MINI PORTOFOLIO

ABOUT ME

I'm a fresh graduate in Information Systems with a strong interest in Business Analysis and System Design. My academic experience includes building a forecasting system using the Waterfall model, designing system documents such as Use Case, Class, and Sequence diagrams, and writing clear technical specifications. i have hands-on experience with SQL, Laravel, and MySQL. I enjoy translating business needs into structured documentation and collaborating with both technical teams and stakeholders. I'm eager to grow in a dynamic environment where I can contribute to solving real business problems through technology.

EDUCATION

Kuningan University

Bachelor of Information System (3.31 / 4.00)

System analysis
Information system design analysis
Business Process analysis

Student Executive Board
(as head of advocacy division)

- Collected and compiled student concerns related to campus issues, then escalated them to the university management for resolution.
- Facilitated open communication platforms for students to voice their complaints and suggestions.

TECHNICAL EXPERIENCE

SYSTEM ANALYSIS AND DESIGN OF FORECASTING INFORMATION SYSTEM USING SMA AT FADHI COFFEE & EATERY

This project aimed to analyze and design a forecasting information system for Fadhi using the Simple Moving Average Method. I applied system development methodologies such as Waterfall and created technical documentation including Use Case Diagram, Activity Diagram, Sequence Diagram, Class Diagram, and Implementation Plan. This project was delivered as part of my undergraduate thesis.

OBJECTIVE

To produce a structured and well-documented system design that aligns with the business needs of Fadhi Coffee, enabling accurate demand forecasting and efficient stock planning.

MY ROLE

- Conducted needs assessment through interviews with stakeholders
- Created system documentation based on the Waterfall method
- Modeled the system using UML diagrams
- Designed database schema to support forecasting functions

TOOLS & METHODOLOGIES

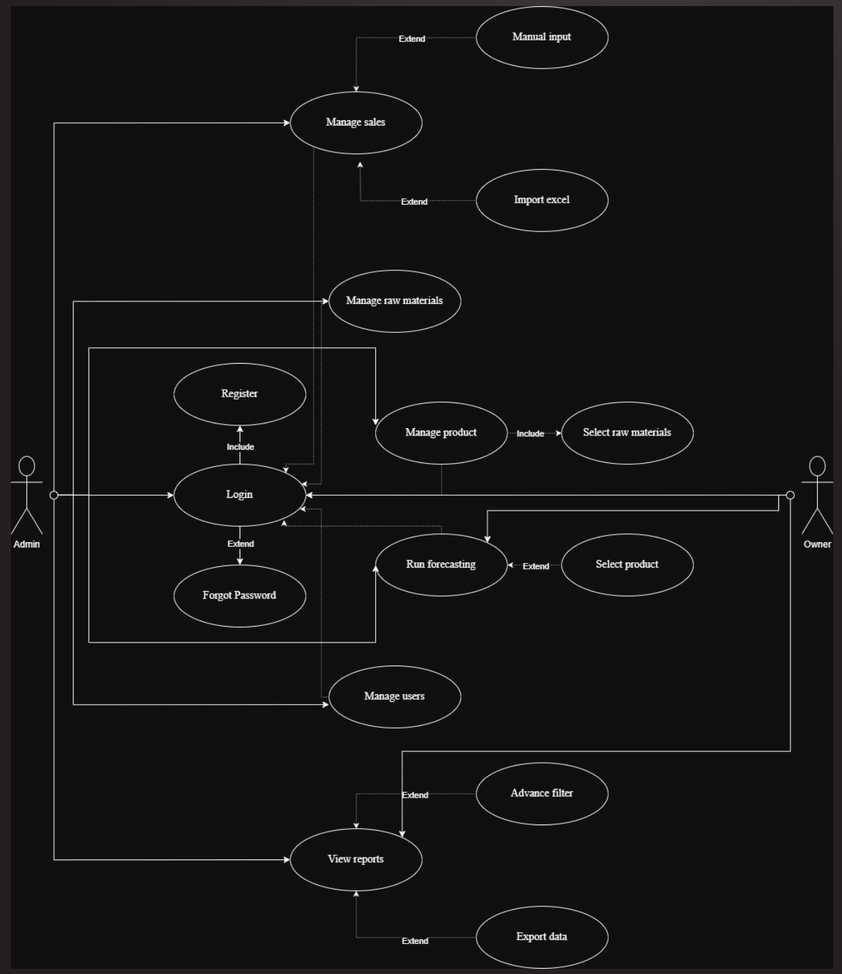
- UML (Use Case, Class, Sequence, Activity Diagram)
- Waterfall
- Mysql
- Draw.io & Microsoft Office
- Figma & Canva

The following documentation includes selected components that I consider critical, excluding standard flows such as sequence and activity diagrams for common modules to maintain clarity and relevance.

USE CASE DIAGRAM

Activity Diagram Login

USE CASE DIAGRAM

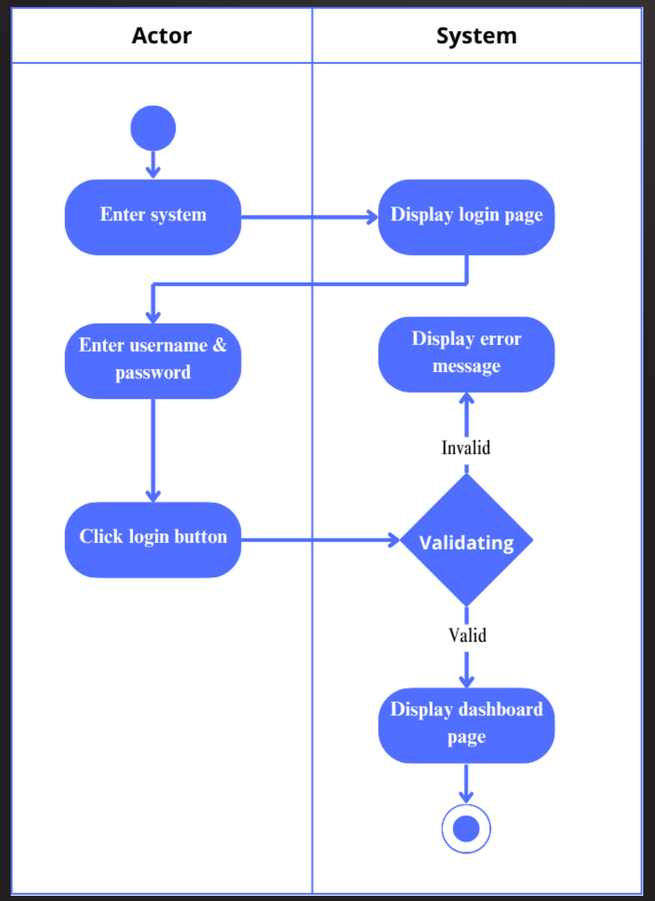


This diagram illustrates the core functionalities of the forecasting system, showing interactions between the primary actors (Admin, Owner) and the system.
The use case diagram was developed during the system analysis phase to capture business requirements in a structured format. It highlights key system features such as:

- Inputting daily sales data
- Generating demand forecasts
- Viewing forecast results
- Viewing sales reports
- Managing product and raw materials
- Managing users

