Agenda

1. **Team Intro**
   - Member Names
   - Roles and Responsibilities
2. **Project Overview**
   - Problem Statement
   - Project Description
   - Personas
3. **MVP**
4. **Software Tools**
   - Technologies
   - Algorithms
5. **Diagrams**

6. Product Backlog
7. Sprint Backlog
   - Metrics
8. Retrospective
9. Demo
10. Github Link

Minimum Viable Product

- The most important capability of the application is the stock price prediction
- This prediction relies on a good model
- Therefore, MVP for Market Magician must do the following
  - Train a model based on selected stock price history
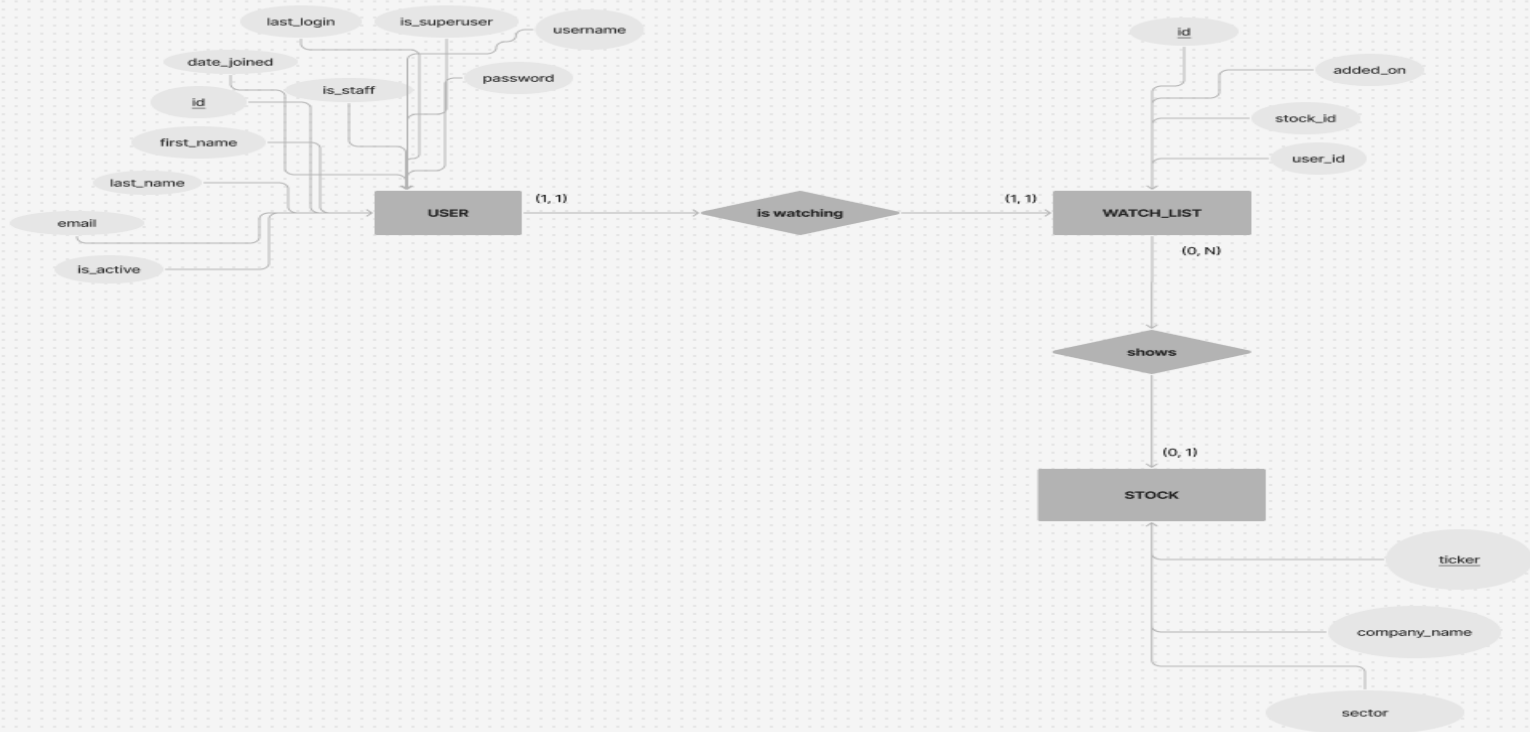 - Predict future prices for selected stock

