

# **NUTRITION ASSISTANCE APPLICATION**

## **A PROJECT REPORT**

*Submitted by*

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# TABLE OF CONTENTS

CHAPTER NO.	TITLE	PAGE NUMBER
<b>1</b>	<b>INTRODUCTION</b>	
	1.1 Project Overview	3
	1.2 Purpose	4
<b>2</b>	<b>LITERATURE SURVEY</b>	
	2.1 Existing Problem	5
	2.2 References	5
	2.3 Problem Statement Definition	7
<b>3</b>	<b>IDEATION &amp; PROPOSED SYSTEM</b>	
	3.1 Empathy Map Canvas	8
	3.2 Ideation & Brainstorming	9
	3.3 Proposed Solution	9
	3.4 Problem Solution Fit	12
<b>4</b>	<b>REQUIREMENT ANALYSIS</b>	
	4.1 Functional Requirement	14
	4.2 Non - Functional Requirement	14
<b>5</b>	<b>PROJECT DESIGN</b>	
	5.1 Data Flow Diagrams	16
	5.2 Solution & Technical Architecture	17
	5.3 User Stories	18

<b>6</b>	<b>PROJECT PLANNING &amp; SCHEDULING</b>  6.1 Sprint Planning & Estimation  6.2 Sprint Delivery Schedule  6.3 Reports from JIRA	
<b>7</b>	<b>CODING &amp; SOLUTIONS</b>  7.1 Feature 1  7.2 Feature 2  7.3 Database Schema	
<b>8</b>	<b>TESTING</b>  8.1 Test Cases  8.2 User Acceptance Testing	
<b>9</b>	<b>RESULTS</b>  9.1 Performance Metrics	
<b>10</b>	<b>ADVANTAGES &amp; DISADVANTAGES</b>	
<b>11</b>	<b>CONCLUSION</b>	
<b>12</b>	<b>FUTURE SCOPE</b>	
<b>13</b>	<b>APPENDIX</b>  13.1 Source Code  13.2 GitHub & Project Demo Link	

# 1. INTRODUCTION

## 1.1 Project Overview :

Due to the ignorance of healthy food habits, obesity rates are increasing at an alarming speed, and this is reflective of the risks to people's health. People need to control their daily calorie intake by eating healthier foods, which is the most basic method to avoid obesity. However, although food packaging comes with nutrition (and calorie) labels, it's still not very convenient for people to refer to App-based nutrient dashboard systems which can analyze real-time images of a meal and analyze it for nutritional content which can be very handy and improves the dietary habits, and therefore, helps in maintaining a healthy lifestyle.

This project aims at building a web App that automatically estimates food attributes such as ingredients and nutritional value by classifying the input image of food. Our method employs **Clarifai's AI-Driven Food Detection Model** for accurate food identification and Food API's to give the nutritional value of the identified food. In the competitive work environment, nowadays, it is not easy for many people to manage good sleeping and exercise habits. With busy work and personal life schedules, many people indulge themselves in a bad sleeping habit such as sleeping very late or waking up very late especially in young adults and teenagers. A good night sleep can also be affected by the person's exercise habits and nutrition consumption. The sleep, nutrition and exercise have more complicated relationship than many people have realized. Enough exercise helps people sleep better and good nutrition also lead to better mood and better health. Thus, a that can automatically record personal information, produce a warning, and give personal advices to its owner in order to maintain good sleeping, exercise and nutrition habits is needed.

## **1.2 Purpose :**

Providing dieticians with the facility's meal and menu planning. Obtaining dietary information and assessing the nutritional habits of patients. Recording individual risk factors or dietary restrictions that might impact meal planning. Coordinating meal plans with nutritionists and healthcare professionals. Performing ongoing nutrition assessments, including the measurement of caloric intake and activity levels. Facilitating immediate interventions for signs of malnutrition, allergic reactions, or refusal to eat. Assisting in meal distribution, ensuring correctly delivered, and timely served meals. Maintaining proper sterilization protocols in the clearing away and cleaning of plates and utensils. Safely discarding leftover portions to prevent the spread of disease.

To ensure success, nutrition assistants should possess experience in a similar role and the ability to obtain accurate dietary information. A top-notch nutrition assistant will be someone who can proactively help nutritionists to improve patients' well-being through excellent dietary support.

## **2. LITERATURE SURVEY**

### **2.1 Existing System :**

The Existing System has work only on the predefined images. Some of the nutrient details are not available in the existing one. The User cannot able to upload their own image to check the nutrients in that food. The User can have frustrations or fear whether the displaying nutrients details are correct or not.

The Existing System is based on only one - dimensional image spectral analysis. Due to this signal denoising is not possible.

### **2.2 References :**

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12. Rokicki, M., Herder, E., Kuśmierczyk, T., Trattner, C.: Plate and prejudice: gender differences in online cooking. In: Proceedings of the 2016 conference on user modeling adaptation and personalization, pp. 207–215 (2016).
13. Trattner, C., Elswiler, D.: An evaluation of recommendation algorithms for online recipe portals. In: HealthRecSys@ RecSys, pp. 24–28 (2019).
14. Wolk, A.: Potential health hazards of eating red meat. *J. Intern. Med.* 281(2), 106–122 (2017).

## **2.3 Problem Statement Definitions :**

Due to the ignorance of healthy food habits, obesity rates are increasing at an alarming speed, and this is reflective of the risks to people’s health. People need to control their daily calorie intake by eating healthier foods, which is the most basic method to avoid obesity. However, although food packaging comes with nutrition (and calorie) labels, it’s still not very convenient for people to refer to App-based nutrient dashboard systems which can analyze real-time images of a meal and analyze it for nutritional content which can be very handy and improves the dietary habits, and therefore, helps in maintaining a healthy lifestyle.

