

BOGAZICI UNIVERSITY
DEPARTMENT OF COMPUTER
ENGINEERING
Fundamentals of Software Engineering

**MILESTONE REPORT 1
(Group 1)**

Emirhan Sarac
Ufuk Yilmaz
Emre Hoşer
Eray Kurtulus
İlker Özkan

Mete Han Kurt
Ömer F. Doğru
Altay İnce
İrem Üstünboyacıoğlu
Ömer F. Toptaş



Contents

1 Executive Summary	3
1.1 Description	3
1.2 Project Status	3
1.3 Future Goals	4
2 List and Status of Deliverables	4
3 Evaluation of Status of Deliverables	4
3.1 Communication Plan	4
3.2 Requirements	4
3.3 User Stories and Mock-ups	5
3.4 Design(UML Diagrams)	5
4 Summary of Team Member's Work	6
5 Communication Plan	8
6 Requirements	9
6.1 Functional Requirements	10
6.1.1 User Requirements	10
6.1.2 System Requirements	13
6.2 Non-functional Requirements	16
6.2.1 Availability and Accessibility	16
6.2.2 Annotations	17
6.2.3 Performance	17
6.2.4 Privacy	17
6.2.5 Security	18
7 Mockups	19
7.1 Scenario 1	19
7.2 Scenario 2	23
7.3 Scenario 3	26
8 Design(UML Diagrams)	36
8.1 Use case Diagram	36
8.2 Class Diagram	37
8.3 Sequence Diagrams	38

8.3.1	Register	38
8.3.2	Login	39
8.3.3	Article	40
8.3.4	Investment	41
8.3.5	Search	42
8.3.6	Event	43
8.3.7	Portfolio	44
8.3.8	Follow User Profile	45

1 Executive Summary

1.1 Description

Our Project, TradersPlatform, is a social platform for people who can be considered as a trader. The platform enables the users to trade and follow a broad variety of financial vehicles including indices, stocks, ETFs, bonds, commodities, currencies, funds, bonds, and cryptocurrencies. The platform will support various interactions, such as sharing ideas as an article, commenting and rating ideas of other users, commenting about trading equipment. Users will be able to follow other users, and trading equipment and also set alerts for certain levels of trading equipment.

1.2 Project Status

At the beginning of the software engineering course, we were not experienced about design issues, especially "what to do?" and "how to do?" parts. We have a team of 10 people and different kinds of skills in software engineering. For each task assigned to us, we have divided tasks into sub-tasks and assigned group members who are more appropriate for these tasks. Some tasks were challenging because none of the team members has an idea about it. However, we are students that are thirsty for knowledge and challenge so that we handle all tasks because of this.

Each Wednesday, we kept a regular meeting. We talk about current issues about the project, what have we done last week, and what should we have done this week. Team members were actively contributing to discussions and actions to do. Moreover, we have a regular check-up session on Fridays that we are talking about the progression of current tasks assigned to each member.

First, we have completed the requirements draft. Then, we have made mock-ups and corresponding scenarios to enlarge requirements. This is a way of thinking from the perspective of users. Up to this point, we have completed "What to do?" part. Then, we have moved to "How to do?" part, and created design parts as use case diagrams, class diagrams, and sequence diagrams. Even though, we are working on "How to do?" part, we have tried to enlarge our project requirements.

1.3 Future Goals

Until now, we have worked on abstract points of the project especially design choices. We can start thinking of more concrete kinds of stuff about the project. We are going to decide the name of our project as soon as possible. Then, we will think about tools and frameworks like APIs, DBMS, etc. that might be useful for this project. We will decide language choices for the project for the frontend, backend, and Android part. We will make project planning in order to explicitly show the desired latest completion times for the subgoals of the project. We will also decide which members will work on which part of the project.

2 List and Status of Deliverables

Name	Delivery Date	Delivered
Communication Plan	Feb 17, 2019	✓
Requirements	Feb 26, 2019	✓
User Stories & Mockups	March 3, 2019	✓
Design Diagrams	March 15, 2019	✓

3 Evaluation of Status of Deliverables

3.1 Communication Plan

We made a realistic communication plan and complied with it almost all of the time. We tried to finish our missions before the deadline with regular control by WhatsApp and Slack. Balanced distribution of tasks and appropriate deadlines gave us a good outline to follow.

3.2 Requirements

Requirements were elicited according to the Project Description. Up to that point, lots of revisions and edits were made on it. Some modifications and additions have been done after customer meetings and customer feedback. It is very important to understand what to do in a project. So, forming requirements satisfactory is a key point to proceed project well. Our

requirements have reshaped many times according to our questions and customer's requests. But there can be some modifications in the future under new assumptions.

3.3 User Stories and Mock-ups

Three user stories and their corresponding mock-ups have been created. Group members were divided into 3 subgroups, each with 3 members. In every subgroup, one member has created a persona and scenario while other ones have created mock-ups. Every group member was responsible for reviewing other group members. In that way, we managed to deliver User Stories and Mock-ups on time. Then, some modifications have been made on this deliverable based on feedback from the customer (such as more clarification and specification). To get into the mindset of the customer, created mock-ups for scenarios should be real-like and overall. The customer should see sufficiently many functionalities.

3.4 Design(UML Diagrams)

As we learned the general characteristics of each diagram before sharing the task, we performed the task sharing in a good way(2, 3, 4 people to do use case, sequence, class diagrams). Because we needed use case diagram while creating other diagrams, we have paid attention to the use case diagrams to be completed as soon as possible. After use case diagram created, we created class and sequence diagrams by considering use case diagram and the project requirements. We communicated well during the process of designing class and sequence diagrams in order to avoid inconsistency. According to the feedback from the customer, we have seen some errors in diagrams and made necessary corrections in a short time.

The class diagram perfectly describes the relationships among the objects of our platform and also the constraints imposed on the system. Use case diagram gather system requirements and actors together. One can easily observe the possible events of our platform by looking at use-case diagram. Sequence diagram shows object interactions ordered in time. The different scenario flows can be seen in sequence diagrams. In conclusion, the diagrams is very useful for us in different aspects.

