

# **Software Requirements Specification Document**

**Version 1.0**

*Nutritional Food Recommendation System*

---

## **TABLE OF CONTENTS**

<b><u>Chapter No.</u></b>	<b><u>Topic</u></b>	<b><u>Page No.</u></b>
1.	<a href="#"><u>Introduction</u></a>	3
1.1	<a href="#"><u>Purpose of this Document</u></a>	3
1.2	<a href="#"><u>Scope of the Development Project</u></a>	3
1.3	<a href="#"><u>Definitions</u></a>	4
1.4	<a href="#"><u>Abbreviations and acronyms</u></a>	5
1.4	<a href="#"><u>References</u></a>	5
1.5	<a href="#"><u>Overview</u></a>	6
2.	<a href="#"><u>Over all Description</u></a>	6
2.1	<a href="#"><u>Product Perspective</u></a>	6
2.2	<a href="#"><u>Product functions</u></a>	8
2.3	<a href="#"><u>User Characteristics</u></a>	8
2.4	<a href="#"><u>General Constraints, Assumptions and Dependencies</u></a>	9
3.	<a href="#"><u>Specific Requirements</u></a>	10
3.1	<a href="#"><u>External Interface Requirements</u></a>	10
3.2	<a href="#"><u>Detailed Description of Functional Requirements</u></a>	10
3.2.1	<a href="#"><u>Functional Requirements for Home Page</u></a>	10
3.2.2	<a href="#"><u>Functional Requirements for Admin login screen</u></a>	11
3.2.3	<a href="#"><u>Functional Requirements for Admin Page</u></a>	11
3.3	<a href="#"><u>Performance requirements</u></a>	12
3.4	<a href="#"><u>Logical database requirements</u></a>	12
4.	<a href="#"><u>Change History</u></a>	15
5.	<a href="#"><u>Document Approvers</u></a>	15

## **1. Introduction**

### **1.1 Purpose of this Document**

The purpose of this SRS document is to provide a detailed overview of our software product that is Nutritional food Recommendation System website, its parameters and goals. This document describes the project's target audience and its user interface, hardware and software requirements.

### **1.2 Scope of the Development Project**

The goal is to design software for a Nutritional Based Food Recommendation System for the users to keep that healthy and fit. In this system, a user will login to the website with the login credentials and in order to get information about a particular ingredient (i.e. which dish he/she could make which have high nutritional value). All this data that's being accessed will be stored in a central repository (database server) and will also be replicated onto a backup database server on a daily basis so that cases of data loss are minimized in case of system gets corrupt.

The software must be able to perform the following operations:

1. **Identification and authentication:** System must be able to authenticate the user by matching the login details (user id and password) and the access code (In case user forgets login password) sent on users contact number.
2. **Record user's details:** It must be able to record the user's login credentials in the corresponding database table.
3. **Calculating nutritional value:** Our system should calculate the nutritional value (Calories provided by the energy-containing nutrients: protein, carbohydrate, fat and alcohol).
4. **Record nutritional value:** It must be able to record the ingredient nutritional value corresponding database table.

Initially we plan to implement these functionalities in form of a website that recommends user food options with their corresponding NV based on the ingredients provided by the user. Once the initial Phase is successful then we plan to implement some more functionalities like providing recipe based on favourite food and adding ingredients.

### **1.3 Definitions, abbreviations and acronyms**

#### **Definitions:**

Table 1 gives explanation of the most commonly used terms in this SRS document.

**Table 1: Definitions for most commonly used terms**

S.No.	Term	Definition
1	Nutritional Value	Refers to calories provided by the energy-containing nutrients: proteins, carbohydrate, fats and alcohol.
2	Recommendation System	Refers to the core system that provides meal recommendations with their nutritional values based on ingredients provided by the users.

#### **Abbreviations:**

Table 2 gives the full form of most commonly used mnemonics in this SRS document.

