Real-time monitoring of volatile, retail investor-driven price fluctuations in the equity market

Sprint 3

Group 10

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A. Sprint 3 backlog

User story

a. As a stock market researcher, I want to obtain sentiment analysis data from articles on Reddit for a certain company, so that I can discover the stock with the perspective of social media, and understand market trends and potential investment opportunities. (Priority 3)
b. As a stock trader, I want to be able to browse historical stock price charts for a certain company, so that I can analyze stock price trends and formulate trading strategies. (Priority 4)

	Task Name	Ideal	Sprint 3			
			W9	W10	W11	W12
17	Priority-3-4 (Elasticsearch APIs)	48 hrs				
21	Priority-4-3 (Read/Write splitting with Maxwell)	48 hrs				
22	Priority-4-4 (Data cleaning, sentiment analysis)	96 hrs				
23	Priority-4-5 (Finalize the SpringBoot - Elasticsearch)	72 hrs				
24	Priority-4-6 (Finalize the API endpoints)	72 hrs				
25	Priority-4-7 (Finalize all the charts: line, pie)	72 hrs				
26	Buffer	112 hrs				

Fig. 1 Backlog

B. Burndown chart

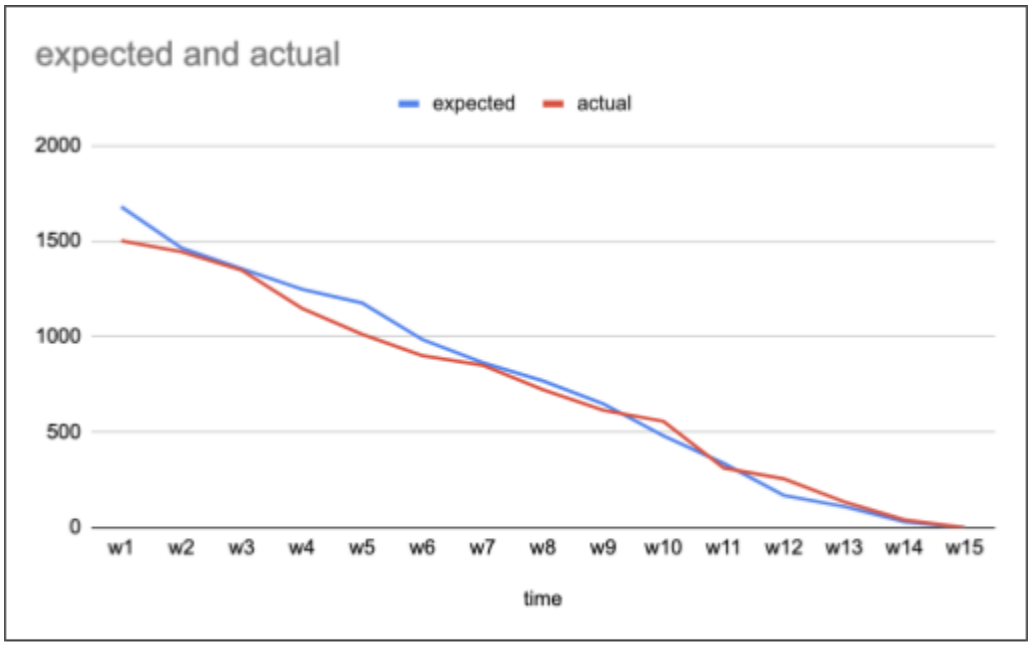

Fig. 2 Burndown Chart

C. Kanban screenshots

The following two pictures are the screenshots for our sprint 3.

