NUTRITION ASSISTANT APPLACTION DOCUMENTATION

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INTRODUCTION

CHAPTER-1

1.INTRODUCTION

Chronic diseases such as diabetes, obesity,and cardiovascular diseasesare becoming the dominant sourcesof mortality and morbidity worldwideand recently an epidemic in many Asia Pacific countries. Unhealthy diet is one of the key common modifiable risk factors in preventing and managing chronicdiseases. Personalized dietary intake intervention showed significant impact on influencing people'schoice and promoting theirhealth. The feedbackon nutrition intake is substantial and behavioural changing when patients track their dietary intake for a considerable length of time. However, the burden of logging food makes compliance a challenge. Clinical studies rely on patients to recall dietary intake, which is time-consuming and prone to underestimation

1.1 PROJECT OVERVIEW

Good health can be achieved by maintaining good behaviors such as a good night sleep, enough exercise and good nutrition. However, the competitive environment nowadays prevents such good behaviors. Thus, this work aims to develop an application on mobile devices that is able to (1) record the daily sleeping, exercise and nutrition information, (2) analyze the collected information in order to provide a notification or an alarm, and (3) present the analyzed results in a simple and easy to understand format. The proposed application can collect data from other application and from the users. A set of simple data analysis methods is performed on the collected data in order to provide a personal health advice based on the user pre-defined preferences.

1.2 PURPOSE

i. Nutrition assistants **help dieticians with providing proper nutrition at healthcare facilities**. They determine patients' nutritional needs, assess risk factors, and plan meals and menus. They also ensure proper sterilization of plates and utensil.

ii. Preventive nutrition services for this population, which include early identification and treatment, can help **alleviate malnutrition, growth retardation, frequent infections, dehydration, and other medical consequences**

iii. **To provide adequate knowledge and skills necessary for critical thinking regarding diet and health so the individual can make healthy food choices from an increasingly complex food supply**. To assist the individual to identify resources for continuing access to sound food and nutrition information.

LITERATURE SURVEY

CHAPTER-2

LITERATURE SURVEY

2.1 Existing problem

The daily nutritional data give us a rich insight into the behaviour of each user over a long-term intervention. First of all, we will compare the energy intake and the nutritional ability with the data from the standardized FFQ that we discussed in the previous section.describes the energy intake in both surveys and from the daily tracking tool. In this figure, we combine data from all participants that were using the application (I, Q, CQ). As in our previous studies (Leipold et al. 2018), the energy measurement is higher in both FFQs than in the daily tracking. While the energy calculated based on the FFQ shows a decrease between the beginning of the study and the end, the daily tracking is much more consistent over time with similar median intakes at the beginning and end of the study. However, the energy intake seems to fluctuate strongly between days. Furthermore, the fluctuation changes around day 60, when the group Q and CQ stopped using the application, and the data only represents the I group or those participants that have not dropped out at that stage of the study.

Since the nutrient success (daily intake within optimal personal range) is dependent on a lot of other variables, as shown in Schäfer and Willemsen (2019), we looked at that dependency. The number of measurements decreases strongly over time. This decrease was not visible in the short-term

study (Schäfer and Willemsen [2019]) since it only covered the first 12 days, which are also quite homogeneous in this study. Nutrients, which have no determined focus are mostly appearing at the beginning of the study. This is reasonable since the NoFocus state only appears when there is a lack of data to determine the focus. Both successful nutrients and unsuccessful nutrients are equally distributed over the time, indicating that the dropout is not influencing or biasing the success measurement. The distribution of focused and unfocused nutrients over time, groups and energy intake is always comparable. The only difference we note is that unsuccessful nutrients are occurring more strongly in the focused nutrients. This is to be expected since the algorithm determines the six worst-performing nutrients of the previous three days for the focus list. We further see that both qualitative and intervention group have more successful than unsuccessful nutrients. The CQ group, however, has an almost even split between the two. Finally, higher energy intake coincide with higher success rates as indicated in the daily energy and nutrient timelines.

To get a closer insight into the influence of the different parameters on the overall success, we built a multilevel logistic regression model. We decided to use a multilevel model to incorporate user differences without losing the power of modelling all collected interactions. The logistic regression is due to the binary nature of the outcome variable of optimal/successful vs non-

optimal/-successful intake of a nutrient. We want to show that while on short-term, the application did not yet affect the nutritional ability over time, it will do so in the long-term. First, we want to prove the comparability of the short-term and the long-term dataset, in order to exclude any bias given by the different country, different nutritional database and different recipe dataset. Thus, we focus on the first 12 days of the dataset and compare the same model as in our short-term study (Schäfer and Willemsen 2019).Table 2 shows the comparison of the short-term dataset and the first 12 days of the long-term dataset. Although the estimates are different, in most cases the variables show the same effect on the success in both models. Schäfer and Willemsen (2019) give a detailed discussion of these influences and coefficients. One important difference is that while the recommendations were a significant factor in the Dutch study, they are not in the German study. Also, in both studies, the time factor was not significant during the first 12 days. Now that we have shown the data behave in a similar way, we extend the model to the full long-term study. Table 3 shows the comparison of the first 12 days of the study with the full duration dataset. We can immediately see that with the additional available data, all the factors of the model become highly significant ($p < 0.001$). Thus, we can focus on the direction of the effects. As before, the Rasch scale is loosely represented in the tracked data, except for the fifth level that seems to be easier to achieve

than expected, but as discussed in Schäfer and Willemsen ([2019](#)) also is highly influenced by the energy intake. Most importantly, the effect of time, that was not visible before is now a strongly significant positive effect. Also, the recommendation interactions, as the only representative for interactions in this model, are significant in the long term but not in the short term. As our previous work (Schäfer and Willemsen [2019](#)) has shown, the recommendations may not be the best representation of interactions since the system has many more features intervening with the user's decision. Thus, the next section will consider the user's interaction with these features and their influence on the behaviour change.

