BMISystem Requirements Document

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# PROJECT OVERVIEW

## Project Name: BMISystem

## Project Definition

Design and development of a web system that suggests different foods and activities to overcome people’s health issues such as being overweight using BMI calculation.

# FUNCTIONAL REQUIREMENTS

## Registration Requirements



### A Non-Registered user should be able to register the system. - FREQ01

### Username, Password, Name, surname, Gender, Date of Birth, Height, Weight, Comments of the user should be taken by the system while registering. - FREQ02

### Height and weight unit system should be metric. - FREQ03

### Username would be users e-mail. - FREQ04

### Comments should be written into a free text area. - FREQ05

## Signing in Requirements

### The user should be logged in to the system with using his/her username and password. - FREQ06

### The users’ password should be shown as masked password. - FREQ07

### When the user forgets her/his password, s/he should recover it with his/her e-mail. - FREQ08

### An e-mail to reset users’ password would be sent for password recovery. - FREQ09

### The user should click the link inside the password recovery e-mail and change his/her password within the system. - FREQ10

## USDA DB Requirements

### Metric system should be used throughout the system except standard food measurements. - FREQ11

### USDA food composition databases should be connected to the system via their API. - FREQ12

### Whole food data included their nutrition data (both micronutrients and macronutrients) should be fetched via USDA API and saved. - FREQ13

## Food Processing Requirements (Refer 1.8)

### The user could add consumed foods by searching and selecting them from a list at a given date. - FREQ14

### The user should be able to add a food with choosing from his/her added foods. - FREQ15

### The user should enter food weight or volume or quantity with using provided USDA food measurement. - FREQ16

### The user should see whether or not chosen food extends his/her calorie limit. - FREQ17

### Provided food measurement types should not be changed. - FREQ18

### The user should choose a food measurement type from the provided food measurement types. (e.g. grams, items, ml, oz.) - FREQ19

### The user could choose meal types in combinations - recipes. eg. roquette with tomato. - FREQ20

### Saved recipes would be shown to every user. - FREQ21

## Users Activity Processing Requirements (Refer 1.8)

### The user should be able to add activity by searching and selecting them from a list at a given date. - FREQ22

### The user should be able to save his/her performed activity. - FREQ23

### The user should be able to add an activity with choosing from his/her chosen activities. - FREQ24

## Users’ Profile Requirements

### Users should inactive their accounts via the settings page if they want. - FREQ25

### Desired weight, desired nutrition intake would be added after the users’ sign in the system. - FREQ26

### The user could update his/her weight when s/he lose or gain weight. - FREQ27

### The system should keep the users’ weight updates change history. - FREQ28

### The user could select whether s/he wants to get notifications provided by the system. - FREQ29

## Users Visual Summary Requirements

### Users BMI should be shown. - FREQ30

### The user should be provided with their chosen foods and activities in a given date range. - FREQ31

### A graph should show users weight alteration. - FREQ32

### A graph should show calorie intake, consumption and balance of the user. - FREQ33

### Daily, weekly, monthly, yearly and time between results should be shown via graphs above. - FREQ34

### Nutritional input trend should be shown. - FREQ35

### Ideal requirements for the given user profile according to calories, gender, height of the user should be provided. - FREQ36

### The user's Chosen food and food combination history should be shown to him/her in the "frequently consumed foods" section. - FREQ437

### Ideal requirements for the given user profile according to calories, gender, height of the user should be provided. - FREQ38

## Frequent Users Data Processing Requirements

### Calorie intake and calorie output should be calculated and saved regularly. - FREQ39

### Food and their nutrition data should be fetched from the USDA API regularly. - FREQ40

### Users BMI should be calculated and saved regularly via Weight(kg) / Height(m)^2 formula. - FREQ41

### Whether or not chosen food extends users calorie limit should be calculated regularly. - FREQ42

### The user could be recommended a food diet considering users’ calorie intake, calorie consume and nutritional input calculations.

### Daily feedback could be given to the user about users’ calorie intake, calorie consume and nutritional input situations.

## Admin User System Requirements

### Important data should be kept into logs. - FREQ43

### Only admin users should be able to reach logs. - FREQ44

### There should be a maintenance system for only admin users. - FREQ45

### Admin users should be able to enter the system for only performing maintenance. - FREQ46

### Only the Admin Users should be provided technical information about the system, database connections and functions for maintenance for the registered users via Admin User System. - FREQ47

## A Point Scoring System Requirements

### A point scoring system could be created. - FREQ48

### Point scoring system inside the application would improve regular data entries of the users. - FREQ49

### Pointing system would enhance users’ motivation for using the system regularly. - FREQ50

# NON-FUNCTIONAL REQUIREMENTS

## Performance

### **(Response Time <= 1sec):** The system should be able to respond to a request of a user in not more than a second. - NREQ01

### **Throughput:** Multi-tasking should be enabled to allow multiple users, initially at least 40 simultaneous users should interact with the system without having to wait others to finish their work with the system. - NREQ02

## Scalability

### Simultaneous users should be increased gradually after the first release. - NREQ03

## Capacity

### Initially at least 40 simultaneous users should interact with the system. - NREQ04

## Maintenance

### When a potential problem or a security threat has been recognized inside the system, maintenance might be performed. - NREQ05

## Availability

### The system should be available day and night except the maintenance times and when extensive updates are needed. - NREQ06

## Security

### The system should be secure for the server side. - NREQ07

### The system should be secure both for the client side. - NREQ08

## Standards - NREQ07

### Metric system should be used. - NREQ09

### 24-hour clock standard should be used. Seconds shouldn't be shown. eg. From 00:43 to 01:10 – NREQ10

# GLOSSARY

## Macronutrients

Macronutrients can refer to the chemical elements that humans consume in the largest quantities.

## Micronutrients

Micronutrients are nutrients required by organisms throughout life in small quantities to orchestrate a range of physiological functions.