**Referral-based Online Diet Management System**

**REVISION HISTORY**

|  |  |  |  |
| --- | --- | --- | --- |
| **Date** | **Version** | **Description** | **Author** |
| Sept-9-2019 | 1.0 | Initial Version | Java Full-stack team |

## Purpose

This document is intended to provide the problem statement for the participants who are undergoing **Java Full Stack Training**.

## System Scope

**Referral-Based Online DIET Management System** is a Web based Application intended to be used by anybody who is planning to lead a healthy and active life following a well-planned diet and exercise plan. This application is intended to be used by a **Non-Profit Charitable Organization** to manage their Diet Programs that they offer/execute for the public solely based on referral system.

This Application provides three types of users such as:

* **Program Administrator**: Is the user responsible for the entire DIET program’s smooth execution. His role includes approving/disapproving the registrations, creating different Diet batches based on BMI (Body Mass Index) levels (E.g.: Batches like “BelowBMI25” and “AboveBMI25”), Uploading weekly dietary and exercise chart which contains daily plans of diet and exercise challenges and also to share motivational articles and documents to all registrants. (If the Program Administrator logs into this Application, you have to show him/her their Dashboard where all these activities can be performed)
* **Motivator**: Are users responsible in motivating, guiding and supporting all the challengers who are part of their batches. (In fact, they are earlier challengers who want to now contribute as Motivators)They can post messages to the entire batch or to individual challengers about the daily tasks, diet adherence, exercise routine adherence, healthy recipes etc., which the challengers will be able to see in their respective dashboards. (If the Motivator logs into this Application, you have to show him/her their Dashboard where all these activities can be performed)
* **Challenger**: Are users who have registered for this diet program and are part of a batch. They are expected to follow the instructions of the diet program strictly on a day to day basis and will be expected to update daily logs on status of the daily tasks/plan assigned to them and other related activities like updating the monthly measurement chart and a one-time medical history chart.

The application needs to handle all authentications and authorization of all the above 3 types of users. Based on the “Role” of the user (i.e., Program Administrator, Motivator or Challenger) appropriate screens, dashboards, reports and options should be made available.

# Functional Requirements

This section provides a high-level overview of the **Referral Based Online DIET Management System:**

## Application Overview

The Objective of the **Referral Based Online DIET Application** is to help all the users of the diet program (Program Administrators, Motivators and Challengers) to manage their respective tasks of the DIET program end-to-end.

### Program Administrator User

Program Administrator User (who is like an “Administrator” user) should be able perform the following Operations.

* **Approve/Disapprove Registered Users: -**

Program Administrator User should be able to approve/disapprove the registered users based on various parameters. (E.g.: Anybody having serious medical conditions or on special dietary regulations or pregnant ladies etc., might not be allowed to be part of the diet program). Various details entered by the users during registration process could be:

* Full Name
* Age
* Gender
* Mobile Phone Number
* Email Address
* Address
* City
* State
* Country
* Pin Code
* Height
* Weight
* BMI (gets auto calculated based on Height and Weight)
* Reason for joining this Program
* Any Existing Medical Conditions
* Any Existing Dietary Restrictions
* Dietary Custom (Veg, Non-Veg, Vegan etc.,)
* Pregnant Status (For Females only)
* Referral Code (of the person who has referred the user to this program)

So, based on the data available post registration, the Administrator can approve or reject the registration which will in turn auto send suitable Approved mails/ Rejection mails to the users.

Approved mails will contain a Welcome Message followed by details of a unique User ID and reference code along with initial password that the user can use to access the application.

Rejection mails will contain a Sorry Message along with the reason for such rejection.

* **Assign Registered users to batches and Groups**
  + The approved users will have to be put into different batches. At present there are only two such batches that the users can be part of. They are:
    - BelowBMI25: Batch for challengers below the BMI score of 25
    - AboveBMI25: Batch for challengers above the BMI score of 25.
  + The above batches could be further divided into different groups just to ease management. For example, “AboveBMI25” batch can be divided into 5 groups of 25 challengers each. This grouping can be based on various categories like “same city challengers” or “Vegetarians Only” or “Ladies Only” or based on any other criteria that the Program Administrator can think of.
  + In addition to adding the Challengers, the Program Administrator should also be able to Add/Assignment Minimum 1 and Maximum 5 motivators to a Batch.
* **Add/Delete/Modify users**
  + Program Administrator should be able to add new Challengers/Motivators into existing batches or groups, delete existing users and modify details about the users.
* **Search user/batch/group details**
  + Program Administrator should be able to search the details about:
    - A user based on unique User ID or Full Name
    - All users based on the batch name
    - All users based on the group name
* **Post weekly diet/workout plan**
  + Program Administrator should be able to post and upload the appropriate weekly diet/workout plan as per the batches
* **View the daily logs/Monthly measurement charts of challengers**
  + The Program Administrator should be able to view the daily logs posted by the Challengers and the Monthly measurement chart entered/updated by the challengers.
* **Communicate with Motivators or Challengers**
  + The Program Administrator should be able to communicate with the Motivators/Challengers by posting messages for them.
* **View Intermediate/Final Batch Reports**

