

IBM PROJECT REPORT

COLLEGE NAME	SRM EASWARI ENGINEERING COLLEGE
TEAM ID	PNT2022TMID54436
PROJECT NAME	Nutrition Assistant Application

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INTRODUCTION

INTRODUCTION

1.1 PROJECT OVERVIEW

Healthy nutrition contributes to preventing non-communicable and diet-related diseases. Recommender systems, as an integral part of mHealth technologies, address this task by supporting users with healthy food recommendations. However, knowledge about the effects of the long-term provision of health-aware recommendations in real-life situations is limited. This study investigates the impact of a mobile, personalized recommender system named Nutrilize. Our system offers automated personalized visual feedback and recommendations based on individual dietary behaviour, phenotype, and preferences. By using quantitative and qualitative measures of 34 participants during a study of 2–3 months, we provide a deeper understanding of how our nutrition application affects the users' physique, nutrition behaviour, system interactions and system perception. Our results show that Nutrilize positively affects nutritional behaviour measured by the optimal intake of each nutrient. The analysis of different application features shows that reflective visual feedback has a more substantial impact on healthy behaviour than the recommender. We further identify system limitations influencing this result, such as a lack of diversity, mistrust in healthiness and personalization, real-life contexts, and personal user characteristics with a qualitative analysis of semi-structured in-depth

interviews. Finally, we discuss general knowledge acquired on the design of personalized mobile nutrition recommendations by identifying important factors, such as the users' acceptance of the recommender's taste, health, and personalization.

1.2. PURPOSE

Evaluations of recommender systems often focused on measuring algorithmic accuracy, which is insufficient in explaining user experience. Further, studies on recommendations and mobile applications frequently cover short-term usage, i.e. think-aloud lab studies of multiple hours or surveys comparing recommender algorithms on a quantitative level. Especially in the context of health recommender systems, it is important to not only evaluate recommendation accuracy. Since healthy recommendations might contrast user preferences, it is crucial to evaluate user satisfaction and changes in behaviour and health over a longer period of time, i.e. multiple weeks. Traditional nutrition interventions require months to show lasting effects on nutritional behaviour and physique. Therefore, we evaluate our proposed system, *Nutrilize*, based on a 2–3 months study using a mixed-methods evaluation of the system effects and the user experience. It is our goal to show how long-term usage of a nutrition assistance system influences the users' (a) physique, (b) nutrition behaviour, (c) system interaction and (d) system perception. Furthermore, we want to gain insights into the reasons for observations

appearing in long-term but not in short-term usage by analysing semi-structured in-depth interviews.

LITERATURE SURVEY

LITERATURE SURVEY

Title & Author(s)	Year	Technique(s)	Findings/Pros/Cons
<p>Development of a Cloud based solution for effective nutrition intervention in the management of lifestyle diseases.</p> <p>Manju P George C.A.Kalpana</p>	2020	Information and Communication technologies	<p>The working model plan of the solution as well as the outlook of the model is discussed. A CAI (Computer Assisted Instruction Tool) may be modified to desired platform in the given proposal.</p>
<p>Dietary Nutrition Cloud Platform Technology Based on Big Data</p> <p>Muhammad Jmail</p>	2019	Cloud Platform Technology, Machine Learning	<p>The speed of traditional and distributed two cases are compared. A large amount of data is needed for dietary recommendation in the dietary nutrition cloud International Journal of Big Data Intelligent Technology 35 platform, and a large amount of data is applied in the process of finding intelligent nutrition cloud association rules. Due to the characteristics of a large number of data, in order to ensure the speed of data processing, it is necessary to use non-relational database and unstructured data. In the use and processing of data, it also needs to adapt to this kind of data.</p>

Enhancing Cloud and Big Data Systems for healthy Food and Information Systems Practice: A Conceptual Study Sreeramana Aithal, P.K.Paul, A.Bhuimali	2017	Virtualization Technology	Planning is essential for any development and obviously, their solid implementations are required for real development. Hence for complete development such as management, statistical, information technology, information systems applications in the food and complete healthcare system initiatives, planning etc are highly desired.
Cloud Computing for Emerging Mobile Cloud Apps Mehdi Bahrami	2015	Microsoft Windows Azure, Amazon AWS and Google Cloud Platform	Review the opportunities and challenges of designing apps in mobile cloud computing systems
Virtual Machine Placement in Predictable Computing Clouds Richard Rauscher, Raj Acharya	2014	virtual machines	Dissertation work-in-progress happens which shows that, in certain predictable environments, preemptive virtual machine migration can improve both computational resource utilization and the overall user experience.

Scheduling Scientific Workflows Elastically for Cloud Computing	2011	SHEFT workflow scheduling algorithm	To schedule scientific workflows for Cloud computing, a formalized the model of a Cloud computing environment and a scientific workflow for the environment. Based on the models, SHEFT workflow scheduling algorithm has been proposed to schedule workflows given the elastically changing compute resources.
Towards Multi-user Private Keyword Search for Cloud Computing Yang	2011	Cloud Computing Infrastructure	Storage-as-a-service is an essential component of the cloud computing infrastructure, which allows the customers to outsource their databases to the regime of a cloud. Database outsourcing relieves the customers from building and maintaining their proprietary databases, which usually is extremely costly. However, one main hurdle to data outsourcing is security concerns, and in particular, end users would worry that their data would be abused without their consent or even awareness, among others.
Molecular Dynamics Simulations on Cloud Computing and Machine Learning Platforms Prateek Sharma; Vikram Jadhao	2021	Machine Learning	Cloud computing platforms are increasingly appealing for scientific computing, providing “infi-nite” computing powers, easier programming and deployment models, and access to computing accelerators such as TPUs (Tensor Processing Units).
Towards an Anonymous Access Control and Accountability Scheme for Cloud Computing Meiko Jenson, Sven	2010	Cloud Computing	The approach of data anonymization to solve this problem has been proposed. As this directly leads to problems of cloud usage accounting, we also propose a solution for anonymous yet reliable access control and accountability based on ring and group signatures.
On Cloud Computing Middleware Architecture Jihua Yung, Longjun Zhang, Xu An Wang	2015	service-oriented system architecture	The cloud computing middleware is just the key to the service-oriented step in the computing. If PaaS is the core of the cloud computing system, then the middleware is the core of PaaS. The cloud computing platform is closely related to the middleware technology. Therefore, the middleware is the backbone of the cloud computing platform.

Security Management Areas in the Inter-cloud Mario Golling	2011	Inter Cloud	Analyzed the range of requirements for security management. As these requirements are not yet fulfilled by current security management approaches, we derived a set of security management areas that describe all identified functional aspects. This set will serve as a foundation of our future development towards a security management architecture for the Inter-Cloud.
A Semantic Approach to Cloud Security and Compliance Amit Henry	2015	Cloud	developed an application that classifies the security threats faced by cloud users and automatically determines the high level security and compliance policy controls that have to be activated for each threat. The application also displays existing cloud providers that support these security policies.
Femto Clouds: Leveraging Mobile Devices to Provide Cloud Service at the Edge Karim Habak, Ellen Zegura	2015	Cloud	a prototype of femtocloud system and use it in addition to simulations to evaluate the performance of the system showing its efficiency and ability to leverage the available devices' compute capacity. We contribute to a line of research on small, local and possibly private clouds.
SciCloud: Scientific Computing on the Cloud Sathish Srirama, Oleg Batrachev	2022	Cloud Technology	SciCloud is a project studying the scope of establishing private clouds. A Eucalyptus based private cloud and developed several customized images that can be used in solving problems from mobile web services, distributed computing and bio-informatics domains.
Hedonic Pricing of Cloud Computing Services Caesar Wu, Kotagiri Ramamoanarao, Rajkumar Buyya	2021	Cloud Technology	Demonstrate that the cloud extrinsic values would not only become one of the competitive advantages for CSPs to lead the cloud market but also increase the profit margin. Our approach is often referred to as a hedonic pricing model. We show that our model can capture the value of non-marketable features. This value is about 43.4 percent on average above the baseline, which is often ignored by many traditional cloud pricing models.

IDEATION AND PROPOSED SOLUTION

Development of a Cloud based solution for effective nutrition intervention in the management of lifestyle diseases

Manju P George C.A.Kalpana

A web based tool is being planned for therapeutic nutrition prescriptions in clinical settings. The cloud based system would have the ability to calculate the nutritional requirements and to guide first line nutritional management to patients and clients automatically. Also, it serves as an electronic medical and dietetic record, and personalised nutrition consultation approach can be client can converse to his/ her personal dietitian at their own convenient setting. The implementation once done would invite more and more queries for personalised nutrition support rather than depending on the set menu plans as in the case of current online approaches. Authenticity of the consultant dietitian would also be ensured by the responsible team providing nutrition support.

