Market Magician Algorithmic Trader

Artificial Asynchrony
CS691
Nov 2024

Agenda

1. Team Roles and Responsibilities
2. *Professor Feedback
3. Problem Statement
4. Project Description
5. Project Schedule
6. Team Working Agreement
7. Personas

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11. *Diagrams
12. *Sprint 1 Recap
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15. *Metrics
16. *Retrospective
17. *Sprint 3
18. *Project Demo
19. Wikipage Link

Roles and Responsibilities

- Kassandra Camarillo – Team Leader
- Henry Kim – Scrum Master
- Abed Mussawi – Developer
- Andrew Rowan – Developer
- Aviel Sánchez - Developer

Feedback Summary

- User Story Acceptance Criteria too vague
  - Updated all AC following professor's feedback
- Story points need to be estimated in Fibonacci
  - Re-pointed stories with Fibonacci and a reference story
- Sprint Backlog slide text too small
  - Split up slides for legible text
- Slide design lacking polish, and missing slides
  - Cleaned up images
  - Followed presentation checklist more closely

Problem Statement

Currently, there is a lot of interest in the stock market. Sometimes it could be confusing and daunting to invest money in the stock market since there is a lot of information and it is difficult to access. Our application will make it much easier and more accessible to the greater public to invest more wisely and with the power of data at their back.

Project Description

An AI that uses historical data, news flow, and intra-day trading data to determine entry and exit points of a stock or fund using a trained regression model in order to maximize profits.

This is for Daily traders and Investors

who want to improve predictive capabilities,

the webb App **is a** tool to help both large and small capital investors and traders predict market trends faster than a human could.

This subscription service unlike hedge funds, where you need to pay a lot of money out of pocket to manage your investments, or risk trading personal funds with untested strategies,

our application provides an easy way to invest and trade your securities to minimize risk and maximize profits

- Meeting Cadence
  - Twice a week (Mon, Thur)
  - Additional meetings scheduled ad hoc based on team needs
- Text Based Daily Scrum
  - Asynchronous team makes daily scrums impractical
  - Substitute with text based check in

Team Working Agreement

- Scheduling meetings

- Communications
  - Technologies used

- Tentative schedule

- Respect

Alex Woods - Retail Investor

Age: 23

Location: Arlington, Virginia

Occupation: Nurse / recent graduate

Alex is a recent graduate who wants to start investing but has limited money and a bit of experience. She is looking for an affordable and user friendly platform that can help her enter the investment world without the need for deep financial knowledge.

Using our app will offer her personalized and ease to use market data which will make investing more accessible for beginners like Alex.

Jaylen Washington - Financial Advisor

Age: 33

Location: Austin, Texas

Occupation: Financial Advisor

Jaylen is a financial advisor who assists individuals with decisions about their money. He offers advice on investments, taxes, and insurance.

Using our app will offer him a useful analysis tool that supplements his advisement strategy with AI backed assessments. This could cut down on his research and analysis, saving time and money.

James Smith - Hedge Fund Manager

Age: 35

Location: San Francisco, California

Occupation: hedge fund manager

James is an experienced hedge fund manager and is always on the look up for new and innovative tools to enhance his investment strategies. James understands that now a days AI models are important tools and are more efficient than using traditional methods.

Using our app will offer him cutting edge algorithms and data analysis which can be a great asset to a better investment in combination with his expertise.

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
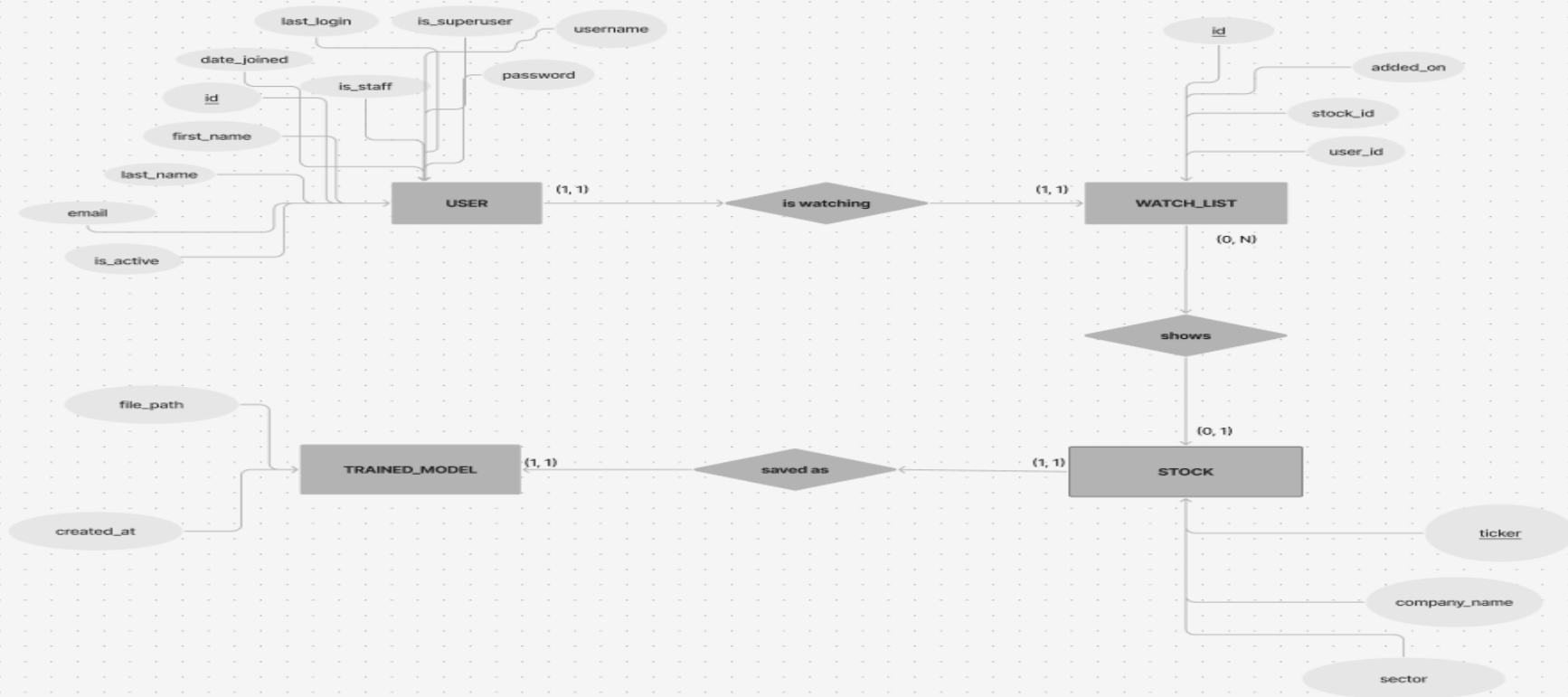- PostgresSQL
- Y!finance
- Github
- VSCode

