



APRIL 29, 2025

TIMELINEXPRESS SYSTEM DESIGN DOCUMENT

DRAFT 0.5 FOR REVIEW

ALPHA TEAM

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INTRODUCTION

Description of the Application

The Timeline app is a user-friendly, interactive application designed to help people explore historical events in an engaging and accessible way. The app lets users view, compare, and interact with historical timelines, offering a visual and customizable approach to learning about the past.

Events are stored in an integrated database, allowing users to search for key historical moments, create and manage entries, and explore timelines based on themes, periods, or event types.

Purpose of This Design Document

The purpose of this document is to define the design details, and functionality, of the Timeline app. It serves as a shared reference point for the development team, designers, and stakeholders through the implementation phase of the project.

By outlining the app's core features, technical components, and performance expectations, this document ensures that everyone involved in the project has a mutual understanding of what the application will do, and how it will work.

What This Document Contains

This design document includes the following sections:

- Introduction, including a high-level overview of the Timeline app.
- A design level class diagram, including pseudocode for each class.
- Statechart diagrams for each class
- Design level sequence diagrams for each use case identified in the System Requirements Document

Reference Documents

TimelineXpress Project Plan, February 17, 2025.

TimelineXpress System Requirements Document, March 26, 2025

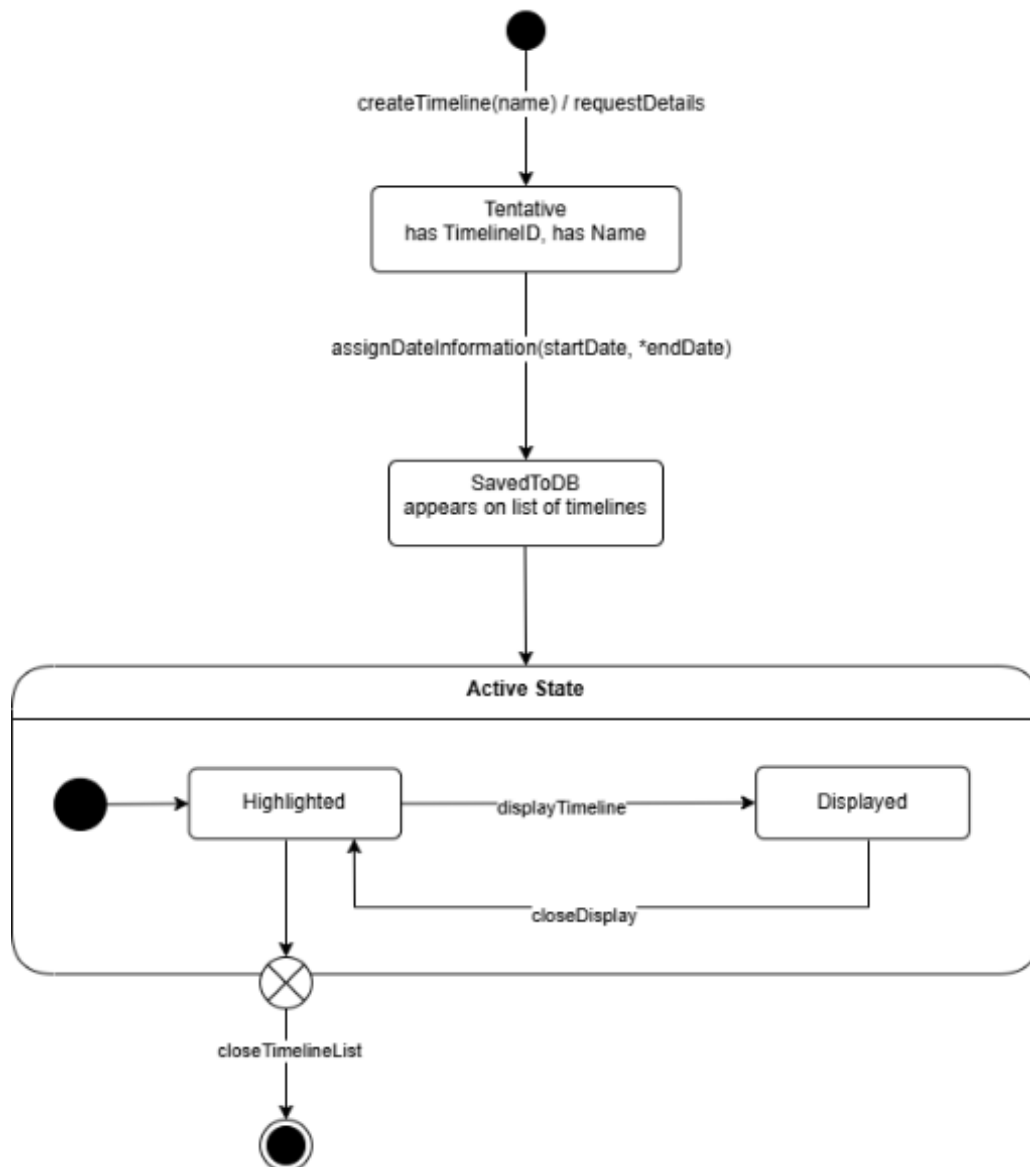
DESIGN LEVEL CLASS DIAGRAM

Refine your Class Diagram from your Analysis phase to contain the following additional information:

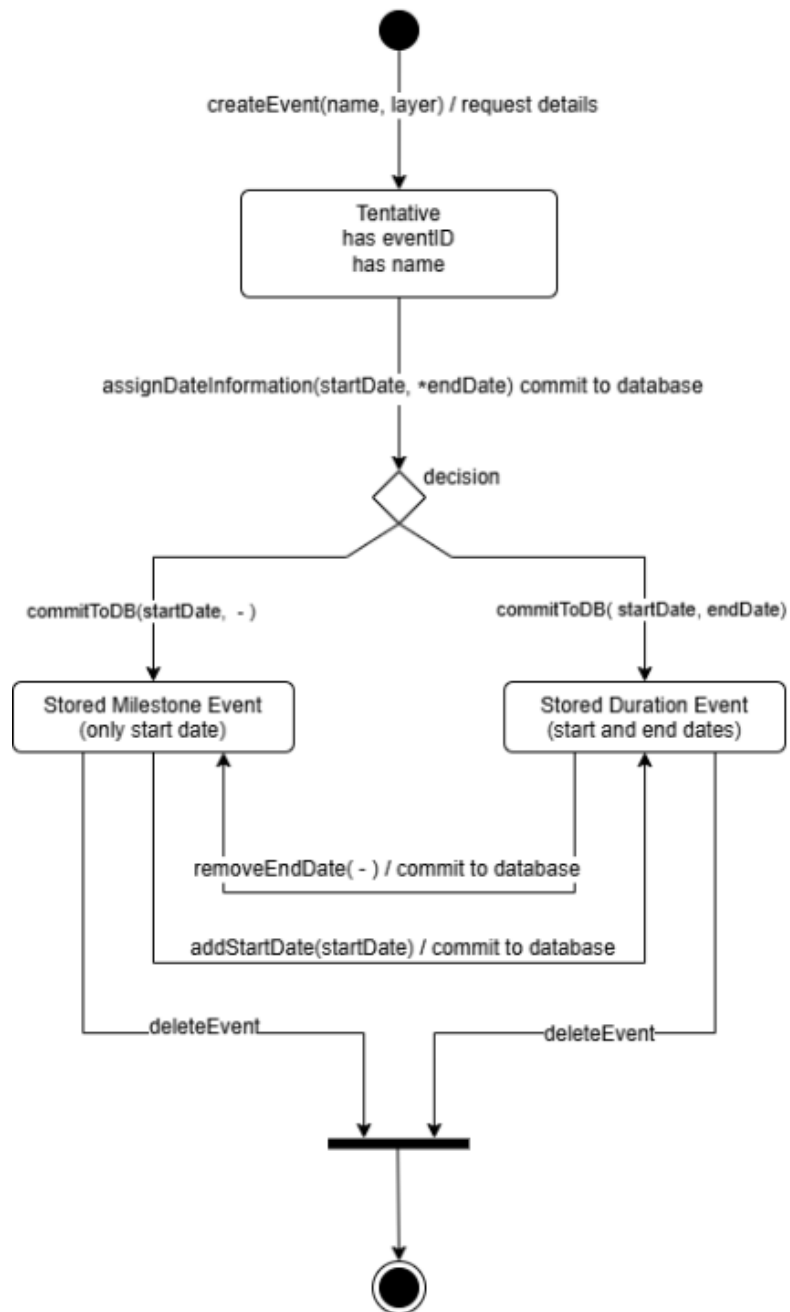
- Attributes: data types, initial values, range of values (if appropriate)
- Methods: return types, parameters
- Pseudocode for each method