Dietary Nutrition Cloud Platform Technology Based on Big Data

Muhammad Jmail

The long-term material shortage is in sharp contrast with the current food surplus. People gradually ignore the excessive food intake, and the accumulation of nutrients in the body is harmful to the body. How to establish a correct understanding of food nutrition, and its scientific and reasonable application in life has become an urgent problem to be solved. The object data processed by dietary nutrition analysis requires high reliability. The massive data processing technology of cloud computing technology meets the requirements, which ensures the accurate and safe access of the underlying user sign data to the system, so as to ensure the accuracy of the processing results. Therefore, based on the application background of big data, this paper discusses the cloud platform technology of dietary nutrition, and designs a simple diet nutrition platform through software and hardware for simulation analysis. The experimental results show that the 20GB file in this paper is composed of 40 512MB small files, and OSS will not perform segmentation operation. Therefore, when OSS is used, the number of maps is 40. HDFS is faster than OSS with the same map number. The BMI value of users with adequate nutrient intake and reasonable dietary structure is relatively standard. Therefore, the amount of nutrient intake can not reflect the quality of physical fitness. Only by taking sufficient nutrients under the premise of reasonable dietary structure can the body shape of users be healthy. The time required by the distributed algorithm increases more slowly, while the time required by the algorithm before the distribution increases faster, which shows that the distributed

implementation can improve the speed of clustering immune algorithm to find association rules.

Enhancing Cloud and Big Data Systems for healthy Food and Information Systems Practice: A Conceptual Study

Sreeramana Aithal, P.K.Paul, A.Bhuimali

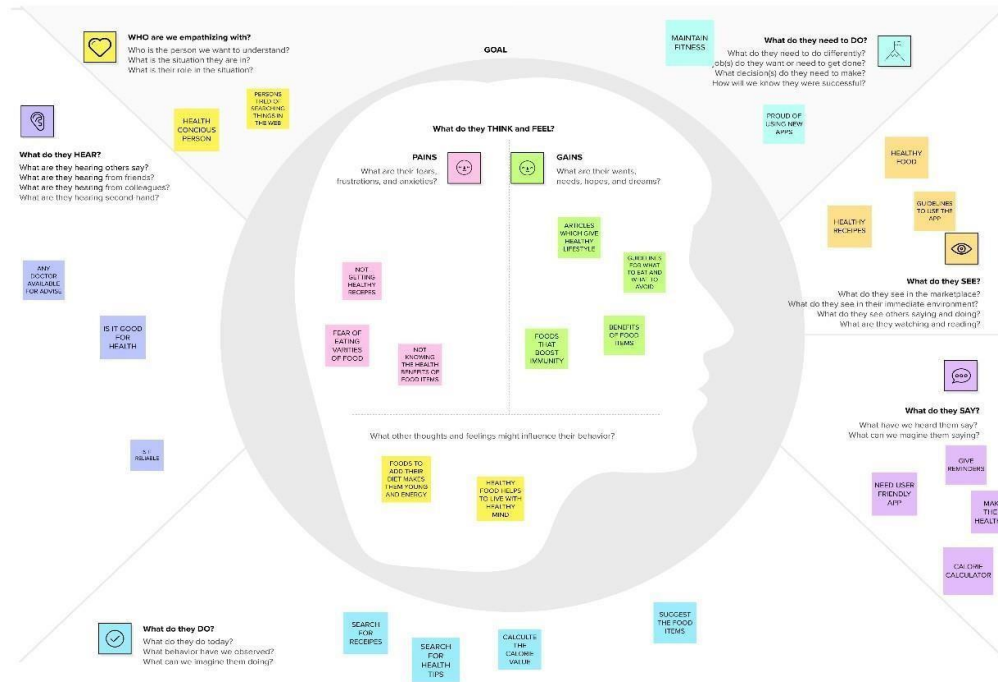
Cloud Computing is a kind of virtualization technology based on internet. In cloud computing, central remote server plays an important role for healthy data management and applications. It offers handsome efficiency in the field of Computing as well as Information Technology for providing centralized storage, money, processing, and bandwidth. Thus regardless of the size of the institute (i.e. big or small) there is no additional requirement for the establishment of own as well separate IT infrastructure for more and higher business units. Networking Technology and Internet Technology play a vital role in the establishment of cloud computing in different settings. Today it is treated as an emerging technology among the other applied Information Science & Technology. India is strong as well as developed in many senses with a good amount of educational institutes for diverse sectors and community. Cloud computing is applicable in a different field in the current scenario, such as Education, Public Administration, Business & Commerce, Health, and Medicine etc. Interestingly, cloud computing may be applicable in the field of Food and Nutrition. This is a conceptual paper deal with cloud computing related aspects which include benefits, advantages, challenges, and issues. Moreover, the paper also talks about cloud computing applications in different and diverse areas of Food Science, Nutrition and Dietetics. Further, the paper discusses some of the contemporary and future challenges to build Cloud Computing based Food Information Systems.

Empathy Map:

NUTRITION APPLICATION DEVELOPMENT

Develop shared understanding and empathy

Summarize the data you have gathered related to the people that are impacted by your work. It will help you generate ideas, prioritize features, or discuss decisions.



Proposed Solution:

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	Poor eating habits include under- or over-eating, not having enough of the healthy foods we need each day. Poor nutrition can impair our daily health and wellbeing and reduce our ability to lead an enjoyable and active life. However, although food packaging comes with nutrition (and calorie) labels, it's still not very convenient for people on comparing 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
2.	Idea / Solution description	Choosing healthier foods (whole grains, fruits and vegetables, healthy fats and protein sources) and beverages. Limiting unhealthy foods (refined grains and sweets, potatoes, red meat, processed meat) and beverages (sugary drinks) Increasing physical activity. Limiting television time, screen time. IDEA : Make available all kind of food for different users like some of user are heart patient, affected by any health issues. and includes learning to automatically identify & quantify thousands of food categories and pair the food items with the relevant nutritional information for individuals to monitor and maintain the level of calorie intake.
3.	Novelty / Uniqueness	People are interested in calculating amounts of sugar and fat they consume you need to create a diet and nutrition app with a sugar and fat tracker. This tracker may go in connection with automatically generated recommendations that fit individual cases.

4.	Social Impact / Customer Satisfaction	Teenagers gets more benefited since they worry more about their looks to be flawless thisalso makes them live longer.Parents benefits since they no need to worry about their kids being unhealthy from an earlier age.
5.	Business Model (Revenue Model)	Nutrition assistant application Website
6.	Scalability of the Solution	Healthy nutrition contributes to preventing diseases. Knowledge about the effects of the long term provision of health-aware recommanendations in real-life situation is made possible.

Problem Solution Fit

Problem-Solution fit canvas 2.0

Purpose / Vision

Define CS, fit into CC	1. CUSTOMER SEGMENT(S) CS Who is your customer? i.e. working parents of 0-5 y.o. kids It's really a necessary thing to keep a very good picture of your customer. This includes both demographics and sociology datas	6. CUSTOMER CONSTRAINTS 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. The constraints are mostly the customer providing details such as If the image of their food if it is not clear enough then the results wont be of much accuracy	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 This is obviously an easy go idea. Although the packed food comes with nutrition labels like calories level and nutrition contents displayed it can't be trusted It's still not very convenient for people to refer to App-based nutrient dashboard systems.	Explore AS, differentiate
	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. The user's problems or obesity fear of getting health related issues like heart attack, diabetes, etc. This creates an unwanted ripple in their minds. They will get frustrated of not getting immediate result and difficult to do tedious work.	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. Uncontrolled food habits is the root cause and also user's unawareness among the effects. It is easy to fall in to a trap of eating unhealthy foods which is heavy in calories. Once the nutritional value is replaced by foods high in sugar, bad fats and salt it leads to various health issues so users need to control their daily calorie intake to lead a healthy lifestyle.	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) The behavioral changes in users reflect in their day-to-day lifeseach as they will maintain a proper diet and follow the daily routine in eating and intake of healthy food. So that it helps to improve their health.	
Identify strong TR & EM	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. Seeing others being flawless they keep wondering about what to do this mostly triggers them. Desire to live a healthy lifestyle By knowing this success story of people who achieved their goal. Bt seeing people who are fit and healthy	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. We help them by suggesting. By taking the picture of the food and uploading it in the app, The user can know what are all the nutrients present in the food. Clanfais AI-Driven food detection model is used for getting accurate identification of food and APIs to give the nutritional value of the identified food.	8. CHANNELS of BEHAVIOUR CH 8.1 ONLINE What kind of actions do customers take online? Extract online channels from #7 The application provides a user friendly environment that enables users to interact through chatbot to canty their quenes and sa dashboard is displayed to know the activities. 8.2 OFFLINE What kind of actions do customers take offline? Extract offline channels from #7 and use them for customer development. They can suggest others. And for encouraging. Connecting all the users through offline meeting and giving some complimentary gifts Conducting offline session by nutrition expert	Extract online & offline CH of BE
	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. They are scared of declining health, so they get motivated to ward eating healthy foods and move to healthy lifestyle.			