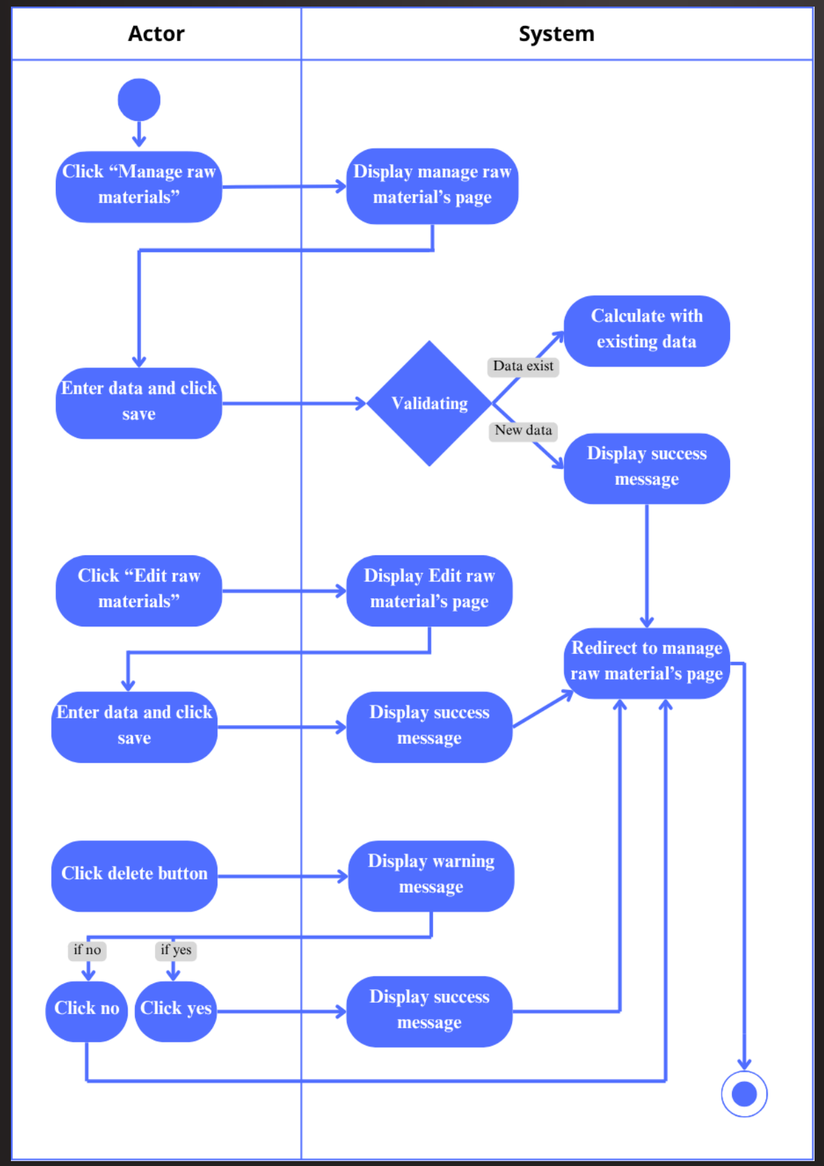
ACTIVITY DIAGRAM

ACTIVITY DIAGRAM - USER LOGIN



This activity diagram outlines the authentication process for users accessing the forecasting system. It captures the step-by-step logic from inputting credentials to validating login information and directing the user to the main dashboard. The diagram demonstrates key decisions such as:

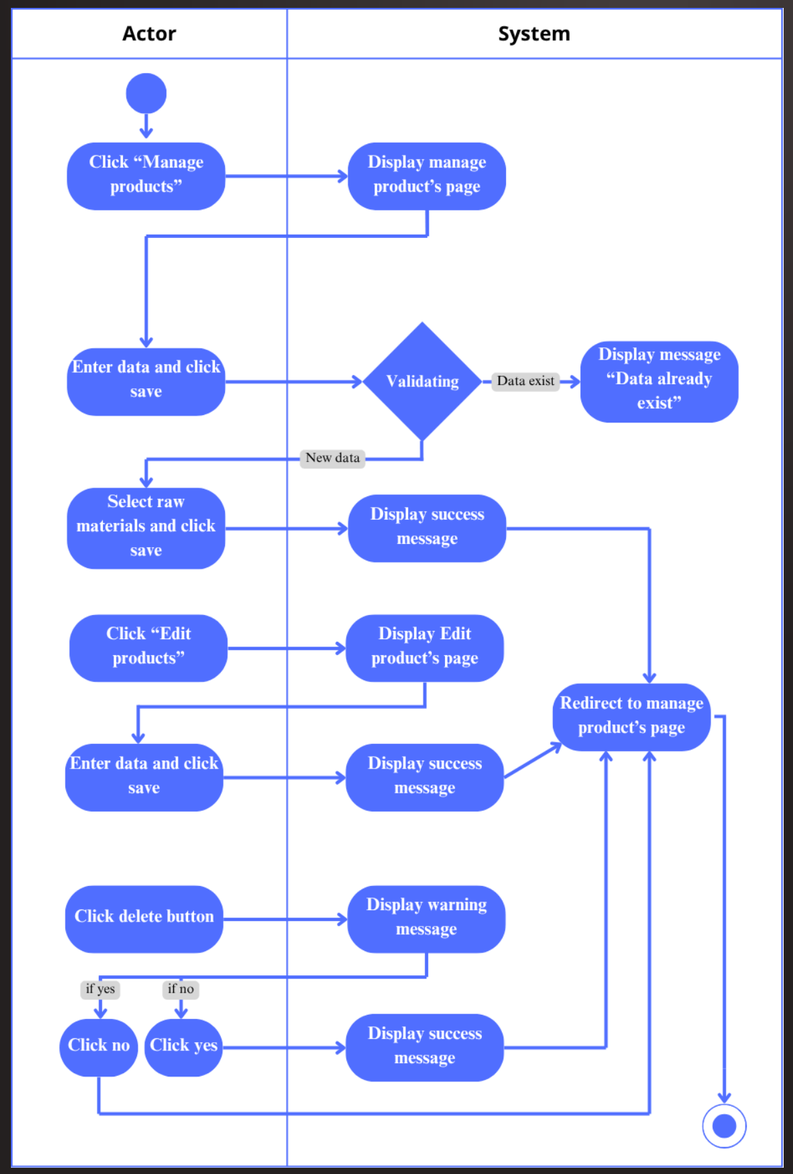
- Credential input validation
- Role-based redirection (e.g., Admin vs Owner)
- Handling failed login attempts



ACTIVITY DIAGRAM - MANAGE RAW MATERIALS

This activity diagram outlines the workflow for managing raw material data in the system. It captures the sequential steps taken by users to input, update, or delete raw material information, ensuring inventory records remain accurate and up to date. The diagram demonstrates key decisions such as:

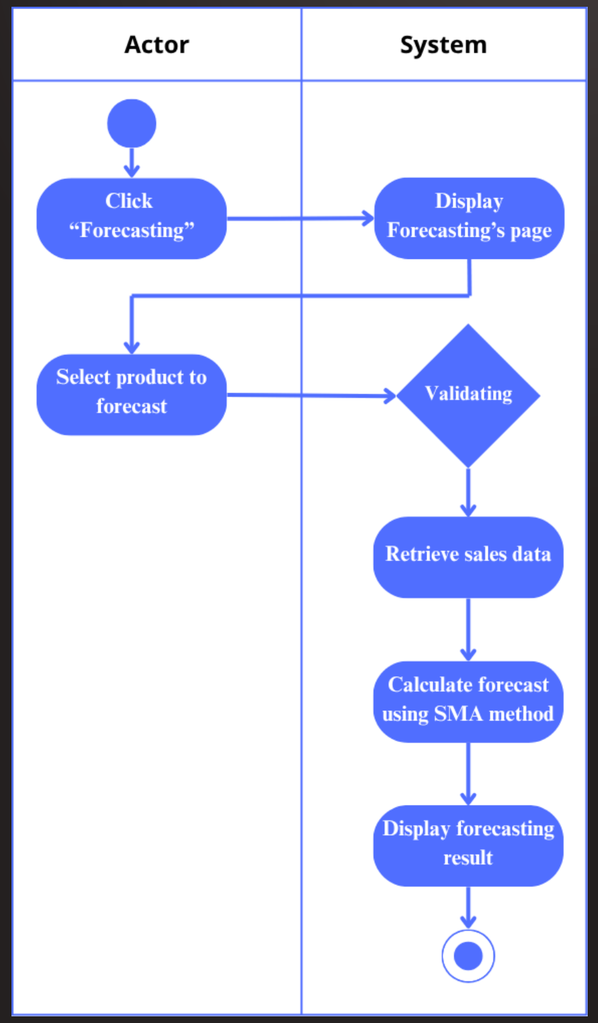
- Checking whether the raw material data already exists
- Merging quantities for duplicate entries
- Validating input before saving or updating
- Providing system feedback after successful actions (add/edit/delete)