Algorithms

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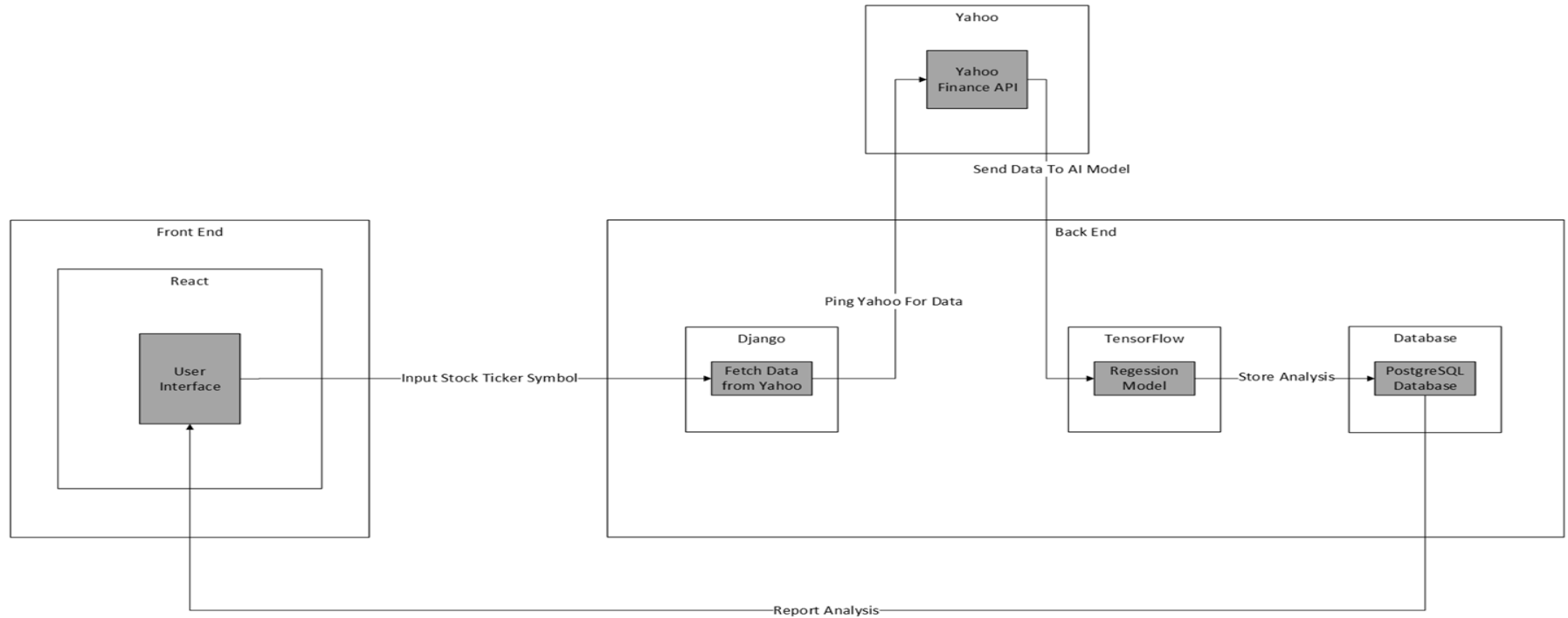
Entity-Relationship Diagram

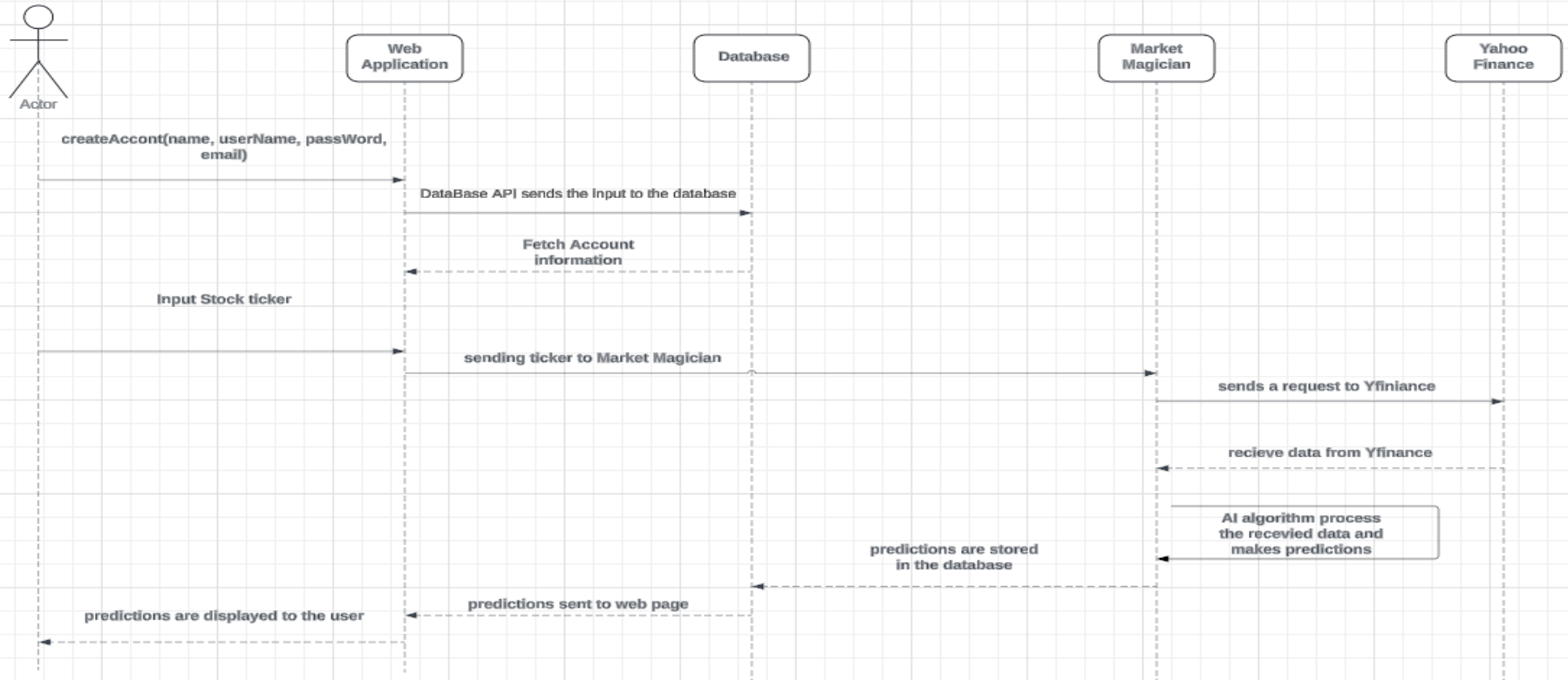# Architecture Diagram

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

- Created System Diagrams

- Implemented MVP for application
  - Front end React application
  - Back end Django framework
  - AI Model for stock price prediction

- Product Backlog updated following User Story design feedback

- Larger stories split into smaller ones

- New stories added to capture more features

Product Backlog cont.