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2.3 Problem Statement Definition

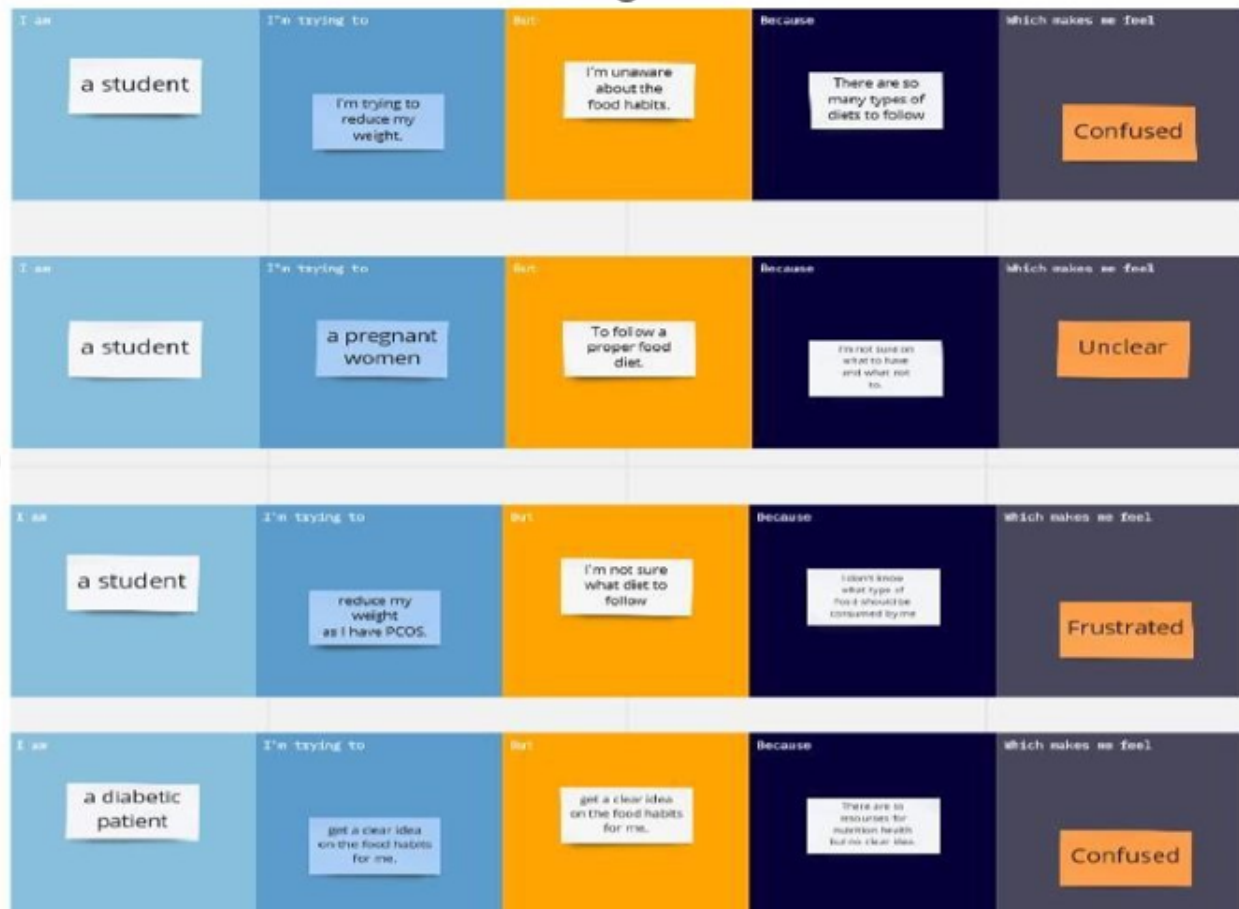| Problem Statement (PS)	I am (Customer)	I'm trying to	But	Because	Which makes me feel
PS-1	a student	I'm trying to reduce my weight.	I'm unaware about the food habits.	There are so many types of diets to follow	Confused
PS-2	a pregnant women	To follow a proper food diet.	I'm not sure on what to have and what not to.	There are so many foods that seem to be healthy but actually not.	Unclear
PS-3	a student	reduce my weight as I have PCOS.	I'm not sure what diet to follow	I don't know what type of food should be consumed by me	Frustrated
PS-4	a diabetic patient	get a clear idea on the food habits for me.	but i dont know where to gain the knowledge about it.	There are so resourses for nutrition health but no clear idea.	Confused

FIG 2.3 PROBLEMSTATEMENT DEFINITION

I am	I'm trying to	But	Because	Which makes me feel
a student	I'm trying to reduce my weight.	I'm unaware about the food habits.	There are so many types of diets to follow	Confused
a student	a pregnant women	To follow a proper food diet.	I'm not sure on what to have and what not to.	Unclear
a student	reduce my weight as I have PCOS.	I'm not sure what diet to follow	I don't know what type of food should be consumed by me	Frustrated
a diabetic patient	get a clear idea on the food habits for me.	get a clear idea on the food habits for me.	There are so resources for nutrition health but no clear idea.	Confused

FIG 2.1 PROBLEMSTATEMENT DEFINITION

A nutritional problem or deficiency refers to a condition when an individual's body experiences a shortage of essential nutrients or some specific nutrient. Such problems can give rise to several health issues such as anaemia. At the same time, it must be noted that these problems can be prevented by consuming a balanced diet.The human body needs nourishment in a balanced manner to carry out all its biological processes optimally. The micro and macronutrients which one needs are

not synthesised naturally inside the human body. Hence, your diet plays a significant role in this scenario. The nutritional problems in India mainly arise when there is a lack of essential nutrients within the human body.

IDEATION & PROPOSED SOLUTION

chapter-3
IDEATION & PROPOSED SOLUTION

3.1 Empathy Map Canvas

Build empathy and keep your focus on the user by putting yourself in their shoes.

Proposed Solution Template:

Project team shall fill the following information in proposed solution template.

