CMPE 352 Milestone 1 Report

Group 11

31 March 2019

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1 Executive Summary

1.1 Introduction

Our project is a social platform for people who consider themselves as traders. People can signup and log in the platform to take advantage of more advanced features such as buying and selling trading equipment. However, users can use searching functionality without login and signup. Guest users also can view articles, events, trading equipment, and comments. Fundamentally, there are two types of users: basic and trader. Basic users can create, comment and rank on the articles. In addition, they can create and share portfolios. Not only that, they can add trading equipment to the created portfolios. They can also chase economic events and filter them by country and significance levels. Our platform has more advanced features such as setting an alert, making a prediction about trading equipment and following trading equipment. Trader users have all the functionality that basic users have and they have extra features such as trading indices, stocks, ETFs, commodities, currencies, funds, bonds, and cryptocurrencies. They have an extra "My Investments" section that enables them to set buy and sell order. Another cool feature of the platform is people can follow other people. In a nutshell, our platform creates a connection between people who have interested in trading and trading world. Stay tuned!

1.2 What is done for Milestone 1

- We set our base requirements for the platform based on customer's needs.
- We created 3 different personas and outlined different usage scenarios of the platform to show possible actions that can be taken.
- We supported these user scenarios by visualizing them as Mockups.
- We drew Use Case diagrams that explicitly shows which users can do which actions. The diagram made use of inheretence, extends and includes.
- We designed the Class Diagram in order to specify the basic design principles of the platform.
- We depicted some of the actions in Sequence diagrams which show what happens behind the scene step by step using the design made in Class Diagram.

We successfuly completed the tasks asked for the 1st Milestone. We are in close contact with our customer and frequently get feedback. We take the feedback serious and review our deliverables and make the necessary changes.

1.3 Road Ahead

Until now, we have been working on the plan of the project, hard and periodically. For the past weeks, we proceeded with the picture we have drawn in the first place and shaped our project via the incoming feedback from the customer. For the future, our team aims to stick

to its plan and try to implement the project requirements. We will be collecting feedback from the customer and add the incoming requirements, project parts and knowledge from the course instructor to our project. Our team aims to turn the design and plan knowledge to reality in the next term. We will be dividing the work load evenly to group members and try to match the skills of the developers and designers to the right places in the development process. As a team, we believe that we will create a great platform to use and reach the customers according to our plan. We believe that communication and team work will bring the success in our Traders' Platform.

2 Status of Deliverables

Name	Delivery Date	Status
Communication Plan	Mar 4, 2019	Delivered
Requirements	Feb 25, 2019	Delivered
Personas & Mockups	Mar 4, 2019	Delivered
Diagrams	Mar 18, 2019	Delivered

3 Evaluation Of The Status Of Deliverables

Communication Plan
Information on how should we communicate. It is functional and it managed our communication.

Requirements
Requirements were the foundation of this project. Everything we do after the creation of the requirements was based on it. It wasn't easy to create a draft version of the requirements but we managed to do it by dividing it into different categories such as functional and non-functional requirements. Since the functional requirements were too broad to handle directly, we divided it also to the user and system requirements. After getting the draft version done, we followed an iterative process and did lots of revisions according to other deliverables and customer feedbacks. Although we have nearly finalized the requirements for now, when we start implementing the project, there will probably be lots of changes.

Personas & Mockups
For this deliverable, we divide our team into four groups. Three of the groups created three different personas. Each persona consisted of a short background story for the user and a brief summary of the persona. Also, we listed preconditions, scenario and acceptance criteria for each persona. After that, the fourth group created mockups for the scenarios we have created. Mockups and personas were great chances to get a feeling about the project. It helped us a lot to look into the project with the eyes of the users. Also, it was the first time which we had concrete ideas about the implementation of the project.

Diagrams
Requirements, personas and mock-ups were the deliverables in which we focused on the what part of the project. With the use case, class and sequence diagrams we started to think about how part. Use case diagrams were based on the requirements. We listed what can the guests, basic users and trader users can do according to our requirements. Class

diagrams consisted of concrete representations of the different parts of the projects such as trading equipment, events, users and so on. For each class, we added fields that represents the state of the instances of that class and methods that takes user input or these states variables as the parameters. To represent the relations between classes we followed the UML syntax. Finally, we created sequence diagrams that were based on some of the use cases. We demonstrated these use cases with the fields and methods of the particular classes that we think will interact while the users or the guests perform that use case. We are satisfied with the results of these diagrams. We think that our use cases consist almost all the functionalities that will be available on the system, class diagrams represent the system as a whole well and sequence diagrams demonstrates the use cases good enough with the help of the design of the classes. Since our design and implementation will follow an iterative process, when we start implementing the project, there will be changes on the designs of the classes and sequence diagrams.

4 Work Done

Name	Work Done
Alkım Ece Toprak	Updated the requirements according to the first meeting with the customer. Helped create persona 1's back story and worked on the scenario. Worked on the use case diagram for signing up, logging in and requirements for the portfolios. Prepared and finalized the first Milestone Report.
Alperen Değirmenci	I created the Communication plan page. Wrote down the first questions to the customer. Then, took part in writing the User Scenario 1 and its story. I also took part in the Class diagram group. And prepared the Road Ahead part for the Milestone report.
Aysu Sayın	Updated read.me according to the updates on the project. Took part in writing glossary. Created the mockup for persona 1. Created the events page for third mockup. Took part in making use case diagram: follow user, profile and improved some other parts. Gathered information and prepared the first Milestone Report.
Bekir Yıldırım	Wrote the first version of the User Requirements. Helped create the fabrication person, Persona 3, and make story and scenario for this. Worked on the class diagram and have drawn the diagram that we created with our teammates by LucidChart. Also helped write list, status and evaluation of deliverables.
Burak Enes Çakıcı	I wrote the first version of the User Requirements under Functional Requirements. I drew the Use Case diagram for the Guest user and helped for Basic & Trader users'. I summarized the work done until the first Milestone for the report. Write down the introduction part in milestone report.

Cumhur Kılıç	Helped the writing glossary and updating the glossary according to given feedback. Took part in writing i writing the User Scenario 3 and its story. Then I expanded the Persona 3 scenario and its user story. Determined the absent accaptence criterias in the Persona 3. Worked on the class diagram and figuring out relations between classes. I changed some parts of class diagram according to feedbacks.
Doğa Yüksel	Wrote down remote repository part of git research page. Helped update the requirements according to feedback. Worked on the class diagram and figuring out realtions between classes.
Hasan Yaman	Did research and wrote down about git. Helped writing of requirements. Created mockup for scenario 2 and scenario 3 except events page. Create use case diagram for the trader user and some part of the basic user. Changed some parts of mockups and created new mockups according to feedbacks. Also reorganized some parts of use case according to feedbacks.
İbrahim Kamacı	Took responsibility in writing user scenario of basic user and wrote acceptance criteria of it.Prepared sequence diagram (follow a user) with Lucidchart tool according to class diagram of our project. Prepared evaluation of tools and project management part in our first milestone report.
Metin Dumandağ	Wrote the system requirements. Enumerated requirements. Wrote the preconditions, scenario and acceptance criteria for the persona 2. Created sequence diagrams for creating an article, searching and creating a portfolio. Wrote the evaluation for the requirements, personas & mockups and diagrams for the deliverables section of the milestone report.
Semih Akgül	Attended the first three customer meetings, informed my friends about the discussions during the meetings also updated Customer Meeting page and added the new notes. Made the second user's persona and created its user story. Determined the absent acceptance criterias in the Personas page. Created and updated the sequence diagrams about registering, making comments and making predictions.

5 Communication Plan

Medium	Attendees	Purpose	How	Time
BM Building	Everyone	Weekly meetings, planning, discussion of week	Meeting in a class. Discussing last week's outcome, moving forward with planning on new assignments	Mondays @ 15.15
Slack	Everyone	General discussion, instant messaging, has lots of features	File sharing is easier, sub-channels can be created and communication is effective	To infinity and beyond
Whatsapp	Everyone	Not the main channel but comes in handy when someone is unreachable	Daily talks are done which are not related to real work	7/24
Github	Everyone	Main storage for the course material and team project	Everyone participates and contributes to repo	7/24

6 Requirements

Glossary

- Article: A piece of writing on a specific subject on the traders platform that users write.
- Basic user: A person who is registered to the system and can access the basic functionalities like creating a portfolio and keeping track of their profit/loss, following other users, portfolios and trading equipment, sharing, commenting and rating articles.
- Buy Order: Order given by the trading users, in order to make an investment on a specific trading equipment at a specific price.
- Economic Event: Events that have an effect on trading equipments such as Interest Rate Decision in Turkey.
- Investment: An asset or item acquired with the goal of generating income or appreciation.
- Guest: A person who is not signed-in.
- Moving average: a succession of averages derived from successive segments of a series of values.
- Portfolio: A collection of trading equipment that user puts together to follow.
- Prediction Success Rate: The ratio of prediction success that is about trading equipment's price in the future and the ratio of prediction success can be seen in the user profile.

- Profit/Loss: the difference between the amount earned and the amount spent in buying, operating, or producing any trading equipment.
- Recommendation System: An information filtering system that uses a collaborative filtering to present information on items and products that are likely to be of interest to the user.
- Semantic search: A data searching technique in a which a search query aims to not only find keywords, but to determine the intent and contextual meaning of the the words a person is using for search.
- Sign up: the action of enrolling for the system.
- System : The entire application with every feature, for both web and Android.
- Trading user: A person who is register to the system and the user who has capabilities of basic user and is capable of trading/investing in any trading equipment.
- Trading equipment: Materials that can buy or sell in the platform such as indices, stocks, ETFs, commodities, currencies, funds, bonds and cryptocurrencies.
- Username: A unique name of identification used by a registered user.

