Deliverable #3 Template

SE 3A04: Software Design III – Large System Design

Tutorial Number: T02
Group Number: G02
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1 Introduction

This document provides further information about the SoleMate system architecture, including state chart diagrams, sequence diagrams, and a detailed class diagram. These materials expand on the foundational concepts introduced in Deliverables 1 and 2, adding detailed insights into how SoleMate's key components work together.

1.1 Purpose

The document shows how different classes and controllers encapsulated within SoleMate transition between states, interact with one another, and enable the shoe-identification capabilities central to the system. Additionally, this deliverable serves as a resource for technical and non-technical team members seeking clarity on SoleMate's design.

1.2 System Description

SoleMate is an intelligent shoe-identification platform that allows users to request footwear information, view past or community-wide identifications, and manage their personal shoe history. This platform combines user-friendly interfaces with expert-driven data to provide reliable, context-based recommendations and identifications. Building on the concepts introduced in previous deliverables, SoleMate employs multiple controllers to validate user requests, route queries to the appropriate domain experts, and retrieve comprehensive shoe-related insights.

An extended overview of the system description can be found in Deliverable 2. This document acts as an extension of Deliverable 2, providing more context in form of state charts, sequence diagrams, and a detailed class diagram.

1.3 Overview

The remainder of this document details how SoleMate's components interact to fulfill user needs:

- Section 2 presents state chart diagrams for the key controller classes, illustrating transitions from request submissions through to expert queries and user feedback.
- Section 3 provides sequence diagrams that capture step-by-step interactions among system components, showing how user requests flow through the platform.
- Section 4 offers a comprehensive class diagram, highlighting the relationships and responsibilities of SoleMate's major classes.

2 State Charts for Controller Classes

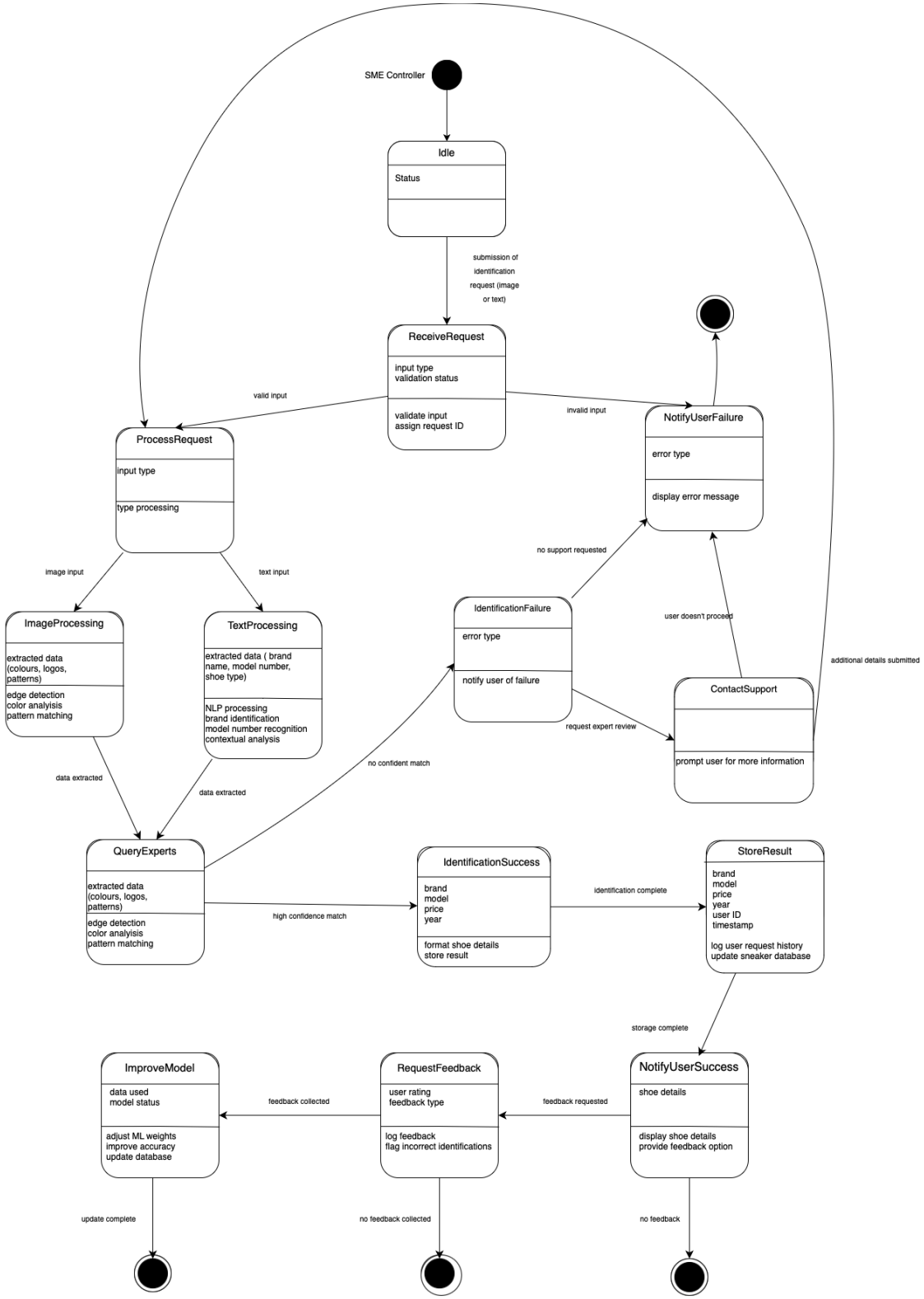

Figure 1: SME Controller state diagram illustrating the identification process flow from request submission to expert querying and user feedback.

