

INVESTIQ

BY TEAM 02-->
TECHNO STACK



AGENDA

Team Member Roles and Responsibilities

Improvements from Professor Feedback

Project Description

Team Working Agreement

Personas

MVP

Technologies

Algorithms

Diagrams

Product Backlog

Summary

Sprint 3 Backlog

Metrics

Retrospective

Project Demo - Sprint 3

Github Link

Live Application Demo

TEAM MEMBERS



Ruchitha Reddy Kuthuru -
Product Manager and Full
Stack developer



Mahidhar Reddy Kandula -
Machine learning Engineer

TEAM MEMBERS



Afrida Mehanaz Shaik-
Machine Learning Engineer



Sharan Jagini - Backend
Engineer and Tester

TEAM MEMBERS



Nadeem Hussain Shaik -
Frontend Developer



Shrinidhi Daheechi - Frontend
Developer

PROBLEM STATEMENT

Investors often find it challenging to make informed decisions due to overwhelming market information, constant fluctuations, and a lack of personalized guidance. Many existing tools provide data but do not offer meaningful insights tailored to individual needs. This app aims to simplify investment decisions by analyzing market trends, tracking relevant news, and offering timely recommendations based on personal financial goals and life events. Combining real-time updates with user-specific insights helps investors stay informed and make smarter financial choices with confidence.

PROJECT DESCRIPTION

Project Name:	InvestIQ
Team:	Techno Stack
Project Description:	<p>For investors who struggle with analyzing market trends and making informed financial decisions, the <u>InvestIQ</u> AI application is a smart investment assistant that analyzes stock market trends, processes real-time financial news, and provides personalized investment insights and risk alerts. Unlike traditional investment platforms that only offer raw data and generic analytics, our application leverages AI-driven time series analysis and natural language processing to deliver real-time, context-aware financial recommendations tailored to users' personal financial goals and life events.</p>
Benefit Outcomes:	<ul style="list-style-type: none">• Better investment decisions with AI-driven insights and alerts• Personalized financial recommendations based on user behavior and market trends• Real-time market sentiment analysis for timely and informed trading• Reduced research time by consolidating key financial insights into a single platform
Github Link:	https://github.com/htmw/2025S-Techno-Stack/wiki



IMPROVEMENTS

- Adding the improvements slide.
- Adding the Historical team velocity graph
- Writing the sprint recap more then 1 line.
- Adding API slide
- completing sprint planning
- Showing code while explaining the demo and explaining it.

TEAM WORKING AGREEMENT

Team Working Agreement

Team Name: Techno Stack

1. Communication & Meetings

- Slack:** Our main channel for daily communication, quick questions, and status updates.
- Virtual/In-Person Meetings:** We will conduct weekly meetings via Zoom or Google Meet. If in-person classes are held, we will transition to face-to-face meetings as needed. Team members are encouraged to raise doubts and support one another during these meetings.

2. Project Management

- Jira:** We will use Jira to track tasks, set deadlines, and monitor progress. It's essential that all links in our documentation and code repositories are verified and kept up-to-date.
- Timely Submissions:** Every team member must complete their assigned tasks on time to ensure the project stays on track schedule.

3. Documentation

- All documentation must include working links to code repositories, APIs, and other relevant resources. This ensures every team member can access the latest project updates and resources.

4. Roles & Responsibilities

- Ruchitha Reddy Kuthuru (PM & Full Stack Developer):** Oversees the project, coordinates meetings, and contributes to frontend and backend development.
- Mahidhar Reddy Kandula (ML Engineer):** Develops and integrates AI models for sentiment analysis and trend forecasting.
- Afrida Mehanaz Shaik (ML Engineer):** Collaborates on developing and optimizing AI models and data processing workflows.
- Sharan Jagini (Backend Developer & Tester):** Manages backend development, handles API integrations, and conducts thorough testing to ensure quality and functionality.
- Nadeem Hussain Shaik (Frontend Developer):** Designs and develops a responsive user interface focusing on usability.
- Shrinidhi Daheechi (Frontend Developer):** Supports frontend development and collaborates on UI/UX design improvements.

5. Collaboration & Support

- Team members are expected to help each other by promptly addressing doubts and challenges as they arise.
- Regular updates on Jira and other project management tools are required to inform everyone of progress.

- Ensuring that all documentation, code, and integrations (including working links) are thoroughly tested and maintained is a shared responsibility.

Agreed by:

- Ruchitha Reddy Kuthuru
- Mahidhar Reddy Kandula
- Nadeem Hussain Shaik
- Sharan Jagini
- Afrida Mehanaz Shaik
- Shrinidhi Daheechi

PERSONA

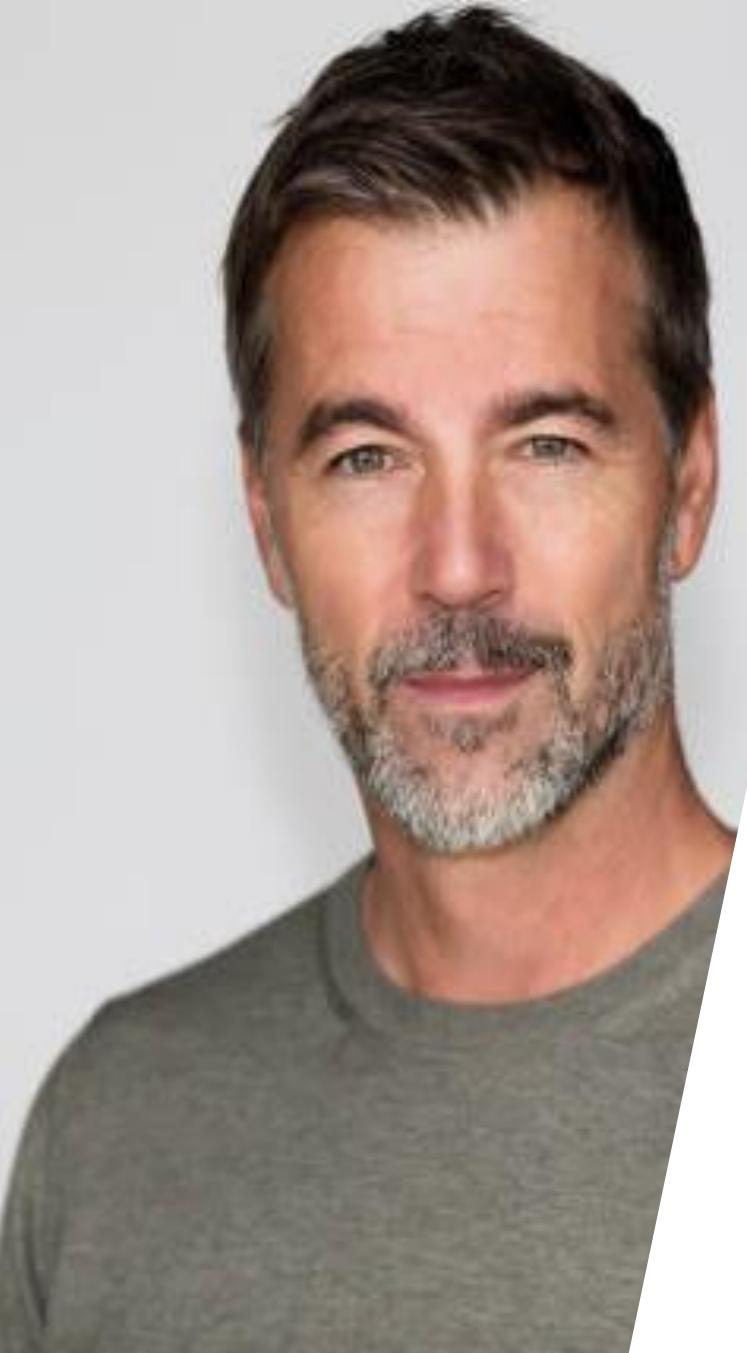
AARAV SHARMA

- Age: 28
- Occupation: Software Engineer
- Investment Experience: Intermediate
- Goals: Simplify his investment decision-making process by utilizing clear, actionable insights from real-time news.
- Pain Points: Feels overwhelmed by the vast amount of market data and frustrated by platforms that fail to provide timely news analysis.
- Description: Aarav values technology and data-driven insights; he seeks a tool that aggregates real-time news, enabling him to quickly grasp market shifts without the distraction of raw stock data.
- Challenges:
 - Struggles with filtering relevant financial information from the overwhelming amount of market data.
 - Finds it time-consuming to track news manually and correlate it with market trends.



PERSONA

THOMAS SHELBY



- Age: 40
- Occupation: Corporate Manager
- Investment Experience: Beginner to Intermediate
- Goals: Achieve steady portfolio growth by staying informed about key market developments through timely news updates.
- Pain Points: Finds traditional investment platforms cluttered with irrelevant data and lacking a focused approach to current financial news.
- Description: With a busy schedule, Thomas needs a user-friendly platform that provides curated real-time news and actionable insights, enabling him to make confident, long-term financial decisions without continuously monitoring fluctuating stock figures.
- Challenges:
 - Has limited time to stay updated on financial news and market changes.
 - Prefers risk-averse investments but struggles with identifying safe and promising opportunities.

PERSONA

SANJANA REDDY

- Age: 35
- Occupation: Financial Analyst
- Investment Experience: Advanced
- Goals: Optimize her investment strategy with comprehensive market analysis based on the latest financial news.
- Pain Points: Frustrated with generic investment tools that do not integrate timely news, leaving her without the nuanced insights she needs.
- Description: Sanjana is analytical and detail-oriented, searching for a sophisticated platform emphasizing real-time news analysis to provide deep insights and tailored recommendations rather than just raw stock data.
- Challenges:
 - Struggles with quickly assessing the sentiment of large volumes of financial news.
 - It requires advanced analytics but finds that many tools lack deep AI-driven insights.



MVP

- User registration and profile setup (to capture financial goals, risk tolerance, and preferences).
- Historical market trend analysis (using delayed or historical stock data from free APIs like Yahoo Finance or Alpha Vantage, which often provide historical data for free).
- Personalized investment recommendations (based on historical trends, user goals, and risk tolerance, using a simple rule-based algorithm instead of real-time data).
- A dashboard to view recommendations, historical trends, and market news.

TECHNOLOGIES - BACKEND

- Flask: A lightweight Python framework ideal for building RESTful APIs, easily integrating with machine learning models, and simplifying backend logic.
- Node.js: Offers non-blocking, event-driven architecture, making it great for handling real-time operations and concurrent tasks.



TECHNOLOGIES - FRONTEND

- Next.js: Offers server-side rendering and static site generation, resulting in fast, SEO-friendly pages and a strong user experience interface.
- TypeScript: Improves code quality and maintainability by providing static type checking, which reduces runtime errors.



TECHNOLOGIES - DATABASE

- PostgreSQL is a powerful, open-source relational database known for its reliability, scalability, and support for complex queries, ensuring secure and efficient data storage.



PostgreSQL

TECHNOLOGIES - APIs

Financial News API & Polygon API

- These APIs supply real-time financial news and market data, enabling the application to deliver timely and actionable insights without relying on raw stock data.



polygon.io

TECHNOLOGIES – MACHINE LEARNING

PyTorch is selected for its dynamic computation graph and user-friendly interface, making it ideal for developing and training deep learning models used in sentiment analysis and trending forecasting.



TECHNOLOGIES - HOSTING & DEPLOYMENT

- Vercel: Perfect for quickly deploying frontend applications with high performance and scalability.
- DigitalOcean: Offers dependable and scalable hosting for backend services and the entire application deployment.