**Table 2: Full form for most commonly used mnemonics**

S.No.	Mnemonic	Full Form
1	NV	Nutritional Value
2	NFRS	Nutritional Food Recommendation System

## **1.4 Reference**

1. <https://getbootstrap.com/>
2. h <https://stackoverflow.com/questions/6969563/session-does-not-exist-in-the-current-context>
3. h <https://stackoverflow.com/questions/12135529/file-upload-using-twitter-bootstrap-c-asp-net-and-javascript>
4. h <https://stackoverflow.com/questions/22618284/bool-list-check-if-every-item-in-list-is-false>
5. h <https://stackoverflow.com/questions/4796109/how-to-move-item-in-listbox-up-and-down>
6. <https://getbootstrap.com/docs/4.4/content/tables/>
7. <https://getbootstrap.com/docs/4.4/components/buttons/>

## **1.5 Overview**

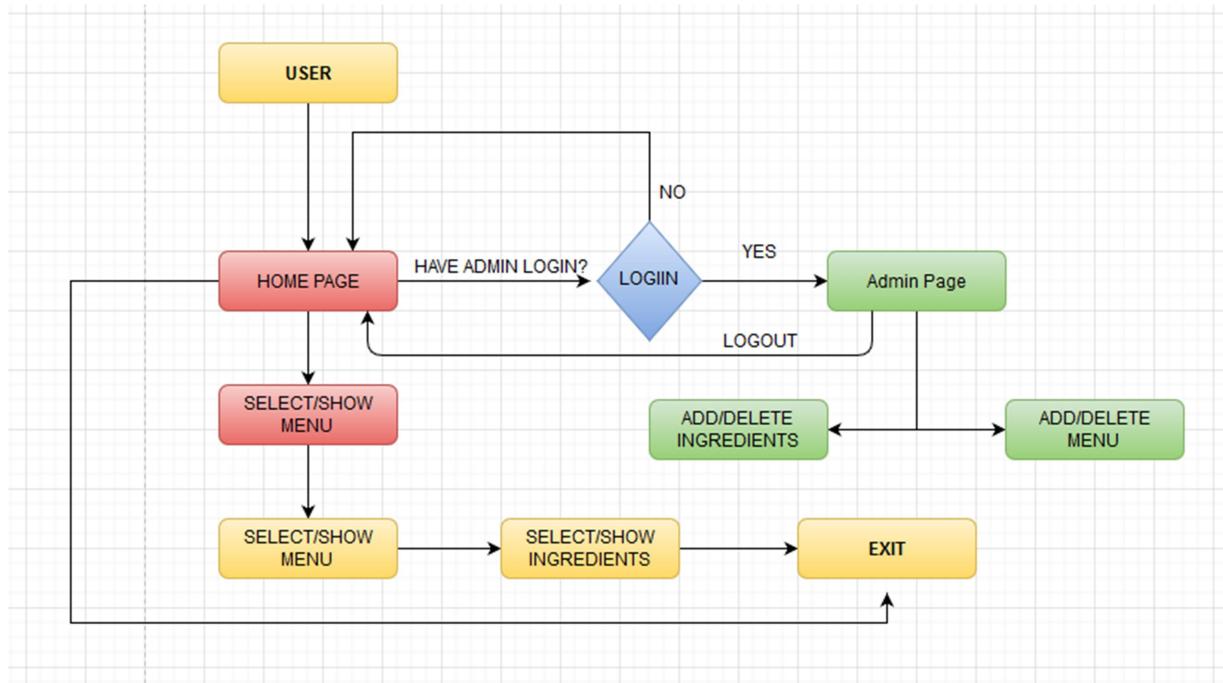
The remaining sections of this document provide a general description, including characteristics of the website which is created, software used, and the functional and data requirements of the website. General description of the project is discussed in section 2 of this document. Section 2 gives the functional requirements, data requirements and constraints and assumptions made while designing the website. It also gives the user viewpoint of website use. Section 3 gives the specific requirements of the product. Section 3.0 also discusses the external interface requirements and gives detailed description of functional requirements.

## 2. Overall Description

### 2.1 Product Perspective

The NFRS will run as a website on any web browser. The website created does not require use of any specific browser or we can say it is compatible with any of the browser. It will provide the nutritious meal to the user with their recipes and one can find desirable recipes from the website.