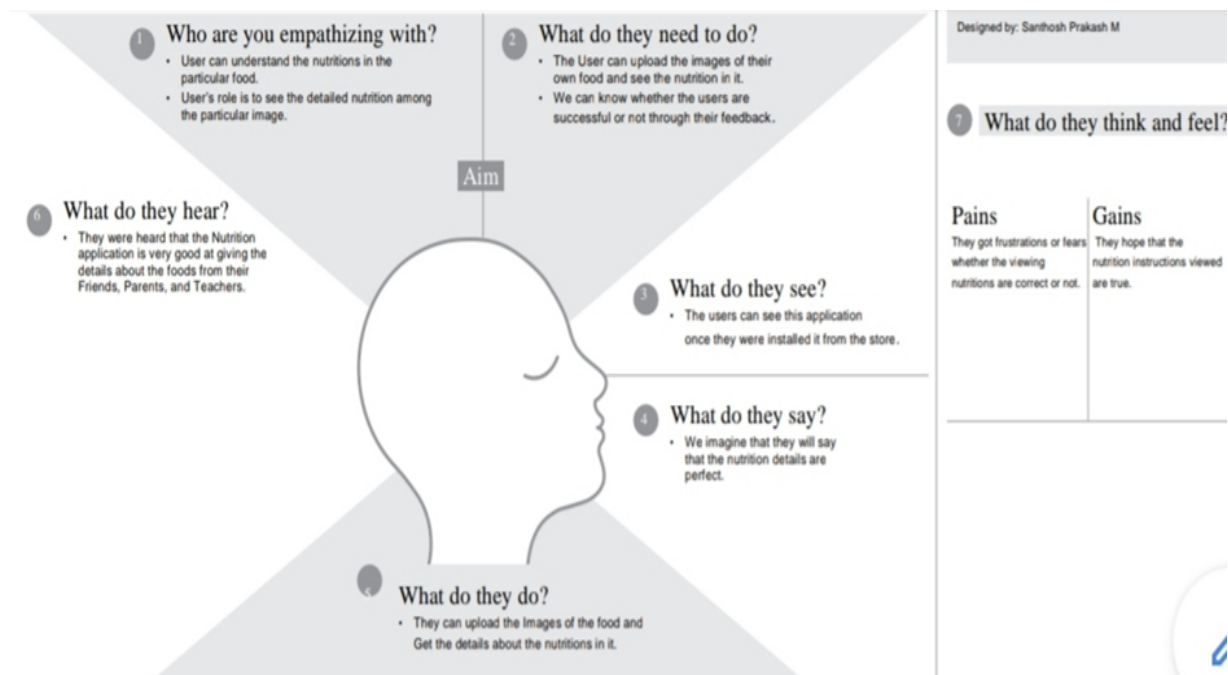


### 3. IDEATION & PROPOSED SOLUTION

#### 3.1 Empathy Map Canvas :

The empathy map canvas expands upon the original empathy map with a deeper emphasis on user motivations and consideration of influences that impact user decision-making. Additionally, the empathy map canvas provides basic instructions and prompts to help guide teams through its completion and streamline the process, which a basic empathy map does not do.

The Empathy Map Canvas helps teams develop deep, shared understanding and empathy for other people. People use it to help them improve customer experience, to navigate organizational politics, to design better work environments, and a host of other things.



### **3.2 Ideation & Brainstorming :**

Brainstorming is a group creativity technique by which efforts are made to find a conclusion for a specific problem by gathering a list of ideas spontaneously contributed by its members. In other words, brainstorming is a situation where a group of people meet to generate new ideas and solutions around a specific domain of interest by removing inhibitions. People are able to think more freely and they suggest as many spontaneous new ideas as possible. All the ideas are noted down without criticism and after the brainstorming session the ideas are evaluated. Here the New user is login with their respective details. The registered user login with their unique id. After the user login select the attributes which they want to see the nutrients in it. And the user are able to upload his/her own image and the image is automatically analysed and display the nutrients in it

### **3.3 Proposed Solution :**

The New user for nutrition assistant application is to first login with their respective details. The registered user login with their unique id and password. After the user login they are able to see the different tabs (or) buttons like Fruits, vegetables, nuts and so on. If the user click or select the particular button, it will display the items names belong to the selected category. Further the user choose particular name the nutrients details such as Vitamins, cholesterol, Proteins, fats, carbohydrates, fatty acids in that particular image is displayed. Through this the user can see all the nutrients details among the particular fruit or vegetable. The diet patients are able to track their nutritional intakes and managing diets for healthy eating, weight gains and fitness. These apps are also used to track food sensitivities, allergies and medical conditions. And the user can also able to upload their own food image to check the nutrients in it. This can be achieved by with the help of OpenCV to detect the images. Through deep learning algorithm we can predict the nutrients. A set of simple data analysis methods is performed on the collected data inorder to provide a personal health advice.

### 3.4 Problem Solution Fit :

The Problem-Solution Fit Canvas is a template to help identify solutions with higher chances of solution adoption, reduce time spent on testing and get a better overview of the current situation.

The Problem-Solution Fit is an important step towards the Product-Market Fit, but often an underestimated one.

Problem - Solution Fit			
Define CS, fit into CL	<b>1. CUSTOMER SEGMENT(S)</b> <span>CS</span> People with all ages can get the nutritional details.	<b>6. CUSTOMER LIMITATIONS</b> <span>CL</span> <small>EG. BUDGET, DEVICES</small> Low Budget, Smartphones.	<b>5. AVAILABLE SOLUTIONS</b> <span>AS</span> <small>PLUSSES &amp; MINUSES</small> <b>Plus :</b> Users may get all the nutritional attributes and details. <b>Minus :</b> Users cannot upload any input images.
	<b>2. PROBLEMS / PAINS</b> <span>PR</span> <small>+ ITS FREQUENCY</small> They got frustrations or fears whether the viewing nutritions are correct or not.	<b>9. PROBLEM ROOT / CAUSE</b> <span>RC</span> People thinks that how the simple scan from the mobile camera can detect the nutritions from the uploaded food as a input.	<b>7. BEHAVIOR</b> <span>BE</span> <small>+ ITS INTENSITY</small> The Users can able to upload their own input image of a specified food to know about the nutritional details.
Focus on PR, tap into BE, understand RC	<b>3. TRIGGERS TO ACT</b> <span>TR</span> The Users are got triggered by seeing that other people are getting benefits by knowing the nutrition details.	<b>10. YOUR SOLUTION</b> <span>SL</span> Here the New user is login with their respective details. The registered user login with their unique id. After the user login select the attributes which they want to see the nutrients in it. And the user are able to upload his/her own image and the image is automatically analysed and display the nutrients in it.	<b>8. CHANNELS of BEHAVIOR</b> <span>CH</span> <b>ONLINE</b> Extract channels from the behavior block.
	<b>4. EMOTIONS</b> <span>EM</span> <small>BEFORE / AFTER</small> <b>Before :</b> Frustration <b>After :</b> Satisfaction and Jubilant		<b>OFFLINE</b> Extract channels from the behavior block and use for customers.
Identify strong TR & EA			Extract online & offline CH of BE