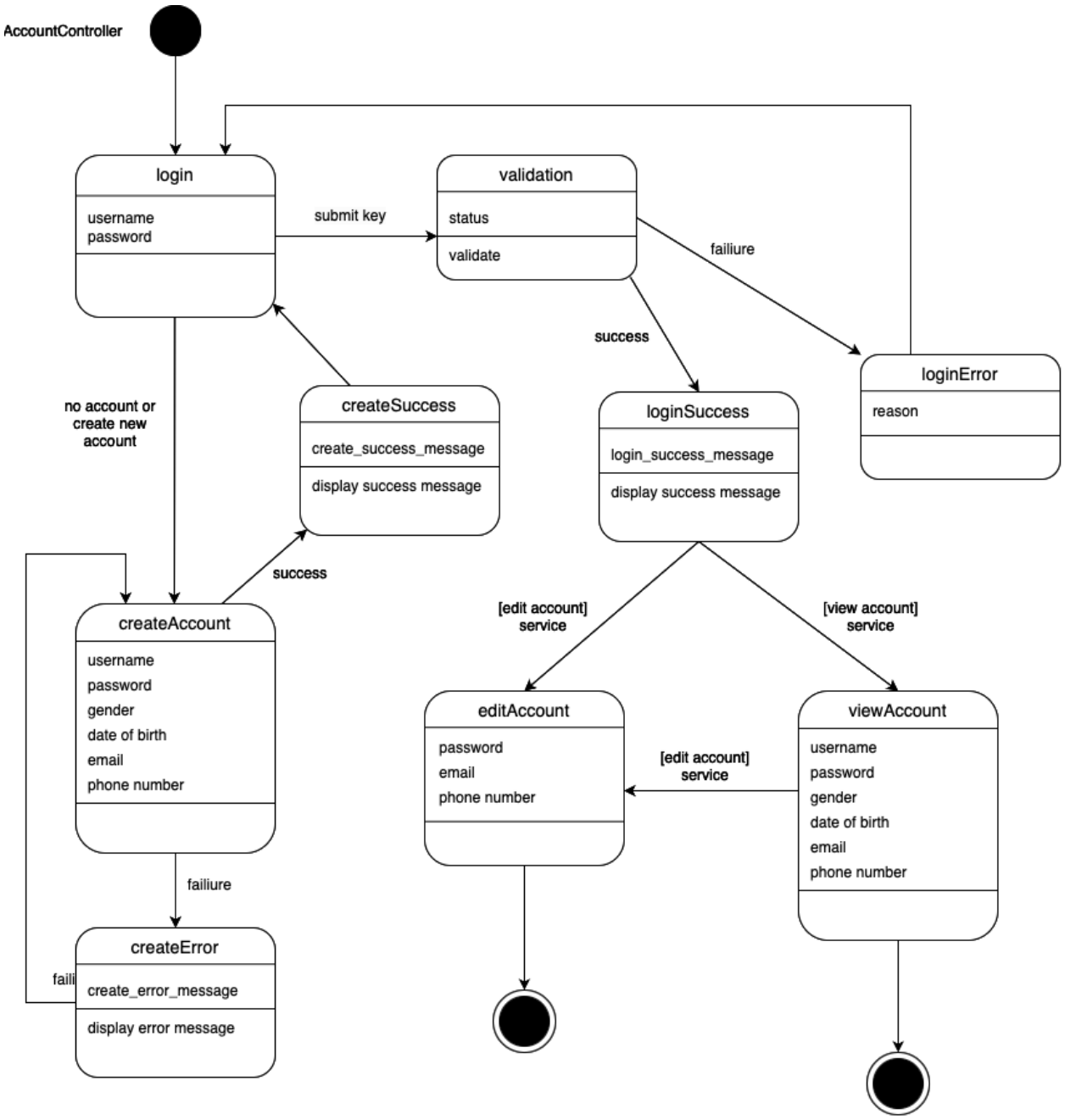

Figure 2: Account Controller state diagram showing login, account creation, validation, and management functionality.