~~TECHNOLOGIES - DEVELOPMENT TOOLS~~

- Visual Studio Code: A versatile code editor featuring extensive extensions and integrated debugging that enhances the developer experience productivity.
- Postman: Essential for testing APIs, confirming our endpoints function as expected during development.
- Git: To enable version control, enhance collaborative development, and improve code management.
- Docker: used for containerization, ensuring consistency across development, testing, and production environments.
- Slack: Facilitates effective team communication and project management.



Visual Studio Code



POSTMAN





ALGORITHMS - NLP

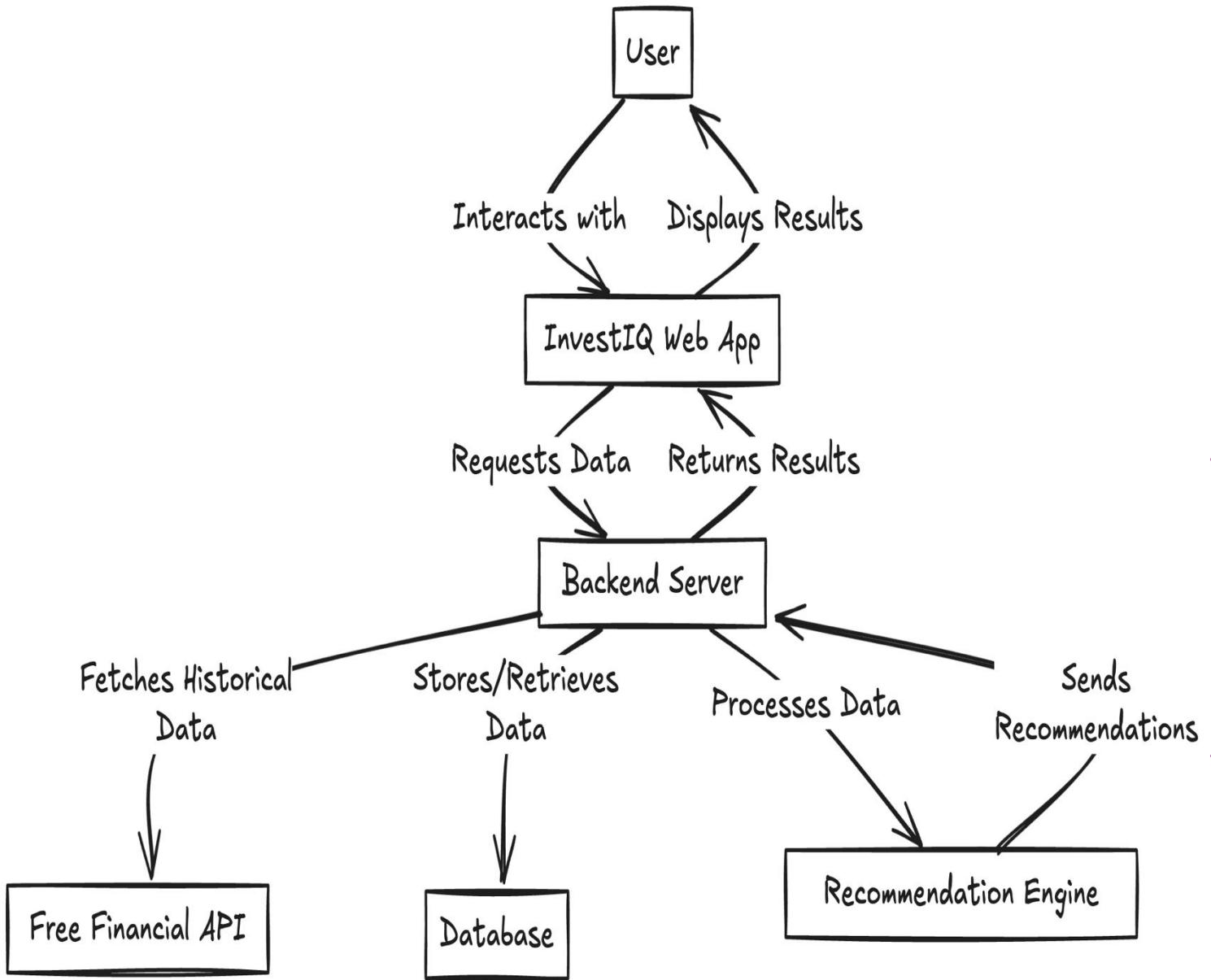
Our NLP module harnesses cutting-edge technology. The phi model for natural language processing is specifically designed to analyze real-time financial news. This module extracts sentiment and identifies key topics from the latest updates, enabling the application to interpret market sentiment accurately. By processing large volumes of textual data, the phi model provides actionable insights that inform users about market trends and emerging financial narratives, transforming raw news into clear, meaningful investment opportunities guidance.



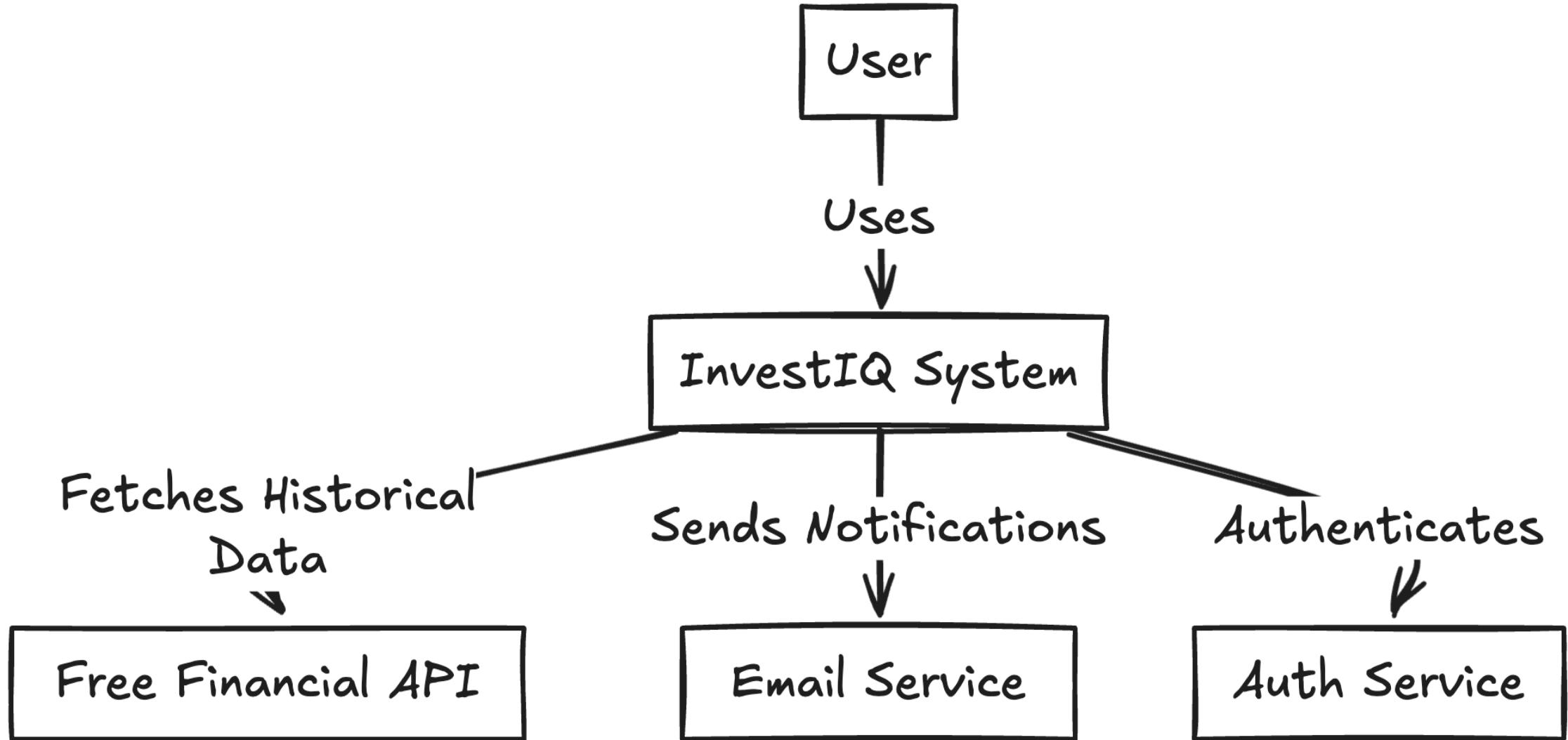
ALGORITHMS – TIME SERIES

- Our Time Series Analysis module examines historical stock market data using advanced deep learning techniques like LSTM and Temporal Fusion Transformers to capture underlying trends and seasonal patterns. This analysis provides essential context that complements the real-time insights derived from our NLP module, ensuring users have a strong understanding of market dynamics. Together, these two modules generate a strong synergy that enables investors to make informed decisions based on current news sentiment and historical market performance.

