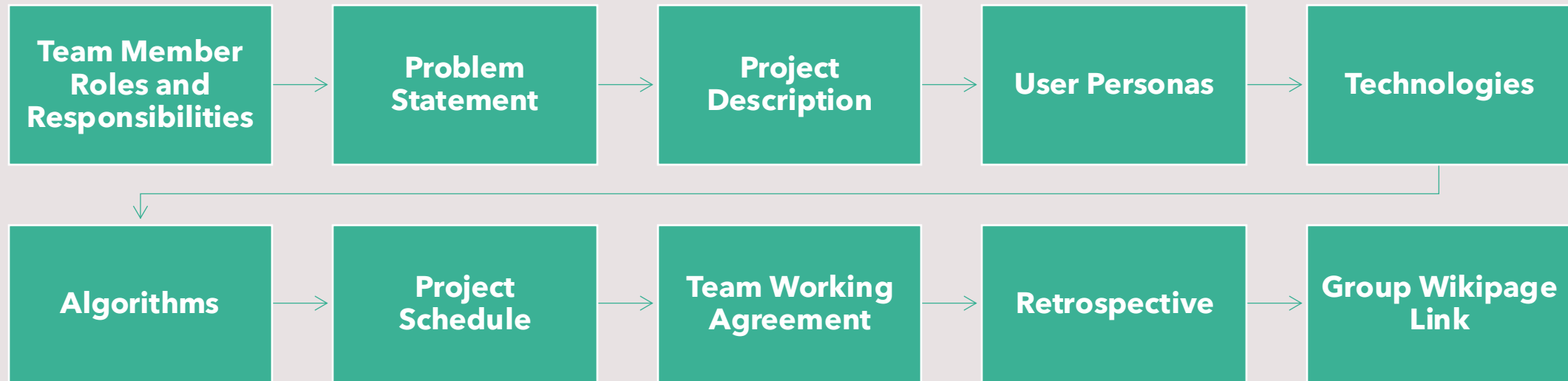


CalorieMate

By Team 3 - The Innovators



Agenda



Team Member Roles and Responsibilities



Ranjitha Durgasi – Frontend
Developer- Team Leader



Nikhitha Reddy
Nallanagula – Frontend
Developer



Harshitha Korapati Murali –
Backend Developer

Team Member Roles and Responsibilities



Sai Bhargav Ram Koduru –
Backend Developer



Saikumar Gone – Machine
Learning Engineer- Scrum
Master



Kariveda Vikranth Reddy –
Machine Learning Engineer

Problem Statement

It is challenging for individuals to monitor daily foods since it demands too much time and energy. Existing nutrition Apps ask you to input all the meals, ingredients, and quantity manually, and it might frustrate or dismay you. Also, for unpackaged food, such as that prepared at home, estimating the calories and nutrition is even more difficult. Unless there's a convenient automatic approach, people quickly abandon adherence to diet guidelines.



Project Description

Project Name:	<u>CalorieMate</u>
Team:	The Innovators
Project Description:	<p>For health-conscious users who want to easily track their food intake and manage their diet, the <u>CalorieMate</u> app is a smart, AI-powered solution that automatically identifies food from photos, calculates nutrition, and offers personalized meal suggestions. Unlike traditional calorie-tracking apps that require manual data entry, our application provides a fast, hassle-free way to track calories and nutrition, saving time and improving accuracy.</p>
Benefit Outcomes:	<ul style="list-style-type: none">• Time Savings: Users can quickly track their meals through photo analysis without manual data entry.• Improved Accuracy: AI provides precise estimates for calories and nutrients, reducing guesswork.• Health Goal Support: Personalized diet plans help users stay on track with their weight loss, muscle gain, or overall wellness goals.• Convenience: Barcode scanning for packaged food makes nutritional tracking fast and effortless.• Consistency: Easy tracking and user-friendly features increase engagement, encouraging long-term healthy habits.
<u>Github Link:</u>	https://github.com/htmw/2025S-The-Innovators/wiki

Persona

Emma Johnson (Fitness Freak)

- Age:** 28
- Occupation:** Marketing Specialist
- Goals:** To build muscle and maintain a healthy diet.
- Challenges:** Finds it time-consuming to manually log every meal and calculate macros (proteins, carbs, fats).
- How CalorieMate Helps:** Emily can take photos of her meals to instantly track nutrients, saving time and keeping her fitness plan on track.



Persona

John Cook (Busy Professional)

- Age:** 35
- Occupation:** Software Engineer
- Goals:** To lose weight and adopt healthier eating habits.
- Challenges:** Limited time to research or record calorie information due to his demanding work schedule.
- How CalorieMate Helps:** The app's photo recognition and barcode scanner allow John to quickly track meals, making calorie management fit seamlessly into his day.



Persona

Kruti Patel (Health-Conscious Parent)

- **Age:** 42
- **Occupation:** Teacher
- **Goals:** To maintain a balanced diet and teach her family healthy eating habits.
- **Challenges:** Difficulties estimating nutritional content of home-cooked meals.
- **How CalorieMate Helps:** Kruti can easily track home-cooked meals using photo recognition and adjust portions to get accurate nutritional insights, helping her plan meals for the entire family.



Technologies

Frontend: Expo (React Native)

Used to build the mobile app for both Android and iOS platforms, ensuring a smooth and consistent user experience across devices.