## 4. REQUIREMENTS ANALYSIS

### 4.1 Functional Requirements :

A functional requirement defines a system or its components. Functional requirements may involve calculations, technical details, data manipulation and processing, and other specific functionality that define what a system is supposed to accomplish. Behavioral requirements describe all the cases where the system uses the functional requirements, these are captured in use cases.

FR.No	Functional Requirements (Epic)	Sub-Requirements(Story/Sub-tasks)
FR - 1	Tester Feed Image	Done through Mail
FR - 2	Recognition of Food Item	Done by Visual Recognition API

### 4.2 Non - Functional Requirements :

The Non - Functional Requirements defines the quality attribute of a software system. These are basically the quality constraints that the system must satisfy according to the project contract. The priority or extent to which these factors are implemented varies from one project to other. They are also called as non - behavioral requirements. They basically deals with issues like:

- Usability
- Security
- Reliability
- Performance
- Availability
- Scalability
- Flexibility

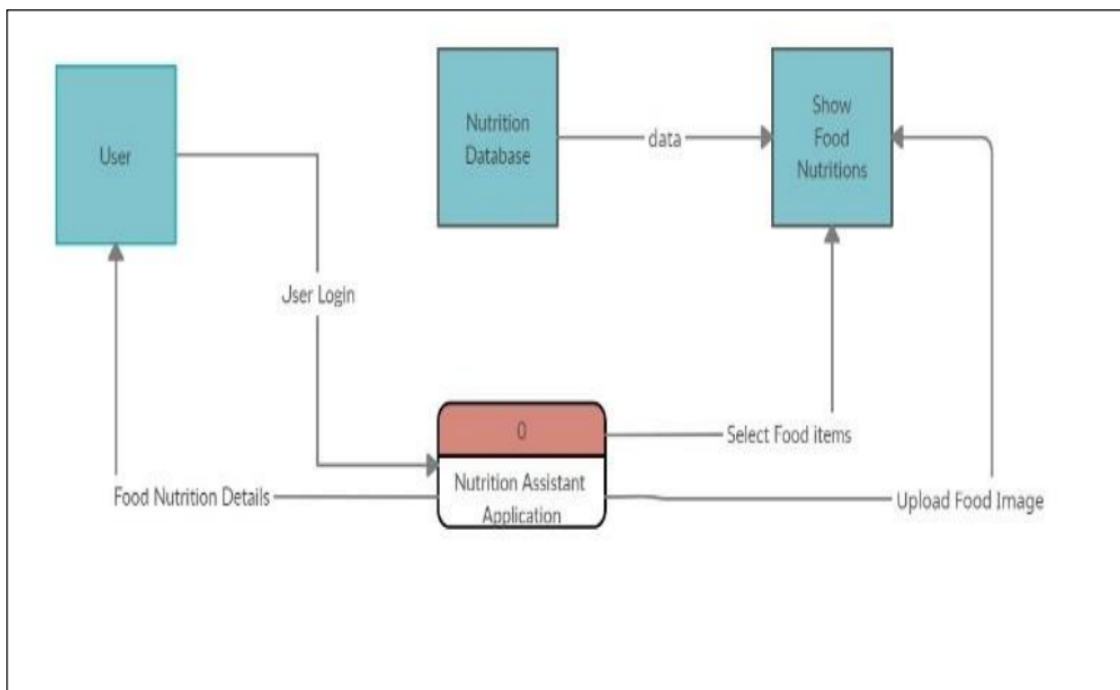
Following are the Non - Functional Requirements of the Proposed Solution:

<b>NFR.No</b>	<b>Non - Functional Requirements</b>	<b>Description</b>
NFR - 1	Usability	We did not specify parts of the system functionality, only how that functionality is to be perceived by user.
NFR - 2	Security	The System must be able to accommodate larger values over time. The security on their databases may include firewalls, to prevent unauthorised actions.
NFR - 3	Reliability	Highly reliable functions with same or similar efficiency after extensive use. We can access advised reliability: i) Percentage of probability of failure ii) Number of Critical Failure.
NFR -4	Performance	It defines attributes of the software system.
NFR - 5	Availability	It describes how the system is accessible to a user at a time at a given point in time.
NFR - 6	Scalability	It is availability to appropriately handle increasing workloads.