Figure 1 will show the basic functioning of the application.



**Figure 1: Basic functioning of the application.**

This is the basic framework or the working layout of the website where a user can easily visit the website and access the information regarding the menus from the list and according to menus can easily know about its ingredients and step for making that dish.

But the problem is he /she can only access the information. Neither of them will not be able to add or change the ingredients or menus nor they will be able to remove any menu from the list.

So, for updation or deletion of menus or ingredients the user should have the admin privileges to access the data and modify it. The user have to provide the right user name and password at the period of login, so he /she can access the data. Once the user have admin privileges, he can easily add any recipe or delete any recipe. The user with the admin login Id will be redirected to home page with extra features to update the data in the database. After the login, two options Menu and ingredients are shown in the navigation bar on the left corner.

If the admin wants to update some data in the menu then by clicking on the menu text, admin will be redirected to the menu page, where there will functionalities like

- ❖ **Show Menu**
- ❖ **Add Menu**
- ❖ **Delete Menu**
- ❖ **Search**

So, according to various functionalities the admin can see menus which are there in the databases , can easily add menus to the database , delete menus from the database or search a particular menu from the database.

Similarly, If the admin wants to update some data in the ingredients then by clicking on the ingredient text, admin will be redirected to the ingredients page, where there will functionalities like

- ❖ **Show**
- ❖ **Add Ingredients**
- ❖ **Delete Ingredients**
- ❖ **Search**

So, according to various functionalities the admin can see menus which are there in the databases , can easily add menus to the database by text or can also add a picture , delete menus from the database or search a particular menu from the database.

## **2.2 Product Functions**

The system should be able to perform the following operations:

1. It must be able to authenticate the admin user by matching the login credentials provided by the user. If failed to do so, the user must be denied for the admin privileges.
2. It must be able to provide required information like ingredients details or steps to create a healthy meal by querying the database.
3. The software must be able to update the changes like addition of ingredients/deletion of menus or ingredients on regular basis so that user gets the right information.
4. The software must be able to determine whether a particular user has been denied access from login violation.

## **2.3 User Characteristics**

The goal is to design software for a nutritional food recommendation system including providing safe login access for the user and admin login for the administration people who can add or delete recipes or modify them. Login process is different for different users. If you need to access or modify Ingredients or menus you will require admin login whereas other things can be done using simple visiting the system or on the website.

As in today's time every one wants to become fitness freak this system will help him/her to find best dishes with full of nutrition and with his/her choice of ingredients. Our goal is to develop software that should be easy to use for all types of users, including non-technical persons or users. Thus while designing the software one can assume that each user type has the following characteristics:

- The user may be computer-literate and has little knowledge in using website from where he/she will get the information.
- In order to use the website it is not required that a user be aware of the internal working of the website but he/she is expected to know what happens when he visits the website.

## **2.4 General Constraints, Assumptions and Dependencies**

The following list presents the constraints, assumptions, dependencies or guidelines that are imposed upon implementation of Nutritional food recommendation System website:

- There are no memory requirements.
- The product must have a user friendly interface that is simple enough for all types of users to understand.
- Response time for loading the software and for processing a request should be no longer than five seconds.
- A general knowledge of basic computer skills and of basic working of internet based system is required to use the website.
- The database server should be updated regularly with the new recipes and ingredients so those users don't face any problem.
- It is assumed that a user is familiar with what nutritional values are and what makes a food healthy.
- User with admin login can only change menus and ingredients from the data.

### **3. Specific Requirements**

#### **3.1 External Interface Requirements**

The following list presents the external interface requirements:

- The product requires very limited graphics usage with just a simple keypad for taking the user input.
- The product does not require usage of sound or animation.
- Sound is not an essential feature but it can be considered for future variants of the system.

#### **3.2 Detailed Description of Functional Requirements**

##### **3.2.1 Functional Requirements for Home Page**

Table 4 gives the functional requirements for Welcome Screen [Home Page].

