TEAM10

SMART REFRIGERATOR SYSTEM

Software Requirement & Design Specification

TEAM10
SMART REFRIGERATOR SYSTEM

Contents

Software
Requirement & Design
Specification

2022 Spring
SWE3002_42

Our system provides...

SMART REFRIGERATOR

Ingredient Cognition and Management

Recipe Recommendation and Cooking Guidance

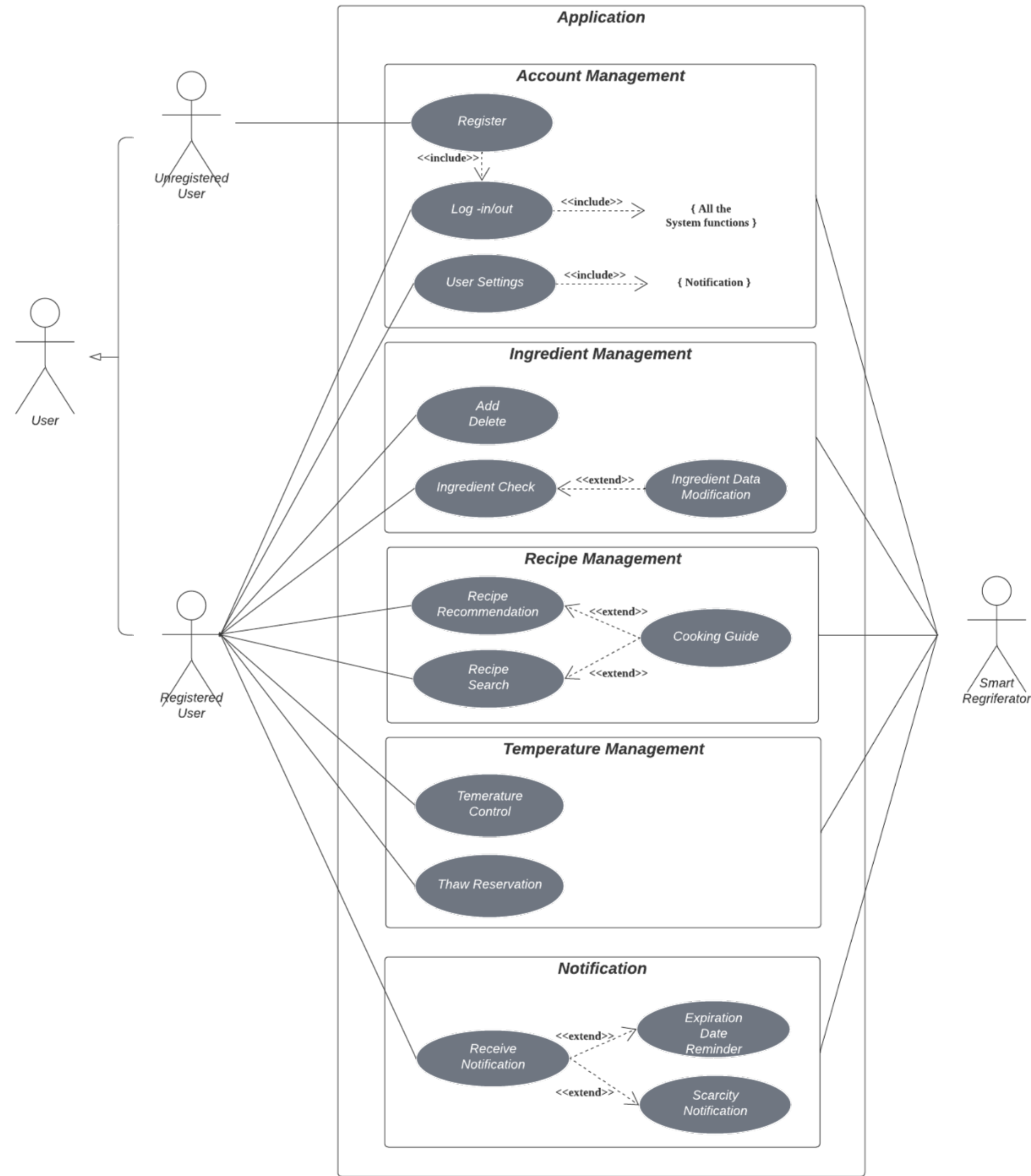