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	Heartburn can occur for many reasons, including overeating, eating certain foods taking medicines or as a result of surgery.
2.	Idea / Solution description	Avoid foods that caused heartburn before. Some foods commonly associated with heartburn are highly seasoned foods, beverages that contain caffeine (coffee, tea and soft drinks).
3.	Novelty / Uniqueness	Gastroesophageal reflux disease (GERD) is a common esophageal disorder that is characterized by troublesome symptoms associated with increased esophageal acid exposure. Cornerstones of therapy include acid suppressive agents like proton pump inhibitors (PPI) and lifestyle modifications including dietary therapy, although the latter is not well defined.
4.	Social Impact / Customer Satisfaction	To investigate the impact of heartburn and regurgitation on the quality of life among patients with gastroesophageal reflux disease GERD patients with heartburn or regurgitation predominant had similar demographics, but those with

		heartburn predominant had more severely impaired daily activities and lower general health scores.
5.	Business Model (Revenue Model)	Besides your 9-to-5 job as a nutritionist, you can invest your time and energy in these business ideas. Visualization, determination and consistency are the key. So keep working towards your goal.
6.	Scalability of the Solution	Eat a ripe banana. Chew sugar-free gum. Keep a food journal and avoid trigger foods. Resist the urge to overeat or eat quickly. Avoid late meals, snacking before bed and eating before exercising.

3.4 Problem Solution fit

The Problem solution 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.

3.4.1 purpose

i) Solve complexproblems in a way that fits the state of your customers.

ii) Succeed faster and increaseyour solution adoptionby tapping into existingmediums and channels of behavior.

iii) Sharpen your communication and marketing strategy with the right triggersand messaging.

iv) Increase touch-points with your company by finding the right problem- behavior fit and building trust by solving frequent annoyances, or urgent or costly problems.

v) Understand the existing situation in order to improve it for your target group.

1. CUSTOMER SEGMENT(S) — CS

Who is your customer?

Who is your customer?
What limits your customer from acting when a problem occurs?
E.g. Spending power, network connection, available devices.

6. CUSTOMER — CC

What constraints prevent your customers from taking action or limit their choices of solutions? i.e. spending power, budget, no cash, network connection, available devices.

Consumers need information such as nutrition tables to assess the nutritional value of a food product. Although a broad range of studies has examined consumers' attention, perception and use of nutrition tables.

5. AVAILABLE SOLUTIONS — AS

Which solutions are available to the customers when they face the problem or need to get the job done? What have they tried in the past? What pros & cons do these solutions have? i.e. pen and paper is an alternative to digital notetaking

your application has a marketplace and this feature, you can make them connected to each other, so food recommendations included information on vendors where they can buy these goods with no delays, see prices.

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2. JOBS-TO-BE-DONE / PROBLEMS — J&P

Which jobs-to-be-done (or problems) do you address for your customers? There could be more than one; explore different sides.

Nutrients have one or more of three basic functions: they provide energy, contribute to body structure, and/or regulate chemical processes in the body.

9. PROBLEM ROOT CAUSE — RC

What is the real reason that this problem exists? What is the back story behind the need to do this job?
i.e. customers have to do it because of the change in regulations.

projects are given such that it helps the researcher to gain maximum knowledge and experience. The institute has focused its work in developing products with enhanced nutrition, discovering innovative products utilizing byproducts, and implementing new methods to improve quality of food.

7. BEHAVIOUR — BE

What does your customer do to address the problem and get the job done? i.e. directly related: find the right solar panel installer, calculate usage and benefits; indirectly associated; customers spend free time on volunteering work (i.e. Greenpeace)

Nutritional behavior is "the sum of all planned, spontaneous, or habitual actions of individuals or social groups to procure, prepare, and consume food as well as those actions related to storage and clearance.

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3. TRIGGERS — TR

What triggers customers to act? i.e. seeing their neighbour installing solar panels, reading about a more efficient solution in the news.

Overweight is one of today's most urgent public health issues. It is related to a number of noncommunicable diseases.

4. EMOTIONS: BEFORE / AFTER — EM

How do customers feel when they face a problem or a job and afterwards? i.e. lost, insecure > confident, in control - use it in your communication strategy & design.

BEFORE: People cannot know how to maintain their health.
AFTER: They consult their nutritionist easily.

10. YOUR SOLUTION — SL

If you are working on an existing business, write down your current solution first, fill in the canvas, and check how much it fits reality.
If you are working on a new business proposition, then keep it blank until you fill in the canvas and come up with a solution that fits within customer limitations, solves a problem and matches customer behaviour.

When you are working on an existing solution (exploring growth strategies, problem with activation or solution adoption etc.), fill in this block first, and then see whether your solution is still relevant after all the blocks. are filled in.
useful, understandable and accessible.

8. CHANNELS of BEHAVIOUR — CH

8.1 ONLINE
What kind of actions do customers take online? Extract online channels from #7

Complaints without actions and active public discussion mean nothing.

8.2 OFFLINE
What kind of actions do customers take offline? Extract offline channels from #7 and use them for customer development.

Workers in other professions and occupations nurses and community project workers can be given training in nutrition.

FIG 3.1 PROBLEMSOLUTION FIT

REQUIREMENT ANALYSIS

REQUIREMENT ANALYSIS

4.1 Functional requirement

Functional Requirements:

Following are the functional requirements of the proposed solution.

FR No.	Functional Requirement (Epic)	Sub Requirement (Story/ Sub-Task)
FR-1	Interview pateints and and take diet histories	A variety of methods for obtaining a diet history are available, the following set of questions is designed to identify major sources of saturated fat and give the physician an overall sense of a patient's eating habits.
FR-2	Review patients for dietitic and nutritional information	Guided nutrition goal setting and patient-generated dietary intake tracking. It includes brief education on the importance of meeting energy/protein requirements in hospital and training on how to use the hospital electronic food service system, accessed via bedside computer screens.
FR-3	Assist nutrition therapist	Nutrition therapy is defined as the assessment of the nutritional status of a client followed by nutrition therapy ranging from diet modification to specialized nutritional support such as the administration of enteral and parenteral nutrition and monitoring to evaluate the patient. It is different from clinical nutrition from the fact that clinical nutrition is the application of dietician.
FR-4	General nutrition and consumer education	Nutrition education consists of activities which provide visual and verbal information and instruction to participants or participants and caregivers in a group or individual settings.
FR-5	Regarding nutrition	Food and nutrition education has a critical role in enabling access to sufficient quality and quantity of foods for households and communities. Educational seminars and resources in food and nutrition have been shown to positively affect individuals' food choices.

| FR-6 | Maintain records | Maintaining accurate records can help prevent you paying more tax than you are obliged to and improve your cash flow. Good record keeping will also help you to reduce fees if you use the services of an accountant. |

SAFETY AND SECURITYREQUIREMENTS

<u>User Identification:</u>

The systemrequires the user to identifyhimself/herself User

<u>Login ID:</u>
 Any user who uses the systemshall have a Login.
 <u>Modification:</u>
 Any modification (insert, delete (or) update) for the Database shall be synchronized and done onlyby the admin in the ward.
<u>Admin Rights:</u>
 Admin shall be able to view and modifythe information.

