Milestone 1 – Project Proposal

HealthMate

Your Smart Health Tracker

Group 22 Vines:

Kiratpal Singh Johal, Mohid Khan, Justin Borgeson

Summer 2025

https://github.com/CMPT-276-SUMMER-2025/final-project-22-vines.git

API Features and Benefits

We plan to implement the following 6 features (3 per API):

Edamam API Features:

1. Meal Analyzer – Users input full meals and receive a full nutritional breakdown. Helps users understand homemade or multi-item meals.
2. Diet Filters – Users select diet preferences and system checks meal compatibility
3. Nutrition Tips – App offers suggestions to improve meals based on analysis.

Wger API Features:

1. Exercise Search – Search for exercises based on criteria.
2. Workout Logging – Users log sets, reps, and weights.
3. Routine Suggestions – Fetch or generate weekly plans based on goals.

Storyboard

Couldn't place it here so we uploaded into our github repo for final project. Its under **docs->design->Milestone 1 Storyboard.fig.**
(https://github.com/CMPT-276-SUMMER-2025/final-project-22-vines/blob/main/docs/design/Milestone%201%20Storyboard.fig)

Direct link for backup option:
https://www.figma.com/design/9CmqTRUFcLNuy0k9boeHmv/Milestone-1-Prototype?node-id=0-1&t=Mb1yyfo6t2yhjDJh-1

SDLC Model

Chosen Model: Agile (Scrum Variant)
Justification: We chose the Agile (Scrum) model because it allows us to build and test features in short sprints. This is ideal for our project since we are integrating multiple APIs and may need to adjust our plan based on testing feedback.

WBS

Task	**Subtasks**	**Priority**
Setup	Create repo, install packages, set up Firestore	High
UI Design	Build login, dashboard, food log screens	High
API Integration	Edamam setup, Wger setup	High

Task	Subtasks	Priority
Meal Features	Analyzer, filters, tips	Medium
Workout Features	Search, log, routine	Medium
Testing	Unit tests, user testing, bug fixing	Medium
Deployment	Firebase Hosting, final push	High

Project Schedule

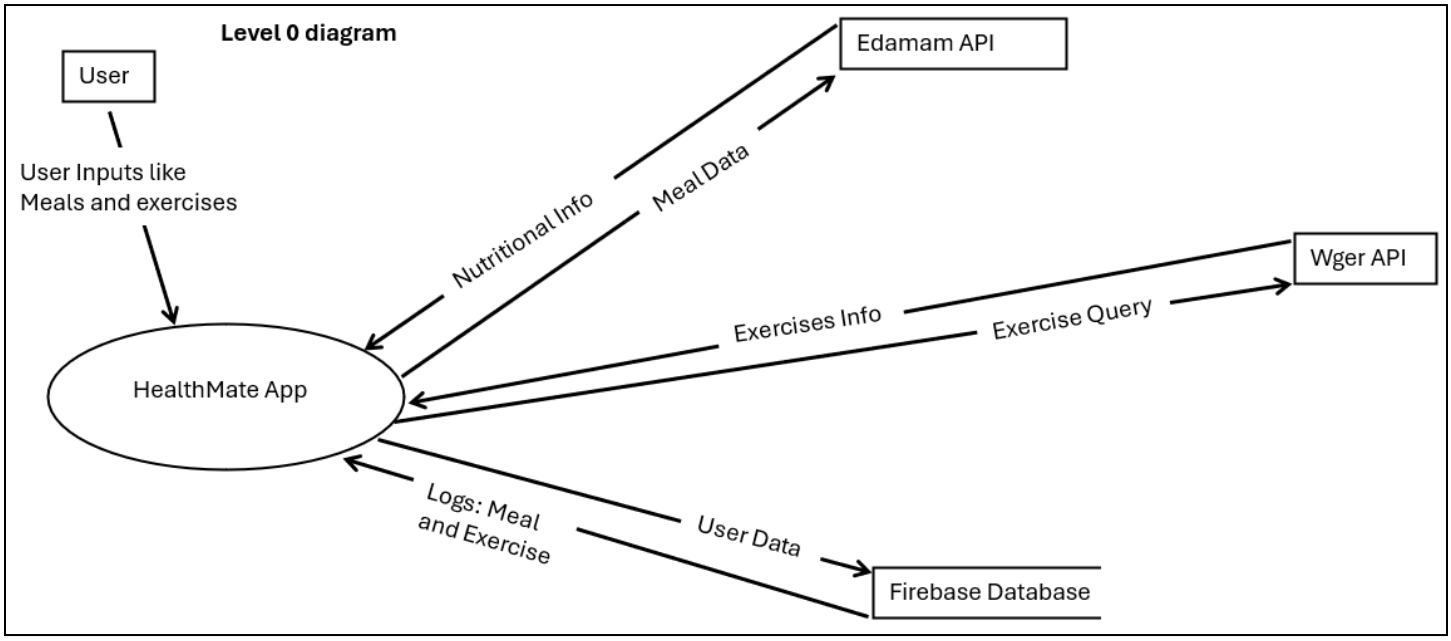
Milestone	Deadline	Notes
Sprint 1 – Setup + UI	July 8	Basic layout + routing
Sprint 2 – Edamam Features	July 14	Meal analyzer, filters
Sprint 3 – Wger Features	July 18	Logging, routine builder
Sprint 4 – Testing + Polish	July 25	Bug fixes, UI consistency
Final Testing + Submission	July 29	Buffer days included