### Temperature Control and Smart-thawing
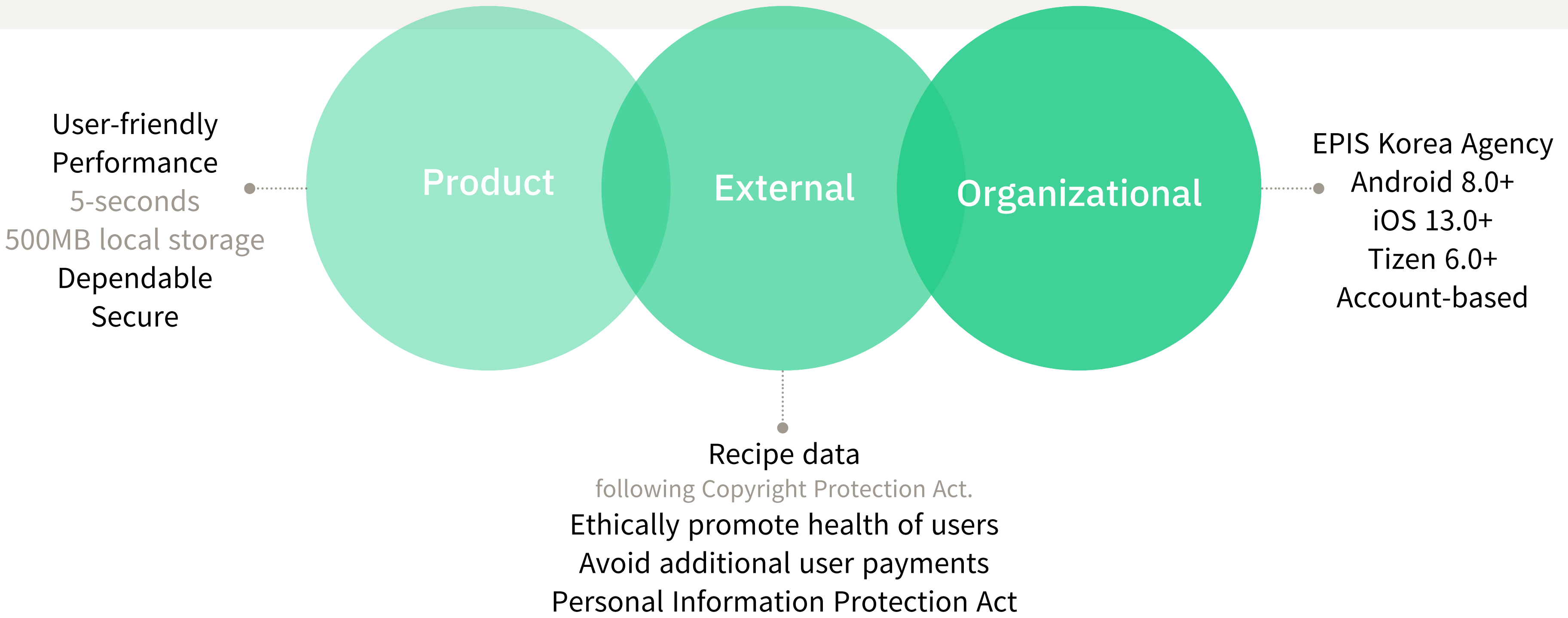
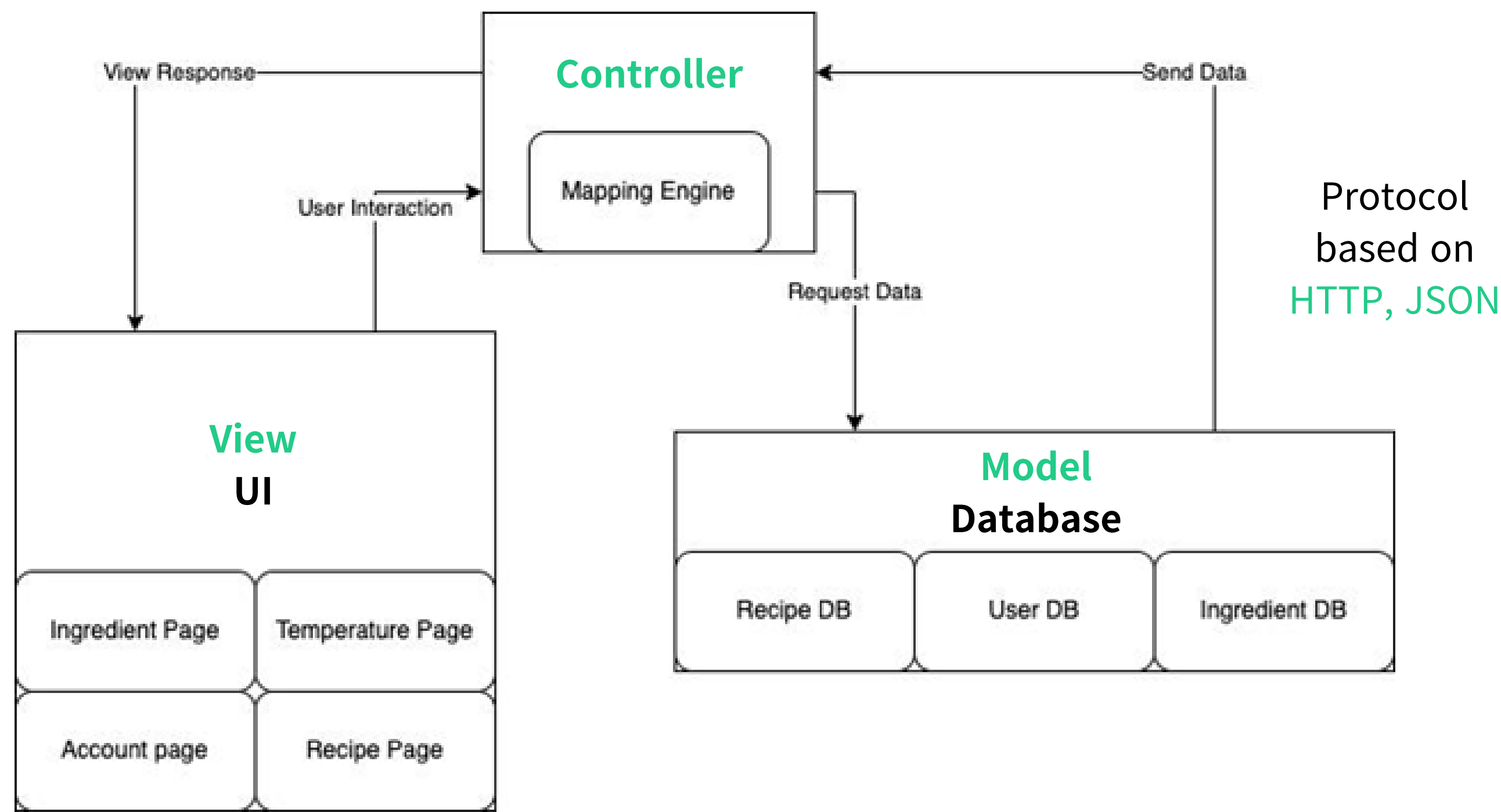### Expiry and Scarcity Notification