Issue Type	Issue key	Summary	Assignee	Status	Resolution	Description	Custom field (Acceptance Criteria)
Story	MARKETMAG-37	Receive stock recommendations		To Do		*As a/an* retail Investor, *I Want to* receive stock recommendations, *So that* I can consider my potential investments	# User presented with list of stock recommendations
Story	MARKETMAG-38	See investment overview		To Do		*As a/an* retail Investor, *I Want to* see a simple overview of my investments and their performance, *So that* I can monitor my account's performance	# Application displays stocks in my account and shows their performance history
Story	MARKETMAG-39	Get price prediction for a stock preset and displayed on the stocks page	Aviel Sánchez	Done	Done	*As a/an* retail investor, *I Want to* get a price prediction from a preset stock on the stocks page, *So That* I can decide if I wish to buy, sell, or hold that stock	# In the stocks page, when a user clicks one of the displayed stocks, the application will present a price prediction along with recent price trends in a line chart

Product Backlog cont.

Issue Type	Issue key	Summary	Assignee	Status	Resolution	Description	Custom field (Acceptance Criteria)
Story	MARKETMAG-40	Personal and financial data must be secure (needs another look)		To Do		*As a/an* retail investor, *I Want to* know that my personal and financial data are securely handled, *So that* I can trust the app with sensitive information	
Story	MARKETMAG-41	Search for stocks other than those saved in "stocks" page	Henry Kim	Done	Done	*As a/an* retail investor, *I Want to* select a stock other than the presets in the stocks page, *So That* I can get price predictions from other stocks beside the presets	# In the search page, user can enter a stock ticker not displayed in the stocks page
Story	MARKETMAG-42	View historical price data		To Do		*As a/an* retail investor, *I Want to* to see historical price data of a selected stock over a range of time I can specify, *So that* I can see price performance in that time range	# User can select an option to see historical data for a stock # The application allows the user to select a range of time # Application displays a line graph of price history within the time range

Product Backlog cont.

Issue Type	Issue key	Summary	Assignee	Status	Resolution	Description	Custom field (Acceptance Criteria)
Story	MARKETMAG-43	Save data visualizations		To Do		*As a/an* end user, *I Want to* save off displays and charts the applications has shown me, *So that* I can review them at a later time	# Application offers users an option to save the charts displayed to the user # User can chose to save it to their account or to their local environment
Story	MARKETMAG-44	See confidence metric of model's predictions		To Do		*As a/an* retail investor, *I Want to* see what the confidence intervals are for the predicted price, *So that* I can determine how accurate the prediction might be	# User sees the 95% or 99% confidence interval for the selected stock
Story	MARKETMAG-45	Select the time window to train a stock model		To Do		*As a/an* retail investor, *I Want to* Select the time window to train a stock model, *So that* I can tailor the price predictions to my personal preferences	# Users can select a time range via slider bar or date range to train a stock model # The application displays the settings were saved for the model they are trying to train

Product Backlog cont.

Issue Type	Issue key	Summary	Assignee	Status	Resolution	Description	Custom field (Acceptance Criteria)
Story	MARKETMAG-47	Create user account/profile	Kassandra Camarillo	To Do		*As a/an* new user, *I Want to* create a user account with my own login name and password, *So that* I can securely log into the application	# When a user at the sign up page enters a unique account name and secure password in the account creation form, the application displays confirmation of account creation. # If and error occurs (name is not unique or password does not meet security minimums) display error to the user and ask to try again
Story	MARKETMAG-48	Sort stock watchlist		To Do		*As a/an* retail investor, *I Want to* quickly sort and search through my watchlist based on price, trend, name, etc., *So that* I can easily see which stocks have been performing well/poorly quickly	# User can sort through their watchlist based on options provided by the application (such as current price, name, confidence)

Product Backlog cont.

Issue Type	Issue key	Summary	Assignee	Status	Resolution	Description	Custom field (Acceptance Criteria)
Story	MARKETMAG-61	Create watch list page	Andrew Rowan	To Do		*As a* retail investor, *I Want* a webpage where I can add stock tickers to a watchlist, *So that* I can easily track my personal stock interests	# Users can navigate to a watchlist page when clicking on the watchlist link on the home page # Users can navigate back to the home page when clicking on the home page link on the watchlist page
Story	MARKETMAG-69	Create home page for user to navigate application	Kassandra Camarillo	Done	Done	*As a/an* retail investor, *I Want* a homepage, *So that* I can select where I can navigate to from the homepage	# When a user goes to the homepage, there will be links for the user to select to get to other pages
Story	MARKETMAG-70	Train AI models for stocks of interest	Andrew Rowan	In Review		*As a/an* retail investor, *I Want to* create AI models for stocks I'm interested in if they are not already in the application, *So That* I can use the model to predict prices	# When user has a stock selected that does not have an existing model, a training option will appear # When the training option is clicked, the application will train a new model and save it

Product Backlog cont.

Issue Type	Issue key	Summary	Assignee	Status	Resolution	Description	Custom field (Acceptance Criteria)
Story	MARKETMAG-72	Create stocks page	Jonathan Sanchez	Done	Done	*As a* retail investor, *I Want* a webpage where I select stocks , *so that* I can train models and get price predictions	# When the user clicks on the stocks link, the browser should navigate to the stocks page # When the user clicks on home page link, the browser should navigate back to the hope page
Story	MARKETMAG-73	Create login page	Kassandra Camarillo	Done	Done	*As an* application user, *I Want* a webpage where I can enter my user credentials, *so that* I can securely log into my account	# When the user clicks on the login link the browser should navigate to the login page # When the user clicks on the homepage link, the browser should navigate to the home page
Story	MARKETMAG-74	Create sign up page		To Do		*As an* application user, *I Want* a sign up webpage, *so that* I can create a new user account	# When the user clicks on the sign up link, the browser should navigate to the sign up page # When the user clicks on the homepage link, the browser should navigate to the home page

Product Backlog cont.

