DailyApple
Software Architecture Document

Version 1.0

Revision History

Date	Version	Description	Author
29/11/2023	1.0	Initial Software Architecture Document for the project	Phạm Vũ Minh Giang
29/11/2023	1.0	Initial Software Architecture Document for the project	Võ Hoàng Phúc Khang
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29/11/2023	1.0	Initial Software Architecture Document for the project	Nguyễn Trịnh Duy

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1. Introduction

We will present the whole architecture design of our Healthcare mobile app in this paper. It includes the use case model, which is a graphic that describes the functions of users (Administrator and End-User). In the next part (Architecture Goals and Constraints), we will provide a summary of crucial information about our project, such as Goals, Constraints, tools employed, and methods that we will employ to construct this project. The use-cases model will represent all of the key use-cases in our software. The last Section (Logical View) will display all of the software architecture information.

2. Architectural Goals and Constraints

1. Safety:

Goal: Develop a mobile application with a user-friendly interface, attractive UI design, and easy navigation.

Impact on Architecture: Prioritize the implementation of smooth and basic user interactions, ensuring effortless functions like clicking, scrolling, and typing.

2. Security:

Data Privacy: User meal data must be securely stored and encrypted to protect sensitive information.

Impact on Architecture: Ensure data safety with encryption and secure server practices, shielding sensitive health information from cyber threats in the app's architecture.

3. Privacy:

Goal: Ensure the absolute privacy of user data, preventing any leakage or unauthorized access to sensitive information.

Impact on Architecture: Implement strict access controls to safeguard user privacy and maintain the confidentiality of personal information.

4. Design and Implementation Strategy:

Goal: Follow RUP and SCRUM methodologies to enhance development efficiency and team collaboration.

Impact on Architecture: Structure the development workflow to align with RUP and SCRUM, promoting a collaborative environment where team members support each other to maximize overall program performance.

5. Stability:

Goal: Ensure the server's efficiency, particularly during high traffic situations, with a maximum one-minute response time for all requests.

Impact on Architecture: Design a scalable server architecture, incorporating load balancing to handle peak usage. Implement a notification system to inform users promptly upon task completion.

Development tools:

- We will use web draw.io to design the component diagram

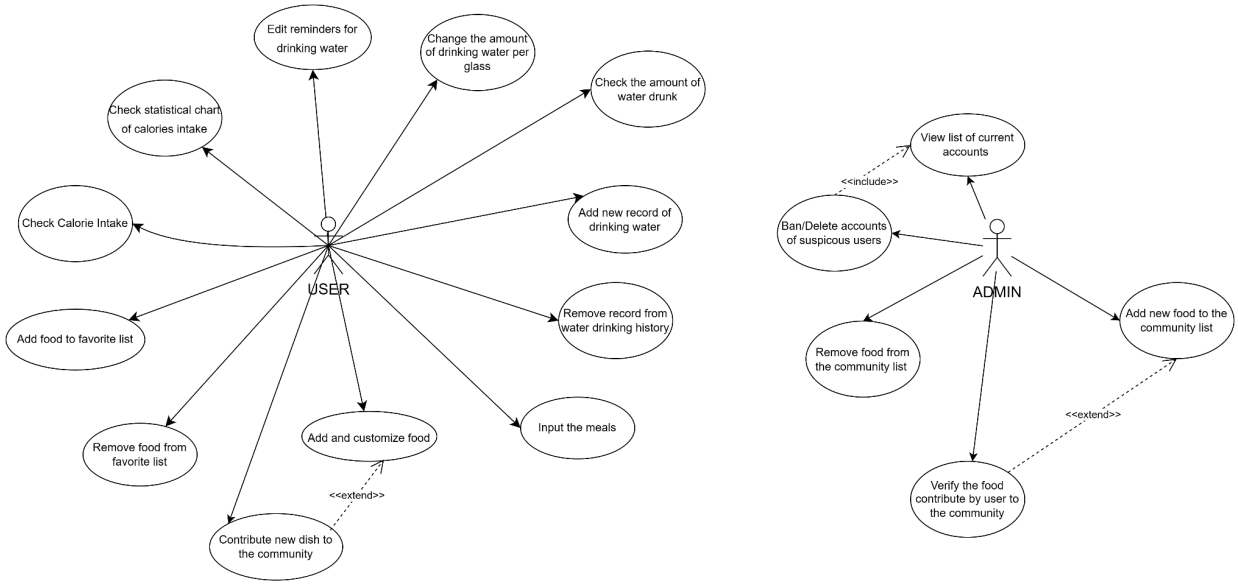
- For designing the UI of our application, we will use Figma.