Technologies

- Python
- JavaScript
- Machine Learning
- TensorFlow
- Keras
- Django
- HTML

- CSS
- Reactjs
- PostgresSQL
- Y!finance
- Github
- VSCode

Algorithms

- Linear Regression
  - Poor Prediction Capabilities
- Long-Short Term Memory
  - Needs Activation Function
- Monte Carlo
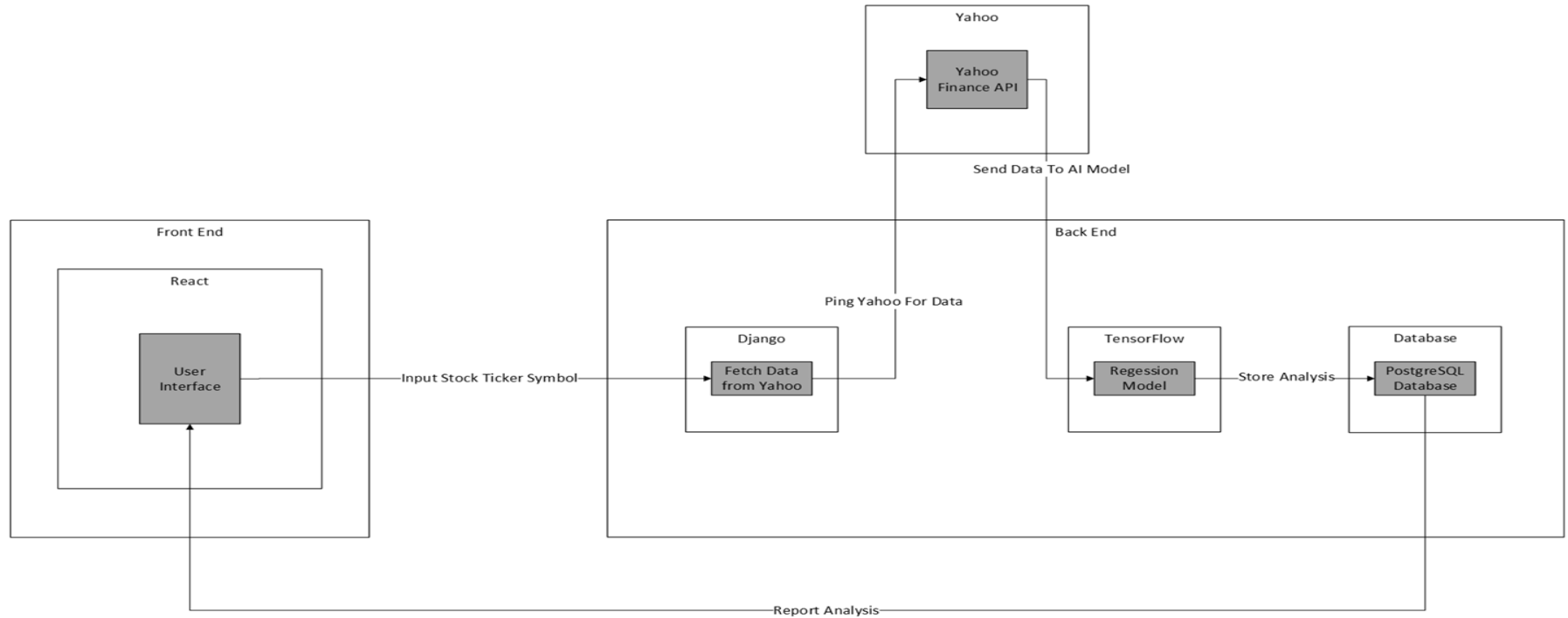 - Continue research on implementation

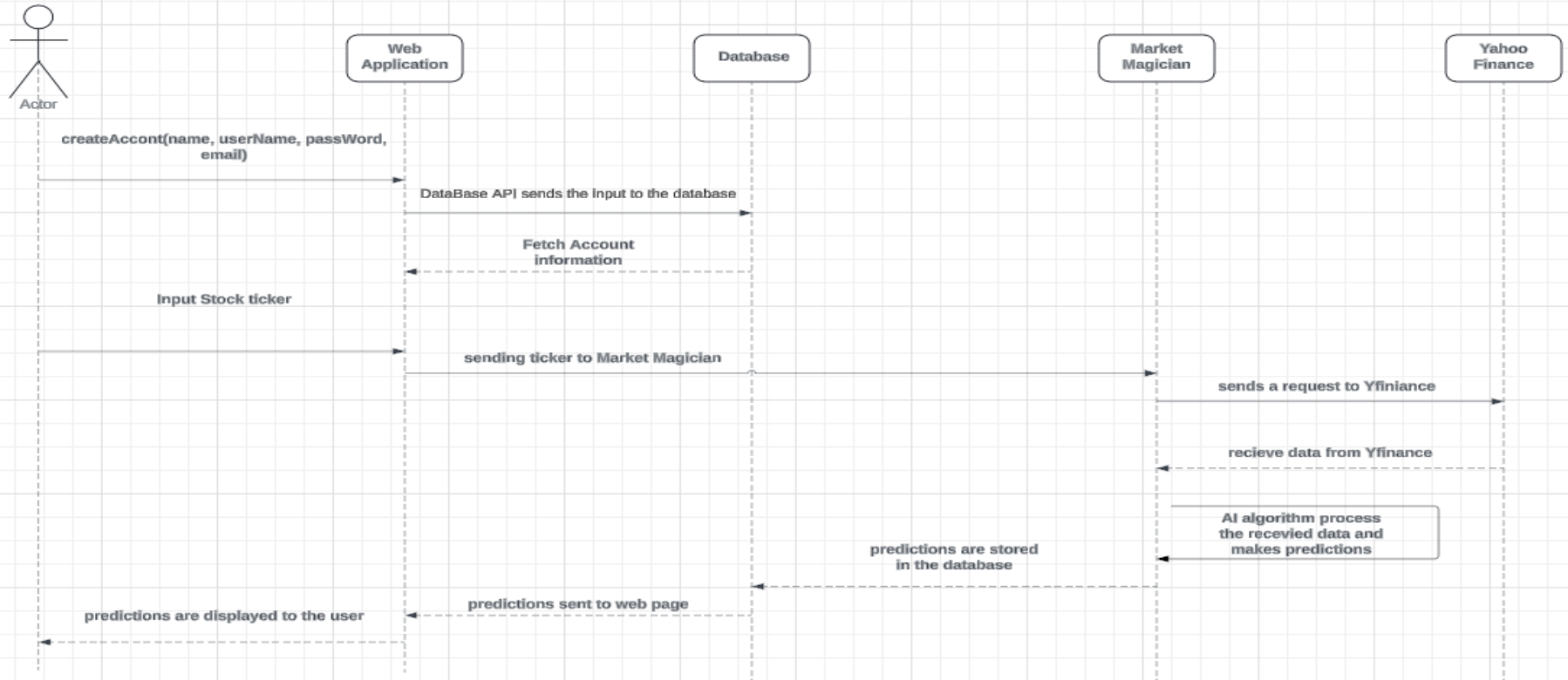# Entity-Relationship Diagram

Context Diagram

Architecture Diagram

Sequence Diagram

Actor

Web Application

Database

Market Magician

Yahoo Finance

createAccont(name, userName, passWord, email)