Functional Requirements

USE CASE DIAGRAM

Non-functional Requirements

IN SHORT

User-friendly
Performance
5-seconds
500MB local storage
Dependable
Secure

Product

External

Organizational

EPIS Korea Agency
Android 8.0+
iOS 13.0+
Tizen 6.0+
Account-based

Recipe data
following Copyright Protection Act.
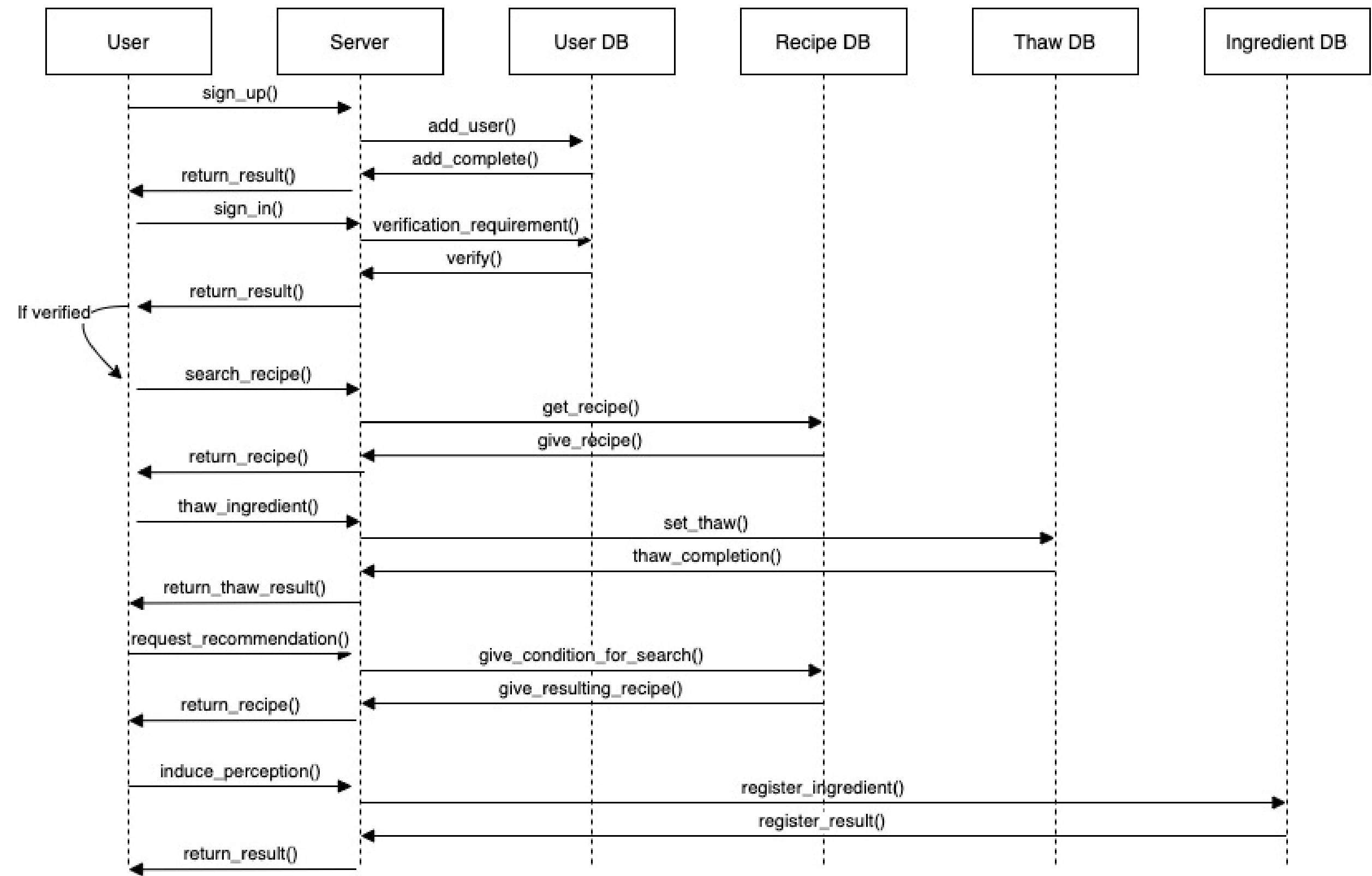Ethically promote health of users
Avoid additional user payments
Personal Information Protection Act