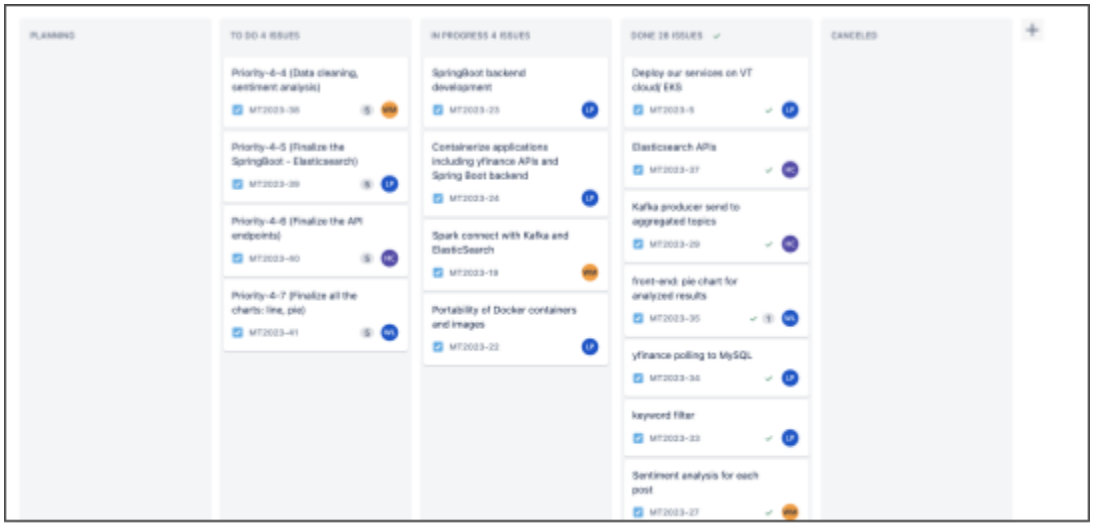

Fig. 3 The beginning of the sprint

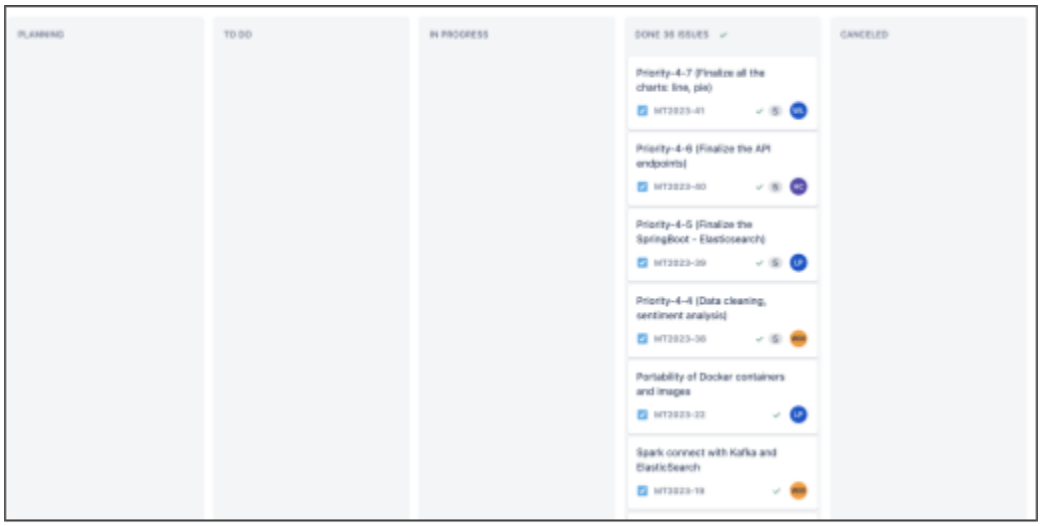

Fig. 4 The end of the sprint

D. Sprint retrospective

This Spring the team spent more time on finalizing every function, and connecting each subsystem in the project.

a. While testing APIs, the team members spent some time on wrapping up each subsystem into a docker file so the team members could test out the system on their local machine easily. This could be easier if we deploy and develop the system onto a cloud environment.
b. While connecting to back-end APIs in front-end development, we encountered CORS. CORS (Cross-Origin Resource Sharing) is a system, consisting of transmitting HTTP headers, that determines whether browsers block frontend JavaScript code from accessing responses for cross-origin requests. The same-origin security policy forbids cross-origin access to resources. In order to solve this problem, we set the back-end server to allow Access-Control-Allow-Origin to * .

E. Product backlog (updated)

This sprint the team was able to follow the plan setting up and everything finished on track.

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25	Priority-4-7 (Finalize all the charts: line, pie)	72 hrs				
26	Poster	112 hrs				

Fig 5. Product Backlog

F. Issue Tracking

Following are how we manage issues of our project during the sprint. Fig. 5 shows the closed issues. Fig. 6 shows one open issue. This issue was due to yahoo regularly changing the encryption key. We think it is not affecting the project, therefore we decided not to fix it.