## 5. PROJECT DESIGN

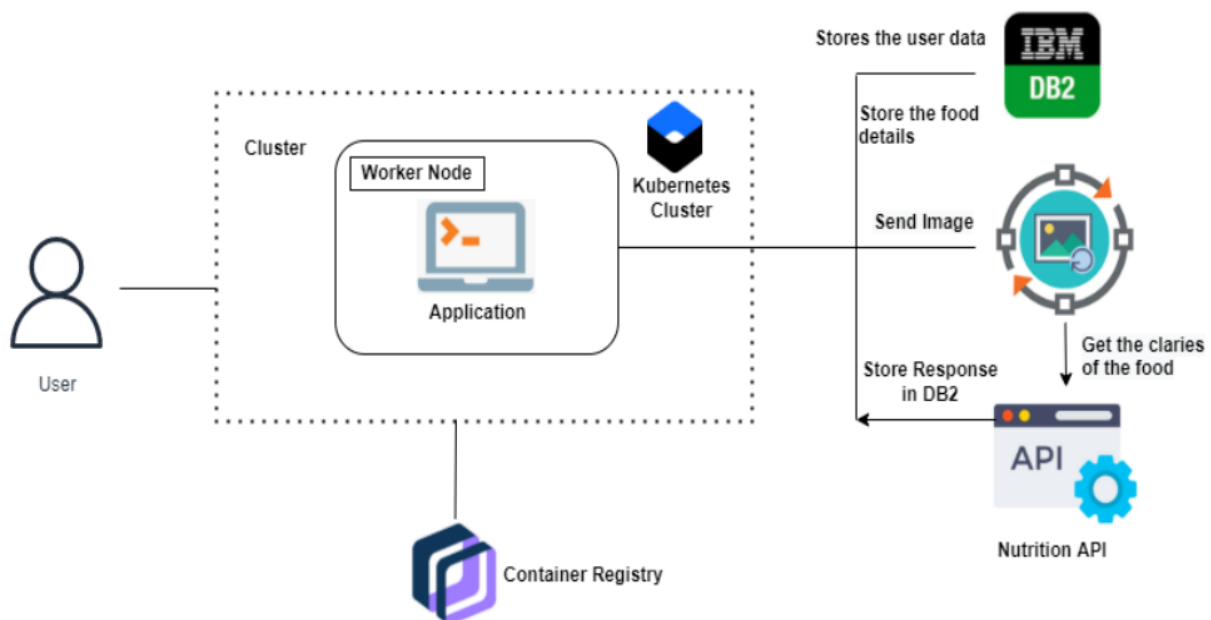
### 5.1 Dataflow Diagrams :

A data flow diagram (DFD) is a **graphical or visual representation using a standardized set of symbols and notations to describe a business's operations through data movement**. They are often elements of a formal methodology such as Structured Systems Analysis and Design Method (SSADM). A Data Flow Diagram (DFD) is a traditional visual representation of the information flows within a system. A neat and clear DFD can depict the right amount of the system requirement graphically. It shows how data enters and leaves the system, what changes the information, and where data is stored.



## 5.2 Solution & Technical Architecture :

The input for this application is the image of the food which is given into the signal denoising which filters out the image so that the clear image is obtained. Further the image is send to the application and the input is stored in the database and gets the nutrients and calories of the food from the API and further it also stores the responses in the database. Thus the User may get the nutrition and calorie contents of the food which is feeded.



### 5.3 User Stories :

A User Story is **an informal, general explanation of a software feature written from the perspective of the end users or the customers.** The purpose of the user story is to articulate how a piece of work will deliver a particular value back to the customer.

A User Story or agile / scrum user story is **a tool that is used in agile software development and product management to represent the smallest unit of work in the framework.** It provides an informal, natural language description of a feature of the software or a product from the end-user perspective.

User Type	Functional Requirements (EPIC)	User Story Number	User Story / Task	Acceptance Criteria	Priority	Release
Customer (Mobile User)	Registration	USN - 1	As a user, I can register for the application by entering the Mail Id, Password, and confirming the password.	I can access my account/ dashboard.	High	Sprint-1
		USN - 2	As a user, I will receive the confirmation email, once I have registered for the app.	I can receive confirmation email & click confirm.	High	Sprint-1



		USN - 3	The User can register for the application through Gmail.		Medium	Sprint-1
	Login	USN - 4	The User can log into the application by entering the email & password.		High	Sprint-1
	Dashboard	USN - 5	Able to view the nutrients.		High	Sprint-1
Customer (Web User)	Registration	USN - 6	As a user, I can register for the application by entering the Mail Id, Password, and confirming the password.	I can access my account / dashboard.	High	Sprint-1
		USN - 7	As a user, I will receive the confirmation email, once I have registered for the application.	I can receive confirmation email & click confirm.	High	Sprint-1

		USN - 8	The User can register for the application through Gmail.		Medium	Sprint-1
	Login	USN - 9	The User can log into the application by entering the email & password.		High	Sprint-1
	Dashboard	USN - 10	Able to view the nutrients		High	Sprint-1

## 6. PROJECT PLANNING & SCHEDULING

### 6.1 Sprint Planning & Estimation :

- Sprint planning is an event in scrum that kicks off the sprint. The purpose of sprint planning is to define what can be delivered in the sprint and how that work will be achieved. Sprint planning is done in collaboration with the whole scrum team. In scrum, the sprint is a set period of time where all the work is done. However, before you can leap into action you have to set up the sprint. You need to decide on how long the time box is going to be, the sprint goal, and where you're going to start. The sprint planning session kicks off the sprint by setting the agenda and focus. If done correctly, it also creates an environment where the team is motivated, challenged, and can be successful. Bad sprint plans can derail the team by setting unrealistic expectations.
- The What – The product owner describes the objective(or goal) of the sprint and what backlog items contribute to that goal. The scrum team decides what can be done in the coming sprint and what they will do during the sprint to make that happen.
- The How – The development team plans the work necessary to deliver the sprint goal. Ultimately, the resulting sprint plan is a negotiation between the development team and product owner based on value and effort.
- The Who – You cannot do sprint planning without the product owner or the development team. The product owner defines the goal based on the value that they seek. The development team needs to understand how they can or cannot deliver that goal. If either is missing from this event it makes planning the sprint almost impossible.
- The Inputs – A great starting point for the sprint plan is the product backlog as it provides a list of ‘stuff’ that could potentially be part of the current sprint. The team should also look at the existing work done in the increment and have a view to capacity.

