Market Magician
Algorithmic Trader

Artificial Asynchrony
CS691
Sep 2024

Agenda

1. **Team Intro**
   – Member Names
   – Roles and Responsibilities
2. **Project Overview**
   – Problem Statement
   – Project Description
   – Personas
3. **Software Tools**
   – Technologies
   – Algorithms
4. **Team Logistics**
   – Product Schedule
   – Team Working Agreement
5. **Retrospective**

Team Roles and Responsibilities

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

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.

For Daily traders and Investors

who want to improve predictive capabilities,

the web 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.

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 advising 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.

Technologies

- Python
- JavaScript
- Java
- Machine Learning
- TensorFlow
- PyTorch
- HTML

- CSS
- Reactjs
- MongoDB
- Y!finance
- QuantConnect
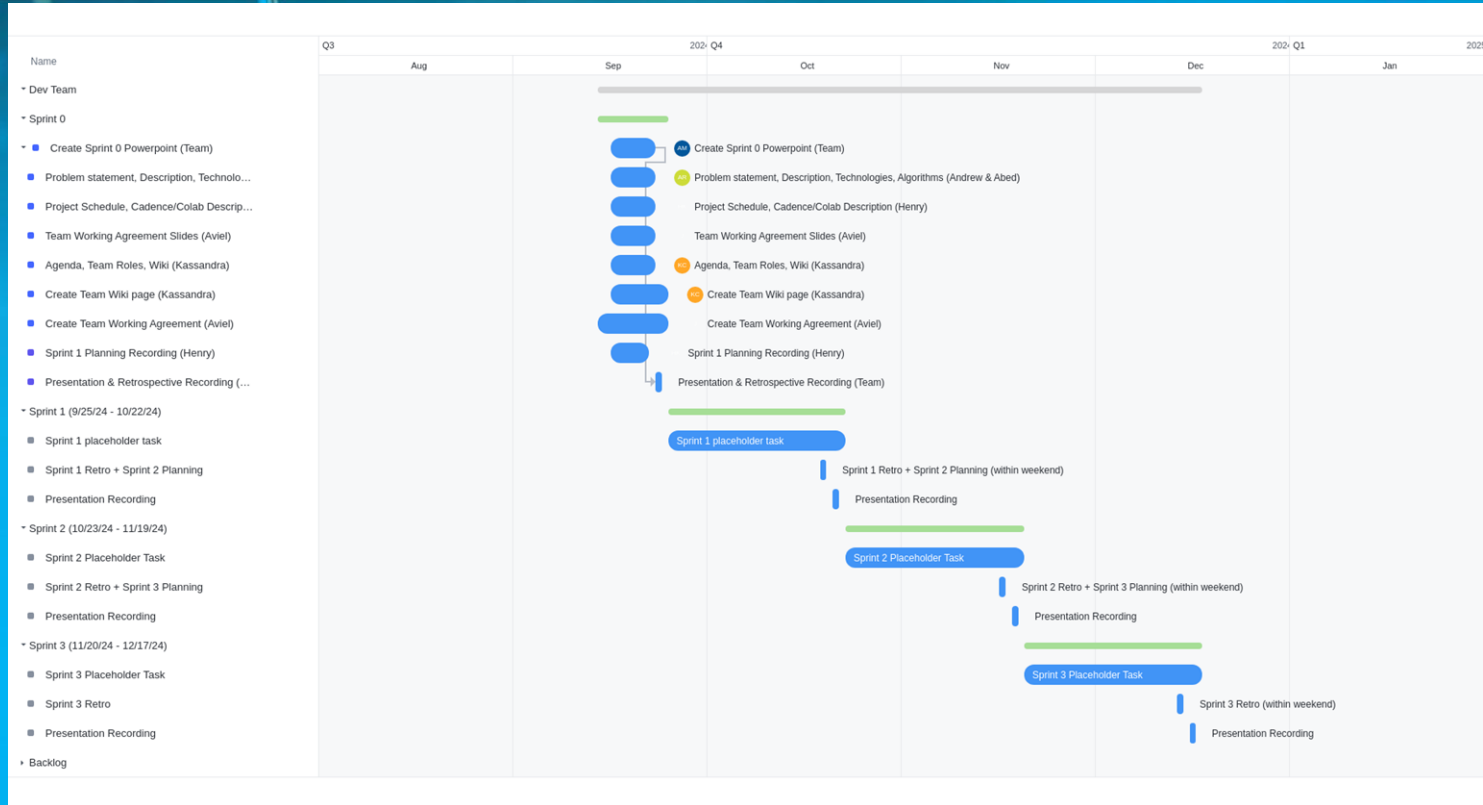- Github
- VSCode

Algorithms

- Linear Regression

- Logistic Regression

- Monte Carlo

Project Schedule

- Meeting Cadence
  - Twice a week (Sat, Mon)
  - 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 Gantt Chart

Team Working Agreement

- Scheduling meetings

- Communications
  - Technologies used

- Tentative schedule

- Respect

Sprint 0 Retrospective

AA Sprint 0 Retro

What went well ⊕

Come together quickly on short notice and in a good time frame. Being able to work together and create ideas in short time frame. + 0	Came up with system of voting, helped with compressed timeline. + 0
Good initial team dynamics, everyone willing to work in their assigned roles. + 0	Figure out team roles quickly, having assigned leaders helpful for small team + 0
Flexibility working between regular work/life. + 0	Went over strengths and weaknesses at initial meeting, helped identify good roles for each team member + 0
During first meet, meeting notes was very helpful, keep using as a good reference + 0	Second meeting went well, effectively communicated ideas, chose AI project in timely manner + 0

What can be improved ⊕

Better time utilization. Work for sprint 0 started late as it took time for the asynch team to coordinate scheduling + 0	Finding time to meet where everyone is present, sticking to promised meeting schedules + 0
Better communication needed, maybe add more reminders and earlier, give heads up if cannot make meeting times + 0	Daily status updates in team discord of current task/story status + 0
Meeting time and schedules in discord so everyone is aware + 0	Adding notes system, echoing Avi's scheduling idea + 0

Action Items ⊕

Adding discord text chat as stand-in for daily scrum meetings + 0	Adding communication improvements into working agreement + 0
Sprint planning early with more frequent updates + 0	Incorporating more voting opportunities when possible + 0
Continue discord meeting notes, adding schedule to team discord for everyone's knowledge + 0	Assign meeting notes taker, add to schedule text chat + 0

Sprint 0 Retrospective

What Went Well

- Effective teamwork in compressed timeframe
- Roles assigned to match member strengths
- Voting methodology ensured team consensus

Needs Improvement

- Team communication lacking
- Allocation of available time
- Lack of good meeting notes

Action Items

- Add meeting schedule to team discord
- Add text based "daily scrum" to team discord
- Assign notes taker for each meeting

Wikipage Link

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

Thank you for your time