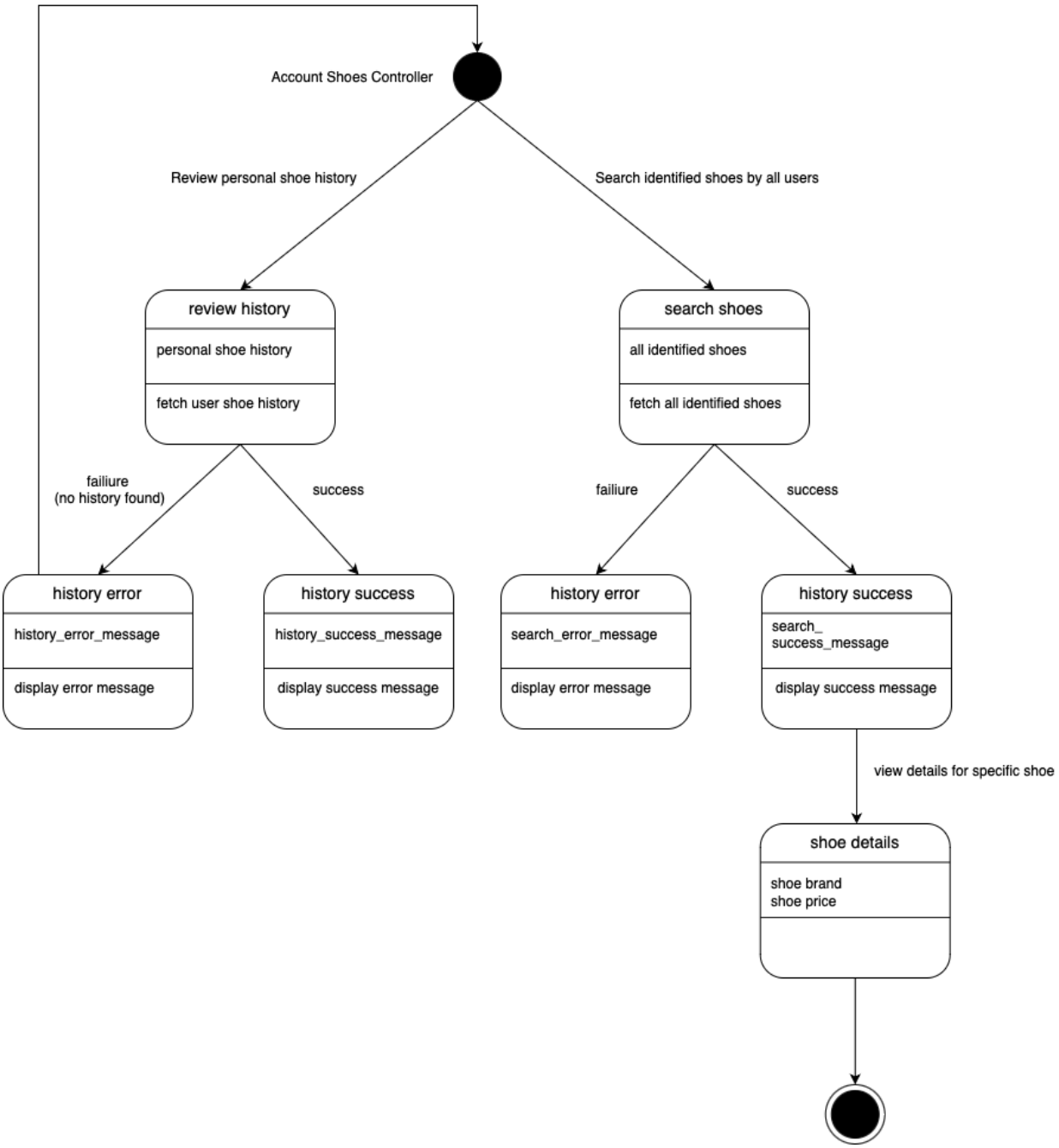

Figure 3: Account Shoes Controller state diagram showing user interactions for viewing personal shoe history and searching shoes identified by all users.