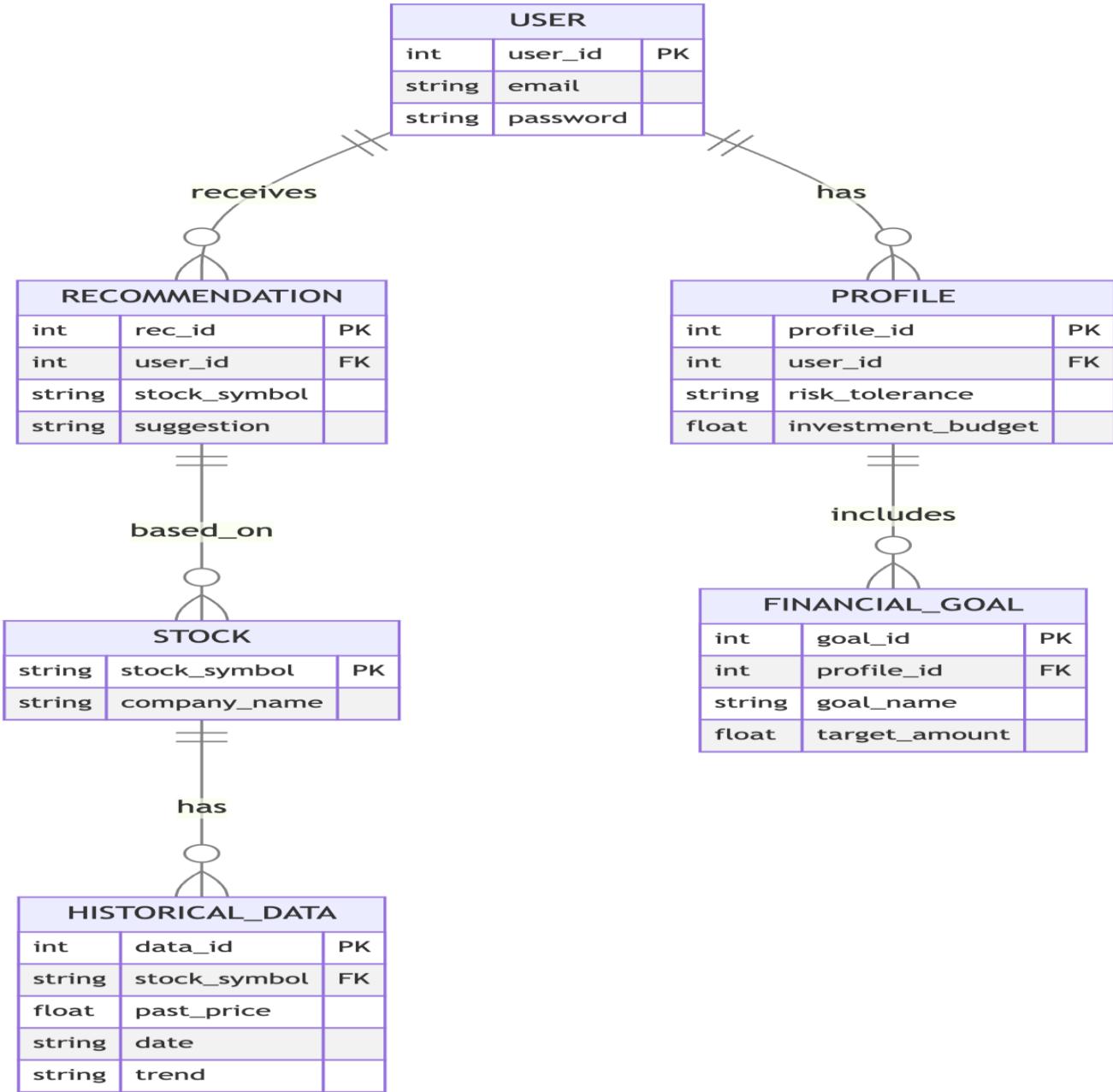
ARCHITECTURE DIAGRAM



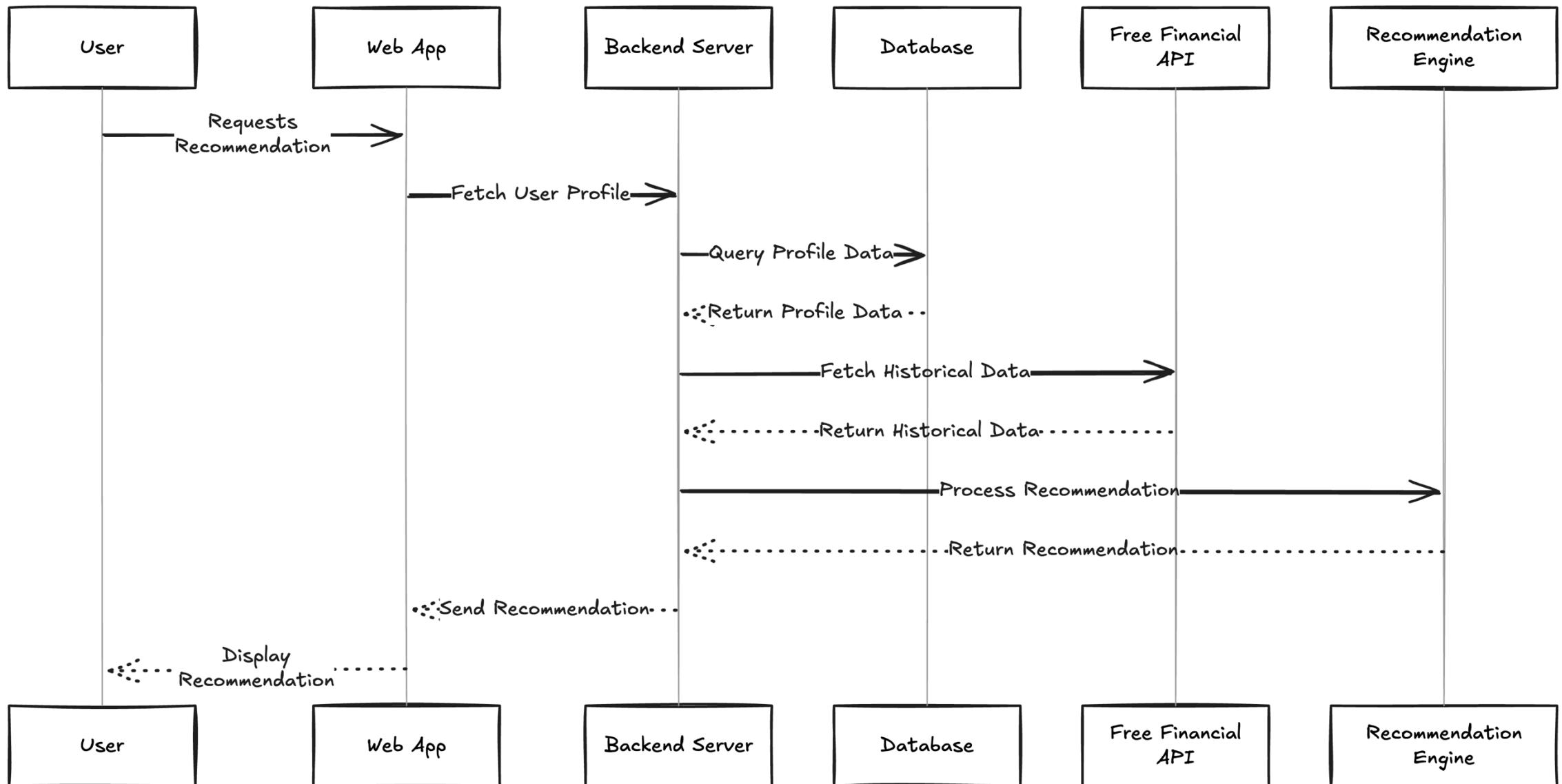
CONTEXT DIAGRAM



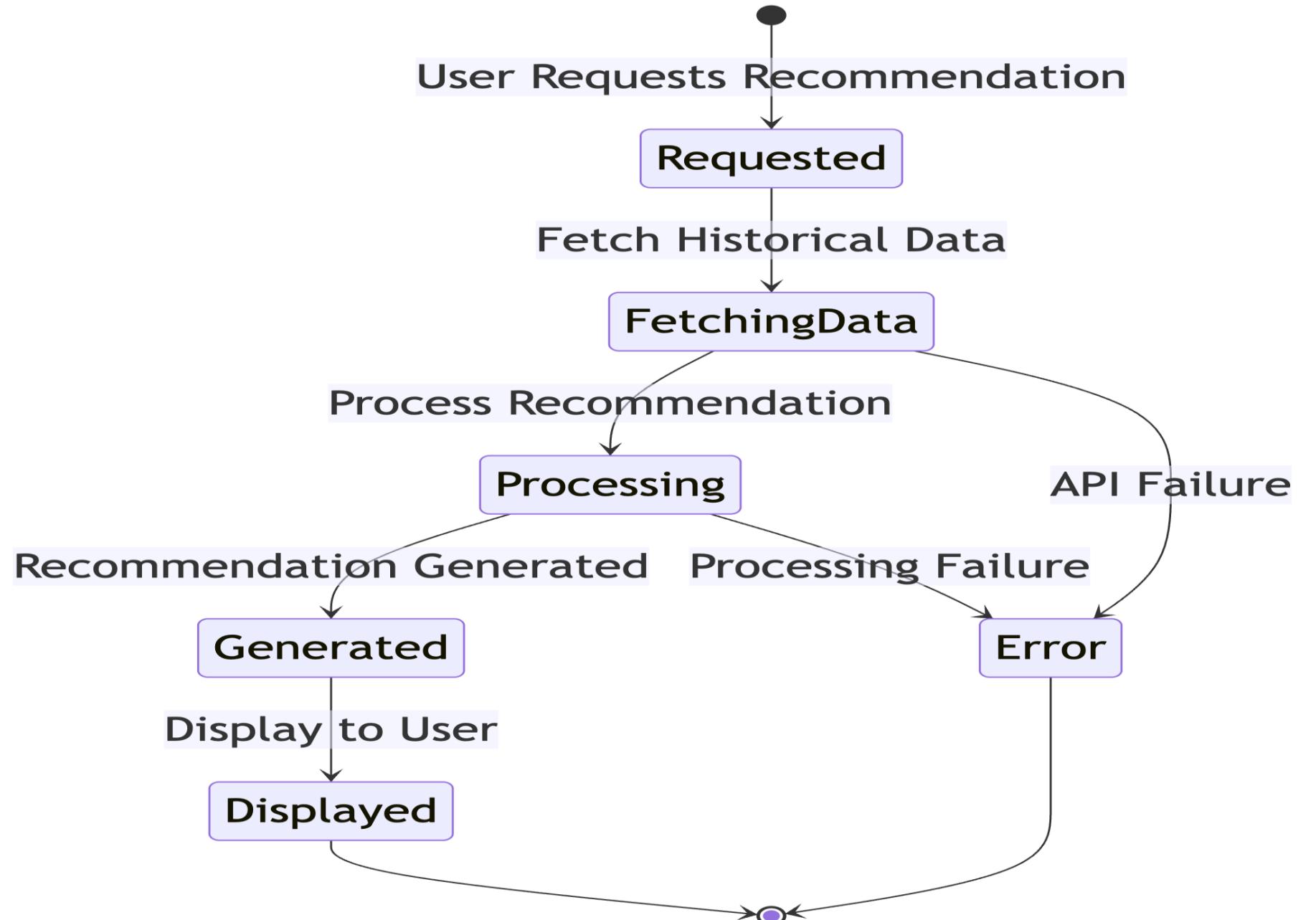
ER DIAGRAM (ENTITY- RELATIONSHIP DIAGRAM)



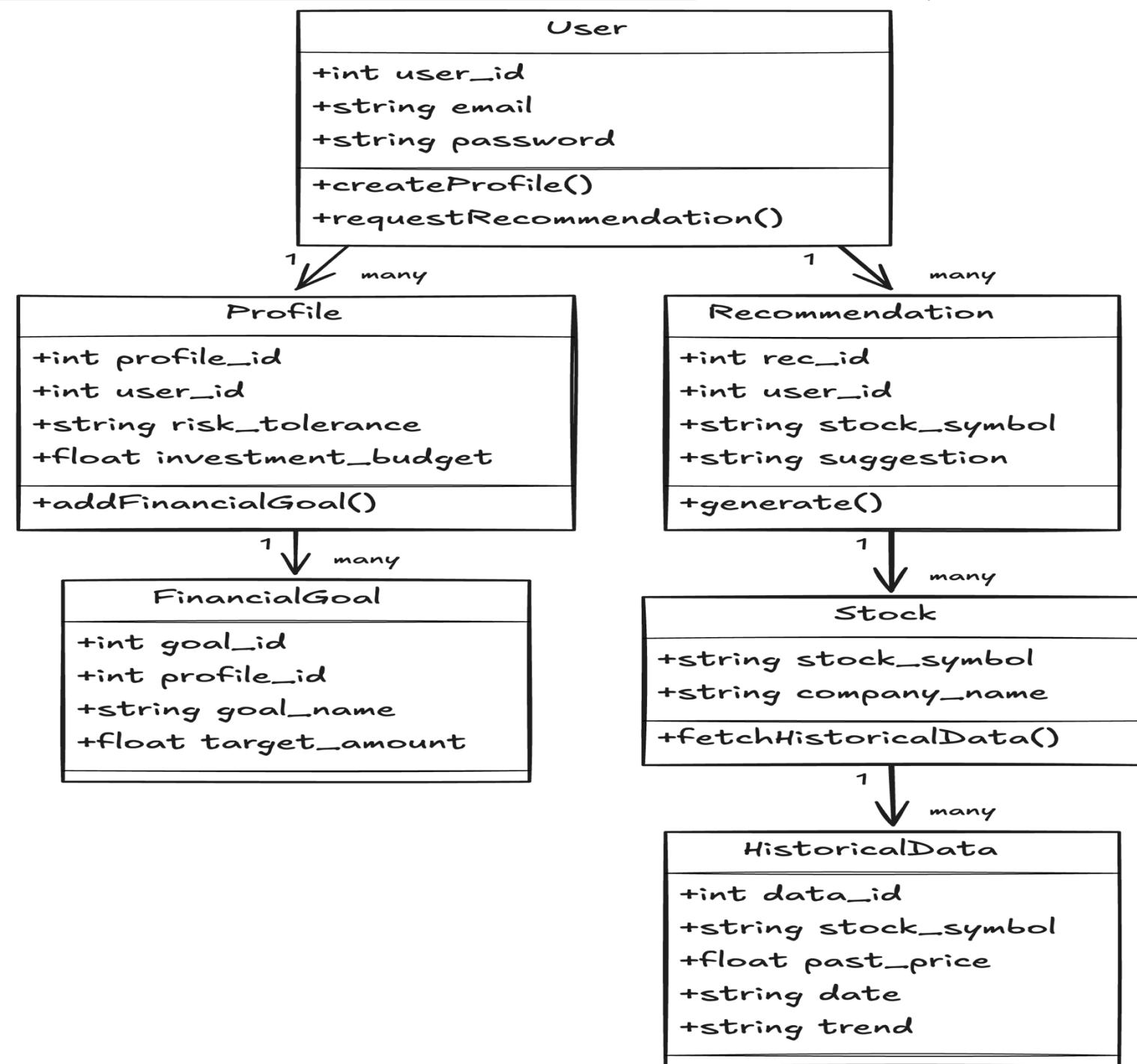
SEQUENCE DIAGRAM



STATE DIAGRAM



CLASS DIAGRAM





SPRINT 2 RECAP

During Sprint 2, the team focused on backend development by completing key tasks such as saving user profile data (US6), integrating an external API for historical stock data (TS2), and setting up the database schema (TS3). These foundational elements were successfully implemented, enabling future features. However, user registration (US4) and login (US5) remained incomplete due to backend dependencies and time limitations. Out of 16 planned story points, 11 were completed. The sprint revealed the need for better coordination between backend and frontend tasks and improved planning for critical user flows in upcoming sprints.