**Table 4: Functional Requirements for Home Page**

<b>Purpose</b>	This screen provides information specific to each user in which one can see menus in the list and according to menu can get corresponding ingredients.
<b>Inputs</b>	User can view menu information by choosing /selecting the menu from the list or options given on the welcome screen. Selection is performed with a simple keypad. One can also go for admin login if he/she has rights to access admin page.
<b>Processing</b>	The menu's Ingredients can be easily seen but can only be modified with admin login.
<b>Outputs</b>	If a user selects a menu from the list then ingredient information in addition to steps to make that dish are displayed to the users.

### **3.2.2 Functional Requirements for Admin login Screen**

Table 5 gives the functional requirements for Admin Login Screen.

**Table 5: Functional Requirements for Admin Login Screen**

<b>Purpose</b>	This process is for the security purpose or to safeguard our system from unauthorized access.
<b>Inputs</b>	Users have to provide the correct admin login credentials in order to logged into the system if they failed to do so ,the access will be denied and user will not able to access or modify data.
<b>Processing</b>	The details provided by the user are checked with the login details provided by him/her earlier from the database.
<b>Outputs</b>	User will be logged into the admin page.

### **3.1.1 Functional Requirements for Admin HOME PAGE**

Table 5 gives the functional requirements for Admin Home Page.

**Table 5: Functional Requirements for Admin Home Page**

<b>Purpose</b>	This process is for adding or deleting or updating the menu or ingredients values in the database.
<b>Inputs</b>	Users have to provide the correct admin login credentials in order to logged into the admin page if they failed to do so ,the access will be denied and user will not able to access or modify data.
<b>Processing</b>	The details provided by the user are checked with the login details provided by him/her earlier from the database.
<b>Outputs</b>	Once the user gives right credentials admin privileges are given to him/her and he or she can add menus/ingredients in the database which can be useful for the user who shall be accessing the data.

### 3.2 Performance Requirements

- The software will support simultaneous user access.
- For normal conditions, most of the requests are taken or accessed within 5 seconds of time interval.

### 3.3 Logical Database Requirements

- Figure 2 shows the E-R diagram for the entire system.