ACTIVITY DIAGRAM - MANAGE PRODUCTS

This activity diagram illustrates the process of managing product data within the system. It maps out user interactions for adding, editing, or removing product entries while ensuring all actions are validated and confirmed by the system. The diagram highlights critical points such as:

- Displaying the product input and edit interfaces
- Validating product data before submission
- Handling updates to existing product records
- Confirming successful operations through feedback messages

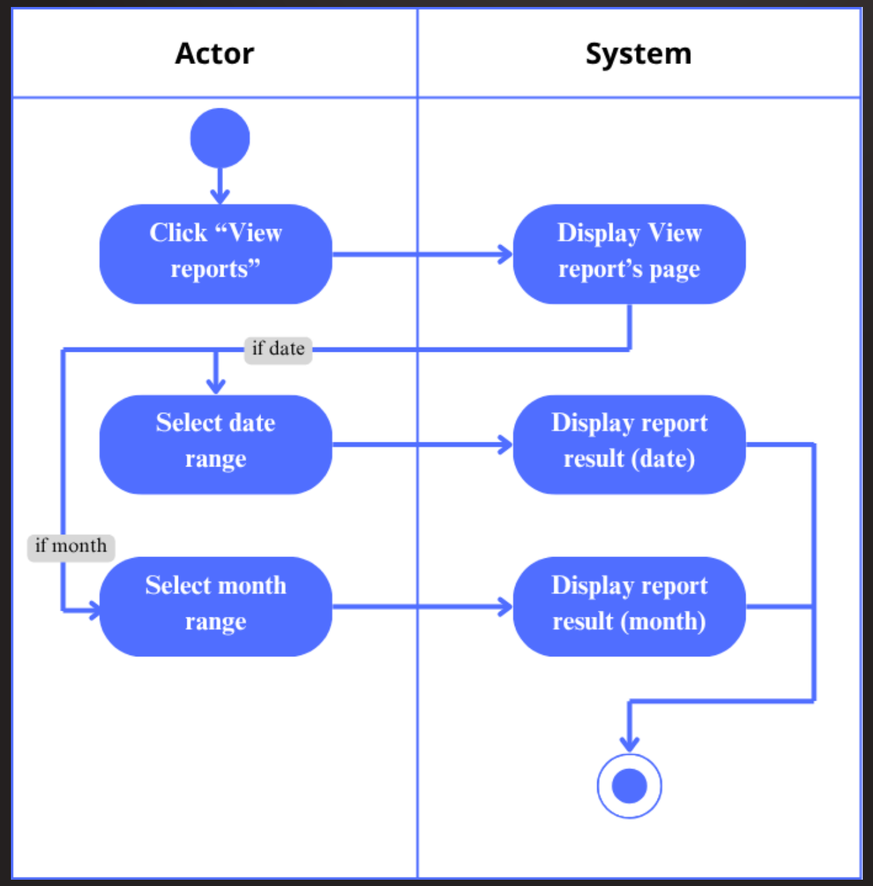


ACTIVITY DIAGRAM - RUN FORECASTING

This activity diagram illustrates the forecasting process within the system. It captures the flow from initiating the forecasting page to calculating and displaying prediction results using the Simple Moving Average (SMA) method. Key activities include:

- Navigating to the forecasting interface
- Selecting the product to forecast
- Validating user input
- Retrieving historical sales data
- Performing forecast calculations using the SMA algorithm
- Displaying the forecasted outcomes to the user

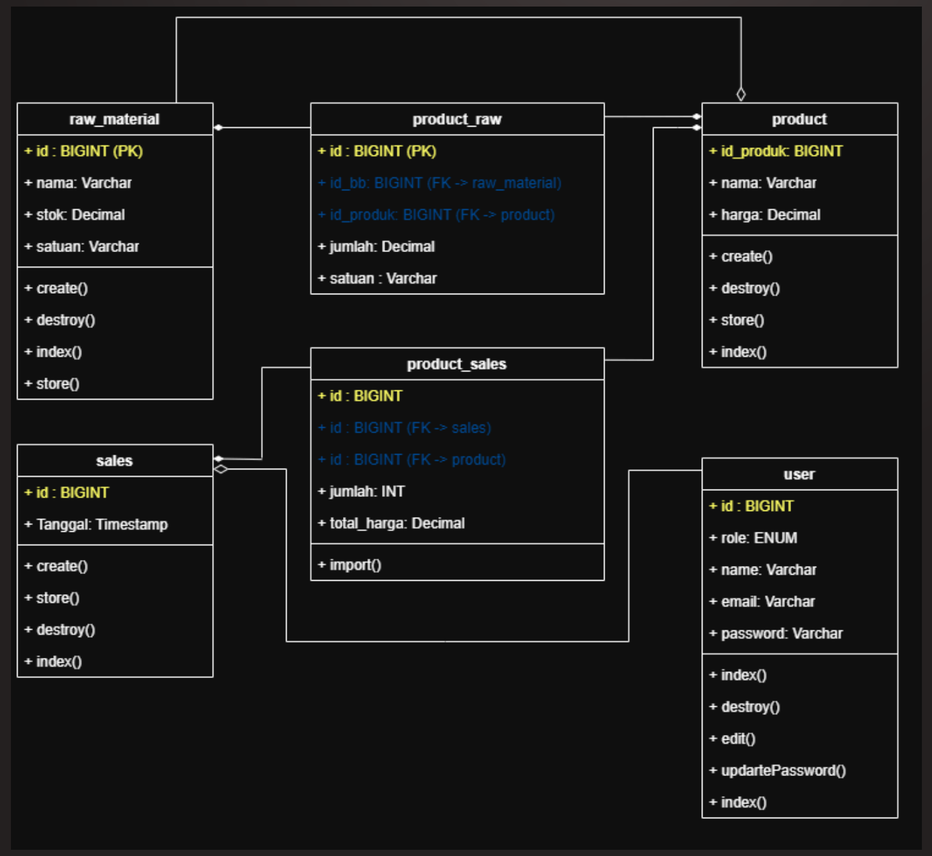
ACTIVITY DIAGRAM - VIEW REPORT



This activity diagram illustrates the process of viewing forecast reports within the system. It captures user interactions from initiating the report view to selecting the desired report filter and displaying the corresponding results. The diagram highlights decision points based on the selected time range:

- User initiates the report view by clicking the report button
- System displays the reporting interface
- User selects a filter option: either by date range or month range
- System responds accordingly by displaying the filtered report results