- For designing the database diagram, we will use Firebase to construct the database diagram.

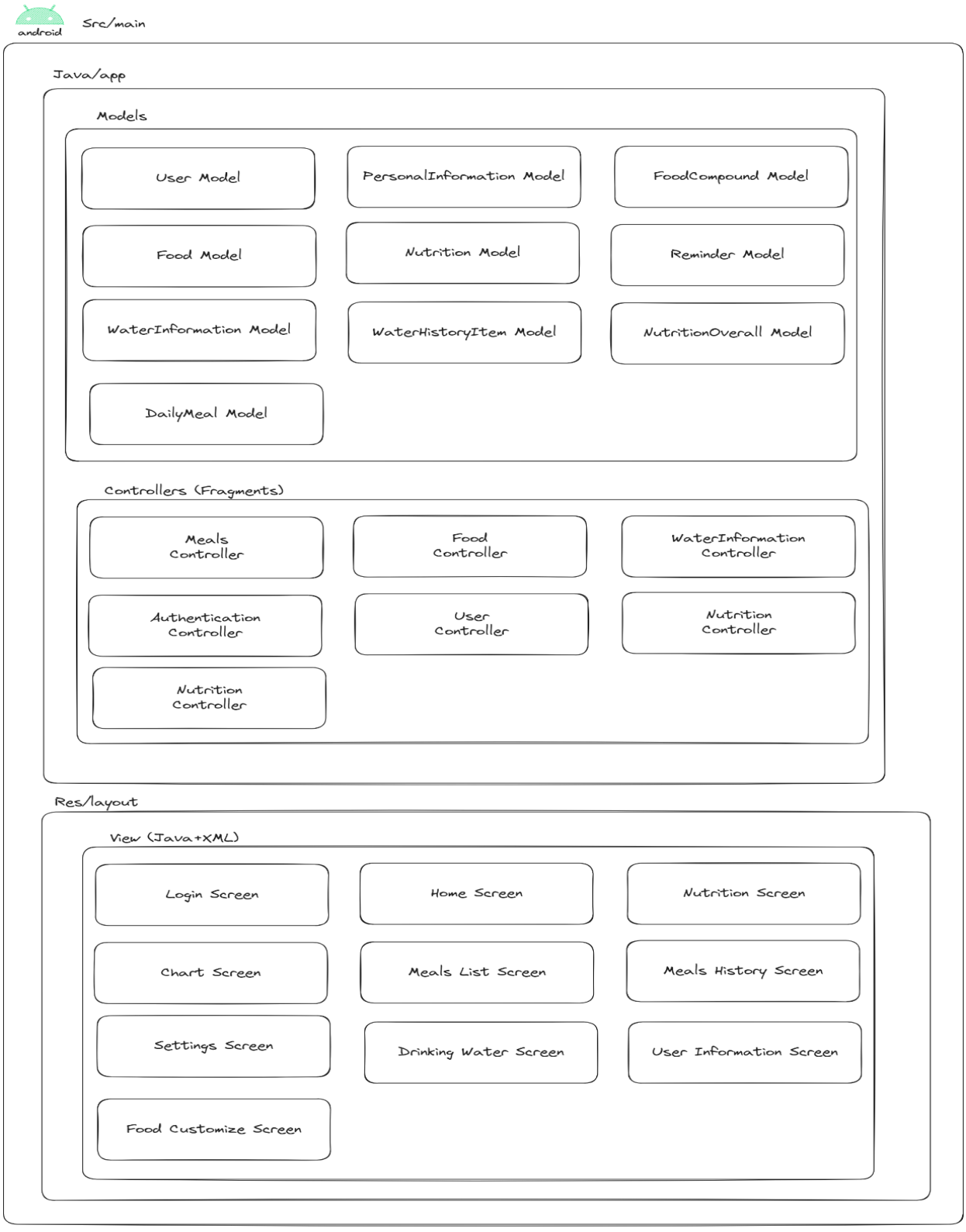
- We use Excalidraw for designing the package diagram following the MVC architecture.

