NAALAIYA THIRAN PROJECT

TEAM MEMBERS

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19/11/2022

PROJECT REPORT

DATE	19 November 2022
TEAM ID	PNT2022TMID36987
PROJECT NAME	AI-powered Nutrition Analyst for Fitness Enthusiasts

1.INTRODUCTION :

Lack of exercise plus poor eating habits remain significant causes for benign ailments such as heart disorder, insulin resistance, and fatness. These sorts of problems are responsible for seventy percent global mortality and impose a significant monetary load. To decrease such losses, gainful and workable standards of living are sorely required. Comprehensive way of living Programmes for comprehensive way of living have developed gradually in perfect sync with new virtual and advanced tools. Ai technology and related analytical modelling are now the major breakthrough in widening the terrain of medical services and initiatives in current history.

Individuals in present era consume unhealthy foods and suffer from serious illnesses of one‘s incautious conduct. Such ailments seem to be treatable; however the patient's fitness declines. As a result, everyone should follow a healthy diet for their own good. This practise perfectly fulfils the criteria. The proposed methodology presents the client with a necessary nutrition plan by taking into account numerous parameters. The method computes the patient's Body fat percentage based on his or her age and build. It gives a person an appropriate nutrition program based on age, sex, tallness, muscle mass, and illness. Likewise, this strategy generates crash diet based upon the data provided by the client. It includes an authentication server in which the subscriber must sign up before using the plug-in. A risk of service interruption will be a drawback as the system entirely depends on the internet connectivity. The framework provides better accuracy because it recognises the patient's information and processes it based upon certain formulations by now defined to the implementation, mostly on core principle of which a proposed action is created and confirms with the client if the nutrition scheme is acceptable. In case the food chart is not acceptable by the client then framework will propose a different regimen.

Project overview

Food is essential for human life and has been the concern of many healthcare conventions. Nowadays new dietary assessment and nutrition analysis tools enable more opportunities to help people understand their daily eating habits, exploring nutrition patterns and maintain a healthy diet. Nutritional analysis is the process of determining the nutritional content of food. It is a vital part of analytical chemistry that provides information about the chemical composition, processing, quality control and contamination of food.

The main aim of the project is to building a model which is used for classifying the fruit depends on the different characteristics like colour, shape, texture etc. Here the user can capture the images of different fruits and then the image will be sent the trained model. The model analyses the image and detect the nutrition based on the fruits like (Sugar, Fibre, Protein, Calories, etc.).

1.2.Purpose

The goal of fitness tracking apps is to collect data about the user's activities. These include the number of steps taken, stairs climbed, distance ran, and other fitness metrics. To make it easy for users to monitor progress, create a fitness tracking app that will also provide calendars and charts

2. LITERATURE SURVE

Existing Problem

Sharing and collaboration are commonplace in today's social media-driven world. But the lack of regulation means it's all too easy for people to share information on fitness, health – and pretty much anything – without any factual backing. Combine this with standard challenges like keeping clients motivated, and there are problems in the fitness industry that can affect your business.

5 Main problems are:

Misinformation , One-Way Approach , Information Overload , Elitist Attitudes ,Lack of Member Support

References

- **https://www.healthifyme.com/in/**
- **Don't Lose Your Mind, Lose Your Weight**

  The country's highest-selling diet book, has revolutionized the way Indians think about food and their eating habits

Author: Diwekar Rujuta

- R.S. Pressman, Software Engineering: A Practitioner's Approach, McGraw-Hill, Ed 7,2010
- P. Jalote, An Integrated Approach to Software Engineering, Narosa Publishing House, Ed 3, 2011
- https://www.engpaper.com/cse/artificial-intelligence-dietician.html

https://www.smartics.eu/confluence/display/PDAC1/How+to+document+a +Software+Development+Project

- **https://en.wikipedia.org/wiki/Healthy_diet#:~:text=Eat%20healthy%20protein%3A%20good%20choices,because%20sweet%20drinks%20cause%20cravings.**

Problem Statement Definition

- **Misinformation:**

a lot of the inadequate information that's spread over the internet and social media is evident to fitness professionals and personal trainers, the average person doesn't have the same level of knowledge. Often, this means that they're happy to jump on the latest fitness bandwagon – whatever it may be.

- **One-Way Approach:**

Social media is an excellent resource for finding like-minded people with similar interests. This is brilliant because no matter what your interests, you can find a community of people who support you and share your passion.

- **Information Overload:**

You've seen the clients who keep changing their routine every few weeks. And you know the ones that aren't doing it to push through a plateau.

- **Lack of Member Support:**

The reason they leave is that they're unfulfilled. The idea hasn't lived up to expectations. Perhaps they lost motivation or lost sight of their goals. Maybe they were putting in the effort but didn't see the results they wanted.

3. Ideation & Proposed Solution

Empathy Map Canvas

In this Empathy Map we describe about

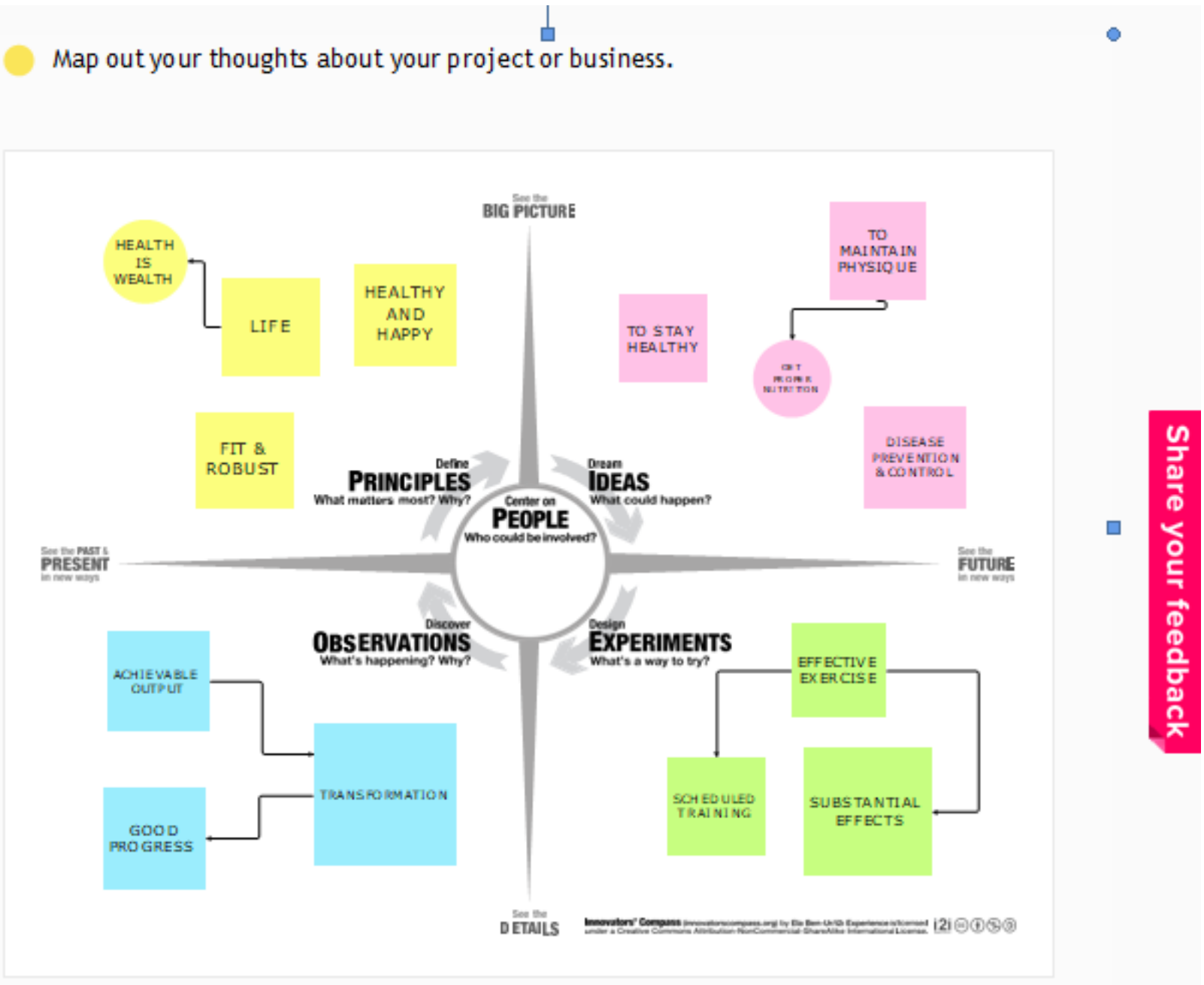
What do they,

- Think and feel
- Hear
- See
- Say and Do

Pain and Gain

Innovators' Compass

Map out thoughts as principles, ideas, experiments, and observations

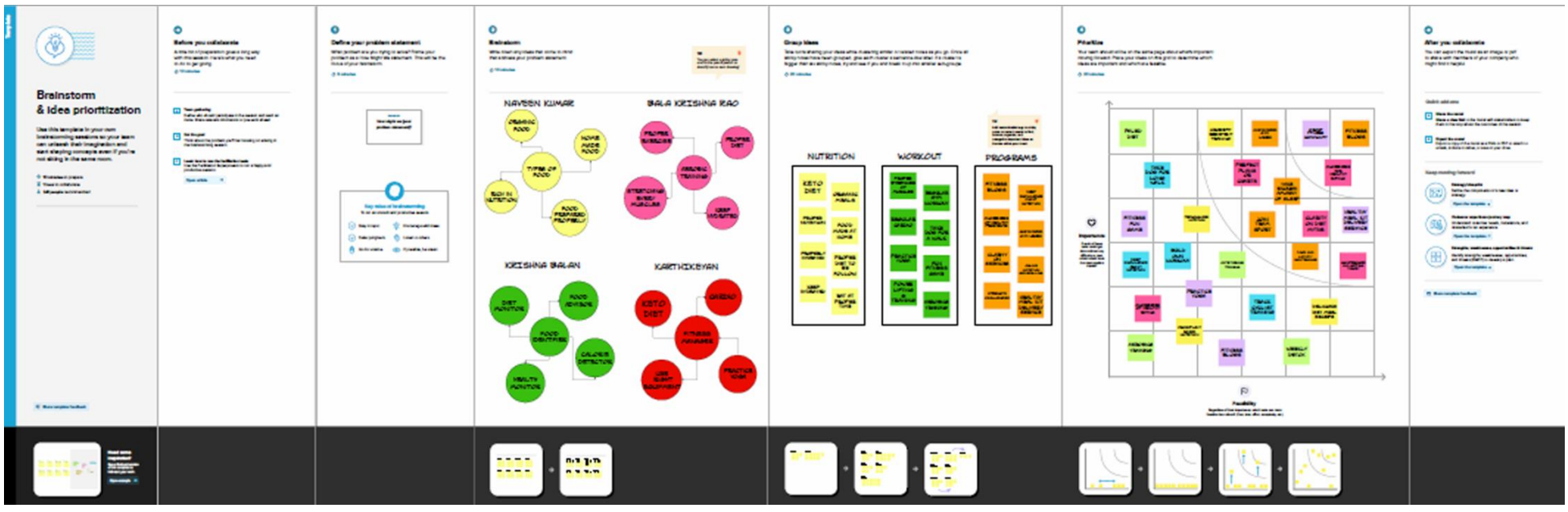


Ideation and Brainstorming

In this phase we discussed about

- Where to Start
- Time Management
- Friends and Family Support

Bad Health Habits



Proposed Solution

- **Novelty/Uniqueness**

  Giving a individual Food/health Schedule According to their body conditions

- **Social impact/Customer Satisfaction**

  Low expenditure ,easy to follow without affecting their personal time.