- The Outputs – The most important outcome for the sprint planning meeting is that the team can describe the goal of the sprint and how it will start working toward that goal. This is made visible in the sprint backlog.
- Running a great sprint planning event requires a bit of discipline. The product owner must be prepared, combining the lessons from the previous sprint review, stakeholder feedback, and vision for the product, so they set the scene for the sprint. For transparency, the product backlog should be up-to-date and refined to provide clarity. Backlog refinement is an optional event in scrum, because some backlogs don't need it. However, for most teams, it's better to get the team together to review and refine the backlog prior to sprint planning.

## **6.2 Sprint Delivery Schedule :**

Since sprints take place over a fixed period of time, it's critical to avoid wasting time during planning and development. And this is precisely where sprint scheduling enters the equation.

In case you're unfamiliar, a sprint schedule is a document that outlines sprint planning from end to end. It's one of the first steps in the agile sprint planning process—and something that requires adequate research, planning, and communication. In our project we schedule the sprint session into four parts.

Sprint - 1 : Collection of Datasets

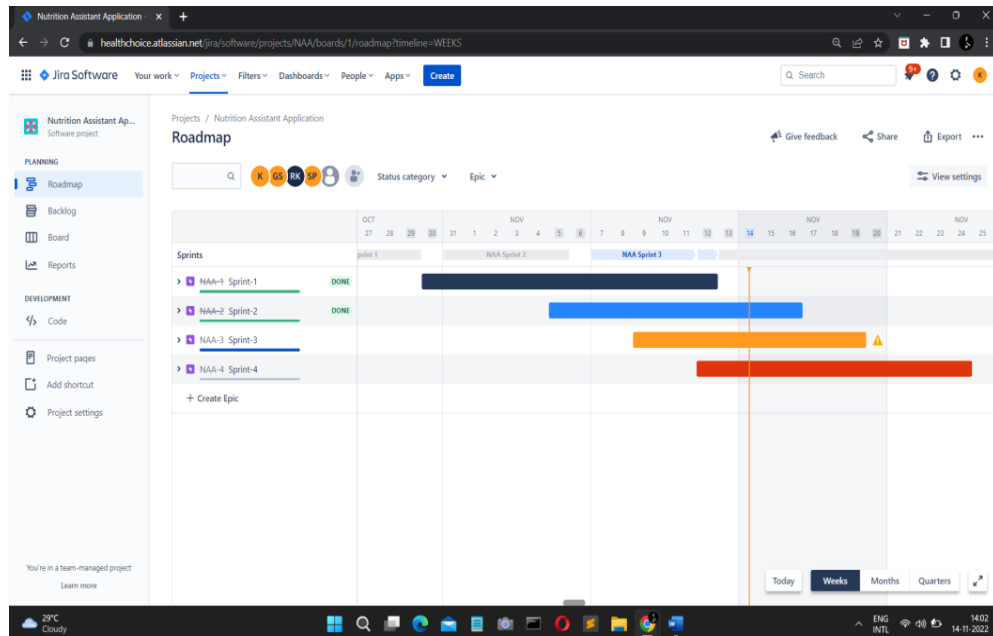
Sprint - 2 : Model Building

Sprint - 3 : Application Modeling

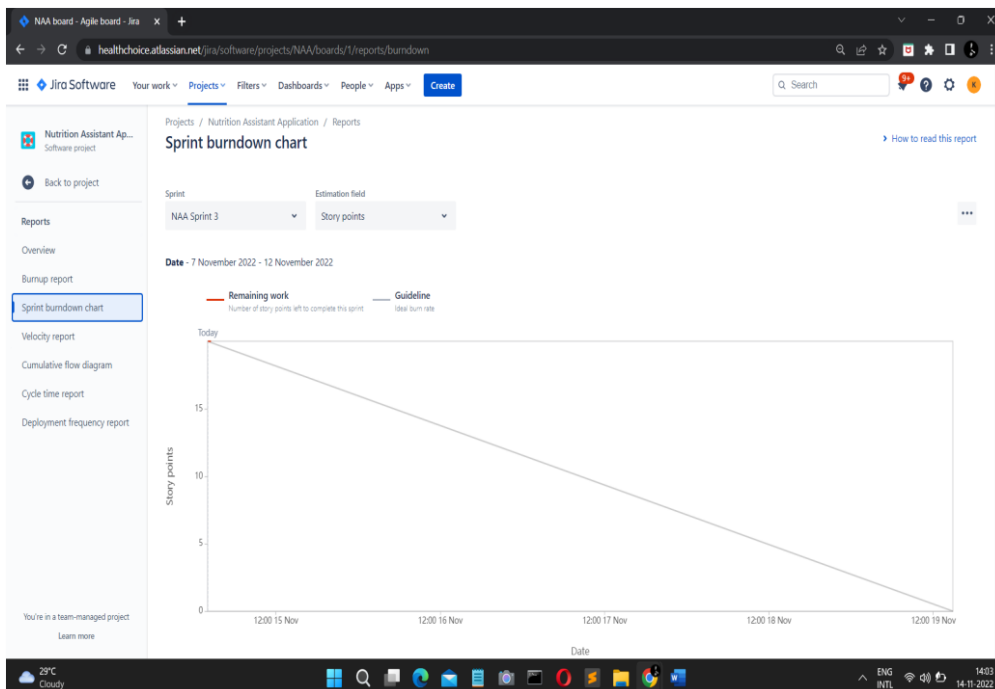
Sprint - 4 : User Acceptance Testing

## 6.3 Report from JIRA :

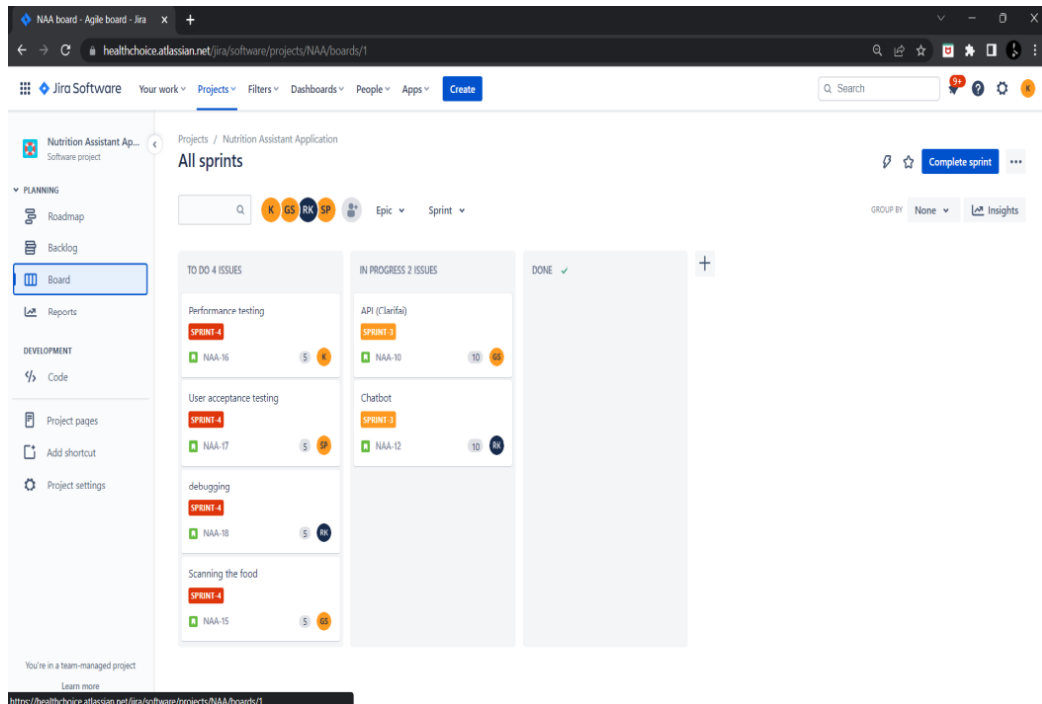
### JIRA RoadMap :



### JIRA BurnDown Chart :



## JIRA Board :



## 7. CODING & SOLUTIONING

### 7.1 Feature 1 :

Uploading of Image is the first feature. After the user have logged into the application, the user can able to upload or feed the image of the food as a input to get the nutrition of the specific food item by detecting it. This helps in identifying the calorie and nutrient content holds in that food which is got from the dataset which is clearly uploaded by the admin or developer.