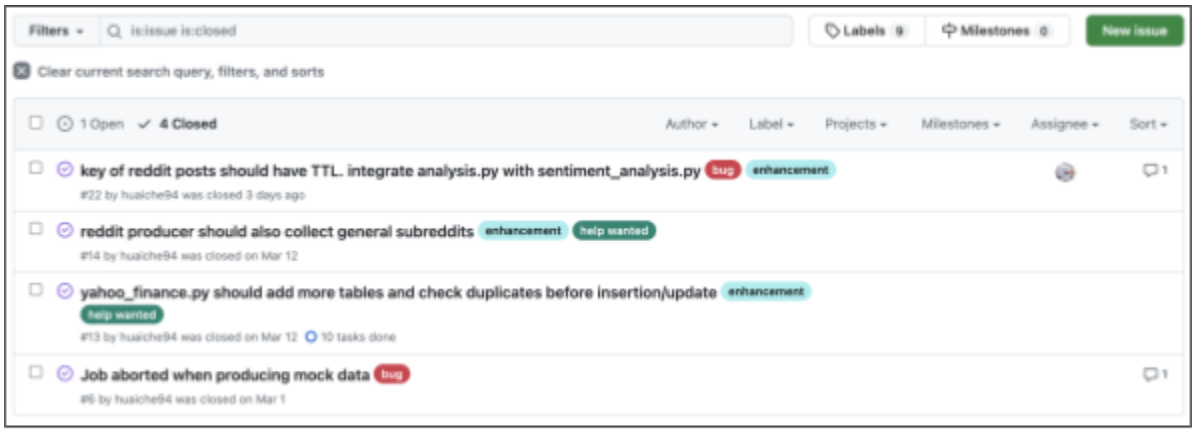

Fig 6. Issued tracking. Resolvable issues were fixed and closed.

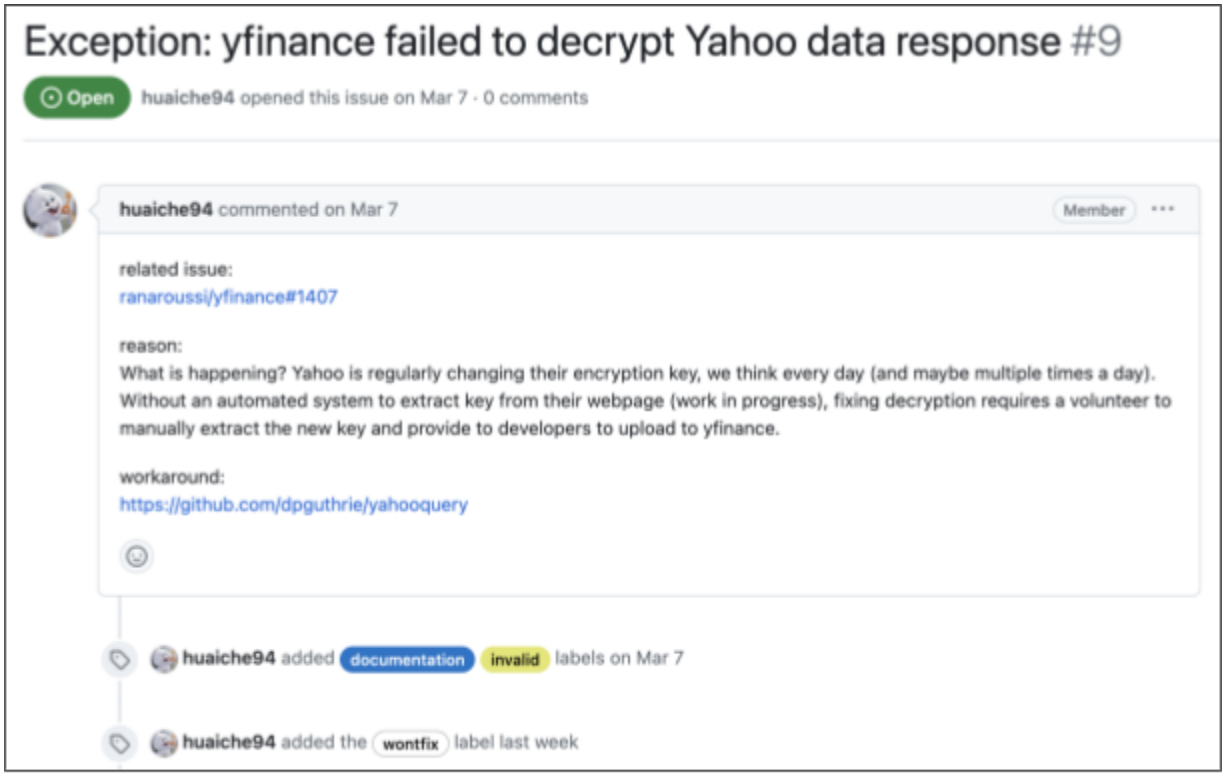

Fig 7. Unsolvable open issue

G. Documentation and code for completed tasks

For this capstone project, we use Github to manage our code and docs. Github Wiki page is used to put useful information and resources so members don't have to build the same wheel again. The API design document is subjected to changes from time to time for the frontend and backend development.

1. Sentiment analysis : https://github.com/2023-VT-Spring-Capstone/Sentiment-Analysis
2. capstone-front-end : https://github.com/2023-VT-Spring-Capstone/capstone-front-end
3. tooling : https://github.com/2023-VT-Spring-Capstone/tooling
4. spark-realtime (backend service) : https://github.com/2023-VT-Spring-Capstone/spark-realtime
5. Documents : https://github.com/2023-VT-Spring-Capstone/Documents

API design document:
https://docs.google.com/document/d/1mWEAYTPcO65BwUhhgiWTj5d4KgeQlb1ihTFvoDbZ03I/edit?usp=sharing