PRODUCT BACKLOG

<u>Story ID</u>	<u>Feature</u>	<u>User Story</u>	<u>Acceptance Criteria</u>	<u>Story Points</u>
US1	Basic Dashboard UI	Aarav Sharma wants to see a basic dashboard layout, so that he can understand the structure of the app.	<ol style="list-style-type: none"> 1. Dashboard has sections for recommendations, trends, and news (placeholders). 2. Layout is clean with a header, sidebar, and main content area. 3. UI is responsive for desktop and mobile. 	5
US2	Profile Setup UI	Aarav Sharma wants to input his risk tolerance and budget in a form, so that he can simulate setting up his profile.	<ol style="list-style-type: none"> 1. Form includes dropdown for risk tolerance (Low, Medium, High) and input for budget. 2. Form has a "Save" button that shows a confirmation message (no backend saving yet). 3. Error message shown if budget is invalid (e.g., negative). 	3
US3	Recommendation Placeholder UI	Thomas Shelby wants to see a placeholder for recommendations, so that he can visualize where his investment suggestions will appear.	<ol style="list-style-type: none"> 1. Dashboard has a section titled "Recommendations". 2. Section shows 3 mock recommendations (e.g., "Stock: AAPL, Suggestion: Buy"). 3. Each recommendation has a button labeled "View Details" (non-functional for now). 	3
TS1	Front-End Framework Setup	As a developer needs to set up a front-end framework (e.g., React), so that the team can build the UI efficiently.	<ol style="list-style-type: none"> 1. Project is initialized with React (or similar framework). 2. Basic routing is set up for dashboard and profile pages. 3. CSS framework (e.g., Tailwind or Bootstrap) is integrated for styling. 	5

~~PRODUCT BACKLOG~~

<u>Story ID</u>	<u>Feature</u>	<u>User Story</u>	<u>Acceptance Criteria</u>	<u>Story Points</u>
US4	User Registration	Aarav Sharma wants to register with his email and password, So that he can access the InvestIQ platform.	<ol style="list-style-type: none"> 1. Aarav can enter email and password on a registration form. 2. System validates email format and ensures password is at least 8 characters. 3. Upon successful registration, Aarav is redirected to login page. 4. Error messages shown if email is in use or inputs are invalid. 	3
US5	User Login	Aarav Sharma wants to log in with his email and password, So that he can access his dashboard.	<ol style="list-style-type: none"> 1. Aarav can enter email and password on a login form. 2. System validates credentials and logs Aarav in if correct. 3. Aarav is redirected to the dashboard upon successful login. 4. Error message shown if credentials are incorrect. 	2
US6	Save Profile Data	Aarav Sharma wants to save his profile data, So that the system can use it for recommendations.	<ol style="list-style-type: none"> 1. Profile form (built in Sprint 1) now saves data to the backend. 2. Aarav can edit and update his profile. 3. Confirmation message shown after saving. 	3
TS2	Backend API Integration	As a developer needs to integrate a free API (e.g., Yahoo Finance) to fetch historical stock data, So that the team can use it for recommendations.	<ol style="list-style-type: none"> 1. Backend fetches historical stock data for 5 sample stocks (e.g., AAPL, GOOGL). 2. Data includes 30 days of historical prices and trends. 3. Data is cached in the database. 4. Error handling for API failures. 	5

PRODUCT BACKLOG

<u>Story ID</u>	<u>Feature</u>	<u>User Story</u>	<u>Acceptance Criteria</u>	<u>Story Points</u>
TS3	Database Schema Setup	Sanjana Reddy needs to create a database schema for users, profiles, and historical data, so that the team can store and retrieve data.	<ol style="list-style-type: none"> 1. Schema includes tables for users, profiles, and HistoricalData. 2. Database uses a free solution (e.g., SQLite). 3. Basic CRUD operations implemented for user and profile data. 	3
US7	Historical Trends Display	Thomas Shelby wants to see historical trends for recommended stocks, so that he can understand the basis for recommendations.	<ol style="list-style-type: none"> 1. Dashboard displays a line chart showing 30-day price trend for each stock. 2. Chart uses historical data from the database. 3. Chart includes labels for dates and prices. 	5
US8	Market News Display	Thomas Shelby wants to see recent market news, so that he can stay informed.	<ol style="list-style-type: none"> 1. Dashboard includes a section with market news headlines. 2. News fetched from a free API (e.g., NewsAPI) and displayed as a list. 3. Each news item includes title, source, and link to the article. 	5
US9	Personalized Recommendations	Thomas Shelby wants to see personalized investment recommendations, so that he can make informed decisions.	<ol style="list-style-type: none"> 1. Recommendations replace the placeholder UI from Sprint 1. 2. Recommendations are based on historical trends and user profile (e.g., risk tolerance). 3. If no recommendations are available, a message like "No recommendations at this time" is shown. 	5

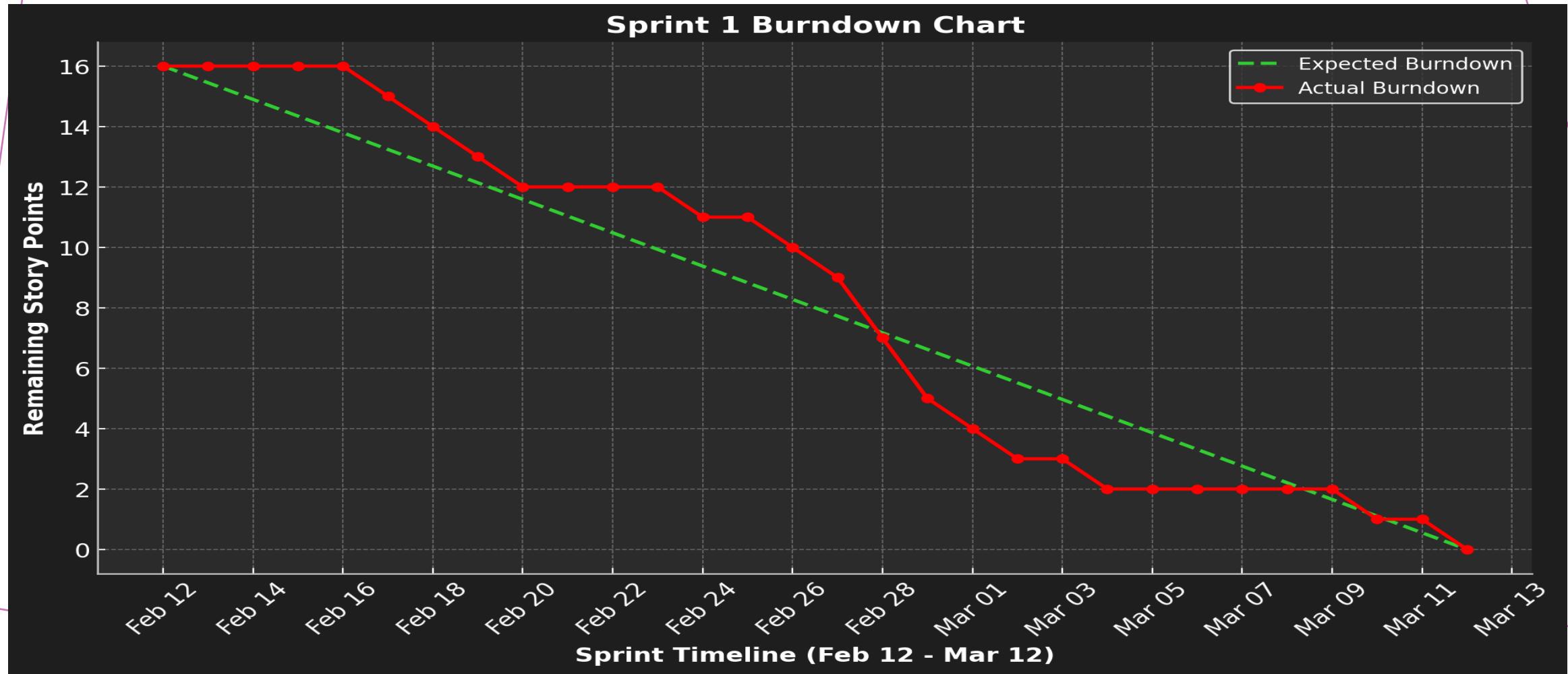
PRODUCT BACKLOG

<u>Story ID</u>	<u>Feature</u>	<u>User Story</u>	<u>Acceptance Criteria</u>	<u>Story Points</u>
TS4	Recommendation Logic	As a developer needs to implement a rule-based recommendation system, So that users receive personalized suggestions.	<ol style="list-style-type: none">1. Algorithm uses historical trends (e.g., 30-day moving average) and user risk tolerance.2. Example rule: Recommend stocks with upward trends for low-risk users.3. Logic is tested with sample profiles and data.	5
TS5	News API Integration	As a developer needs to integrate a free news API (e.g., NewsAPI), So that the team can display market news.	<ol style="list-style-type: none">1. Backend fetches news articles related to finance.2. News data is cached for 24 hours.3. Error handling for API failures.	3

SPRINT 1 SUMMARY

Sprint 1 focused on setting up the project foundation. The team completed the basic dashboard UI, profile setup form, and a placeholder for investment recommendations. Additionally, the front-end framework was configured with routing and styling tools. This sprint laid the groundwork for future user interactions and functional development.