CLASS DIAGRAM

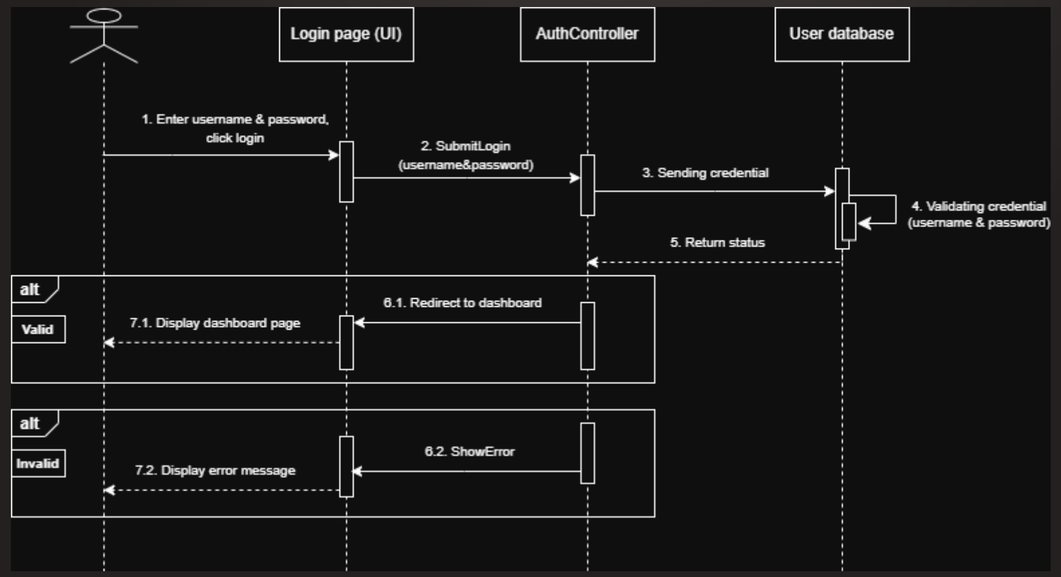


CLASS DIAGRAM

This system is designed to manage raw materials, products, sales, and users, with integrated forecasting features for stock planning.

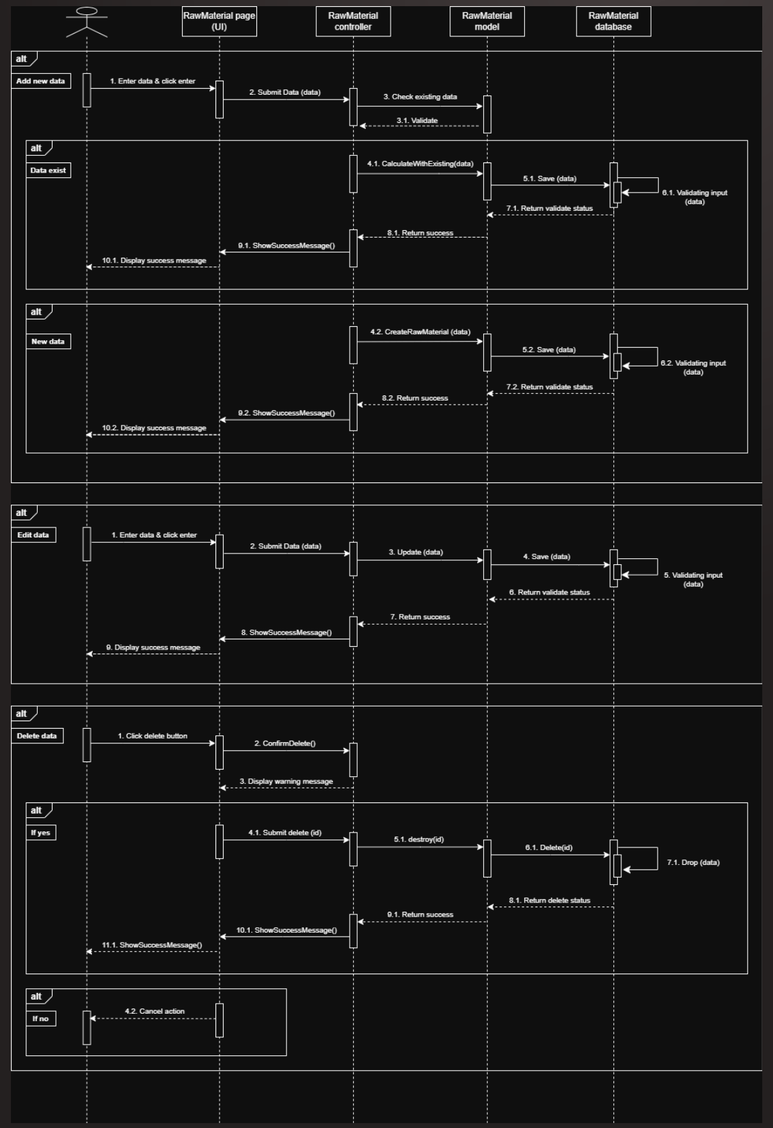
- User: Handles authentication and authorization with roles. Includes password update and profile management features.
- Product: Represents finished goods with associated pricing. Each product is composed of multiple raw materials.
- Raw Material: Tracks available stock, unit, and material details used in product manufacturing.
- Product-Raw Relationship (product_raw): A pivot class defining a many-to-many relationship between products and raw materials, including quantity and unit used per product.
- Sales: Records sales transactions along with timestamps.
- Product Sales (product_sales): Connects sales with the associated products, capturing quantities and total prices.

SEQUENCE DIAGRAM



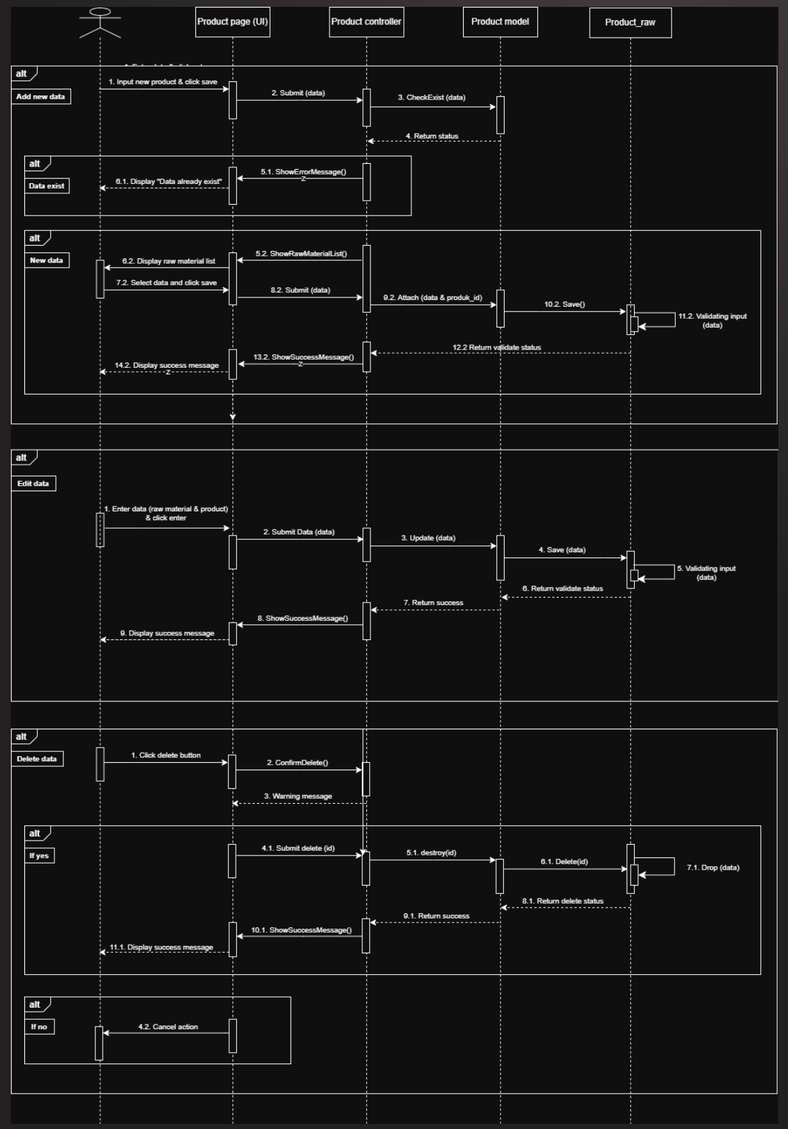
SEQUENCE DIAGRAM - USER LOGIN

This sequence diagram illustrates the user authentication workflow during the login process. It captures the interaction between the user interface, authentication controller, and user database.