DataBase API sends the input to the database

Fetch Account information

Input Stock ticker

sending ticker to Market Magician

sends a request to Yfiniance

recieve data from Yfinance

AI algorithm process the recevied data and makes predictions

predictions are stored in the database

predictions sent to web page

predictions are displayed to the user

Product Backlog

- Team collaborated on a list of user stories to guide application development

- Stories pulled into backlog
  - Backlog refinement will be necessary

Product Backlog

| Story Id	As a.....	I want to...	So that...	acceptance criteria
1	User	securely log into my account	I can access my account securely	user logs in after inputing saved password
2	User	recieve basic AI based stocks recommendations	I can consider my potential investments	user presented with list stocks the ai reccomends
3	User	see a simple overview of my investments and their performance	I can monitor my account	application displays overview data (like stock name, price, profit,, etc.)
4	User	see a prediction to the asset that I have chosen	I can act accordingly (buy,sell,hold)	apllication display users prediction value on application screen
5	User	recieve notifications about my chosen stocks	I can stay informed and can act in a timely manner	application sends notificaiton to user after stock prediction reaches some threshold
6	User	my personal and financial data to be securely handled	I can trust the app with sensitive information	application must adhere to some level of cybersecurity standard?
7	User	to select 1 or more stocks	I can get analysis of specific stocks of interest	application allows users to specify stocks to send to AI model
8	User	to see historical price data of selected stock over selected range	I can get some information of a particular stock	application displays a plot of price data vs time for selected stock and range
9	User	save displays/charts	I can reivew them at a later date	application displays and saves a chart to user's profile
10	User	to see some metric of confidence for the model's prediction	I can see if selected stock is a buy or sell (hold?)	application shows a percentage representing accuracy along with prediction
11	User	select window of time to analyze	I can tailor the prediction based on my preferences	application provides user some method to select time window
12	User	select a list of stocks to save	I don't have keep selecting my stocks of interest when I log in	application saves list of stocks to the user profile
13	User	to create a user profile	I can create my own login name and password	application creates and stores unique username/password
14	User	to sort my selection based on chosen attribute	I can see easily rank my stocks based on name, probabilyt, price, etc...	application provides a method for sorting displayed data
15	User	have a graphical user interface	I can use the application	website with features enabling user interface

Sprint 1 Backlog

- Sprint 1 backlog consisted of developer tasks related to:
    - Capstone project tasks
    - Prototype development tasks

- Detailed sprint export within team repo

Sprint 1 (9/25/24 - 10/22/24)

CLOSED

Task ID	Task Name	Status	Task Content	Assignee	Due Date	Start Date	Date Closed	Date Done	Points Estimate	Points Estimate Rolled Up
8689rq8bh	Create User Stories	CLOSED	Create stories from	Abed Mussav	09/28/2024		09/28/2024	09/28/2024	0	20
8689vvadn	User stories - Abed	CLOSED		Abed Mussav			09/28/2024		4	4
8689vvaev	User stories - Andrew	CLOSED		Andrew Rowa			09/28/2024		4	4
8689vvafe	User stories - Kassandra	CLOSED		Kassandra Ca			09/28/2024		4	4
8689vvag1	User stories - Henry	CLOSED		Henry Kim			09/28/2024		4	4
8689vvagr	User stories - Avi	CLOSED		Jonathan "Av			09/28/2024		4	4
8689vmj8q	Create Architecture Diagrams	CLOSED	Development team	Henry Kim, Ar	10/05/2024	09/29/2024	10/06/2024			35
8689vmjbq	Conceptual Diagrams - Andrew	CLOSED		Andrew Rowa			10/06/2024	10/06/2024	7	7
8689vmjcp	Sequence Diagrams - Kassandra	CLOSED		Kassandra Ca			10/06/2024	10/06/2024	7	7
8689vv8aw	Conceptual Diagram - Henry	CLOSED		Henry Kim			10/06/2024	10/06/2024	7	7
8689vva4f	Sequence Diagrams - Avi	CLOSED		Jonathan "Av			10/06/2024	10/06/2024	7	7
8689vvacr	Sequence Diagram - Abed	CLOSED		Abed Mussav			10/06/2024	10/06/2024	7	7
8689vvznj	General research - Team study 7pts	CLOSED		Andrew Rowa			10/22/2024	10/06/2024	7	7

IN DEVELOPMENT

Task ID	Task Name	Status	Task Content	Assignee	Due Date	Start Date	Date Closed	Date Done	Points Estimate	Points Estimate Rolled Up
8689vmf0t	Update Wikipage	IN DEVELOPMENT		Henry Kim					3	3
8689vmhbj	Add Sprint 1 videos/links	IN DEVELOPMENT								
8689vmhhl	Add Sprint 0 Completed Tasks	DEPLOYED						10/22/2024		0
8689vmhm	Add Sprint 1 Burndown & Completed Tasks	DEPLOYED						10/22/2024		0
8689vmhqj	Add Sprint 1 Retro	IN DEVELOPMENT								0
8689vmhqr	Add Sprint 2 Planning	IN DEVELOPMENT								0
8689vmhtn	Add Architecture Diagrams	DEPLOYED		Henry Kim				10/22/2024		0
8689vmhuc	Add Product Personas	DEPLOYED		Henry Kim				10/03/2024		0
8689vmhvc	Add user stories	DEPLOYED						10/22/2024		0
8689vmhw	Add application test cases	TO DO		Abed Mussav						0
8689rg07x	Create Prototype ~30	IN DEVELOPMENT								66
8689vmrx9	Code for prototype, driven by user stories - Henry	DEPLOYED		Henry Kim				10/21/2024	13	13
868ac72jb	Set up Django Environment	DEPLOYED						10/21/2024		0
868ac756a	Create Views to test prediction generation	DEPLOYED						10/21/2024		0
868ac76wc	Incorporate ML algorithm to Django	DEPLOYED						10/21/2024		0
8689vmrzx	Create/Record Demo of Prototype	DEPLOYED		Henry Kim				10/22/2024	1	1
8689vvd8z	Code for prototype, driven by user stories - Abed	DEPLOYED		Abed Mussav				10/21/2024	13	13
868ac75zy	Set up Postgre SQL database	DEPLOYED						10/21/2024		0
868a8c76gn	Create Initial Schema for Django Models	DEPLOYED						10/21/2024		0
868ac76qd	Implement Models in Django	DEPLOYED						10/21/2024		0
868ac76wz	Generate ERD Diagram	DEPLOYED						10/21/2024		0
8689vvda5	Code for prototype, driven by user stories - Andrew	DEPLOYED		Andrew Rowa				10/21/2024	13	13
868ac77ah	Implement Trading strategy algorithm	DEPLOYED						10/21/2024		0
868ac78xp	Implement ML model training algorithm	DEPLOYED						10/21/2024		0
868ac7aan	Implement ML model prediction logic	DEPLOYED						10/21/2024		0
8689vvdaq	Code for prototype, driven by user stories - Avi	IN DEVELOPMENT		Jonathan "Av					13	13
868ac7c9y	Generate user stock selection and display page	BACKLOG								
8689vvdbe	Code for prototype, driven by user stories - Kassandra	IN REVIEW		Kassandra Ca					13	13
868ac7bx8	Create preliminary design for site homepage	DEPLOYED						10/21/2024		0
868ac7cah	Generate homepage with React	IN REVIEW								0
8689rg9m4	Update Presentation	IN DEVELOPMENT		Henry Kim					3	3
8689vmgce	Professor Feedback slides	DEPLOYED						10/21/2024		0
8689vmgdf	MVP slide	DEPLOYED		Henry Kim				10/22/2024		0
8689vmgnz	Diagrams slides	DEPLOYED		Abed Mussav				10/22/2024		0
8689vmgqf	Product Backlog slides	DEPLOYED		Henry Kim				10/22/2024		0
8689vmgyc	Sprint 1 Backlog slides	DEPLOYED		Henry Kim				10/22/2024		0
8689vmh2j	Metrics slide	DEPLOYED		Henry Kim				10/22/2024		0
8689vmh5'	Project Demo slide	DEPLOYED						10/22/2024		0
868ac70k9	Update Tech and Algorithm Slides	DEPLOYED		Andrew Rowa				10/22/2024		0
8689tg295	Sprint 1 Retro	IN DEVELOPMENT		Henry Kim	10/19/2024	10/19/2024			2	0
8689tg2fj	Presentation Recording	IN DEVELOPMENT		Abed Mussav	10/21/2024	10/21/2024				0