- We use Java language to develop our application

3. Use-Case Model

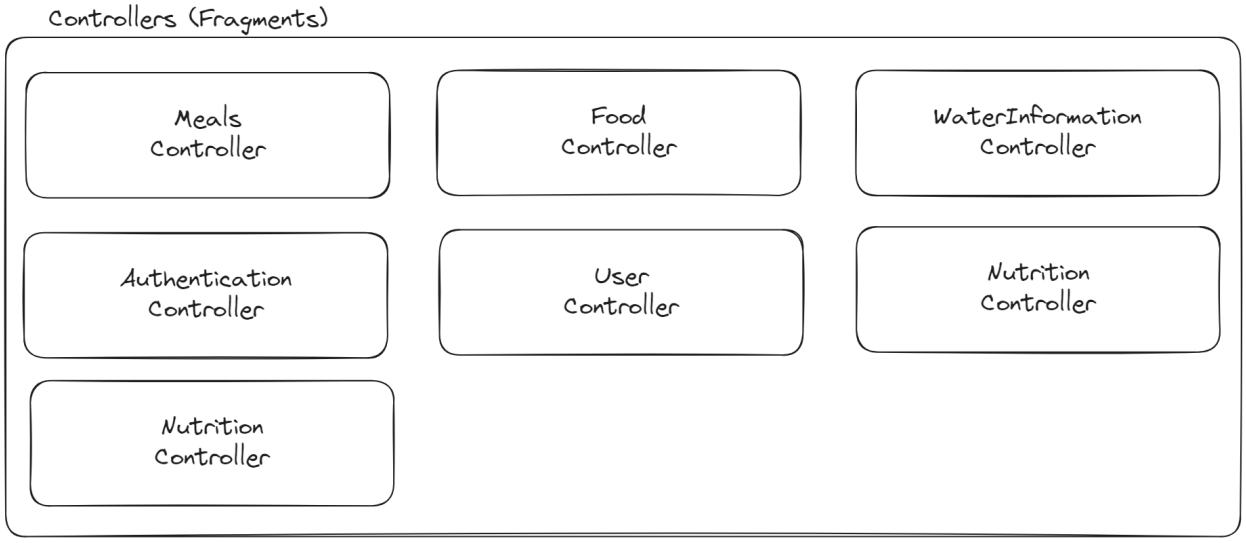


4. Logical View



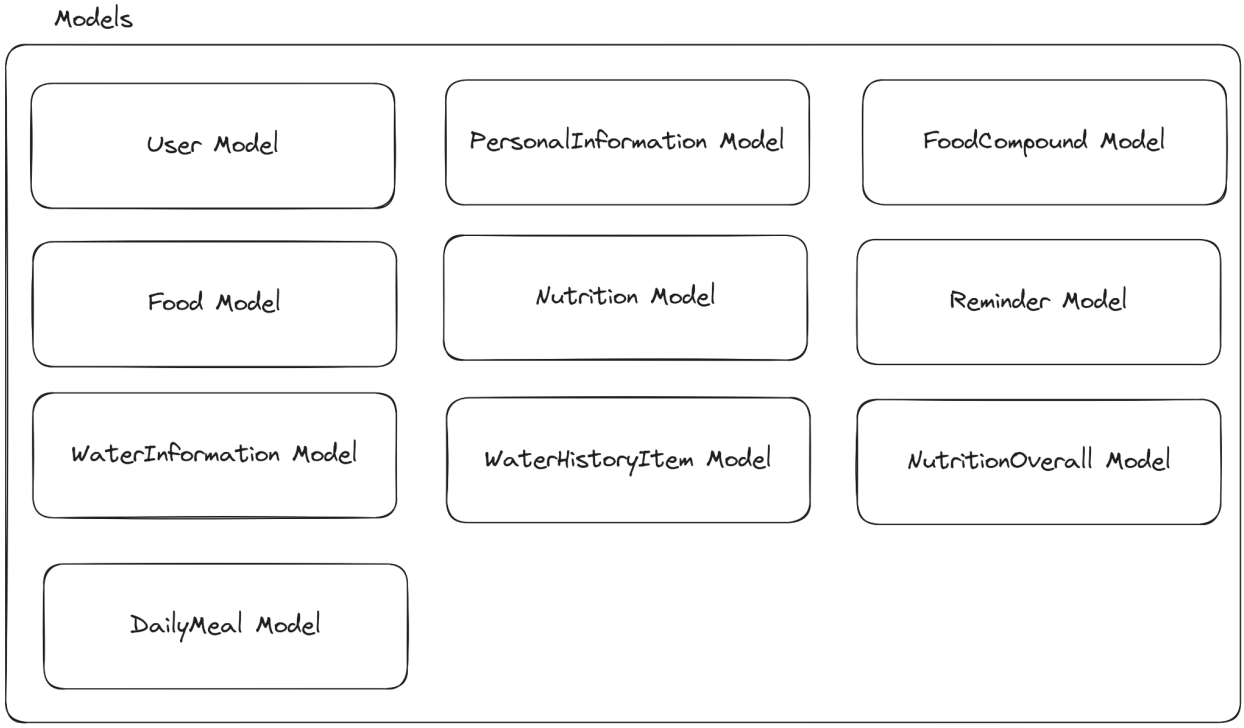
4.1 Component: Controller

Using Fragments to control events



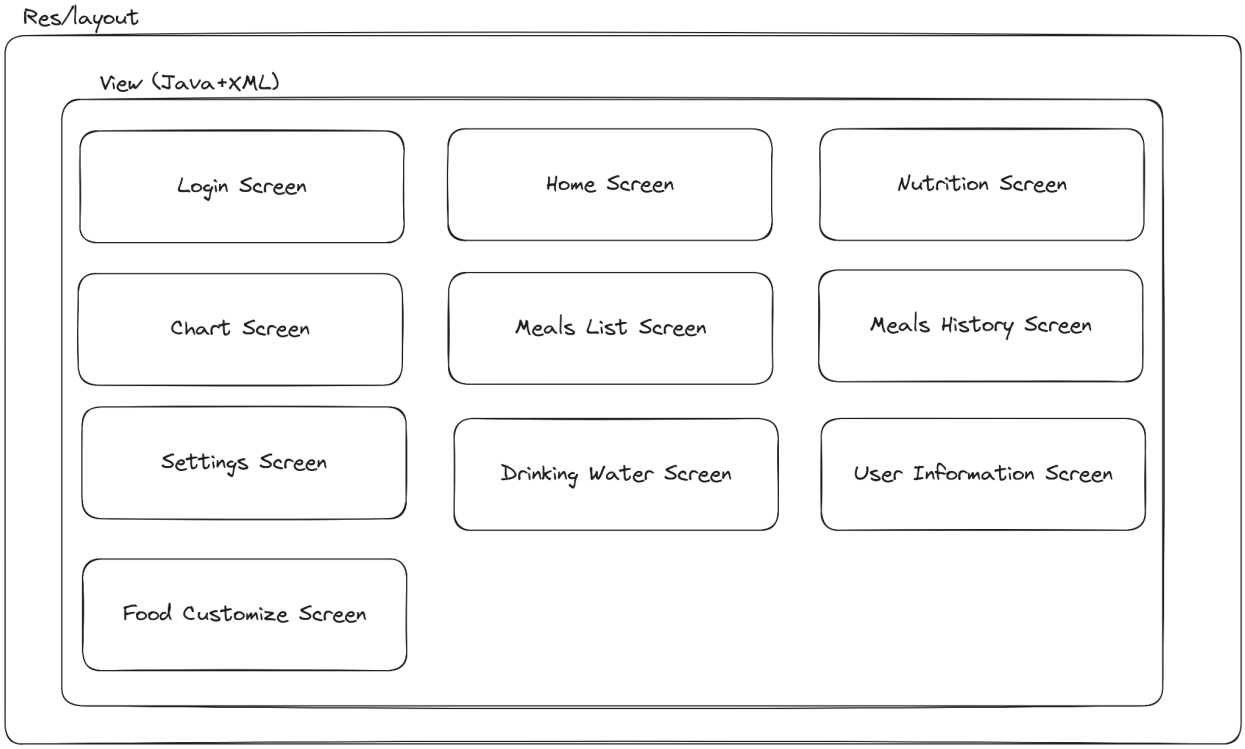
- Implement using Java language
- Authentication controller handles authentication requests (login, register, reset password)
- Food controller handles requests for updating and retrieving data from Food collections
- WaterInformation controller handles requests for updating and retrieving data related to the amount of drinking water
- Meal controller handles requests for mutating and retrieving data related to daily meals
- User controller handles requests for updating and retrieving data related to user information