Risk Assessment

Risk Level	Issue	Mitigation Strategy
Low	Delay in Figma prototype	Assign UI lead; use templates
Low	Minor API formatting issues	Add error logging and retries
Low	Browser compatibility issues	Test on Chrome + Firefox early
Medium	Firestore sync errors	Regular backups; offline support

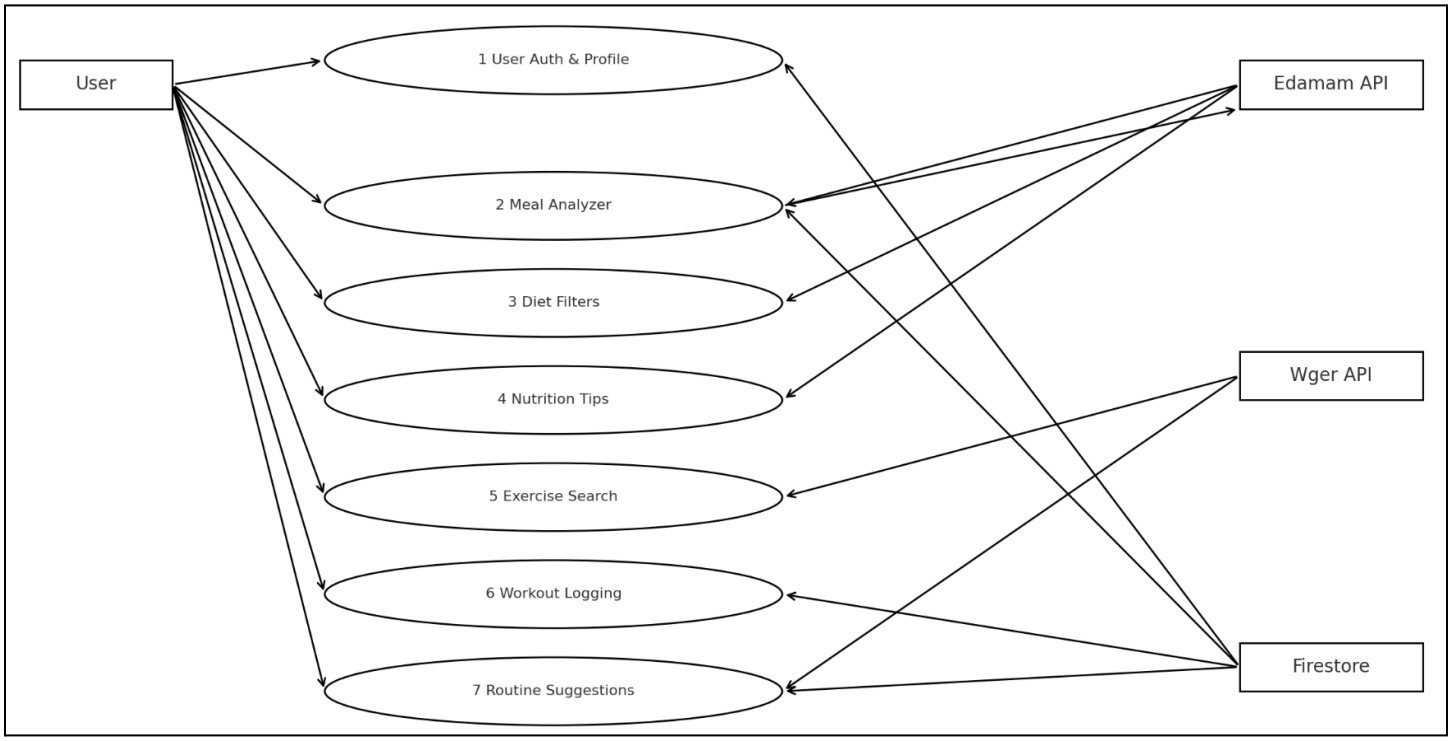
Risk Level	Issue	Mitigation Strategy
Medium	API quota exceeded	Cache responses; optimize calls
Medium	Feature scope creep	Weekly sprint reviews
High	One member becomes inactive	Task reallocation; contact TA
High	API changes structure	Abstract API layer for flexibility
High	Deployment issues	Practice deploys mid-project
High	Team conflict	Weekly check-ins; document tasks
High	Poor user testing feedback	Start testing earlier; iterate