#### Coding:

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta http-equiv="X-UA-Compatible" content="IE=edge">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Nutrients</title>
  <link rel="stylesheet"
href="https://stackpath.bootstrapcdn.com/bootstrap/4.1.3/css/bootstrap.min.css"
integrity="sha384MCw98/SFnGE8fJT3GXwEOngsV7Zt27NXFoaoApmYm81iuXoPkFOJwJ8E
RdknLPMO" crossorigin="anonymous">
<script src="https://stackpath.bootstrapcdn.com/bootstrap/4.1.3/js/bootstrap.min.js"
integrity="sha384ChfqqxuZUCnJSK3+MXmPNIyE6ZbWh2IMqE241rYiqJxyMiZ6OW/JmZQ5
stwEULTy" crossorigin="anonymous"></script>
</head>
<body>
  <center>
    <form action="/upload_img" method="POST" enctype="multipart/form-data">
      <br><br>
      <div id="wrapper">
        <input type="file" name='foodimg' accept="image">
```

```

onchange="preview_image(event)"><br>
    <img id="output_image" style="width: 50%;height: 50%;" />
</div>
<br>
<button type="submit" class="btn btn-warning">Upload</button>
<br><br>
</form>
if(n)
    <h1><p><b>Food Name : fooditem</b>
    </p>
    <p><b>Total Nutrients : n|int</b>
</p> </h1>
    <table class="table">
        <thead >
            <thead class="thead-dark">
                <tr>
                    <th>SI.No</th>
                    <th>Nutrient</th>
                    <th>Value per 100g</th>
                </tr>
            </thead> <tbody>
                for i in range(0,n)
                    <tr>
                        <th scope="row">i+1</th>
                        <td>nlist[i]</td>
                        <td>vlist[i]</td>
                    </tr>
                endfor
            </tbody> </table>
        endif
    </center></body></html>

```



## 7.2 Feature 2 :

The detection of food item and finding the nutrition and calorie of the food that is feeded is the second feature. The input food image is detected and converted into the nutrient and calorie details of the food.

### Coding :