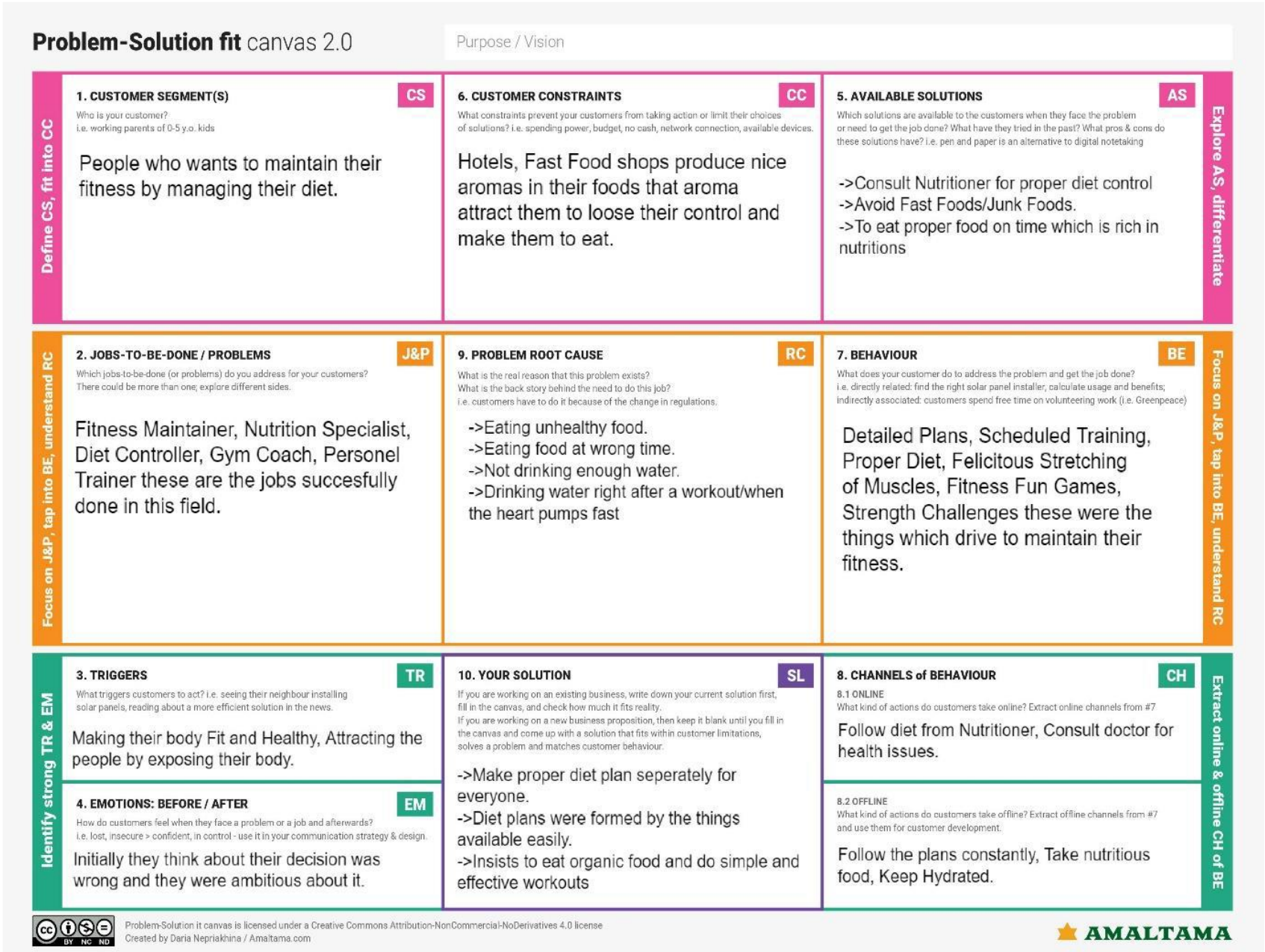
- **Business model**

  Free platform for all users. For specific guidance users want to pay

- **Scalability of the Solution**

Notifying motivational quote’s to lead a healthy routine

Problem Solution Fit



4 Requirement Analysis

Functional Requirement

THE FOLLOWING ARE THE FUNCTIONAL REQUIREMENTS OF THE PROPOSED SOLUTION.

FR NO.	FUNCTIONAL REQUIREMENT (EPIC)	SUB REQUIREMENT (STORY / SUB-TASK)
FR-1	USER REGISTRATION	REGISTRATION THROUGH GMAIL. REGISTRATION THROUGH PHONE NUMBER.
FR-2	USER CONFIRMATION	CONFIRMATION VIA EMAIL. CONFIRMATION VIA OTP.
FR-3	USER LOGIN	LOGIN THROUGH PHONE NUMBER. LOGIN THROUGH EMAIL.
FR-4	CHOOSE PACKAGE	SELECTION OF DESIRED PACKAGE.
FR-5	GENERATE THE DAILY PLAN	DAILY PLANS WILL BE GENERATED ACCORDINGLY BY TRAINER SEPARATELY.
FR-6	MANAGE PROGRESS REPORT	GATHERING INFORMATION FROM DATABASEAND GENERATING DAILY REPORT.
FR-7	QUERY	THE TRAINER CAN CHANGE PLANS ACCORDING TO THE USER NEEDS.

Non Functional Requirement

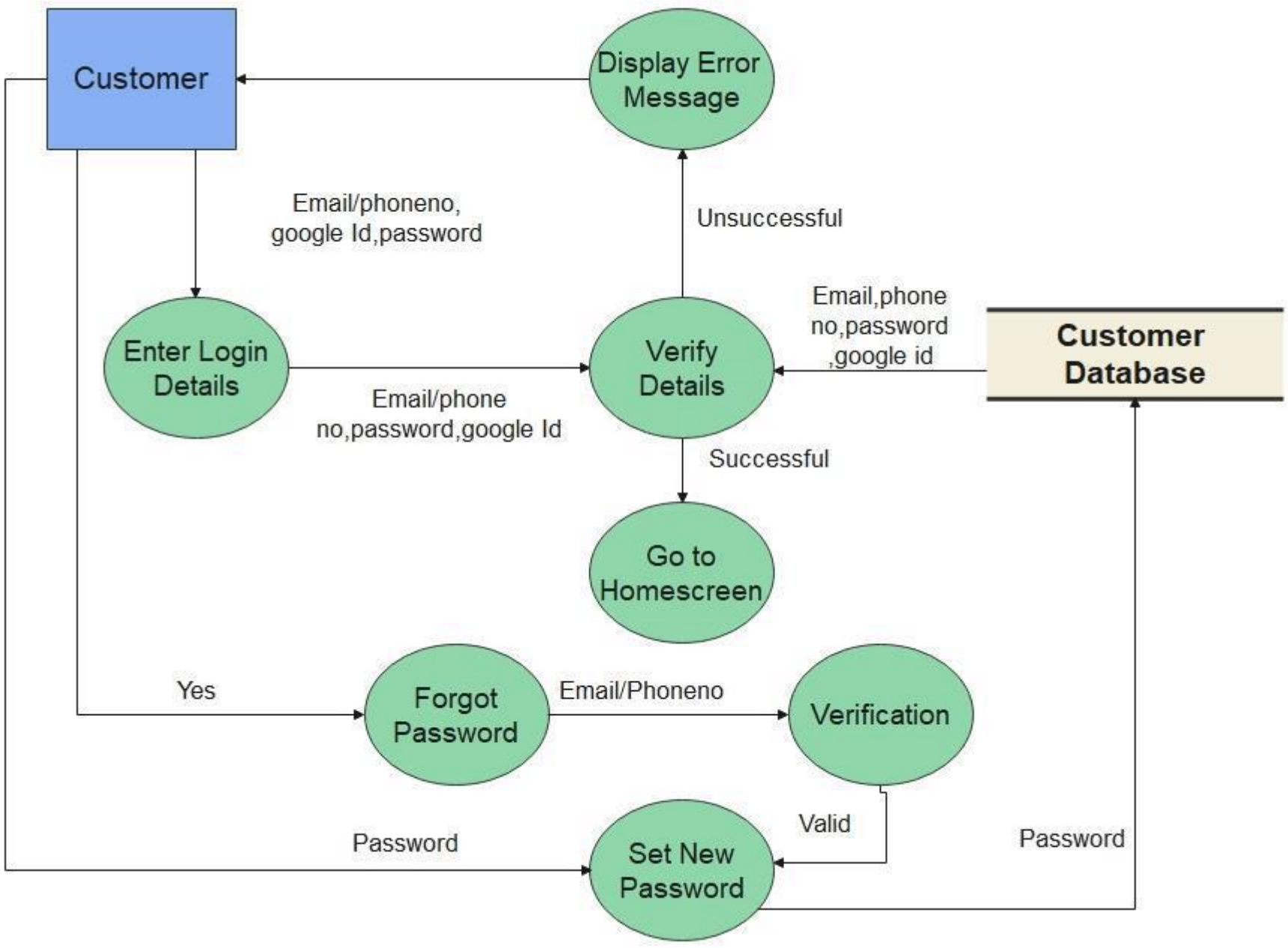
THE FOLLOWING ARE THE NON-FUNCTIONAL REQUIREMENTS OF THE PROPOSED SOLUTION

FR No.	FR No.	DESCRIPTION
NFR-1	FR No.	EASY TO USE, INTERACTIVE USER INTERFACE.
NFR-2	NFR-1	USER CAN ACCESS ONLY THEIR PERSONAL INFORMATION.
NFR-3	NFR-2	THE AVERAGE TIME OF FAILURE SHALL BE 3-4 DAYS.
NFR-4	NFR-3	THE RESULTS HAVE TO BE SHOWN WITHIN 24-48 HRS.
NFR-5	NFR-4	THE DIETICIAN SHALL BE AVAILABLE 24/7 TO USERS.
NFR-6	NFR-5	SUPPORTS VARIOUS HEALTHY FOOD.

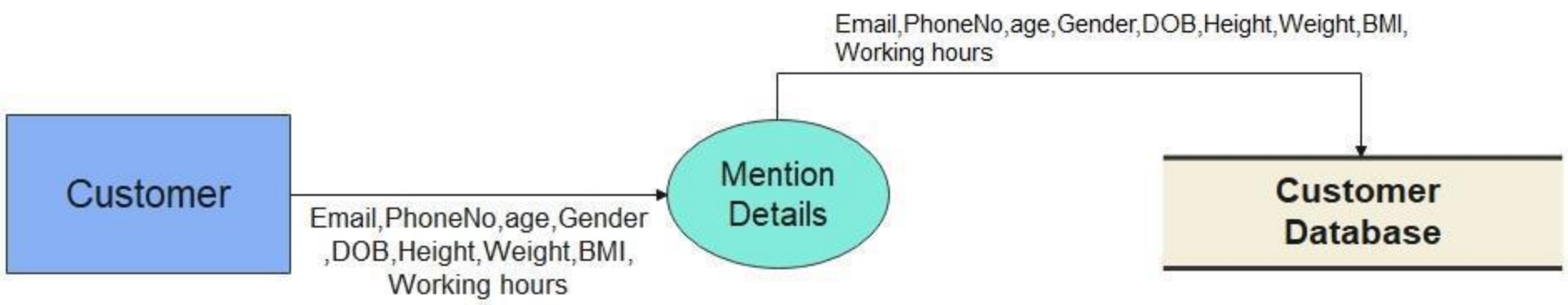
5. Project Design

Data Flow Diagrams

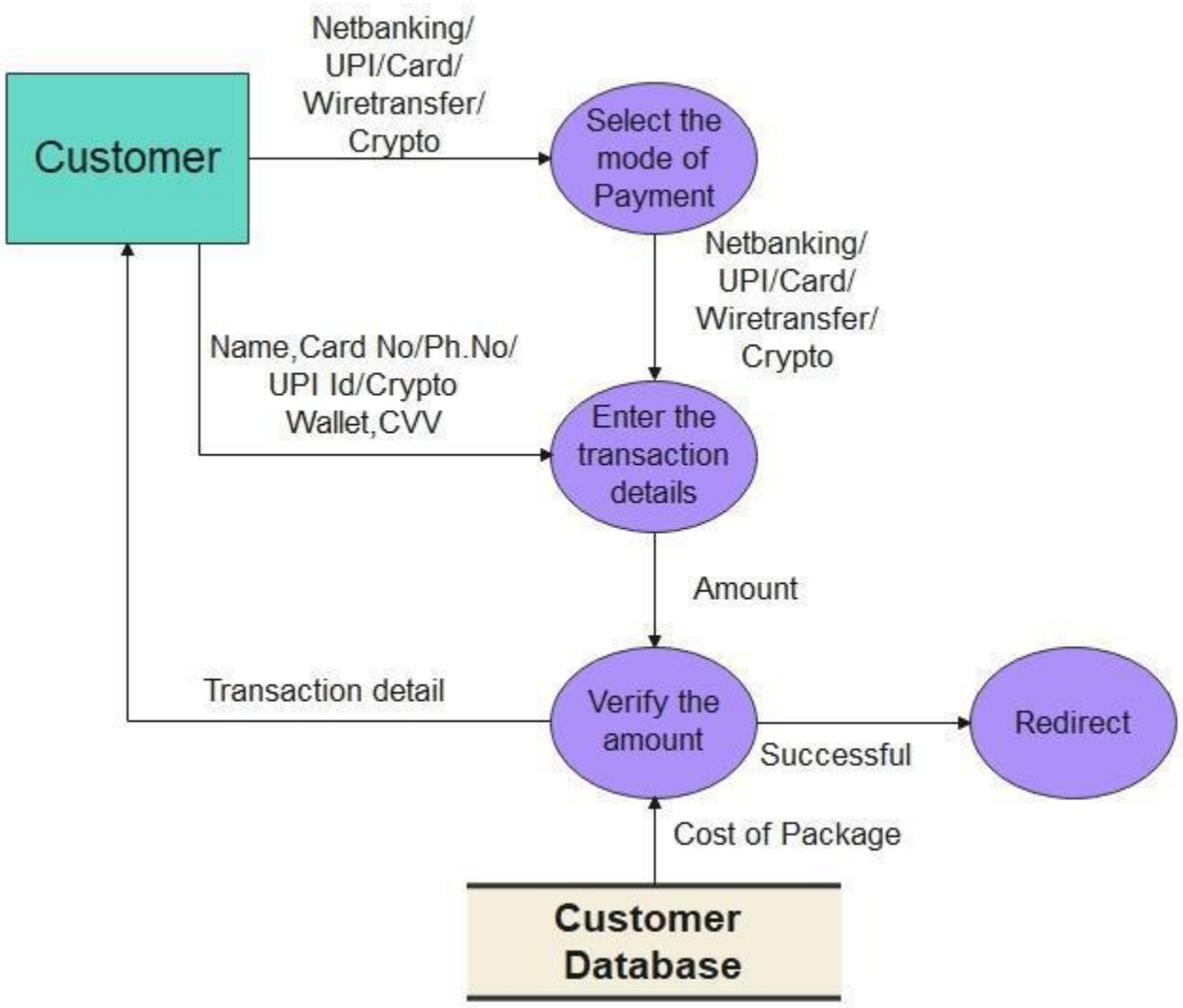
DFD -1(Login):