4 Summary of Team Member's Work

Team Member	Contributions
Omer Faruk Doğru	<p>As a group member, I mostly joined group meetings and participated in discussions about assignments and feedbacks. I took part in some part of assignments and completed them in time. I documented question-answer part of requirements of project. I also contributed requirements section by revising and enlarging it according to feedback. I have made mockup-2 with my teammates. In another assignment, I created some of sequence diagrams and reviewed other diagrams which is made by other teammates. Moreover, I organized wiki page when relaised disarrangement. Finally, I prepared requirements section of this report.</p>
Mete Han Kurt	<p>I attended all group meetings as a group member and kept the group meeting notes. Additionally, I have written functional requirements. And I prepared the mockups of the prepared user story (Atilgan Korkusuz). I created the use case diagram with 2 of my group friends and rearranged them according to feedback. And I created the list and evaluation of deliverables parts in the milestone report with a teammate.</p>
İrem Üstünboyacıoğlu	<p>In general, I tried to take part in the decision-making phase of our group meetings and I participated in weekly actions. As a member of this team, I have created a wiki home page and every week I have added missing links of our project repository to the home page. I have written non-functional requirements. I have created a persona (Atilgan Korkusuz), I have written its user story, user scenario, and acceptance criteria. I have created the Class Diagram with the other 3 teammates. I have written an evaluation of the status of deliverables and their impact on our current project plan for some deliverables of this milestone report.</p>

Team Member	Contributions
Mehmet Altay İnce	As a member of this team, I gather with my teammates and discuss the weekly given assignments and feedbacks. I take responsibility for some share of the labor end try to accomplish it before its deadline. If any feedback is relevant with my part of the project, then I correct it. So far discluding small contributions, I created the mock-up 3 with the other 3 teammates, I created the class diagram with another 3 teammates and created the mock-up part of this milestone.
Emirhan Saraç	As a communicator, I try to divide tasks into smaller parts. I keep in touch with my team and their progress of tasks. I have worked on wiki homepage to make it look fancy. I have created alternative communication plan on Fridays. I have written functional requirements. I have done mockup-2(Bilo) with another teammate. Then, I have added more requirements to the functional part. Created a class diagram with a team of four members. I have created the draft of this milestone report. I have written executive part of this report.
İlker Özkan	As a group member,I attended weekly meetings as much as I could and tried to contribute to assignments and feedbacks.I created some sequence diagrams with 2 of my group friends.
Emre Hoşer	None
Ömer Faruk Toptaş	As a responsible group member I have joined every weekly meetings we have done since the beginning of this term. In these meetings I have tried to take a part in every decision we made. I have taken a responsibility in the assigned tasks at every meeting we have done so far. I have contributed in the creation of the requirements of the projects , I have created the scenario of mockup-2 and I have created the use case diagram with another group member. Also I take a part in the reviewing of the jobs have been done by other group members. I have joined the discussion and decision makings we have made according to feedbacks given by the course instructors.

Team Member	Contributions
Eray Kurtulus	I have attended the group meetings and tried to help the group share the weekly assignments. Apart from some minor personal tasks, I have created a user persona and the related user story, scenario, acceptance criteria. I have also contributed to the creation of sequence diagrams. Further, I have prepared the communication plan section of this milestone report.
Ufuk Yilmaz	I attended every group meeting so far, and I took part in the discussions to take group decisions. For most of the time, I have done my assigned jobs before their deadlines. If I had the opportunity, I reviewed my teammates' works and my friends helped when they needed help. In detail, I have edited the wiki and readme pages when some changes are needed. I have added some previously unreported requirements. I have done scenario and mockup-3(Megan Hoffman) with 2 of my friends. In another week, we created a class diagram with three teammates. I also created the design part of this milestone report.

5 Communication Plan

Audience	Purpose	Delivery Frequency	Place	Delivery Method	Communicator
All team members	Discussion about instant issues	All the time	Online	Slack, GitHub, WhatsApp, Doodle	None
All team members	Evaluation and weekly plan	Every Wednesday 18.00 - 19.00	BM Building	Face-to-face	Emirhan Saraç
Available team members	Performing the planned job together	Every Wednesday 19.00 - 20.00	BM Building	Face-to-face	Emirhan Saraç
All team members	Feedback about progress of tasks individually	Every Friday night	Online	Through WhatsApp	Emirhan Saraç
Available team members	Help and complete tasks that are not going to complete on-time	Every Saturday 12.00 - 18.00	BM Lounge	Face-to-face	None

6 Requirements

Glossary

- **Annotation:** A note by way of explanation or comment added to the text and article.
- **Article:** Documents for users of traders platform about trading that helping users to reach knowledge and share with other users.
- **Basic user:** Registered user authorized to write comments and articles.
- **Comment:** Basic and traders users' ideas about relevant investment or the stock market.
- **Economic Event:** Important economic developments such as Fed Interest Rate, GDP of countries, ECB Interest Rate, and more.
- **Events:** News or happenings about stock, economy and trade.
- **Follow:** An act using for a user can reach others article, investments, comments and share their owns with others.
- **Guests:** Users who are only authorized to read reviews and view trading equipment.
- **Investment:** Buying and selling trading equipment(indices, stocks, ETFs, commodities, currencies, funds, bonds, and cryptocurrencies) in order to make a profit.
- **Log in:** When a user logs in to the system with the information they provided signing up.
- **Password:** String of characters used for user authentication to prove identity.
- **Prediction Success Ratio:** A scale that shows what percent of user's predictions were successful.
- **Profile Page:** The page providing information about prediction specified trading equipment of users on certain assets and success ratio on these predictions.

- **Portfolio:** A collection of trading equipments that are owned by the user.
- **Semantic search:** Semantic search seeks to improve search accuracy by understanding the users' intent and the contextual meaning of terms as they appear in the searchable dataspace, whether on the Web or within a closed system, to generate more relevant results.
- **Significance Level:** Marks for how much reliable and important events and news.
- **Tag:** A categorical designation that attaches to various items.
- **Trading user:** A person who can post, comment, like and invest in any trading equipment
- **Trading equipment:** Bills of exchange, commodities, crypto coins, stock market shares etc.
- **Username:** The name that identifies user account to the system.

