

IT314 - Software Engineering

Group 22 - Fingenie

AI - Powered Balance Sheet Analysis Tool

Sprints

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SPRINT 1 - Core AI Document Analysis

Sprint Goal - To establish the core functionality of the platform by enabling users to upload financial documents and receive AI-generated summaries, ratio analysis, and interactive chatbot responses.

Key Features Implemented -

1. User Authentication

- Implemented a hybrid authentication system that provides a smooth social login through Google Authentication in addition to safe manual registration (email/password).

2. File Upload Module

- Created a user interface that allows users to upload financial files, such as balance sheets, as CSV files, Excel spreadsheets, or PDFs.

3. AI-Generated Summary

- Created a multiple-stage text extraction method to guarantee the retrieval of exact data from scanned as well as digital documents.

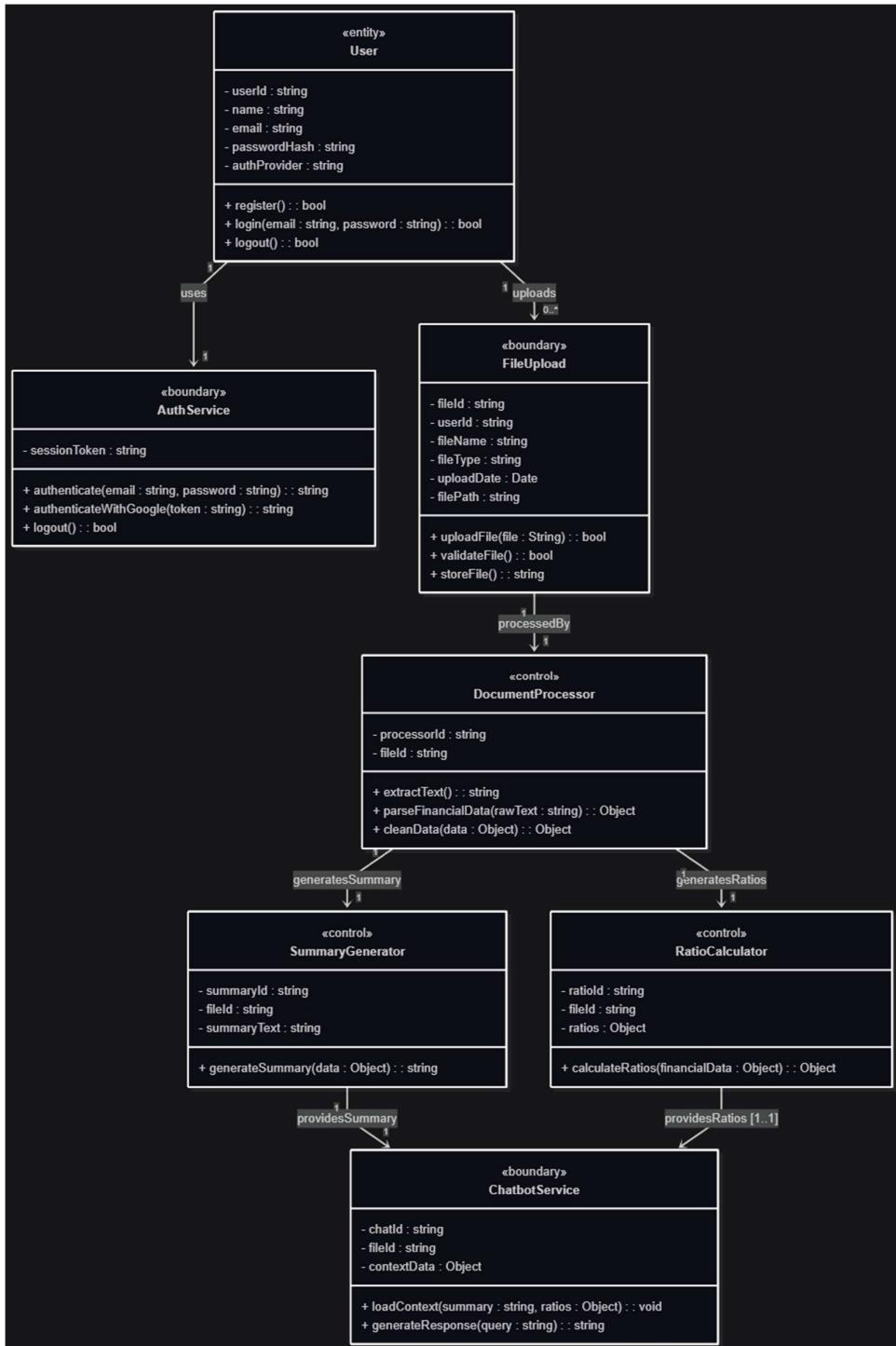
4. AI-Generated Ratio Analysis

- Calculated common financial ratios by processing extracted values.