3 Sequence Diagrams

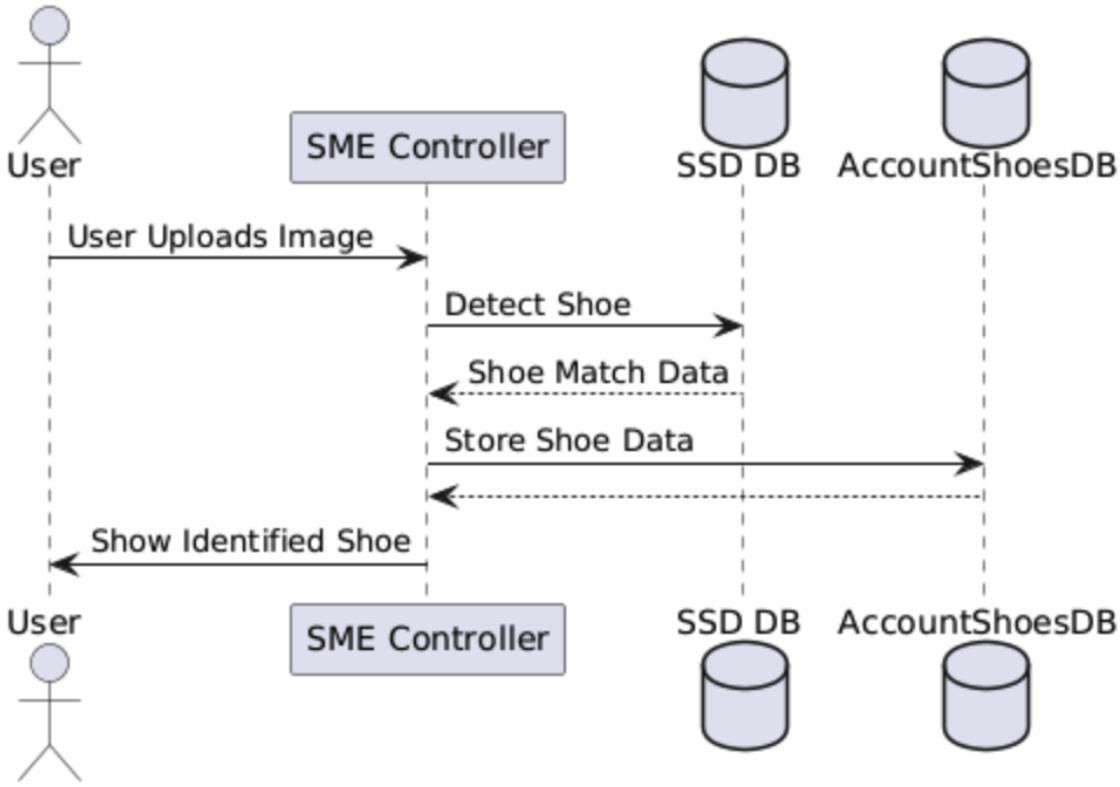

Figure 4: User requests shoe identification

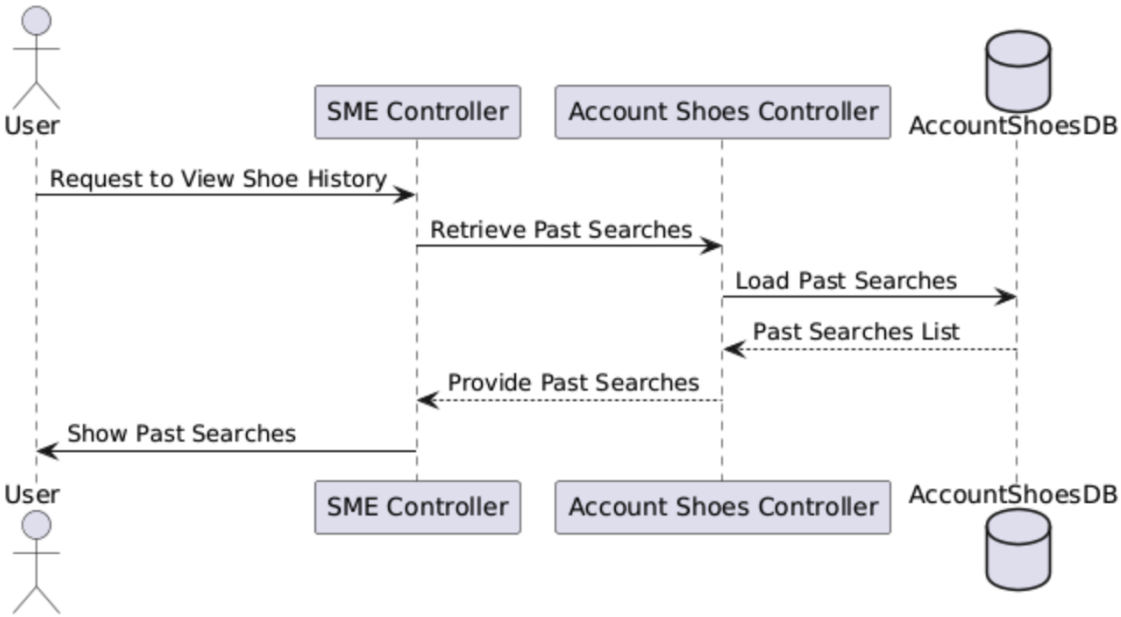

Figure 5: User views their past shoe searches

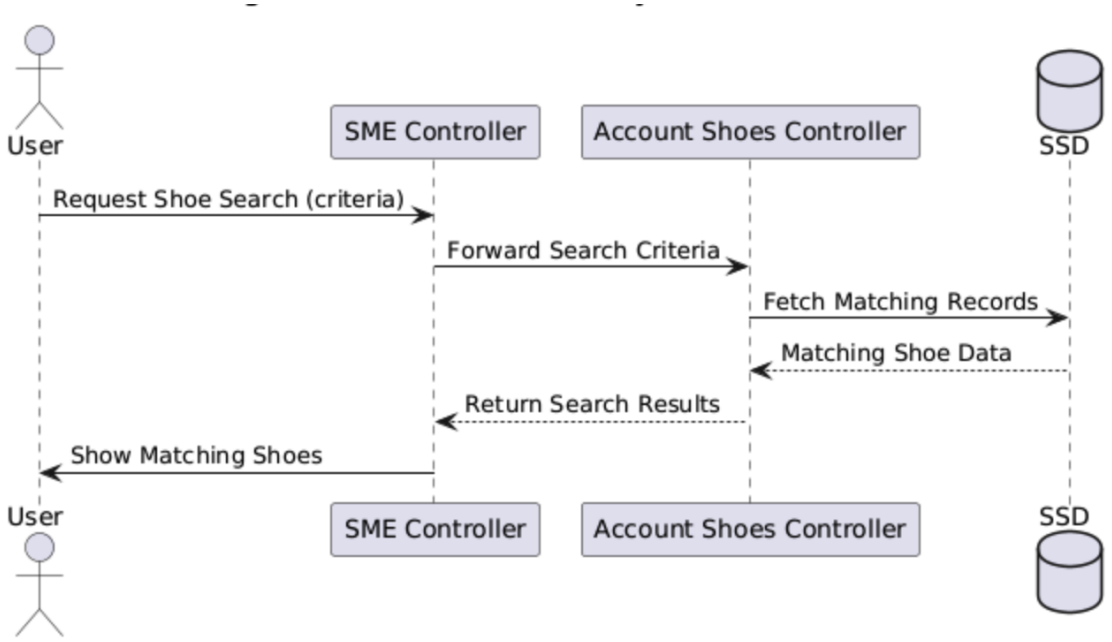

Figure 6: User searches for previously identified shoes

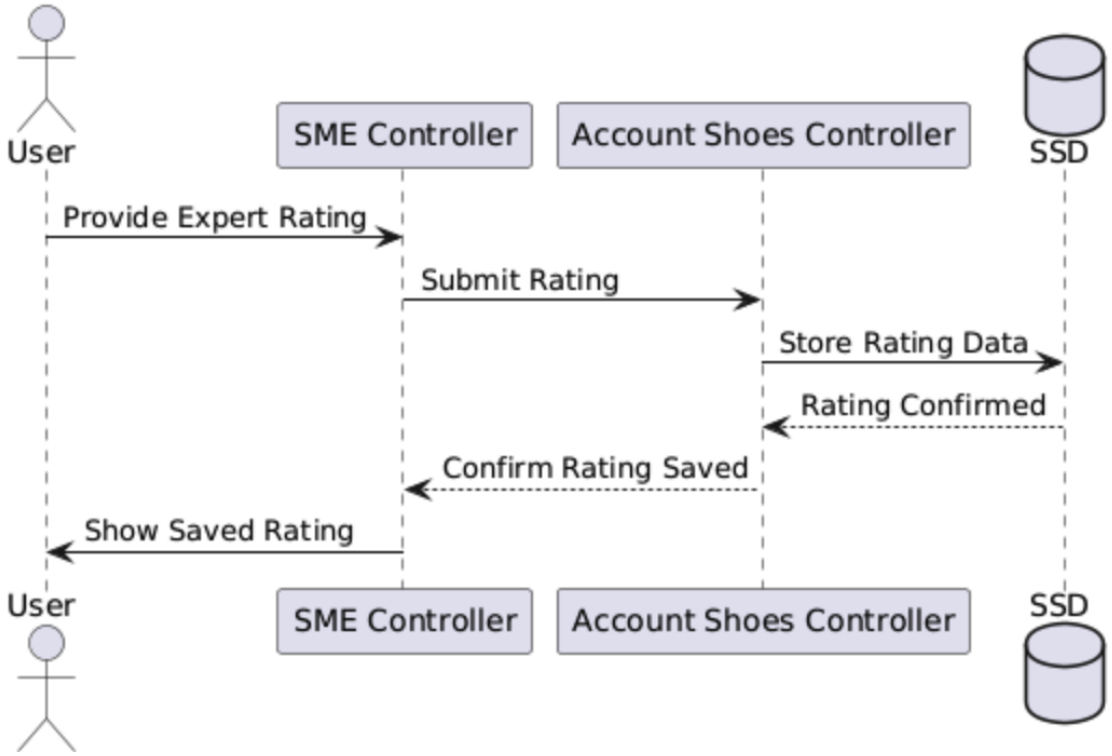

Figure 7: User audits experts' answers

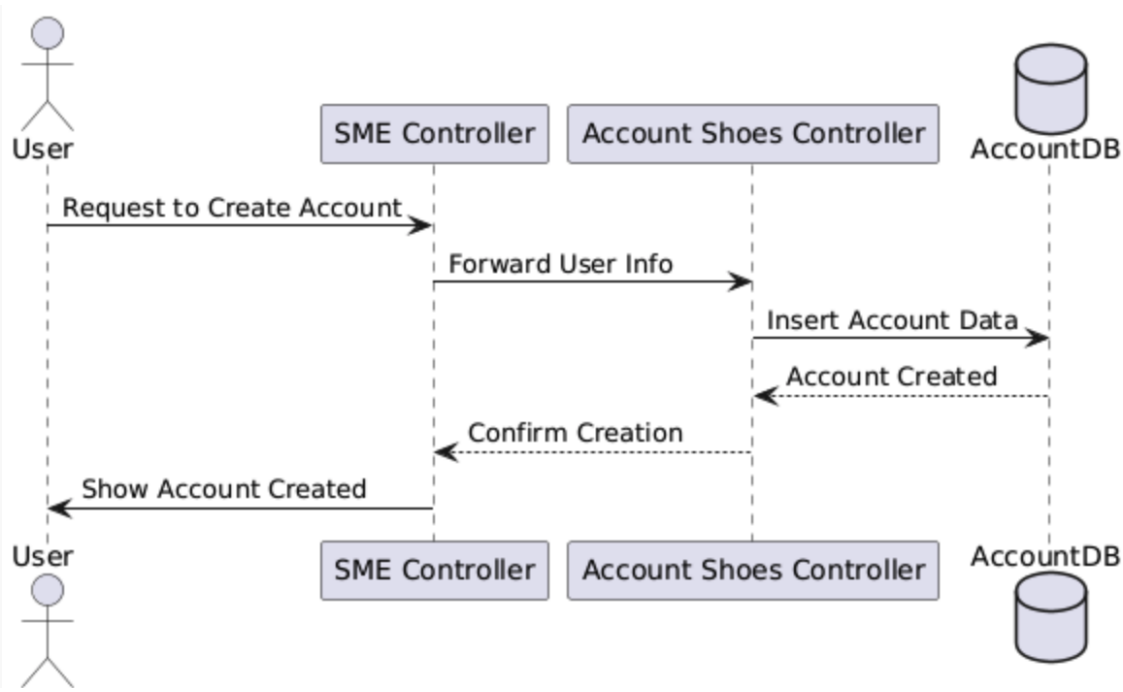

Figure 8: User creates account