Issue Type	Issue key	Summary	Assignee	Status	Resolution	Description	Custom field (Acceptance Criteria)
Story	MARKETMAG-75	Check for existing models	Abed Nael Mussawi	Done	Done	*As a/an* experienced investor, *I Want* to be prompted if a stock I chose has no existing model, *So that* I can decide if I want to wait to train a model or not	# When user clicks on get prediction for a stock that does not have a model, the application will display a prompt # The prompt will tell users the stock model does not exist Tensorflow models are saved locally in the file system. The database will point to the paths of these models.
Story	MARKETMAG-76	Add log out function		To Do		*As a/an* app user, *I Want to* log out from my account, *So that* other people can't access my account	# When user clicks on the logout button, the application logs the user off # When logged off, user will be redirected back to homepage

Product Backlog cont.

Issue Type	Issue key	Summary	Assignee	Status	Resolution	Description	Custom field (Acceptance Criteria)
Story	MARKETMAG-77	Save stock to watchlist		To Do		*As a* retail investor, *I Want* to save a stock to my watchlist in the watch list page, *So that* I can customize and easily track my personal stock interests	# When user enters a valid stock symbol in the watchlist page, it is added to the user's watchlist table.

- Sprint backlog also updated following User Story design feedback

- Point estimation updated
  - Modify points mid sprint affected sprint metrics

Issue Type	Issue key	Summary	Assignee	Status	Description	Custom field (Acceptance Criteria)	Custom field (Work Done)
Story	MARKETMAG-75	Check for existing models	Abed Nael Mussawi	Done	*As a/an* experienced investor, *I Want* to be prompted if a stock I chose has no existing model, *So that* I can decide if I want to wait to train a model or not	# When user clicks on get prediction for a stock that does not have a model, the application will display a prompt # The prompt will tell users the stock model does not exist # Tensorflow models are saved locally in the file system. The database will point to the paths of these models.	# Added a function to save the model to the local files. # Added a function to load saved files from the local files and implemented both functions in the prediction view. # Developed a Django model that creates a database table where the path to locally saved trained models is stored.
Subtask	MARKETMAG-68	implement the Django's model to save the paths for TensorFlow models.	Abed Nael Mussawi	Done	Tensorflow models are saved locally in the file system. The database will point to the paths of these models.		

Sprint 2 Backlog cont.

Issue Type	Issue key	Summary	Assignee	Status	Description	Custom field (Acceptance Criteria)	Custom field (Work Done)
Subtask	MARKETMAG-54	Check if Django database(model) can save trained AI stock models	Abed Nael Mussawi	Done	Save model in local memory, django DB hold path information.		
Subtask	MARKETMAG-53	Split up page_test view into model training and get prediction views	Abed Nael Mussawi	Done	Add andrew as cosign		
Task	MARKETMAG-34	Sprint 2 Application Test Cases	Abed Nael Mussawi	Done	# Research how Django implements tests. # Create some component level tests for backend # Set of steps to test front end	# Design tests using Djanjo's framework to test the functionality of the application # Running these tests and reporting the tests findings # Manually testing the website page, making sure that all the buttons and functionalities operate as intended	# researched Django's test methodology. # implemented some component-level tests in the test.py file of the project # Manually tested the website and made sure everything is working as intended

Sprint 2 Backlog cont.

Issue Type	Issue key	Summary	Assignee	Status	Description	Custom field (Acceptance Criteria)	Custom field (Work Done)
Story	MARKETMAG-70	Train AI models for stocks of interest	Andrew Rowan	Done	*As a/an* retail investor, *I Want to* create AI models for stocks I'm interested in if they are not already in the application, *So That* I can use the model to predict prices	# When user has a stock selected that does not have an existing model, a training option will appear # When the training option is clicked, the application will train a new model and save it	# functionality to save and load trained models have been added and to check if the model has already been trained before has been implemented in this story MARKETMAG-75 # Created function to accept a query that automatically trains a model if not already trained # page_test view was separated into page_test and display_prediction views # index.html updated to display a search bar object # Attention function moved to next sprint
Subtask	MARKETMAG-67	Save LSTM model to local	Andrew Rowan	Done			

Sprint 2 Backlog cont.

Issue Type	Issue key	Summary	Assignee	Status	Description	Custom field (Acceptance Criteria)	Custom field (Work Done)
Subtask	MARKETMAG-63	Add dynamic stock training/predicting in the backedn	Andrew Rowan	Done	Whenever a user wishes to search a stock, it will automatically check if a saved model has been found and if not it will train a model for the user		# Created new function if views that separates page_test view and display_prediction view # created new path in urls.py for this new function # updated index.html

Sprint 2 Backlog cont.

Issue Type	Issue key	Summary	Assignee	Status	Description	Custom field (Acceptance Criteria)	Custom field (Work Done)
Story	MARKETMAG-41	Search for stocks other than those saved in "stocks" page	Henry Kim	Done	*As a/an* retail investor, *I Want to* select a stock other than the presets in the stocks page, *So That* I can get price predictions from other stocks beside the presets	# In the search page, user can enter a stock ticker not displayed in the stocks page	# Created search page with a form that sends ticker string to backed end for processing. # Added APIView functon that validates string against csv of NASDAQ and NYSE stock tickers.
Subtask	MARKETMAG-51	Decide which elements of the home page we want to implement	Henry Kim	Done	Downselect homepage features for sprint 2.	# Select which features we want to implement for sprint 2	# Selected navigation features to implement for sprint 2. # Updated story text to reflect the change. Separated other features to other stories.

Sprint 2 Backlog cont.

Issue Type	Issue key	Summary	Assignee	Status	Description	Custom field (Acceptance Criteria)	Custom field (Work Done)
Task	MARKETMAG-71	Backlog Refinement	Henry Kim	Done	Update sprint and product backlogs to reflect feedback given by the professor.	# Updated sprint backlog # Updated product backlog # Consensus from team	# Updated developer tasks in backlog, moved them as sub-tasks under appropriate user stories # Updated product backlog to have descriptions and acceptance criteria relative to professor's feedback # Agreement met for reference story marketmag-47 and marketmag-39
Task	MARKETMAG-35	Link prototype front end and back end	Henry Kim	Done	Application front-end and back-end are currently two separate entities. This task will combine the two code bases into a single project	# React front-end and Django back-end codebases combined into single project codebase # Resolve merge conflicts from all team member code bases # Front end functions successfully interacts with back end using API calls.	# Helped team get all codebases into github repo # Added additional libraries that facilitates React interactivity with Rest APIs # Resolved merge conflicts # Was able to successfully test front end to back end interactivity through API end point and html requests

Sprint 2 Backlog cont.