BURNDOWN CHART SPRINT 1

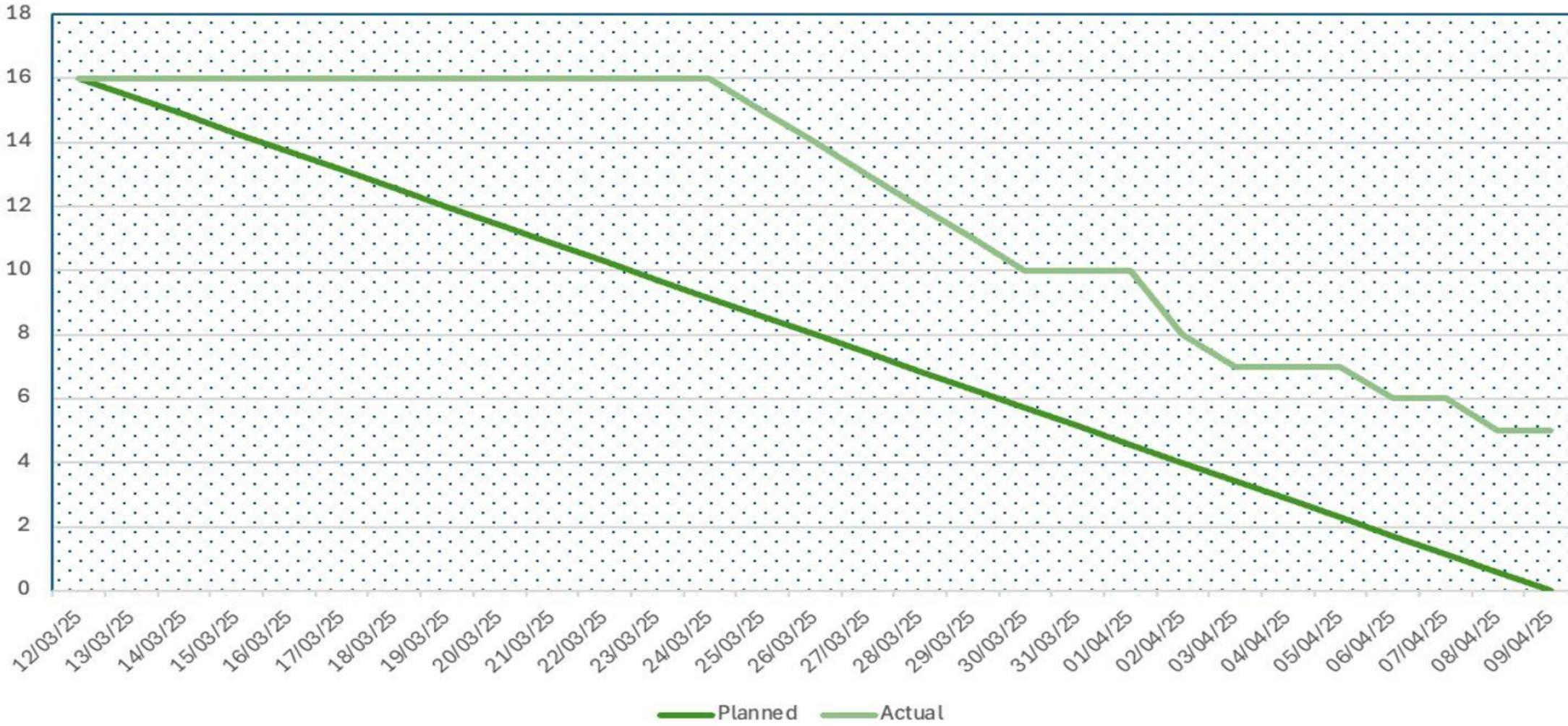


SPRINT 2 SUMMARY

In Sprint 2, the team focused on backend setup and completed profile data saving, API integration, and database schema. However, user registration and login remained incomplete due to dependencies. A total of 11 out of 16 story points were completed, highlighting planning gaps and the need for better coordination.

BURNDOWN CHART SPRINT 2

Sprint 2 Burndown Chart



SPRINT 3 BACKLOG

<u>Story ID</u>	<u>Feature</u>	<u>User Story</u>	<u>Acceptance Criteria</u>	<u>Story Points</u>
US7	Historical Trends Display	Thomas Shelby wants to see historical trends for recommended stocks, so that he can understand the basis for recommendations.	1. Dashboard displays a line chart showing 30-day price trend for each stock. 2. Chart uses historical data from the database. 3. Chart includes labels for dates and prices.	5
US8	Market News Display	Thomas Shelby wants to see recent market news, so that he can stay informed.	1. Dashboard includes a section with market news headlines. 2. News fetched from a free API (e.g., NewsAPI) and displayed as a list. 3. Each news item includes title, source, and link to the article.	5
US9	Personalized Recommendations	Thomas Shelby wants to see personalized investment recommendations, so that he can make informed decisions.	1. Recommendations replace the placeholder UI from Sprint 1. 2. Recommendations are based on historical trends and user profile (e.g., risk tolerance). 3. If no recommendations are available, a message like "No recommendations at this time" is shown.	5
TS4	Recommendation Logic	As a developer needs to implement a rule-based recommendation system, so that users receive personalized suggestions.	1. Algorithm uses historical trends (e.g., 30-day moving average) and user risk tolerance. 2. Example rule: Recommend stocks with upward trends for low-risk users. 3. Logic is tested with sample profiles and data.	5

SPRINT 3 BACKLOG

<u>Story ID</u>	<u>Feature</u>	<u>User Story</u>	<u>Acceptance Criteria</u>	<u>Story Points</u>
TS5	News API Integration	As a developer needs to integrate a free news API (e.g., NewsAPI), So that the team can display market news.	1. Backend fetches news articles related to finance. 2. News data is cached for 24 hours. 3. Error handling for API failures.	3
US4	User Registration	Aarav Sharma wants to register with his email and password, So that he can access the InvestIQ platform.	1. Aarav can enter email and password on a registration form. 2. System validates email format and ensures password is at least 8 characters. 3. Upon successful registration, Aarav is redirected to login page. 4. Error messages shown if email is in use or inputs are invalid.	3
US5	User Login	Aarav Sharma wants to log in with his email and password, So that he can access his dashboard.	1. Aarav can enter email and password on a login form. 2. System validates credentials and logs Aarav in if correct. 3. Aarav is redirected to the dashboard upon successful login. 4. Error message shown if credentials are incorrect.	2

TEST CASES SPRINT 3

Test Case								
	ID	Story ID	Feature	Test Description	Test Steps	Expected Result	Actual Result	Status
TC3.1	US7	Historical Trends	Display	Display 30-day trend chart	<ol style="list-style-type: none"> 1. Navigate to dashboard 2. View historical trends section 3. Verify chart loads 	Chart displays 30-day price data with labels	Chart loaded correctly with date and price labels	Pass
TC3.2	US7	Historical Trends	Display	Chart uses database data	<ol style="list-style-type: none"> 1. Disconnect API 2. Reload dashboard 3. Verify data comes from DB cache 	Chart still displays using database-stored data	Chart used cached data and displayed correctly	Pass
TC3.3	US8	Market News	Display	Display market news list	<ol style="list-style-type: none"> 1. Navigate to dashboard 2. View news section 3. Check for title, source, and clickable link 	News list displays with valid title, source, and clickable link	News displayed with all required fields	Pass

~~TEST CASES SPRINT 3~~

<u>Test Case ID</u>	<u>Story ID</u>	<u>Feature</u>	<u>Test Description</u>	<u>Test Steps</u>	<u>Expected Result</u>	<u>Actual Result</u>	<u>Status</u>
TC3.4	US8	Market News Display	Handle API failure	<ol style="list-style-type: none"> 1. Simulate API failure 2. Load dashboard 3. Observe behavior 	Graceful error message shown if API fails	API failed, error handled with proper message	Pass
TC3.5	US9	Personalized Recommendations	Show personalized recommendations	<ol style="list-style-type: none"> 1. Login with filled profile 2. Open dashboard 3. Verify recommendations 	Recommendations shown based on profile risk and trends	Correct personalized recommendations displayed	Pass
TC3.6	US9	Personalized Recommendations	No recommendations fallback	<ol style="list-style-type: none"> 1. Login with empty profile 2. Open dashboard 3. Verify fallback message 	Message "No recommendations at this time" is shown	Proper fallback message shown	Pass

TEST CASES SPRINT 3

<u>Test Case ID</u>	<u>Story ID</u>	<u>Feature</u>	<u>Test Description</u>	<u>Test Steps</u>	<u>Expected Result</u>	<u>Actual Result</u>	<u>Status</u>
TC3.7	TS4	Recommendation Logic	Apply logic for low-risk user	<ol style="list-style-type: none">Set profile to low riskCheck suggestionsValidate logic	Recommended stocks follow logic (e.g., upward trend for low risk)	Recommendations matched rule-based logic	PASS
TC3.8	TS4	Recommendation Logic	Logic tested with sample data	<ol style="list-style-type: none">Add sample dataTrigger logicVerify against rules	Logic runs correctly for sample input profiles	Algorithm applied and validated successfully	PASS
TC3.9	TS5	News API Integration	Fetch news articles	<ol style="list-style-type: none">Call backend APICheck responseEnsure content is finance-related	Finance-related news articles returned	API returned valid financial news articles	PASS

~~TEST CASES SPRINT 3~~

<u>Test Case ID</u>	<u>Story ID</u>	<u>Feature</u>	<u>Test Description</u>	<u>Test Steps</u>	<u>Expected Result</u>	<u>Actual Result</u>	<u>Status</u>
TC3.10	TS5	News API Integration	Cache validation	<ol style="list-style-type: none">1. Fetch news2. Re-fetch within 24 hrs3. Compare response	News should be cached and unchanged during cache window	News data returned from cache, no new API call	PASS



STORIES COMPLETED IN SPRINT 3

<u>Story ID</u>	<u>Feature</u>	<u>Story Points</u>
US7	Historical Trends Display	5
US8	Market News Display	5
US9	Personalized Recommendations	5
TS4	Recommendation Logic	5
TS5	News API Integration	3
US4	User Registration	3
US5	User Login	2
Total		28

TEAM VELOCITY

- Total Story Points Committed: 28
- Story Points Completed: 28
- Team Velocity (Sprint 3): 28 story points