REQUIREMENT ANALYSIS

Functional Requirement:

Project description:

This project is aimed at developing a desktop-based application named Nutrition Assistant Application for estimates food attributes such as ingredients and nutritional value by classifying the input images of food. The Nutrition Assistant Application refers to the system and processes to help the user to analyse the intake of food with the involvement of a Technology system. This system can be used to store the details of the user's health, calculating the BMI, Classifying the food image to know the nutritional value, update the status of their health condition based on the information provided, and generate health reports weekly or monthly based. This project is categorizing individual health condition of the user. The Nutrition Assistant Application is important to control their daily calorie intake by eating healthier foods, which is the most basic method to avoid obesity. Without proper diet control, and this is reflective of the risks to people's health. A good Nutrition Assistant Application will alert the users when it is time to avoid. 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.

Scope:

- ☐ **Maintains good health:** The application can help in guiding them on how to remain healthy and how to take good nutrition. The application will help them without personally going to the doctor. Promote better nutrition in the community by educating about better diet and nutrition.
- ☐ **Functional limitation:** The user to be specific can't access the web or admin module, whereas the administrator has all the rights to modify and manage the contents such as news, tips, etc
- ☐ **Improve Usability:** In the part of user's just the internet connection is enough in order to access the news, updates and other contents provided by the admin regarding their health condition.
- ☐ **Health conscious:** This will provide convenience to persons/users who want to learn about nutrition and other related health topics by just using the Nutrition Assistant Application

Purpose:

The users continue to demand to know the nutritional value that is in their food. The users learn about the effect of different foods on human health. Evidently, the ultimate aim of this application is to provide the ways in which one can lead a healthy life by maintaining his/her diet. The user can access the nutritional information by taking a photo of the food, uploading a photo from the gallery, or by entering manually.

Nutrition is more than just obtaining nutrients and calories from food. It's more than just eating the healthy stuff. It's more than just following the most recent fad diet. Nutrition, the food we eat and the way we eat it, is an integral part of life. Nutrition is an experience. It evokes memories, helps us celebrate good times, and is there for us in times of grief. I believe the purpose of nutrition is to nourish the body and soul.

The Nutrition Assistant Application helps the users to eat nutritional rich food which yield to lead a healthy life.

IDENTIFIER	REQUIREMENTS
1. Add health information	This application will allow to add healthrelated information of the user.
2. Delete health information	This application will allow to delete theunwanted details about their health.
3. Categories of nutritional food	The categories of food.
4. View of Dashboard	Application will allow user to view thedashboard containing nutrition details.
5. Mail Notification	This application will allow to send mail notification to user when there are any issues regarding their health
6. Tracking System	The health can be tracked with this application.
7. Graph analysis	This application will demonstrate health condition by means of nutritional content
8. Identifying the high calorie food	The high calorie ingredients will be shown via this application.
9. Identifying the low calorie food	The high calorie ingredients will be shown via this application.
10. Passcode	This application has the option to set a passcode to keep their medical reports safe.
12. Add multiple accounts	This application has the option of creating multiple accounts for the users.
13. Selection of health report duration	This application has the ability to select the duration for displaying the health report as weekly or monthly.
14. Update account	This application will allow the user to updatetheir profile.

15. Add account	This application will allow the user to add their profile.
16. Delete account	This application will allow the user to deletetheir profile.
17. PDF report	This application will generate the pdf reportof medical analysis.
18. Pupation of nutritional trends	This application will allow constant review of nutritional trends and pupation.

Non-Functional Requirements

FR No.	Non-Functional Requirement	Description
NFR - 1	Usability	User can recognize their nutrition value by their uploaded picture Which helps to understand their nutrition details in easy manner.
NFR - 2	Security	We only store the information needed to save user. Application also has a security feature that lets users set a password to access their account.
NFR - 3	Reliability	The database update process can rollback to all related details in case of problem arise in updating
NFR - 4	Performance	The application can perform well user can experience the fast while using the application
NFR- 5	Availability	This application could provide better access to improve user
NFR- 6	Scalability	This application can able to with stand many number of users

PROJECT DESIGN

Template

Customer experience journey map

Use this framework to better understand customer needs, motivations, and obstacles by illustrating a key scenario or process from start to finish. When possible, use this map to document and summarize interviews and observations with real people rather than relying on your hunches or assumptions.

Product School

Share this link: [https://www.product-school.com/customer-experience-journey-map](#)

Visual notes

Hand-drawn notes and sketches for the Customer Experience Journey Map template.

Document an existing experience

Assume your team is a specific customer or process within an existing product or service. In the Steps row, document the steps by way personas can easily logically experience, then add data to each of the other rows.

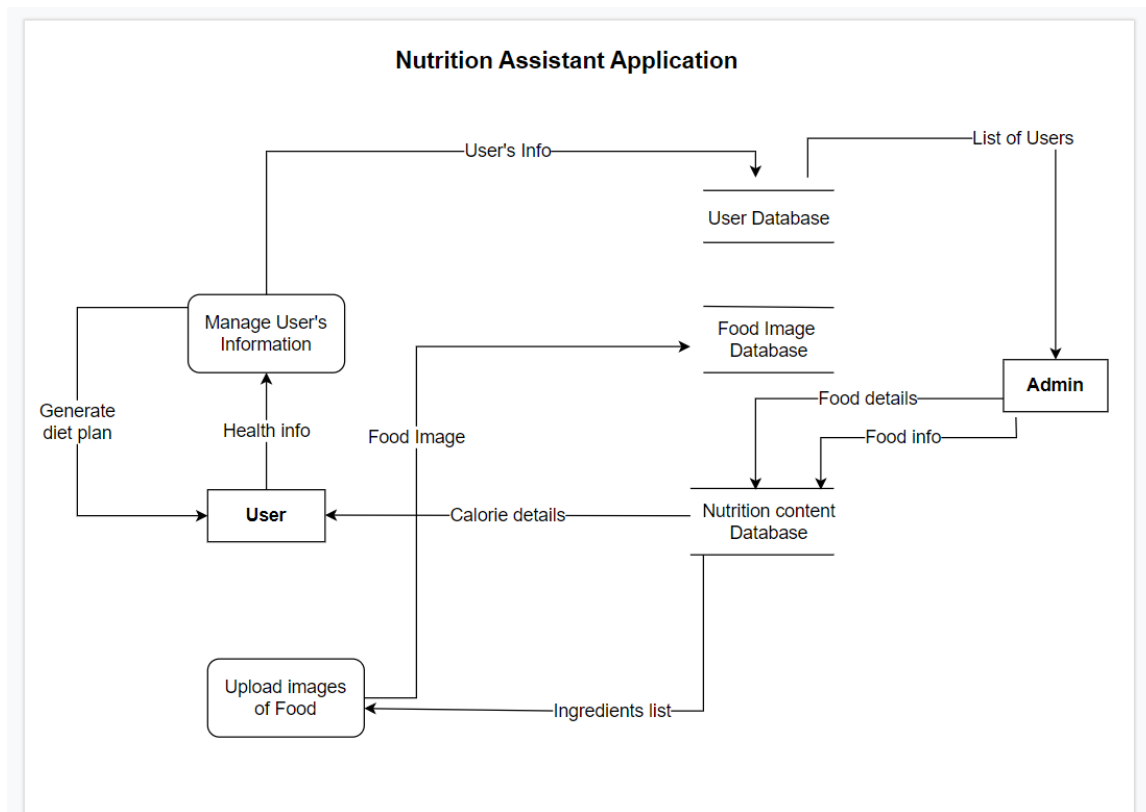
Use this framework to better understand customer needs, motivations, and obstacles by illustrating a key scenario or process from start to finish. When possible, use this map to document and summarize interviews and observations with real people rather than relying on your hunches or assumptions.