The Program Administrator should also be able to view final reports pertaining to the batches like:

* + Monthly measurement change report
* **Log Out**

### Motivator User

Motivator user should be able to do following operations

* **Post messages to individual user/group/batch/Program Administrator**
  + The motivator user should be able to post messages/recipes/workout tips etc., to individual challenger or to the entire group or the entire batch.
* **View messages posted to them**
  + The messages posted from individual challengers/Program Administrator can be viewed by the Motivators.
* **View the daily logs/Monthly measurement charts of challengers**
  + The Motivators should also be able to view the daily logs posted by the Challengers and the Monthly measurement chart entered/updated by the challengers.
* **Log out**

### Challenger User

Challenger user should be able to do following operations once they login to the application using the unique User ID and password provided to them.

* **View and download the weekly diet/workout chart**
  + The Challengers should be able to download and view the weekly diet/workout chart
* **View messages posted to them by the Program Administrator/Motivator**
  + The messages posted from Program Administrator and the Motivators can be viewed by the Challengers.
* **Update the Daily Log**
  + The Challengers should be able to update the Daily Log that captures information like date, breakfast, lunch and dinner details, the fruits and vegetables consumed, workouts done etc., for a particular day.
* **Update the Monthly Measurement Chart**
  + The Challengers should be able to update the Monthly measurement chart that captured details of their measurements (like weight, height, chest, waist, shoulders, biceps, forearm, leg, thighs etc.,)
* **Log out**

**Note: *Details of the activities mentioned above are just indicative. Developer of this application can add more fields/functionalities as deemed fit (don’t omit any functionalities that are already mentioned)***

## Assumptions

* Every Diet Program is of 3 months duration (Every Quarter)
* Users can join these 3-month diet program multiple times in a year (E.g.: One user can join the Jan-Mar batch and complete it and then again register and join another batch of Oct-Dec). There is no limits.
* The application already has access to a list of Program Administrator and Motivators readily available with details like id, name, mobile-number and email id
* You can assume the attributes of every batch to have batch-id, batch-name, start-date, end-date, measurement-dates etc.,
* You can assume the attributes of every group to have group-id, group-name, batch-id

### 2.2.3 Data Storage

* Use appropriate Data Storage Mechanism as deemed fit.

## Deliverables

* Fully Functional Application.
* Test Cases and test reports
* Screen Capture of various workflows
* Database design document and table structure details

# System Requirements

## System Interface

The software is to be developed in JEE development environment using:

* SPRING MVC Framework (or) RESTful Web Services (Jersey/RestEasy/Spring) or Spring Boot based Application
* Hibernate Framework as your persistence and ORM Layer
* Oracle as your RDBMS or any other database of your choice or any In-Memory Database

## User Interface

The client interacts with the system through a Web Interface which comprises of

* HTML5, CSS, JavaScript (or)
* JSP based views (or)
* Angular JS (Recommended) (or)
* a combination of all above

## Communication Interface

The communication between your application and database should be done by using Hibernate ORM Framework.

## Usability Requirements

* Application must be easy-to-use.
* Please concentrate on User Experience (UX) and aesthetics while designing the views and flow

## Maintainability Requirements

* Application should be designed for ease of maintenance.
* Use modularity mechanisms like packages/modules
* Have classes pertaining to Services, DAOs, Controllers, Applications , Models separately
* Use appropriate comments in your code to improve readability and understandability

## Software Requirement Specification

|  |  |
| --- | --- |
| Software | Description |
| Windows 10 | Operating System. |
| Browser client | Any browser |
| Oracle11 G / SQL Server / MySQL/In-Memory Databases | Database |
| Web Server | Tomcat Server 6 or later / GlassFish 3.1.1 or later |
| ORM/Persistence Layer | Hibernate Framework |
| IDE | NetBeans / Eclipse / STS / IntelliJ IDEA |

## Additional Requirements:

* You are most welcome to plan the entire design of the UI and the Flow
* The application should also provide a link in all the challengers dashboards using which the challengers can donate to the Organization (Organization is a Non-Profit Charitable Organization)
* Based on the User Type who logs in show them their Dashboard where they can perform all their activities as per their Roles.