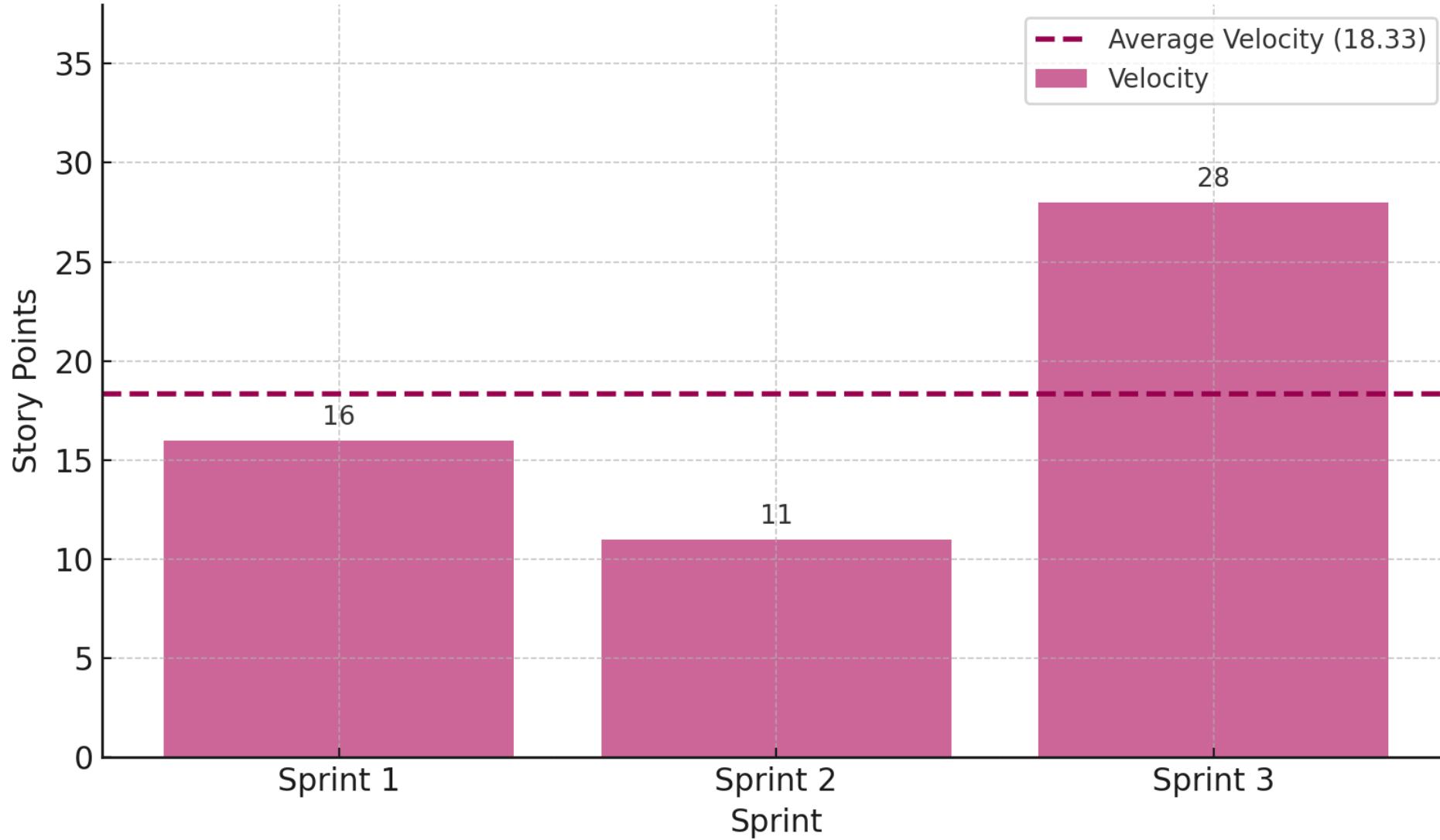
HISTORICAL TEAM VELOCITY



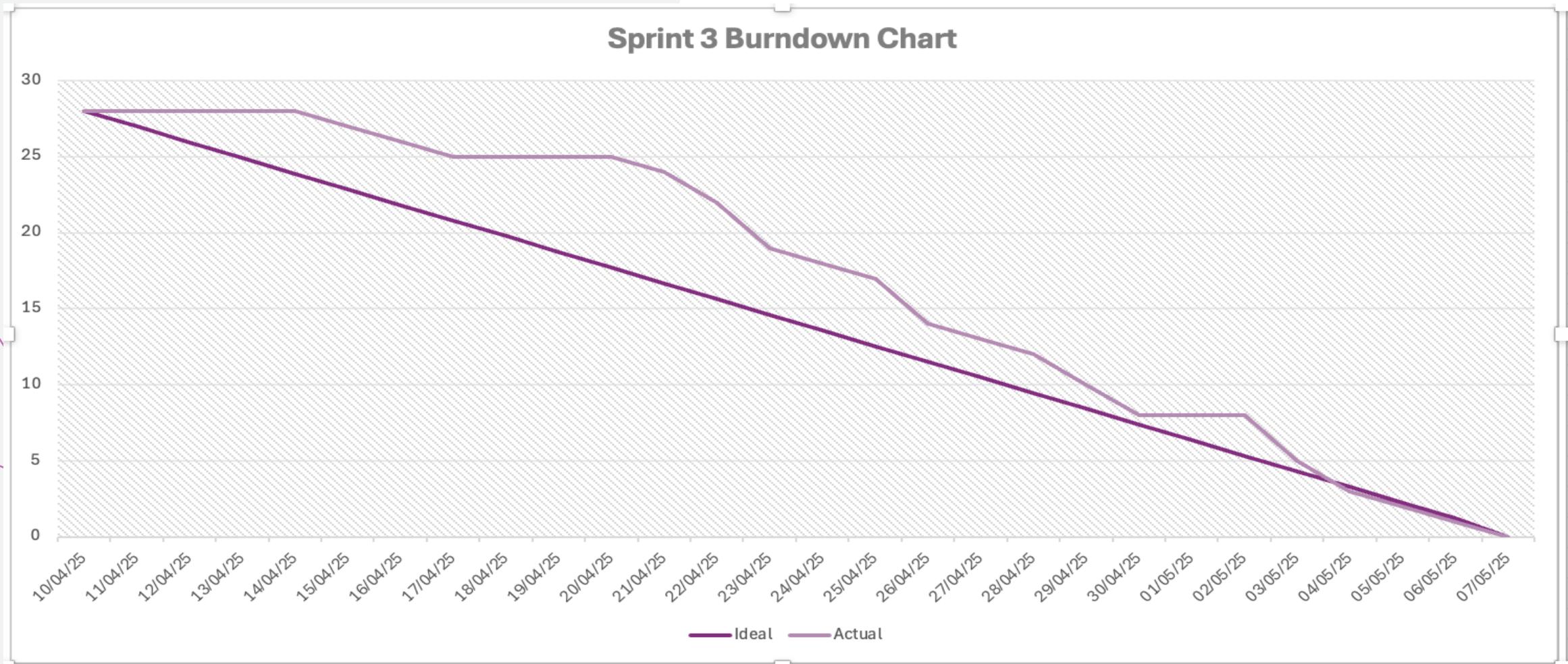
<u>Sprint</u>	<u>velocity (Story Points)</u>
Sprint 1	16
Sprint 2	11
Sprint 3	28
Average	18.33

HISTORICAL TEAM VELOCITY BAR CHART

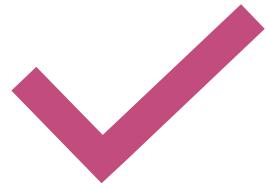
Historical Team Velocity



BURNDOWN CHART



COMPLETED/COMMITTED RATIO - SPRINT 3



Committed Story
Points: 28



Completed Story
Points: 28



Completed/Committed Ratio:
 $(28/28) \times 100 =$
100%

~~HISTORICAL COMPLETED/COMMITTED RATIO~~

<u>Sprint</u>	<u>Committed</u>	<u>Completed</u>	<u>Ratio (%)</u>
Sprint 1	16	16	100%
Sprint 2	16	11	68.75%
Sprint 3	28	28	100%
Average	—	—	89.58%

RETROSPECTIVE

Export | L

Techno Stack

What went well +1

All Stories Completed	ui integration smooth
+1	+1
News feature stable	API's delivered early
+1	+1
Motivated throughout sprint	Test cases validated
+1	+1
clear team communication	
+1	

What can be improved +1

unit tests missed	ML Data Sync
+1	+0
More test planning	Error Handling Delay
+0	+0
Edge cases late	final days are stressful
+0	+0
Breaks not planned	
+0	

Action Items +0

Planning test cases early
+0

SCREENSHOTS

The screenshot shows the InvestIQ mobile application interface. At the top left is the InvestIQ logo with a green icon. At the top right is a green "Enter App" button. Below the logo is a green circular button labeled "AI-Powered Investing". The main title "Smart investments with personalized insights" is displayed in large white font. A descriptive text below it states: "InvestIQ leverages AI to analyze market trends, process real-time financial news, and provide personalized investment recommendations tailored to your financial goals." A green "Try InvestIQ Now →" button is at the bottom left. On the right side, there is a "Portfolio Overview" section with a large green arrow pointing up. It shows a total value of "\$15,800" with a note "+18.2% this month". Below this are three cards: "Total Return +58.0%", "Positions 6", and "Risk Level Moderate".

InvestIQ

AI-Powered Investing

Smart investments with personalized insights

InvestIQ leverages AI to analyze market trends, process real-time financial news, and provide personalized investment recommendations tailored to your financial goals.

Try InvestIQ Now →

Portfolio Overview

\$15,800
+18.2% this month

1D 1W 1M 1Y

Total Return +58.0%

Positions 6

Risk Level Moderate

SCREENSHOTS

The screenshot shows the InvestIQ mobile application's main dashboard. At the top, there is a dark header bar with the InvestIQ logo and a search bar containing the text "Search for stocks, funds, or news...". Below the header is a large, light-colored rectangular area containing the following text:

InvestIQ - Your AI-powered investment assistant

Get started by setting your financial goals.

Total Return: +58.0% | Positions: 6 | Risk Level: Moderate

Try InvestIQ Now →

In the center of the screen, there is a section titled "About InvestIQ" with the following text:

InvestIQ is an AI-powered investment assistant that analyzes stock market trends, processes real-time financial news, and provides personalized investment insights and risk alerts. Unlike traditional investment platforms that only offer raw data and generic analytics, our application leverages AI-driven time series analysis and natural language processing to deliver real-time, context-aware financial recommendations tailored to users' personal financial goals and life events.

Explore the App

At the bottom of the screen, there is a footer bar with the following text:

InvestIQ - Capstone Project
Professor Henry Wong - Spring 2025
© 2025 Techno Stack. All rights reserved.

SCREENSHOTS

InvestIQ

\$ Deposit

- Dashboard
- Portfolio
- Stocks
- Recommendations
- AI Analysis

Ruchitha
View Profile

Dashboard

Portfolio Value
\$173,340
↑ 261.13% overall

Total Gain
\$125,340
↑ Since purchase

Positions
1
1 profitable

Portfolio Performance
Track your investment growth over time
1D 1W 1M 3M 1Y All

Top Holdings

Symbol	Price	Change
MSFT	\$433.35	↑ 261.13%

Watchlist

Symbol	Price	Change
AAPL	\$196.25	↓ -1.14%
MSFT	\$433.35	↑ 0.01%
GOOGL	\$151.38	↓ -7.26%

Upcoming IPOs

Next 30 days

SCREENSHOTS

InvestIQ

\$ Deposit

Dashboard

Portfolio

Stocks

Recommendations

AI Analysis

Ruchitha
View Profile

\$0

Apr 10 Apr 12 Apr 14 Apr 16 Apr 18 Apr 20 Apr 22 Apr 24 Apr 26 Apr 28 Apr 30 May 2 May 4 May 6 May 8

Upcoming IPOs

Next 30 days

Date	Company	Symbol	Price	Shares
May 7, 2025	American Integrity Insurance Group, Inc. NYSE	AII	\$15.00-17.00	6,875,000 \$134.4M
May 7, 2025	ASPEN INSURANCE HOLDINGS LTD NYSE	AHL	\$29.00-31.00	11,000,000 \$392.1M
May 8, 2025	Apimeds Pharmaceuticals US, Inc. NYSE MKT	APUS	\$4.00-5.00	4,500,000 \$25.9M
May 12, 2025	Antalpa Platform Holding Co NASDAQ	ANTA	\$11.00-13.00	3,850,000 \$57.6M
May 13, 2025	eToro Group Ltd. NASDAQ Global Select	ETOR	\$46.00-50.00	10,000,000 \$575.0M

Data provided by Finnhub. IPO dates may be subject to change.