Initiation	Entice	Enter	Engage	Exit	Extend
<p>Initiation</p> <p>Reviewing, looking, identifying, searching, or looking for new</p>	<p>Entice</p> <p>What does current activity inspire means of engagement?</p>	<p>Enter</p> <p>What do people experience as they begin the process?</p>	<p>Engage</p> <p>What are moments in the process when things happen?</p>	<p>Exit</p> <p>What do people feel about experiences at the process' end?</p>	<p>Extend</p> <p>What happens after the experience is over?</p>
<p>Steps</p> <p>What does the process (or person) logically experience?</p>	<p>What does the process (or person) logically experience?</p>	<p>What does the process (or person) logically experience?</p>	<p>What does the process (or person) logically experience?</p>	<p>What does the process (or person) logically experience?</p>	<p>What does the process (or person) logically experience?</p>
<p>Interactions</p> <p>What interactions do they have in each step (what they want)?</p> <ul style="list-style-type: none"> People: Who do they want to talk to? Places: Where are they? Things: What digital landscape or physical objects would they use? 	<p>What interactions do they have in each step (what they want)?</p>	<p>What interactions do they have in each step (what they want)?</p>	<p>What interactions do they have in each step (what they want)?</p>	<p>What interactions do they have in each step (what they want)?</p>	<p>What interactions do they have in each step (what they want)?</p>
<p>Goals & motivations</p> <p>At each step, what is a person's primary goal or motivation? (What do they want to do?)</p>	<p>At each step, what is a person's primary goal or motivation? (What do they want to do?)</p>	<p>At each step, what is a person's primary goal or motivation? (What do they want to do?)</p>	<p>At each step, what is a person's primary goal or motivation? (What do they want to do?)</p>	<p>At each step, what is a person's primary goal or motivation? (What do they want to do?)</p>	<p>At each step, what is a person's primary goal or motivation? (What do they want to do?)</p>
<p>Positive moments</p> <p>What steps does a person find enjoyable, productive, fun, interesting, and great or exciting?</p>	<p>What steps does a person find enjoyable, productive, fun, interesting, and great or exciting?</p>	<p>What steps does a person find enjoyable, productive, fun, interesting, and great or exciting?</p>	<p>What steps does a person find enjoyable, productive, fun, interesting, and great or exciting?</p>	<p>What steps does a person find enjoyable, productive, fun, interesting, and great or exciting?</p>	<p>What steps does a person find enjoyable, productive, fun, interesting, and great or exciting?</p>
<p>Negative moments</p> <p>What steps does a person find frustrating, confusing, boring, empty, or uninteresting?</p>	<p>What steps does a person find frustrating, confusing, boring, empty, or uninteresting?</p>	<p>What steps does a person find frustrating, confusing, boring, empty, or uninteresting?</p>	<p>What steps does a person find frustrating, confusing, boring, empty, or uninteresting?</p>	<p>What steps does a person find frustrating, confusing, boring, empty, or uninteresting?</p>	<p>What steps does a person find frustrating, confusing, boring, empty, or uninteresting?</p>
<p>Areas of opportunity</p> <p>How might we make each step better? What ideas do we have? What have others suggested?</p>	<p>How might we make each step better? What ideas do we have? What have others suggested?</p>	<p>How might we make each step better? What ideas do we have? What have others suggested?</p>	<p>How might we make each step better? What ideas do we have? What have others suggested?</p>	<p>How might we make each step better? What ideas do we have? What have others suggested?</p>	<p>How might we make each step better? What ideas do we have? What have others suggested?</p>

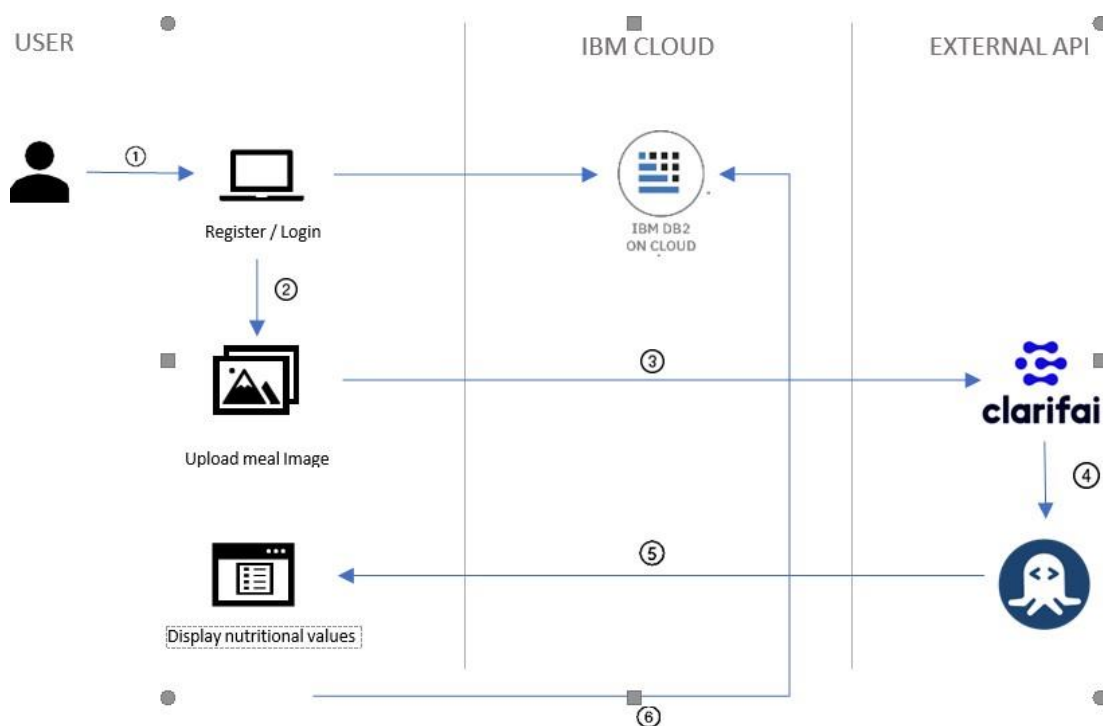
Visual notes

Hand-drawn notes and sketches for the Customer Experience Journey Map template.

Data Flow Diagram:



Technology Architecture:



Guidelines:

- 1) To use the app the user must register/login.
- 2) After successful registration/login, the user can upload the meal image.
- 3) Using Clarifai AI-Driven API the name of the meal will be identified.
- 4) The identified name will be sent to Nutrition API using Flask.
- 5) Using Nutrition API, the nutritional value of the meal will be obtained and displayed in the UI using Flask.
- 6) The diet history will be added to the database to track their daily calorie intake.

PROJECT PLANNING & SCHEDULING

Milestone and Activity List:

TITLE	DESCRIPTION	DATE
Literature Survey & Information Gathering	Literature survey on the selected project & gathering information by referring to technical papers, research publications etc.	28 OCTOBER 2022
Prepare Empathy Map	Prepare Empathy Map Canvas to capture the user Pains & Gains, Prepare list of problem statements	2 NOVEMBER 2022
Ideation	List them by organizing the brainstorming session and prioritize the top 3 ideas based on feasibility & importance.	2 NOVEMBER 2022
Proposed Solution	Prepare the proposed solution document, which includes the novelty, feasibility of idea, business model, social impact, scalability of solution, etc.	6 NOVEMBER 2022
Problem Solution Fit	Prepare problem - solution fit document.	6 NOVEMBER 2022
Solution Architecture	Prepare a solution architecture document.	6 NOVEMBER 2022

Customer Journey	Prepare the customer journey maps to understand the user interactions & experiences with the application (entry to exit).	8 NOVEMBER 2022
Functional Requirement	Prepare the functional requirement document.	9 NOVEMBER 2022
Data Flow Diagrams	Draw the data flow diagrams and submit for review.	9 NOVEMBER 2022
Technology Architecture	Prepare the technology architecture diagram.	9 NOVEMBER 2022
Prepare Milestone & Activity List	Prepare the milestones & activity list of the project.	11 NOVEMBER 2022
Prepare Sprint Delivery Plan	Prepare the Sprint Delivery Plan of the project.	11 NOVEMBER 2022
Project Development - Delivery of Sprint-1, 2, 3 & 4	Develop & submit the developed code by testing it.	IN PROGRESS...

Sprint Delivery Plan:**Product Backlog, Sprint Schedule, and Estimation**

Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task	Story Points	Priority	Team Members
Sprint-1	User Panel	USN-1	The user will login into the website and go through the products available on the website.	2	High	Soundarya R Roopa Shree V Bharath M Vignesh R
Sprint-2	Admin Panel	USN-2	The role of the admin is to check out the database about the stock and have a track of all the things that the users are purchasing.	2	High	Soundarya R Roopa Shree V Bharath M Vignesh R
Sprint-3	Dash Board	USN-3	In business computer information systems, a dashboard is a type of graphical user interface which often provides at-a-glance views of key performance indicators (KPIs) relevant to a particular objective or business process. In other usage, "dashboard" is another name for "progress report" or "report" and considered a form of data visualization.	2	High	Soundarya R Roopa Shree V Bharath M Vignesh R

Sprint-4	Final Delivery	USN-4	Container of applications using docker Kubernetes and development the application. Create the documentation andfinal submit the application	2	High	Soundarya R Roopa Shree V Bharath M Vignesh R
----------	----------------	-------	---	---	------	--

Project Tracker, Velocity & Burndown Chart:

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	29 Oct 2022
Sprint-2	20	6 Days	31 Oct 2022	05 Nov 2022	20	05 Nov 2022
Sprint-3	20	6 Days	07 Nov 2022	12 Nov 2022	20	12 Nov 2022
Sprint-4	20	6 Days	14 Nov 2022	19 Nov 2022	20	19 Nov 2022