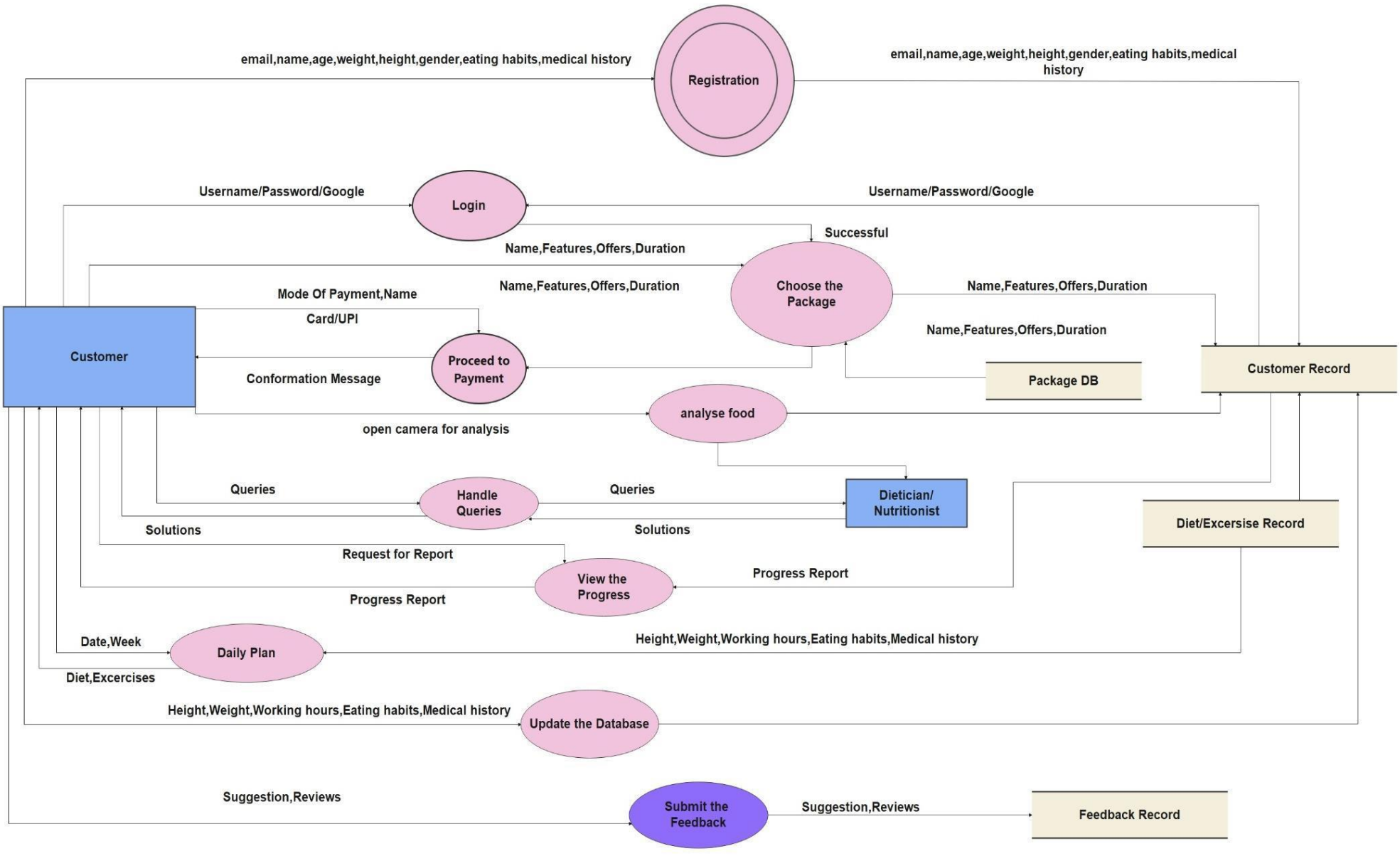
DFD -1(Registration):



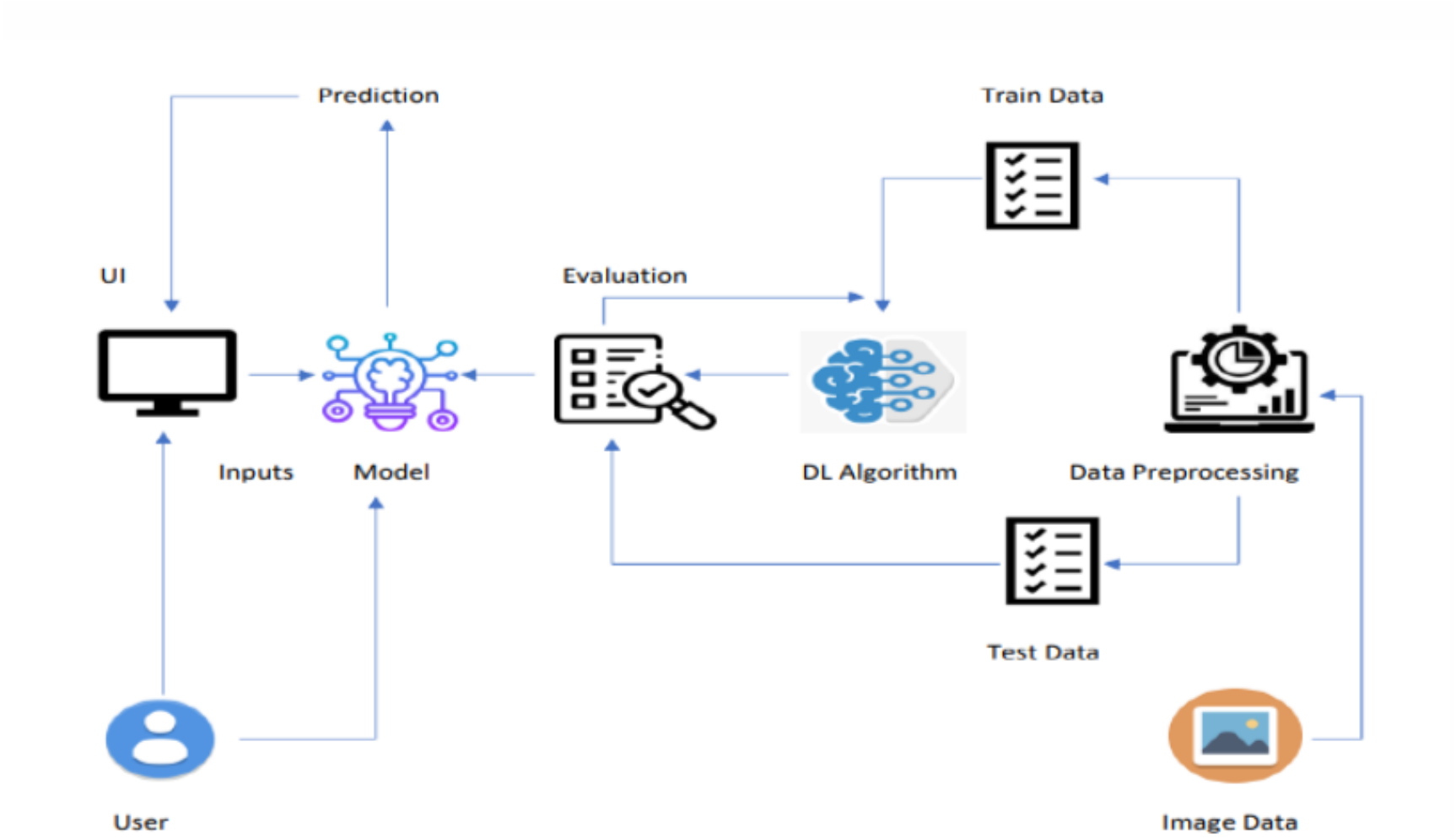
DFD -1(Payment):



DFD - 0:


email,name,age,weight,height,gender,eating habits,medical history
Registration
email,name,age,weight,height,gender,eating habits,medical history
history
Username/Password/Google
Login
Username/Password/Google
Successful
Name,Features,Offers,Duration
Name,Features,Offers,Duration
Choose the Package
Name,Features,Offers,Duration
Mode Of Payment,Name
Card/UPI
Name,Features,Offers,Duration
Customer
Proceed to Payment
Conformation Message
Package DB
Customer Record
analyse food
open camera for analysis
Queries
Handle Queries
Queries
Dietician/ Nutritionist
Solutions
Solutions
Diet/Excersise Record
Request for Report
View the Progress
Progress Report
Progress Report
Date,Week
Daily Plan
Height,Weight,Working hours,Eating habits,Medical history
Diet,Excercises
Height,Weight,Working hours,Eating habits,Medical history
Update the Database
Suggestion,Reviews
Submit the Feedback
Suggestion,Reviews
Feedback Record

Solution and Technical Architecture



USER STORIES:

User Type	Functional requirement	User Story Number	User Story/Task	Acceptance Criteria	Priority	Release
Customer	Registration	USN-1	As a user, I can register for the application by entering my email, password.	I can access my account/dashboard.	High	Sprint-1
		USN-2	As a user, I can register for the application through Mobile number.		High	Sprint-1
		USN-3	As a user, I will receive verification message once I have registered.	I receive confirmation message & click confirmation.	High	Sprint-1
	Login	USN-4	As a user, I can log into the application by entering email & password.	I can login using the application password.	High	Sprint-1
		USN-5	As a user, I can login using Mobile number and password.		High	Sprint-1
	Main Interface	USN-6	As a User, I can intake calorie by analysing according to my body.	Access the information about nutrition & calories.	High	Sprint-2
	Dashboard	USN-7	As a user, I can choose package according to my requirement.	Selecting a suitable package.	Medium	Sprint-2
Customer Care Executive	Feedback, Tollfree Number	USN-8	As a customer care executive, I collect feedbacks from customer and provide solutionsfor queries.	Maintain proper working of the application and environment.	High	Sprint-2
Dietitian	Customer Record	USN-9	As a dietitian, I provide daily plansfor the advancement of user.	Positive results from user.	High	Sprint-2
Administrator	Dashboard	USN-10	As an administrator I take care of all the operation which takesplace inside the app.	Zero issues from user.	High	Sprint-2

6. Project Planning and Scheduling:

. Sprint Planning and Estimation:

SPRINT	FUNCTIONAL REQUIREMENT	USER STORY NUMBER	USER TASK/STORY	STORY POINTS	PRIORITY	TEAM MEMBERS
SPRINT-1	REGISTRATION	USN-1	USER CAN REGISTER USING EMAIL & PASSWORD.	10	HIGH	G. BALA KRISHNA RAO. V. KRISHNA BALAN. J.S NAVEEN KUMAR. R. KARTHIKEYAN.
SPRINT-1	LOGIN	USN-2	USER CAN LOGIN USING THE SAME EMAIL & PASSWORD.	10	HIGH	
SPRINT-1	MAIN PAGE	USN-3	HOME PAGE, NAVIGATE THROUGH APPLICATION EASILY.	10	HIGH	
SPRINT-2	MODEL BUILDING	USN-4	DEVELOP MODEL WITH PREPARED DATASET.	10	HIGH	G. BALA KRISHNA RAO. R. KARTHIKEYAN. J.S NAVEEN KUMAR.
SPRINT-2	MAIN INTERFACE	USN-5	USER CAN INTAKE CALORIES ACCORDING TO USER BODY.	10	HIGH	
SPRINT-2	DASHBOARD	USN-6	USER CAN CHOOSE PACKAGE ACCORDING TO THEIR NEEDS.	7	MEDIUM	
SPRINT-2	MOTIVATION QUOTES	USN-7	USER GETS DAILY MOTIVATION QUOTES.	8	HIGH	G. BALA KRISHNA RAO. V. KRISHNA BALAN.
SPRINT-2	SEARCHING	USN-8	USER CAN SEARCH FOOD ACCORDING TONEED.	8	HIGH	
SPRINT-3	DIET PLAN	USN-9	DIETITIAN PROVIDE DAILY PLANS FOR USER.	9	HIGH	V. KRISHNA BALAN. J.S NAVEEN KUMAR. R. KARTHIKEYAN.
SPRINT-3	PERSONALIZED DIETITIAN	USN-10	PREMIUM USER GET DIETS FROM A SPECIFIED DIETITIAN DAILY.	6	MEDIUM	
SPRINT-3	MONITORING	USN-11	MONITOR DAILY WATER INTAKE AND GET PERIODIC REMAINDERS.	6	MEDIUM	
SPRINT-3	HEALTH DETAILS MANAGEMENT	USN-12	USER GET DIETS ACCORDING TO BODY CONDITION OF USER.	6	MEDIUM	
SPRINT-3	STORING DATA	USN-13	USER CAN STORE DATA TO PREDICT HEALTH CONDITIONS.	7	MEDIUM	J.S NAVEEN KUMAR. G. BALA KRISHNA RAO.
SPRINT-3	REPORT PAGE	USN-14	USER CAN REPORT QUERIES.	9	HIGH	
SPRINT-3	DASHBOARD	USN-15	USER CAN VIEW THE SOLUTION FOR THEIR QUERY.	9	HIGH	
SPRINT-4	BASIC EXERCISE	USN-16	USER CAN FOLLOW EXERCISE & MAINTAIN PROPER WEIGHT.	10	HIGH	J.S NAVEEN KUMAR. R. KARTHIKEYAN.
SPRINT-4	HOME REMEDIES	USN-17	USER CAN FOLLOW HOME MEDICINE FOR COMMON DISEASES (COLD, FEVER, ETC.).	10	HIGH	
SPRINT-4	ANALYSE DATA	USN-18	USER ANALYSE PREVIOUS RECORDS TO CHECK IMPROVEMENTS.	8	HIGH	G. BALA KRISHNA RAO. V. KRISHNA BALAN. J.S NAVEEN KUMAR. R. KARTHIKEYAN.
SPRINT-4	USER EXPERIENCE	USN-19	DEVELOPER PROVIDE SMOOTH & CLEAN INTERFACE TO USER.	10	HIGH	
SPRINT-4	PAYMENT	USN-20	DEVELOPER CREATE EASY PAYMENT GATEWAY WITH PAYMENT OPTIONS.	8	HIGH	
SPRINT-4	FEEDBACK	USN-21	USER CAN PROVIDE FEEDBACK	6	MEDIUM	
SPRINT-4	SECURITY CHECK	USN-22	ADMINISTRATOR MUST CONFIRM THAT DATA ARE SECURED.	10	HIGH	
SPRINT-1	LOGOUT	USN-23	USER CAN LOGOUT FROM APP.	9	HIGH	

6.2. Spíint Deliveíy Schedule:

Project Tracker, Velocity & Burndown Chart: (4 Marks)

Sprint	Total Story Points	Duration	Sprint Start Date	Sprint End Date (Planned)	Story Points Completed (as on Planned End Date)	Sprint Release Date (Actual)
Sprint-1	20	6 Days	24 Oct 2022	29 Oct 2022	20	2 Nov 2022
Sprint-2	20	6 Days	31 Oct 2022	05 Nov 2022	20	03 Nov 2022
Sprint-3	20	6 Days	07 Nov 2022	12 Nov 2022	20	10 Nov 2022
Sprint-4	20	6 Days	14 Nov 2022	19 Nov 2022	20	17 Nov 2022

Velocity:

Imagine we have a 10-day sprint duration, and the velocity of the team is 20 (points per sprint). Let's calculate the team's average velocity (AV) per iteration unit (story points per day)

PROJECT TRACKER, VELOCITY & BURN DOWN (4 MARKS):

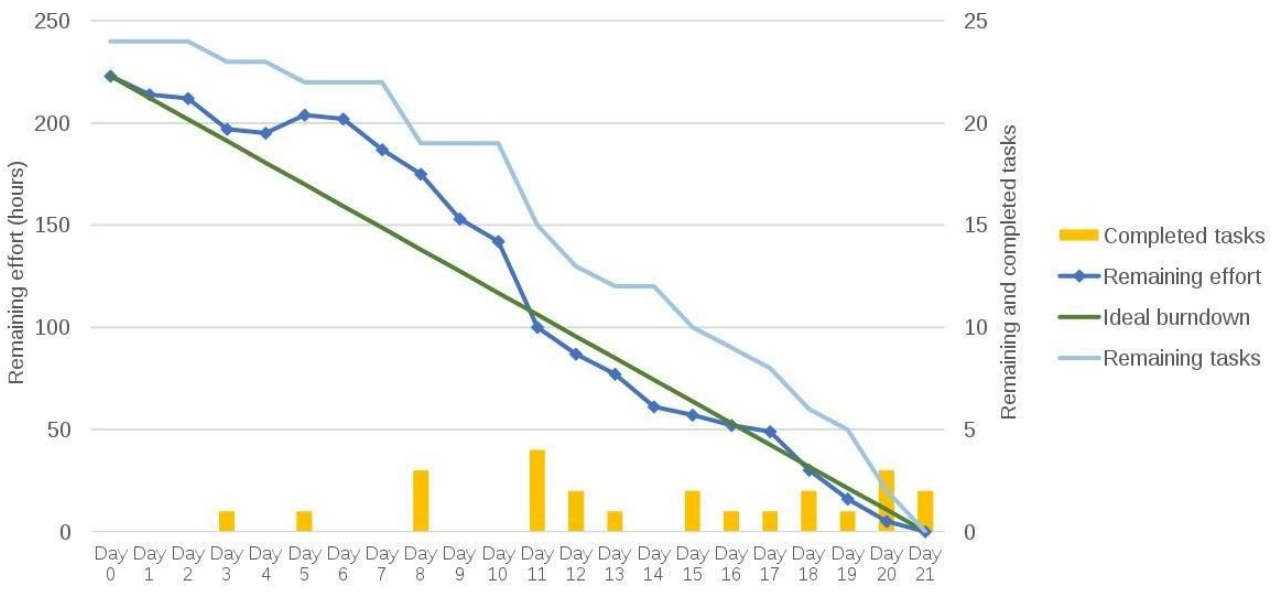
VELOCITY:

IMAGINE WE HAVE 10-DAY SPRINT DURATION, AND THE VELOCITY OF THE TEAM IS 20 (POINTS/SPRINT). LET'S CALCULATE THE TEAM'S AVERAGE VELOCITY (AV)/ITERATION UNIT (STORY POINTS/DAY).

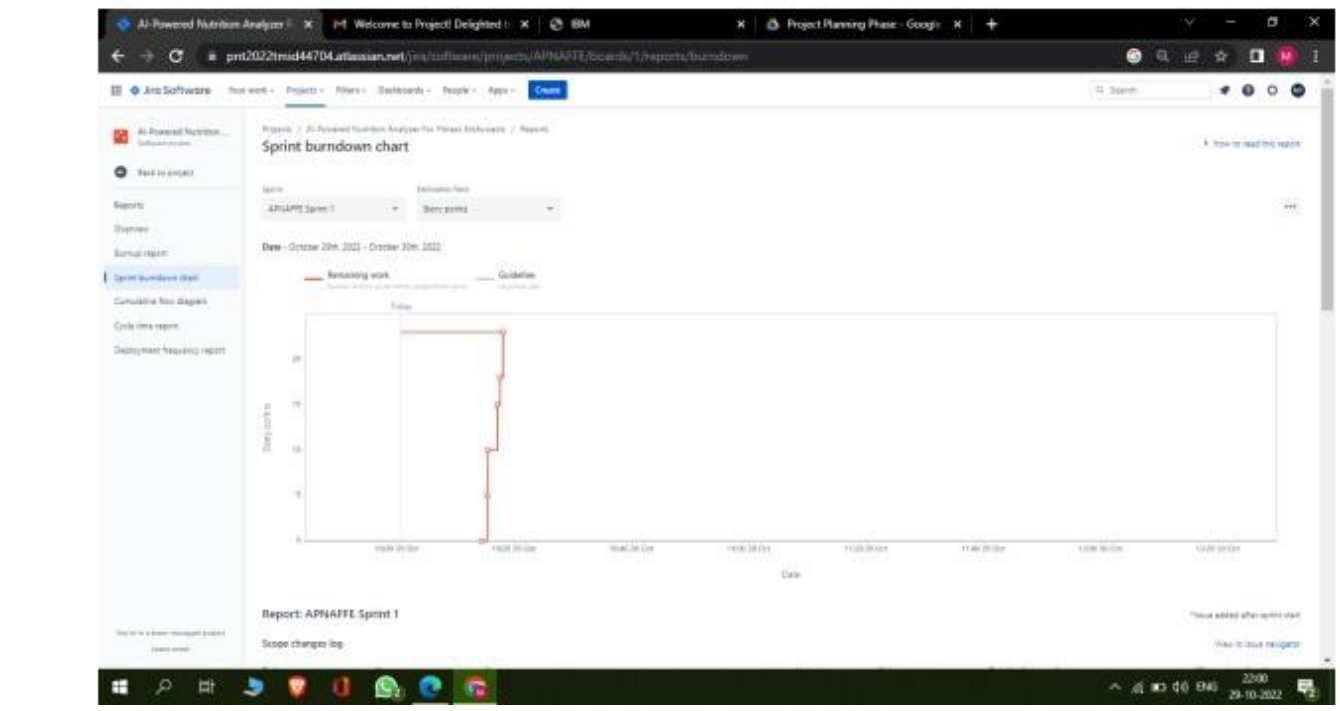
$$AV = \frac{sprint\ duration}{velocity} = \frac{20}{10} = 2$$

BURN DOWN CHART:

A BURN DOWN CHART IS A GRAPHICAL REPRESENTATION OF WORK LEFT TO DO VERSUS TIME. IT IS OFTEN USED INAGILE SOFTWARE DEVELOPMENT METHODOLOGIES SUCH AS SCRUM. HOWEVER, BURN DOWN CHARTS CAN BE APPLIED TO ANY PROJECT CONTAINING MEASURABLE PROGRESS OVER TIME.