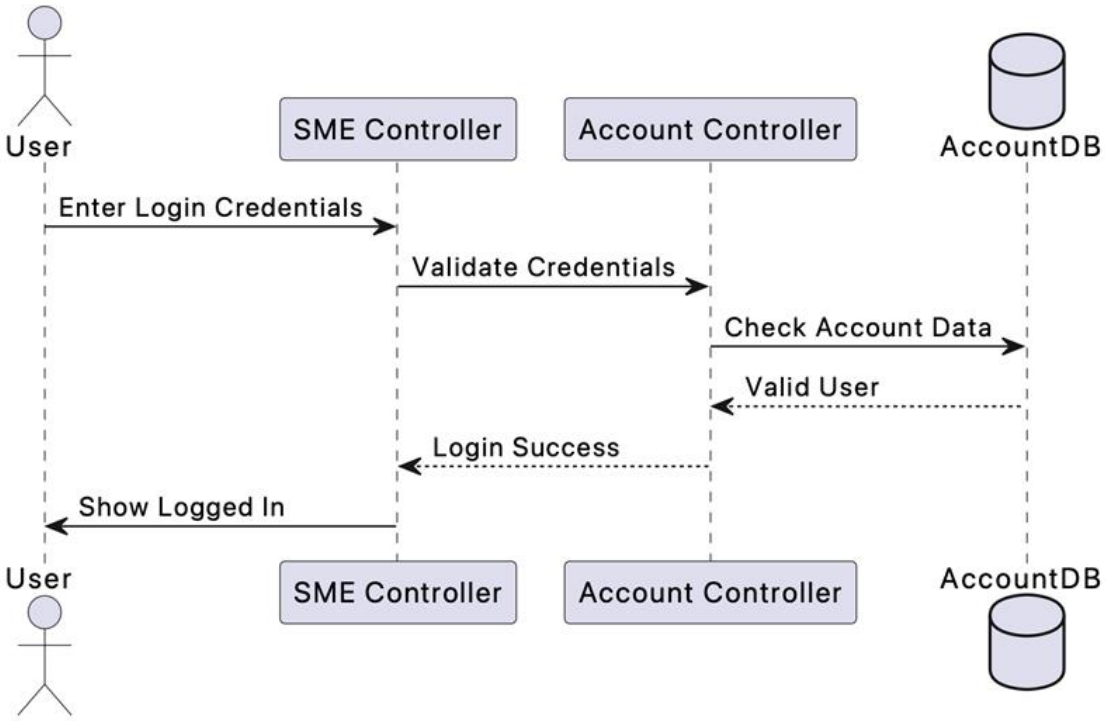

Figure 9: User logs in

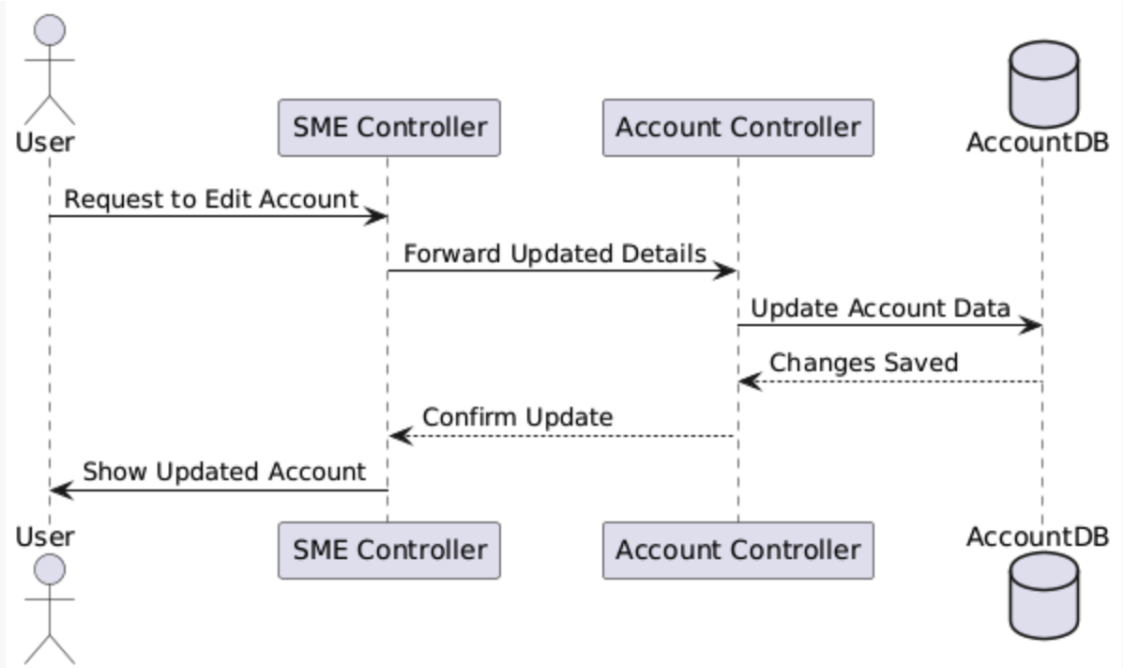

Figure 10: User edits account

4 Detailed Class Diagram

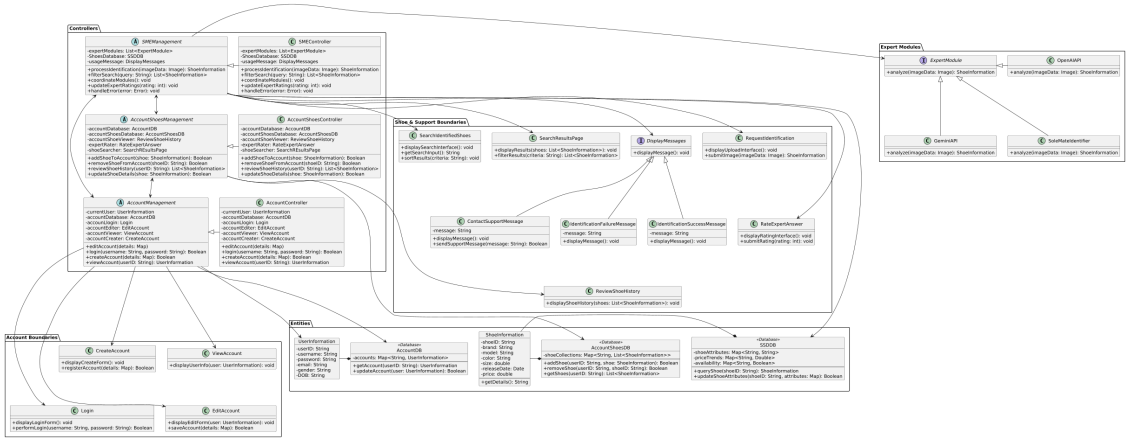

Figure 11: Overall detailed class diagram

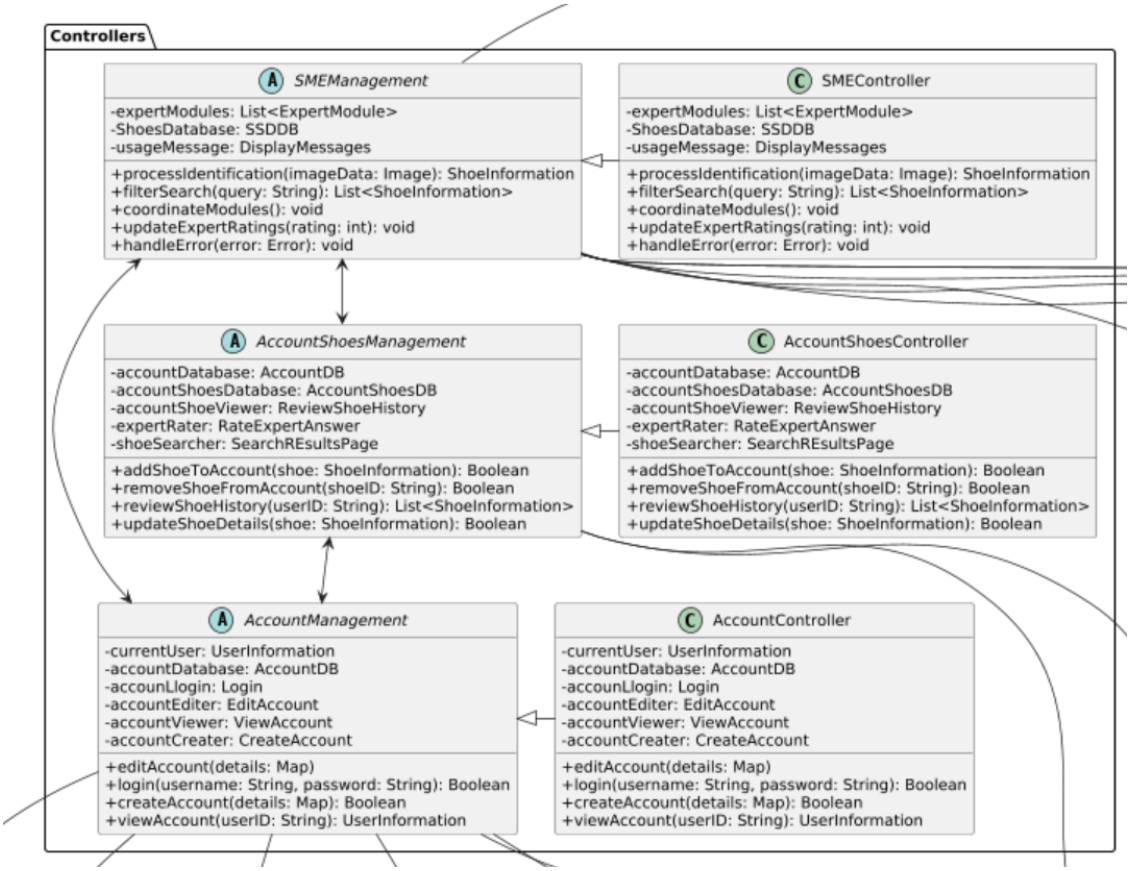

Figure 12: Detailed class diagram subsection 1

Figure 12 is above Figure 13 and left of Figure 14.

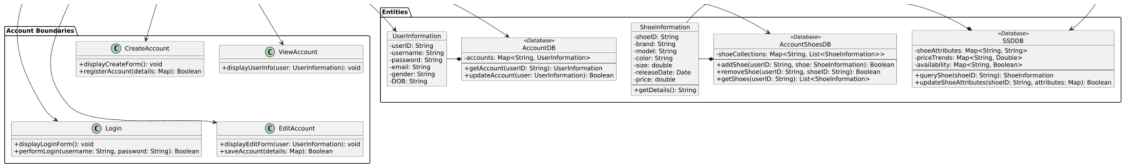