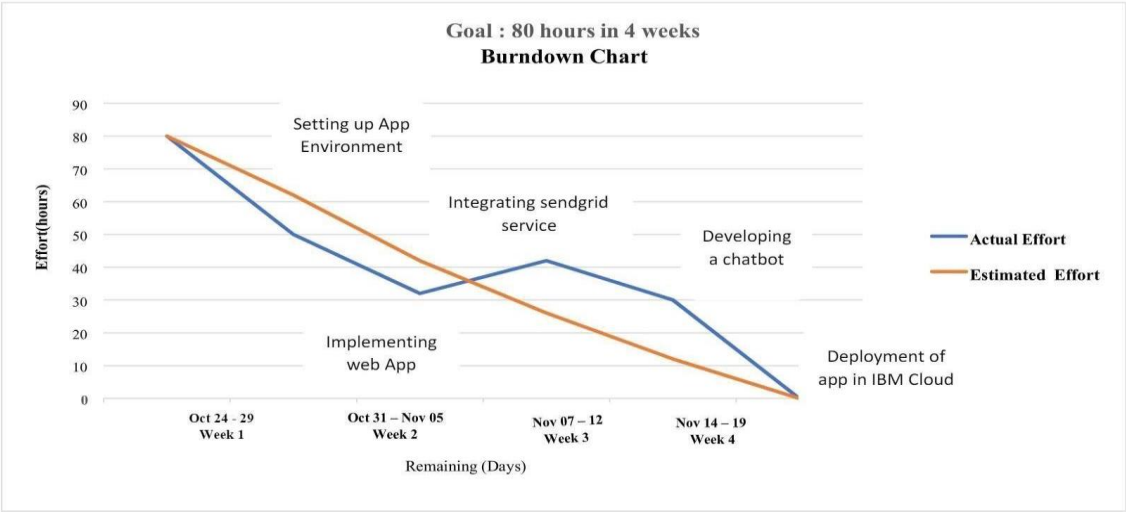
Velocity:

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)

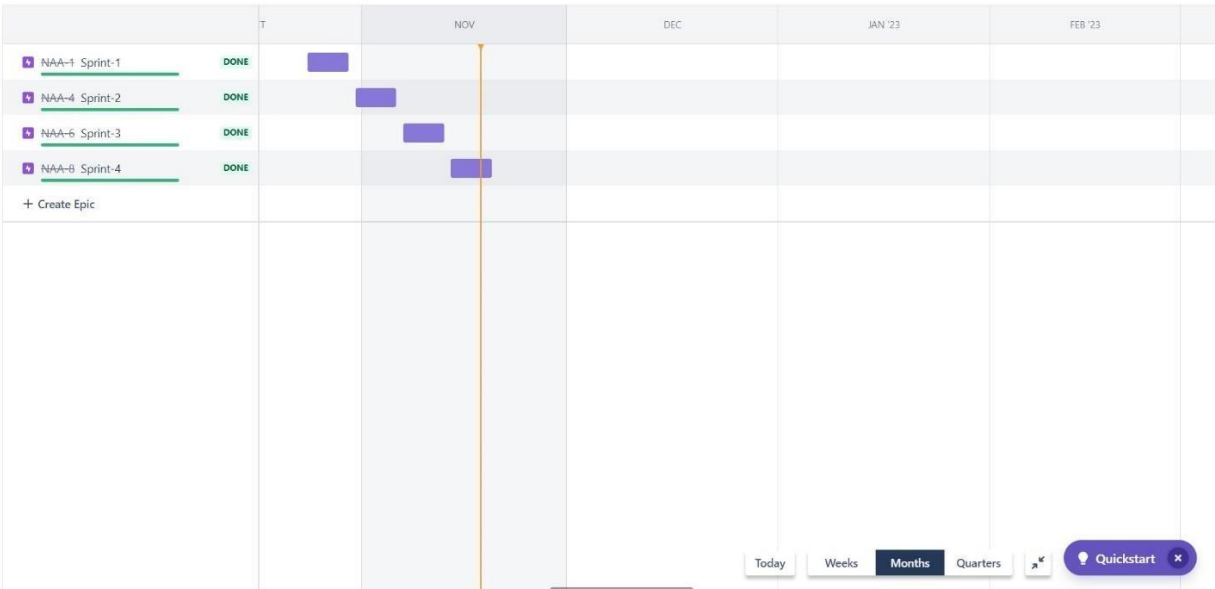
$$AV = \frac{\text{sprint duration}}{\text{velocity}} = \frac{20}{10} = 2$$

Burndown Chart

A burn down chart is a graphical representation of work left to do versus time. It is often used in agile software development methodologies such as Scrum. However, burn down charts can be applied to any project containing measurable progress over time.



Reports from JIRA:



CODING AND SOLUTIONING

Python code:**nutrition.py**

```
from flask import Flask, render_template, request, redirect, url_for, session, flash
import ibm_db
import re
import requests
from random import *
from clarifai_grpc.grpc.api import service_pb2, resources_pb2
from clarifai_grpc.grpc.api.status import status_code_pb2
from clarifai_grpc.channel.clarifai_channel import ClarifaiChannel
from clarifai_grpc.grpc.api import service_pb2_grpc
from flask_mail import Mail, Message
import os
from flask_mail import Mail, Message
app = Flask(__name__)

mail = Mail(app) # instantiate the mail class
# configuration of mail
app.config['MAIL_SERVER']='smtp.gmail.com'
app.config['MAIL_PORT'] = 465
app.config['MAIL_USERNAME'] = 'nassistant.gans@gmail.com'
app.config['MAIL_PASSWORD'] = 'ddlomuragdcdyojh'
```

```
app.config['MAIL_USE_TLS'] = False
app.config['MAIL_USE_SSL'] = True
mail = Mail(app)
otp = randint(000000,999999)
```

```
from clarifai_setup import (
    DOG_IMAGE_URL,
    GENERAL_MODEL_ID,
    NON_EXISTING_IMAGE_URL,
    RED_TRUCK_IMAGE_FILE_PATH,
    both_channels,
    metadata,
    raise_on_failure,
    post_model_outputs_and_maybe_allow_retries,
)
```

```
def test_predict_image_url():
    stub = service_pb2_grpc.V2Stub(ClarifaiChannel.get_grpc_channel())

    req = service_pb2.PostModelOutputsRequest(
        model_id=GENERAL_MODEL_ID,
        inputs=[
            resources_pb2.Input(
                data=resources_pb2.Data(image=resources_pb2.Image(url=DOG_IMAGE_URL))
            )
        ],
```

)

```
response = post_model_outputs_and_maybe_allow_retries(stub, req,
metadata=metadata())
```

```
print(response)
```

```
raise_on_failure(response)
```

```
assert len(response.outputs[0].data.concepts) > 0
```

```
app.secret_key = 'a'
```

```
conn = ibm_db.connect("DATABASE=bludb;HOSTNAME=824dfd4d-99de-440d-
9991-
629c01b3832d.bs2io90l08kqb1od8lcg.databases.appdomain.cloud;PORT=30119;S
ecurity=SSL;SSLServerCertificate=DigiCertGlobalRootCA.crt;UID=lbs14903;PW
D=1N4walQ5ywwiwP7c;","")
```

```
picsfolder = os.path.join('static','pics')
```

```
app.config['UPLOAD_FOLDER']=picsfolder
```

```
@app.route('/')
```

```
@app.route('/homepage')
```

```
def homepage():
```

```
    icon = os.path.join(app.config['UPLOAD_FOLDER'],'icon.gif')
```

```
    return render_template('homepage.html',user_image=icon)
```

```
@app.route('/about')
```

```

def about():
    icon = os.path.join(app.config['UPLOAD_FOLDER'],'icon.gif')
    return render_template('about.html',user_image=icon)


@app.route('/login', methods =['GET', 'POST'])
def login():
    msg=""
    if request.method=='POST' and 'username' in request.form and 'passwords' in request.form:
        username = request.form['username']
        passwords = request.form['passwords']
        stmt = ibm_db.prepare(conn,'SELECT * FROM appuser WHERE username = ? AND passwords = ?')
        ibm_db.bind_param(stmt,1,username)
        ibm_db.bind_param(stmt,2,passwords)
        ibm_db.execute(stmt)
        account=ibm_db.fetch_assoc(stmt)
        if account:
            session['loggedin'] = True
            session['username'] = account['USERNAME']
            msg='Login successful'
            return redirect(url_for('userprofile'))
        else:
            msg='Incorrect username/password'
    return render_template('login.html',msg=msg)


@app.route('/logout')