STATECHART DIAGRAMS

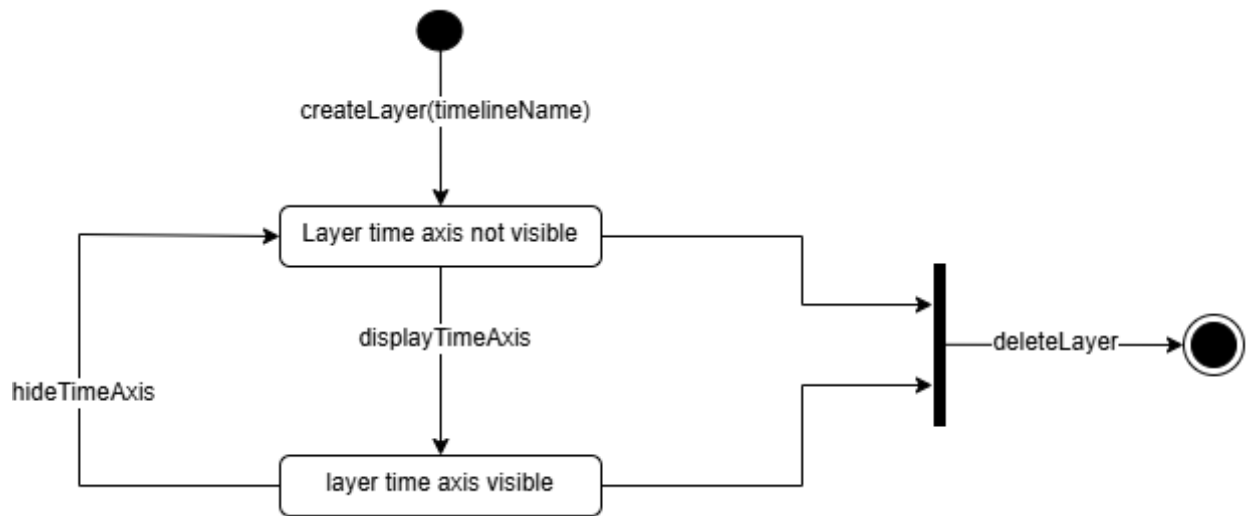
TIMELINE CLASS



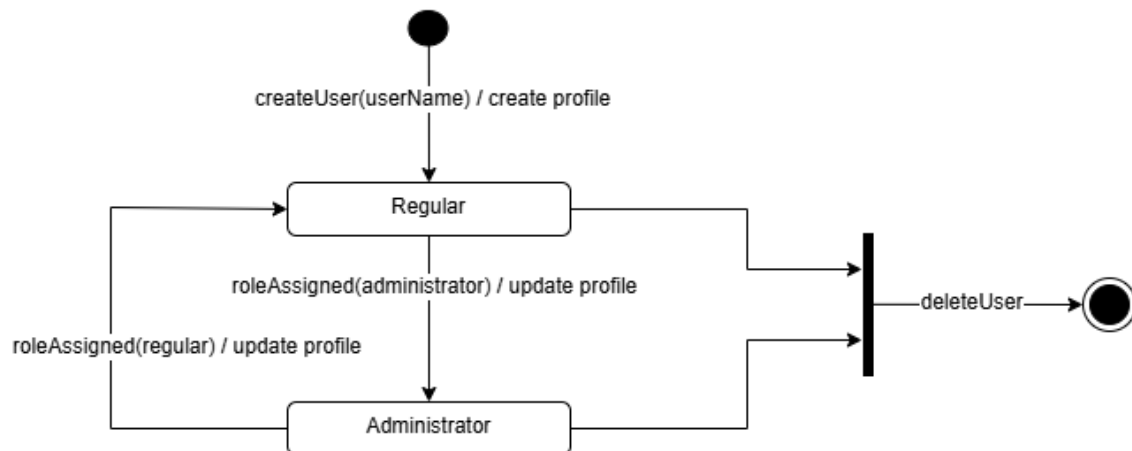
EVENT CLASS



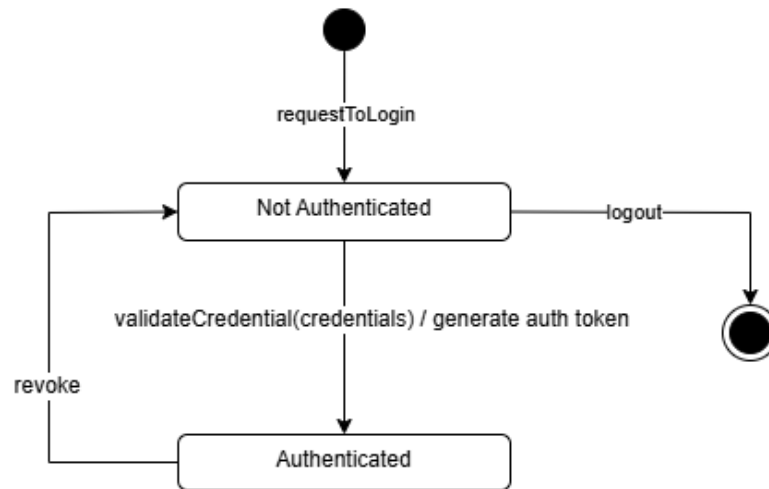
VISUALIZATION CLASS



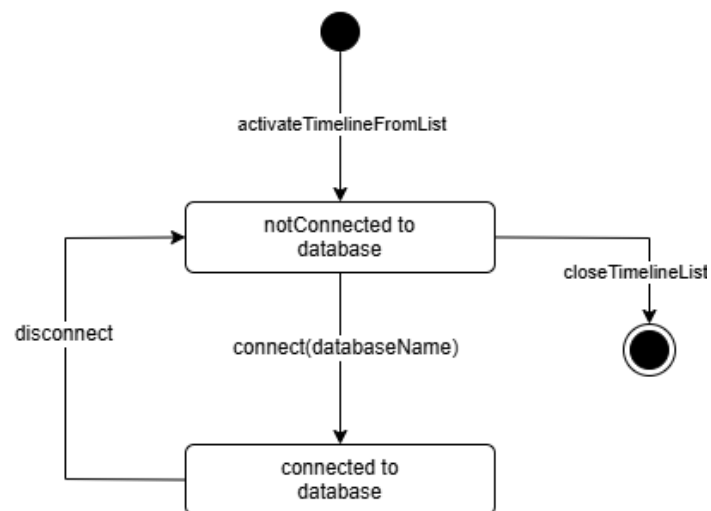