System Overview

MVC Architecture

Controller

Mapping Engine

View
UI

Ingredient Page

Temperature Page

Account page

Recipe Page

View Response

User Interaction

Request Data

Send Data

Protocol
based on
HTTP, JSON

Model
Database

Recipe DB

User DB

Ingredient DB

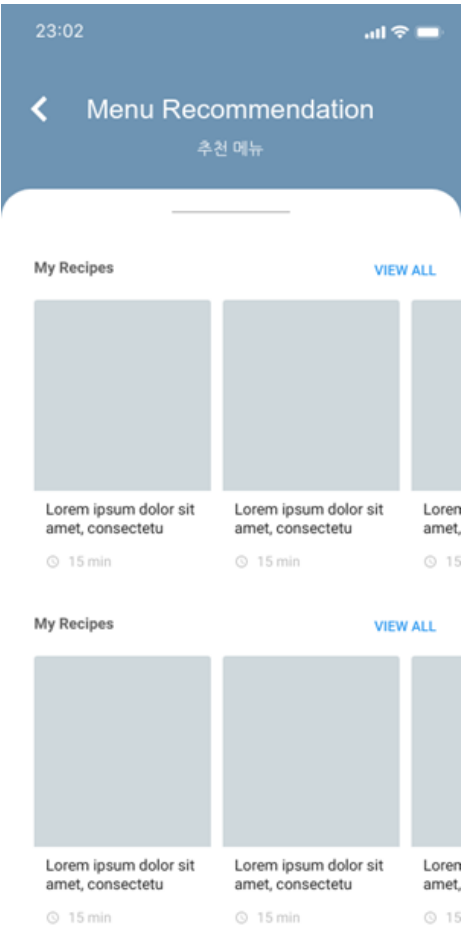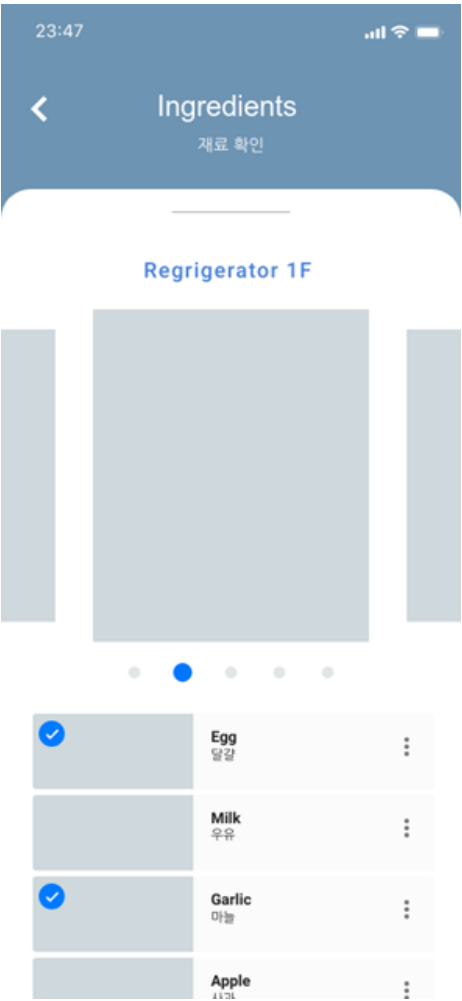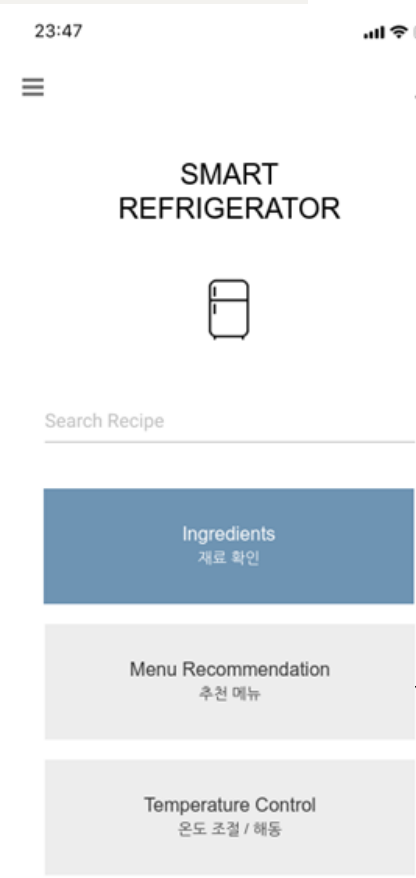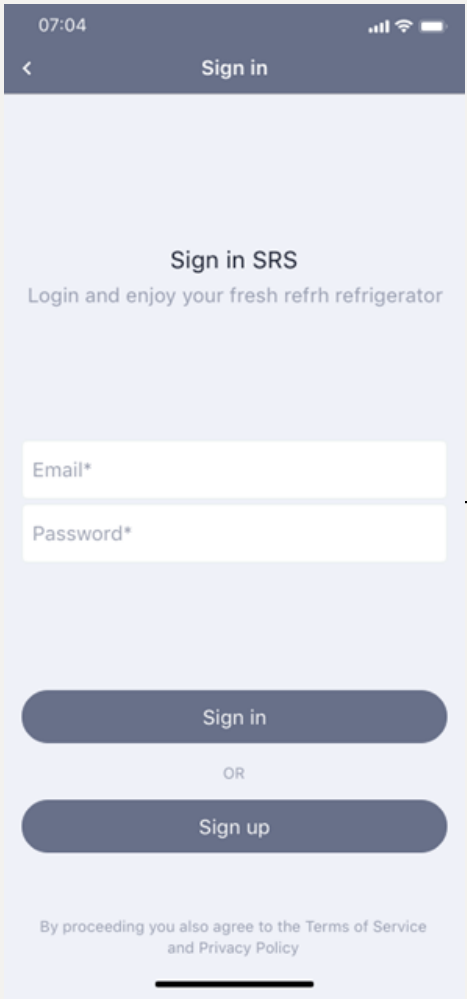# System Overview