```



```
def logout():
    if 'id' in session:
        session.pop('id',None)
        session.pop('username',None)
        session.pop('passwords',None)
    return redirect(url_for('homepage'))
```

```
@app.route('/register', methods =['GET', 'POST'])
```

```
def register():
    msg = "
    if request.method == 'POST':
        username = request.form['username']
        fullname = request.form['fullname']
        email = request.form['email']
        passwords = request.form['passwords']
        cpassword = request.form['cpassword']
        stmt = ibm_db.prepare(conn,'SELECT * FROM appuser WHERE username =
?')
        ibm_db.bind_param(stmt,1,username)
        ibm_db.execute(stmt)
        account = ibm_db.fetch_assoc(stmt)
        if account:
            msg = 'Account already exists !'
        elif not re.match(r'^[a-zA-Z0-9]+@[a-zA-Z0-9]+\.[a-zA-Z0-9]+$', email):
            msg = 'Invalid email address !'
        elif not re.match(r'[A-Za-z0-9]+$', username):
            msg = 'Username must contain only characters and numbers !'
```

```

elif not username or not passwords or not email:
    msg = 'Please fill out the form !'
else:
    prep_stmt = ibm_db.prepare(conn,"INSERT INTO appuser(username,
fullname, email, passwords, cpassword) VALUES(?, ?, ?, ?, ?)")
    ibm_db.bind_param(prepare_stmt, 1, username)
    ibm_db.bind_param(prepare_stmt, 2, fullname)
    ibm_db.bind_param(prepare_stmt, 3, email)
    ibm_db.bind_param(prepare_stmt, 4, passwords)
    ibm_db.bind_param(prepare_stmt, 5, cpassword)
    ibm_db.execute(prepare_stmt)
    msg = 'You have successfully registered !'
    return render_template('email.html')

elif request.method == 'POST':
    msg = 'Please fill out the form !'
    return render_template('registration.html', msg = msg)

@app.route('/userprofile', methods =['GET', 'POST'])
def userprofile():
    if 'username' in session:
        username = session['username']
        stmt = ibm_db.prepare(conn, 'SELECT * FROM appuser WHERE username =
?')
        ibm_db.bind_param(stmt, 1, username)
        ibm_db.execute(stmt)
        acc = ibm_db.fetch_tuple(stmt)

        return render_template('userprofile.html',username = acc[1], fullname = acc[2],
email = acc[3],)

```

```
return render_template('userprofile.html')
```

```
@app.route('/updateprofile', methods=['GET', 'POST'])
```

```
def updateprofile():
```

```
    msg = "
```

```
    if request.method == 'POST':
```

```
        username=request.form["username"]
```

```
        height = request.form['height']
```

```
        weight = request.form['weight']
```

```
        gender = request.form['gender']
```

```
        blood = request.form['blood']
```

```
        prep_stmt = ibm_db.prepare(conn,"INSERT INTO userdetail(username,  
height, weight, gender, blood) VALUES(?, ?, ?, ?, ?)")
```

```
        ibm_db.bind_param(prepare_stmt, 1, username)
```

```
        ibm_db.bind_param(prepare_stmt, 2, height)
```

```
        ibm_db.bind_param(prepare_stmt, 3, weight)
```

```
        ibm_db.bind_param(prepare_stmt, 4, gender)
```

```
        ibm_db.bind_param(prepare_stmt, 5, blood)
```

```
        ibm_db.execute(prepare_stmt)
```

```
        return redirect(url_for('detail'))
```

```
return render_template('updateprofile.html')
```

```
@app.route('/detail', methods=['GET', 'POST'])
```

```
def detail():
```

```
    if 'username' in session:
```

```
        username = session['username']
```

```

    stmt = ibm_db.prepare(conn, 'SELECT * FROM userdetail WHERE username
= ?')
    ibm_db.bind_param(stmt, 1,username)
    ibm_db.execute(stmt)
    acc = ibm_db.fetch_tuple(stmt)
    return render_template('detail.html',height = acc[2], weight = acc[3], gender =
acc[4], blood = acc[5])
    return render_template('detail.html')

```

```

@app.route('/window', methods=['POST', 'GET'])
def window():

```

```

# Calorie Ninja

```

```

url = "https://calorieninjas.p.rapidapi.com/v1/nutrition"

```

```

headers = {
    "X-RapidAPI-Key":
"aa95b88b45mshe4394a422ce8c48p13a698jsn9d8eb019e144",
    "X-RapidAPI-Host": "calorieninjas.p.rapidapi.com"
}

```

```

if request.method == 'POST':
    foodname = request.form['foodname']

    querystring = {"query": foodname}
    response = requests.request(
        "GET", url, headers=headers, params=querystring)

```

```
return response.text
```

```
return render_template('window.html')
```

```
@app.route('/window', methods=['POST', 'GET'])
```

```
def clarifai():
```

```
    if request.files.get('image'):
```

```
        image = request.files['image'].stream.read()
```

```
        stub = service_pb2_grpc.V2Stub(ClarifaiChannel.get_grpc_channel())
```

```
CLARIFAI_API_KEY = "04fe7a95051541789ba44a08eaa5722e"
```

```
APPLICATION_ID = "Nutrition_Assistant1"
```

```
# Authenticate
```

```
# image = '/home/bala/Desktop/Images/foodsample.jpeg'
```

```
metadata = (("authorization", f"Key {CLARIFAI_API_KEY}"),)
```

```
with open(image, "rb") as f:
```

```
    file_bytes = f.read()
```

```
request = service_pb2.PostModelOutputsRequest(
```

```
    model_id='9504135848be0dd2c39bdab0002f78e9',
```

```
    inputs=[
```

```
        resources_pb2.Input(
```

```

        data=resources_pb2.Data(
            image=resources_pb2.Image(
                base64=file_bytes
            )
        )
    )
D)
response = stub.PostModelOutputs(request, metadata=metadata)

if response.status.code != status_code_pb2.SUCCESS:
    raise Exception("Request failed, status code: " +
                    str(response.status.code))

for concept in response.outputs[0].data.concepts:
    print('%12s: %.2f' % (concept.name, concept.value))

return render_template('window.html')

@app.route('/verify', methods=['GET', 'POST'])
def verify():
    if request.method == 'POST':
        email1 = request.form['email1']
        sql = "SELECT * FROM email WHERE email1 = ? "
        stmt = ibm_db.prepare(conn,sql)
        ibm_db.bind_param(stmt,1,email1)
        ibm_db.execute(stmt)
        account = ibm_db.fetch_tuple(stmt)

```

```

print(account)
if account:
    msg = 'Account already exists !'
else:
    insert_sql = "INSERT INTO email(email1) VALUES(?)"
    stmt = ibm_db.prepare(conn,insert_sql)
    ibm_db.bind_param(stmt, 1, email1)
    ibm_db.execute(stmt)
    msg = Message('NUTRITION ASSISTANT',sender
='nassistant.gans@gmail.com',recipients = [email1])
    msg.body = 'Hello user,THIS IS YOUR ONE TIME PASSWORD'
    msg.body = str(otp)
    mail.send(msg)
    return render_template('verify.html')
return render_template('email.html')

```

```

@app.route('/validate',methods=['GET', 'POST'])
def validate():
    user_otp = request.form['otp']
    if otp == int(user_otp):
        return render_template('login.html')
    return render_template('verify.html')

```

```

@app.route('/services')
def services():
    icon = os.path.join(app.config['UPLOAD_FOLDER'],'icon.gif')
    return render_template('services.html',user_image=icon)

```

```
if __name__ == '__main__':  
    app.debug = True  
    app.run(host='0.0.0.0',port=8080)
```

Feature 1

homepage.html

```
<!DOCTYPE html>  
  
<html lang="en">  
  
<head>  
  
    <meta charset="UTF-8">  
  
    <title>Nutrition Assistant Application</title>  
  
    <link  
href="https://fonts.googleapis.com/css2?family=Poppins:wght@400;600;700;900&d  
isplay=swap" rel="stylesheet">  
    <link rel="stylesheet" href="/static/homepage.css">  
</head>  
  
<body>  
  
    <!--   
  
    <header >  
  
    <div class="wrapper">  
  
        <div class="logo">  
              
        </div>  
        <ul class="nav-area">  
            <li><a href="{{ url_for('homepage') }}">Home</a></li>  
            <li><a href="{{ url_for('about') }}">About</a></li>  
            <li><a href="{{ url_for('services') }}">Services</a></li>  
            <li><a href="{{ url_for('login') }}">Login</a></li>
```


register

</div>

<div class="welcome-text">

<h1>

NUTRITION
 ASSISTANT</h1>

</div>

</header>

</body>

</html>

Feature 2

registration.html

```
<!DOCTYPE html>

<html lang="en" dir="ltr">
<head>
  <meta charset="UTF-8">
  <link rel="stylesheet" href="/static/registration.css">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
</head>
<body>
  <div class="container">
    {{ msg }}
    <div class="title">Registration</div>
    <div class="content">
      <form action="{ { url_for('register') } }" method="POST" class="login-email">
        <div class="user-details">
          <div class="input-box">
            <span class="details">Full Name</span>
            <input type="text" placeholder="Enter your name" name="fullname">
          </div>
          <div class="input-box">
            <span class="details">Username</span>
            <input type="text" placeholder="Enter your username" name="username">
          </div>
          <div class="input-box">
            <span class="details">Email</span>
            <input type="text" placeholder="Enter your email" name="email">
          </div>

          <div class="input-box">
```