USER CLASS



AUTHENTICATION CLASS



DATABASEMANAGER CLASS



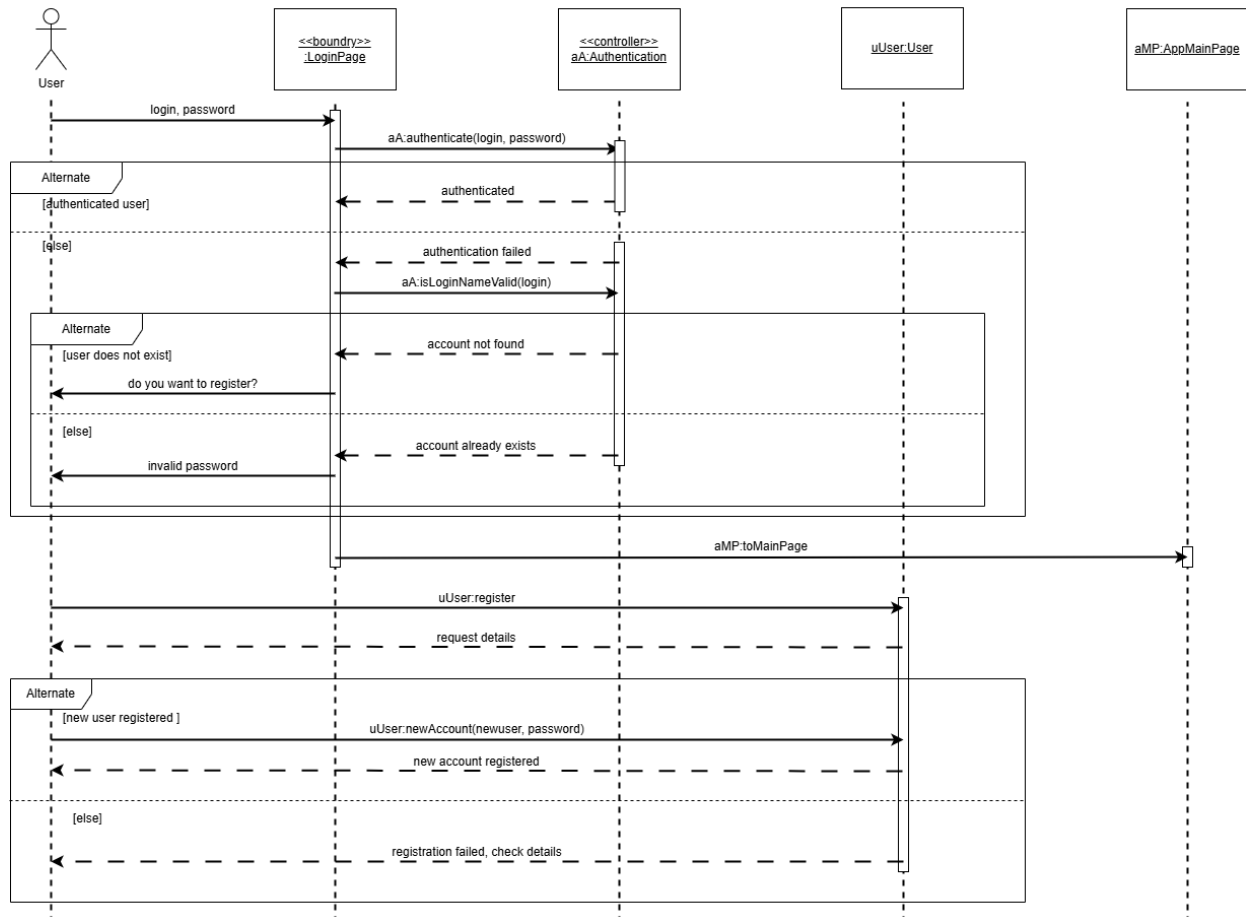
SEARCHENGINE CLASS

The SearchEngine class provides only services, and thus does not have a state machine diagram.