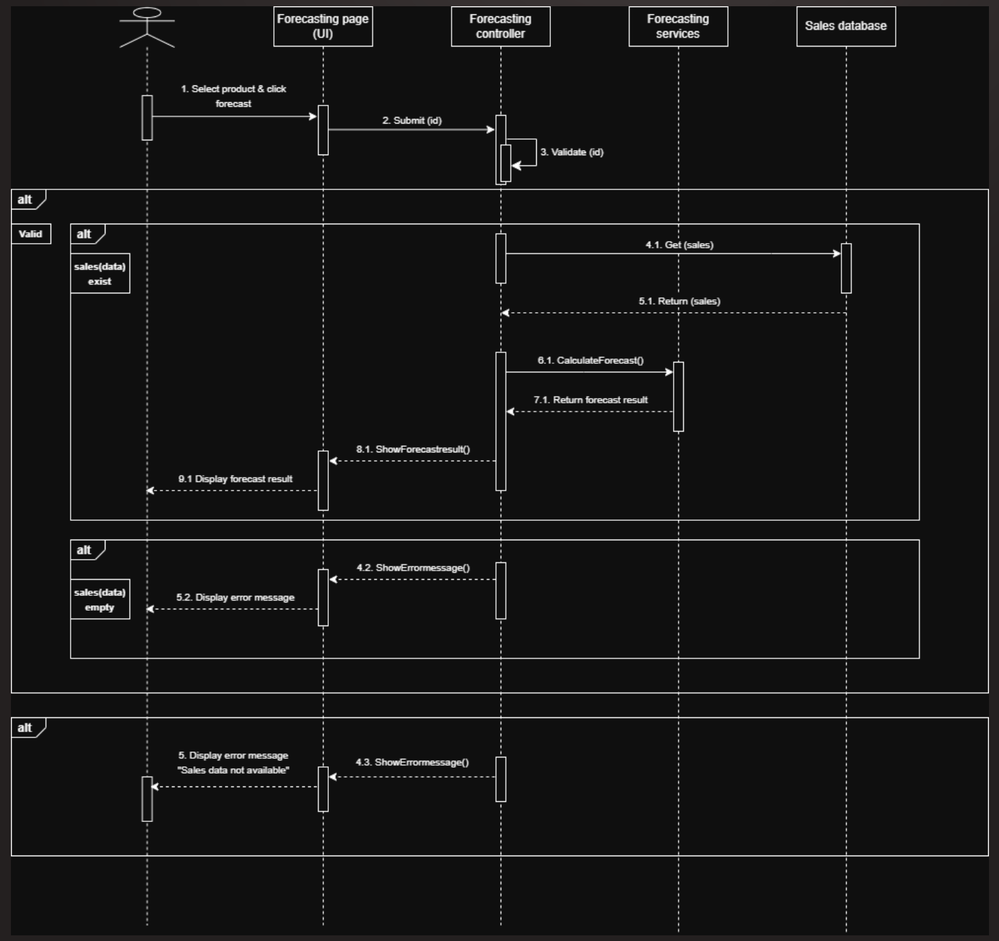
SEQUENCE DIAGRAM - MANAGE RAW MATERIALS

This sequence diagram illustrates the complete lifecycle of managing raw materials within the system, including adding, editing, and deleting raw material data. The process covers input validation, conditional flows, and success/failure messaging. It consists of four main workflows Add new data, Edit data, and Delete data.



SEQUENCE DIAGRAM - MANAGE PRODUCT

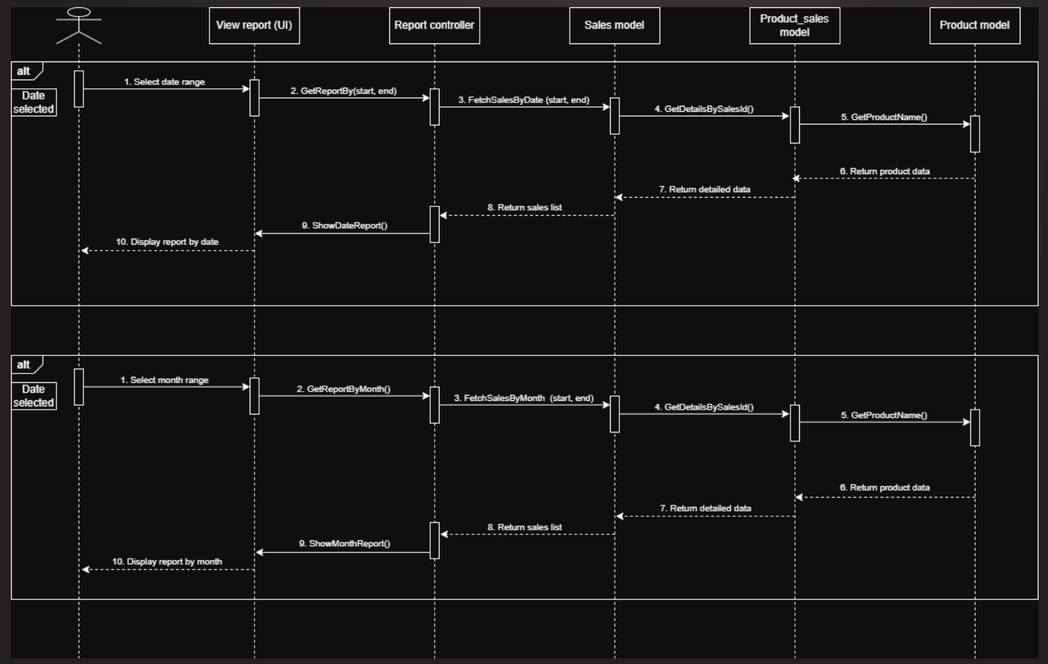
This sequence diagram details the process of managing product data, covering adding, editing, and deleting product entries while linking raw materials. It highlights how the system handles input validation, data existence checks, and confirmation flows. Key interactions included : Add new product, Edit product, and Delete product



SEQUENCE DIAGRAM - RUN FORECAST

This sequence diagram illustrates the forecasting process initiated by a user selecting a product. The system validates the product ID and then proceeds to retrieve historical sales data. If valid data exists, it calculates a forecast using the SMA method and displays the result. The diagram includes key decision branches for:

- Product ID validation
- Handling available vs. empty sales data
- Error display when validation or data retrieval fails