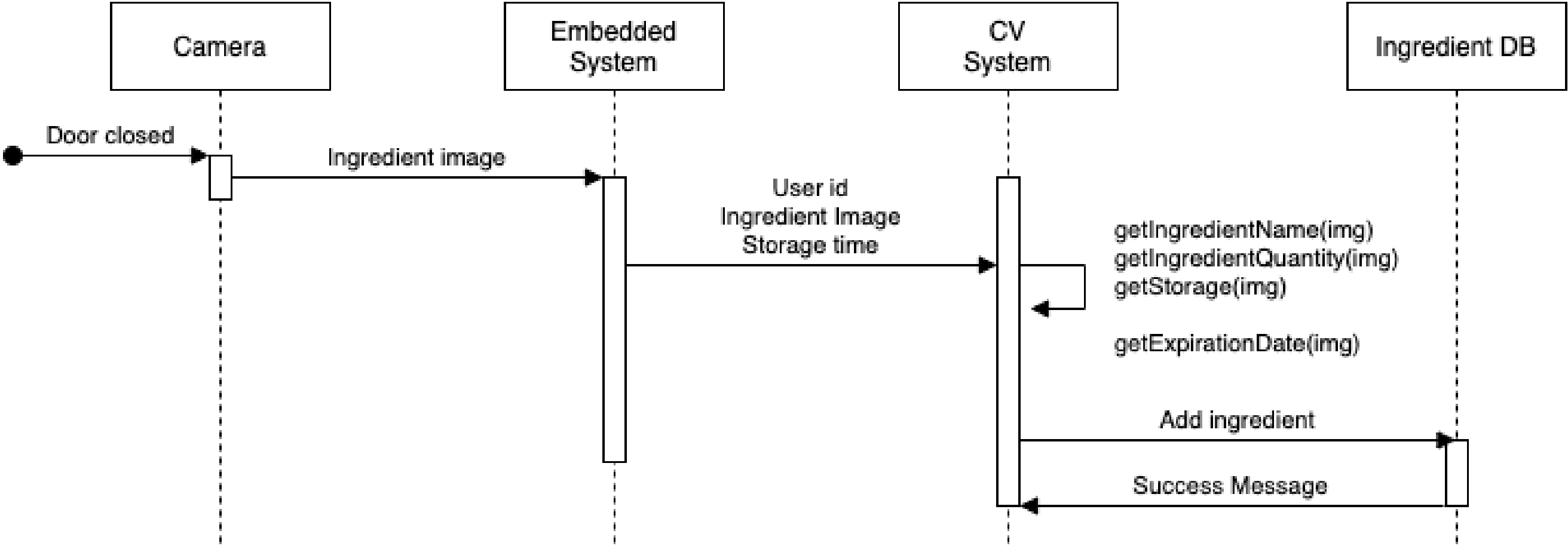**SEQUENCE DIAGRAM**

Brief UI Flow
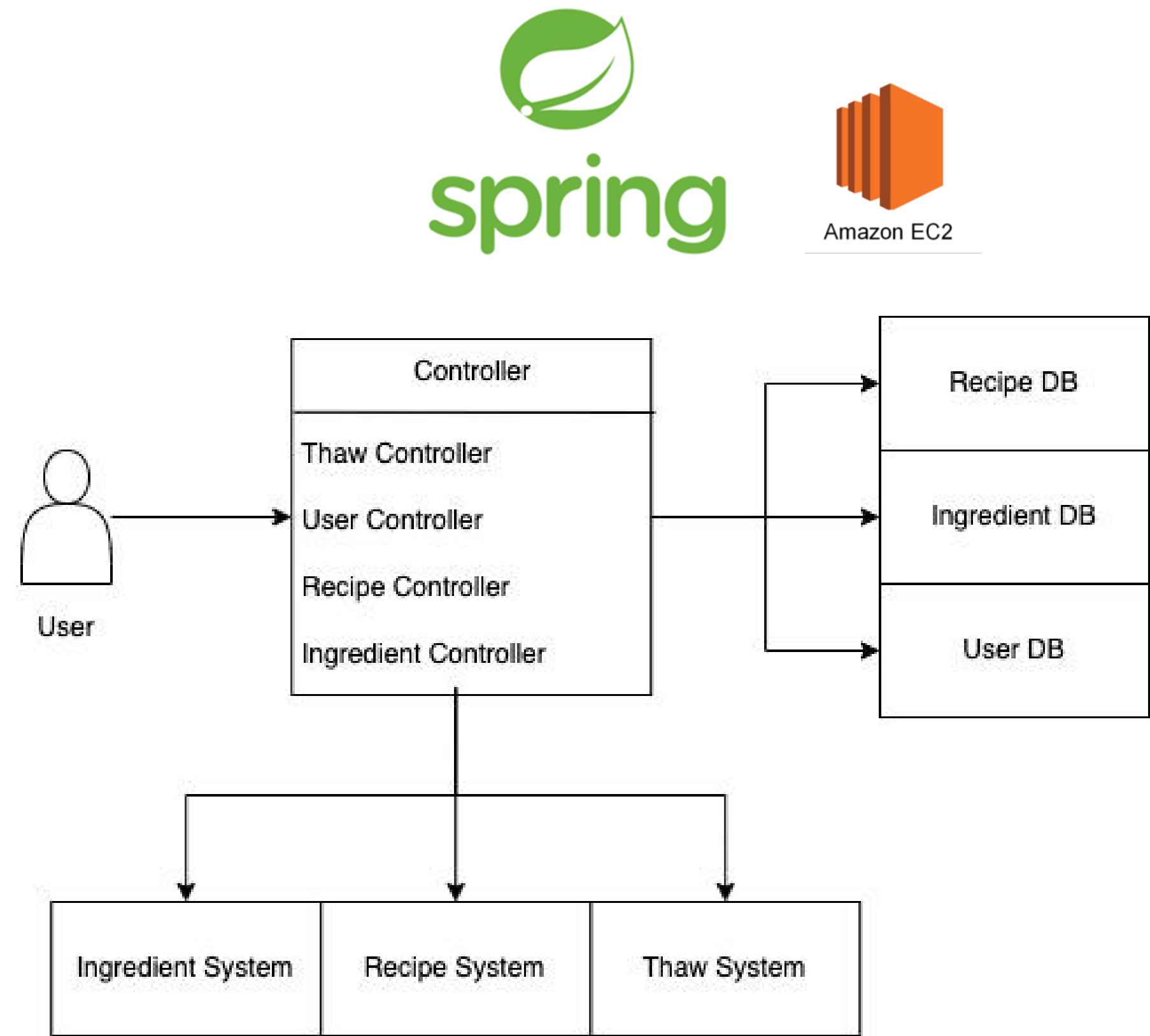
FRONTEND

(on the refrigerator LCD)

CV System

SEQUENCE DIAGRAM

Backend Design

OVERALL ARCHITECTURE

Database Design
ER DIAGRAM

recipe

PK	recipe_id int NOT NULL
	recipe_name varchar(25) NOT NULL
	recipe_class varchar(25) NOT NULL
	img_url varchar(50) NOT NULL
	order_url varchar(50) NOT NULL

recipe ingredient

FK1	recipe_id int NOT NULL
FK2	ingredient_id int NOT NULL
	quantity int NOT NULL

ingredient

PK	ingredient_id int NOT NULL
	ingredient_name varchar(25) NOT NULL
	img_url varchar(50) NOT NULL
	expiration_date int
	quantity_notify int NOT NULL

user

PK	user_id varchar(25) NOT NULL
	user_pw varchar(25) NOT NULL
	refrigerator_id varchar(25) NOT NULL

user ingredient

FK1	ingredient_id int NOT NULL
FK2	user_id varchar(25) NOT NULL
	ingredient_name varchar(25) NOT NULL
	img_url varchar(50) NOT NULL
	storage varchar(25) NOT NULL
	expiration_date int NOT NULL
	quantity int NOT NULL
	storage_date date NOT NULL

thawed ingredient

FK	ingredient_id int NOT NULL
	thawed_temp int NOT NULL
	thawed_time time NOT NULL

user notification

FK1	ingredient_id int NOT NULL
FK2	user_id varchar(25) NOT NULL
	expiration_notify int DEFAULT 3
	quantity_notify int NOT NULL