FR No.	Non-Functional Requirement	Description
NFR-1	Usability	following a healthy diet, with a limited fat intake avoiding eating 2 – 3 hours before bedtime elevating the head of the bed before lying down avoiding wearing tight-fitting clothes avoiding heavy lifting and straining
NFR-2	Security	Avoid tightfitting clothing, which puts pressure on your abdomen and the lower esophageal sphincter. Avoid foods that trigger your heartburn. Avoid lying down after a meal. Wait 2 to 3 hours
NFR-3	Reliability	The GSRS has good reliability and construct validity and the GSRS scales discriminate by GERD symptom severity and are responsive to treatment
NFR-4	Performance	High-fat foods sit around in your belly longer. This makes your stomach produce more acid, irritating your digestive system.
NFR-5	Availability	The availability of sufficient quantities of food of appropriate quality, supplied through domestic production or imports (including food aid). Food access: Access by individuals to adequate resources (entitlements) for acquiring appropriate foods for a nutritious diet
NFR-6	Scalability	Eat a ripe banana. chew sugar-free gum. Keep a food journal and avoid trigger foods. Resist the urge to overeat or eat quickly. Avoid late meals, snacking before bed and eating before exercising.

PROJECT DESIGN

chapter-5
5.project design

5.1 Data Flow Diagrams

Data Flow Diagrams:

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.
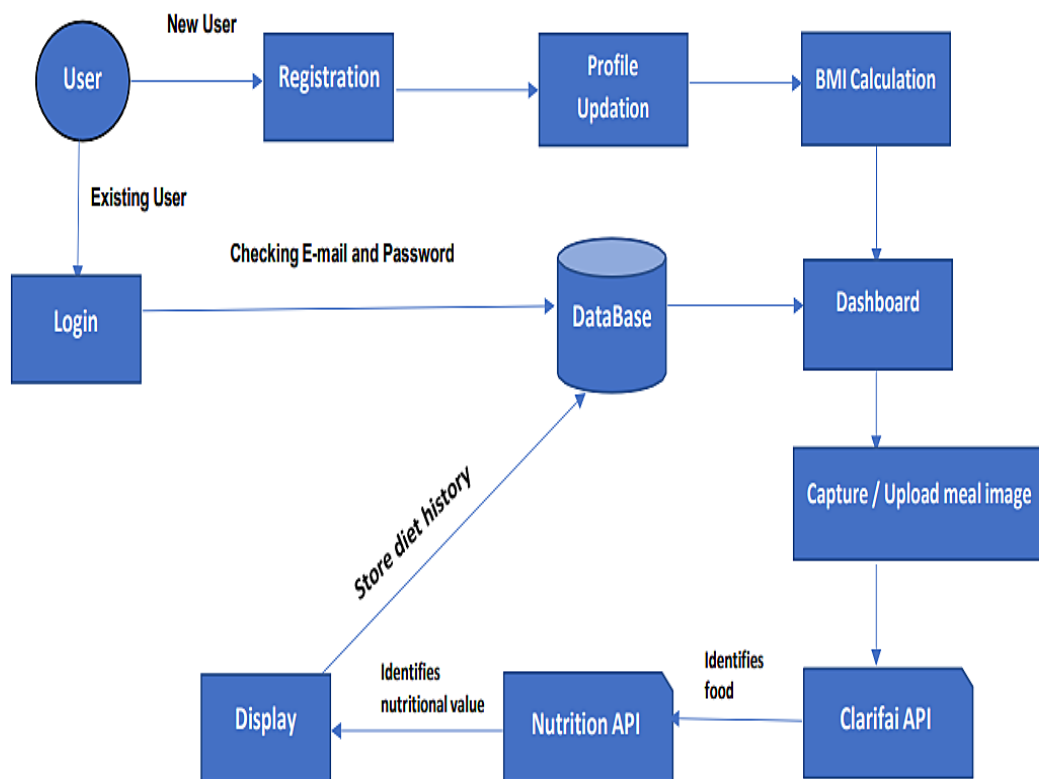
PROJECT DESCRIPTION:

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 systemswhich 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 accuratefood identification and Food API's to give the nutritional value of theidentified food.

Technical Architecture:

The Deliverable shall include the architectural diagram as below and the information as per the table1 & table 2