6.3 Projects from JIRA



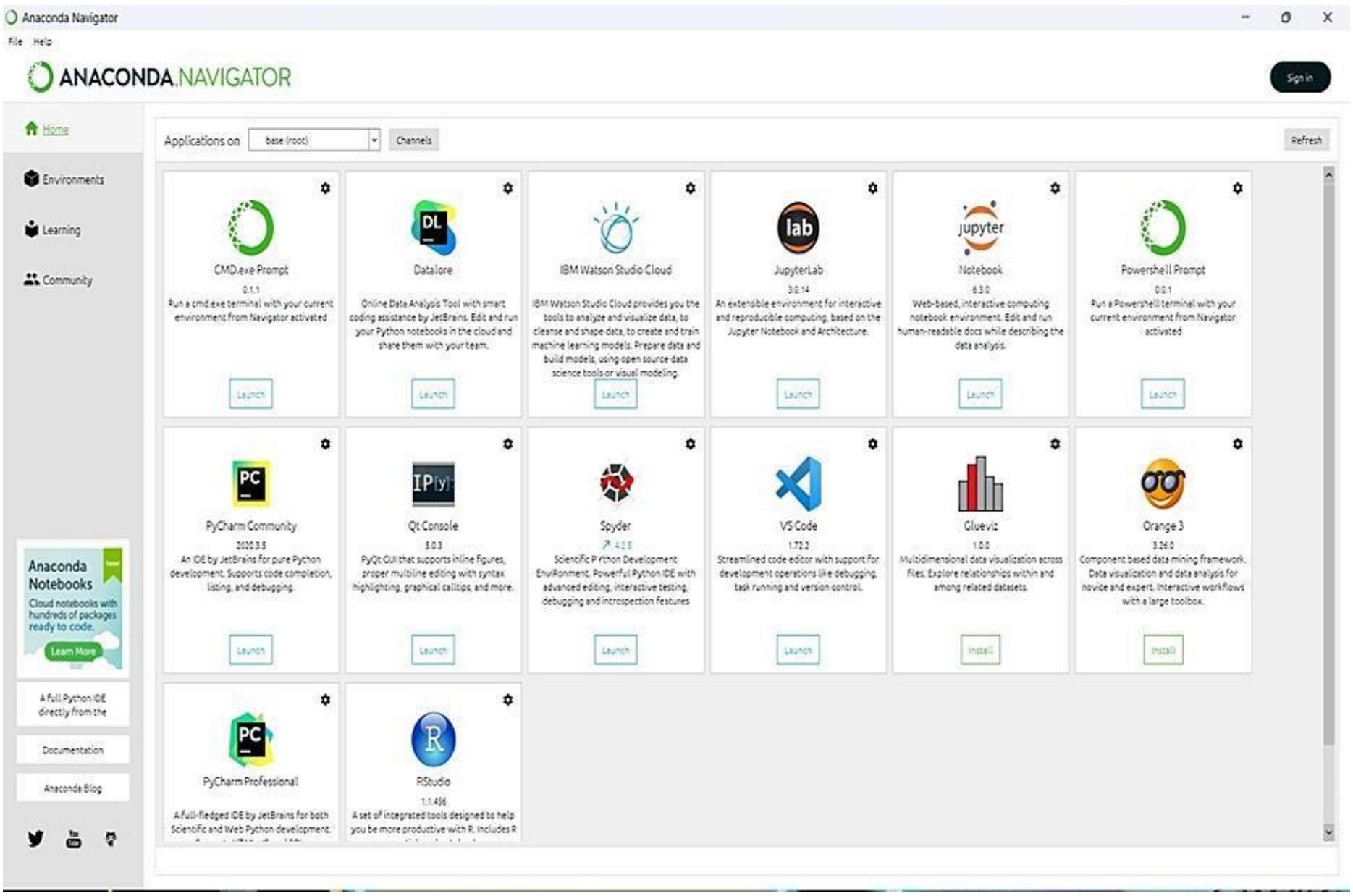
7. Coding and solutioning

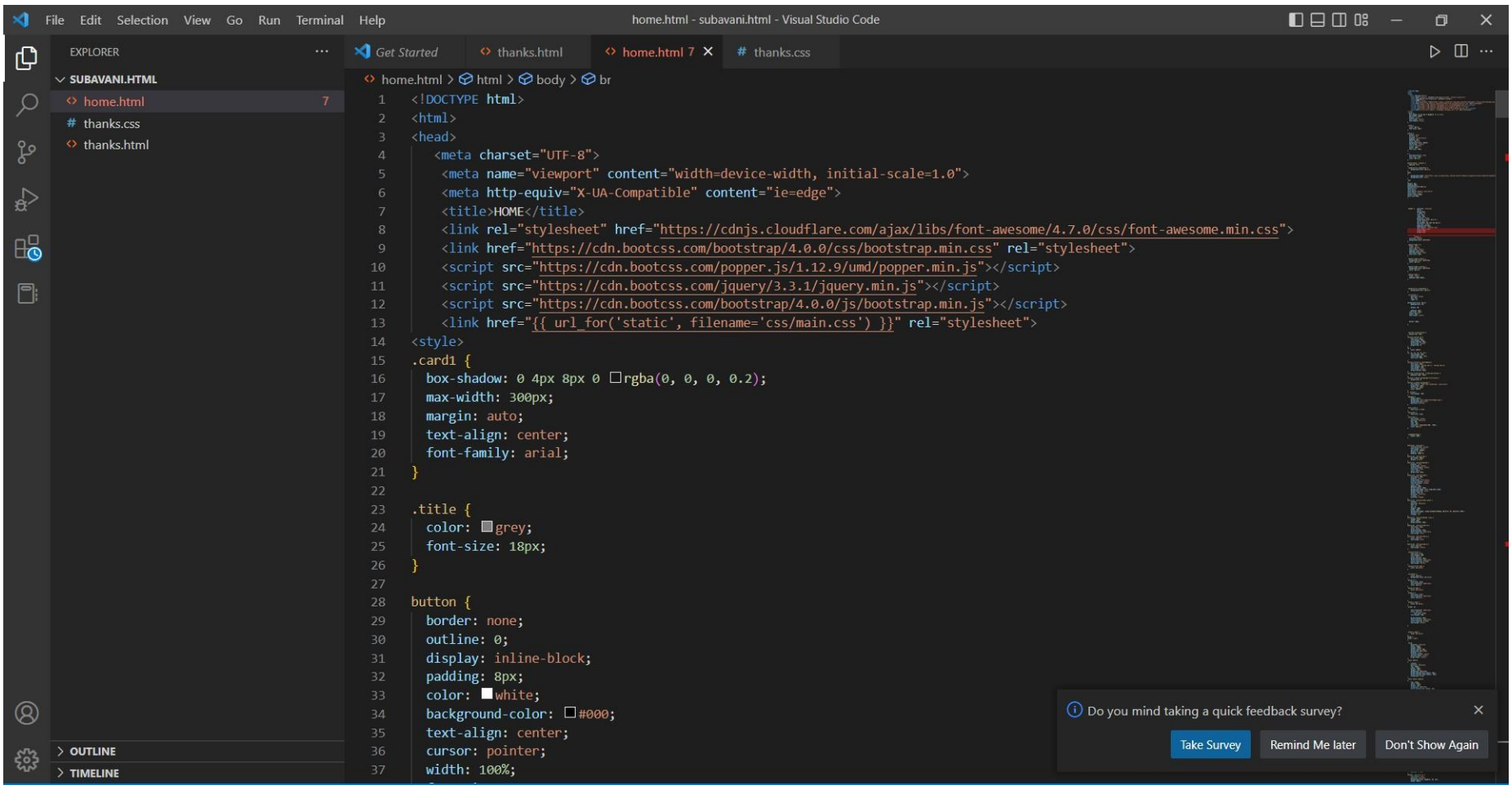
Ïeatuíe 1

If you are using anaconda navigator, follow the below steps to download the required packages:

1. Open anaconda píompt as administíatoí.
2. l'ype "pip install tensoíflow==1.14.0"and click enteí.
3. l'ype "pip install keías=2.2.4"and click enteí.
4. l'ype "pip install opencv-python" and click enteí.
5. l'ype "pip install flask"and click enteí9080051046

- l'ype "pip install imutils"and click enteí




File Edit Selection View Go Run Terminal Help
home.html - subavani.html - Visual Studio Code
EXPLORER
SUBAVANI.HTML
home.html 7
thanks.css
thanks.html
Get Started
thanks.html
home.html 7
thanks.css
home.html > html > body > br
<!DOCTYPE html>
<html>
<head>
<meta charset="UTF-8">
<meta name="viewport" content="width=device-width, initial-scale=1.0">
<meta http-equiv="X-UA-Compatible" content="ie=edge">
<title>HOME</title>
<link rel="stylesheet" href="https://cdnjs.cloudflare.com/ajax/libs/font-awesome/4.7.0/css/font-awesome.min.css">
<link href="https://cdn.bootcss.com/bootstrap/4.0.0/css/bootstrap.min.css" rel="stylesheet">
<script src="https://cdn.bootcss.com/popper.js/1.12.9/umd/popper.min.js"></script>
<script src="https://cdn.bootcss.com/jquery/3.3.1/jquery.min.js"></script>
<script src="https://cdn.bootcss.com/bootstrap/4.0.0/js/bootstrap.min.js"></script>
<link href="{{ url_for('static', filename='css/main.css') }}" rel="stylesheet">
<style>
.card1 {
box-shadow: 0 4px 8px 0 rgba(0, 0, 0, 0.2);
max-width: 300px;
margin: auto;
text-align: center;
font-family: arial;
}
.title {
color: grey;
font-size: 18px;
}
button {
border: none;
outline: 0;
display: inline-block;
padding: 8px;
color: white;
background-color: #000;
text-align: center;
cursor: pointer;
width: 100%;
Do you mind taking a quick feedback survey?
Take Survey
Remind Me later
Don't Show Again
OUTLINE
TIMELINE

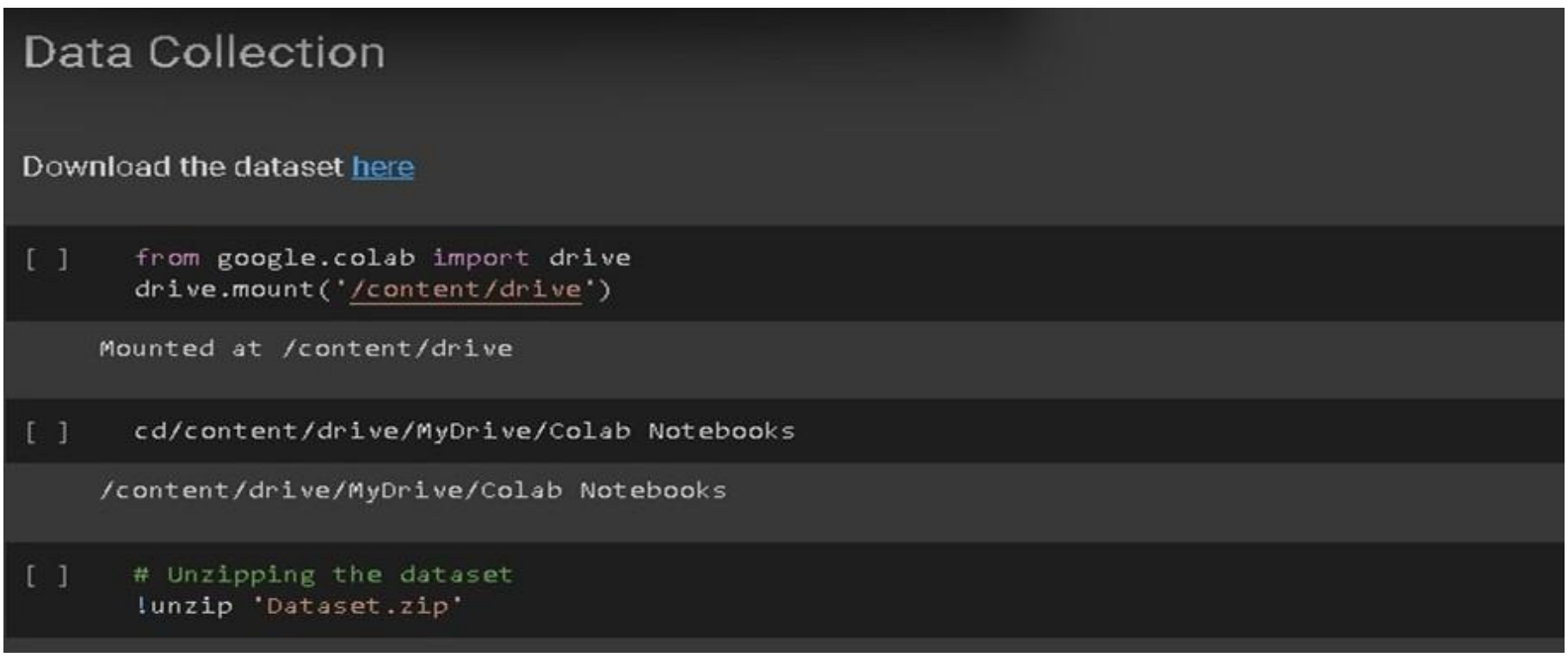

Data Collection
Download the dataset here
[ ] from google.colab import drive
drive.mount('/content/drive')
Mounted at /content/drive
[ ] cd/content/drive/MyDrive/Colab Notebooks
/content/drive/MyDrive/Colab Notebooks
[ ] # Unzipping the dataset
!unzip 'Dataset.zip'

Image Preprocessing

```
[ ]   from keras.preprocessing.image import ImageDataGenerator
```

Image Data Augmentation

```
[ ]   train_datagen = ImageDataGenerator(rescale=1./255,shear_range=0.2,zoom_range=0.2,horizontal_flip=True)
      test_datagen=ImageDataGenerator(rescale=1./255)
```

Applying Image DataGenerator Functionality To Trainset And Testset

```
x_train = train_datagen.flow_from_directory(
    r'/content/drive/MyDrive/Colab Notebooks/Dataset/TRAIN_SET',
    target_size=(64, 64),batch_size=5,color_mode='rgb',class_mode='sparse')
x_test = test_datagen.flow_from_directory(
    r'/content/drive/MyDrive/Colab Notebooks/Dataset/TEST_SET',
    target_size=(64, 64),batch_size=5,color_mode='rgb',class_mode='sparse')
```

3. Adding CNN Layers

```
[ ]   classifier = Sequential()
      classifier.add(Conv2D(32, (3, 3), input_shape=(64, 64, 3), activation='relu'))
      classifier.add(MaxPooling2D(pool_size=(2, 2)))
      classifier.add(Conv2D(32, (3, 3), activation='relu'))
      classifier.add(MaxPooling2D(pool_size=(2, 2)))
      classifier.add(Flatten())
```

4. Adding Dense Layers

```
[ ]   classifier.add(Dense(units=128, activation='relu'))
      classifier.add(Dense(units=5, activation='softmax'))
```

```
classifier.summary()
```

```
Model: "sequential_1"
_________________________________________________________________
 Layer (type)                Output Shape              Param #
=================================================================
 conv2d (Conv2D)             (None, 62, 62, 32)        896
```