Figure 13: Detailed class diagram subsection 2

Figure 13 is below Figure 12 and Figure 14.

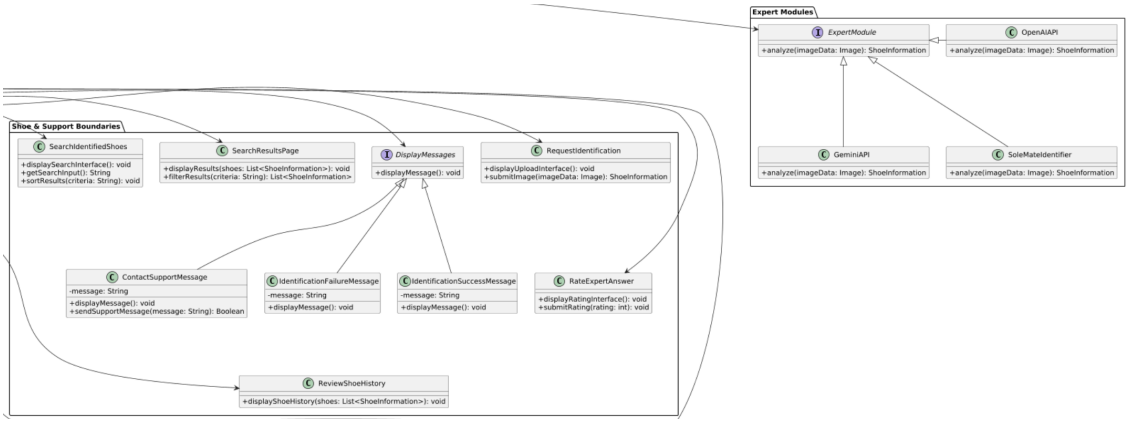

Figure 14: Detailed class diagram subsection 3

Figure 14 is above Figure 13 and right of Figure 12.

A Division of Labour

Include a Division of Labour sheet which indicates the contributions of each team member. This sheet must be signed by all team members.

IMPORTANT NOTES

- You do NOT need to provide a text explanation of each diagram; the diagram should speak for itself
- Please document any non-standard notations that you may have used
  - *Rule of Thumb*: if you feel there is any doubt surrounding the meaning of your notations, document them
- Some diagrams may be difficult to fit into one page
  - It is OK if the text is small but please ensure that it is readable when printed
  - If you need to break a diagram onto multiple pages, please adopt a system of doing so and throughly explain how it can be reconnected from one page to the next; if you are unsure about this, please ask me
- Please submit the latest version of Deliverable 1 and Deliverable 2 with Deliverable 3
  - They do not have to be a freshly printed versions; the latest marked versions are OK
- If you do NOT have a Division of Labour sheet, your deliverable will NOT be marked