Data Flow Diagram



Level 0 diagram

This diagram above shows how the HealthMate App connects with other parts like the User, Edamam API, Wger API, and Firebase Firestore. It shows how information moves between them for checking meals, finding exercises, and saving data.

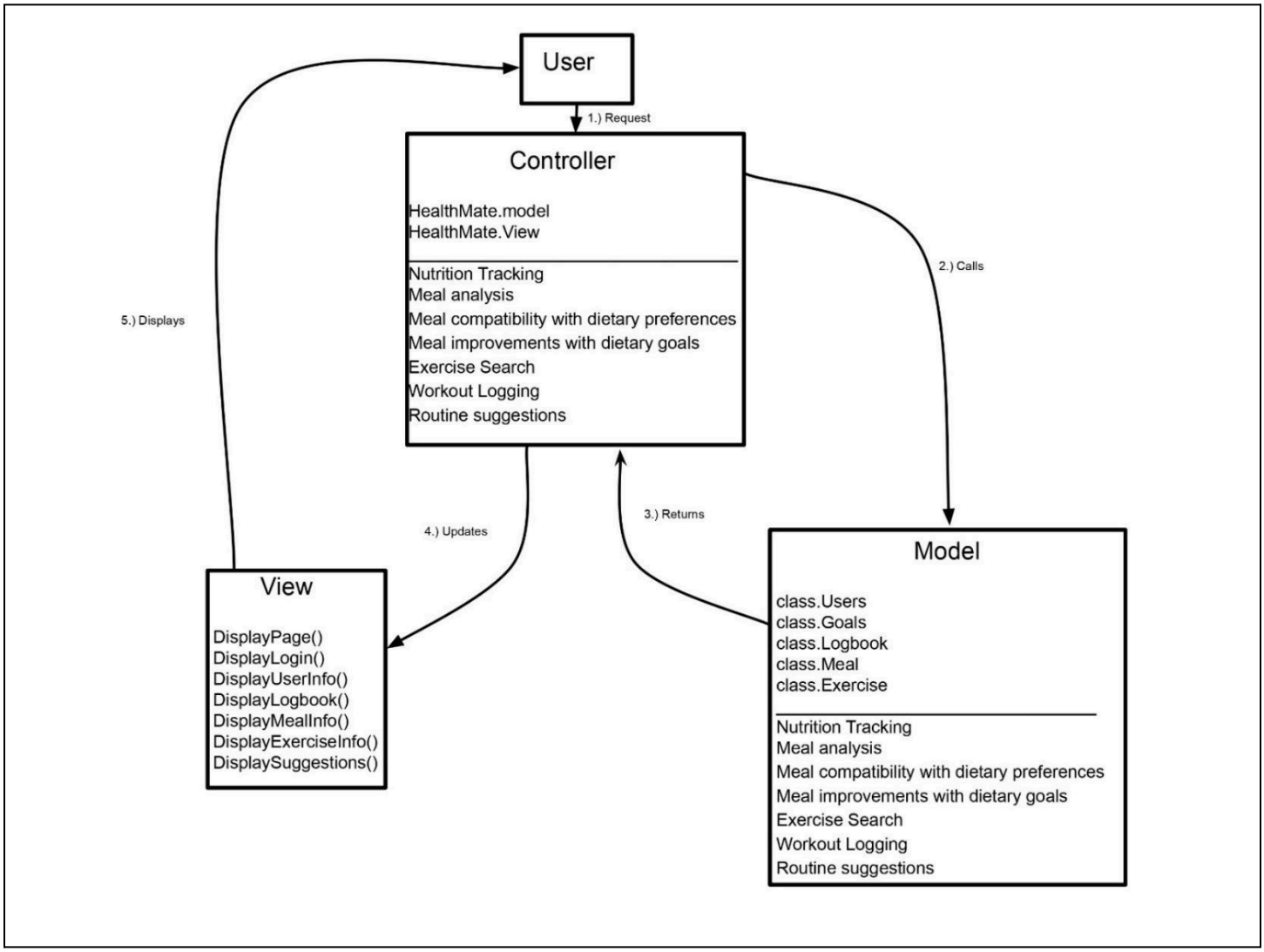


Level 1 Diagram

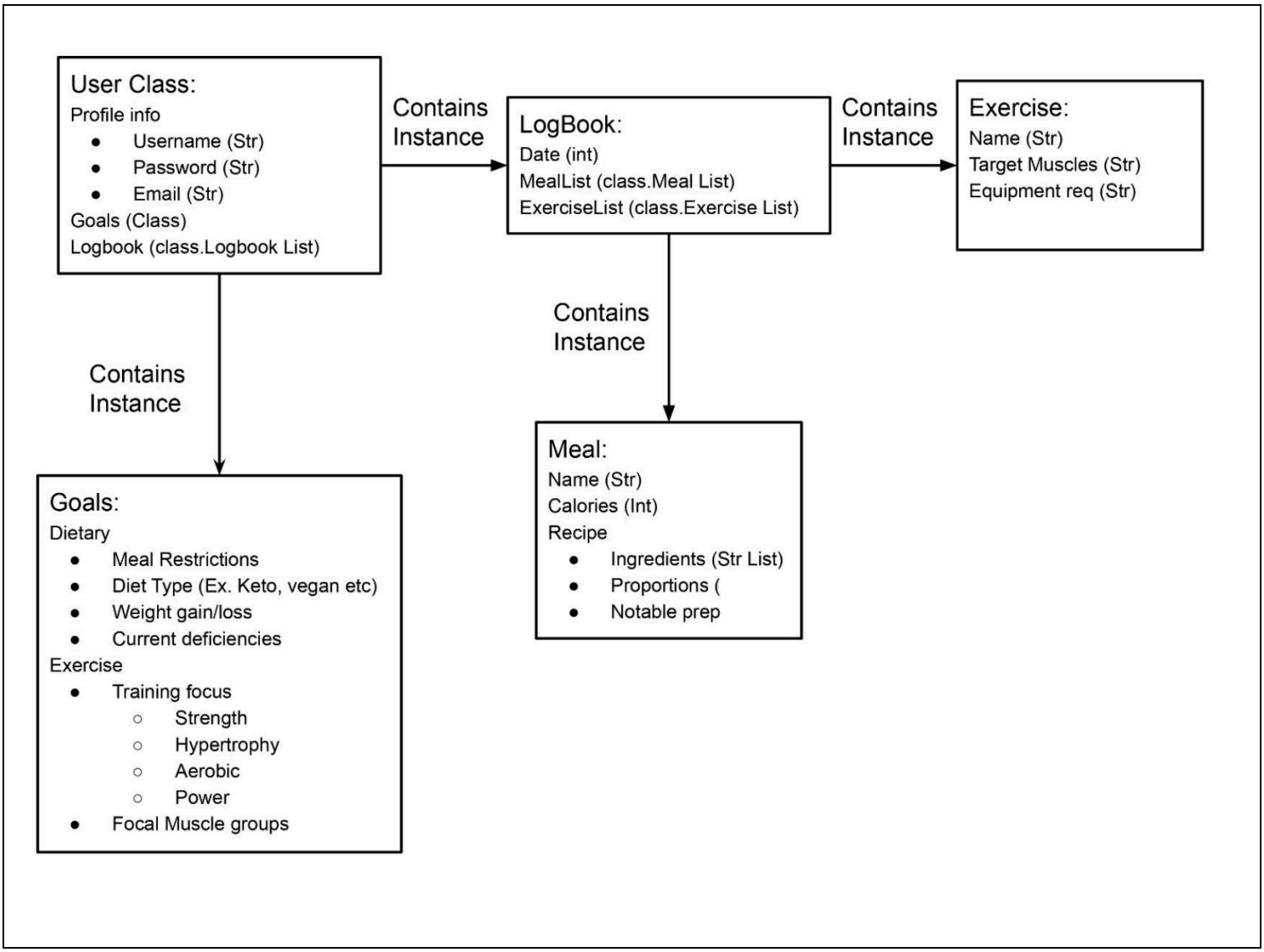
The Level 1 diagram above breaks down the HealthMate App into its main sub-processes: User Authentication & Profile, Meal Analyzer, Diet Filters, Nutrition Tips, Exercise Search, Workout Logging, and Routine Suggestions. It shows how these processes communicate with the APIs and Firestore.

MVC Model Diagram

We have created an MVC (Model-View-Controller) diagram to illustrate how data flows through the application during user interaction. When a user initiates an action, the request is first handled by the Controller, which determines the appropriate function to execute. The Controller then communicates with the Model, passing along the necessary request parameters. The Model processes the request using the relevant classes and logic, and returns the result to the Controller. The Controller then prepares the data for presentation and forwards it to the View, which is responsible for displaying the final output to the user.



MVC Diagram



Elaboration on different classes

Appendix

Kiratpal Singh Johal: Made Level 0 and Level 1 Data Flow Diagrams. Drafted the 1st version of Milestone 1 report. Attended meetings with group members to refine the report. Put tasks from WBS into GitHub issues.

Mohid Khan: Made MVC diagram. Also created a second file elaborating on the different required classes. Attended meetings with group members to refine the report. Worked on speaker notes for video with Justin.

Justin Borgeson: Converted the low-fidelity storyboard to a mid-fidelity prototype. Attended meetings with group members to refine the report. Worked on speaker notes for video with Mohid.

Changes Since Proposal

- Removed the Fitboard API as initially considered.
- Declared Edamam and Wger as finalized primary APIs.
- Confirmed Firebase Firestore for data storage.
- Made a new Storyboard with only 6 features in it and removed the backup features.