6.1 Functional Requirements

6.1.1 User Requirements

- 1.1.1. Common User Requirements
 - 1.1.1.1. Sign Up
 - * 1.1.1.1.1. Users shall sign up by following below steps.
 - 1.1.1.1.1.1. Users shall sign up by providing their username, password, name, surname, e-mail address, and location.
 - 1.1.1.1.1.1.1. Usernames and e-mail addresses shall be unique.
 - 1.1.1.1.1.1.2. User passwords shall be in the specified form.
 - 1.1.1.1.1.1.3. User location shall be specified via Google Maps.

- **1.1.1.1.2.** Users shall verify their accounts by following steps in the mail sent to the user e-mail address.
- * **1.1.1.1.2.** Users shall sign up via their Google account.
- **1.1.1.2. Sign In**
 - * **1.1.1.2.1.** Users shall sign in by providing their username and password.
 - * **1.1.1.2.2.** Users shall sign in via their Google account.
- **1.1.1.3. Password Change**
 - * **1.1.1.3.1.** Reset Password
 - **1.1.1.3.1.1.** Users shall be able to reset their password by requesting “Reset Password” operation at profile page.
 - **1.1.1.3.1.2.** Users should provide old password and new password they desire while logged in.
 - * **1.1.1.3.2.** Forget Password
 - **1.1.1.3.2.1.** Users shall be able to request “Forget Password?” operation when users forget their password at sign in page.
 - **1.1.1.3.2.2.** Users should provide e-mail address.
 - **1.1.1.3.2.3.** Users shall get e-mail that contains randomly generated new password from system.
- **1.1.1.4. Profile**
 - * **1.1.1.4.1.** Users shall have a profile either private or public.
 - **1.1.1.4.1.1.** Users with a private profile shall be followed in order to see the content of the private user.
 - * **1.1.1.4.2.** Users shall have at least one **portfolio**.
 - **1.1.1.4.2.1.** Users shall be able to rename their portfolio.
 - **1.1.1.4.2.2.** Users shall be able to add any trading equipment to their portfolio.

- * **1.1.1.4.3.** Users each prediction success rate should be visible on their profile page.
- **1.1.1.5. User actions**
 - * **1.1.1.5.1.** Users shall be able to share their portfolio on their profile page.
 - * **1.1.1.5.2.** Users shall be able to follow shared portfolios.
 - * **1.1.1.5.3.** Users shall be able to chase economic **events** and filter those events by considering the significance level and country base.
 - * **1.1.1.5.4.** Users shall have a “Profit/Loss” section that can show profit/loss amount in terms of currency they choose.
 - * **1.1.1.5.5.** Users shall be able to share their ideas(predictions) on any trading equipment.
 - **1.1.1.5.5.1.** Users shall be able to comment about predictions made by other users.
 - * **1.1.1.5.6.** Users shall be able to comment about any trading equipment.
 - * **1.1.1.5.7.** Users shall be able to follow other users.
 - * **1.1.1.5.8.** Users shall be able to send private messages to other users.
 - * **1.1.1.5.9.** Users shall be able to set alerts for certain trading equipment.
 - **1.1.1.5.9.1.** Users shall be able to set alerts for above or below of specific value on the trading equipment.
 - **1.1.1.5.9.2.** Users shall be able to set alerts for increase or decrease of specific change on the trading equipment.
 - * **1.1.1.5.10.** Users shall be able to see their search history.

- **1.1.2. Basic Users**

- **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. Trading Users**

- **1.1.3.1.** Trading users should 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.
- **1.1.3.2.** Trading users shall have “My Investment” section where they can invest in any trading equipment, make a buy order for a specified rate, and set stop/loss limits.
- **1.1.3.3.** Trading users shall provide financial services corporation name and regarding IBAN number, name and surname of card owner, and CCV number while signing up.

- **1.1.4. Guests**

- **1.1.4.1** Guests shall be able to view the price of trading equipment and read user comments about trading equipment.
- **1.1.4.2.** Guests shall be able to search, which includes semantic searching, for users and trading equipment.

- **1.1.5. Administrators**

- **1.1.5.1.** Admins shall be able to ban users for inconvenient behaviors.

6.1.2 System Requirements

- **1.2.1. Transaction**

- **1.2.1.1.** The system shall support transaction from users’ banking account to its account balance.

- **1.2.2. Notification**

- **1.2.2.1.** The system shall be able to notice if there is a private message from other users.
- **1.2.2.2.** The system shall be able to notify about following trading equipment.
- **1.2.2.3.** The system shall be able to recommend articles and trading equipment to users based on their history.

- **1.2.3. Interface**

- **1.2.3.1.** The system shall support Turkish characters.
- **1.2.3.2.** System interface language shall be English.

- **1.2.4. Database**

- **1.2.4.1.** The system shall store and update data for each user in the database:
 - * **1.2.4.1.1.** Users' search history
 - * **1.2.4.1.2.** Articles published by users and its comments
 - * **1.2.4.1.3.** Alerts set by users
 - * **1.2.4.1.4.** Investments made by Traders
 - * **1.2.4.1.5.** Portfolios
 - * **1.2.4.1.6.** Trading equipment and its comments
 - * **1.2.4.1.7.** Events
 - * **1.2.4.1.8.** Users' personal information

- **1.2.5. Trading equipment**

- **1.2.5.1.** The system shall support trading equipment as follow.
 - * **1.2.5.1.1.** Trade Indices
 - . **1.2.5.1.1.1.** Nasdaq 100

- **1.2.5.1.1.2** Dow 30
 - **1.2.5.1.1.3** SmallCap 2000
- * **1.2.5.1.2.** Stocks
 - **1.2.5.1.2.1** General Motors (GM)
 - **1.2.5.1.2.2** Google (GOOG)
 - **1.2.5.1.2.3** Apple (AAPL)
- * **1.2.5.1.3.** ETFs
 - **1.2.5.1.3.1** SPDR S&P 500 (SPY)
 - **1.2.5.1.3.2** iShares Russell 200 (IWM)
 - **1.2.5.1.3.3** Invesco QQQ (QQQ)
- * **1.2.5.1.4.** Commodities
 - **1.2.5.1.4.1** Gold
 - **1.2.5.1.4.2** Silver
 - **1.2.5.1.4.3** Copper
- * **1.2.5.1.5.** Currencies
 - **1.2.5.1.5.1.** System shall support most common currencies.
 - **1.2.5.1.5.2.** System shall have exchange rates for existing currencies.
 - **1.2.5.1.5.3.** System shall have currency converter tool.
 - **1.2.5.1.5.4.** Examples :
 - **1.2.5.1.5.4.1** Pound
 - **1.2.5.1.5.4.2** Euro
 - **1.2.5.1.5.4.3** Dollar
- * **1.2.5.1.6.** Bonds
 - **1.2.5.1.6.1** Municipal Bond Mutual Funds
 - **1.2.5.1.6.2** International Bond Mutual Funds
 - **1.2.5.1.6.3** Investment Grade Corporate Bond Mutual Funds
- * **1.2.5.1.7.** Cryptocurrencies