Example: Order processing during pandemics for offline mode

Essential guide to weight loss

Immunity Boosters

Nutrition Tracking feature

Fitness

Nutrition assistant application

Diet chart

Food medicine
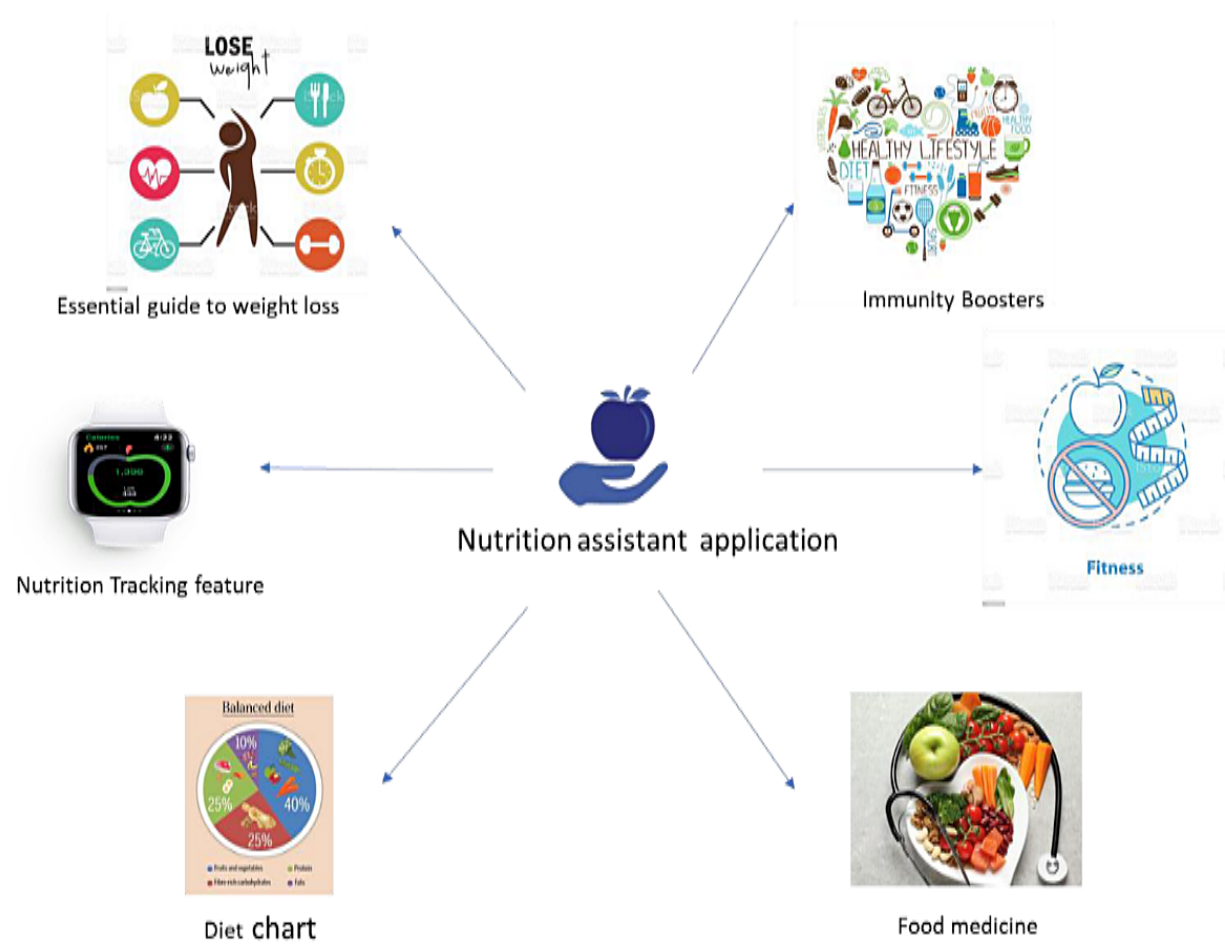
SOLUTION:

1. User interacts with the Web Appto Load an image.

2. The image is passedto the server application, which uses Clarifai's AI-Driven Food Detection.

3. Model Service to analyze the images and NutritionAPI to provide nutritional information about the analyzed Image.

4. Nutritional information of the analyzed image is returnedto the app fordisplay.

PROCEDURE:

1. IMPLEMENTING WEB APPLICATION

   a. Registration (Pushthe registration data into the database)

   b. Login (Fetchthe data upon login)

   c. Upload the food image and get the prediction

   d. Get Caloriesfrom the food items

   e. Add food data to thedatabase

2. CREATE UI TO INTERACTWITH THE APPLICATION

   a. Registration Page

   b. Login Page

     c. Upload Image page

     d. Prediction resultspage for food items

     e. View historyof items

3.CREATE IBM DB2 AND CONNECT WITH PYTHON

     a. Create the IBM Db2 service in the IBM cloud and connect the pythoncodewith DB.

4. INTEGRATE NUTRITION API

Integrate the Nutrition API to the flask with API call

APPROACH

Nutrition assistant application is designed to compress the broad knowledge that exists in nutrition, Many people will be attracted to Nutrition because they have specialdietary needs. Some had food allergies or sensitivities;

others were vegan or vegetarian; many were pregnant. A number of pregnant women reachedout to us asking for more detailedinformation and guidance.

KUBERNETES CLUSTERS - Kubernetes clustersallow containers

to run acrossmultiple machines and cloudbased application.

IBM DB2- Used for Backup & recovery. Comprehensive data resilience for physical and virtual servers. Cloud hosting. Dedicated, virtual private, and bare metal server options

CONTAINER REGISTRY - Container Registry is a single place for your team to manage Docker images, perform vulnerability analysis, and decide who can access what with fine-grained access control

NUTRITION API - A nutrition API acts as a container for information from thousands of products. When an application sends a GET request to the API, it returns the nutrition information about a given product.

RESULT:

Despite processing, we do not believe that our outcomes are flawless. There is always opportunity for improvement in your procedure because cloud computingis a topic that is constantly developing. Additionally, there will always be new approaches that offer better results for the same problems. It has been done, the application. Clarifai's AI-Driven Food Detection Model Service, NutritionAPI.

Management Module

EXTACTION OF PERSONAL INFORMATION

EXTRACTION OF MEDICAL AND DIETARY INFORMATION

RECORD

Patient Database

Rules and Constraints

Menu Generating Module

Identifying nutrient requirements

Generation of exchange table by foods

Generation of exchange table by meals

Suggestion of menu

Food Composition Database

Food Exchange Database

Case Base

Output

Diet Plan/ Menu Database

SYSTEM ARCHITECTURE

User Stories

User Type	Functional Requirement (Epic)	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 Name, Age, Gender, E-mail, password, and confirming my password.	I can access my account / dashboard.	High	Sprint-1
		USN-2	As a user, I will receive confirmation email once I have registered for the application.	I can receive confirmation email & click confirm.	High	Sprint-1
	Profile updation	USN-3	As a user, I have to enter my height, weight and daily activity details.	I can update these information on Dashboard.	High	Sprint-1
	Login	USN-4	As a user, I can login to the application by entering E-mail and password.	I can access my account/ dashboard.	High	Sprint-1
	Dashboard	USN-5	As a user, I can upload or capture live image of the meal	I can get the nutritional value of that particular meal.	High	Sprint-2
		USN-6	As a user, I can track my daily calorie intake.	I can access my account/ Dashboard.	Medium	Sprint-2
Administrator	Maintain the Application	USN-7	Maintaining details for users.	I can access database.	High	Sprint-3