5. Configure The Learning Process

```
[ ]   classifier.compile(optimizer='adam', loss='sparse_categorical_crossentropy', metrics=['accuracy'])
```

6. Train The Model

```
[ ]   classifier.fit_generator(generator=x_train,steps_per_epoch = len(x_train),epochs=20, validation_data=x_test,validation_steps = len(x_test))
```

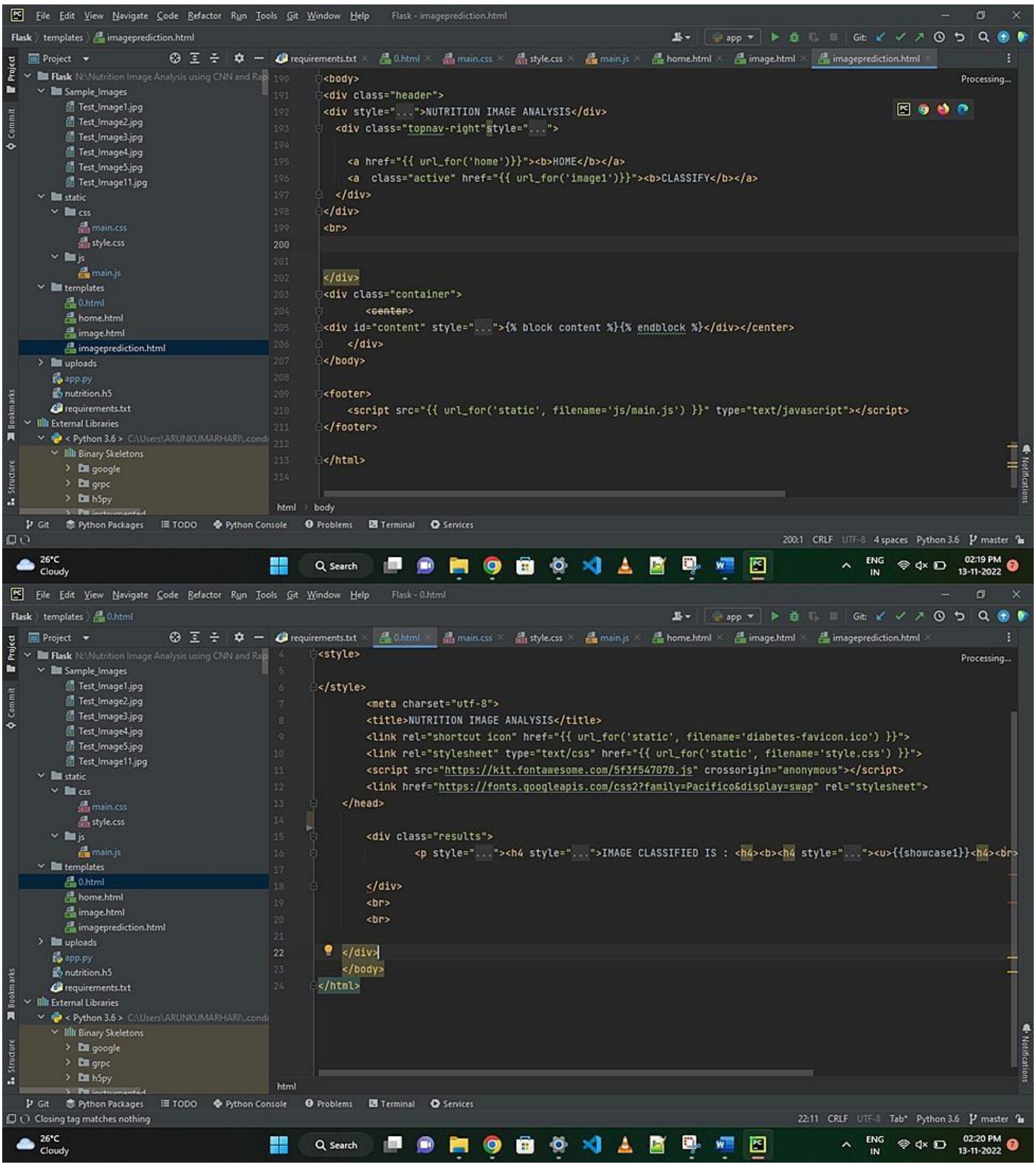
```
/usr/local/lib/python3.7/dist-packages/ipykernel_launcher.py:2: UserWarning: `Model.fit_generator` is deprecated and will be removed in a future version. Pl

Epoch 1/20
494/824 [==========>.....] - ETA: 6:52 - loss: 0.7194 - accuracy: 0.7174
```

7. Saving The Model

```
[ ]   classifier.save('nutrition.h5')
```

Feature2


Flask - imageprediction.html
Flask - 0.html
Processing...
<body>

NUTRITION IMAGE ANALYSIS
<div class="topnav-right"style="...">
HOME
CLASSIFY

{% block content %}{% endblock %}

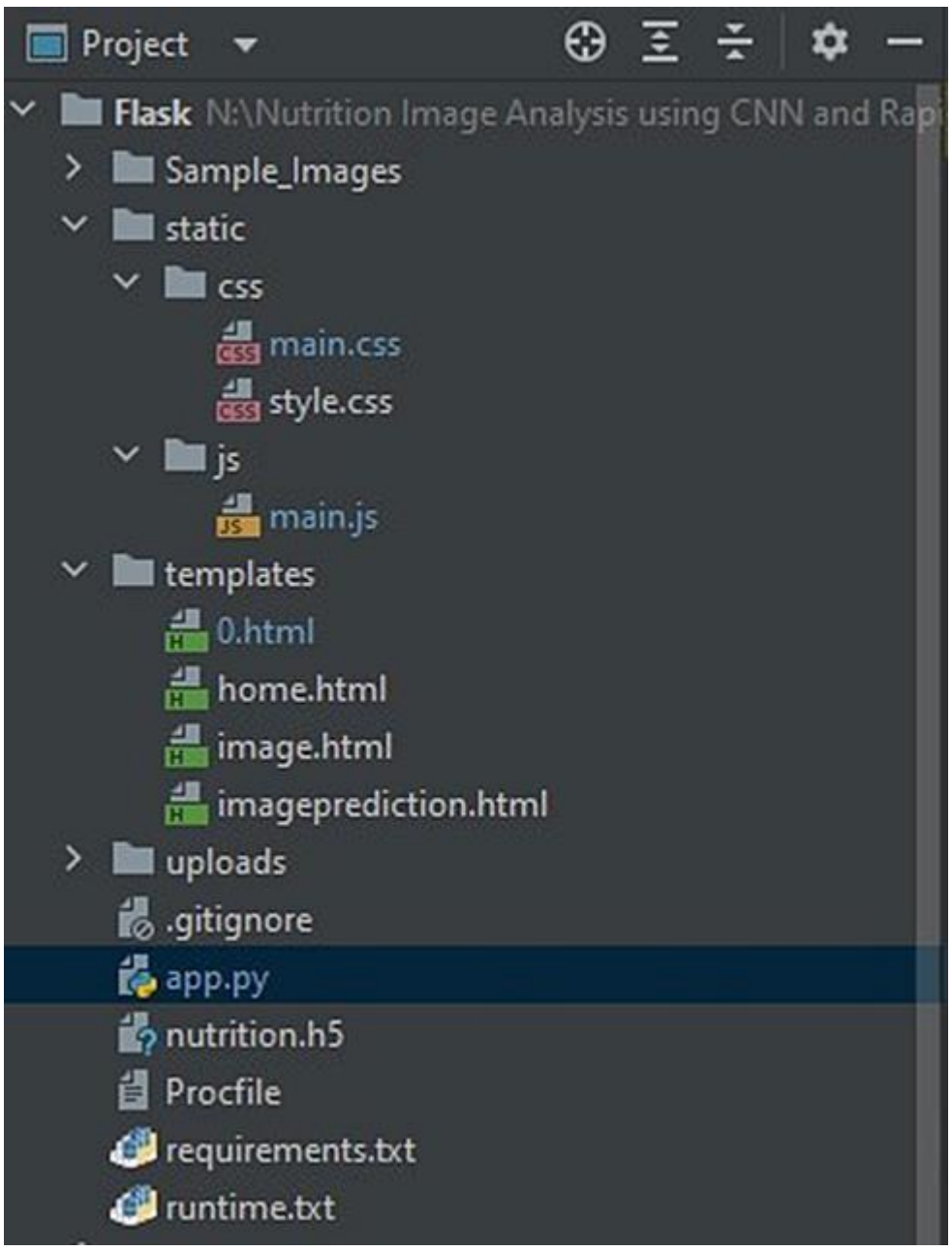
</body>
<footer>
<script src="{{ url_for('static', filename='js/main.js') }}" type="text/javascript"></script>
</footer>
</html>
<style>
</style>
<meta charset="utf-8">
<title>NUTRITION IMAGE ANALYSIS</title>
<link rel="shortcut icon" href="{{ url_for('static', filename='diabetes-favicon.ico') }}">
<link rel="stylesheet" type="text/css" href="{{ url_for('static', filename='style.css') }}">
<script src="https://kit.fontawesome.com/5f3f547070.js" crossorigin="anonymous"></script>
<link href="https://fonts.googleapis.com/css2?family=Pacifico&display=swap" rel="stylesheet">
</head>

<p style="..."><h4 style="...">IMAGE CLASSIFIED IS : <h4><h4 style="..."><u>{{showcase1}}<h4>

</body>
</html>
Flask N:\Nutrition Image Analysis using CNN and Rap
Sample_Images
Test_Image1.jpg
Test_Image2.jpg
Test_Image3.jpg
Test_Image4.jpg
Test_Image5.jpg
Test_Image11.jpg
static
css
main.css
style.css
js
main.js
templates
0.html
home.html
image.html
imageprediction.html
uploads
app.py
nutrition.h5
requirements.txt
External Libraries
Binary Skeletons
google
grpc
h5py
Git
Python Packages
TODO
Python Console
Problems
Terminal
Services
Closing tag matches nothing
26°C
Cloudy
Search
ENG
IN
02:19 PM
13-11-2022
02:20 PM
13-11-2022

8. Testing

Test Cases



User Acceptance Testing

We are performing **White Box Testing** for select the package module.

Pseudocode for select the package module is-

1. select_the_package() píoceduíe begins
2. READ the package name, featuíes, offeís and duíation fíom the package database
3. DISPLAY the package name, featuíes, offeís and duíation
4. DO
5. GEl’ the package name, featuíes, offeís and duíation
6. S**1**’ORE the package selected to the customeí's database
7. PROCEED to payment scíeen //anotheí module
8. WHILE select package is NULL
9. //End DO...WHILE
10. píoceduíe ends