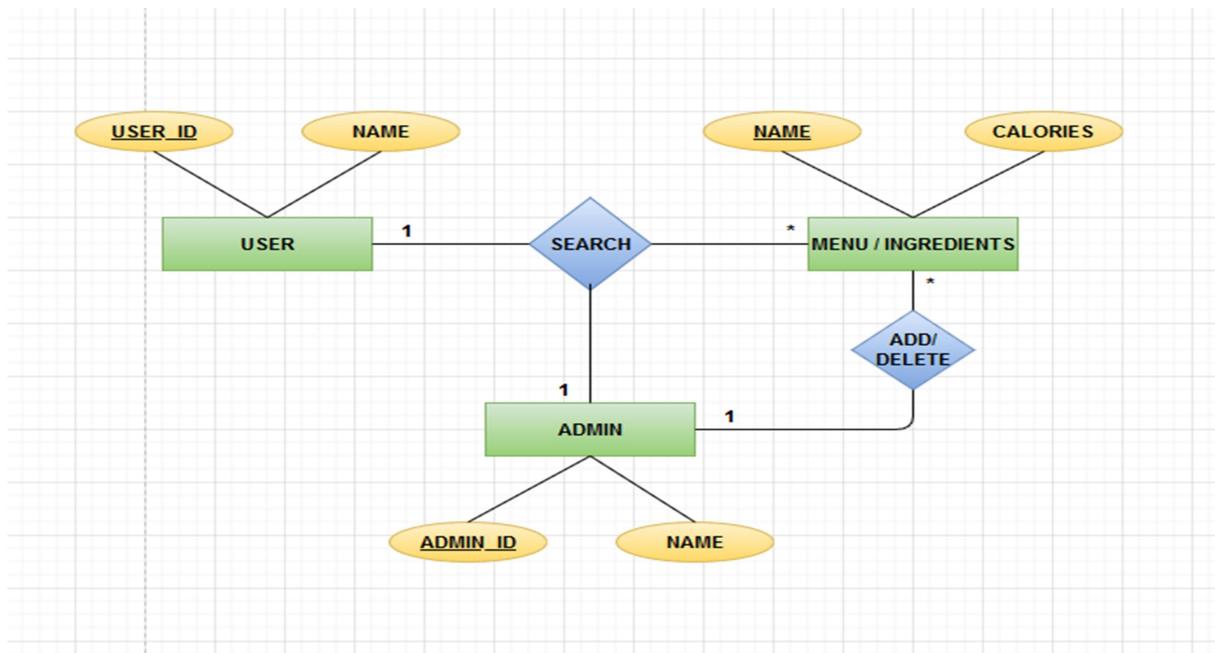
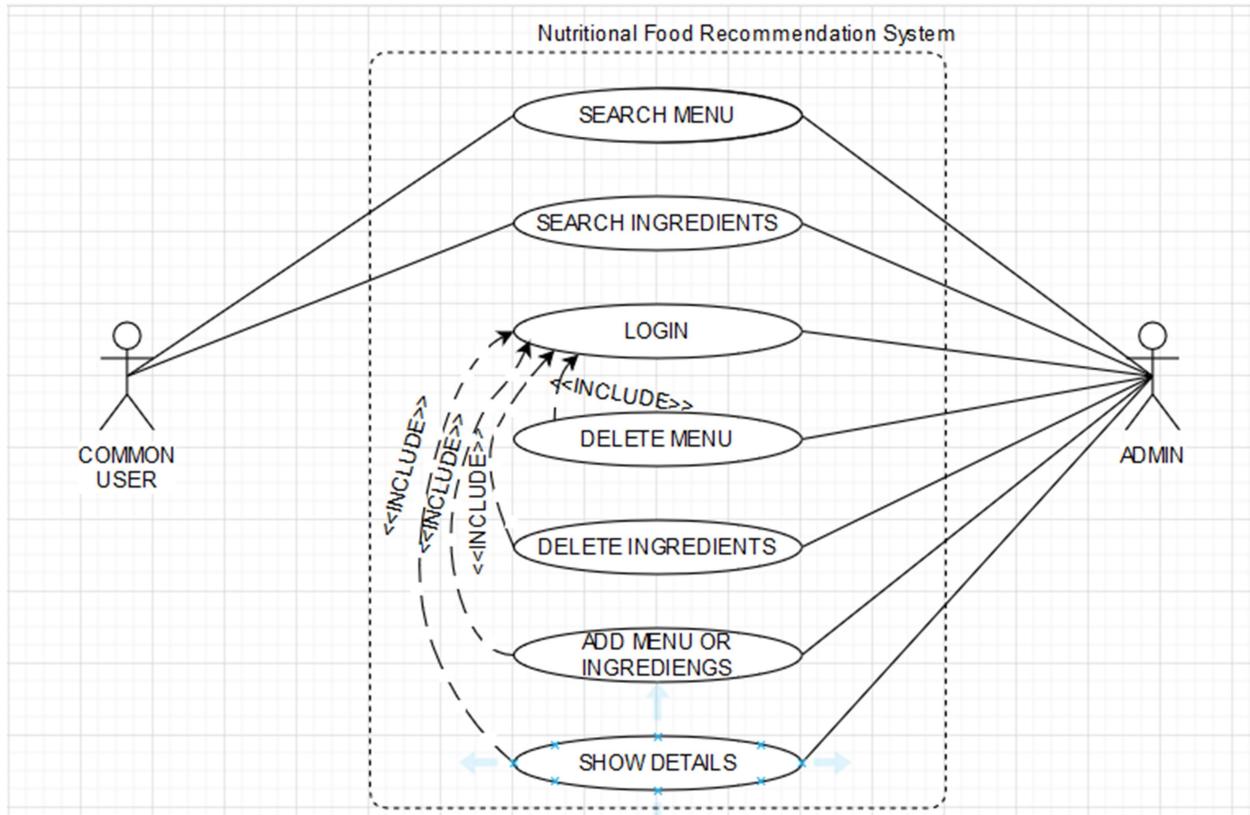


Figure 2: E-R Diagram for the Nutritional Food Recommendation System

Note: Underline entities are the corresponding primary key attributes in the table.