TO DO

Task ID	Task Name	Status	Task Content	Assignee	Due Date	Start Date	Date Closed	Date Done	Points Estimate	Points Estimate Rolled Up
8689rq8gn	Create Test Cases (needs AC)	TO DO		Andrew Rowa						
868ac7cra	Connect front end and back end code for prototype	TO DO								
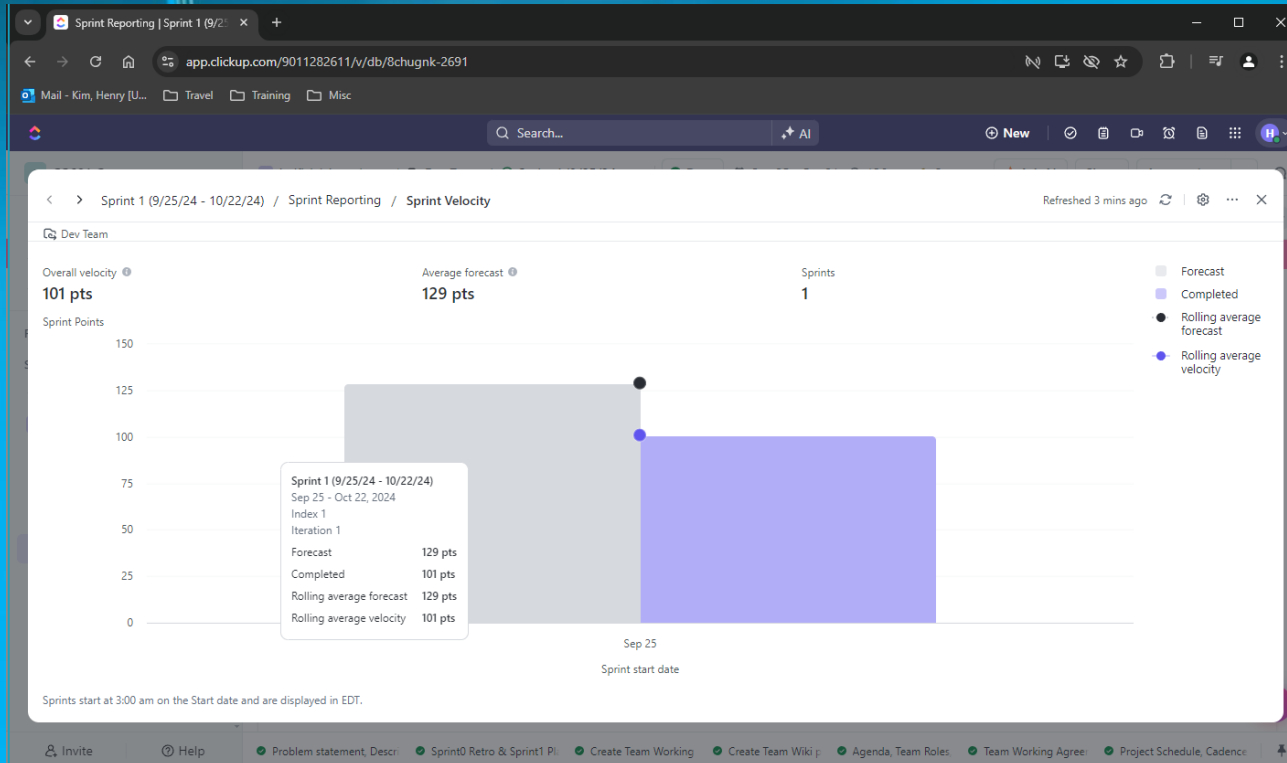
Sprint 1 Burndown
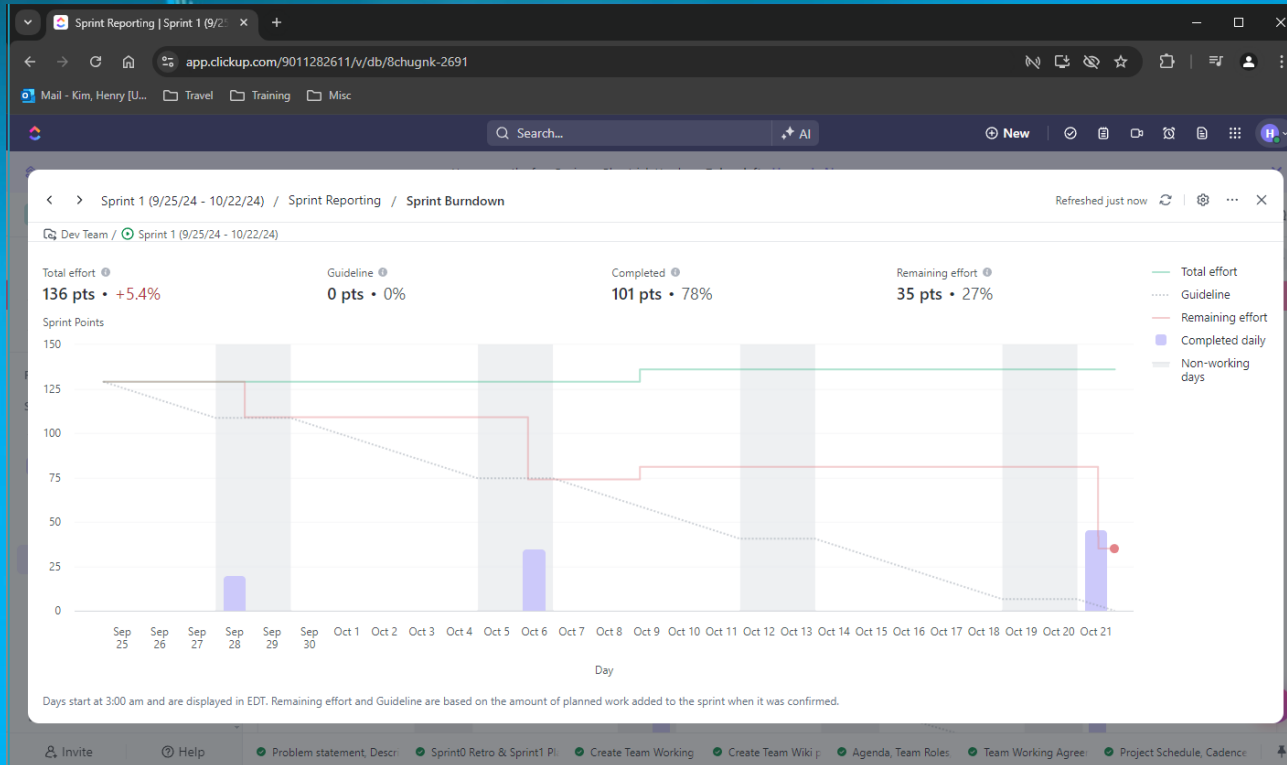
Sprint 1 Retrospective