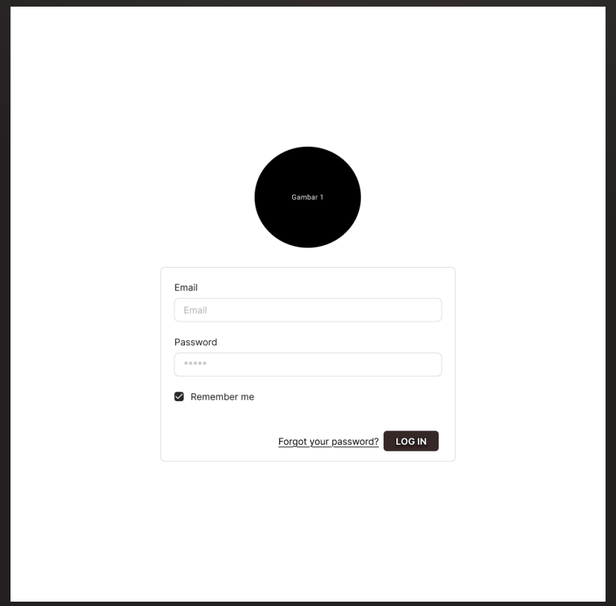


SEQUENCE DIAGRAM - VIEW REPORT

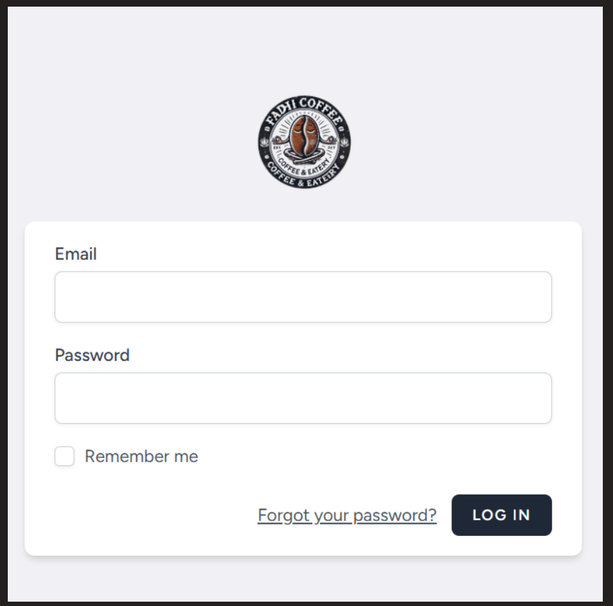
This sequence diagram illustrates the process of generating sales reports based on user-defined filters. It outlines how the system handles both date-based and month-based report requests, starting from user interaction to data retrieval and final report display.