Thaw System

IN DETAIL

Testing Plans

With Software Development Life Cycle
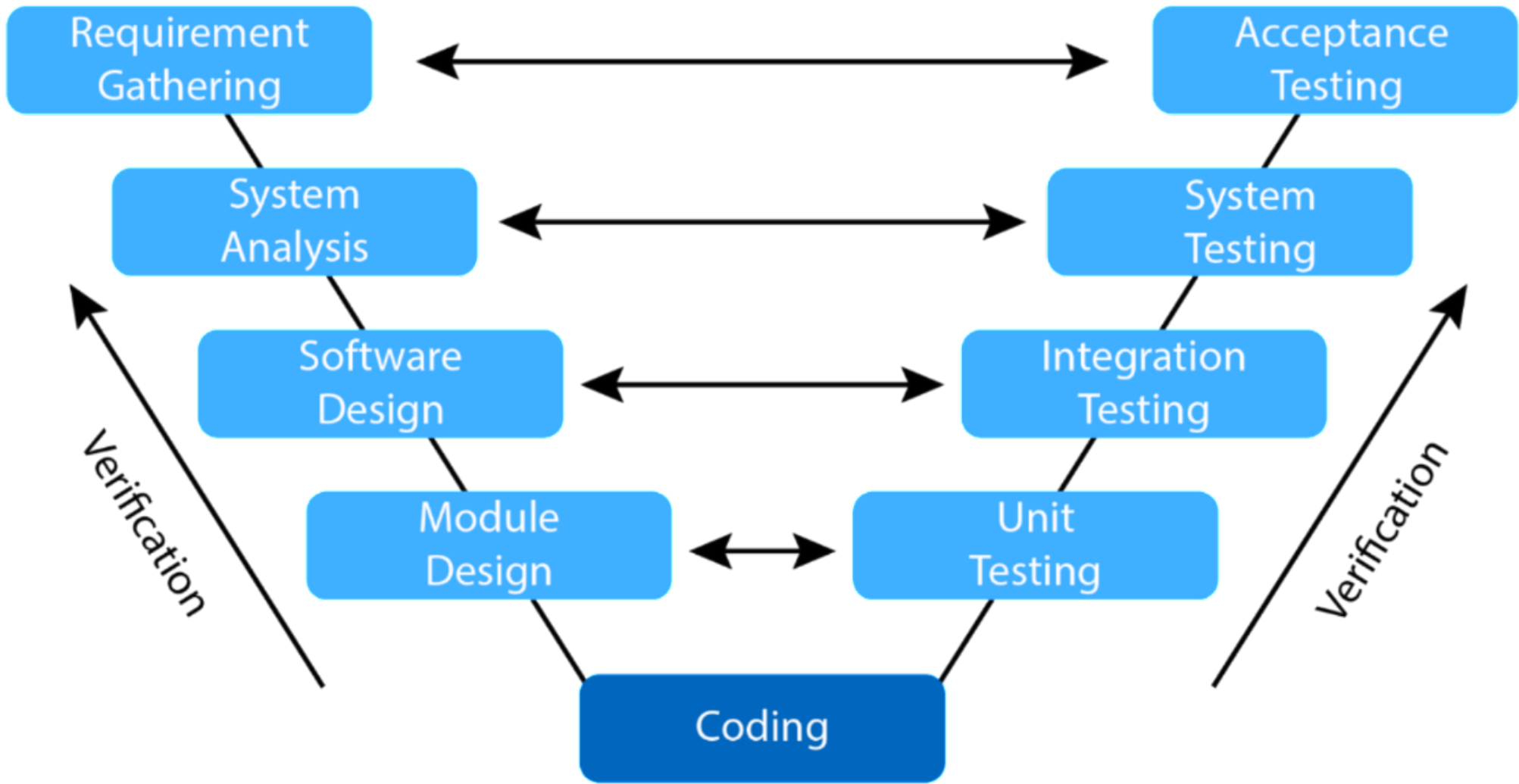
THANK YOU

:)

TEAM10

Backend	Junyeong Kwak
	Junyeong Park
	Seongjun Kim
	Amirah
CV	Woohyeon Park
Frontend	Seyoung Kim
	Suyeon Park