

## **CSE 3055 Database Systems Project**

### **Requirement Analysis Report**

**Name of The Project:** Diet Control System

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#### **A-) Entities And Their Definitions**

Our entities is mentioned and explained below:

##### **I. User**

A user is a superclass that can be either Client or Nutritionist.

##### **II. NUTRITIONIST**

A nutritionist represents doctor who gives consultancy to clients about managing their eating habits.

##### **III. CLIENT**

A client represents people that get consultancy from nutritionists about their eating habits.

##### **IV. NUTRIENT**

Nutrients are foods that have attributes like calory value, amount of carbohydrate, protein and fat.

## **V. NUTRIENT CATEGORY**

Nutrients will be classified in categories like milk products, meats, legumes, cereals, fruits and vegetables

## **VI. DIET PROGRAM**

Diet programs are special programs, which consist of meals, that are scheduled by nutritionists to clients

## **VII. MEAL INFO**

Meal Info is an entity that will keep info relating meal's names and their times

## **VIII. PROGRAM MEAL**

Program Meal represents the meal that will be consumed by client in a specific time. Program Meal's consist of Meal Info and Program Meal Details

## **IX. PROGRAM MEAL DETAILS**

Program meal details are consists of the nutrient that will be consumed in a meal and its amount besides special information like amount of calory it has.

## **X. MONTHLY FEEDBACK**

Monthly feedback represents the information sent by client to his/her nutritionist every month. This information will contain data like their weights, fat rates and photos from front end back side.

## **XI. DAILY FEEDBACK**

Daily feedback represents the information sent by client to his/her nutritionist every day. This information will contain data like meal photos.

## **B-) Business Processes And Their Definitions**

- **Deciding on the customer's requirements**  
We will talk to our customer for the details of the system. And we will demand details about what kind of requirements they have, what are their restrictions, etc.

- **Creating the appropriate database scheme (ER diagram)**

We are planning to create the database scheme by determining the required entities for the needs of our customer. Besides, we will determine relationships between the entities we created.

- **Implementation of the relational database (RDB)**

Using the details in our Enhanced Entity Relationship Diagram, we are going to create the appropriate tables and relations. While doing this, we will assign primary-keys and foreign-keys carefully.

- **Interface suitable for the program**

In our first design, we will create an interface where user can access the system with their emails and passwords

- **Testing**

After finishing the design and implementation, we will control whether it is working appropriately or not. We also plan to evaluate if some additional features can to be added to the program.

- **Launching the program**

After all other steps are completed, the program is made available to the customer. The working method and interface of the program are explained so that the project is completed.

### **C-) Business Rules, Constraints, Etc.**

- A user must be either a nutritionist or a client but not both of them.
- A nutritionist may consult many clients but each client must have only one nutritionist.
- A client may send monthly or daily feedbacks to his/her nutritionist but it is not mandatory, on the other hand every feedback must be sent by only one client.
- A client must have at least one diet program (one of the programs has to be active) and every diet program must be assigned to only one client.
- Every diet program consists of at least three Program Meals and every Program Meal has to contain only one Meal Info.
- A program meal consists of at least one Program Meal Detail.
- Program Meal Detail carries information about only one Nutrient.
- A Nutrient Category contains at least one Nutrient and every Nutrient must be a member of only one category.

## **D-) Other Functional& Nonfunctional Business Requirements**

### **Functional Requirements**

- The system must have an authentication system with username and password that will be used by both clients and nutritionists.
- Clients must be able to view their diet programs and statistics.
- System should provide an environment for nutritionists to insert, delete and update information relating clients.
- Nutritionists can assign diet programs to the clients.
- Clients can enter their feedbacks (daily and monthly feedbacks) into system
- Program can list and show the every information in the database.

### **Non-functional Requirements**

- The system needs a server to keep the information in the database.
- The interface can only be accessed with the system's password.
- Users need to use an interface to interact with the database.
- The interface has a simple structure so that users can easily process data.
- New features can be easily integrated into the system.
- The database only keeps the necessary data in it.

## Appendix: EER Diagram