What went well ➕

Kassandra: Ability to meed more often and productively. Details ironed out in meetings, was pretty clear. **+ 0**	Kassandra: Had 1-on-1 when working together on tasks + 0
Henry: Coding collaboration went well and smoothly especially once linked to GitHub. + 0	Henry: products generated were an accomplishment despite working with new or unfamiliar technologies. + 0
Avi: Improvements from previous retrospective has definitely improved our output. + 0	Avi: Collaboration has improved since last sprint. + 0
Andrew: We got close to what we wanted to get finished this sprint and we should build on the momentum. + 0	Andrew: Ad-hoc meetings improved productivity. + 0
Abed: Identified our MVP and we know what our endgame will be. + 0	Abed: Good job dividing work amongst who would be best suited for each task. + 0

What can be improved ➕

Kassandra: Making sure all team members are available for ad-hoc meeting times + 0	Kassandra: Team needs to check discord updates more regularly + 0
Abed: Communication difficulties made it difficult to append different teams work. + 0	Abed: Improve more on using GitHub to share work. + 0
Andrew: So communication needs to be improved upon as well as working together more often. + 0	Andrew: Everyone needs to be better with communicating when we will be at the meetings. + 0
Henry: Following up on discord more often. Last minute changes caused unneeded stresses. + 0	Henry: Team repository needed to be utilized more often and more frequently. + 0
Avi: We need to keep up on click-up or a related program to get things in at a reasonable time. + 0	Avi: Daily Scrum updates need to be updated more often even if we don't do anything that day. + 0

Action Items ➕

Henry: Incorporate Jira tools to organize sprint planning. Click-up was not viable for free use + 0	Henry: Just being better with communication and attention to details. + 0
Abed: uniform GitHub branching in so as to not step on toes. Set of instructions on how and when to merge branches + 0	Abed: sub-teams discord channels for tasks to keep people on task + 0
Andrew: Post in daily scrum channel even if no update. + 0	

Sprint 1 Retrospective

Landing Page Website

MarketMagician

Stocks   Login   Sign Up

Our Stocks

Description of stock Market Magician.

Learn More About Our Stocks

Stock Information

Overview of stock highlights, best 4 stocks of the year, and more.

Stock Information

Market Magician's products overall and the companies below.