- **1.2.5.1.7.1** Bitcoin
 - **1.2.5.1.7.2** Litecoin
 - **1.2.5.1.7.3** Etherium
- **1.2.5.2.** Each trading equipment should include many functionalities as follow.
 - * **1.2.5.2.1.** The previous close
 - * **1.2.5.2.2.** Percentage change with the previous close
 - * **1.2.5.2.3.** Amount change with the previous close
 - * **1.2.5.2.4.** Day's range
 - * **1.2.5.2.5.** Moving averages

- **1.2.6. Search Mechanism**

- **1.2.6.1.** The system shall support search with keywords.
 - * **1.2.6.1.1.** The system shall support searching for users, trading equipment, and economic events.
 - * **1.2.6.1.2.** The system shall support some semantic search mechanism to find semantically similar users and trading equipment based on the context information provided in the semantic tags.
 - * **1.2.6.1.3.** The system shall enable the users to search for the other users in a specific location.

6.2 Non-functional Requirements

6.2.1 Availability and Accessibility

- **2.1.1.** The application shall have a native web and native mobile (Android) client.

- **2.1.2.** The application shall be deployable on a remote and manually configurable server.
- **2.1.3.** The application shall be available in English.
- **2.1.4.** The system should be able to continue operating properly in the event of the failure.
- **2.1.5.** The number of system failures shall happen at most once in a year.

6.2.2 Annotations

- **2.2.1.** Annotations shall be congruent with the specifications of The W3C Web Annotation Data Model.
- **2.2.2.** The platform shall follow W3C Web Annotation Protocol so that the contents (e.g., graph, figure, comment) can be annotated by users.

6.2.3 Performance

- **2.3.1.** The system shall respond to requests in 3 seconds.
- **2.3.2.** The system should be able to respond up to 1000 requests per second.
- **2.3.3.** The system shall be able to support up to 100000 users.

6.2.4 Privacy

- **2.4.1.** Personal data of users cannot be used explicit consent.
- **2.4.2.** Processing personal data like location shall be asked for permission.
- **2.4.3.** How Information About You is Shared
- **2.4.4.** Your Choices

6.2.5 Security

- **2.5.1.** Users shall be forced to change their passwords 6 months after registration or the latest password change.
- **2.5.2.** Users shall be prevented to construct his/her password with well-known public pieces of information such as his name or his birthday.

7 Mockups

7.1 Scenario 1

- Atılgan opens up the site home page and continues as a guest.

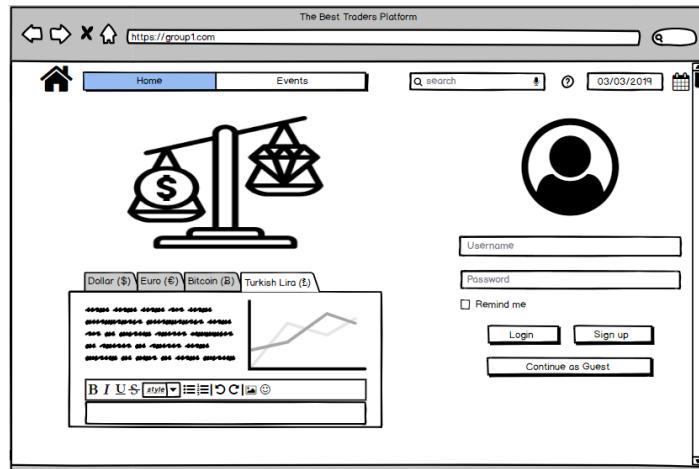


Figure 1: Main page

- He searches for Pınar Çatmaz, who is successful business women.



Figure 2: Searching a user

- But he is unable to see that information as a guest.

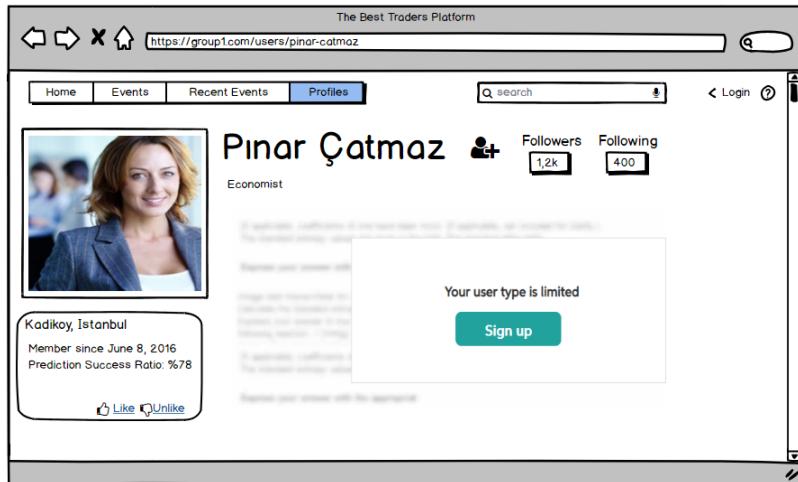


Figure 3: Limited user notification

- He signed up as a basic user in order to see all profile of Pınar Çatmaz.

Figure 4: Register page

- He is now following Pinar and can view her investments.