Requirements

1. Functional Requirements

- **1.1 User Requirements**
  - **1.1.1 Common User Requirements**
    - **1.1.1.1 Sign Up Requirements**
      - 1.1.1.1 1. Users shall be able to sign up to the platform providing necessary information, i.e. name, surname, e-mail address and location.
      - 1.1.1.1.2. Users shall be able to provide their location information via Google Maps.
      - 1.1.1.1.3. Users shall be able validate their e-mail addresses.
    - **1.1.1.2. Sign In Requirements**
      - 1.1.1.2.1 Users shall be able to sign in with their e-mail address and password.
      - 1.1.1.2.2 Users should be able to sign in with their Google account.
    - **1.1.1.3. Profile Requirements**
      - 1.1.1.3.1. User profiles shall be either public or private to the other users.
      - 1.1.1.3.2. User with the private profile shall be followed to see contents in a private user profile.
    - **1.1.1.4. Portfolio Requirements**
      - 1.1.1.4.1. Users shall have at least one portfolio.

        - 1.1.1.4.2. Users shall be able to create, rename and delete portfolios.
        - 1.1.1.4.3. Users shall be able to share their portfolio in their profile page and follow other shared portfolios.
        - 1.1.1.4.4. Users shall be able to add trading equipments to their portfolio.
    * **1.1.1.5. User Specific Events Requirements**
        - 1.1.1.5.1. Users shall be able to have an Events section. In this section, users can chase economic events with different significance levels.
        - 1.1.1.5.2. Users should be able to filter economic events by considering their significance level and country base.
    * **1.1.1.6. Profit/Loss Requirements**
        - 1.1.1.6.1. Users shall have a Profit/Loss section which is private to the user.
    * **1.1.1.7. Article Requirements**
        - 1.1.1.7.1. - Users shall be able to share their ideas as articles.
        - 1.1.1.7.2. - Users shall be able to comment on the articles.
        - 1.1.1.7.3. - Users shall be able to rate the articles.
        - 1.1.1.7.4. - Articles shall be able to be seen by other users.
        - 1.1.1.7.5. - Comments shall be able to be seen by other users.
        - 1.1.1.7.6. - Article scorings shall be able to be seen by other users.
    * **1.1.1.8. Alert Requirements**
        - 1.1.1.8.1. Users shall be able to set alerts for trading equipments.
        - 1.1.1.8.2. Users shall be able to set alerts for events.
    * **1.1.1.9. Prediction Requirements**
        - 1.1.1.9.1. Users shall be able to make predictions about the trading equipments.
        - 1.1.1.9.2. User's prediction success rate shall be available on their profile.
    * **1.1.1.10. Searching Requirements**
        - 1.1.1.10.1. - Users shall be able to search for other users.
        - 1.1.1.10.2. - Users shall be able to search for other users by location.
        - 1.1.1.10.3. - Users shall be able to search for trading equipments.
        - 1.1.1.10.4. - Users shall be able to search for events.
    * **1.1.1.11. Social Requirements**
        - 1.1.1.11.1. Users shall be able send follow requests to other users.
        - 1.1.1.11.2. Users shall be able accept or decline follow requests.
        - 1.1.1.11.3. Users shall be able follow trading equipments.
        - 1.1.1.11.4. Users shall be able comment on trading equipments.
- **1.1.2. Basic User Requirements**
    * 1.1.2.1. Basic users shall be able to see their profit/loss amount in terms of the currency they choose by manually entering their investments.

- **1.1.3. Trader User Requirements**
  - 1.1.3.1. Traders are required to provide an ID number and an IBAN while signing up.
  - 1.1.3.2. Traders shall be able to see their profit/loss amount in terms of the currency they choose by both manually entering their investments and using the investments they made in the Traders Platform.
  - 1.1.3.3. Traders shall be able to trade indices, stocks, ETFs, commodities, currencies, funds, bonds, and cryptocurrencies.
  - 1.1.3.4. Traders shall have a My Investments section.
- **1.1.4. Guest Requirements**
  - 1.1.4.1. Guests shall be able to view prices of trading equipments, user comments and articles and events.
  - 1.1.4.1. Guests shall be able to use searching functionality.

- **1.2. System Requirements**
  - **1.2.1. Searching Requirements**
    - 1.2.1.1. System shall consider all the information available in user profiles, trading equipments and articles while performing the search.
    - 1.2.1.1. System shall allow semantic search. System shall also display the users, trading equipments and articles that have semantic relationship with the search tags in the search results.
  - **1.2.2. Events Requirements**
    - 1.2.2.1. Events shall have different significance levels. (e.g., one star, two stars, three stars)
    - 1.2.2.2. Events shall be filtered by significance levels and country base.
  - **1.2.3. Investments Requirements**
    - 1.2.3.1. Investments shall be made with any trading equipment.
    - 1.2.3.2. Investments section shall be private to user.
    - 1.2.3.3. Investments should contain some functionality such as buy/sell order for a specified rate, set a stop/loss limit.
  - **1.2.4. Trading Equipment Requirements**
    - **1.2.4.1 Trading Equipment Examples**
      - **1.2.4.1.1. Indicies**
        1.2.4.1.1.1. S & P 500
        1.2.4.1.1.2. Dow 30
        1.2.4.1.1.3. Nasdaq 100
      - **1.2.4.1.2. Stocks**
        1.2.4.1.2.1. General Electric Company (GE)
        1.2.4.1.2.2. Microsoft Corporation (MSFT)
        1.2.4.1.2.3. HP Inc. (HPQ)

· **1.2.4.1.3. ETFs**
1.2.4.1.3.1. SPDR S&P 500 ETF (SPY)
1.2.4.1.3.2. Invesco QQQ Trust (QQQ)
1.2.4.1.3.3. iShares Gold Trust (IAU)

· **1.2.4.1.4. Commodities**
1.2.4.1.4.1. Gold
1.2.4.1.4.2. Silver
1.2.4.1.4.3. Crude Oil

· **1.2.4.1.5. Currencies**
1.2.4.1.5.1. USD
1.2.4.1.5.2. EUR
1.2.4.1.5.3. TRY

· **1.2.4.1.6. Funds**
1.2.4.1.6.1. Pimco Total Return (PTTAX)
1.2.4.1.6.2. Vanguard Total Stock Market Index Fund (VTSMX)
1.2.4.1.6.3. American Funds Growth Fund of America (AGTHX)

· **1.2.4.1.7. Bonds**
1.2.4.1.7.1. Treasury Bonds
1.2.4.1.7.2. Municipal Bonds
1.2.4.1.7.3. Corporate Bonds

· **1.2.4.1.8. Cryptocurrencies**
1.2.4.1.8.1. Bitcoin
1.2.4.1.8.2. Ethereum
1.2.4.1.8.3. Monero

∗ **1.2.4.2. Trading Equipment Functionality**

· 1.2.4.2.1. Trade equipments should have some functionality such as the previous close, the percentage change with the previous close, amount change with the previous close, day's range, and moving averages.

– **1.2.5. Alert Requirements**

∗ 1.2.5.1. System shall be able to notify the users in accordance to their alerts.

– **1.2.6. Recommendation Requirements**

∗ 1.2.6.1. System should recommend articles or trading equipments to the users based on their histories.

2. Non-functional Requirements

• **2.1. Accessibility and Availability**

– 2.1.1. The system should work on web browsers that supports Javascript ES6.

∗ 2.1.1.1. Chrome 58 and above

∗ 2.1.1.2. Firefox 54 and above

∗ 2.1.1.3. Edge 14 and above

        * 2.1.1.4. Safari 10 and above
    - 2.1.2. The system should be available %99 of the time.
    - 2.1.3. The application shall be provided for both web browsers and Android mobile devices.

- **2.2. Performance and Response Time**
    - 2.2.1. The system shall work with up to a thousand HTTPS requests without crashing.
    - 2.2.2. The system shall respond to all search requests under 5 seconds.

- **2.3. Security**
    - 2.3.1. The system should use https, so that the traffic between browser (or app) and the web server is encrypted.
    - 2.3.2. The system shall resist to unauthorized attempts at usage
    - 2.3.3. System should deny requests if excessive amount of requests has been made.
    - 2.3.3.1. Rate-Limit protocol will be provided by our hosting company.
    - 2.3.3.2. System accepts HTTP requests up to 1000.
    - 2.3.4. All passwords stored in the database must be hashed and encrypted by npm bcryptjs package.
    - 2.3.5. The system shall check that an authorization bearer token is present and correctly formed

- **2.4. Annotations**
    - 2.4.1. The platform shall support W3C Web Annotation Data Model
    - 2.4.2. Web Annotation Protocol shall be followed to store annotations.

- **2.5. Portability**
    - 2.5.1. The application shall be compatible with various Android devices and web browsers that supports Javascrit ES6.

- **2.6. Capacity**
    - 2.6.1. The system must meet the agreed capacity requirements.

7 Mockups

7.1 Mockup 1

7.1.1 User Story-Cansu Tekin - Basic User

Cansu Tekin is one of those regular students you can see in the campus. She's 20 years old, has dreams and does internships on finance companies like her peers. Her parents live in a

remote city in Anatolia and support her during her education. She's having trouble saving money because her daily spendings are forcing her budget. She is into economic articles and has plans about buying and selling stocks in the future. But first she needs to read and learn about the latest economic events. Also, she needs to track the currency levels according to these economic events so that she can understand the behaviour of currency in this context. So, she's a fitting user for our traders' site. She's been a basic user for 2 months and enjoying features of the website from then day by day. She follows a couple of trader users and tracks their activities.