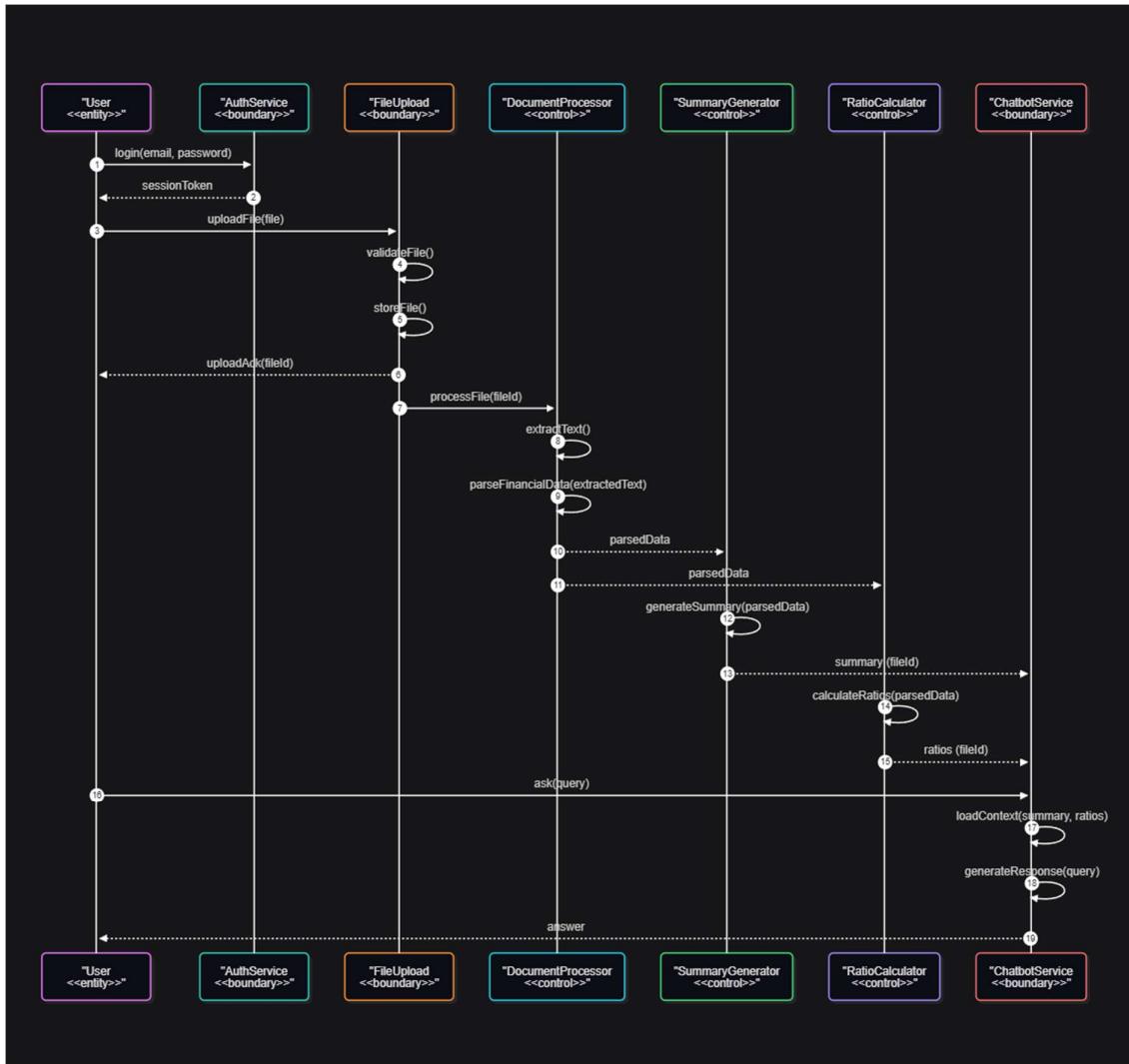
5. Report-Specific Chatbot

- Created a context-aware chatbot that answers to user queries using only the AI-generated summary of the uploaded files.

Class Diagram:



Sequence Diagram:



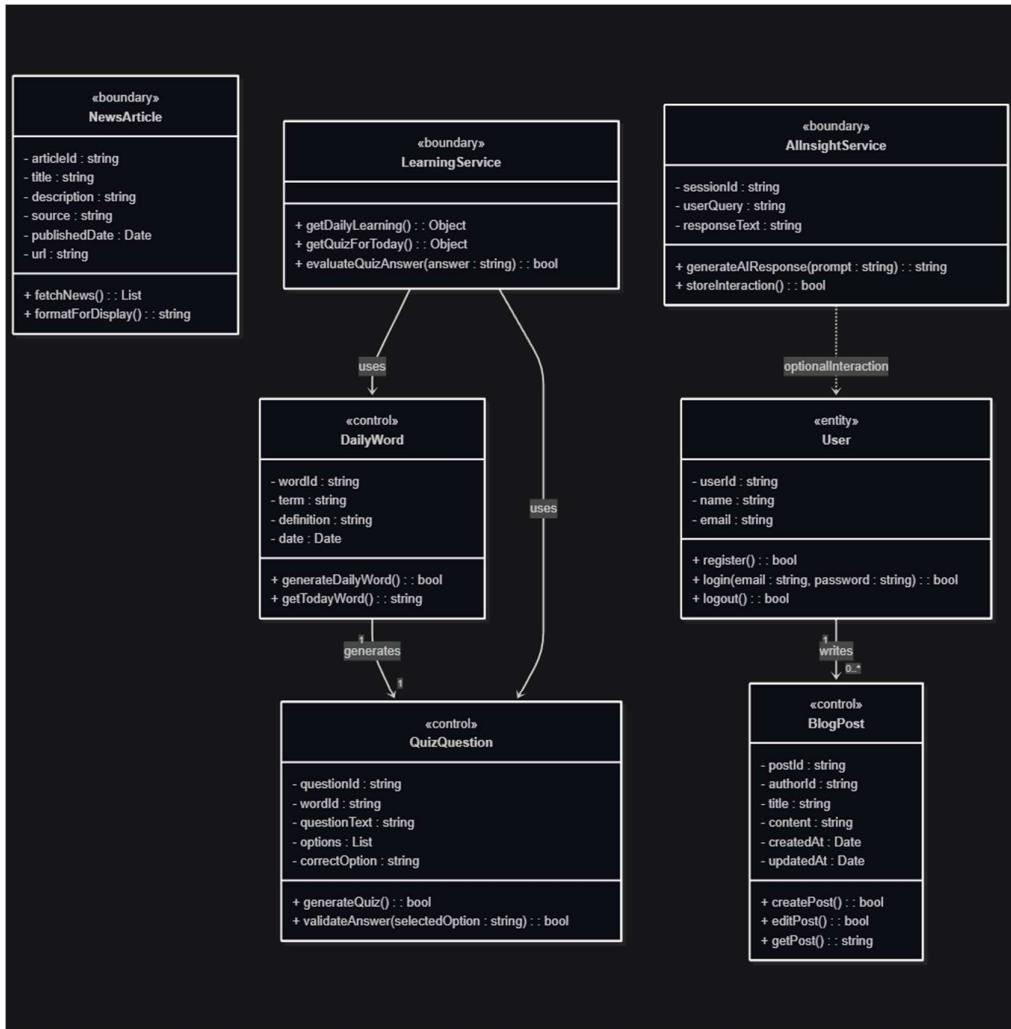
SPRINT 2 - Engagement & Content Features

Sprint Goal: To Increase user engagement through the addition of content-based features like blogs, daily learning modules, quizzes, financial news updates, and a general AI Insight assistant.