PROJECT PLANNING & SCHEDULING

6. PROJECT PLANNING & SCHEDULING

6.1 Sprint Planning & Estimation

Product Backlog, Sprint Schedule, and Estimation (4 Marks)

Use the below template to create product backlog and sprint schedule

Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task	Story Points	Priority	Team Member
Sprint-1	Registration	USN-1	As a user, I can register for the application by entering my email, password, and confirming my password.	2	High	UDHAYA SHANKAR.M
Sprint-1		USN-2	As a user, I will receive confirmation email once I have registered for the application	1	High	PRABAKARAN.
Sprint-2	Profile Update	USN-3	As a user, I have to enter my height, weight and daily activity details.	2	high	ASIF M
Sprint-3	Login	USN-4	As a user, I can login to the application by entering E-mail and password	2	high	LINGESH KUMAR.M
Sprint-4	dashboard	USN-5	As a user, I can upload or capture live image of the meal	1	High	DINESH P
Sprint-4		USN-6	As a user, I can track my daily calorie intake	1	medium	ASIF M
Sprint-4	Maintain the application	USN-7	Maintaining detail for user	1	high	DINESH P

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	7	29 OCT 2022
Sprint-2	20	6 Days	31 Oct 2022	05 Nov 2022	5	05 NOV 2022
Sprint-3	20	6 Days	07 Nov 2022	12 Nov 2022	8	12 NOV 2022
Sprint-4	20	6 Days	14 Nov 2022	19 Nov 2022	5	19 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)

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

SPRINT BURNDOWN CHART:
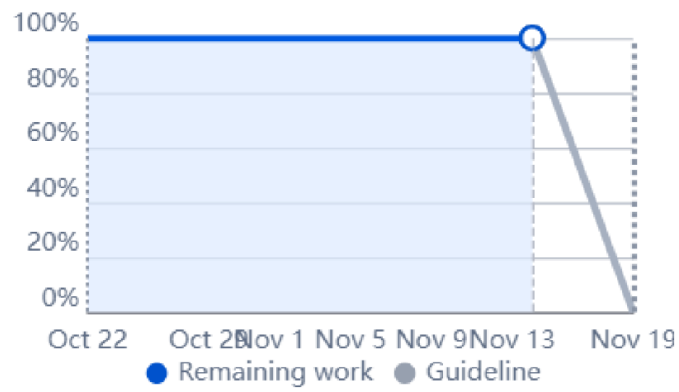
BURNDOWN CHART:
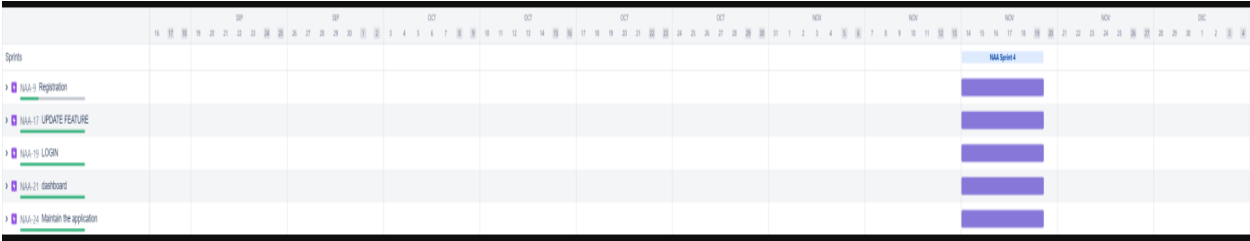
CODING & SOLUTIONING

7. CODING & SOLUTIONING

7.1 Feature 1: login in

Algorithm :

1. Enter the credentials and hit enter (email and password).

2. if already looged in user is taken to home page

3. ELSE, check for validity of creditials entered using query to cloudant db

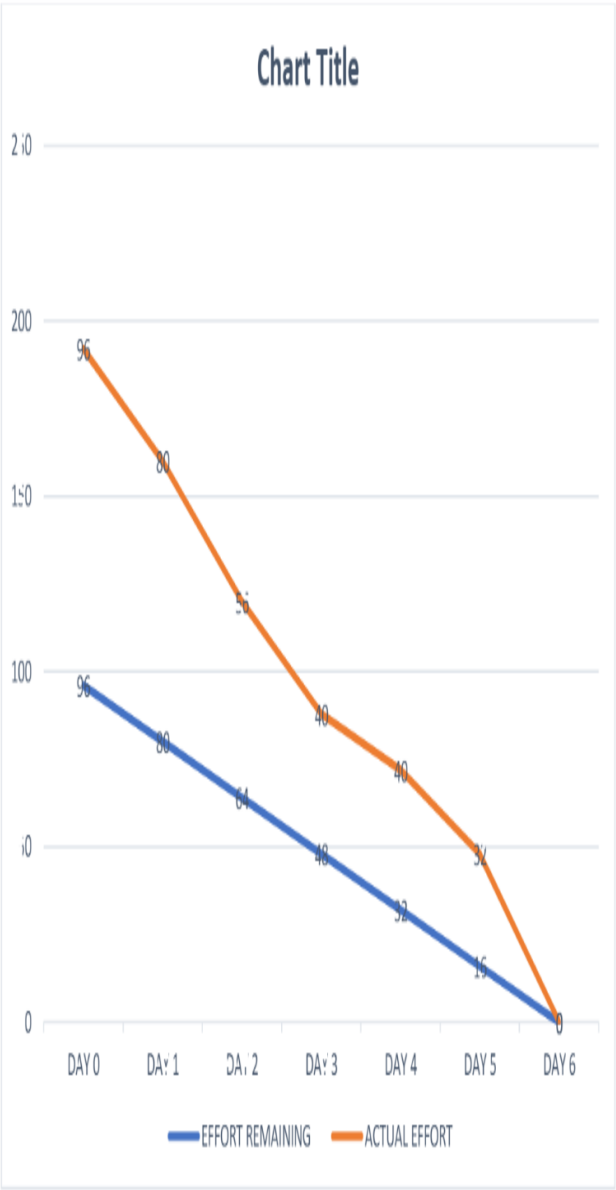4. if wrong creditials entered, notification displayed to user and user in login page