Persona

- 20 years old
- Lives in İstanbul
- Undergraduate student in Economics
- Away from her family
- Wants to has an experience with finance issues and figure out what the hell is going on in the stock market by reading articles and following economic events

Preconditions

1. Cansu is logged in to the platform as a basic user
2. Cansu has already followed some user profile in the platform
3. Cansu has already has a portfolio
4. Cansu is able to read articles and comment about articles

Scenario

1. Cansu enters the home page
2. Cansu clicks the article which stands first place of the recommended articles
3. Cansu rates the article just read and makes comment about it
4. Cansu follows a user which she saw at the comment section
5. Cansu views the prediction success rates of the user

Acceptance Criteria

1. Cansu is able to read articles that published on the platform (1.1.1.7.4)
2. Cansu is able to rank articles that she read (1.1.1.7.3)
3. Cansu is able to see comments that were written by other users (1.1.1.7.5)
4. Cansu is able to make comment about articles on the platform (1.1.1.7.2)
5. Cansu is able to follow a user who has an account in the platform (1.1.1.11.1)

7.1.2 Mockup

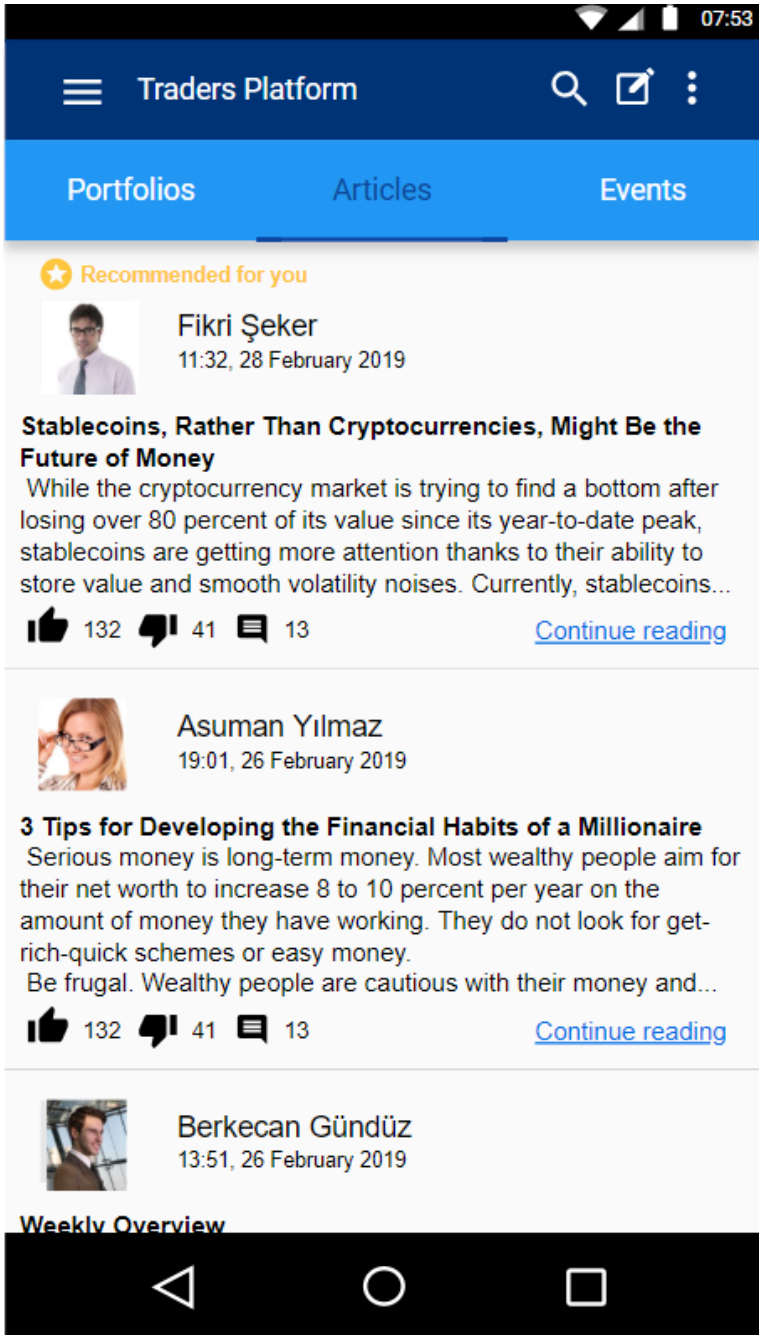

Figure 1: Cansu enters the home page.

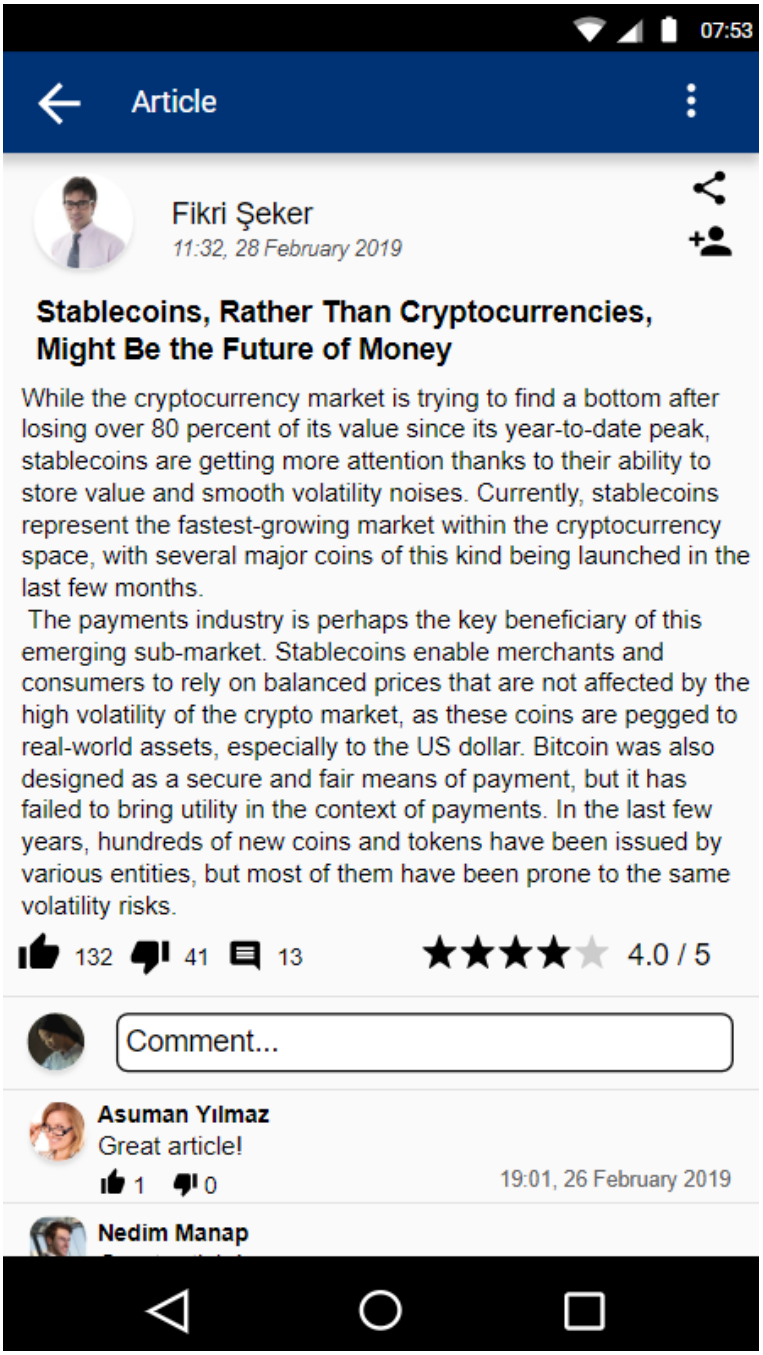

Figure 2: Cansu clicks the article which stands first place of the recommended articles.

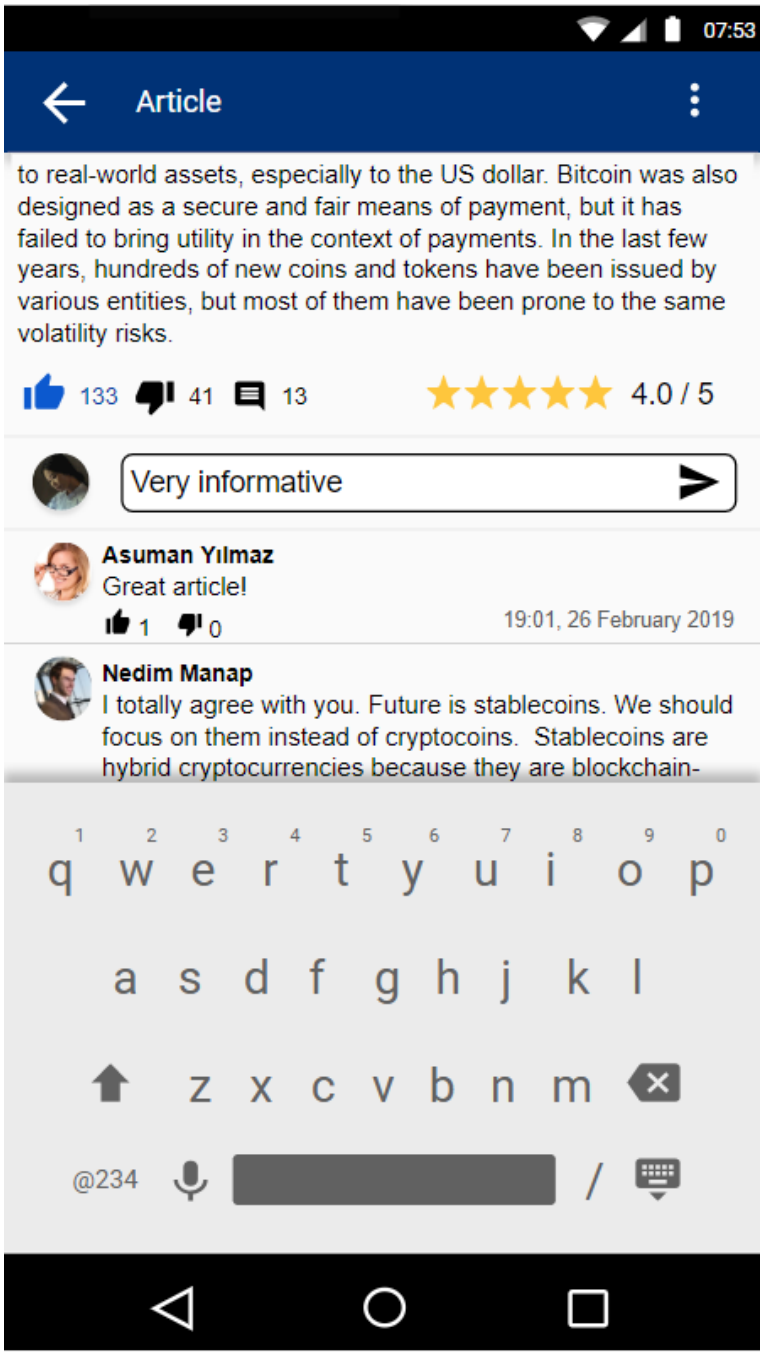

Figure 3: Cansu rates the article, just reads and makes comment about it. She rates the article by clicking on the stars, she gave 5 stars to this article. Also, she likes the article by clicking "thumbs up" icon.