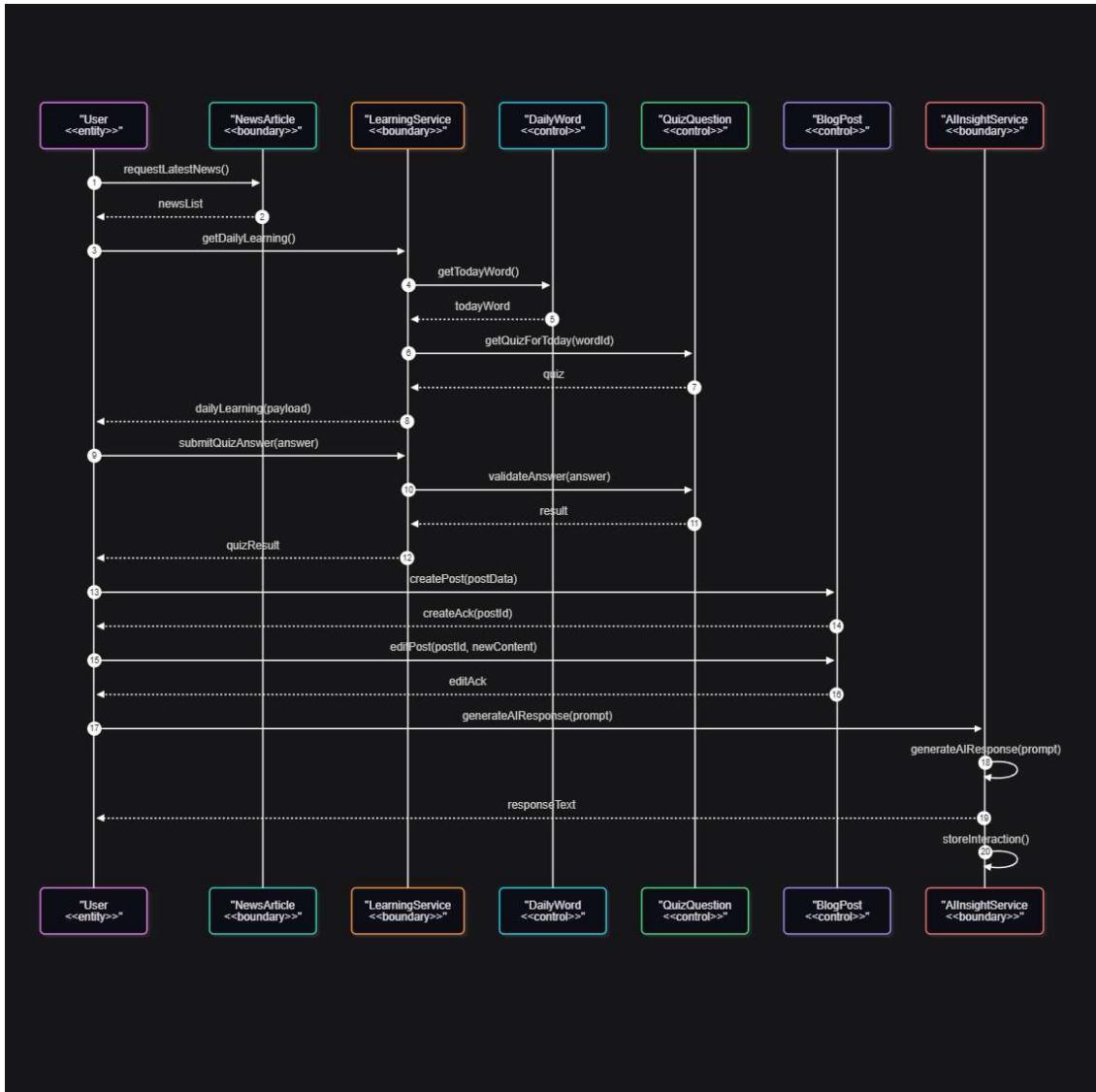
Key Features Implemented-

1. **News Page**
 - Created a News Feed Page to display finance-related news.
2. **Blog Page**
 - A page where users can see blogs, like and upload them, they can also filter search on the topic they want to see a blog on.
3. **Word of the Day + Quiz**
 - Created a daily learning page that presents a new finance term every day followed by a quiz question for self assessment.