5. on coorect credentials, user is taken to home page

Login checker :

```html
<!doctype html>
<html lang="en">
    <head>
        <meta charset="UTF-8">
        <meta name="viewport" content="width=device-width , initial-scale=1.0">
        <title>LOGIN PAGE</title>
        <link
href="https://cdn.jsdelivr.net/npm/bootstrap@5.2.2/dist/css/bootstrap.min.css" rel="stylesheet" integrity="sha384-Zenh87qX5JnK2Jl0vWa8Ck2rdkQ2Bzep5IDxbcnCeuOxjzrPF/et3URy9Bv1WTRi" crossorigin="anonymous">
        <style>
            h3{
```

```css
            color: blue;
            border:10px;
            border-radius: 10px;
            background-color:cyan;
        }
        h4{
            color: black;
        }
        .form-group{
            color: black;
            text-align: center;
            background-color: lightskyblue;
        }
        input{
            color: black;
            text-align: center;
        }
        #border{
            border-radius:10px;
            background-color: lightskyblue;
            color: black;
            width:560px;
            height:740px;
            padding:10px;
        }
        #yellow{
            background-color: yellow;
            size: 40px;
            margin-left: 5px;
        }
        #pink{
            background-color:palevioletred;
            margin-left: 5px;
        }
        #orange{
```

```
                background-color: darkorange;
                margin-left: 5px;
            }
        </style>
        </head>
    <body style="background-color:lightpink">
        <center>
        <div id="border" style="margin-top:2px;">
        <form action="#" method="POST" autocomplete="off" border="3">
            <div class="col-md-offset-4  col-md-6" style="margin-top:200px;">
            <h3>LOGIN PAGE</h3>
            <div class="form-group">
                <label id="mail"><h4>mail</h4></label>
                <input type="email" name="mail" class="form-control" required>
            </div><br>
            <div class="form-group">
                <label><h4>password</h4></label>
                <input type="password" name="password" class="form-control" required>
            </div><br><br>
            <div class="form-group">
            <a href="/nutrition_page"><input type="button" name="login" value="signin" id="pink"></a>
            <a href="/account"><input type="button" value="signup" id="yellow"></a>
            <a href="/home_page"><input type="button" value="home" id="orange"></a>
            </div>
            </div>
        </div>
        </form>
    </div>
    </center>
```

```
        </body>
</html>
```

7.2 FEATURE 2 : SIGNUP

Algorithm :

1. Enter the signup form fields (name , email ,
   password , re-enterpassword , date of birth) and
   hit enter.

2. All credentials are validated at client side.

3. Email is checked if already registered or not in the
   database.

4. If already registered , notification displayed. Or
   else, the user istakento the successful signup
   page.

Query to check if email is registered or not :

```
<!doctype html>
<html lang="en">
    <head>
        <meta charset="UTF-8">
        <meta name="viewport" content="width=device-width , initial-
scale=1.0">
        <title>create account</title>
        <style>
            h3{
                text-align: center;
                color:blue
```

```css
                }
            form{
                background-color:lightskyblue;
            }
            .form-group,input{
                color:black;
                text-align:center;
            }
            #center{
                margin-top: 300px;
            }
            #border{
                border-radius:10px;
                background-color:lightskyblue;
                color: black;
                width:560px;
                height:740px;
                padding:1px;
            }
            #message{
                background-color: lightcyan;
                color: black;
            }
            .table{
                background-color: aliceblue;
                text-align: center;
            }
        </style>
        <!-- CSS only -->
        <link
href="https://cdn.jsdelivr.net/npm/bootstrap@5.2.2/dist/css/bootstrap.min.
css" rel="stylesheet" integrity="sha384-
Zenh87qX5JnK2Jl0vWa8Ck2rdkQ2Bzep5IDxbcnCeuOxjzrPF/et3URy9Bv1WTRi"
crossorigin="anonymous">
    </head>
```

```html
<body style="background-color:lightpink">
    <center>
    <div id="border">
    <form action="/register" method="POST" autocomplete="off"
border="3">
        <div class="col-md-offset-4  col-md-6">
        <h3 style="text-transform:uppercase;">create account</h3>
        <div class="form-group">
            <label>name</label>
            <input type="text" name="name" class="form-control"
required>
        </div>
        <div class="form-group">
            <label>age</label>
            <input type="text" name="age" class="form-control"
required>
        </div>
        <div class="form-group">
            <label>address</label>
            <input type="text" name="address" class="form-control"
required>
        </div>
        <div class="form-group">
            <label>contact</label>
            <input type="number" name="contact" class="form-control"
required>
        </div>
        <div class="form-group">
            <label>mail</label>
            <input type="email" name="mail" class="form-control"
required>
        </div>
        <div class="form-group">
            <label>new password</label>
            <input type="password" name="password" class="form-
```

```html
control" required placeholder="enter the strong password">
            </div>
          <div class="form-group">
              <label>confirm password</label>
              <input type="password" name="confirm_password" class="form-
control" required placeholder="enter the correct password to ">
            </div><br><br>
          <div class="form-group">
          <input type="submit" name="submit" value="register" class="btn
btn-success">
          <input type="reset"  value="clear" class="btn btn-danger">
          <a href="/home_page"><input type="button" value="home"
class="btn btn-danger"></a>
            </div><br><br>
          <div>
            </div>
            </div>
        </div>
        </form>
    </div>
    </center>
    </body>
</html>
```

7.3 FEATURE 3 : HOME

Algorithm :

1. If the user is logged out , he/she is taken to the login page.

2. Home page buttons are displayed (Live tracker , Recent emergency notifications , Location history , Change password ,Logout)