Issue Type	Issue key	Summary	Assignee	Status	Description	Custom field (Acceptance Criteria)	Custom field (Work Done)
Task	MARKETMAG-33	Sprint 2 Planning (project task)	Henry Kim	Done	Conduct a planning session for sprint 2. Estimate points for stories/tasks and assign to backlog.	# Initial set of stories and tasks reviewed and accepted by dev team. # Recording of session for project artifact list	# Planning session done in online meeting # Recording created summarizing meeting artifacts in MS Teams

Sprint 2 Backlog cont.

Issue Type	Issue key	Summary	Assignee	Status	Description	Custom field (Acceptance Criteria)	Custom field (Work Done)
Story	MARKETMAG-72	Create stocks page	Aviel Sánchez	Done	*As a* retail investor, *I Want* a webpage where I select stocks , *so that* I can train models and get price predictions	# When the user clicks on the stocks link, the browser should navigate to the stocks page # When the user clicks on home page link, the browser should navigate back to the hope page	# Implemented react router dom which uses links to navigate through the different pages.
Story	MARKETMAG-39	Get risk prediction for a stock preset and displayed on the stocks page	Aviel Sánchez	Done	*As a/an* retail investor, *I Want to* get a risk prediction from a preset stock on the stocks page, *So That* I can decide if I wish to buy, sell, or hold that stock	# In the stocks page, when a user clicks one of the displayed stocks, the application will present a price prediction along with recent price trends in a line chart	# MARKETMAG-65 - Converted logos into buttons. Added a loading message and risk prediction functions message # MARKETMAG-66 - Implemented function for risk predictions to communicate between frontend and backend. Also incorporated Abed's save & load functions within backend codebase.

Sprint 2 Backlog cont.

Issue Type	Issue key	Summary	Assignee	Status	Description	Custom field (Acceptance Criteria)	Custom field (Work Done)
Subtask	MARKETMAG-66	Add backed support for display functions	Aviel Sánchez	Done	Need backend to process request from front end stocks page and send back risk assessments	# Backend processes stocks page sticker via logo buttons and returns risk assessment message.	# Implemented function for risk predictions to communicate between frontend and backend. Also incorporated Abed's save & load functions within backend codebase.
Subtask	MARKETMAG-65	Add display capabilities to front end stocks page	Aviel Sánchez	Done	Demo stocks page only had logos and preset text. Add actual functionality to logos.	# Turn logos into buttons that sends data. Change preset text to display response data from backend.	# Converted logos into buttons. Added a loading message and risk prediction functions message.
Subtask	MARKETMAG-60	Decide how were presenting results	Aviel Sánchez	Done	Decide how the stocks page will look	# A Stocks page format	# Review between Avi's and Kassandra's stock pages. # Decided to implement Avi's page, but use Kassandra's styling.

Sprint 2 Backlog cont.

Issue Type	Issue key	Summary	Assignee	Status	Description	Custom field (Acceptance Criteria)	Custom field (Work Done)
Story	MARKETMAG-73	Create login page	Kassandra Camarillo	Done	*As an* application user, *I Want* a webpage where I can enter my user credentials, *so that* I can securely log into my account	# When the user clicks on the login link the browser should navigate to the login page # When the user clicks on the homepage link, the browser should navigate to the home page	# Created a log-in page which a user will be directed to when log-in is selected on the navigation bar.
Story	MARKETMAG-69	Create home page for user to navigate application	Kassandra Camarillo	Done	*As a/an* retail investor, *I Want* a homepage, *So that* I can select where I can navigate to from the homepage	# When a user goes to the homepage, there will be links for the user to select to get to other pages	# Fixed the homepage to display the correct information and added working navigation links to take the user to all different pages.

Sprint 2 Backlog cont.

Issue Type	Issue key	Summary	Assignee	Status	Description	Custom field (Acceptance Criteria)	Custom field (Work Done)
Story	MARKETMAG-47	Create user account/profile	Kassandra Camarillo	To Do	*As a/an* new user, *I Want to* create a user account with my own login name and password, *So that* I can securely log into the application	# When a user at the sign up page enters a unique account name and secure password in the account creation form, the application displays confirmation of account creation. # If and error occurs (name is not unique or password does not meet security minimums) display error to the user and ask to try again	
Subtask	MARKETMAG-62	Implement home page design updates	Kassandra Camarillo	Done	Planning homepage layout based on initial homepage design.	# Homepage that can navigate between the different frontend pages.	# Created a header with links to each of the application's pages.

Test Cases

Test ID	Story ID	Feature to Test	Test Case	Test Steps	Expected Result	Actual Result	Pass/Fail	Comments
1	MARKETMAG-75	SaveTrainedModel	Test the ability to save Trained Models	Navigate to the application root / open a shell / excute django's test command (py manage.py test)	A fake model is created and saved to the specified local directory suing the SaveTrainedModel function	a trained model is saved to local files	Pass	
2	MARKETMAG-75	LoadTrainedModel	Test the ability to load Trained Models	Navigate to the application root / open a shell / excute django's test command (py manage.py test)	After a trained model is created and saved to locall files we can load it to the application using the LoadTrainedModel function	a model is loaded succefully	Pass	

Test Cases cont.

Test ID	Story ID	Feature to Test	Test Case	Test Steps	Expected Result	Actual Result	Pass/Fail	Comments
3	MARKETMAG-47	creating users	Testing the ability to create a user and save that user to the database	Navigate to the application root / open a shell / excute django's test command (py manage.py test)	A fake user is created and saved to the database	a user is created and is saved in the database	Pass	
4	MARKETMAG-70	Accessing Prediction Page	Testing the ability to send a request to the stock prediction page	Navigate to the application root / open a shell / excute django's test command (py manage.py test)	the test should recieve a response from the web page and the response code should be 200	recieved a response code of 405	Fail	An HTTP error 405 means that the server configuration refuses access to a resource (URI) due to HTTP method restrictions.