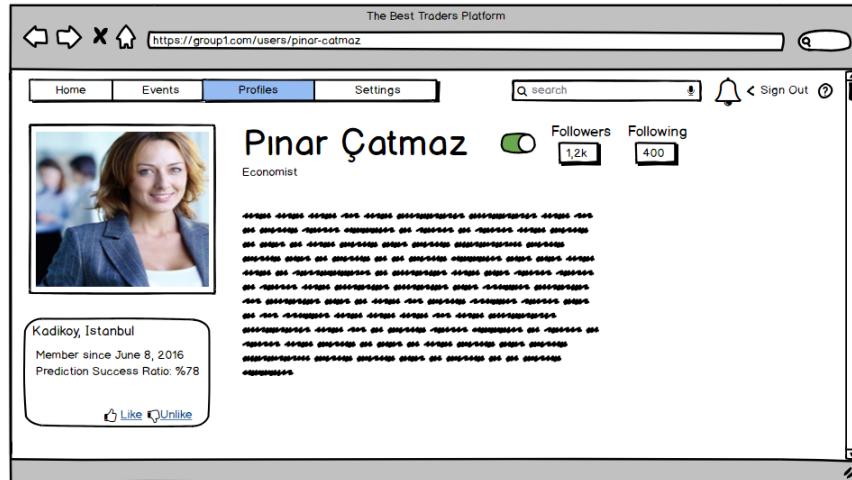


Figure 5: Following a user

- He also starts chasing 3-star events and he learns that Bitcoin is up-and-coming.

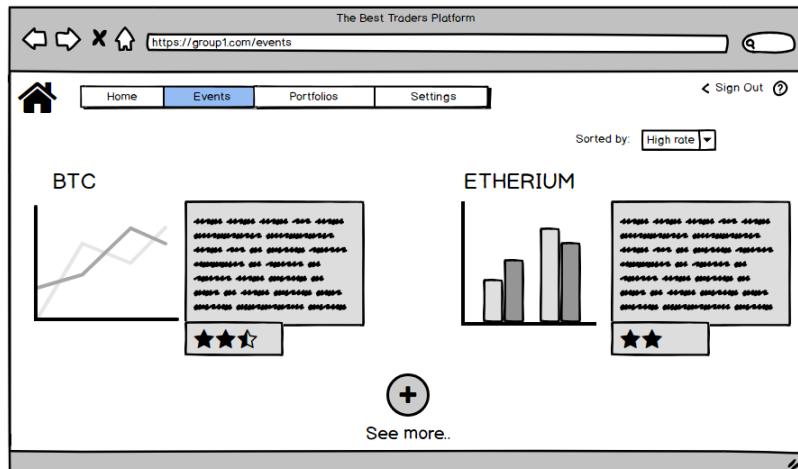


Figure 6: Viewing events

- He searches Bitcoin and reviews the day's change and moving averages.

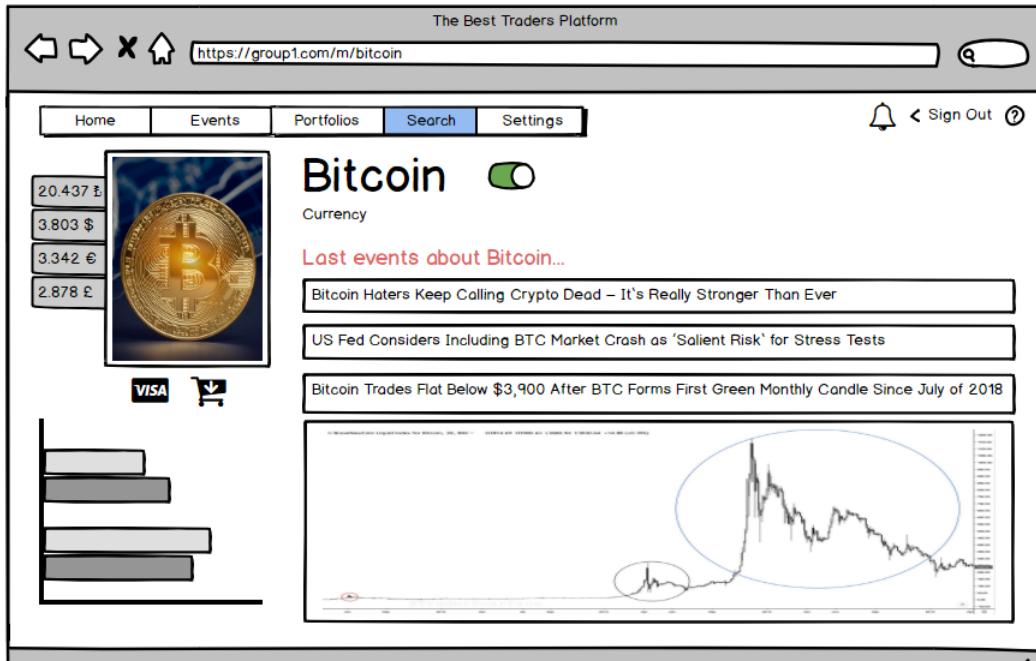


Figure 7: Bitcoin page

7.2 Scenario 2

- Bilo searches gold as a commodity.

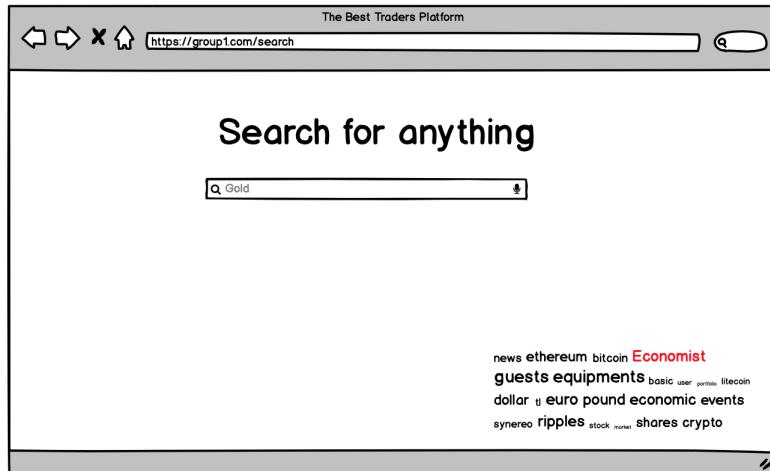


Figure 8: A search example

- Bilo notices most viewed article about gold written by Megan Hoffman and clicks to see its personal page.