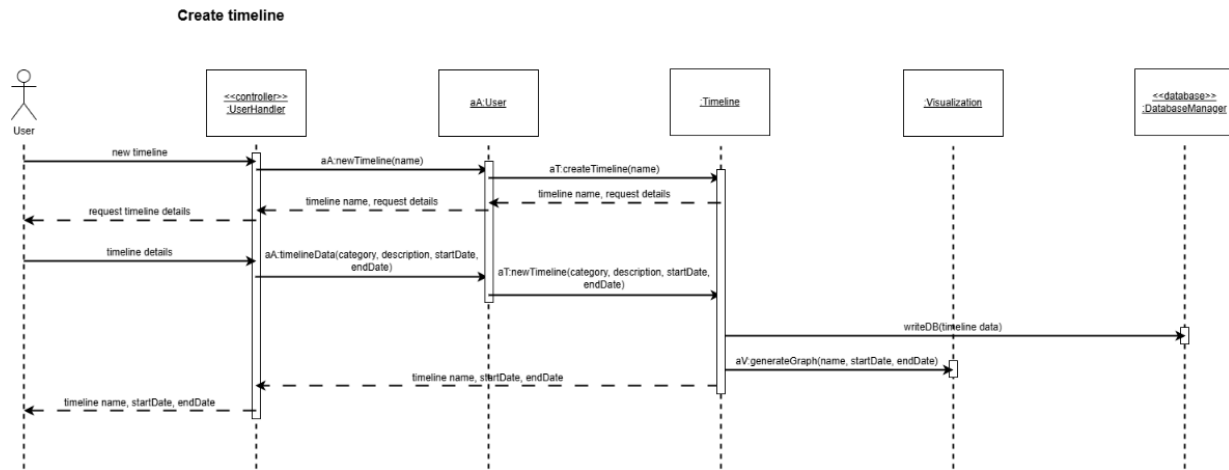
SEQUENCE DIAGRAMS

USE CASE 1: LOGIN TO TIMELINEXPRESS

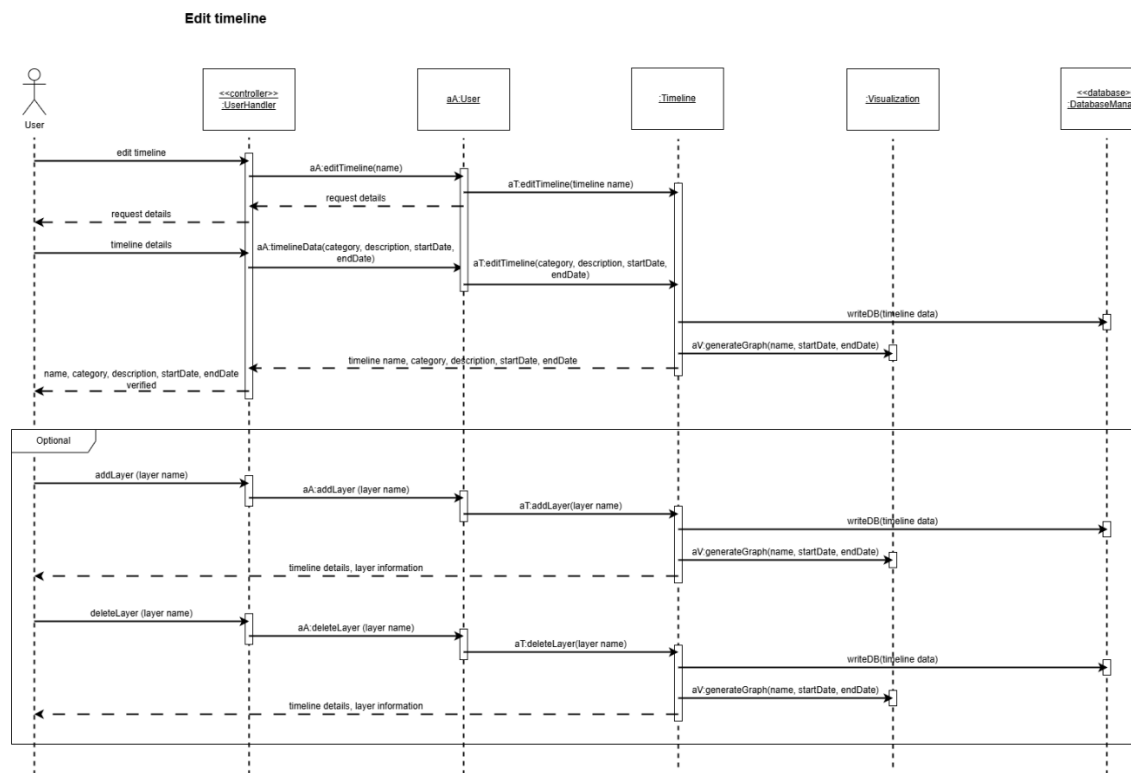