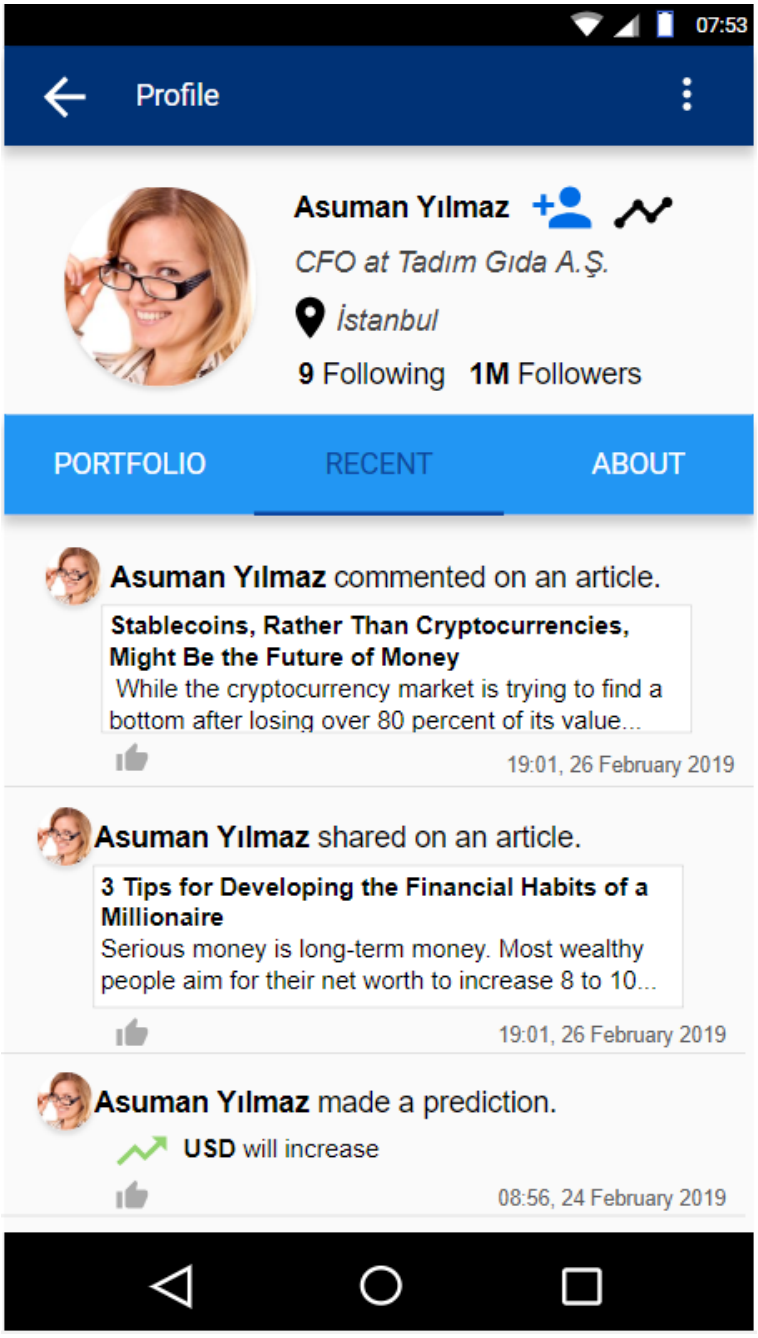

Figure 4: Cansu clicks on a user in the comment section and goes to her profile page. She follows the user which she saw at the comment section.

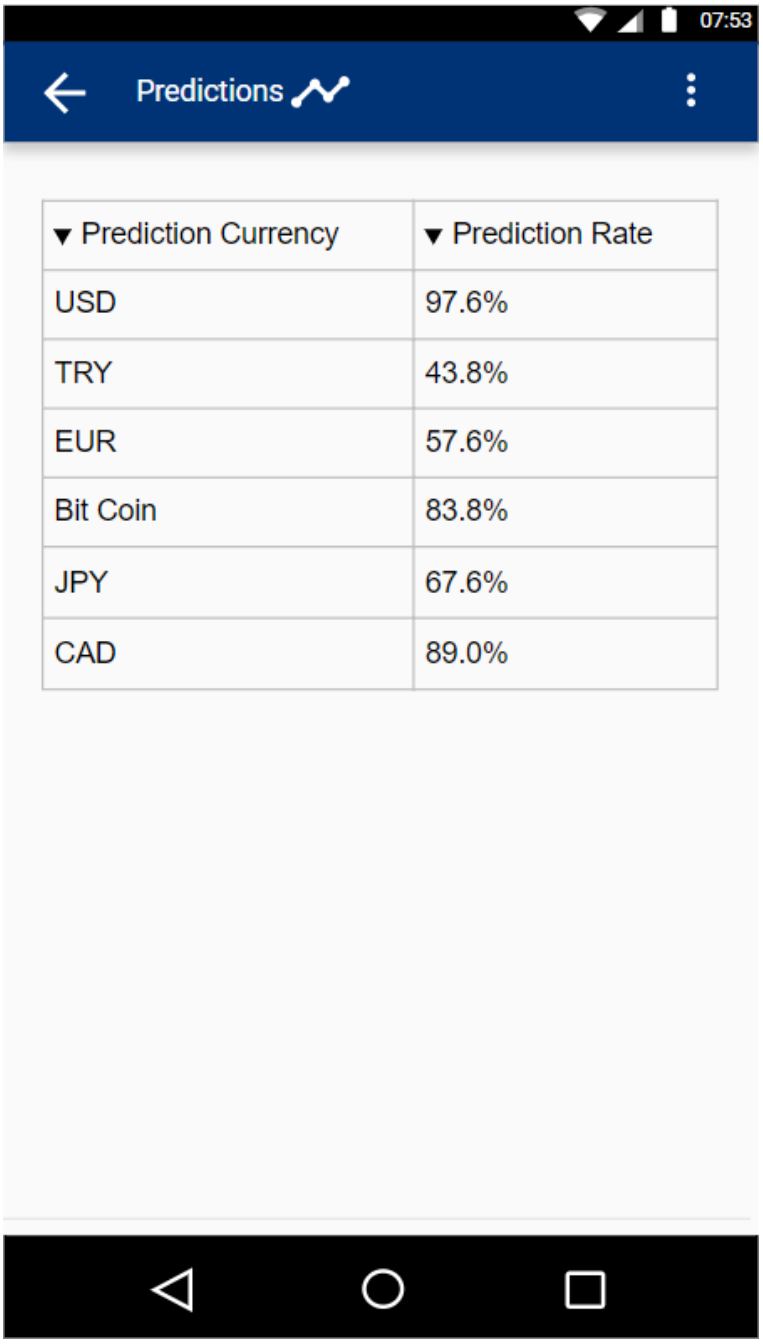

Figure 5: Cansu views the prediction success rates of the user.

7.2 Mockup 2

7.2.1 User Story - Kâni Hayal - Trader User

Kani lives in Istanbul. He works as the Chief Human Resources Officer in a technology company. He is married and has three children. So while being busy with his job he also has to spend time with his family. Besides he likes sticking around with his friends and sometimes goes fishing. He is happy with his job and his salary. He does not have big dreams about having much more money and being richer but he likes following the market and makes investments. He checks his profit/loss amount, portfoli and he makes a prediction.

Persona

- 43 years old
- Lives in İstanbul
- The Chief Human Resources Officer in a technology company
- Married with one child
- He is busy in his job and family life but wants to make some invesment

Preconditions

1. Kâni is logged in to the platform.
2. Kâni has already made trading on the platform.
3. Kâni has more than one trading equipment in his portfolio.
4. Kâni is on the Profit/Loss section.

Scenario

1. Kâni checks his profit/loss amount on the Profit/Loss page.
2. Kâni enters his Portfolio page.
3. Kâni goes to his favorite trading equipment's page.
4. Kâni makes a prediction about the trading equipment.

Acceptance Criteria

1. Kâni should be able to see his profit/loss with respect to trading he has done on the platform and elsewhere. (1.1.1.6.1)
2. Kâni should be able to see the trading equipments that he manages from the Portfolio page. (1.1.1.4)
3. Kâni should be able to see the statistics related to the trading equipments on its page. (1.1.3.2)
4. Kâni should be able to make predictions about whether value of the trading equipment will increase or decrease. (1.1.1.9)

7.2.2 Mockup

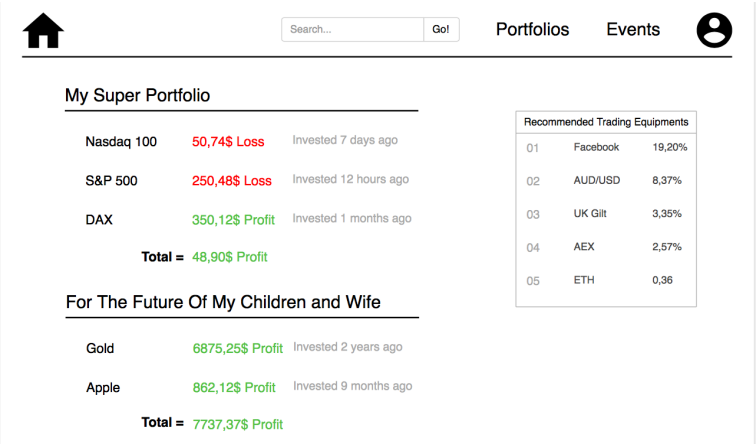

Figure 6: Kâni checks his profit/loss amount on the Profit/Loss page.

