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Timelinexpress System DESIGN  
Document

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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

A diagram of a process

AI-generated content may be incorrect.

## Event class

A diagram of a data flow

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## Visualization class

A diagram of a flowchart

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## User class

A diagram of a user profile

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## Authentication class

A diagram of a login

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## DatabaseManager class

A diagram of a database

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## 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

A screenshot of a document

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## Use Case 2: Create Timeline

A diagram of a pipe

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## Use Case 3: Edit Timeline

A diagram with text and lines

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## Use Case 4: View ALL Saved Timelines

A diagram of a company

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## Use Case 5: Display a Timeline

A diagram of a project

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## Use Case 6: Create Event

A white sheet of paper with black lines

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## Use Case 7: Edit Event

A diagram of a project

AI-generated content may be incorrect.