4. **AI Insights**
 - A general-purpose AI chatbot that answers conceptual and financial queries.

Class Diagram:



Sequence Diagram:



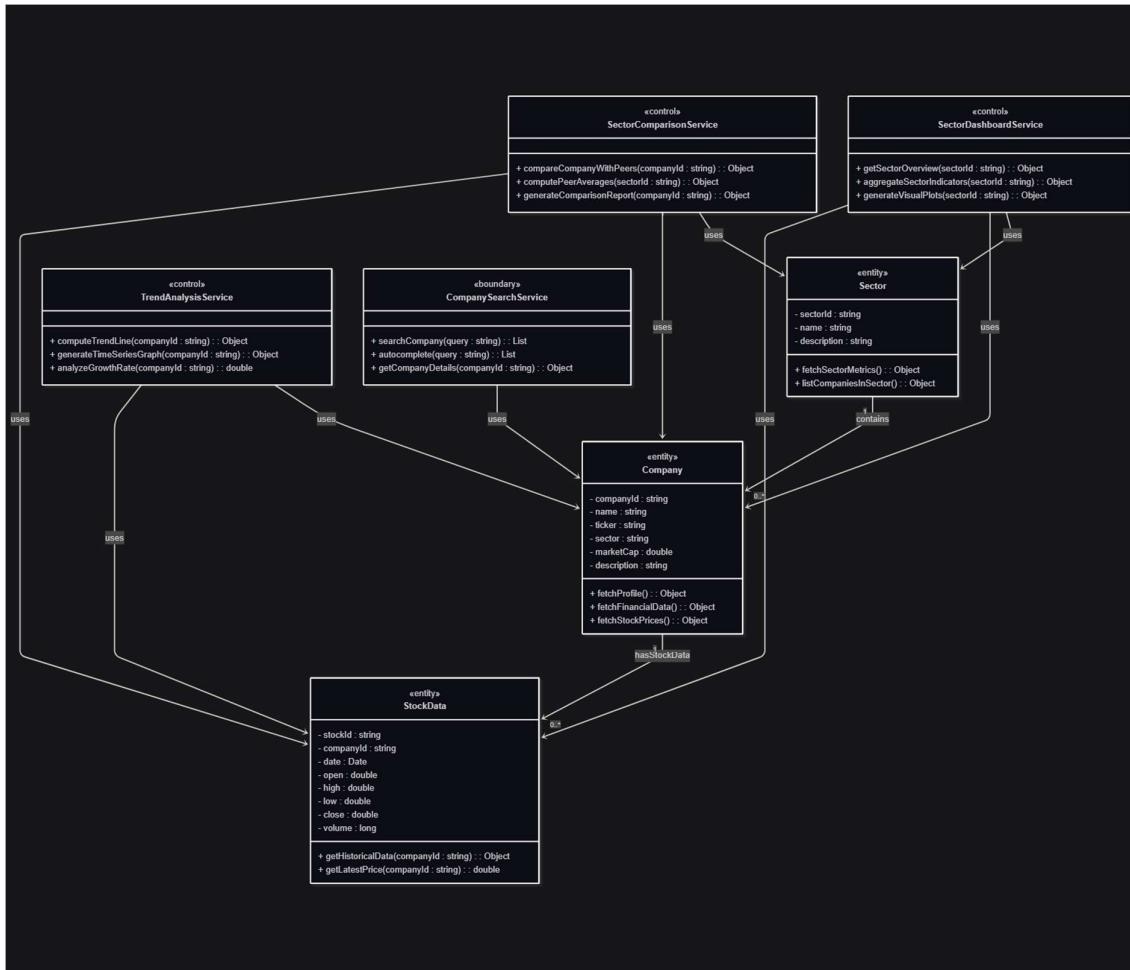
SPRINT 3 - Analytical Dashboards & Market Intelligence

Sprint Goal: To Provide data-driven market analysis tools that let users assess businesses, contrast sectors, and see trends over time.