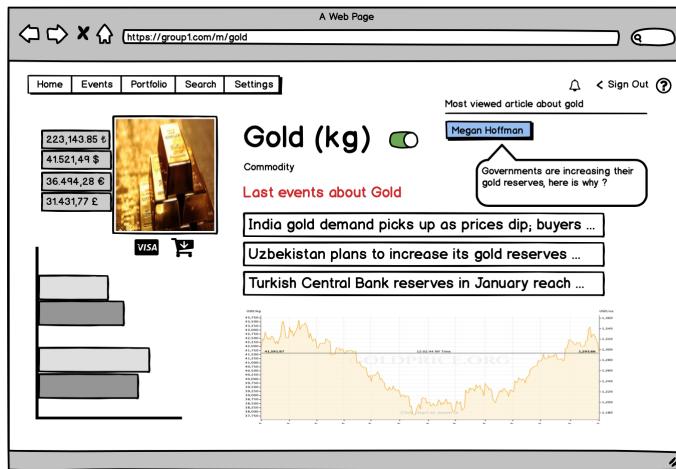


Figure 9: Checking gold's page

- Bilo finds that Megan Hoffman is a professional and a great trading user with a high percentage of success ratio, then clicks follow Megan Hoffman and its portfolio.



Figure 10: Viewing a profile

- Bilo comments on the post where Megan Hoffman made some predictions about gold reserves.

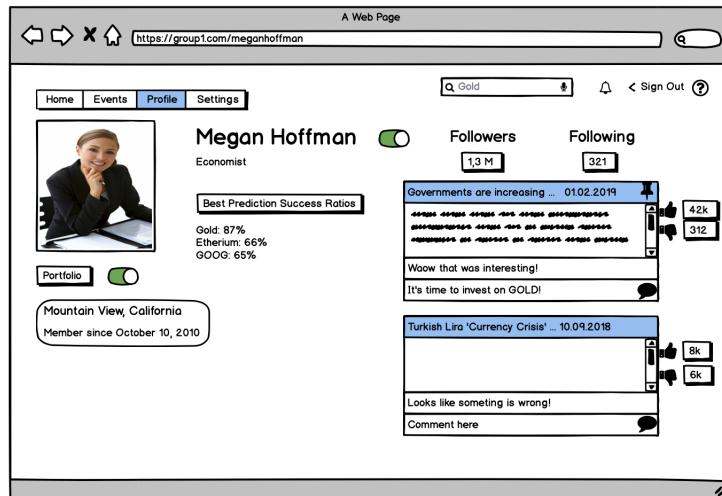


Figure 11: Commenting on a post

- Bilo decides to invest on gold and searches gold again. Then, invests 100k tl on gold.



Figure 12: Making an investment

- Bilo sets alert about the gold he bought so that he could sell them on the price he is willing to.

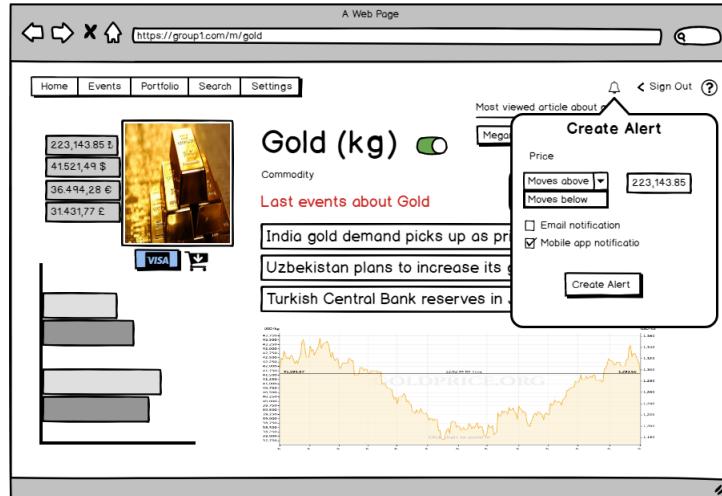


Figure 13: Creating an alert

7.3 Scenario 3

Megan Hoffman is trader user that works in the finance sector. She has large investments in stocks and she is very knowledgeable in economic and financial issues.

- Megan opens up the site home page.

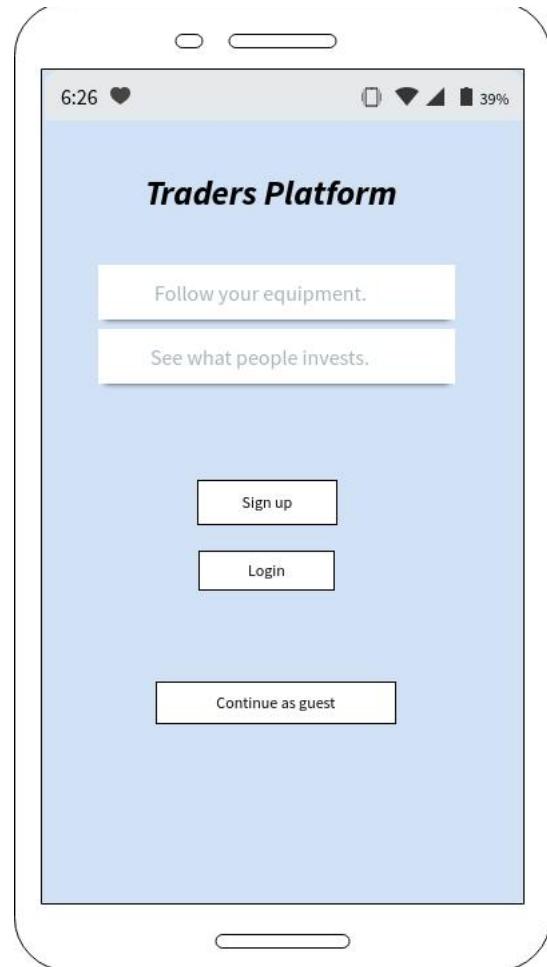


Figure 14: Home page

- She chooses to sign up with her Google account instead of writing up her personal information. After that she logins with her Google account.