```
#Test the model
#Testing 1
from tensorflow.keras.preprocessing import image
import numpy as np
img = image.load_img('/content/Image_4.jpg',target_size=(64,64)) # Reading image
x = image.img_to_array(img)
x = np.expand_dims(x,axis=0)
pred = np.argmax(model.predict(x))
op = ['Apple Nutrients: 95 calories, 0 gram fat, 1 gram protein, 25 grams carbohydrate, 19 grams
sugar (naturally occurring), and 3 grams fiber.','Beetroot Nutrients:Calories:43, water: 88%,
Protein: 1.6 grams','Carrot Nutrients: Calories:41, Protein:0.9gram','Lemon Nutrients:
Calories:29, Protein:1.1gram']
op[pred]
```

## 8. TESTING

### 8.1 Test Cases :

A test case is a set of actions performed on a system to determine if it satisfies software requirements and functions correctly. It is a specification of the inputs, execution conditions, testing procedure, and expected results that define a single test to be executed to achieve a particular software testing objective, such as to exercise a particular program path or to verify compliance with a specific requirement. Test cases underlie testing that is methodical rather than haphazard. A battery of test cases can be built to produce the desired coverage of the software being tested. Formally defined test cases allow the same tests to be run repeatedly against successive versions of the software, allowing for effective and consistent regression testing.

**Formal Test Case :** In order to fully test that all the requirements of an application are met, there must be at least two test cases for each requirement: one positive test and one negative test. If a requirement has sub-requirements, each sub-requirement must have at least two test cases. Keeping track of the link between the requirement and the test is frequently done using a traceability matrix. Written test cases should include a description of the functionality to be tested, and the preparation required to ensure that the test can be conducted. A formal written test case is characterized by a known input and by an expected output, which is worked out before the test is executed. The known input should test a precondition and the expected output should test a postcondition.

**Informal Test Case :** For applications or systems without formal requirements, test cases can be written based on the accepted normal operation of programs of a similar class. In some schools of testing, test cases are not written at all but the activities and results are reported after the tests have been run. In scenario testing, hypothetical stories are used to help the tester think through a complex problem or system. These scenarios are usually not written down in any detail.

## 8.2 User Acceptance Testing :

User acceptance testing (UAT), also called *application testing* or *end-user testing*, is a phase of software development in which the software is tested in the real world by its intended audience. UAT is often the last phase of the software testing process and is performed before the tested software is released to its intended market. The goal of UAT is to ensure software can handle real-world tasks and perform up to development specifications. In UAT, users are given the opportunity to interact with the software before its official release to see if any features have been overlooked or if it contains any bugs. UAT is effective for ensuring quality in terms of time and software cost, while also increasing transparency with users. UAT also enables developers to work with real cases and data, and if successful, the process can validate business requirements. This report shows the number of resolved or closed bugs at each severity level, and how they were resolved.

Resolution	Severity 1	Severity 2	Severity 3	Severity 4	Sub Total
Design	5	4	6	5	20
Duplicate	0	1	3	0	4
External	1	1	0	4	6
Fixed	2	5	20	10	37
Not Reproduced	0	0	1	0	1

Skipped	0	0	1	1	2
Won't Fixed	0	5	2	1	8
Totals	8	16	33	21	77

### Test Case Analysis :

This analysis shows the number of test cases that are either passed, failed or untested.

Section	Total Cases	Not Tested	Fail	Pass
Print Engine	7	0	0	7
Client Application	51	5	0	46
Security	2	0	0	2
OutSource Shipping	3	0	0	3
Exception reporting	9	0	0	9
Final Report Output	4	0	0	4
Version Control	2	0	0	2

## 9. RESULTS

### 9.1 Performance Metrics :

All projects are feasible when given unlimited resources and infinite time. It's both necessary and prudent to evaluate the feasibility of the project at the earliest possible time. The efforts and resource spent in developing the system will be waste if the end solution does not offer timely and satisfactory solutions to the user. Feasibility study is a test of system proposed regarding workability and effective use of resources. Thus when a new application is proposed, it normally goes through a feasibility study before it is approved for development. The feasibility of the project is analysed in this phase and a business proposal is put forth with a very general plan for the project and some cost estimates. During system analysis the feasibility study of the proposed system is to be carried out.

- Technical Feasibility
- Economical Feasibility
- Social Feasibility

**Technical Feasibility** - This study is carried out to check the technical feasibility that is the technical requirements of the system. Any system must not have a high demand on the available technical resources.

**Economical Feasibility** - This study is carried out to check the economic impact that the system will have on organization. The implementation of the system is very easy and simple when compared to other systems according to the cost and other factors.

**Social Feasibility** - The aspect of this study is to check the level the acceptance of the system. Those includes the process of training the user to use the system efficiently.

## **10. ADVANATAGES & DISADVANTAGES**

### **10.1 Advantages :**

- Easy to maintain data.
- Less Time Consuming.
- Efficient Output.
- Accuracy in result.
- Maintains Large Datasets.
- Reduce Human effort.
- Developed as a Web App.

### **10.2 Disadvantages :**

- Only supportive in mobile based.
- Only uploaded images can analysed.
- This device is not able to predict the multiple image as input.

## **11. CONCLUSION**

In this work, a personal health assistant Android mobile application is designed and developed. The developed application allows the user to collect and analyze his/her personal health information related to sleep, exercise and nutrition. The application can collect a set of data from other android applications and a set of data entered by the user. The collected data is analyzed using a set of simple data analysis methods. A set of pre-defined personal information and a set of pre-defined personal preferences are utilized by the proposed application in order to provide a set of personal health advices. The analyzed results are presented in a simple and easy to understand format such as a pie chart. The application can also issue a notification or alarm on a pre-defined event specified by the user. The proposed application is developed using JAVA programming language and it is fully compatible with the Android 4.2.2.

## **12. FUTURE SCOPE**

In this Web Application, the user can be able to detect the nutrients of the multiple images. The user can be able to get the multiple nutrients facts globally and there is no need to get frustration about the security or anything.

## 13. APPENDIX

### 13.1 Source Code :

Python code :

```
from flask import Flask, render_template, request, redirect, url_for, session
import ibm_db
import re
app = Flask(__name__)
app.secret_key = 'a'
conn = ibm_db.connect("DATABASE=bludb;HOSTNAME=b0aebb68-94fa-46ec-a1fc-
1c999edb6187.c3n41cmd0nqnrk39u98g.databases.appdomain.cloud;PORT=31249;SECURITY=
SSL;SSLServerCertificate=DigiCertGlobalRootCA.crt;UID=pkc97923;PWD=X4zNsMTqookD
gNSa",",")
@app.route('/')
def home():
    return render_template('home.html')
@app.route('/login',methods=['GET', 'POST'])
def login():
    global userid
    msg = ""
    if request.method == 'POST':
        username = request.form['username']
        password = request.form['password']
        sql = "SELECT * FROM users WHERE username =? AND password=?"
        stmt = ibm_db.prepare(conn, sql)
        ibm_db.bind_param(stmt,1,username)
        ibm_db.bind_param(stmt,2,password)
        ibm_db.execute(stmt)
```



```

account = ibm_db.fetch_assoc(stmt)

print (account)

if account:
    session['loggedin'] = True
    session['id'] = account['USERNAME']
    userid= account['USERNAME']
    session['username'] = account['USERNAME']
    msg = 'Logged in successfully !'
    return render_template('dashboard.html', msg = msg)
else:
    msg = 'Incorrect username / password !'
    return render_template('login.html', msg = msg)