Login to TimelineXpress



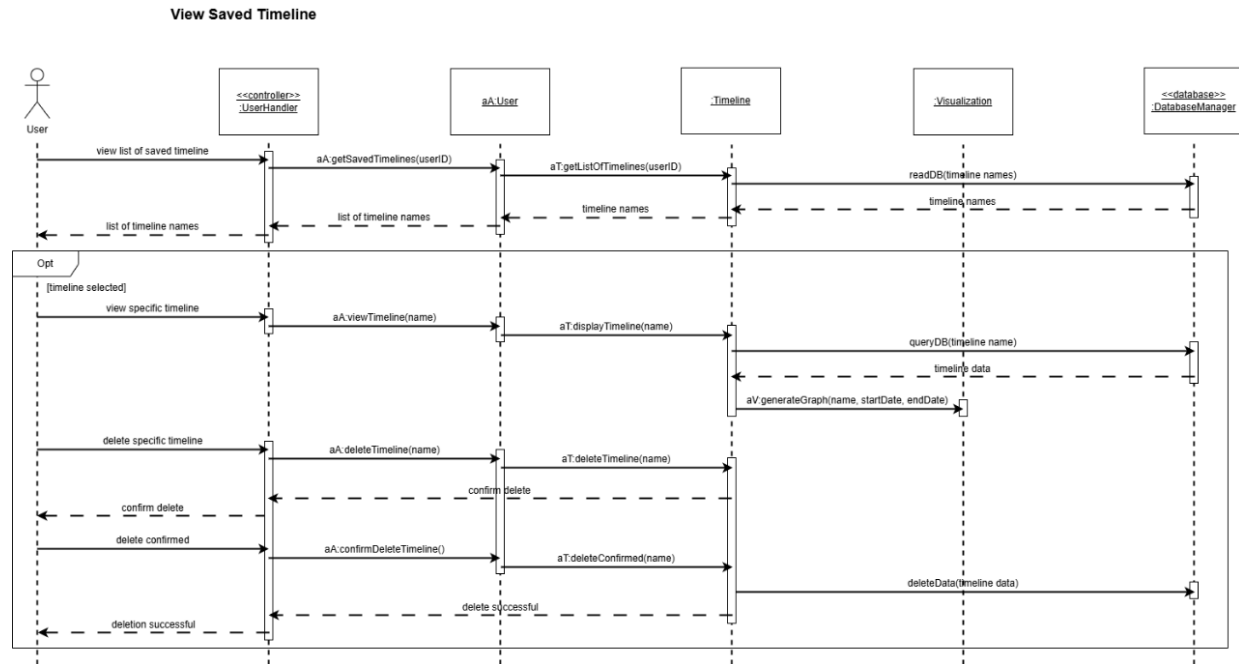
USE CASE 2: CREATE TIMELINE