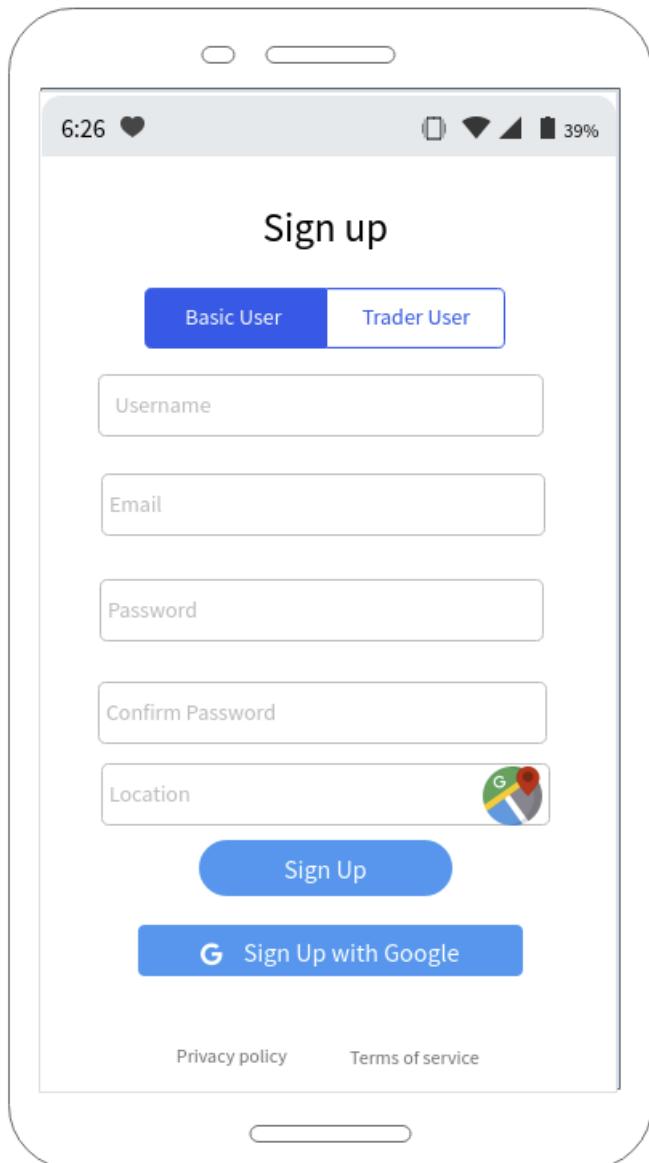


Figure 15: Sign up page

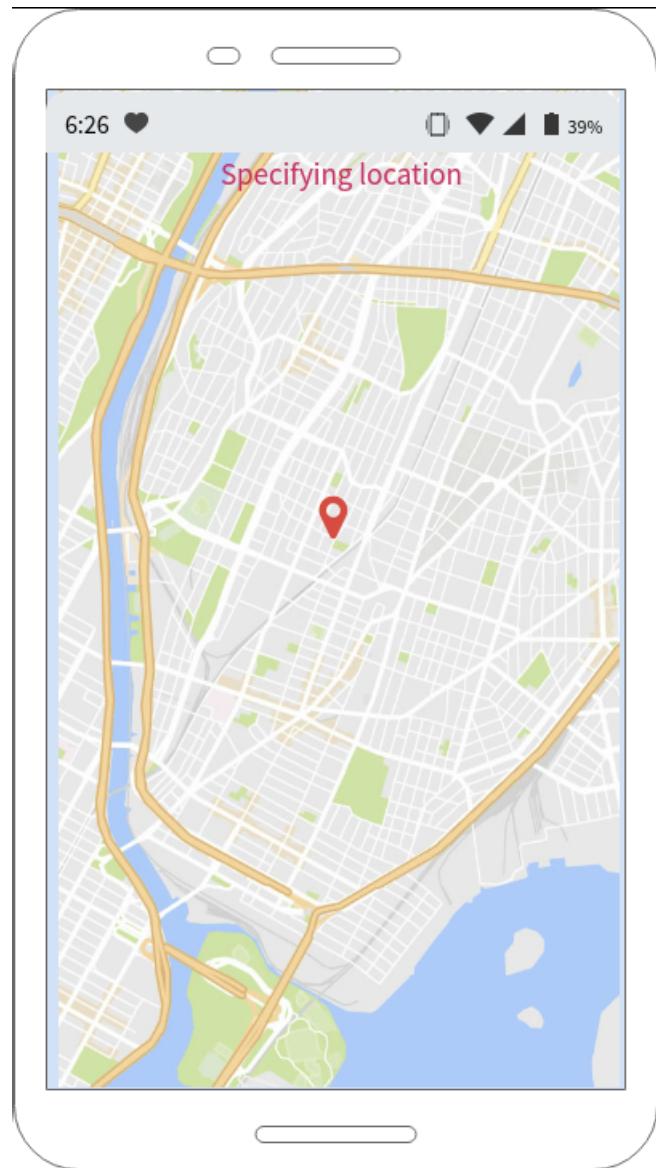


Figure 16: Specifying location

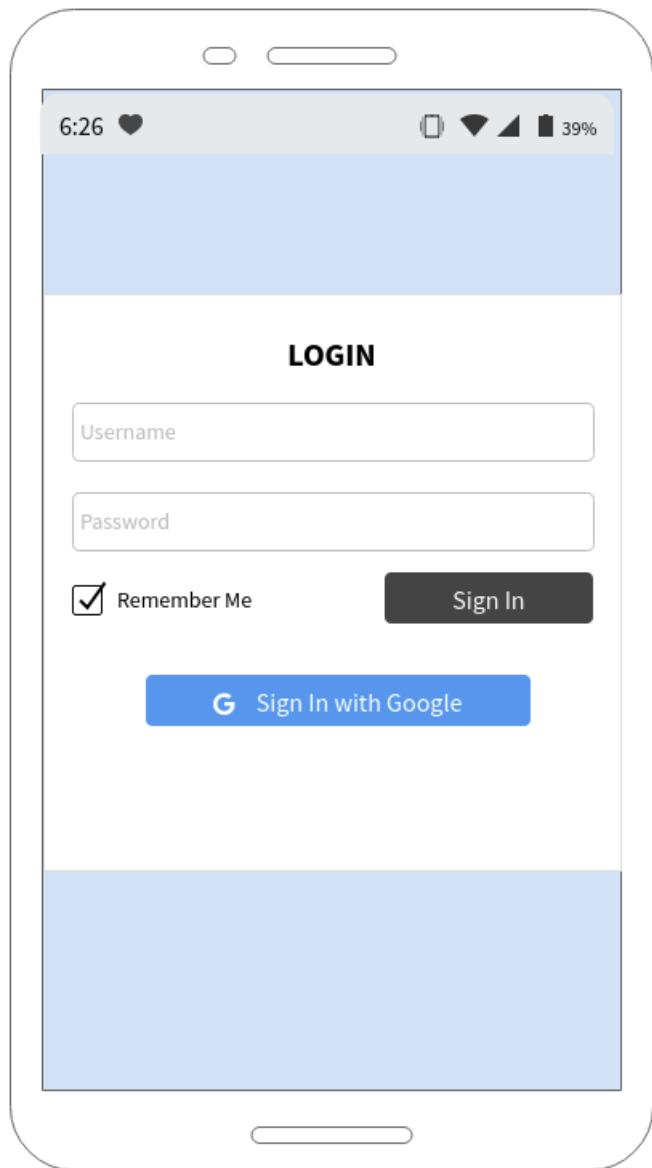


Figure 17: Login page

- After logging in to her account she looks at some recent economic events.