Password

<input type="password" placeholder="Enter your password" name="passwords">

</div>

<div class="input-box">

Confirm Password

<input type="password" placeholder="Confirm your
password" name="cpassword">

</div>

</div>

<div class="button">

<input type="submit" href="{{ url_for('register') }}" value="Register">

<p class="bottom">Already have an account? Login here</p>

</div>

</form>

</div>

</div>

</body>

</html>

Feature 3

login.html

```
<!DOCTYPE html>
<html lang="en" dir="ltr">
  <head>
    <meta charset="UTF-8">
    <link rel="stylesheet" href="/static/registration.css">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
  </head>
  <body>
    <div class="container">
      {{ msg }}
```

```

<div class="title">Login</div>
<div class="content">
  <form action="{ { url_for('login') } }" method="POST" class="login-email">
    <div class="user-details">
      <div class="input-box">
        <span class="details">Username</span>
        <input type="text" placeholder="Enter your username" name="username">
      </div>
      <div class="input-box">
        <span class="details">Password</span>
        <input type="password" placeholder="Enter your password" name="passwords" >
      </div>
    </div>
    <div class="button">
      <input type="submit" value="Login">
      <p class="bottom">Don't have an account? <a
        class="bottom" href="{ { url_for('register') } }"> Sign Up
here</a></p>
    </div>
  </form>
</div>
</body>
</html>

```

Feature 4

userprofile.html

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8" />
  <meta http-equiv="X-UA-Compatible" content="IE=edge,chrome=1">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>User Profile Page</title>
<meta name="author" content="Codeconvey" />
<link
href="https://fonts.googleapis.com/css?family=Lato:300,400,700,900&display=sw
ap" rel="stylesheet"><link rel='stylesheet'
href='https://cdnjs.cloudflare.com/ajax/libs/twitter-
bootstrap/4.1.3/css/bootstrap.min.css'>
<link          rel='stylesheet'
                href='https://cdnjs.cloudflare.com/ajax/libs/font-
awesome/5.12.1/css/all.min.css'>

  <link rel="stylesheet" href="/static/userprofile1.css" />

  <link rel="stylesheet" href="/static/userprofile2.css">
</head>
<body>

  <div class="wrapper">
    <div class="logo">
      
    </div>
    <ul class="nav-area">
```

Home
Clarifai AI
update Details
Log Out

</div>

<header class="ScriptHeader">


```

<div class="rt-container">
  <div class="col-rt-12">
    <div class="rt-heading">
      <h1>USER PROFILE PAGE</h1>
    </div>
  </div>
</div>
</header>

<section>
  <div class="rt-container">
    <div class="col-rt-12">
      <div class="Scriptcontent">

<div class="student-profile py-4">
  <div class="container">
    <div class="row">
      <div class="col-lg-12">
        <div class="card shadow-sm">
          <div class="card-header bg-transparent text-center">
            
            <h3>{{ fullname }}</h3>
          </div>
          <div class="card-body text-center">
            <p class="mb-0"><strong class="pr-1">USERNAME:</strong>{{ username
}}</p>
            <p class="mb-0"><strong class="pr-1">EMAIL:</strong>{{ email }}</p>

```


</tr>

<tr>

<th width="30%">Gender</th>

```
<td width="2% ">:</td>
<td>{ { gender} }</td>
</tr>
<tr>
<th width="30% ">Blood</th>
<td width="2% ">:</td>
<td>{ { blood} }</td>
</tr>
</table>
</div>
</div>
```

```
<div style="height: 26px"></div>
<div class="card shadow-sm">
<div class="card-header bg-transparent border-0">
<h3 class="mb-0"><i class="far fa-clone pr-1"></i>Daily Activity</h3>
</div>
<div class="card-body pt-0">
<p>Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod
tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis
nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat.</p>
</div>
</div>
</div>
</div>
</div>
</div>
```

</div>

</div>

</div>

</section>

-->

<!-- Analytics -->

</body>

</html>

Feature 5

updateprofile.html

```
<!DOCTYPE html>
<html lang="en" dir="ltr">
  <head>
    <meta charset="UTF-8">
    <link rel="stylesheet" href="/static/registration.css">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">

  </head>
  <body>
    <div class="container">
      <div class="title">update</div>
      <div class="content">
        <form action="{ { url_for('updateprofile') } }" method="POST" class="login-email">
          <div class="user-details">
            <div class="input-box">
              <span class="details">Username</span>
              <input type="text" placeholder="Enter your height" name="username">
            </div>
            <div class="input-box">
              <span class="details">Height</span>
              <input type="text" placeholder="Enter your height" name="height">
            </div>
            <div class="input-box">
              <span class="details">Weight</span>
              <input type="text" placeholder="Enter your weight" name="weight">
            </div>
          </div>
        </form>
      </div>
    </div>
  </body>
</html>
```

```
<div class="input-box">
  <span class="details">Gender</span>
  <select name="gender">
    <option value="Male">Male</option>
    <option value="Female">Female</option>
  </select>
</div>
```

```
<div class="input-box">
  <span class="details">Blood</span>
  <input type="text" placeholder="Enter your Blood group" name="blood">
</div>
```

```
</div>
<span>{{ msg }}</span>
<div class="button">
  <input type="submit" href="{{ url_for('userprofile') }}" value="update">
```

```
</div>
</form>
</div>
</div>
```

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

Feature 6

verify.html

```
<!DOCTYPE html>

<html>

<head>

  <title>index</title>

</head>

<body>

  <style>
```

```
                                @import
url("https://fonts.googleapis.com/css2?family=Sansita+Swashed:wght@600&display
=sw ap");
```

```
body {

  margin: 0;
  padding: 0;
  box-sizing: border-
  box;display: flex;
  justify-content:
  center;align-items:
  center; height:
  100vh;
  background: linear-gradient(45deg, #9b59b6,
  #71b7e6);font-family: cursive;
```

```
}
```

```
.center {
  position: relative;
  padding: 50px
```



```
50px;background:
#fff; border-
radius: 10px;
}
.center h1 {
font-size:
2em;
border-left: 5px solid
dodgerblue;padding: 10px;
color: #000;
letter-spacing: 5px;
margin-bottom:
60px;font-weight:
bold; padding-left:
10px;
}

.center .inputbox
{ position:
relative;width:
300px; height:
50px;
margin-bottom: 50px;
}

.center .inputbox input
{ position: absolute;
top: 0;
left: 0;
width: 100%;
border: 2px solid
```

```
#000;outline: none;
background: none;
padding: 10px;
border-radius:
10px;font-size:
1.2em;
}
.center .inputbox:last-
child { margin-bottom: 0;
}
.center .inputbox span
{position: absolute;
top: 14px;
left: 20px;
font-size:
1em;
transition:
0.6s;
font-family: sans-serif;
}
.center .inputbox input:focus ~ span,
.center .inputbox input:valid ~ span {
transform: translateX(-13px) translateY(-
35px);font-size: 1em;
}
.center .inputbox
[type="button"] { width: 50%;
background:
dodgerblue;color: #fff;
```

```
border: #fff;
}
.center .inputbox:hover [type="button"] {
background: linear-gradient(45deg, #71b7e6, #9b59b6);
}
</style>
<form action = "{{ url_for('validate') }}" method="post">
<div class="center">
<h1>Please enter your OTP here!!</h1>