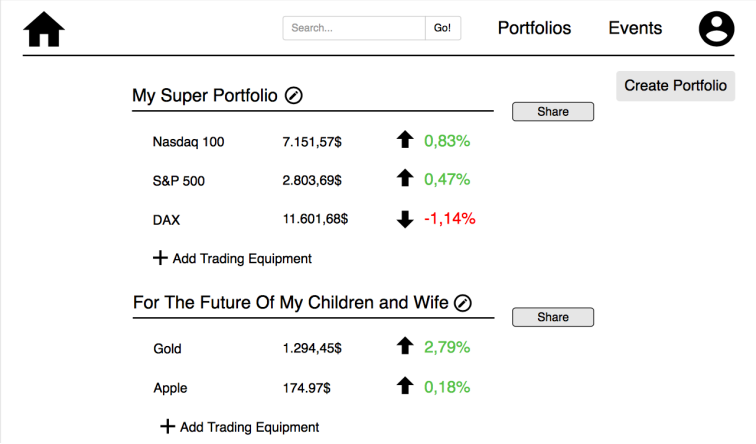

Figure 7: Kâni enters his Portfolio page.

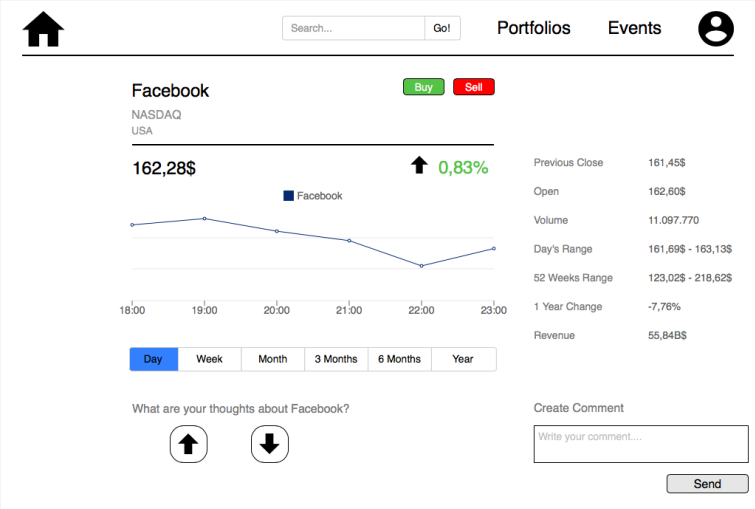

Figure 8: Kâni goes to his favorite trading equipment's page and makes a prediction about the trading equipment.

7.3 Mockup 3

7.3.1 User Story - Ugur Gultekin - Trader User

Ugur Gultekin is an economics student at Bogazici University. He's 24 years old and he decide to become a stockbroker. His parents live in Duzce but he lives with friends in Istanbul. Ugur wants to make money quickly in order to live more comfortably. He thinks that value of blockchain technology and cryptocurrency will increase in the future. Ugur wants to enter the cryptocurrency exchange, but he does not have enough experince to become stockbroker of cryptocurrency. Ugur registers as a trader user to our trader platform. He expects to gain experince by following cryptocurrency market. He enjoys features of website and he follows news about cryptocurrency. He will invest one of the cryptocurrency when the time comes.

Persona

- 24 years old
- He is from Duzce but lives in Istanbul.
- He is an economics student at Bogazici University.
- He took course CMPE 483 and he has experienced with trading cryptocurrency.
- He wants to make money quickly, and he is interested in latest technology and stock market.

Preconditions

1. Ugur is logged in to the platform.
2. Ugur has made just one investment on the platform.

3. Ugur's investment cost him some money.
4. Ugur is on the My Investments section.

Scenario

1. Ugur checks his investment on the My Investments page.
2. Ugur goes to Events section.
3. After going to 'Events' section he looks at some recent economic events.
4. Ugur filters those economic events according to their significance level.
5. Ugur sees a trading competition by Genesis Vision that is one of the cryptocurrencies.
6. Ugur thinks this cryptocurrency's price will increase, so he buys it.
7. Ugur sets sell order that if cryptocurrency's price that he bought increases a specific amount, he will sell half of his own cryptocurrency.
8. Ugur sets alert about the cryptocurrency so that he could buy them if the cryptocurrency's price will decrease.

Acceptance Criteria

1. Ugur should be able to sign-up by providing her username and password. (1.1.1.1.1)
2. Ugur should be able to have "My Investment" section where they can invest in any trading equipment. (1.1.3.4)
3. Ugur shall be able to have an Events section. In this section, users can chase economic events with different significance levels.(1.1.1.5.1)
4. Ugur should be able to see to chase economic events and filter those events by considering the significance level and country base. (1.1.1.5.2)
5. Ugur should be able to buy cryptocurrency. (1.1.3.2)
6. Ugur should be able to set a sell order in order to put a limit on his profit/loss.(1.2.3.3)
7. Ugur should be able to set set alerts for trading equipments. (1.1.1.8.1)

7.3.2 Mockup

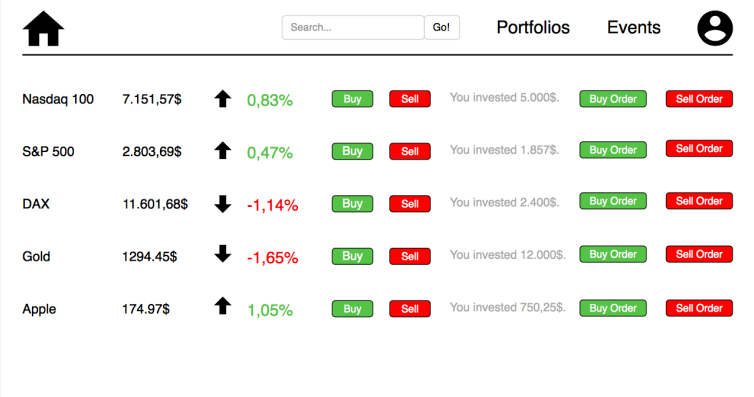

Figure 9: Ugur checks his investment on the My Investments page.

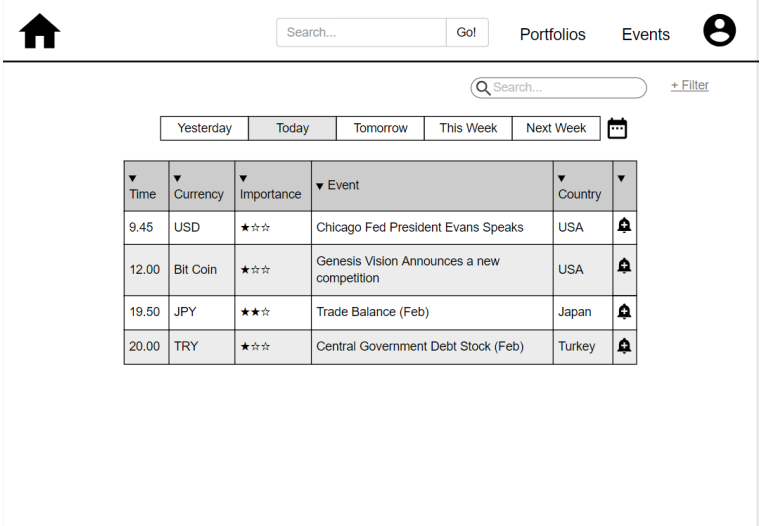

Figure 10: Ugur goes to Events section and sees a trading competition by Genesis Vision that is one of the cryptocurrencies.

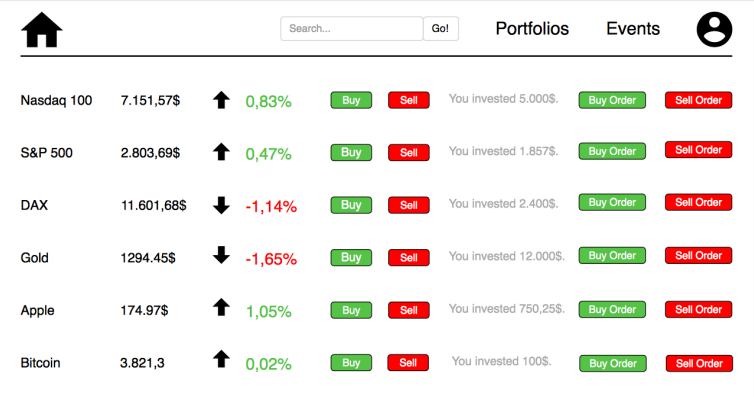

Figure 11: Ugur thinks this cryptocurrency's price will increase, so he buys it.

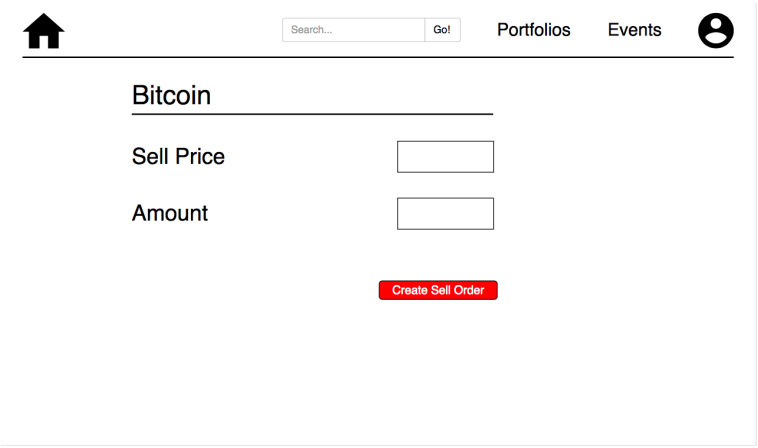

Figure 12: Ugur sets sell order that if cryptocurrency's price that he bought increases a specific amount, he will sell half of his own cryptocurrency.