3. If buttons are clicked , the user is takento the requested page.

user to access every thing home page connect every pages:

```html
<!doctype html>
<html lang="en">
    <head>
        <meta charset="UTF-8">
        <meta name="viewport" content="width=device-width , initial-
scale=1.0">
        <title>home</title>
        <link
href="https://cdn.jsdelivr.net/npm/bootstrap@5.2.2/dist/css/bootstrap.min.
css" rel="stylesheet" integrity="sha384-
Zenh87qX5JnK2Jl0vWa8Ck2rdkQ2Bzep5IDxbcnCeuOxjzrPF/et3URy9Bv1WTRi"
crossorigin="anonymous">
        <style>
            h1{
                font-family:Arial, Helvetica, sans-serif;
                text-transform:uppercase;
                text-shadow:5px 0 red;
                border: 300px;
                border-radius:30px;
                text-align: center;
            }
            h1:hover{
                background-color: lightseagreen;
            }
            .form-group{
                border-radius:10px;
                background-color:lightslategrey;
                color: black;
                width:100%;
                padding:2px;
```

```css
				}
			.form-group:hover{
				background-color:chartreuse;
			}
			#home{
				float:left;
				margin-right:10px;
				color:black;
			}
			#reg{
				float:left;
				margin-right: 10px;
				color:black;
			}
			#log{
				float:left;
				margin-right: 10px;
				color:black;
			}
			#abt{
				color:black;
			}
			img{
				border-radius:10px;
				width:100%;
				height: 640px;
				padding:10px;
				float: inline-start;
			}
			#home:hover{
				background-color:aqua;
			}
			#reg:hover{
				background-color:fuchsia;
			}
```

```
        #log:hover{
            background-color: yellow;
        }
        #abt:hover{
            background-color:deeppink;
        }
        #pure{
            font-family: 'Gill Sans', 'Gill Sans MT', Calibri,
'Trebuchet MS', sans-serif;
            font-style: italic;
            color:darkgoldenrod;
            font-size:30px;
            border:1300px;
            border-radius: 30px;
        }
        #pure:hover{
            background-color: lightgoldenrodyellow;
        }
    </style>
    </head>
  <body style="background-color:lightpink">
    <h1><center><b>welcome to nutrition assistant
application</b></center></h1>
    <div>
    <div class="form-group">
    <form action="#" >
        <a href="#"><input type="button" value="home" id="home"
class="btn btn-orange:#fd7e14;"></a>
        <a href="/account"><input type="button" value="create account"
id="reg"   class="btn btn-orange:#fd7e14;"></a>
        <a href="/login"><input type="button" value="login" id="log"
class="btn btn-orange:#fd7e14;" ></a>
        <a href="/about"><input type="button" value="about" id="abt"
class="btn btn-orange:#fd7e14;"></a>
    </form>
```

```html
        </div>
        <br>
        <div id="float-center">
            <p id="pure">we are made to create a healthy people in natural
way</p>
            <img src="../static/files/images/nutrition project image 1.png"
alt="nutrition image">
        </div>
        </div>
    </body>
</html>
```

TESTING

CHAPTER-8
TESTING

8. TEST CASES

1. Login button click with wrong credentials entered.

2. Signup with already registered mail ID.

3. Signup with wrong form data entered.

4. Entering home page with logged out session.

5. Clicking home page buttons with logged out session.

6. Invalid data entered in change password page and requested for change in password.

USER ACCEPTANCE TESTING:

8.2 USER ACCEPTANCE TESTING

S.NO	TEST CASE	REQUIRED OUTPUT	RESULT OUTPUT	STATUS
1	Login button click with wrong credentials	Wrong credentials entered notification	Wrong credentials entered notification	ACCEPTED
2	Signup with already registered mail ID.	Email already registered notification	Email already registered notification	ACCEPTED
3	Signup with wrong form data entered.	Wrong credentials entered notification	Wrong credentials entered notification	ACCEPTED
4	Entering home page with logged out session.	Take user to login page	Take user to login page	ACCEPTED
5	Clicking home page buttons with logged out session.	Take user to login page	Take user to login page	ACCEPTED
6	Invalid data entered in change password page and requested for change in password.	Wrong form data entered notification	Wrong form data entered notification	ACCEPTED

RESULT

performance metrics:

1. Planned value : Rs.4000

2. Actual value : Rs.1300

3. Hours worked: 50 hours

4. Stick to Timelines : 100%

5. Stay within budget: 100%

6. Consistency of the product: 75%

7. Efficiency of the product: 80%

8. Quality of the product: 80%

ADVANTAGES AND DISADVANTAGES

CHAPTER-10
ADVANTAGES AND DISADVANTAGES

ADVANTAGES :

1. Low price.

2.Simple UI.

3. A single-page website allows for a quicker response.

4. The ability to easily and affordably add a lot of features.

disadvantage:

1. Ineffectiveness. The product needs to operate more efficiently.

2. The product's consistency is not perfect.

3. The product is not small-scale. Reduced size is required.

CONCLUSION

CHAPTER-11
CONCLUSION

11. conclusion:

Monitoring one's diet is crucial for managing and treating chronic conditions. Food entry on personal mobile devices is substantially less of a hassle thanks to picture recognition and food photography. In this work, we have created a system for tracking nutritional intake that uses deep-based image recognition to swiftly and reliably record food and nutrient intake. We discovered that laboratory models serve as the cornerstone of the solution but leave out some of the most significant difficulties through real user food photo testing and user research. The variety of real food images is more than that of the model developed in a lab. A method of tracking the free-style and handmade food recognition challenges, where training data is scarce and unrepresentative, is ingredient-based recognition. Additionally, the intended

FUTURE SCOPE

CHAPTER-12
FUTURE SCOPE

12. future scope:

We'll be introducing more user-friendly features in the future. The web application's ui/ux will be enhanced. expanding the project to accommodate more use cases and clients. putting distributed computing into practise for processing effectiveness. standardising encryption for cloud storage.

Nutrition assistants **help dieticians with providing proper nutrition at healthcare facilities**. They determine patients' nutritional needs, assess risk factors, and plan meals and menus. They also ensure proper sterilization of plates and utensils.

Nutrition and Dietetics **can work as a dietician in hospitals and Nutritionists in health clinics, health centers, and MNCs**. Opportunity to be a registered dietician (RD). Graudates can work as a project assistant, project associate, chief nutritionist in NGO's and private organizations.

chapter - 13

APPENDIX

13.1: source code:

GITHUB REPOSITORY: https://github.com/IBM-EPBL/IBM-Project-45661-1660731467

13.2. PROJECT DEMONSTRATION
LINK:
https://drive.google.com/file/d/1ECyePnisgU2bgHZsdSKvcy4gSjMImZZa/view?usp=drivesdk