Metrics - Velocity
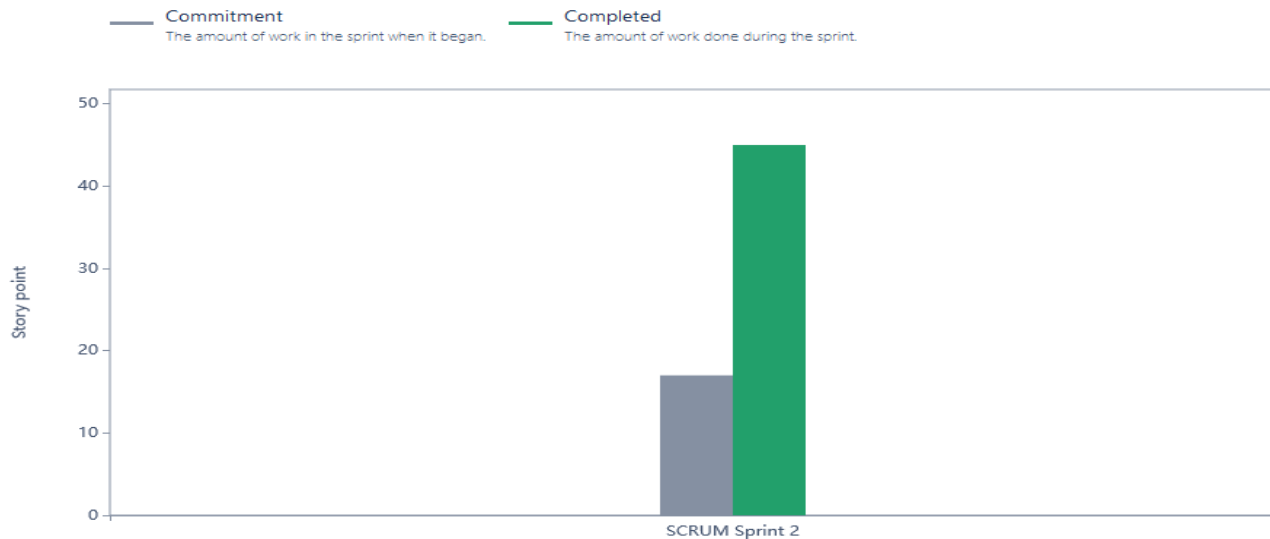
Metrics - Velocity History
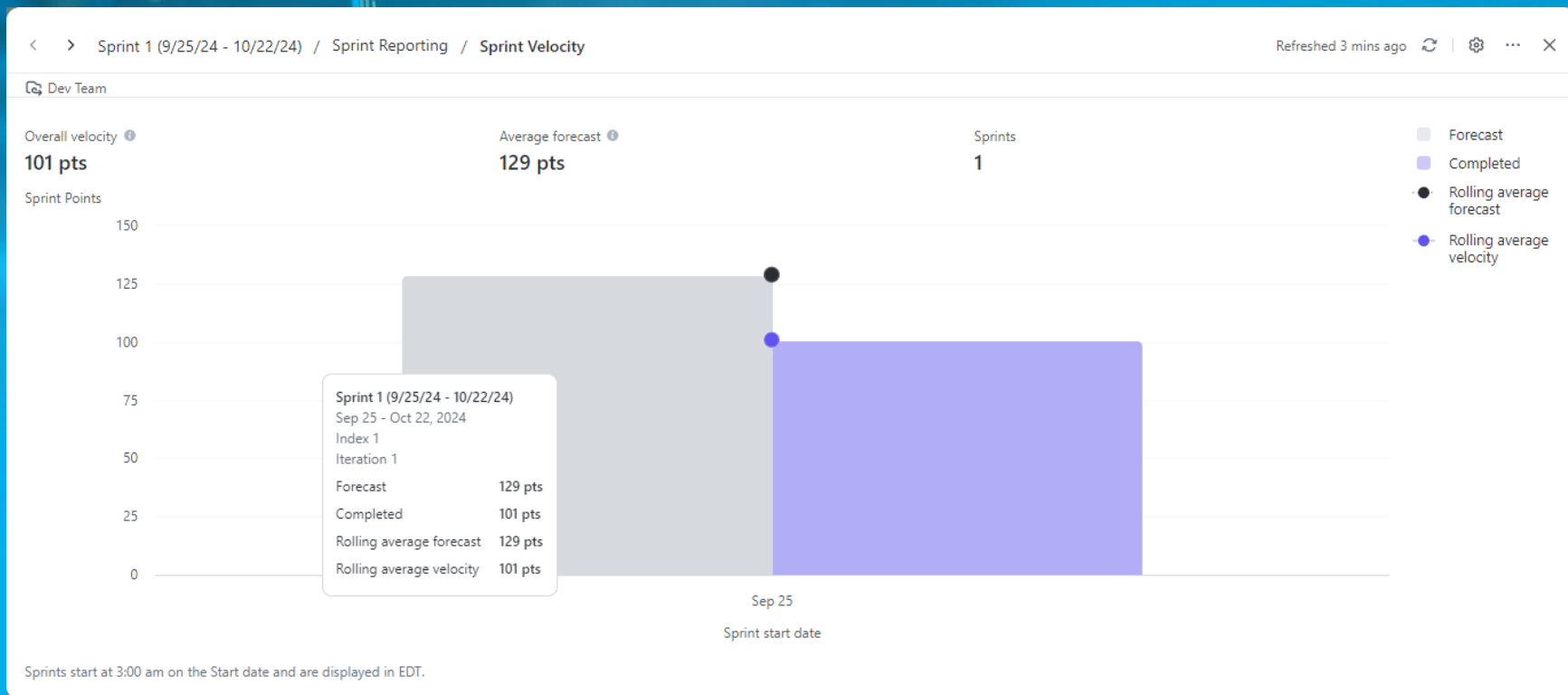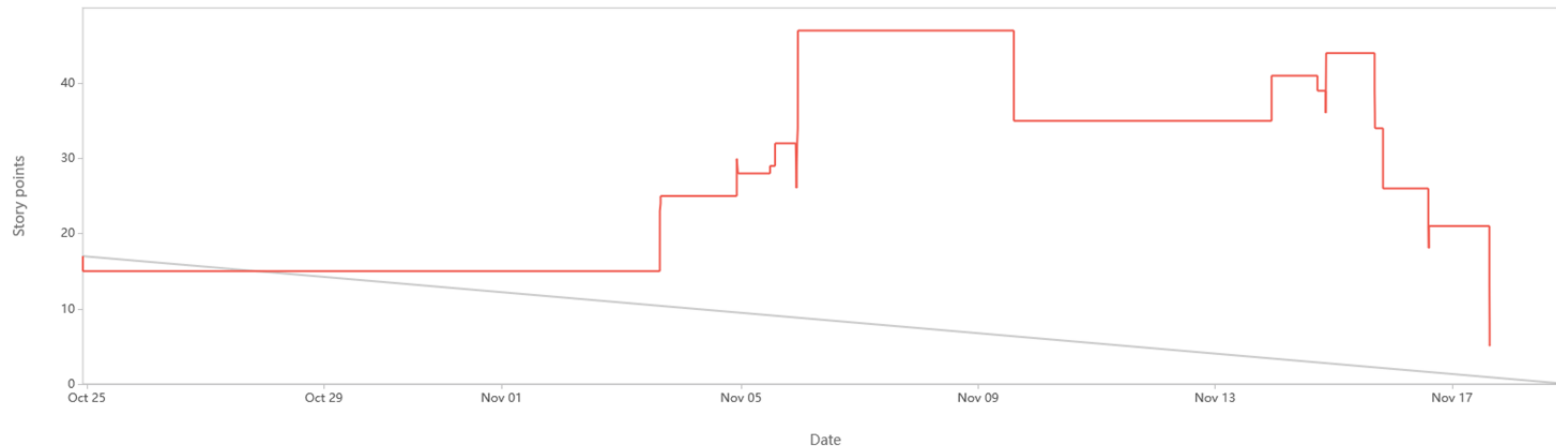
Metrics - Burndown History
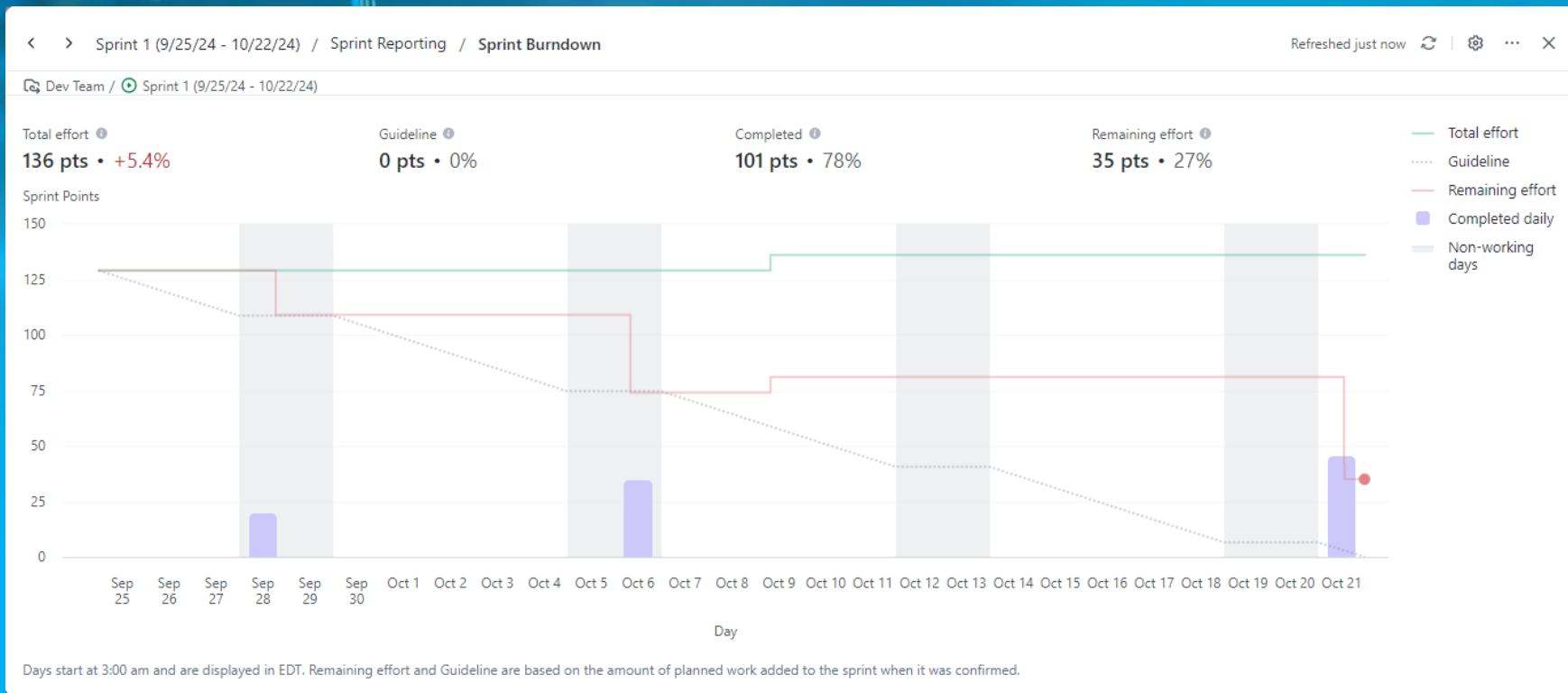
Metrics - Completion Ratio