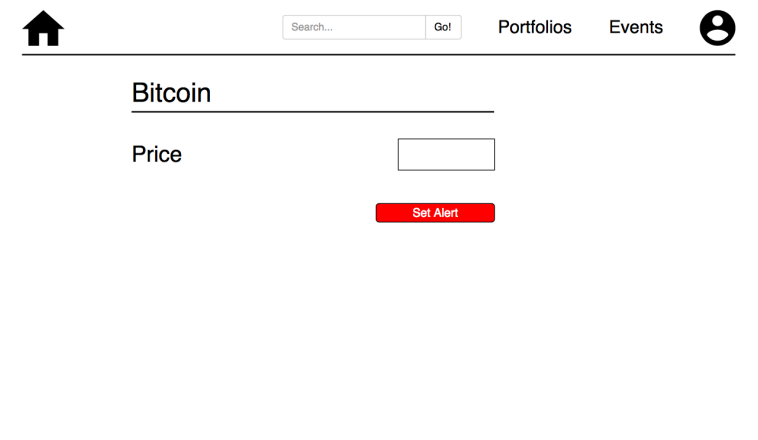

Figure 13: Ugur sets alert about the cryptocurrency so that he could buy them if the cryptocurrency's price will decrease.

8 Design

8.1 Use Cases

Lucid chart

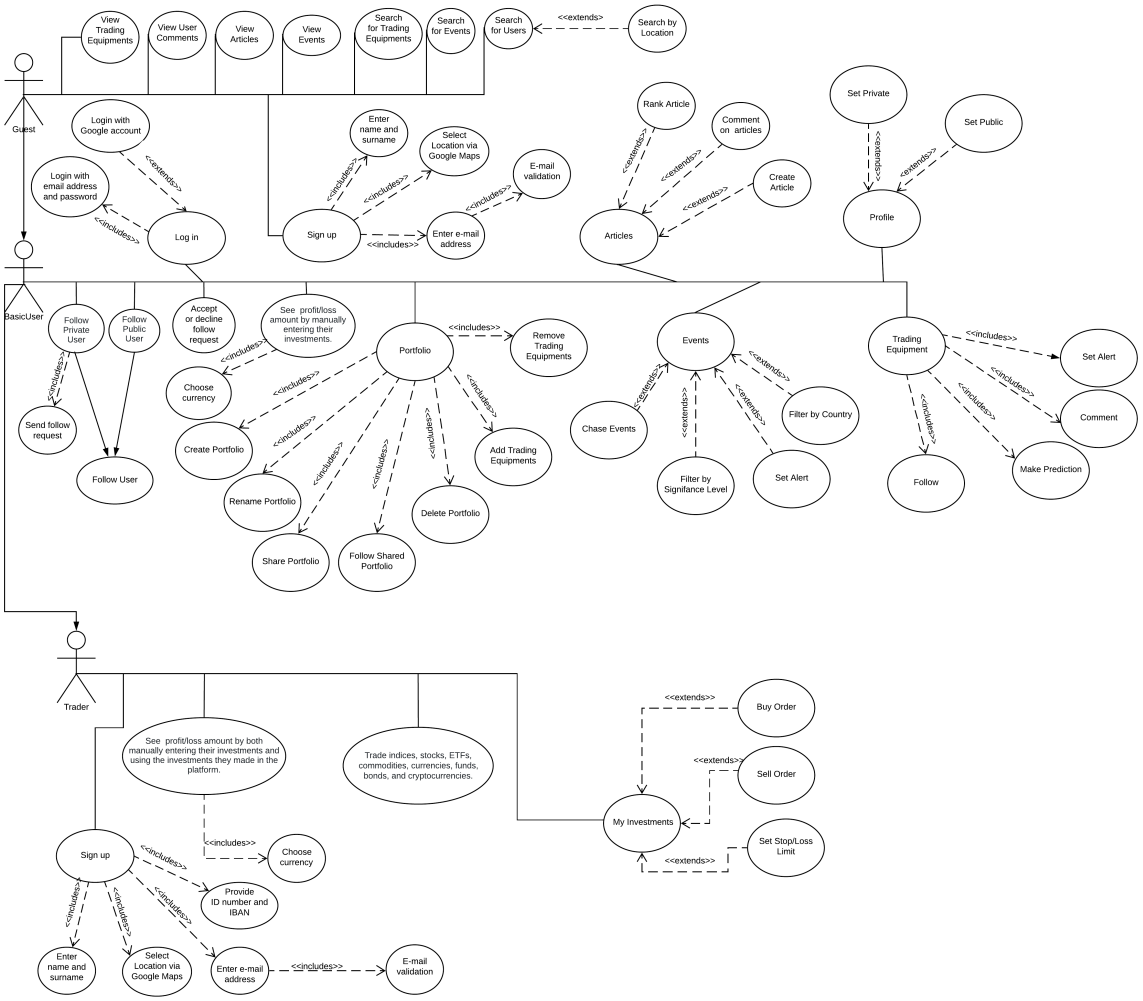

Figure 14: Use Case Diagram

8.2 Class Diagram

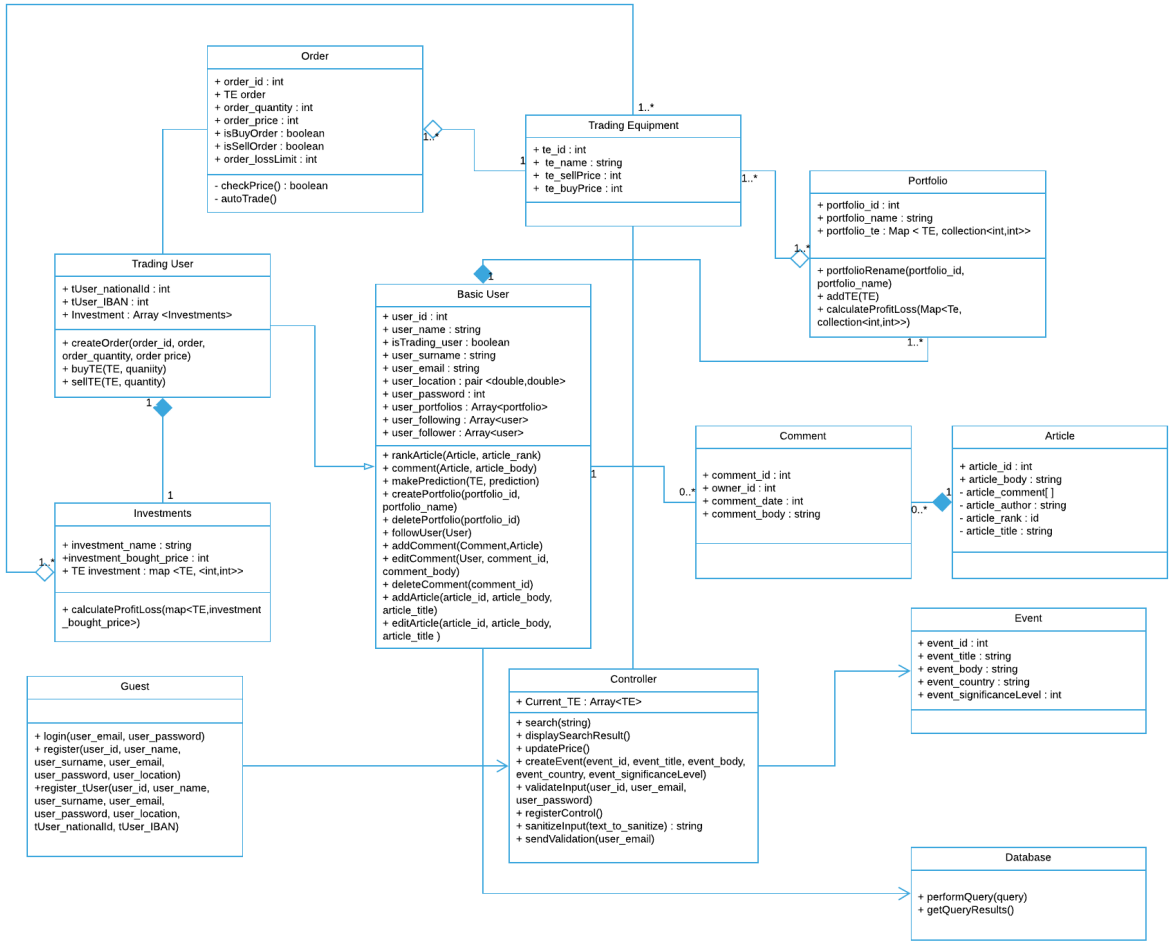

Figure 15: Class Diagram

8.3 Sequence Diagrams

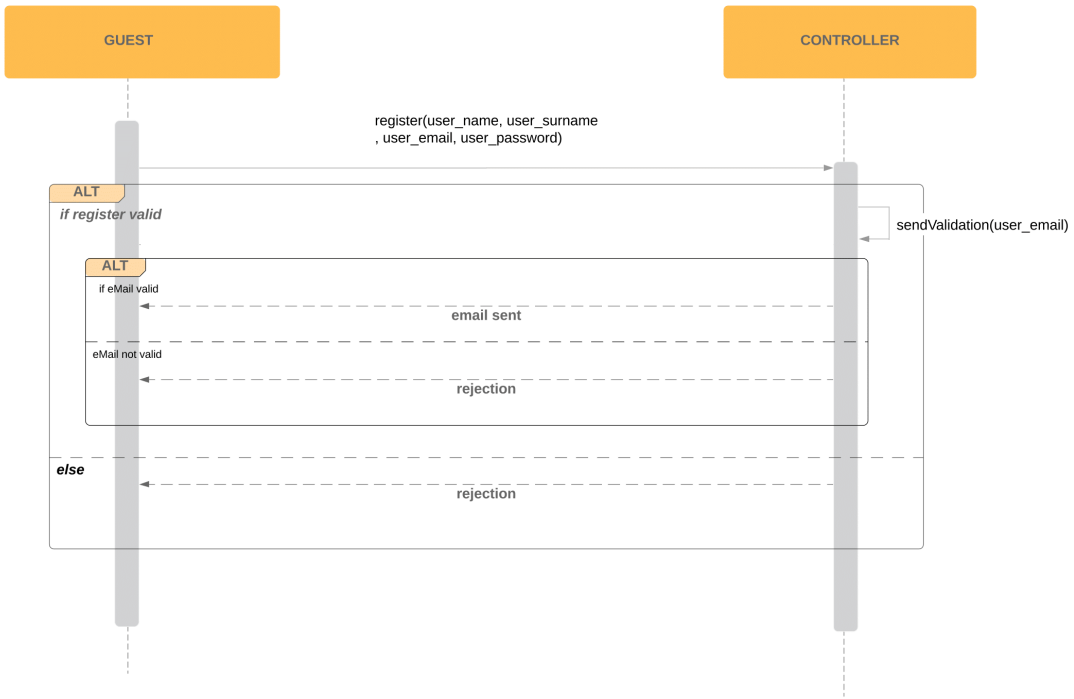

Figure 16: Register

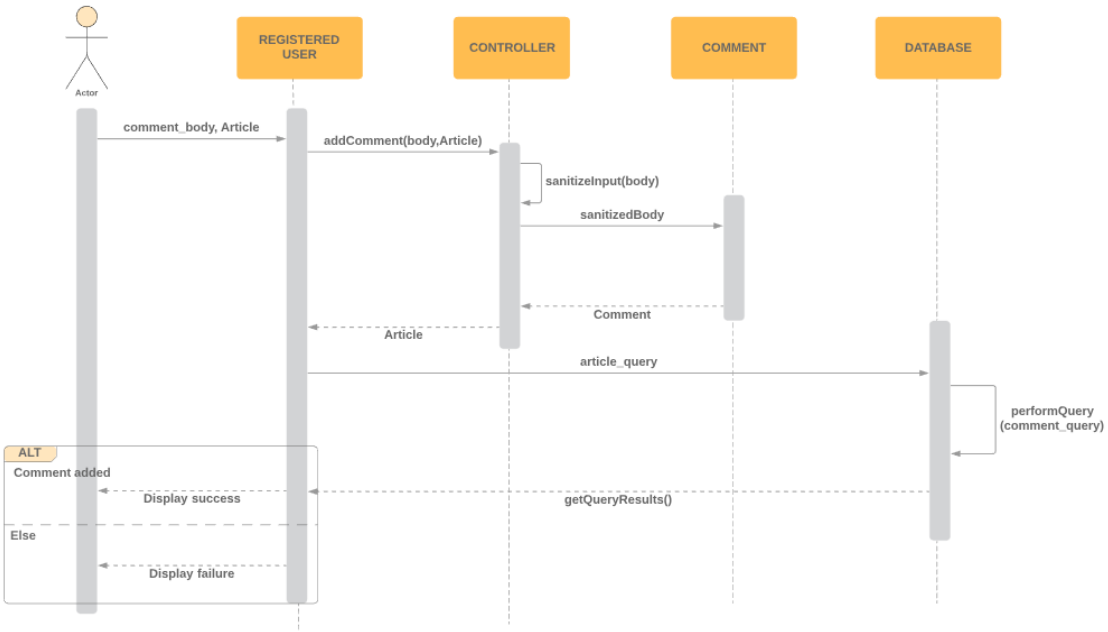

Figure 17: Making Comment

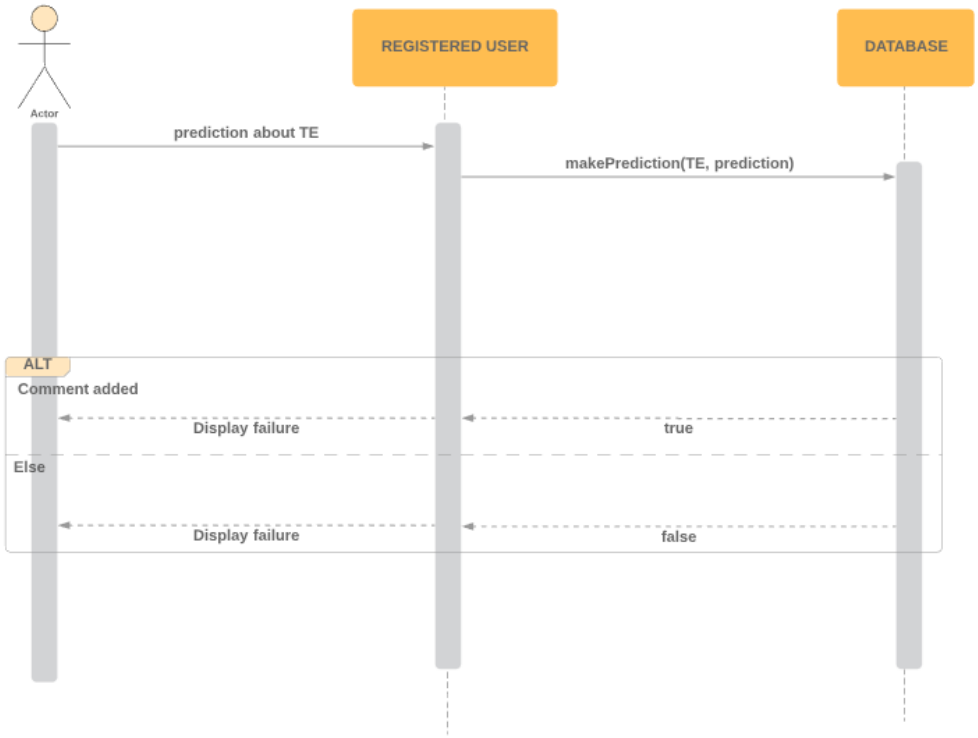

Figure 18: Making Prediction

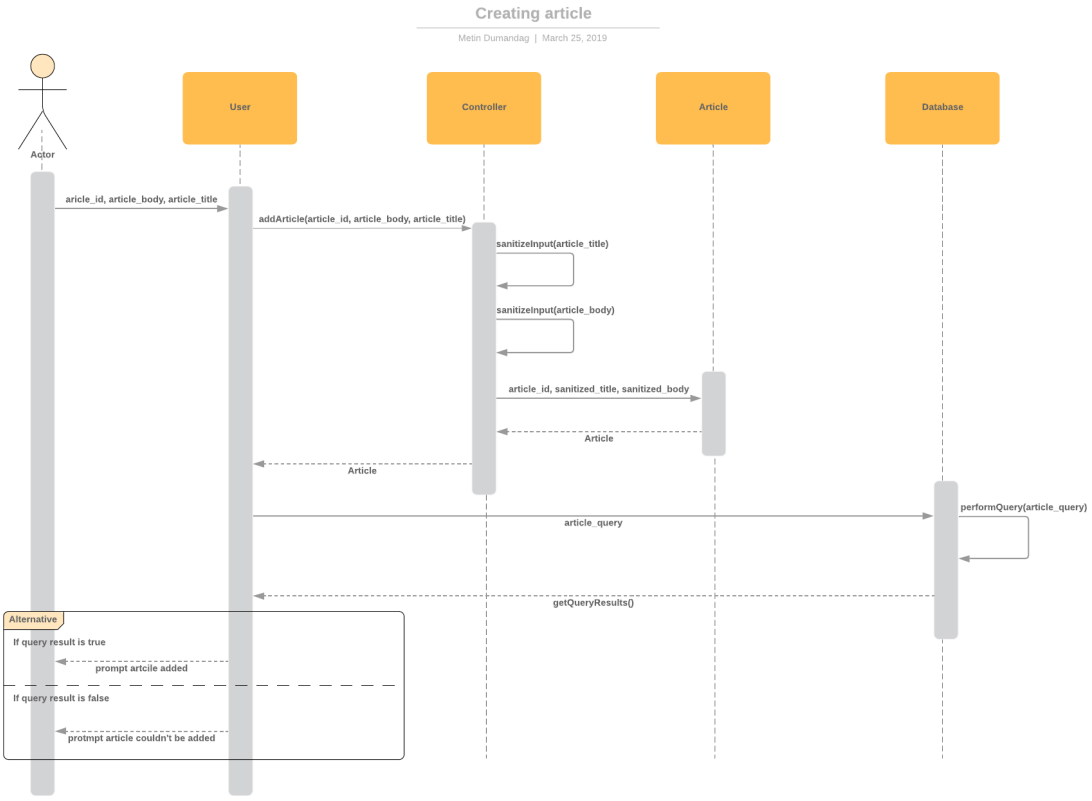

Figure 19: Creating Article

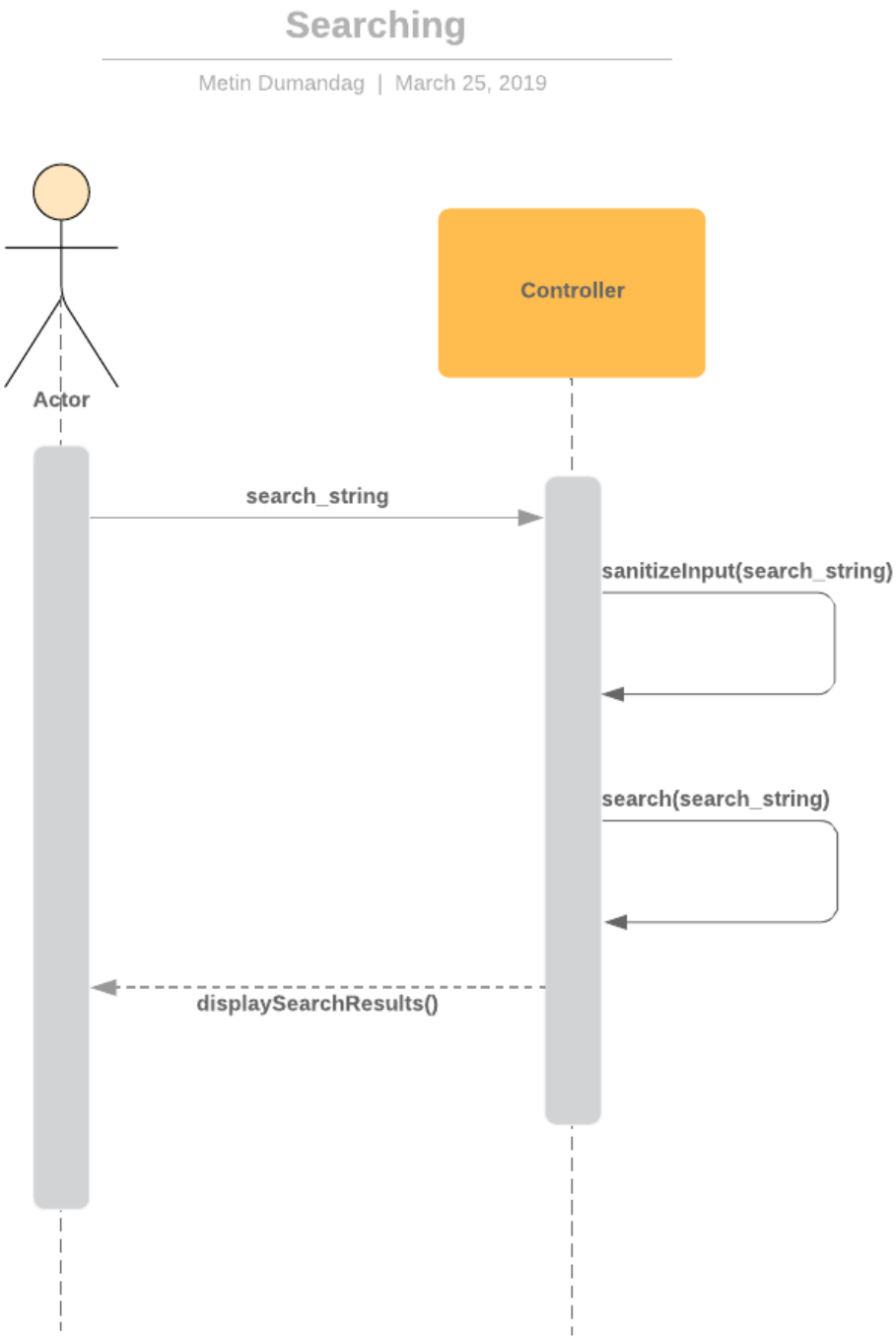

Figure 20: Searching

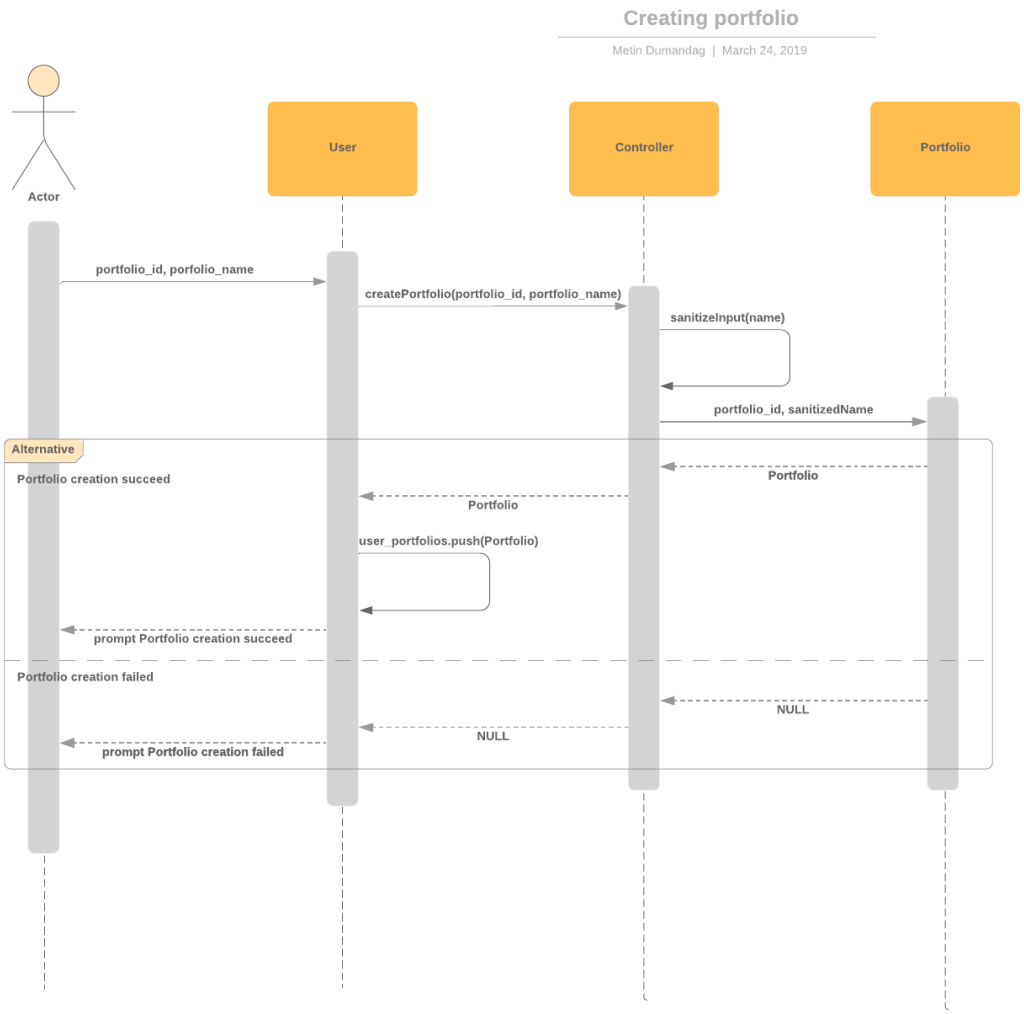

Figure 21: Creating portfolio

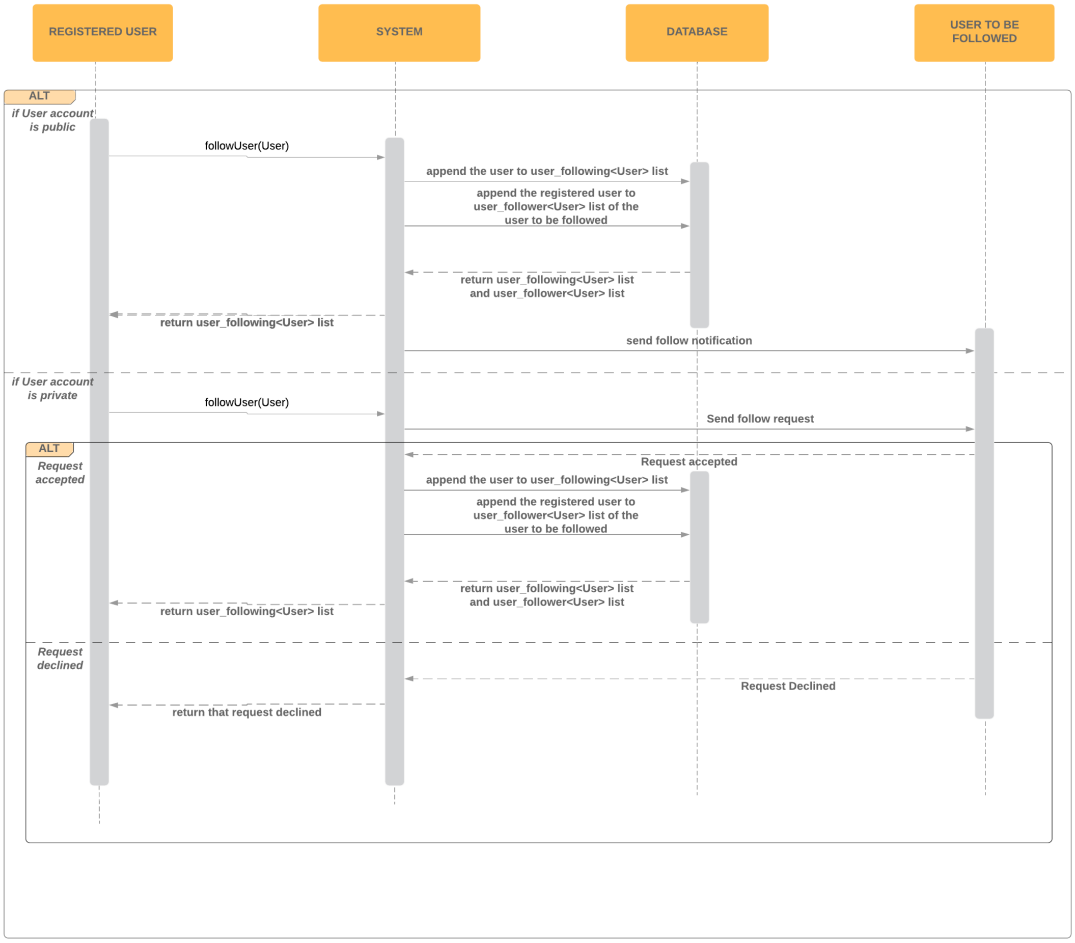

Figure 22: Follow a User

9 Evaluation Of Tools and Project Management

9.1 Evaluation Of Tools

- **Github:** GitHub is a web-based version-control and collaboration platform for software developers.Github is our main base while designing our Trader project. All tasks that are