each recipe will have and approximate time of cooking.

Your task is to consider this application requirements and write down the functional and nonfunctional requirements for software (mobile app) construction.

**Group Members**

**M Muaz Shahzad**

**Usama**

**Talha Zafar**

**Shahab Tahir**

**Functional requirements:**

**Registration**:

If User is a new, the system shall let the User to register to the system via Social Network or via register form.

**Login**:

The system shall let the User login in. User will have to register providing their input username and password which will be validated and authenticated on the server side. Most importantly is that all the data that are going to the server side will be encrypted.

**Forgot Password**:

User shall be able to change or reset their password if they want to.

**Selecting Option Category**:

System shall let the User to select category (Workout, Relaxation sound or Calorie counter).

**View Ingredients:**

The registered user of the app shall be able to view ingredients of a certain recipe. This option will allow him/her to mark those ingredients as needed, and ultimately find them in the shopping list.

**Plan a Meal**:

The user shall be able to plan a meal/create events.

**Monitoring progression**:

System shall record progress of user Workout activity. User should be able to use a wearable device and get their exercise result on their application.

**Monitoring Calories:**

System shall allow User to get their Total Daily Energy Expenditure, search food intake, view and record their meal counter.

**Food Safety:**

Ensure that the food is safe for consumption.

**Support Services:**

System shall allow user to view who they can go to for help information and view video of real-life stories and how little thing worked for them getting through rough time.

**Non-Functional requirements:**

**Performance/Response time requirement:**

Performance and system response times are conjoined in that one can affect the other. It is a determination of what is acceptable to a user as adequate performance/response time. The performance and the response are crucial for the success of the application because the application will be capturing, measuring activity, calorie counter of the User and we don’t want any error. Also, to keep the user engage with the app.

Client-side testing, Network testing and server-side testing will be implemented and as well as specifying the following:

1. Response Time

2. Workload - Work that the system must support

3. Scalability – Increase in system workload that the system should be able to process

4. Platform – Hardware and software (Operating System & Software Utilities) that houses the system

**Security requirement:**

Security will be considered throughout the application life cycle to prevent manipulation of data impacting data integrity, quality and the developer reputation. Security is extremely important. If user don’t think the system is secure, they will not download the application.

**Portability requirement:**

The application will cater to different Android version.

**Reliability requirement:**

The term reliability could be referring to as the ability for a software or mobile application component to consistently perform according to its specifications.

**Extendibility requirement:**

The system shall be extensible which mean that developers can add more functionality in the system or make update on the exist code without major changes or changing the architecture of the system.

**Reusability requirement:**

Reusability is a valid requirement for all projects that involve software development. The application will aim to have multiple functions and other code that can be re-used and implemented into further or new developments going forward or indeed when creating something new.

**System Evolution:**

To make this application evolve over time the design application has to be flexible, making sure unnecessary and difficult to understand code does not exist within the development process. Then it’s possible to have innovative, something that is not easily achieved but possible.