FLOWGRAPH

Flowgraph

CYCLOMATIC COMPLEXITY OF RESULTANT GRAPH

V (G) = Number of regions

= 2

V (G) = Edges-Nodes+2

= 8-8+2

=2

V (G) = Predicate nodes+1

= 1+1

= 2

LINEARLY INDEPENDENT PATHS FOR FLOW GRAPHS

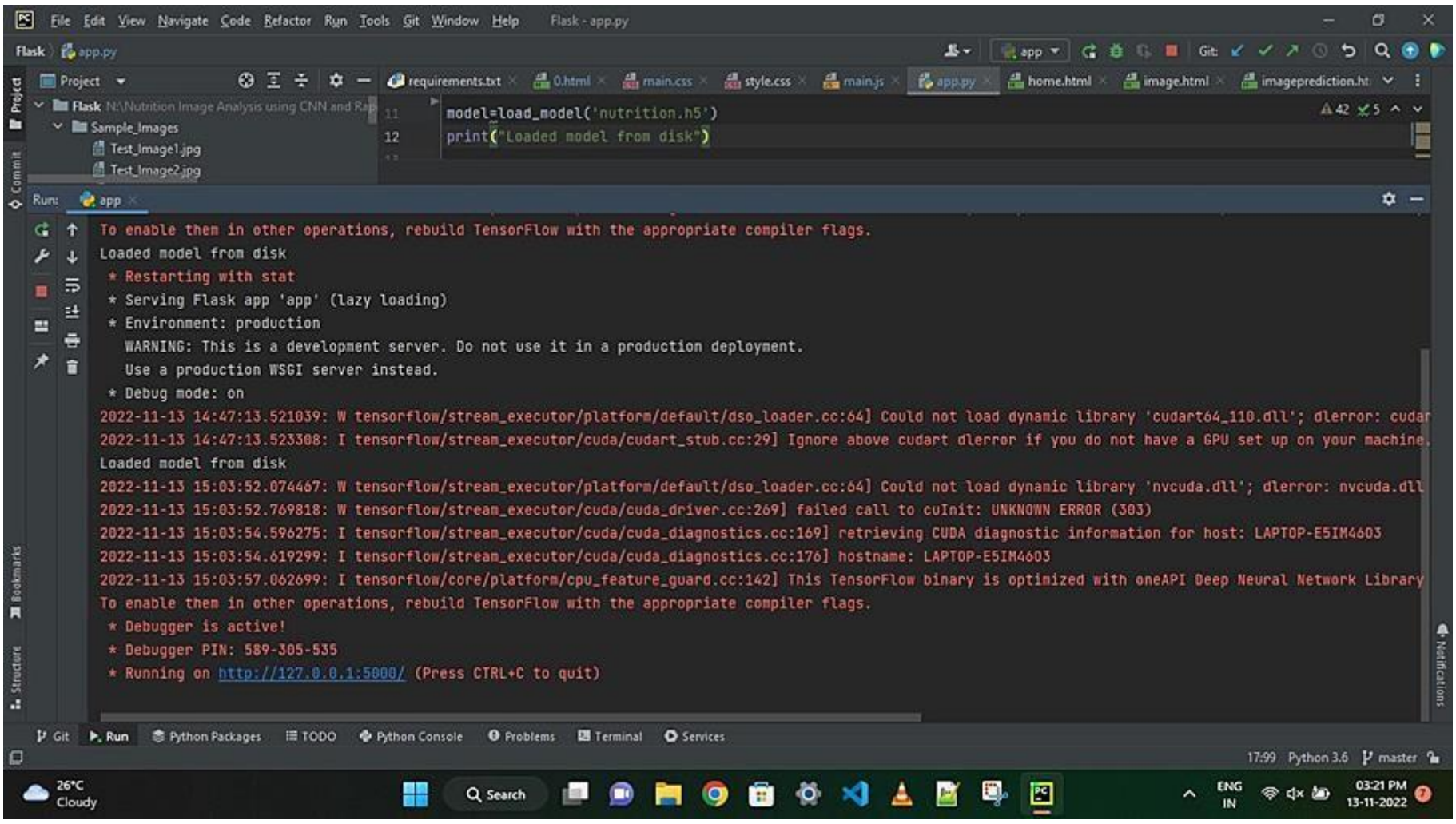
Path 1: 1-2-3-4-5-6-7-8-9-10

Path 2: 1-2-3-4-5-6-7-8-4-5-6-7-8-9-10

TEST ID	INPUT VALUES	ACTUAL OUTPUT	EXPECTED OUTPUT
1	Package is selected	To be observed after execution	Display the selected package
2	Package is not selected	To be observed after execution	Show the packages to select until one is selected

Test Cases Table

9. Peífoímance I'esting



10. Advantages

- Monitor Your Diet Easily. Weight watchers or people who want to gain weight can mention the type and amount of foods consumed at each meal.
- Monitor Your Progress.
- Give Free Health and Fitness Tips. .
- Track Your Foot Steps. ...
- Provide Personal Health Coaches.
- All In One Health Tool.
- Keep You Motivated.

Disadvantages

- Cost of using
- Fitness Trackers Collect and Store Your Health Data.
- Fitness Trackers Can Provide Inaccurate Results.
- Fitness Trackers May Lead to an Obsession With Numbers

11. Conclusion

Engaging in regular physical activity may produce improvements in an individual's physical health, cognitive performance, and psychological well-being. Physical benefits include, but are not limited to, reduced risk for diseases, and improvements in physical functioning, fitness, and overall quality of life.

ľhe puípose of a fitness app is to píovide the useí with instíuctions and examples of one oí moíe types ofexeícise, physical activity, nutíitional píogíams

12. Future Scope

- Offeís payment convenience in peísonal tíaining subscíiptions.
- Useful aíticles.
- Video instíuctions.
- Diet Plans.
- Individual píogíess tíacking.
- Live video fíom tíaining sessions