@app.route('/register', methods=['GET', 'POST'])
def registet():
    msg = "
    if request.method == 'POST' :
        username = request.form['username']
        email = request.form['email']
        password = request.form['password']
        sql = "SELECT * FROM users WHERE username =?"
        stmt = ibm_db.prepare(conn, sql)
        ibm_db.bind_param(stmt,1,username)
        ibm_db.execute(stmt)
        account = ibm_db.fetch_assoc(stmt)
        print(account)
        if account:
            msg = 'Account already exists !'
            elif not re.match(r'^@]+@^[^@]+\.[^@]+', email):
                msg = 'Invalid email address !'
            elif not re.match(r'[A-Za-z0-9]+', username):
                msg = 'name must contain only characters and numbers !'
        else:

```

```

insert_sql = "INSERT INTO users VALUES (?, ?, ?)"
prep_stmt = ibm_db.prepare(conn, insert_sql)
ibm_db.bind_param(prepare_stmt, 1, username)
ibm_db.bind_param(prepare_stmt, 2, email)
ibm_db.bind_param(prepare_stmt, 3, password)
ibm_db.execute(prepare_stmt)
msg = 'You have successfully registered !'
elif request.method == 'POST':
    msg = 'Please fill out the form !'
    return render_template('register.html', msg = msg)
@app.route('/logout')
def logout():
    session.pop('loggedin', None)
    session.pop('id', None)
    session.pop('username', None)
    return render_template('home.html')
if __name__ == '__main__':
    app.run(host='0.0.0.0')

```

## HTML Code (UI Page) :

```
<html>
<head>
<meta name="viewport" content="width=device-width, initial-scale=1.0">
<title>
Nutrition Assistant Application
</title>
<link rel="stylesheet" href="thenmozhi.css">
<link rel="preconnect" href="https://fonts.googleapis.com">
<link rel="preconnect" href="https://fonts.gstatic.com" crossorigin>
<link
href="https://fonts.googleapis.com/css2?family=Poppins:ital,wght@0,100;0,200;0,300;0,400;0,5
00;1,100&display=swap" rel="stylesheet">
<link rel="stylesheet" href="https://cdn.jsdelivr.net/npm/@fortawesome/fontawesome-
free@6.2.0/css/fontawesome.min.css">
</head>
<body>
<section class="header">
<div class="title">
<h1>NUTRITION ASSISTANT</h1>
</div>
<nav>
<div class="nav-links">
<ul>
<li>
<a href="register.html">REGISTER</a>
</li>
<li>
```

```

    <a href="login.html">LOGIN</a>
  </li>
  <li>
    <a href="upload image.html">UPLOAD IMAGE</a>
  </li>
  <li>
    <a href="#">HISTORY</a>
  </li>
</ul>
</div>
</nav>
<nav>
<div class="container">
  <video src="C:\Users\THENMOZHI\Documents\videoes.mp4" autoplay muted
loop></video>
</nav>
<br>
<div class="text-box">
  <h1>
    Nutrition app
  </h1>
  <p>
    A Nutrition Assistant is a specialist that uses diagnostic procedures to identify nutrition
    deficiencies in patients.
    <br> They work closely with nutritionists and dietitians to improve the well-being of
    patients through proper nutrition.
    <br> Nutritionists need to determine their patients' needs through interviewing them and
    giving them the best meal plans after assessing all risk factors.
  </p>

```

```

</div>
<br>
</section>
<!--data-->
<section class="data">
<h1>
  Nutrition Food
</h1>
<div class="row">
  <div class="data-col">
    <p>
      Providing dieticians with the facility's meal and menu planning.
      Obtaining dietary information and assessing the nutritional habits of patients.
      Recording individual risk factors or dietary restrictions that might impact meal planning.
      Coordinating meal plans with nutritionists and healthcare professionals.
      Performing ongoing nutrition assessments, including the measurement of caloric intake and
      activity levels.
      Facilitating immediate interventions for signs of malnutrition, allergic reactions, or refusal to eat.
      Assisting in meal distribution, ensuring correctly delivered, and timely served meals.
      Maintaining proper sterilization protocols in the clearing away and cleaning of plates and
      utensils.
      Safely discarding leftover portions to prevent the spread of disease.
      Instructing patients and families on nutrition plans and healthy eating habits.
    </p>
  </div>
  <div class="course-col">
    
  </div>

```

```

</div>
<br>
<div class="row">
  <div class="course-cols">
    
  </div>
  <div class="data-cols">
    Nutrient-dense foods are rich in vitamins, minerals and other nutrients important for health,
    without too much saturated fat, added sugars and sodium. We're talking fruits, vegetables, whole
    grains, non-fat and low-fat dairy, fish and seafood, unprocessed lean meat and skinless poultry,
    nuts and legumes. Water is the best choice for quenching your thirst. etes, and obesity.
  </div>
</div>
</section>
<section class="upload">
  <h1>
    Nutrition Benifits
  </h1>
  <br>
  <div class="row">
    <div class="upload-col">
      
    <div class="layer">
      <h3>Nutrition<br>
      Nutrient-dense foods are rich in vitamins, minerals and other nutrients important for
      health, without too much saturated fat, added sugars and sodium. We're talking fruits, vegetables,
      whole grains, non-fat and low-fat dairy, fish and seafood, unprocessed lean meat and skinless

```

poultry, nuts and legumes. Water is the best choice for quenching your thirst. etes, and obesity.

```
</h3>
```

```
</div>
```

```
</div>
```

```
</div>
```

```
</section>
```

```
</section>
```

```
</body>
```

```
</html>
```

## 13.2 GitHub & Project Demo link :

### GitHub Link :

<https://github.com/IBM-EPBL/IBM-Project-42664-1664171013.git>

### Project Demo Link :

[https://drive.google.com/file/d/12Ee-Orrhevbv0l9K-YXpAZa8dXF1E4Og/view?usp=share\\_link](https://drive.google.com/file/d/12Ee-Orrhevbv0l9K-YXpAZa8dXF1E4Og/view?usp=share_link)