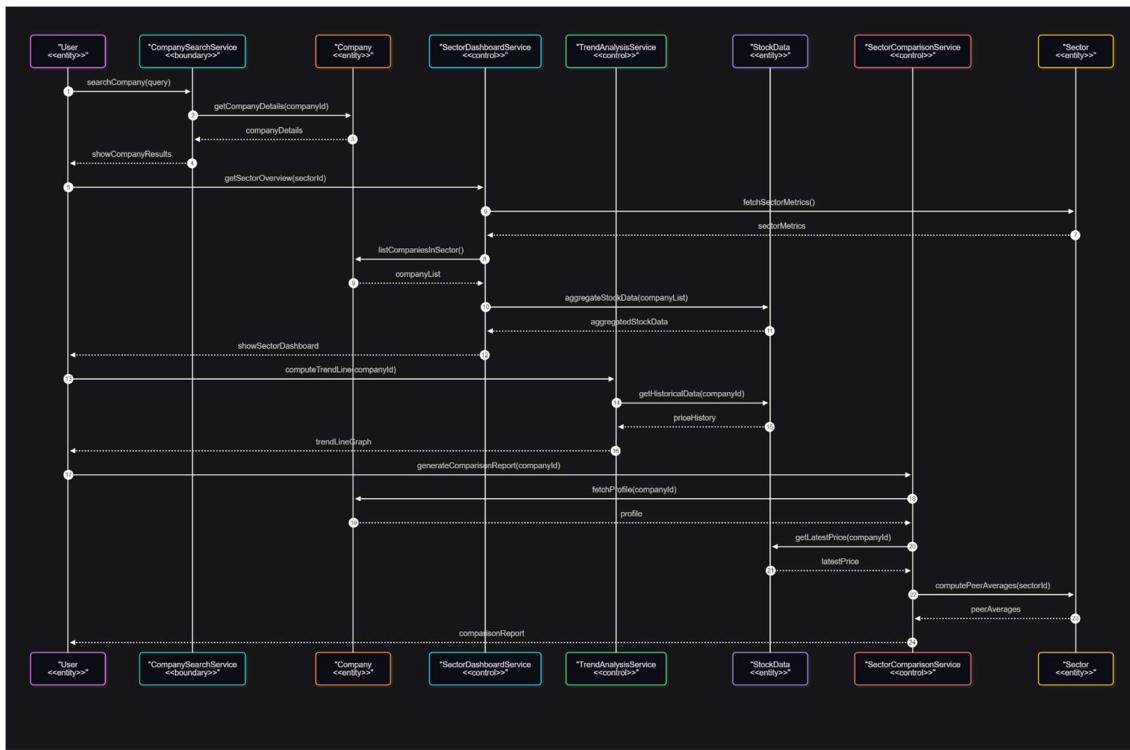
Key Features Implemented-

1. **Trend Analysis**
 - Created trends from the balance sheet for some important key parameters.
2. **Sector Overview Dashboard**
 - Developed dashboards displaying financial indicators at the sector level.
3. **Company Search**
 - Put in place a searchable interface for locating company profiles and retrieving each company's financial data, stock price etc.
4. **Sector Comparison**
 - Created a comparison section to evaluate a company against its peers in the sector.

Class Diagram:



Sequence Diagram:



SPRINT 4 - Final Improvements, Optimisation, and Deployment

Sprint Goal: To complete deployment, enhance performance, address bugs, and polish the system as a whole.

Key Tasks Completed-

1. Bug Fixes & UI Improvements:
2. Responsiveness & Consistency:
3. Backend Optimization:
4. Testing
5. Deployment