4.2 Component: Models



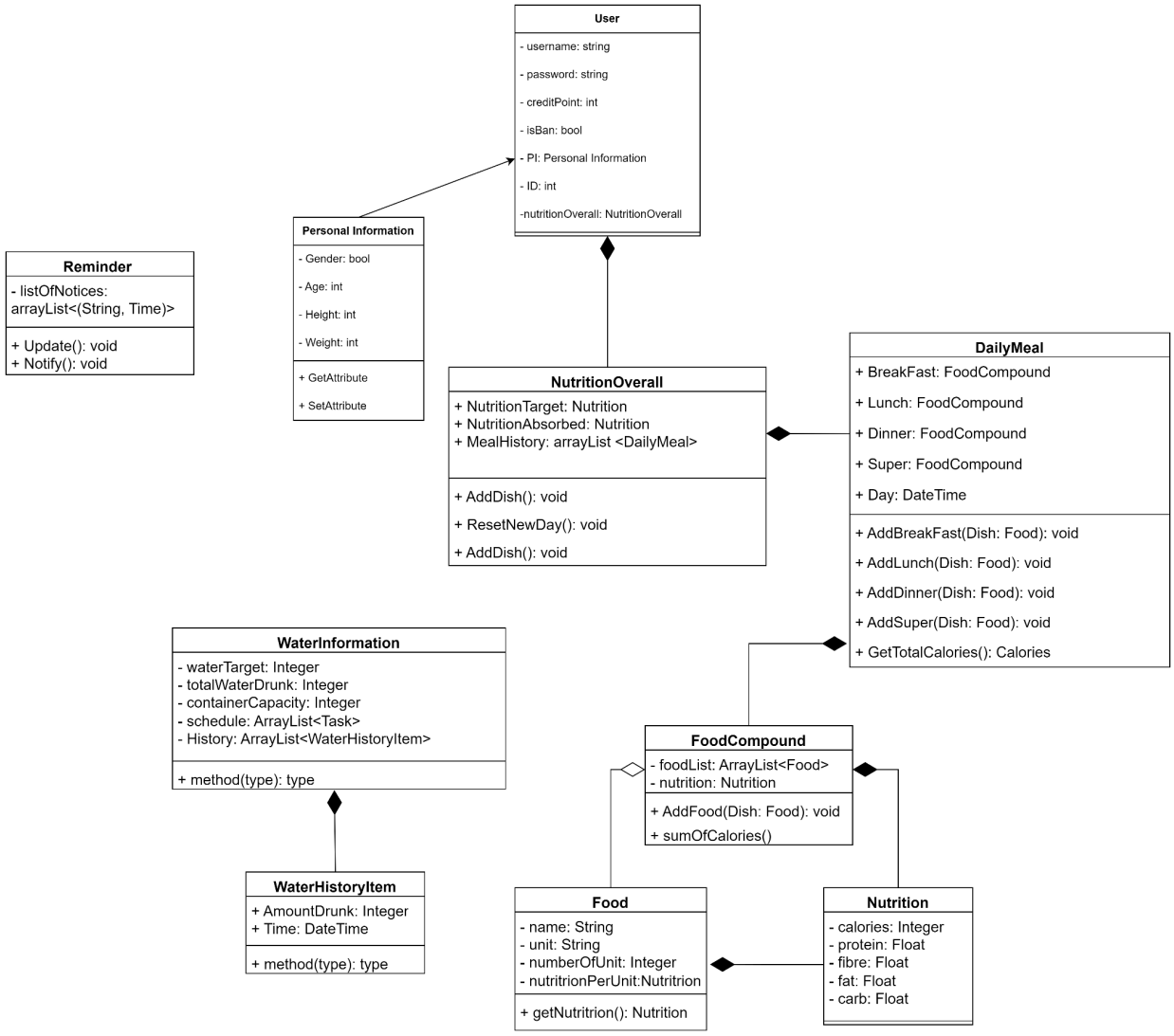
- Using Firebase to store data
- There are 10 models in total .
- They are implemented using Java language
- User, PersonalInformation, NutritionOverall contains user information, as well as meal information.
- Reminder model notices the user to drink water on time.
- Water Information, water history contains and stores drink schedules for users.
- FoodCompound, Food, Nutrition hold information about meals such as name, nutritional ingredients…
- DailyMeal stores information of meal in one day

4.3 Component: Views



- Each screen will display the UI which respects its corresponding view.
- XML is used to design the layout of the screen, and Java is used to implement the display.

4.4 Components: Schema



5. Deployment

6. Implementation View