Stock Cards Component
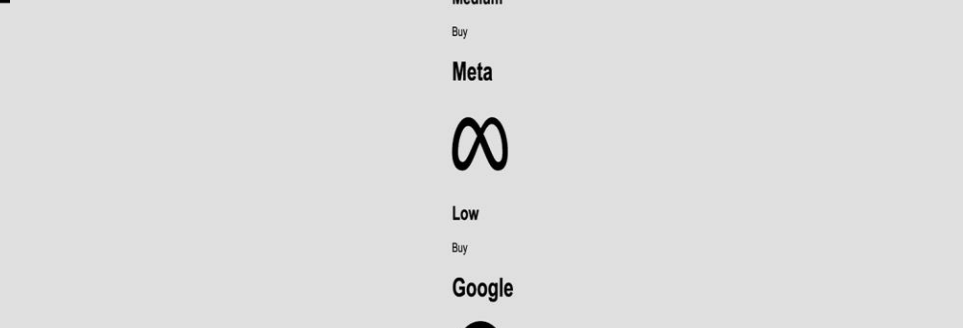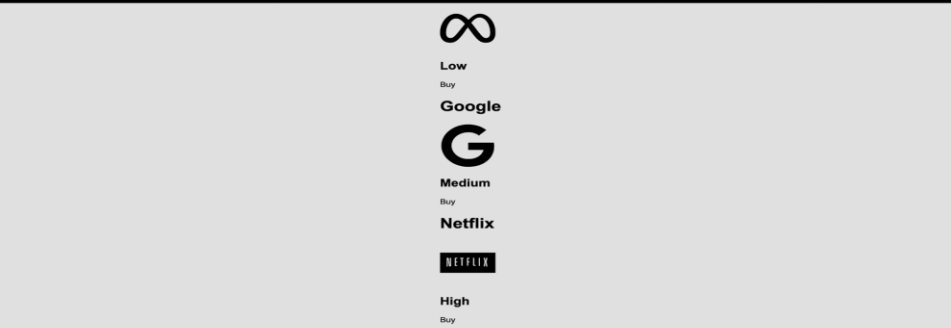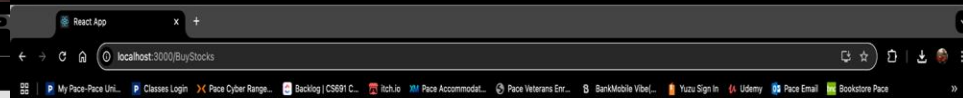
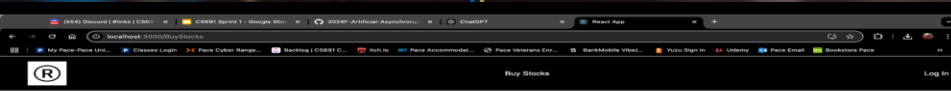## Specific stock information (of the 4 above)
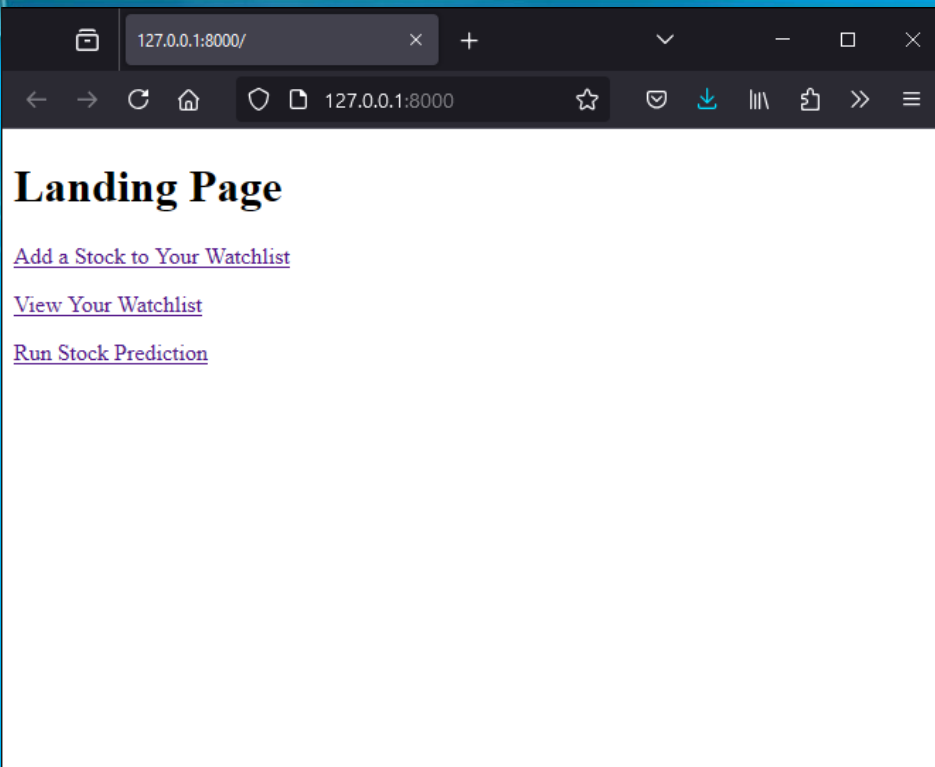
Content Title 1	Content Title 2	Content Title 3	Content Title 4