UI/UX MOCKUP AND FINAL IMPLEMENTATION RESULT

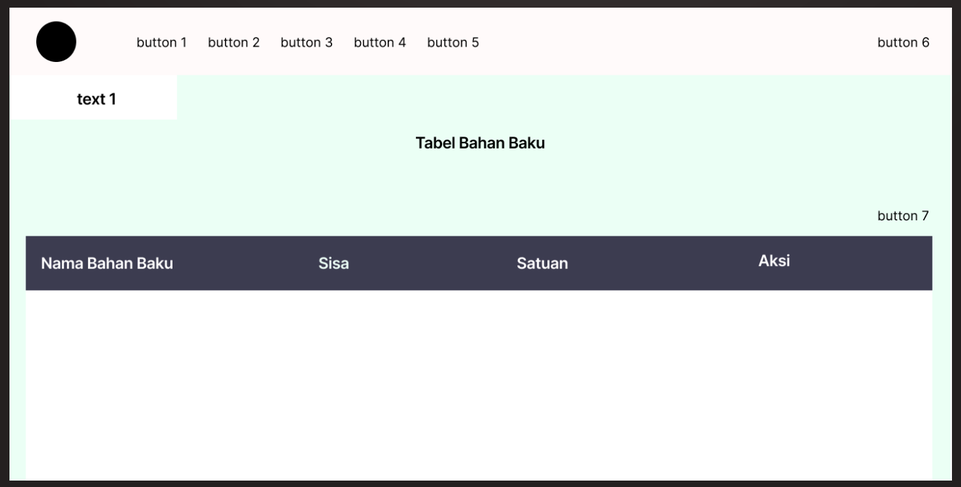
MOCK UP



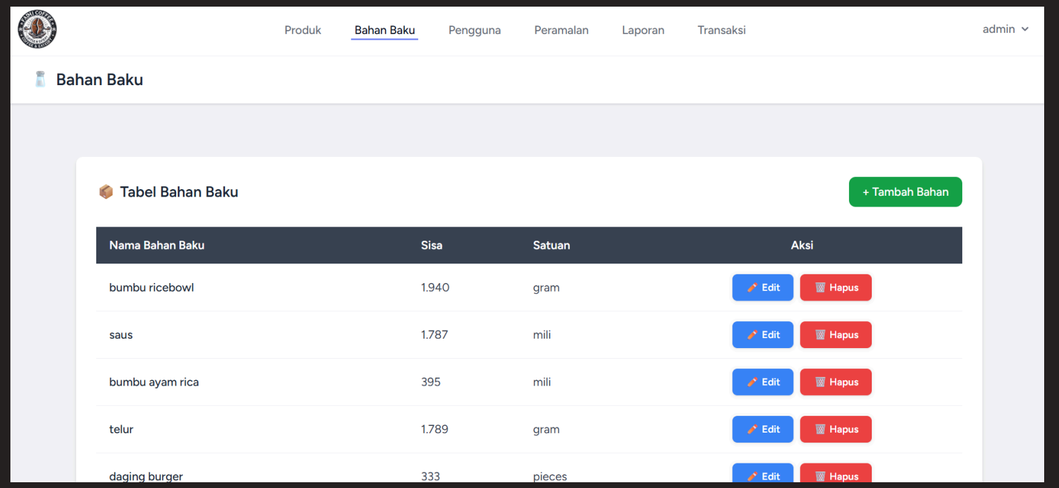
RESULT



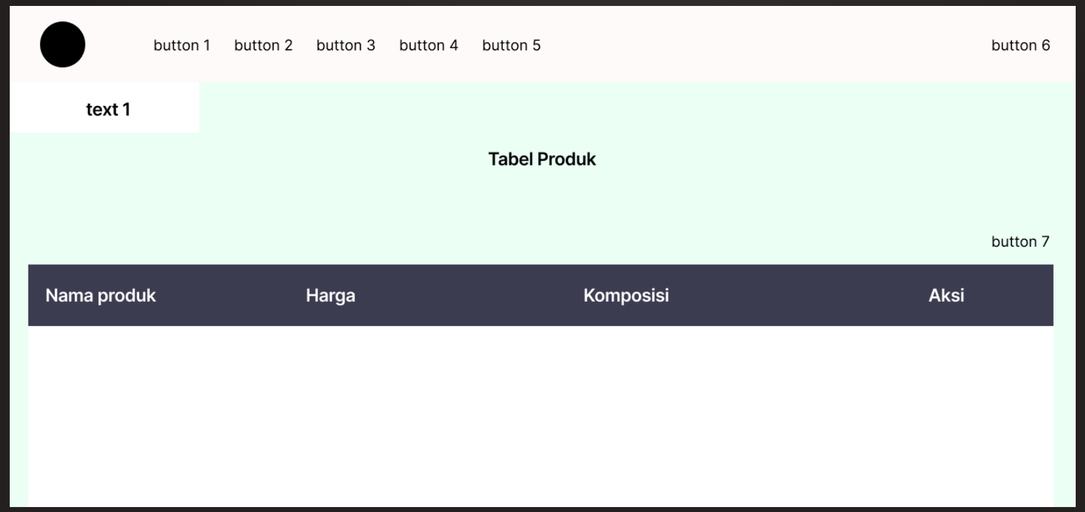
MOCK UP



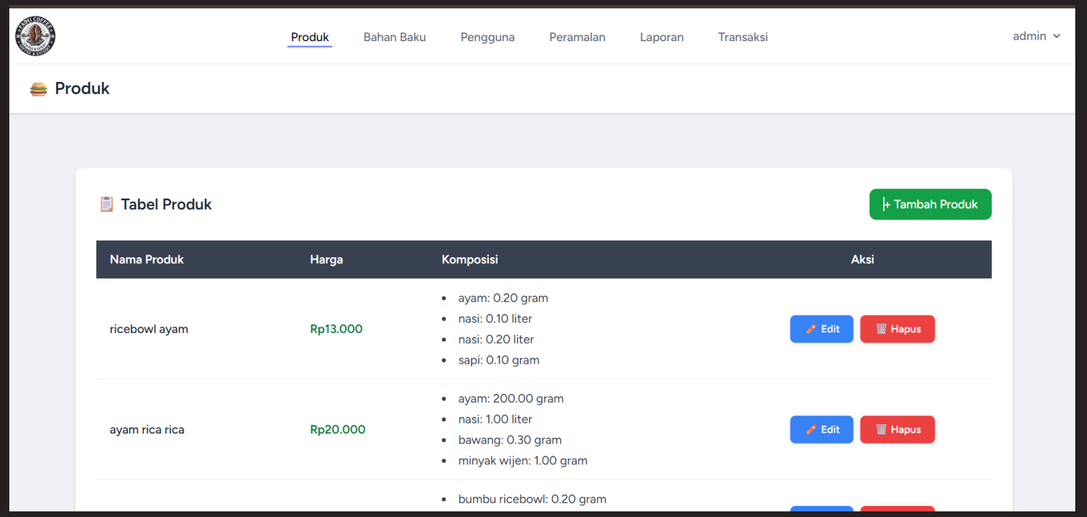
RESULT



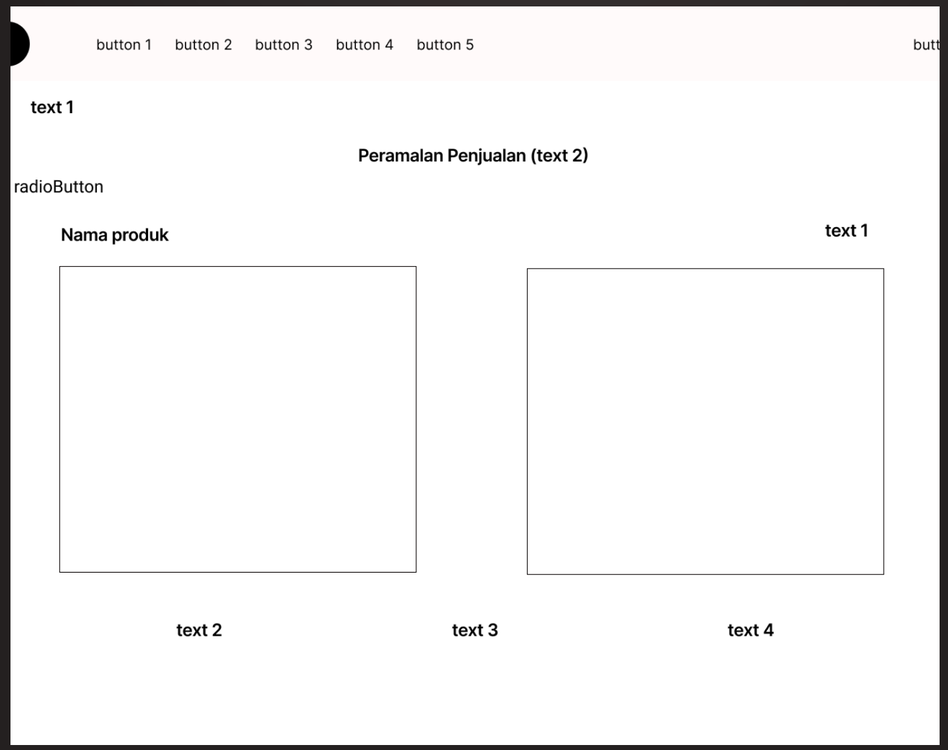
MOCK UP



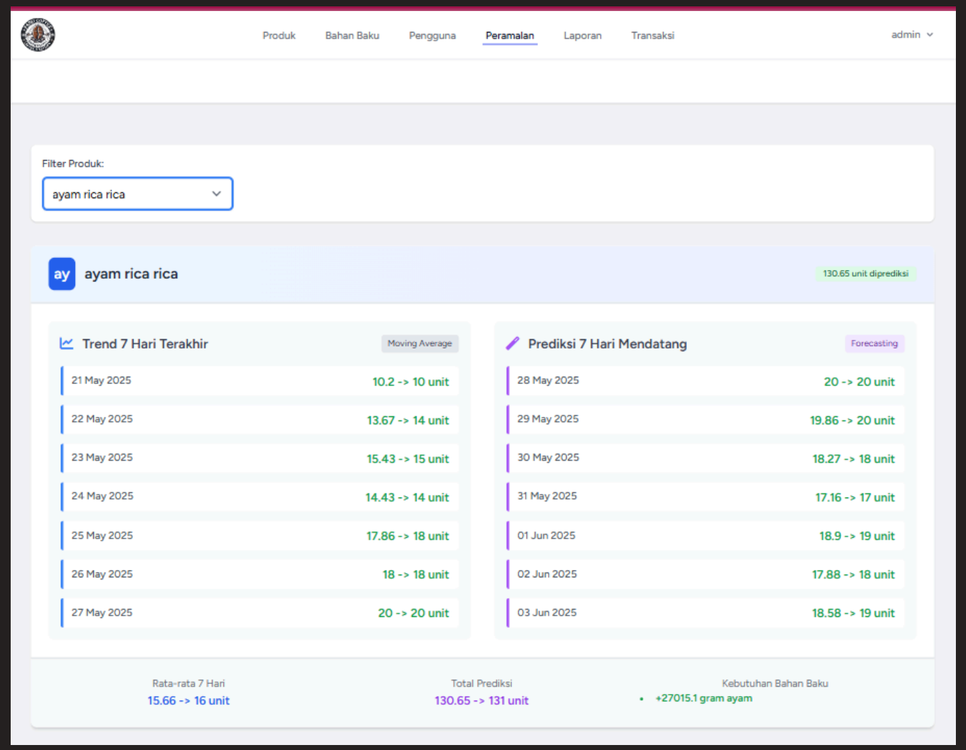
RESULT



MOCK UP

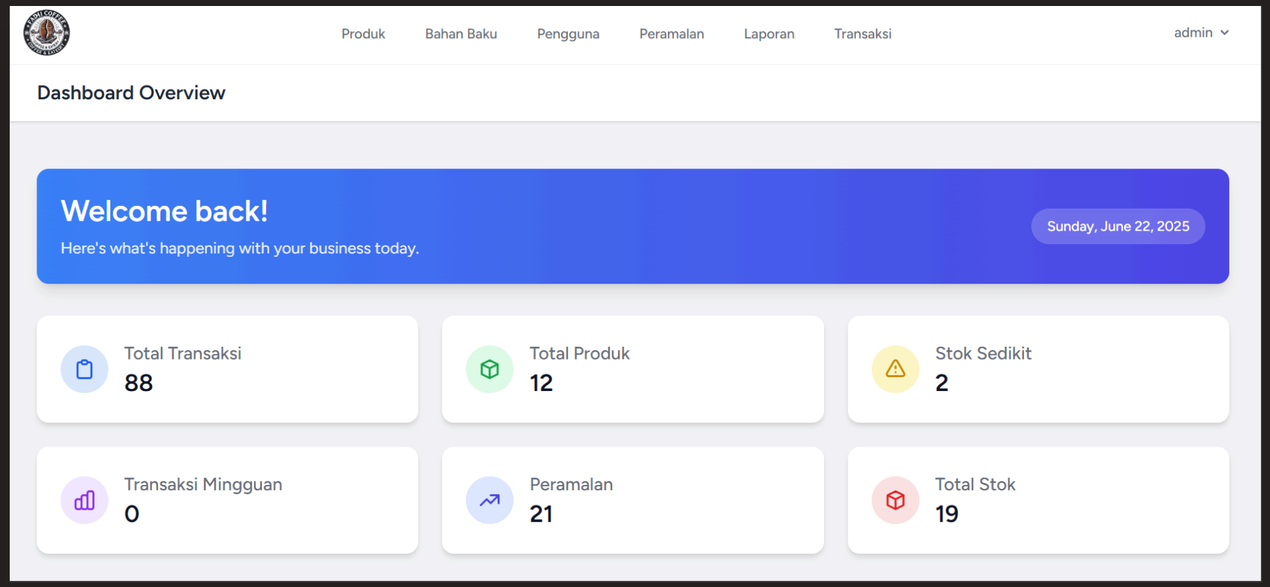


RESULT

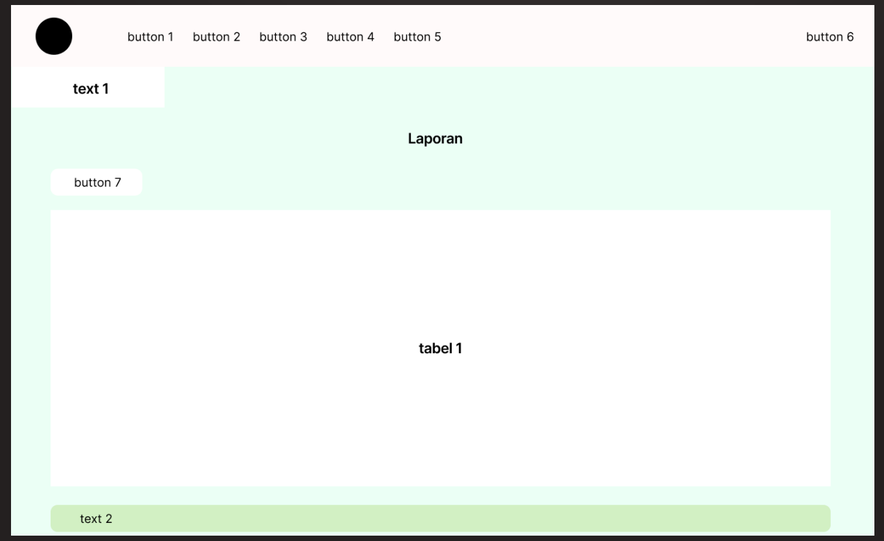


MOCK UP

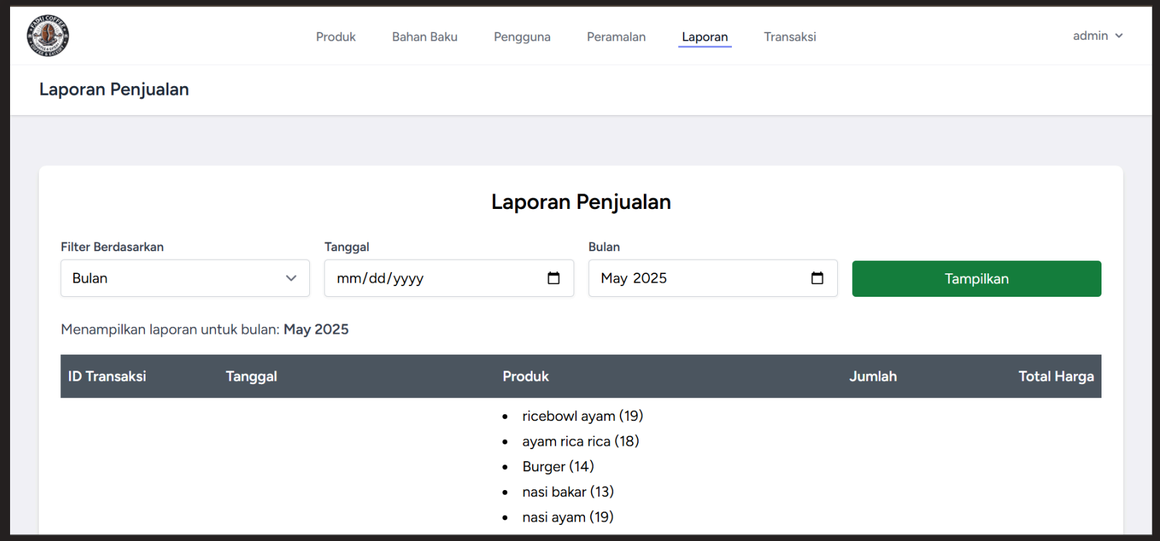
RESULT