AAPL \$196.25 ↓ -1.14%

MSFT \$433.35 ↑ 0.01%

GOOGL \$151.38 ↓ -7.26%

AMZN \$188.71 ↑ 2.00%

TSLA \$276.22 ↑ 0.32%

Latest News

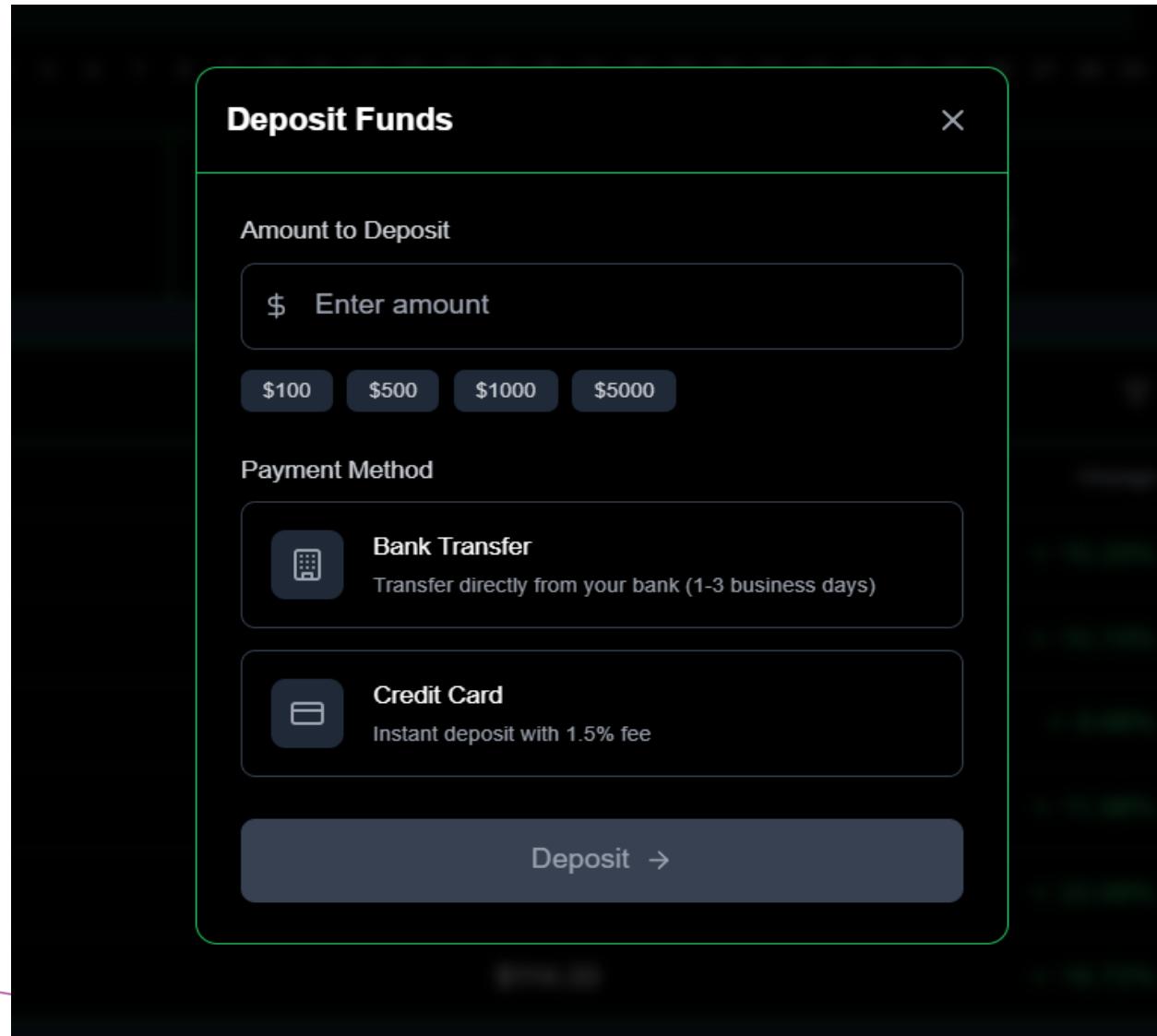
Dutch Bros' earnings results show not everything is terrible for coffee chains
MarketWatch • May 7, 06:21 PM

Saudi sovereign wealth fund deepens investment in women's professional golf
CNBC • May 7, 06:00 PM

Powell says Trump tariffs could delay inflation progress — and rate cuts — by a year
MarketWatch • May 7, 05:58 PM

[View All News](#)

SCREENSHOTS



SCREENSHOTS

InvestIQ

\$ Deposit

- Dashboard
- Portfolio
- Stocks
- Recommendations
- AI Analysis

Ruchitha View Profile

Portfolio

Portfolio Value
\$173,340 ↑ 261.13%



The chart displays a single data series representing the portfolio's growth over time. The y-axis shows values from \$0 to \$180,000 in increments of \$45,000. The x-axis marks the months of March, April, and May. A green line with circular markers connects three points: one at the start of March at approximately \$45,000, another at the end of April at approximately \$90,000, and a final point at the end of May at approximately \$173,340. The overall trend is upward, indicating significant growth.

Your Holdings

Symbol	Name	Shares	Avg. Cost	Price	Value	Weight	Gain/Loss	Actions
MSFT	MICROSOFT CORP	400	\$120.00	\$433.35	\$173340.00	100.0%	↑ \$125340.00 (261.13%)	

Refresh Add Position

SCREENSHOTS

The screenshot displays the InvestIQ mobile application's Stock Market section. The left sidebar contains navigation links: Dashboard, Portfolio, Stocks, Recommendations, and AI Analysis. The main area features a search bar with placeholder text "Search for stocks to add to watchlist..." and a green "Search" button. Below the search bar is a "Watchlist" table with the following data:

Symbol	Price	Change
AAPL	\$196.25	↓ -1.14%
MSFT	\$433.35	↑ 0.01%
GOOGL	\$151.38	↓ -7.26%
AMZN	\$188.71	↑ 2.00%
TSLA	\$276.22	↑ 0.32%
NVDA	\$117.06	↑ 3.10%
TCS.NS	N/A	N/A

To the right of the watchlist is a "Market News" section with the following headlines:

- Dutch Bros' earnings results show not everything is terrible for coffee chains
- Saudi sovereign wealth fund deepens investment in women's professional golf
- Powell says Trump tariffs could delay inflation progress — and rate cuts — by a year
- Even Republicans are getting concerned about Social Security cutting staff and closing offices

At the bottom of the screen, there is a footer with the text "Ruchitha View Profile" and a link "marketwatch.com/.../even-republicans-are-aettina-concerned-about-social-...".

SCREENSHOTS

The image displays two screenshots of the InvestIQ mobile application interface. The left screenshot shows the main navigation bar with options like Dashboard, Portfolio, Stocks, Recommendations, and AI Analysis. The right screenshot shows the 'Analyst Recommendations' section, which lists the latest ratings for popular stocks. The stocks listed are AAPL, MSFT, GOOGL, AMZN, TSLA, and NVDA, all currently rated as 'Hold'. A detailed view of the AAPL (Apple Inc.) page is shown on the right, featuring a chart of analyst recommendations. The chart shows the distribution of ratings: Hold (the most frequent at approximately 20), Buy (around 6), Strong Buy (around 5), Sell (around 6), and Strong Sell (around 2). The x-axis represents the count of analysts, ranging from 0 to 24.