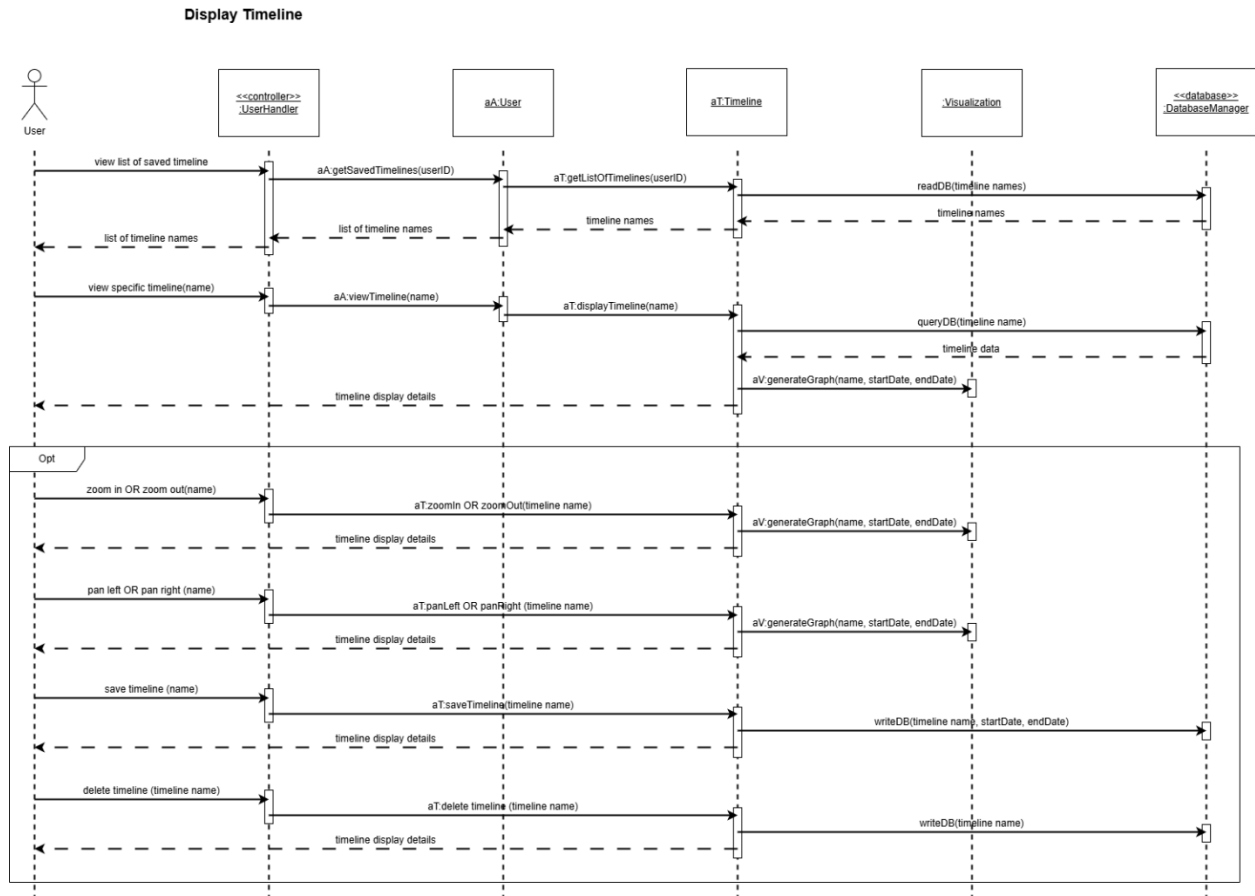
USE CASE 3: EDIT TIMELINE



USE CASE 4: VIEW ALL SAVED TIMELINES

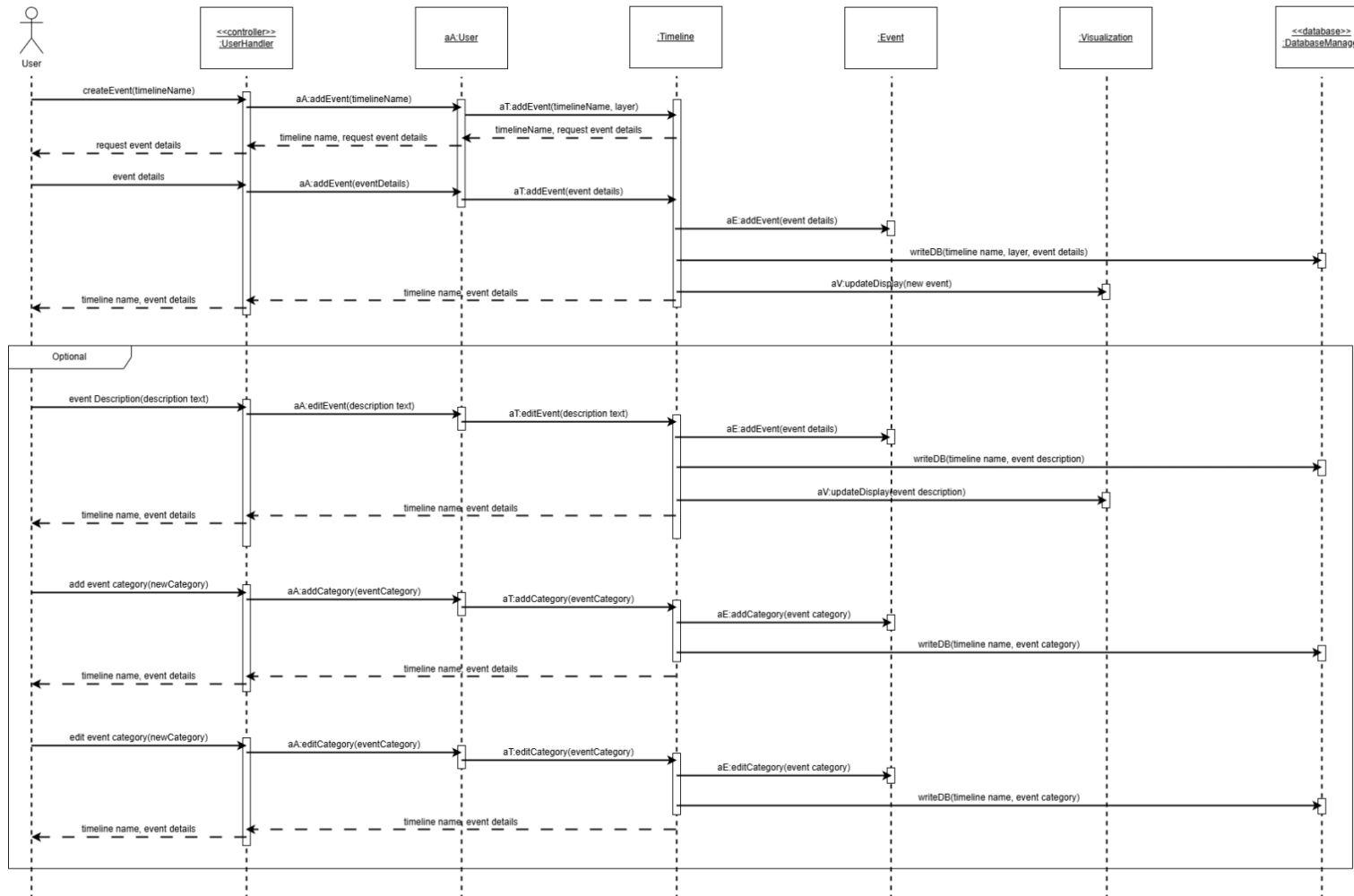


USE CASE 5: DISPLAY A TIMELINE



USE CASE 6: CREATE EVENT

Create Event



USE CASE 7: EDIT EVENT

Edit Event