Committed	Completed	Ratio
50	45	90%

Metrics - Completion Ratio History

Committed	Completed	Ratio
136	101	74%

Sprint 2 Retrospective

AA Sprint 2 Retro

What went well ➕

Henry: Usage Jira tools, having code in repo, collaboration and efficeiency was much better. + 0	Kassandra: Met more often, was more productive. + 0
Henry: Finally agreeing on set meeting schedule, very helpful + 0	Abed: having set schedules was very helpful, avoided miscomunication from the last sprint. + 0
Abed: Using git, performance improved dramatically vs last sprint. + 0	Andrew: Jira board helped organize team directions. Better than click up. Better orgnaizaiton + 0
Andrew: Having everyone on the same page within git repo, be on the same page with same codebase + 0	Aviel: Git and github ogranized well. Branch structure was also good and helpful. + 0
Aviel: Cooperation between team members was much better this time. + 0	

What can be improved ➕

Aviel: Everybody needs to be at the meetings. Daily scrums need to be updated regularly. + 0	Andrew: Echos Aviel, needs to be at the meetings, update daily scrum. + 0
Abed: Need to improve git structure, have more standardized process. will be more stable VC + 0	Kassandra: Uploading code early and often. Don't wait till near end of sprint to push to repo. + 0
Henry: Updating Jira tickets more often. + 0	Aviel: If someone needs assistance, should be able to contact anybody through discord. + 0

Action Items ➕

Abed: Creating diagram/ procedure for creating branches. + 0	Andrew: Have push schedule, Sunday suggested. + 0
Aviel: Update work as soon as you progress / finish on the Jira board. + 0	Kassandra: Create some kind of schedule for updating tickets. + 0
Henry: Putting planned vacation/ not working days. + 0	

Sprint 3 Stories

- Planned stories for Sprint 3

- Roll over unfinished stories from Sprint 2

Sprint 3 Stories cont.

Issue Type	Issue key	Summary	Assignee	Status	Description	Custom field (Acceptance Criteria)
Story	MARKETMAG-42	View historical price data		To Do	*As a/an* retail investor, *I Want to* to see historical price data of a selected stock over a range of time I can specify, *So that* I can see price performance in that time range	# User can select an option to see historical data for a stock # The application allows the user to select a range of time # Application displays a line graph of price history within the time range
Story	MARKETMAG-43	Save data visualizations		To Do	*As a/an* end user, *I Want to* save off displays and charts the applications has shown me, *So that* I can review them at a later time	# Application offers users an option to save the charts displayed to the user # User can choose to save it to their account or to their local environment

Sprint 3 Stories cont.