InvestIQ

\$ Deposit

Dashboard

Portfolio

Stocks

Recommendations

AI Analysis

Ruchitha View Profile

Analyst Recommendations

AAPL Technology Apple Inc. Hold

MSFT Technology Microsoft Corporation Hold

GOOGL Technology Alphabet Inc. Hold

AMZN Consumer Amazon.com Inc. Hold

TSLA Automotive Tesla, Inc. Hold

NVDA Technology NVIDIA Corporation Hold

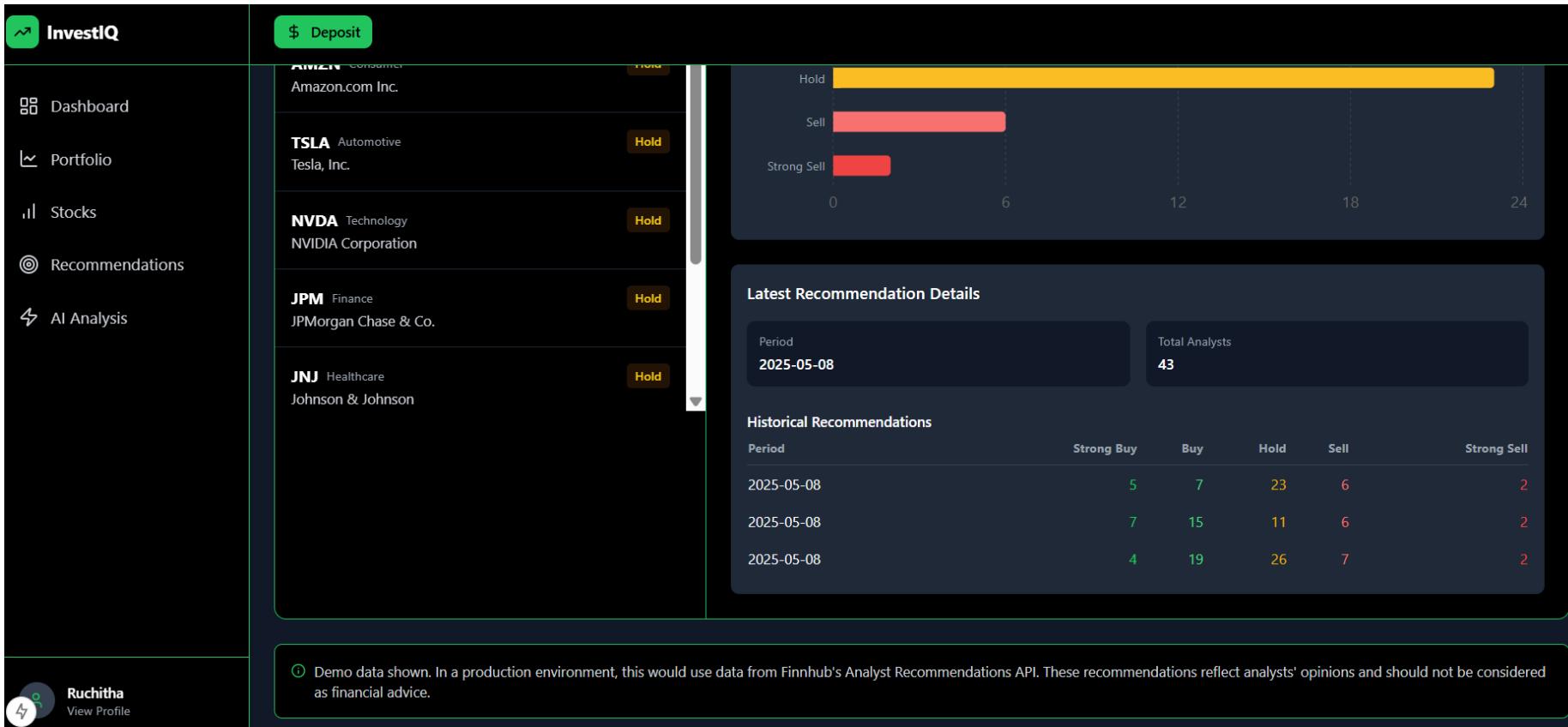
AAPL Apple Inc. Hold

Analyst Recommendations

Rating	Count
Strong Buy	~5
Buy	~6
Hold	~20
Sell	~6
Strong Sell	~2

0 6 12 18 24

~~SCREENSHOTS~~



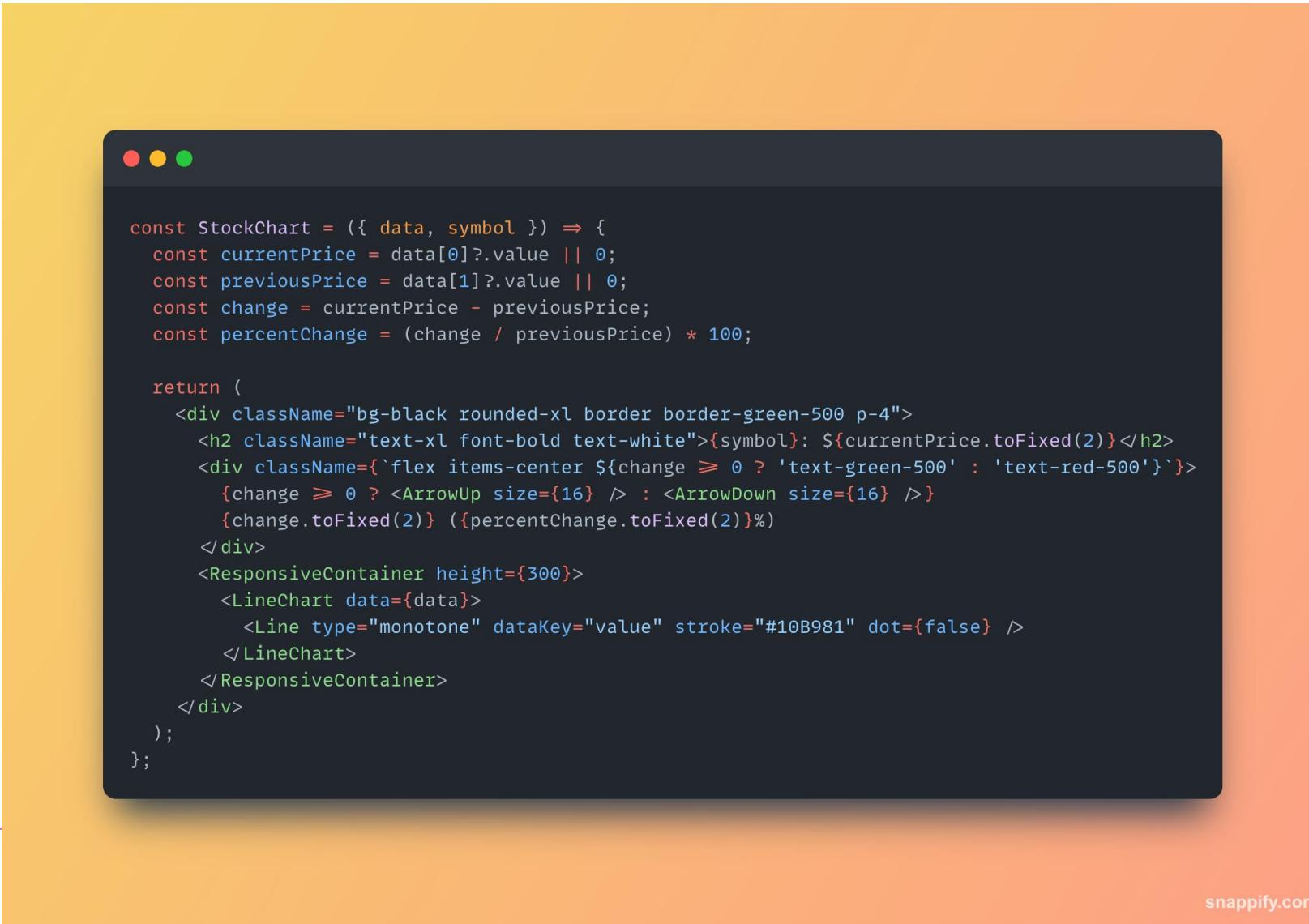
SCREENSHOTS

The screenshot shows the InvestIQ AI Analysis Engine interface. On the left, a sidebar menu includes options like Dashboard, Portfolio, Stocks, Recommendations, and AI Analysis. A green 'Deposit' button is at the top right. The main area features a header 'AI Analysis' and a sub-header 'InvestIQ Analysis Engine: AI-powered stock recommendations'. It displays 'Weekly Recommendations' and 'Market Insights' tabs. Below this is a 'Sectors' section with a 'Technology' category highlighted, showing sub-sectors: Consumer Discretionary, Healthcare, Communication Services, and Industrials. To the right is a 'Technology - Top Performers' table listing five stocks with their 5-day performance and analysis notes:

Rank	Stock	Ticker	5-Day Performance	Analysis Notes
1	VNET Group	VNET	↑ 31.60%	Data center demand and tech sector rally.
2	GDS Services	GDS	↑ 21.38%	Up 18.66% over 3 months, driven by cloud computing growth.
3	Palantir Technologies	PLTR	↑ 15.02%	AI and analytics demand; mixed sentiment on valuation.
4	Microsoft	MSFT	↑ 12.48%	Strong AI and cloud spending outlook.
5	CrowdStrike	CRWD	↑ 10.06%	Cybersecurity demand remains robust.

A note at the bottom states: "Recommendations are based on proprietary AI algorithms analyzing price momentum, trading volume, news sentiment, and market trends. Updated weekly every Friday after market close."

CODE SNIPPETS



CODE SNIPPETS

```
// Portfolio management core functionality
const addPosition = async (symbol, shares, avgCost) => {
  const quote = await fetchStockQuote(symbol);
  const currentPrice = quote.price;
  const value = currentPrice * shares;
  const gain = (currentPrice - avgCost) * shares;
  const gainPercent = ((currentPrice - avgCost) / avgCost) * 100;

  const newHolding = {
    symbol, shares, avgCost, currentPrice, value, gain, gainPercent
  };

  const updatedHoldings = [...holdings, newHolding];
  setHoldings(updatedHoldings);
  localStorage.setItem('portfolio', JSON.stringify(updatedHoldings));
};
```

CODE SNIPPETS

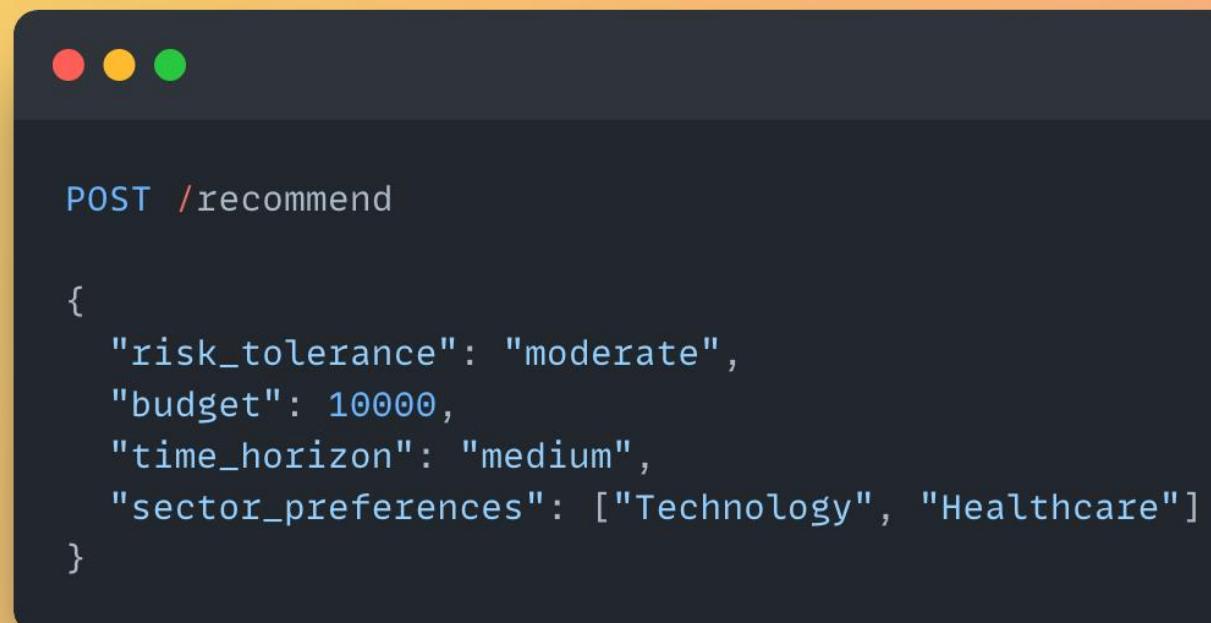
```
const AIAnalysis = () => {
  const [activeSector, setActiveSector] = useState("Technology");
  const [sectorData, setSectorData] = useState([]);

  useEffect(() => {
    // Fetch AI-generated recommendations for selected sector
    const fetchRecommendations = async () => {
      const response = await fetch(`/api/ai-recommendations?sector=${activeSector}`);
      const data = await response.json();
      setSectorData(data);
    };

    fetchRecommendations();
  }, [activeSector]);

  return (
    <div className="bg-black rounded-xl border border-green-500">
      <h2 className="text-lg font-bold text-white">AI Recommendations: {activeSector}</h2>
      {/* Stock recommendations table rendering */}
      </div>
  );
};
```

API



```
POST /recommend

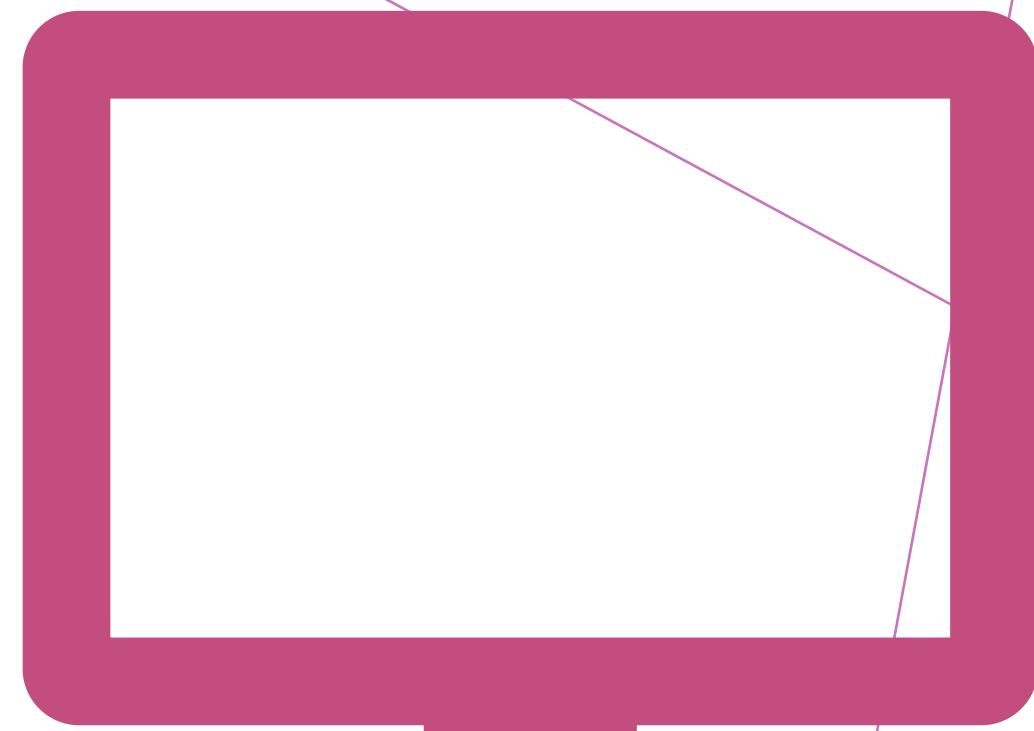
{
  "risk_tolerance": "moderate",
  "budget": 10000,
  "time_horizon": "medium",
  "sector_preferences": ["Technology", "Healthcare"]
}
```

WIKI PAGE

LINK

[https://github.com/htmwlw/2025S-
Techno-Stack](https://github.com/htmwlw/2025S-Techno-Stack)

LIVE DEMO



An aerial photograph of a long bridge spanning a wide body of water. The bridge has four lanes in each direction and is surrounded by a dark grey metal railing. Several vehicles, including cars and trucks, are visible on the bridge. The water below is a vibrant turquoise color with small ripples.

THANK YOU