Buy Stocks Page

Stocks Available

Apple

Low
Buy Strong

Microsoft

Medium
Buy

Tesla

High

Low
Buy

Google

Medium
Buy

Netflix

High
Buy

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High

Hold

Amazon

Medium

Buy

Meta

Low

Buy

Google

Buy Stock Page

Stocks Available

Apple

Low

Buy Strong

Microsoft

Medium

Buy
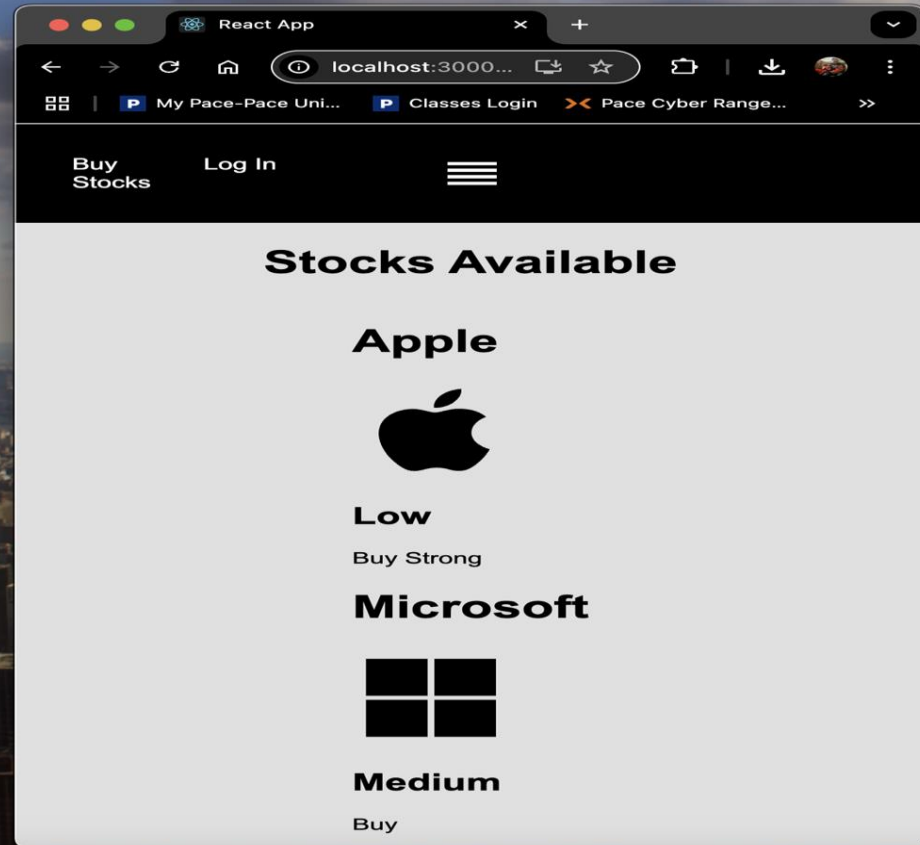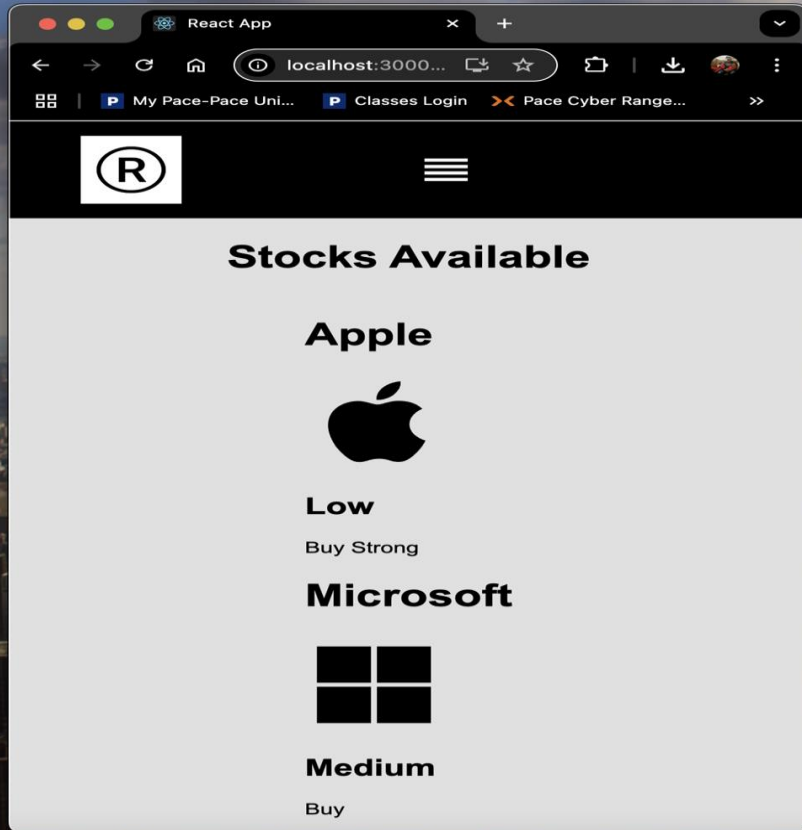
Backend Landing Page

Stock and Wishlist Pages

Add a Stock to Your Watchlist

Ticker Symbol: [   ] [Add Stock]

[Back to Watchlist]

Your Watchlist

- GOOG - Alphabet Inc Class C

[Add a New Stock]

[Back to Home]