<h3>OTP</h3>
<div class="inputbox">

<input type="text" name="otp">

</div>
<div class="inputbox">
```

```
<input type="submit" value="submit" value="Continue">
</div>
```

```
</div>
</form>
</body>
</html>
```

TESTING

Test case ID	Test Scenario	Expected Result	Status
Home_TC_OO1	Verify user is able to see the Login button	Login button is displayed	Pass
Home_TC_OO2	Verify whether register button works	Redirected to registration page	Pass
Home_TC_OO3	Verify whether login button works	Redirected to login page	Pass
Home_TC_OO4	Verify whether service button works	Redirected to support page	Pass
Registration_TC_OO1	Verify the registration credentials valid or not	Application should show below UI elements: a.fullname box b.email text box - mandatory field c.Password textbox - mandatory field with minimum 5 characters with atleast 1 alphabet and 1 number no special characters allowed d.Confirm password text box - mandatory field e.Register button	Pass
Registration_TC_OO2	Verify whether register button works	Redirects to Email verification page	Pass
Registration_TC_OO3	Verify whether the page will redirect to login page if account already registered	Redirects to Login page	Pass
Profileupdataion_TC_OO1	Verify user is able to see profile updataion credentials	1.Verify personal details page with below UI elements: a.Height text box - mandatory field b.Weight textbox- mandatory field c.Gender text box - mandatory field d.Blood text box - mandatory field	Pass
Profileupdataion_TC_OO2	Verify whether proceed to Update button works	Redirects to User profile page	Pass
Login_TC_OO1	Verify whether user is able to see email and password text box	User should navigate to user account homepage	Pass
Login_TC_OO2	Verify user is able to log into application with Valid credentials	Application redirects to Userprofile	Pass
Login_TC_OO3	Verify user is able to log into application with Invalid credentials	Application should show 'Incorrect email or password' validation message.	Pass

User Acceptance Testing

Purpose of Document:

The purpose of this document is to briefly explain the test coverage and open issues of the[ProductName] project at the time of the release to User Acceptance Testing (UAT).

Defect Analysis

This report shows the number of resolved or closed bugs at each severity level, and howthey were resolved.

Resolution	Severity 1	Severity 2	Severity 3	Severity 4	Subtotal
By Design	10	4	2	3	18
Duplicate	1	0	3	0	4
External	2	3	0	1	6
Fixed	9	2	4	18	35
Not Reproduced	0	0	1	0	1
Skipped	0	0	1	1	2
Won't Fix	0	5	0	1	8
Totals	22	14	11	24	74

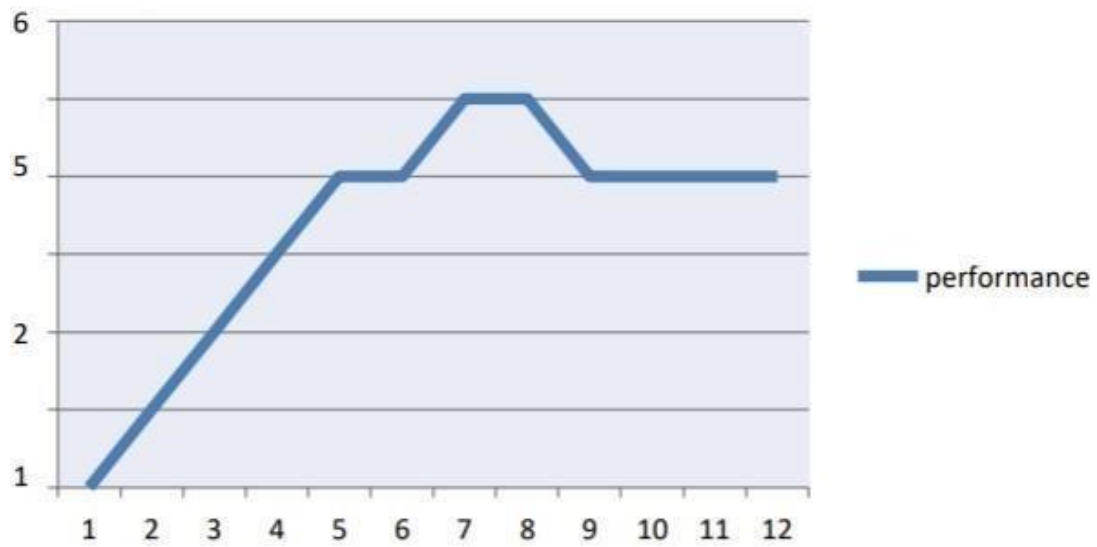
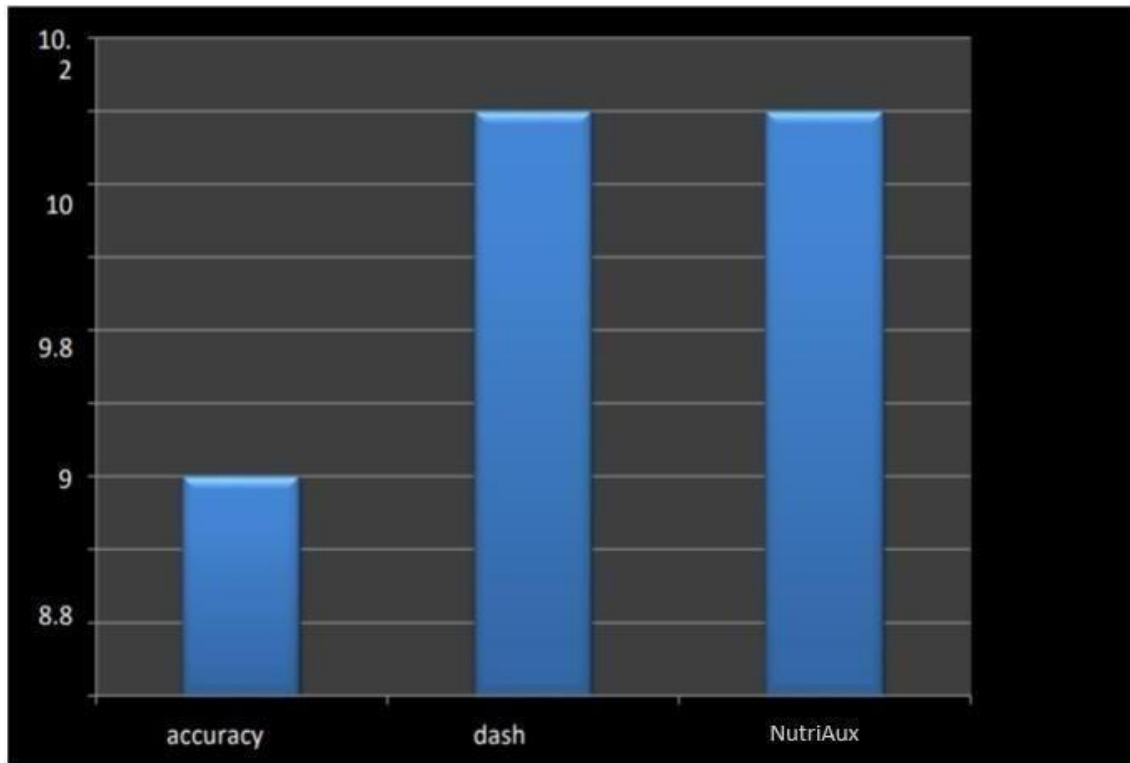
Test Case Analysis

This report shows the number of test cases that have passed, failed, and untested

Section	Total Cases	Not Tested	Fail	Pass
Homepage	5	0	0	5
Login	26	0	0	26
Register	3	0	0	3
Email Verification	3	0	0	3
OTP Verification	9	0	0	9
User Details	5	0	0	5
Clarifai-AI	3	0	0	3

RESULT

Performance Metrics:



ADVANTAGES AND DISADVANTAGES

ADVANTAGES & DISADVANTAGES

Advantages:

- Body mass index (BMI) is a measure of body fat based on height and weight that applies to children and adults. It is calculated by dividing a person's weight (in kilograms) by the square of their height (in meters). BMI is a simple and quick way to assess whether a person is underweight, overweight, or obese. It is used by healthcare professionals to monitor a person's weight and to identify potential health risks. BMI is not a perfect measure of body fat, but it is a useful tool for screening and monitoring.

w their BMI, which will lead the user to decide whether he has to gain weight or lose weight

- User can know their daily calorie intake, which can help them to know amount of calorie they can consume for that particular day.
- The user can upload the image of the meal which will provide them the nutritional value of that particular meal.
- NutriAux is a user friendly and easy to use application.
- The user can track the daily calorie intake which will help them to know their progress towards their fitness goal.

Disadvantages:

- It requires an active internet connection.
- Not all types of foods can be detected correctly by Clarifai Food Detection Model API. ☐ The user cannot update their personal details once it has been registered.

Since obesity rate has become a major problem in this decade, the diet management is very important. The information about the nutritional value of the food that has been printed in the food packages are not convenient to keep track of the daily calorie intake. NutriAux helps in finding the nutritional content present in the food with real time image processing using Clarifai Food Detection Model API and Spoonacular Nutrition API. The user can upload his daily meal image and get the nutritional value. They can also track their daily calorie intake.

CONCLUSION

TURE SCOPE

NutriAux will be upgraded in the following years with the feature of “Profile Updation”.

The user can update his personal details like height, weight and age which will help them to keep track of the daily calorie intake and the BMI. “Dietary Recommendation” facility and “Water Reminder” facility will also be added in the future.

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SOURCE CODE

homepage.html

```
<!DOCTYPE html>
```

```
<html lang="en">
```

```
<head>
```

```
  <meta charset="UTF-8">
```

```
  <title>Nutrition Assistant  
  Application</title>
```

```
<link
```

```
href="https://fonts.googleapis.com/css2?family=Poppins:wght@400;600;700;900&d  
isplay=swap" rel="stylesheet">
```

```
  <link rel="stylesheet" href="/static/homepage.css">
```

```
</head>
```

```
<body>
```

<!-- -->

<header >

<div class="wrapper">

<div class="logo">

</div>

<ul class="nav-area">

Home

Abouta

Services

Login

register

</div>

<div class="welcome-text">

<h1>

NUTRITION
 ASSISTANT</h1>

</div>

</header>

</body>

</html>

Github Link:

<https://github.com/IBM-EPBL/IBM-Project-54256-1661845194>