- Figure 3 shows the USE CASE diagram for the entire system.



**Figure 3: USE CASE Diagram for the Nutritional Food Recommendation System**

- Figure 4 shows the CLASS diagram for the entire system.

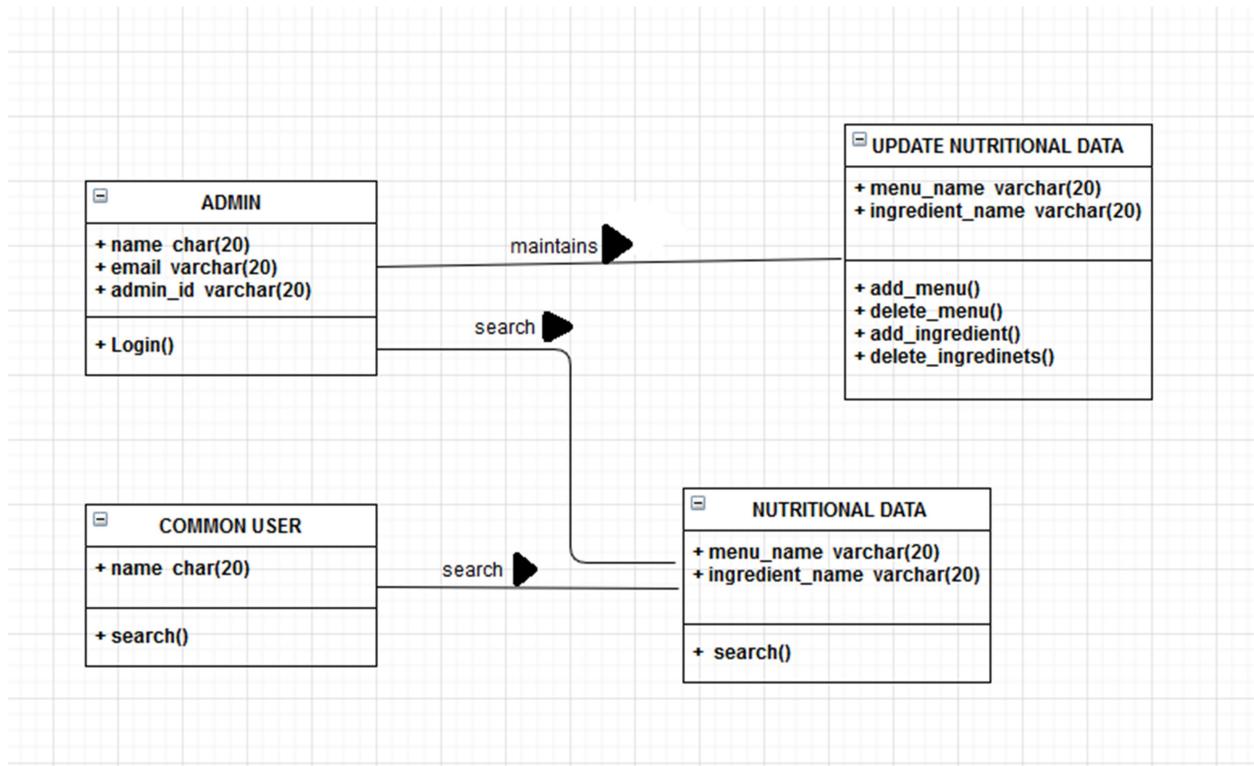


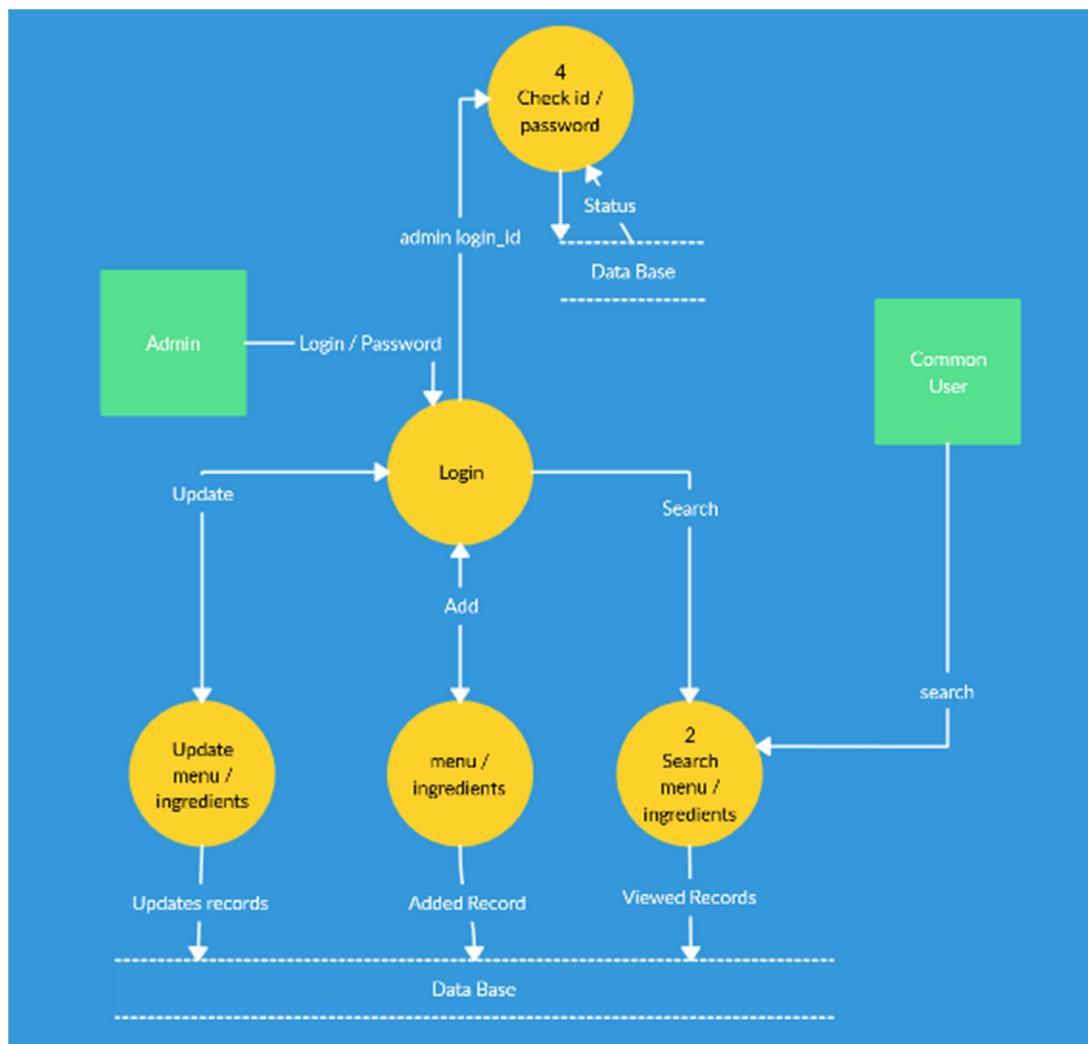
Figure 4: CLASS Diagram for the Nutritional Food Recommendation System

- Figure 5 shows the DFD Level 0 diagram for the entire system.



**Figure 5: DFD Level -0 Diagram for the Nutritional Food Recommendation System**

- Figure 6 shows the DFD Level 1 diagram for the entire system.



**Figure 6: DFD Level -1 Diagram for the Nutritional Food Recommendation System**

#### **4. Change History**

200209	Version 1.0 – Initial Release

#### **5. Document Approvers**

SRS for Nutritional Food Recommendation System approved by:

---

Ms. HARKIRAN KAUR  
Asst. Professor, TIET  
Date: 22-05-2020