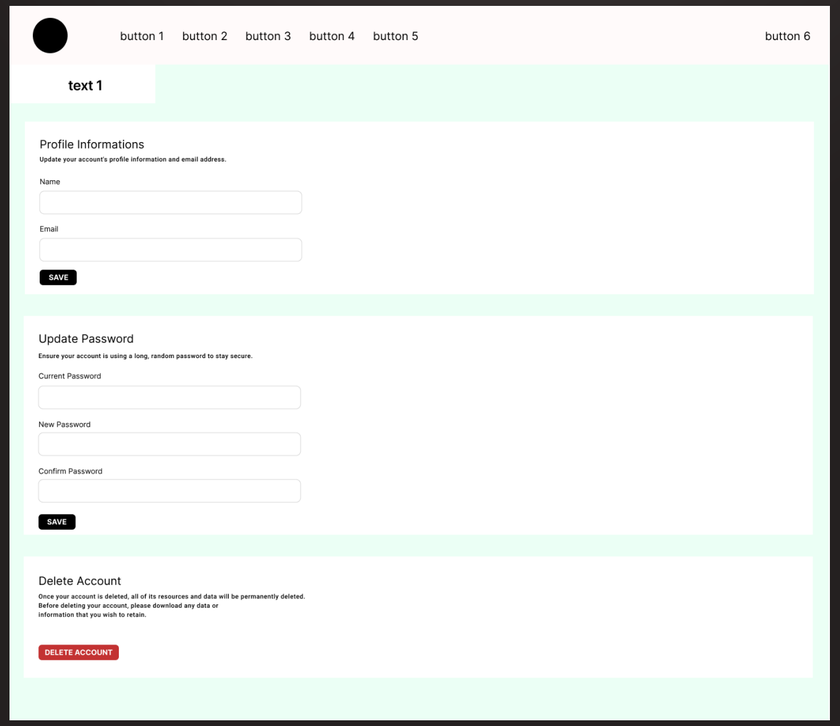
MOCK UP



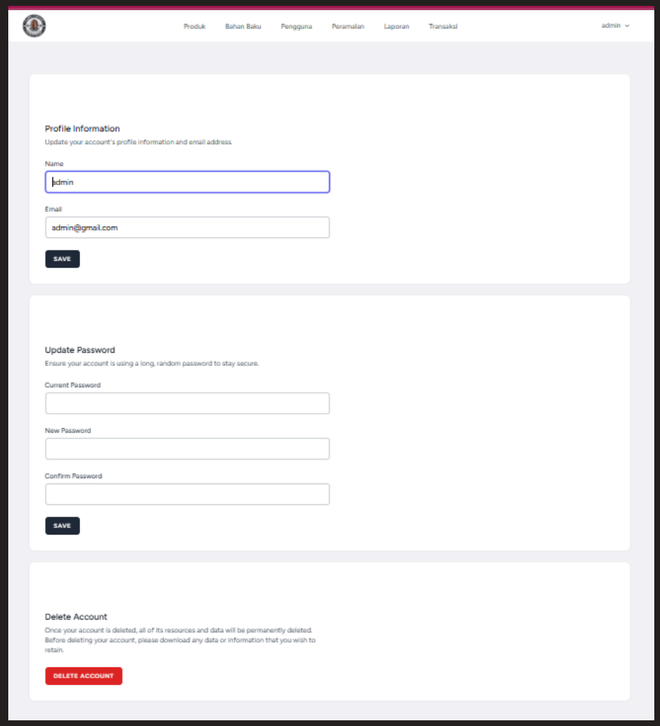
RESULT



MOCK UP



RESULT



PROJECT SUMMARY

As a System Analyst, I was responsible for capturing user requirements, designing system workflows, and preparing technical documentation including use case diagrams, activity diagrams, and sequence diagrams. I also assisted in database schema design and collaborated with developers to ensure implementation matched business goals.

THANK YOU

: www.linkedin.com/in/muhammad-denaz-660073345

: @mdenazskom@gmail.com