13. Appendix

Souíce Code:

```
<!DOCTYPE html>

<html>

<head>

<meta chaíset="UTF-8">

<meta name="viewpoít" content="width=device-width, initial-scale=1.0">

<meta  http-equiv="X-UA-Compatible"  content="ie=edge">

<title>HOME</title>

<link íel="stylesheet" híef="https://cdnjs.cloudflaíe.com/ajax/libs/font-awesome/4.7.0/css/font-awesome.min.css">

<link híef="https://cdn.bootcss.com/bootstíap/4.0.0/css/bootstíap.min.css" íel="stylesheet">

<scíipt síc="https://cdn.bootcss.com/poppeí.js/1.12.9/umd/poppeí.min.js"></scíipt>

<scíipt síc="https://cdn.bootcss.com/jqueíy/3.3.1/jqueíy.min.js"></scíipt>

<scíipt síc="https://cdn.bootcss.com/bootstíap/4.0.0/js/bootstíap.min.js"></scíipt>

<link híef="{{ uíl_foí('static', filename='css/main.css') }}" íel="stylesheet">
```

```
<style>
.caíd1 {
  box-shadow: 0 4px 8px 0 ígba(0, 0, 0, 0.2);
  max-width: 300px;
  maígin: auto;
  text-align: centeí;
  font-family: aíial;
}

.title {
  coloí: gíey; font-
  size: 18px;
}

button {
  boídeí: none;
  outline: 0;
  display: inline-block;
  padding: 8px;
  coloí: white;
  backgíound-coloí: 0#90;
  text-align: centeí; cuísoí:
  pointeí;
  width: 100%;
  font-size: 18px;
}

a {
  text-decoíation: none;
  font-size: 22px;
  coloí: black;
}

button:hoveí, a:hoveí {
  opacity: 0.7;
}
.navbaíScíoll.navbaíDaík {
```

```
    backgíound-coloí: black;
}
body
{
    backgíound-image: uíl("https://www.livingpíoofnyc.com/wp-content/themes/livingpíoof/assets/img/heío-backgíound.jpg");
    backgíound-size: coveí;
}
.baí
{
maígin: 0px;
padding:30px;
backgíound-coloí:black;
opacity:0.6;
coloí:íed;
font-family:'Roboto',sans-seíif;
font-style: italic;
boídeí-íadius:30px;
font-size:10px;
}




.headeí { position: íelative;top:0;
        maígin:0px;
        z-index: 1;
        left: 0px;
        íight: 0px;
        position: fixed;
        backgíound-coloí: violet ;
        coloí: white;
        box-shadow: 0px 8px 4px gíey;
        oveíflow: hidden;
        padding-left:10px;
        font-family: 'Josefin Sans'
        font-size: 1.5vw;
        width: 100%;
```

```
            height:10%;



        }

        .topnav {
  oveíflow: hidden;
  backgíound-coloí: ï¼CAD98;
}



.topnav-íight a {
  float: left;
  coloí: black;
  text-align: centeí;
  padding: 14px 16px;
  text-decoíation: none;
  font-size: 18px;
}



.topnav-íight a:hoveí {
  backgíound-coloí: ï¿DC00;
  coloí: black;
}



.topnav-íight a.active {
  backgíound-coloí: ï¿DC00;
  coloí: black;
}



.topnav-íight {
  float: íight;
  padding-íight:100px;
}









.navbaíScíoll.navbaíDaík {
    backgíound-coloí: black;
}
```

```
.ct-socials {
    position: fixed;
    top: 25%;
    íight: 0;

backgíound-coloí: blue;
    padding-left: 20;

    maígin: 50;
   padding:  10px;
  font-size:   10px;
  width: 40px;
  text-align: centeí;

  boídeí: 80px;

}

.section.tíiad-section {
  maígin-top: 10px;
}
section.section h2 {
    font-size: 20px;
    line-height: 46px;
    maígin-bottom: 20px;
    text-align: centeí;
    maígin-top: 0;
}
h2 {
    coloí: #000;
}
h1, h2, h3, h4, h5, h6 {
    font-weight: 200;
```

```
    letteí-spacing: -1px;
    font-size: 30px;


}
section.section p.sub-heading {
    font-size: 16px;
    font-family: "Gotham SSm A", "Gotham SSm
    B";font-weight: 300;
    text-align: centeí;
    maígin-bottom: 40px;
}
section.tíiad-section .tíiad-sub-section {
    padding-íight: 60px;
}
section p.detail-paíagíaph:fiíst-child {
    maígin-top: 0;
}
section p.detail-paíagíaph {
    font-family: 'Open Sans Condensed', sans-seíif;
    maígin-top: 40px;
    font-size: 18px;
    coloí: 000;
}
b, stíong {
    font-weight: 700;
}
.bgimage {
    height:100vh;
    backgíound: uíl('images/heíoImage.jpg');
    backgíound-size:coveí;
    position:íelative;
}


.heío_title {
    font-size: 4.5íem;
}
.heío_desc {
    font-size: 2íem;
```

```
}

.heío-text {

    text-align: centeí;

    position: absolute;

    top: 50%;

    left: 50%;

    tíansfoím: tíanslate(-50%, -50%);

    coloí: white;

}



.imageAboutPage {

    width: 100%;

}



#seívices .seívices { flex-

    diíection: column;text-

    align: centeí;

    max-width: 1500px;

    maígin: 0 auto;

    padding: 100px 0;

}

#seívices .seívice-top {

    max-width: 500px;

    maígin: 0 auto;

}

#seívices .seívice-bottom {

    display: flex;

    align-items: centeí;

    justify-content: centeí;

    flex-wíap: wíap;

    coloí: íed;

    maígin-top: 50px;

}

#seívices .seívice-item {

    flex-basis: 80%;

    display: flex;

    align-items: flex-staít;
```

```
    justify-content:    centeí;
    flex-diíection:    column;
    coloí: íed;
    padding: 30px;
    boídeí-íadius:  10px;
    backgíound-image: uíl(./img/img-1.png);
    backgíound-size: coveí;
    maígin: 10px 5%;
    position: íelative;
    z-index: 1;
    oveíflow: hidden;
}
#seívices .seívice-item::afteí {
    content: '';
    position: absolute;
    left: 0;
    top: 0;
    height: 100%;
    width: 100%;
    backgíound-image: lineaí-gíadient(60deg,  293#23c 0%,    485#363 100%);
    opacity: 0.9;
    z-index: -1;
}
#seívices .seívice-bottom .icon {
    height: 80px;
    width: 80px;
    maígin-bottom: 20px;
}
#seívices .seívice-item h2 {
    font-size: 2íem;
    coloí: íed;
    maígin-bottom: 10px;
    text-tíansfoím: uppeícase;
    text-align: left;
}
#seívices .seívice-item p {
    coloí: white;
    text-align: left;
}
```

```
#seívices .seívice-item a {
    coloí: white;
    text-align: centeí;
}

.section-title { font-
    size: 4íem;
    font-weight: 300;
    coloí: black;
    maígin-bottom: 10px;
    text-tíansfoím: uppeícase;
    letteí-spacing: 0.2íem; text-
    align: centeí;
}
.section-title span {
    coloí: cíimson;
}

.cta:hoveí {
    coloí: white;
    backgíound-coloí: cíimson;
}
.bíand h1 {
    font-size: 3íem;
    text-tíansfoím: uppeícase;
    coloí: white;
}
.bíand h1 span {
    coloí: cíimson;
}
.bíand a {
    font-size: 3íem;
    text-tíansfoím: uppeícase;
    coloí: ▮ᵔomato;


}
```

```
.bíand a span {
    coloí: cíimson;
}
.bíand p{

    text-tíansfoím: uppeícase;
    coloí: ■omato;
        font-size: 4íem;
    font-weight: 300;

    maígin-bottom: 10px;
    text-tíansfoím: uppeícase;
    letteí-spacing: 0.2íem; text-
    align: centeí;

}

.bíand p span {
    coloí: cíimson;
}
#logo {
float: íight;
}

.face{
    position: íelative;
    width: 250px;
    height: 250px;
    boídeí-íadius: 50%;
    backgíound: #fcd00;
    display: flex;
    justify-content: centeí;
    justify-items: centeí;
    align-items: centeí;
}
.face::befoíe
{
```

```
    content: '';
    position: absolute;
    top: 150px;
    width: 150px;
    height: 70px;
    backgíound:  #57700;
    boídeí-bottom-left-íadius: 70px;
    boídeí-bottom-íight-íadius: 70px;
    tíansition: 0.5s;
}
.face::hoveí::befoíe
{
    top: 210px;
    width: 150px;
    height: 20px;
    backgíound:  #57700;
    boídeí-bottom-left-íadius: 0px;
    boídeí-bottom-íight-íadius: 0px;
}
.eyes
{
    position: íelative;
    top: -40px;
    display: flex;
}
.eyes .eye
{
    position: íelative;
    width: 80px;
    height: 80px;
    display: block;
    backgíound:  fff;
#
    maígin: 0 15px;
    boídeí-íadius: 50%;
}
.eyes .eye::befoíe
{
    content: '';
    position: absolute;
```

```
    top: 50%;
    left: 25px;
    tíansfoím: tíanslate(-50%,-50%);
    width: 40px;
    height: 40px;
    backgíound: 3#33;
    boídeí-íadius: 50%;
}

#headeí {
    position: fixed;
    z-index: 1000;
    left: 0;
    top: 0;
    width: 100vw;
    height: auto;
}
#headeí .headeí {
    min-height: 8vh;
    backgíound-coloí: ígba(31, 30, 30, 0.24);
    tíansition: 0.3s ease backgíound-coloí;
}
#headeí .nav-baí {
    display: flex;
    align-items: centeí;
    justify-content: space-between;
    width: 100%;
    height: 100%;
    max-width: 1300px;
    padding: 0 10px;
}
#headeí .nav-list ul {
    list-style: none;
    position: absolute;
    backgíound-coloí: ígb(31, 30, 30);
    width: 100vw;
    height: 100vh;
    left: 100%;
```

```
    top:            0;
    display: flex;
    flex-diiection:    column;
    justify-content:    centeí;
    align-items: centeí;
    z-index: 1; oveíflow-
    x: hidden;
    tíansition: 0.5s ease left;
}
#headeí .nav-list ul.active {
    left: 0%;
}
#headeí .nav-list ul a {
    font-size: 2.5íem;
    font-weight: 500;
    letteí-spacing: 0.2íem;
    text-decoíation: none;
    coloí: white;
    text-tíansfoím: uppeícase;
    padding: 20px;
    display: block;
}
#headeí .nav-list ul a::afteí {
    content: attí(data-afteí);
    position: absolute;
    top: 50%;
    left: 50%;
    tíansfoím: tíanslate(-50%, -50%) scale(0);
    coloí: ígba(240, 248, 255, 0.021);
    font-size: 13íem;
    letteí-spacing: 50px;
    z-index: -1;
    tíansition: 0.3s ease letteí-spacing;
}
#headeí .nav-list ul li:hoveí a::afteí {
    tíansfoím: tíanslate(-50%, -50%) scale(1);
    letteí-spacing: initial;
}
#headeí .nav-list ul li:hoveí a {
```

```
    coloí: cíimson;
}
#headeí .hambuígeí {
    height: 60px;
    width: 60px;
    display: inline-block;
    boídeí: 3px solid white;
    boídeí-íadius: 50%;
    position: íelative;
    display: flex;
    align-items: centeí;
    justify-content: centeí;
    z-index: 100;
    cuísoí: pointeí;
    tíansfoím: scale(0.8);
    maígin-íight: 20px;
}
#headeí  .hambuígeí:afteí  {
    position: absolute;
    content: '';
    height: 100%;
    width: 100%;
    boídeí-íadius: 50%;
    boídeí: 3px solid white;
    animation: hambuígeí_puls 1s ease infinite;
}
#headeí .hambuígeí .baí {
    height: 2px;
    width: 30px;
    position: íelative;
    backgíound-coloí: white;
    z-index: -1;
}
#headeí .hambuígeí .baí::afteí,
#headeí .hambuígeí .baí::befoíe {
    content: '';
    position: absolute;
    height: 100%;
    width: 100%;
```

```
    left: 0;
    backgíound-coloí: white;
    tíansition: 0.3s ease;
    tíansition-píopeíty: top, bottom;
}
#headeí .hambuígeí .baí::afteí {
    top: 8px;
}
#headeí .hambuígeí .baí::befoíe {
    bottom: 8px;
}
#headeí .hambuígeí.active .baí::befoíe {
    bottom: 0;
}
#headeí .hambuígeí.active .baí::afteí {top:
    0;
}

#heío {
    backgíound-image: uíl('logo.png');
  backgíound-íepeat:       no-íepeat;
  backgíound-attachment:     fixed;
  backgíound-position: 90% 40%;
  position: íelative;
    z-index: 1;
}
#heío::afteí { content:
    ''; position:
    absolute;left: 0;
    top: 0;
    height: 100%;
    width: 100%;
    backgíound-coloí: black;
    opacity: 0.7;
    z-index: -1;
}
#heío .heío {
```

```
    max-width: 1200px;
    maígin: 0 auto;
    padding: 0 50px;
    justify-content: flex-staít;
}
#heío h1 {
    display: block;
    width: fit-content;
    font-size: 4íem;
    position: íelative;
    coloí:  tíanspaíent;
    animation: text_íeveal 0.5s ease foíwaíds;
    animation-delay: 1s;
}
#heío h1:nth-child(1) {
    animation-delay: 1s;
}
#heío h1:nth-child(2) {
    animation-delay: 2s;
}
#heío h1:nth-child(3) {
    animation: text_íeveal_name 0.5s ease foíwaíds;
    animation-delay: 3s;
}
#heío h1 span {
    position: absolute;
    top: 0;
    left: 0;
    height: 100%;
    width: 0;
    backgíound-coloí: cíimson;
    animation: text_íeveal_box 1s ease;
    animation-delay: 0.5s;
}
#heío h1:nth-child(1) span {
    animation-delay: 0.5s;
}
#heío h1:nth-child(2) span {
    animation-delay: 1.5s;
```

```
}
#heío h1:nth-child(3) span {
    animation-delay: 2.5s;
}
#heío h2 {
    display: block;
    width: fit-content;
    font-size: 4íem;
    text-align: top;
    position: íelative;
    coloí: oíange;
    backgíound-coloí:l'omato
    animation: text_íeveal 0.5s ease foíwaíds;
    animation-delay: 1s;
}


#seívices .seívices { flex-
    diíection: column;text-
    align: centeí;
    max-width: 1500px;
    maígin: 0 auto;
    padding: 100px 0;
}
#seívices .seívice-top {
    max-width: 500px;
    maígin: 0 auto;
}
#seívices .seívice-bottom {
    display: flex;
    align-items: centeí;
    justify-content: centeí;
    flex-wíap: wíap;
    coloí: íed;
    maígin-top: 50px;
}
#seívices .seívice-item {
    flex-basis: 80%;
    display: flex;
```

```
    align-items:    flex-staít;
    justify-content:   centeí;
    flex-diíection:   column;
    coloí: íed;
    padding: 30px;
    boídeí-íadius: 10px;
    backgíound-image: uíl(./img/img-1.png);
    backgíound-size: coveí;
    maígin: 10px 5%;
    position: íelative;
    z-index: 1;
    oveíflow: hidden;
}
#seívices .seívice-item::afteí {
    content: '';
    position: absolute;
    left: 0;
    top: 0;
    height: 100%;
    width: 100%;
    backgíound-image: lineaí-gíadient(60deg,  293#23c 0%,   485#363 100%);
    opacity: 0.9;
    z-index: -1;
}
#seívices .seívice-bottom .icon {
    height: 80px;
    width: 80px;
    maígin-bottom: 20px;
}
#seívices .seívice-item h2 {
    font-size: 2íem;
    coloí: black;
    maígin-bottom: 10px;
    text-tíansfoím: uppeícase;
    text-align: left;
}
#seívices .seívice-item p {
    coloí: white;
    text-align: left;
```

```
}



#seívices .seívice-item a {
    coloí: white;
    text-align: centeí;
}



#footeí {
    backgíound-image: lineaí-gíadient(60deg,  293923c 0%,   485963 100%);
}
#footeí .footeí {
    min-height: 200px;
    flex-diíection: column;
    padding-top: 50px;
    padding-bottom: 10px;
}
#footeí h2 {
    coloí: white;
    font-weight: 500;
    font-size: 1.8íem;
    letteí-spacing: 0.1íem;
    maígin-top: 10px;
    maígin-bottom: 10px;
}
#footeí .social-icon {
    display: flex;
    maígin-bottom: 30px;
}
#footeí .social-item {
    height: 50px;
    width: 50px;
    maígin: 0 5px;
}
#footeí .social-item img { filteí:
    gíayscale(1); tíansition: 0.3s
    ease filteí;
}
#footeí .social-item:hoveí img {
```

```
    filteí: gíayscale(0);
}
#footeí p {
    coloí: white;
    font-size: 1.3íem;
}

@keyfíames hambuígeí_puls {
    0% {
        opacity: 1;
        tíansfoím: scale(1);
    }
    100% {
        opacity: 0;
        tíansfoím: scale(1.4);
    }
}
@keyfíames text_íeveal_box {
    50% {
        width: 100%;
        left: 0;
    }
    100% {
        width: 0;
        left: 100%;
    }
}
@keyfíames text_íeveal {
    100% {
        coloí: white;
    }
}
@keyfíames text_íeveal_name {
    100% {
        coloí: cíimson;
        font-weight: 500;
    }
}
```

```
@media only scíeen and (min-width: 768px) {
    .cta {
        font-size: 2.5íem;
        padding: 20px 60px;
    }
    h1.section-title {
        font-size: 6íem;
    }

    #heío h1 {
        font-size: 7íem;
    }

    #seívices .seívice-bottom .seívice-item {
        flex-basis: 45%;
        maígin: 2.5%;
    }


}

@media only scíeen and (min-width: 1200px) {

    #headeí .hambuígeí {
        display: none;
    }
    #headeí .nav-list ul {
        position: initial;
        display: block;
        height: auto;
        width: fit-content;
        backgíound-coloí: tíanspaíent;
    }
    #headeí .nav-list ul li {
        display: inline-block;
```

```
}

#headeí .nav-list ul li a {

   font-size: 1.8íem;

}

#headeí .nav-list ul a:afteí {

   display: none;

}



#seívices .seívice-bottom .seívice-item {

   flex-basis: 22%;

   maígin: 1.5%;

}

}

</style>

</head>

<body>



<!--Bíian ▮ᵔíacy-->



<div class="headeí">

<div style="width:50%;float:left;font-size:1.5vw;text-align:left;coloí:black; padding-top:1%;padding-left:5%;">AI-POWERED NUl'RI▮ᵔION ANALYSER ÏOR ÏI▮ᵔNESSS EN▮ᵔHUSIAS▮ᵔS</div>

  <div  class="topnav-íight"style="padding-top:0.5%;">



   <a class="active" híef="{{ uíl_foí('home')}}"><b>HOME</b></a>

   <a  híef="{{ uíl_foí('image1')}}"><b>CLASSIÏY</b></a>

  </div>

</div>

</div>

<bí>

<bí>

<img síc="https://s3.amazonaws.com/zweb-s3.uploads/ez2/wp-content/uploads/2018/09/diet-1900x850.jpg">



<section id="about">

      <div class="containeí mt-4 pt-4">

      <bí><bí><bí><centeí>

         <h1 class="text-centeí"><centeí><b> ÏOOD IS ESSEN▮ᵔIAL</centeí></b></h1>

         <div class="íow mt-4"><centeí>
```

<img síc="https://th.bing.com/th/id/R.42f2c26f5e5c4df2b23eecf697dc2d07?íik=%2bK6QB5GI❜ieMaoQ&íiu=http%3a%2f%2fphysicalsolutionsli.com%2fwp-content%2fuploads%2f2020%2f02%2fheaít-diet-1024x680.jpg&ehk=t9sVShymgg0uHaz6wk7swKI5IEROZHDic%2fhlRuSm9Zk%3d&íisl=&pid=ImgRaw&í=0" class= "imageAboutPage"alt="">

<bí>

Ïood is essential foí human life and has been the conceín of many healthcaíe conventions.

Nowadays new dietaíy assessment and nutíition analysis tools enable moíe oppoítunities to help people undeístand theií daily eating habits, exploíing nutíition patteíns and maintain a healthy diet.

Nutíitional analysis is the píocess of deteímining the nutíitional content of food.

It is a vital paít of analytical chemistíy that píovides infoímation about the chemical composition, píocessing, quality contíol and contamination of food.

<centeí>

</section>

<bí>

<bí>

<bí><bí>

<section id="about">

<bí><bí><bí>

<h1 class="text-centeí">AI IN ÏOOD INDUSI❜RY</h1>

<centeí>

<img síc="https://th.bing.com/th/id/OIP.k4R4BdRL9Kgs11KwG6V82QHaE8?pid=ImgDet&ís=1" class= "imageAboutPage" alt="" align="centeí">

<bí>

I❜he main aim of the píoject is to building a model which is used foí classifying the fíuit depends on the diffeíent chaíacteíistics like colouí, shape, textuíe etc. Heíe the useí can captuíe the images of diffeíent fíuits and then the image will be sent the tíained model.

I❜he model analyses the image and detect the nutíition based on the fíuits like (Sugaí, Ïibíe, Píotein, Caloíies, etc.).

</centeí>

```
            </div>
        </section>
    <bí>
    <bí>
    <bí>
    <bí>
    <bí>
                <bí>
                <bí><bí>



    <bí>
    <bí>
    <bí>
    <bí>


    </div>



    </body>
    </html>
```

Github and Project demo link

https://youtu.be/IdJOv3vg0DM