agreed upon in weekly meeting assigned to team members via Github platform. We used wikipages like a gathering point especially when a task consists of subtasks. We did issue management properly in our Github page and it made our work follow easy.

- **Mockups:** We designed and created our mockups by using moqups.com. Moqups is a streamlined web app that helps developers create and collaborate on wireframes, mockups, diagrams and prototypes. The platform has mockup template therefore even we had not known how to design and create a mockup, We had created mobile and web mockups.

- **Lucidchart:** Lucidchart is an online diagramming tool that provides individuals with a web-based flowchart platform loaded with multiple features and capabilities. We used while creating the diagrams. After creating the first diagram you became familiar with the tool quickly and the following ones are done easily.

9.2 Project Management

Working as a team is a lot harder than working as individuals. First of all, we were newly met people and had to adapt to each other and feel comfortable enough to express our ideas and ask questions about the current subjects if existed. On the contrary of timidity, there may be conflicts among group members maybe rising from problems such as lack of participation of some members or unequal distribution of roles.

In our group, we have a warm environment that any member can freely contribute to the project and ask questions at any time. Duties were distributed based on voluntariness. Knowing and adapting to each other or making jobs done were not challenging for our group. What most challenged us during this process was setting a proper time and coming together because each of 11 team member had to set a common free time for weekly meetings. We could decide on that time but that was the only option.

Understanding given assignments were sometimes confusing and they had ambiguous points which necessitate contacting the customer. Within PS hours we could ask our questions. Another problem rising at this point was the inconvenient PS hours for us. We could not attend every PS but we contacted the assistants via Piazza when we had questions. This is a faster and easier way of getting answers.