Issue Type	Issue key	Summary	Assignee	Status	Description	Custom field (Acceptance Criteria)
Story	MARKETMAG-45	Select the time window to train a stock model		To Do	*As a/an* retail investor, *I Want to* Select the time window to train a stock model, *So that* I can tailor the price predictions to my personal preferences	# Users can select a time range via slider bar or date range to train a stock model # The application displays the settings were saved for the model they are trying to train
Story	MARKETMAG-48	Sort stock watchlist		To Do	*As a/an* retail investor, *I Want to* quickly sort and search through my watchlist based on price, trend, name, etc., *So that* I can easily see which stocks have been performing well/poorly quickly	# User can sort through their watchlist based on options provided by the application (such as current price, name, confidence)

Sprint 3 Stories cont.

Issue Type	Issue key	Summary	Assignee	Status	Description	Custom field (Acceptance Criteria)
Story	MARKETMAG-61	Create watch list page	Andrew Rowan	To Do	*As a* retail investor, *I Want* a webpage where I can add stock tickers to a watchlist, *So that* I can easily track my personal stock interests	# Users can navigate to a watchlist page when clicking on the watchlist link on the home page # Users can navigate back to the home page when clicking on the home page link on the watchlist page
Story	MARKETMAG-74	Create sign up page		To Do	*As an* application user, *I Want* a sign up webpage, *so that* I can create a new user account	# When the user clicks on the sign up link, the browser should navigate to the sign up page # When the user clicks on the homepage link, the browser should navigate to the home page

Sprint 3 Stories cont.

Issue Type	Issue key	Summary	Assignee	Status	Description	Custom field (Acceptance Criteria)
Story	MARKETMAG-76	Add log out function		To Do	*As a/an* app user, *I Want to* log out from my account, *So that* other people can't access my account	# When user clicks on the logout button, the application logs the user off # When logged off, user will be redirected back to homepage
Story	MARKETMAG-77	Save stock to watchlist		To Do	*As a* retail investor, *I Want* to save a stock to my watchlist in the watch list page, *So that* I can customize and easily track my personal stock interests	# When user enters a valid stock symbol in the watchlist page, it is added to the user's watchlist table.

Sprint 3 Stories cont.

Issue Type	Issue key	Summary	Assignee	Status	Description	Custom field (Acceptance Criteria)
Task	MARKETMAG-78	Improve Prediction Quality		To Do	*As a* Hedge fund manager*, I want* an application that can give me accurate and relevant prediction information*, so that* I can implement safer and more reliable trade and investment strategies that outperform traditional strategies	# When the user submits a request for a prediction, the user receives a predicted stock price, a graph displaying the predicted stock trajectory, and a risk level # When sharing prediction results, the user will also see how this prediction compares to traditional strategies
Story	MARKETMAG-83	View watchlist contents		To Do	*As a* retail investor, *I Want* to save a stock to my watchlist in the watch list page, *So that* I can customize and easily track my personal stock interests	# When user clicks a view watchlist button, a table is presented to the user.

Project Demo 2

Market Magician

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Apple: A company with a strong ecosystem of products and services

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Nvidia: A leader in AI chip development

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Username Username
Password Password

Login

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Login

Username kassiecam
Password •••
Must be at least 8 characters.

Login
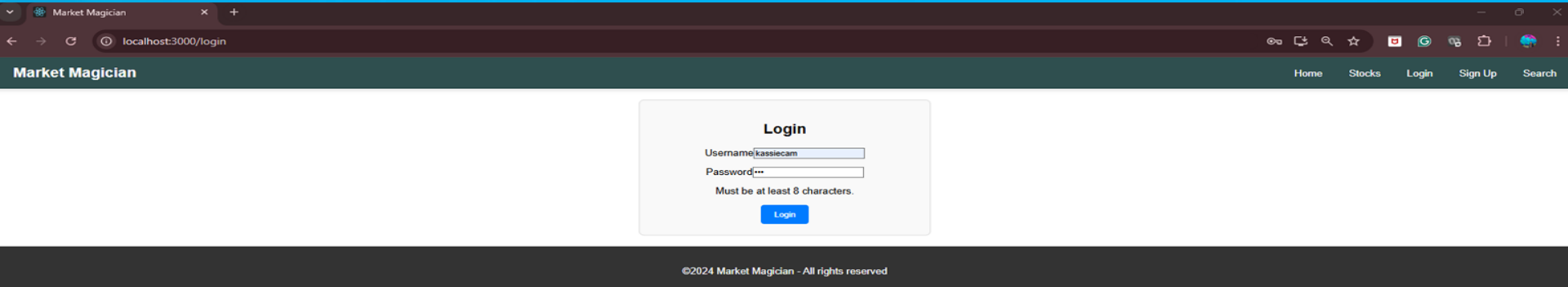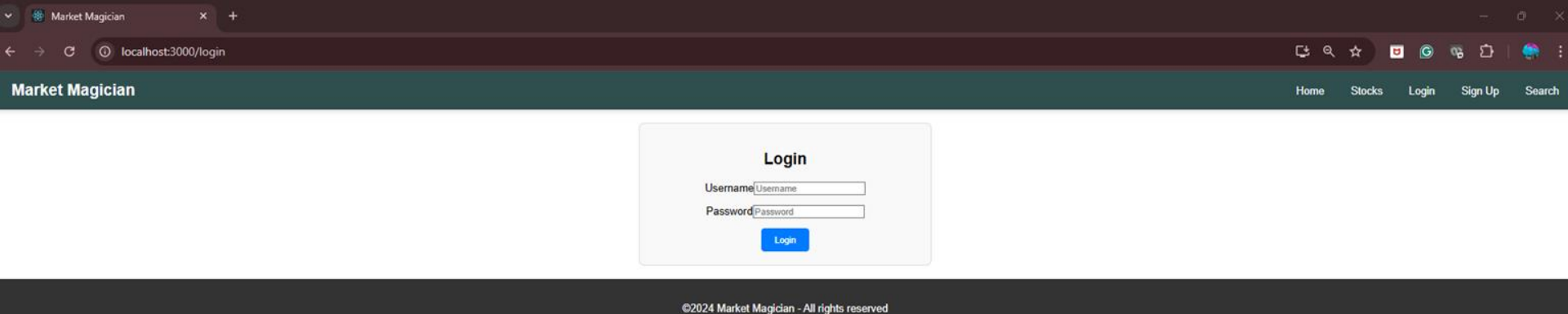
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Wikipage Link

https://github.com/htmw/2024F-Artificial-Asynchrony/wiki