Prediction Plot
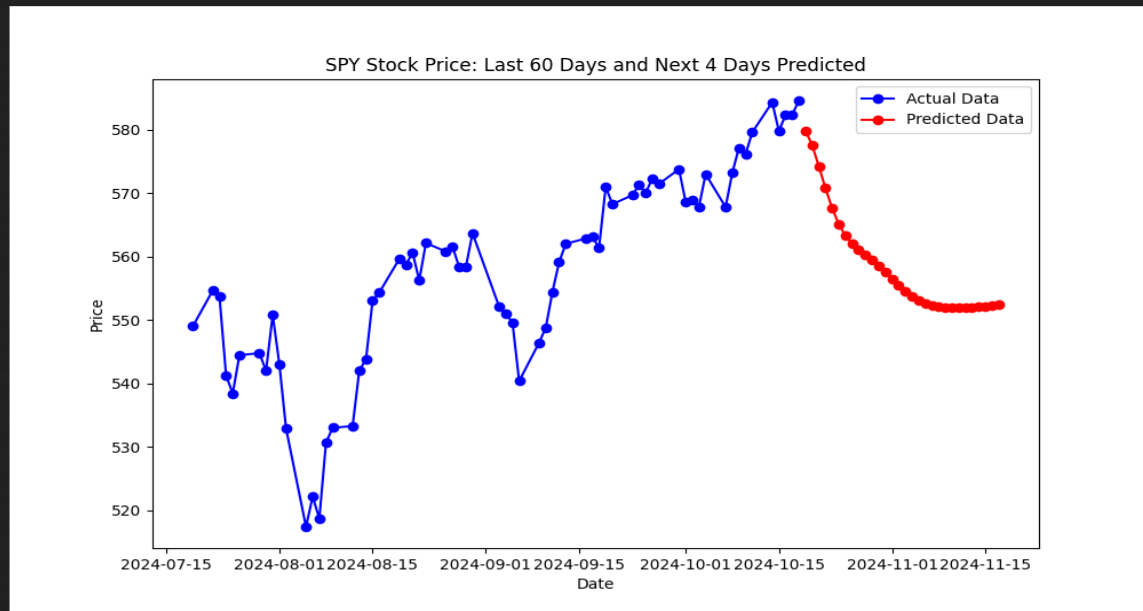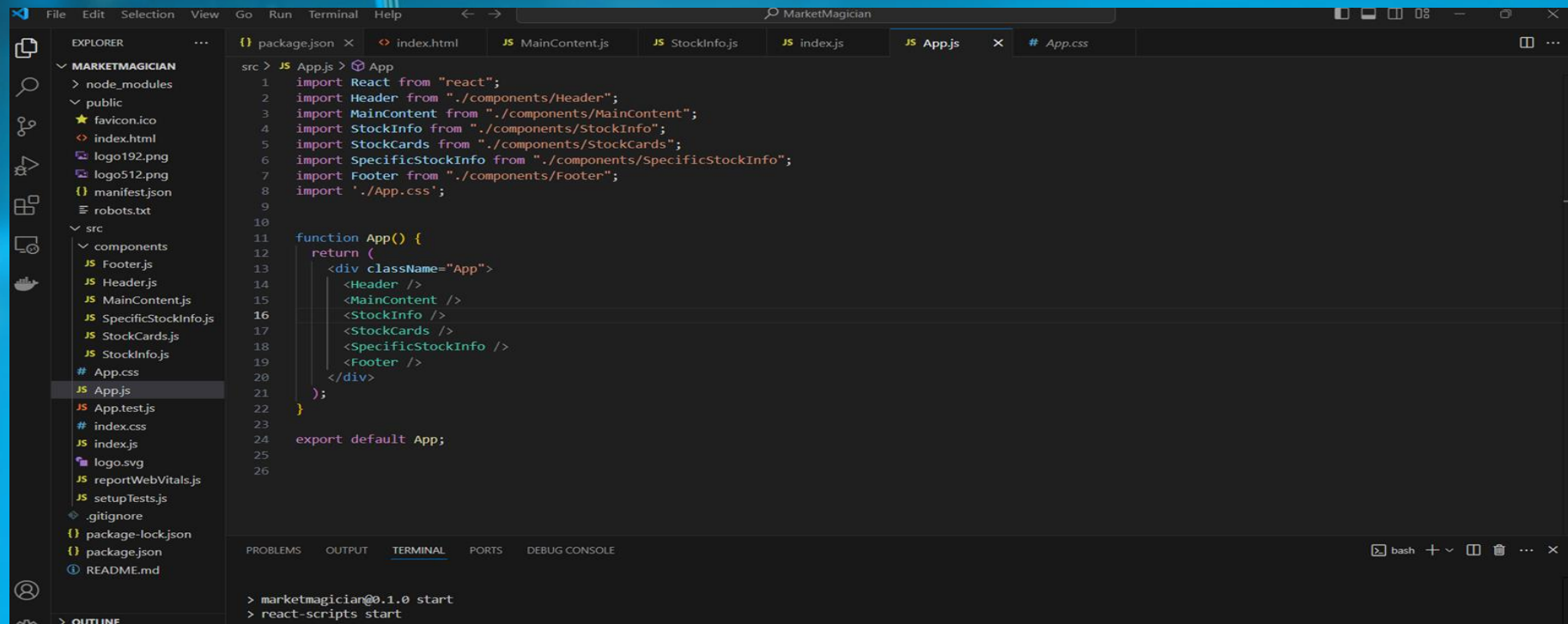
Landing Page Mockup
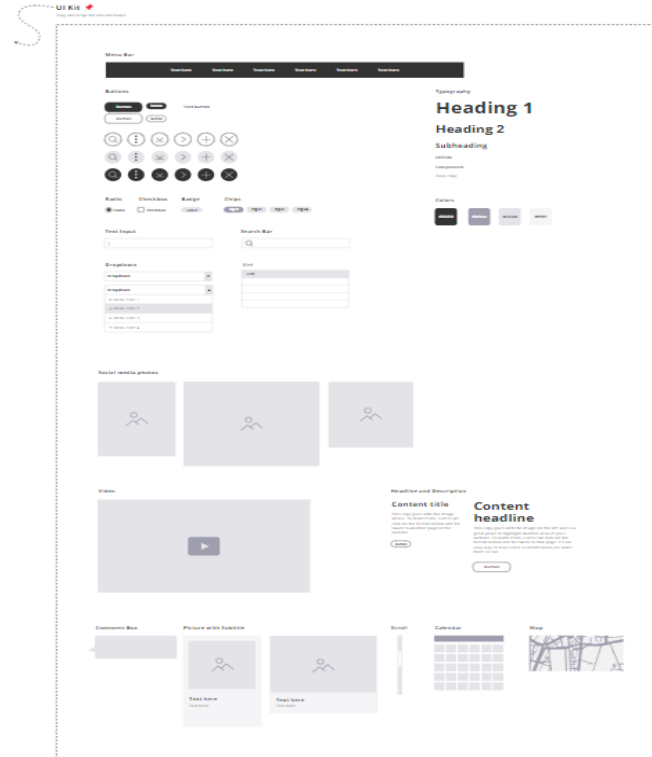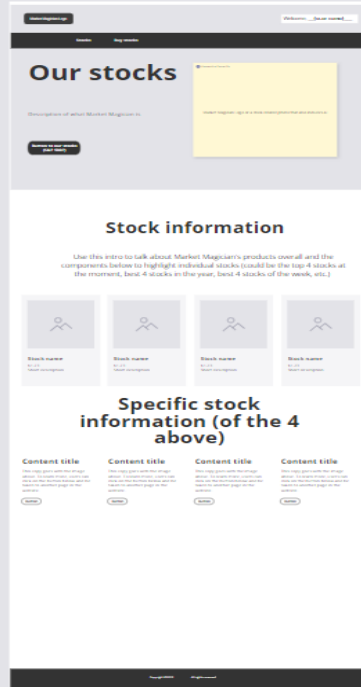
Landing Page Website Code

File   Edit   Selection   View   Go   Run   Terminal   Help

EXPLORER

MARKETMAGICIAN
- node_modules
- public
  - favicon.ico
  - index.html
  - logo192.png
  - logo512.png
  - manifest.json
  - robots.txt
- src
  - components
    - Footer.js
    - Header.js
    - MainContent.js
    - SpecificStockInfo.js
    - StockCards.js
    - StockInfo.js
  - App.css
  - App.js
  - App.test.js
  - index.css
  - index.js
  - logo.svg
  - reportWebVitals.js
  - setupTests.js
- .gitignore
- package-lock.json
- package.json
- README.md

package.json   index.html   MainContent.js   StockInfo.js   index.js   App.js   App.css

src > App.js > App

```javascript
1   import React from "react";
2   import Header from "./components/Header";
3   import MainContent from "./components/MainContent";
4   import StockInfo from "./components/StockInfo";
5   import StockCards from "./components/StockCards";
6   import SpecificStockInfo from "./components/SpecificStockInfo";
7   import Footer from "./components/Footer";
8   import './App.css';
9
10
11  function App() {
12    return (
13      <div className="App">
14        <Header />
15        <MainContent />
16        <StockInfo />
17        <StockCards />
18        <SpecificStockInfo />
19        <Footer />
20      </div>
21    );
22  }
23
24  export default App;
25
26
```

PROBLEMS   OUTPUT   TERMINAL   PORTS   DEBUG CONSOLE

bash

```
> marketmagician@0.1.0 start
> react-scripts start
```

OUTLINE