rallyAI

CSE 115A, Fall 2019
Kyle O'Brien, Nixon Duong, Joseph Nguyen, Matthew Wirtz, Sean O'Hearn

Sprint 2 Plan

rallyAI, 10/21/2019 - Release 1 - Revision 1 - Revision Date: 10/21/2019

Goal:

Our team's goal is to transition from the research phase to implementing the primary components of our project. By the end of the sprint, we want to have a machine learning model, MVP graphQL API that allows users to query data, and a web scraper to create the dataset.

Task listing, organized by user story:

User Story 1: As a developer, I want to develop the machine learning model so I can use the data collected to predict stock prices.

Tasks:

1. Format data **(3 hours)**
2. Experiment with different models **(12 hours)**
3. Graph each model's prediction **(2 hours)**

Total: 18 hours

User Story 2: As a developer, I want to start providing basic functionality to our API so the user can interact with it.

Tasks:

1. Design the GraphQL Schema **(5 hours)**
2. Write mock database calls to JSON **(1 hour)**
3. Implement stock symbol query argument **(5 hours)**
4. Query data from PostgreSQL **(2 hours)**

Total: 13 hours

User Story 3: As a developer, I want to use caching so the APIs latency is optimized.

Tasks:

1. Follow Redis tutorial to cache requests for a sample API **(hours)**
2. Research Redis caching for APIS **(hours)**
3. Look into caching middleware for API **(hours)**
4. Add Redis image to Docker-compose deployment **(hours)**
5. Research Azure Redis offerings **(hours)**

Total:

User Story 4: As a developer, I want to use Kubernetes so our system will be more fault-tolerant.
Tasks:

1. Follow Kubernetes tutorials to successfully deploy a sample NodeJS API **(8 hours)**
2. Create Docker registry for the team project **(0.5 hours)**
3. Create K8s configuration for the RalyyAI API **(2 hours)**

Total: 10.5 hours

User Story 5: As a developer, I want to build my data set with scrapers so I can collect data.
Tasks:

1. Write web scraper for S&P 500 URLs **(3 hours)**
2. Write web scraper to retrieve stock data and store as CSV **(1 hour)**
3. Containerize Web Scraper **(1 hour)**

Total: 5 hours

Team Roles:

Kyle O'Brien: Team Lead, Developer
Nixon Duong: Data Scientist
Mathew Wirtz: Data Scientist, Scrum Master
Sean O'Hearn: Developer
Joseph Nguyen: Developer

Initial Task Assignment:

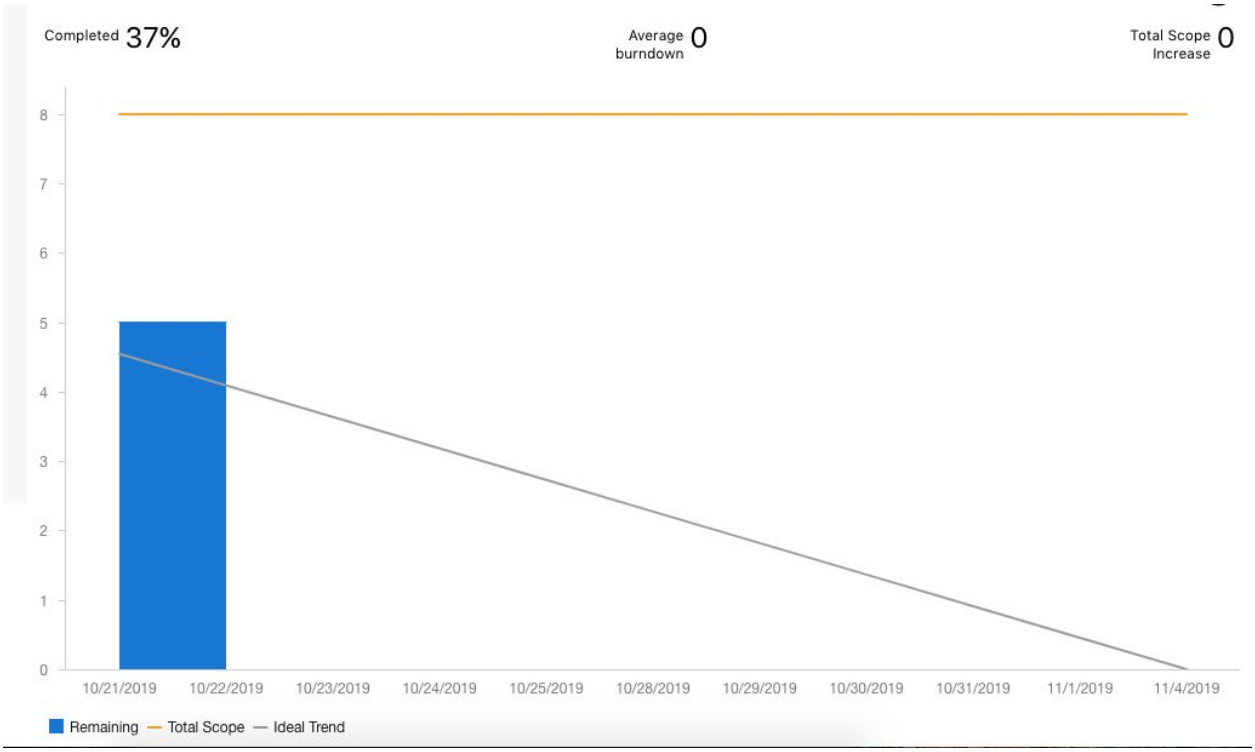
Kyle O'Brien: user story 4; tasks 1, 2, and 3
Nixon Duong: user story 1; tasks 1, 2, and 3
Mathew Wirtz: user story 1; tasks 1, 2, and 3
Sean O'Hearn: user story 5; tasks 2, 3, and 3. User story 3;tasks 1, 2, 3, and 4
Joseph Nguyen: user story 2; tasks 1, 2, 3, and 4; User Story 3; task 5

Scrum Times:

Monday: 2:30-3:00pm (with our TA)
Wednesday: 9:30-10:00am
Friday: 9:30-10:00am

Initial Burnup Chart:

Link: https://dev.azure.com/kyledevinobrien/rallyAI/_sprints/analytics/rallyAI%20Team/rallyAI/Sprint%201



Initial SCRUM Board

Link: https://dev.azure.com/kyledevinobrien/rallyAI/_sprints/taskboard/rallyAI%20Team/rallyAI/Sprint%201