Technologies

Backend: FastAPI, MongoDB, AWS

- **FastAPI:** Manages API communication between the mobile app, machine learning models, and database.
- **MongoDB:** Stores user data such as meals, nutritional logs, and preferences.
- **AWS:** Provides cloud infrastructure for hosting the app, including APIs, databases, and machine learning services, ensuring scalability and reliability.



Technologies

Machine Learning: PyTorch, Hugging Face

- **PyTorch:** Used to build and deploy AI models for food recognition and nutrition estimation.
- **Hugging Face:** Supplies pre-trained vision-language models (VLM) to improve image recognition accuracy, reducing development time.



Hugging Face

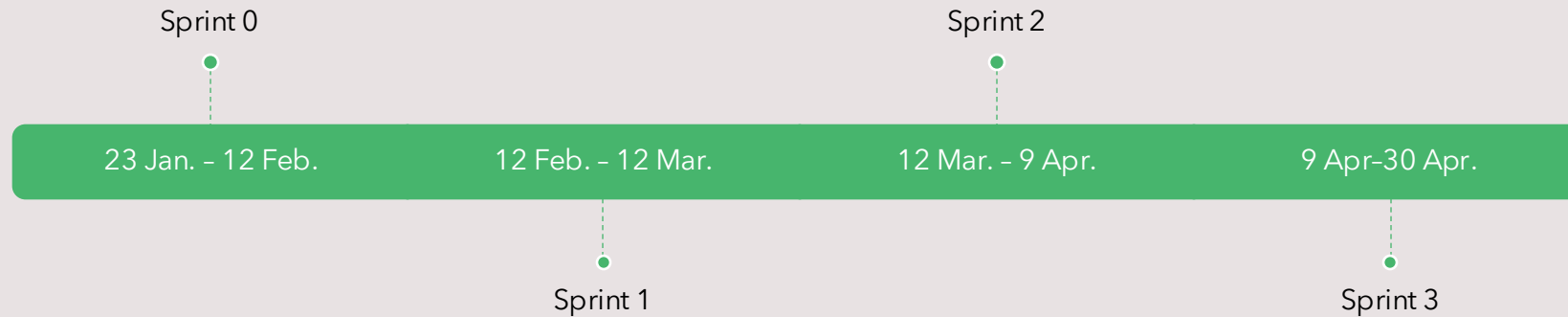


PyTorch

Algorithm

Our application utilizes some important algorithms to automate and enhance the process of calorie and nutrition tracking. The food image recognition algorithm employs the **InstructBLIP** model to process meal images, identify food items, and recognize them with high accuracy. After recognizing the foods, a nutritional estimation algorithm estimates the calories, proteins, carbohydrates, and fats based on nutritional databases and approximate portion sizes.

Project Schedule



Project Schedule

			N	FEB
Sprints				
<input type="checkbox"/>	▼	⚡ SCRUM-1 Sprint 0		
<input checked="" type="checkbox"/>		SCRUM-9 Finalize problem statement and project description	TO DO	
<input checked="" type="checkbox"/>		SCRUM-10 Define user personas	TO DO	
<input checked="" type="checkbox"/>		SCRUM-11 Choose and finalize the tech stack	TO DO	
<input checked="" type="checkbox"/>		SCRUM-12 Define team roles and responsibilities	TO DO	
<input checked="" type="checkbox"/>		SCRUM-13 Establish the Team Working Agreement	TO DO	
<input checked="" type="checkbox"/>		SCRUM-14 Finalize project schedule	TO DO	
<input checked="" type="checkbox"/>		SCRUM-15 Conduct Sprint 0 retrospective and recording	TO DO	
<input type="checkbox"/>		SCRUM-16 Submit Sprint 0 deliverables and update the wiki	TO DO	

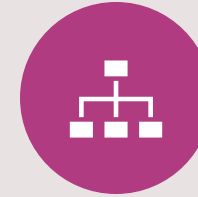
Team Working Agreement



Communication: Lets make sure to share updates and have discussions on platforms like Slack. Make sure to have check ins, such, as weekly stand up meetings or sprint reviews to keep everyone on the same page and working together smoothly. Cooperation;



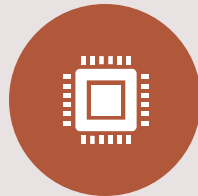
Collaboration: Let's help one another by exchanging information and resources while offering feedback and support to each other. Remember to honor the deadlines and give the team a heads up as soon as any delays or obstacles pop up.



Roles and Responsibilities: Each team member has the task of finishing assignments based on their designated roles in frontend development, backend development, and machine learning. Coordinate with teams to seamlessly incorporate various functionalities.



Decision-Making: Decisions will be collaboratively reached in team gatherings. In situations where there are differences in opinions or views arise among us team members, we go for majority votes.



Deliverables: Each sprint should lead to producing the outcomes like presentations updates, to technical papers and wikis. Make sure to review and test all your work before submitting it for consideration.



Retrospectives: After each sprint is completed it's important to have a session to review the successes and areas for improvement as well as to outline specific steps, for the upcoming sprint.

Agreed by:

- Ranjitha Durgasi
- Nikhitha Reddy Nallanagula
- Harshitha Korapati Murali
- Sai Bhargav Ram Koduru
- Saikumar Gone
- Kariveda Vikranth Reddy

Wikipage Link

<https://github.com/htmhw/2025S-The-Innovators/wiki>