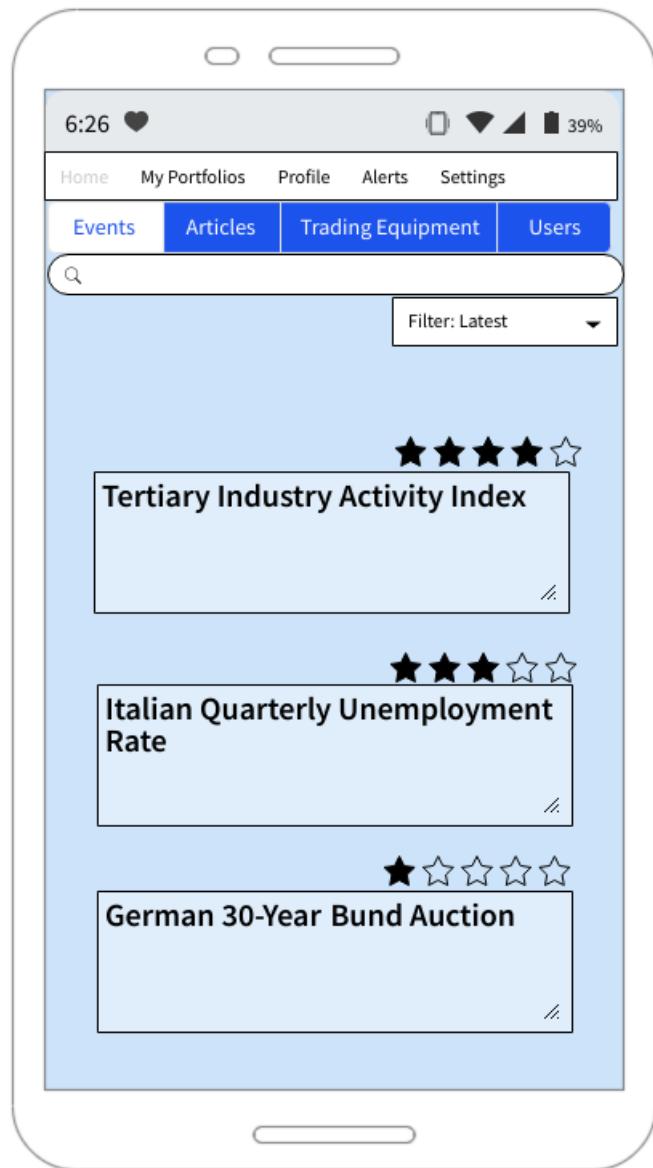


Figure 18: Viewing recent economic events

- She then filters those economic events according to their significance level.

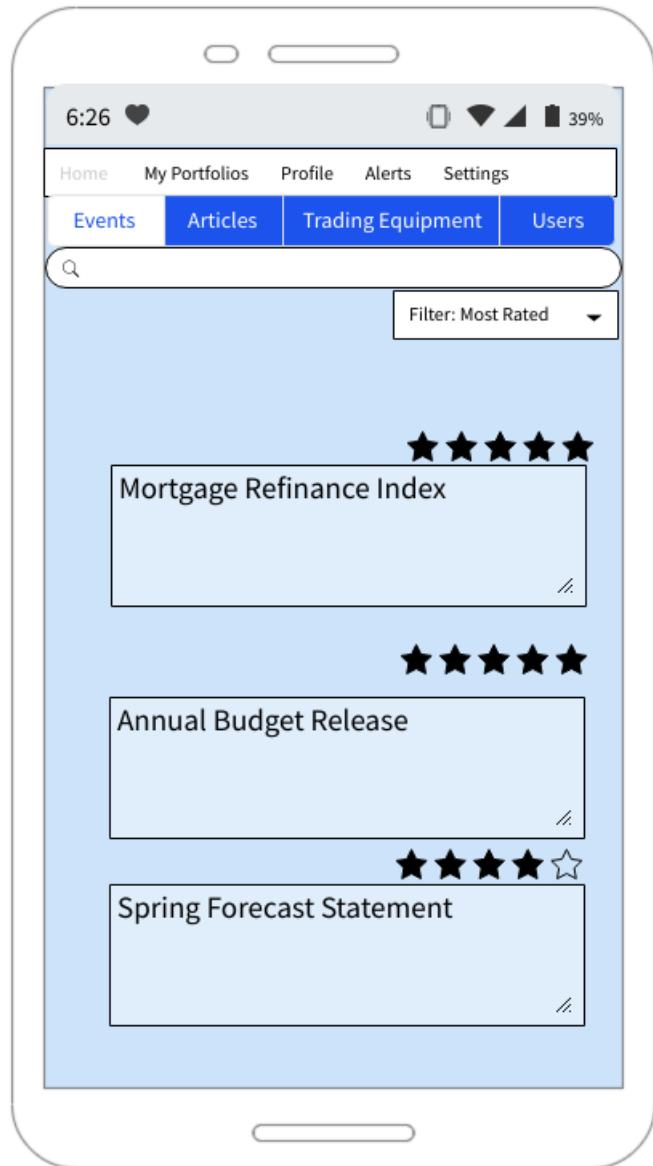


Figure 19: Filtering recent economic events example

- She clicks the button to access information about trading equipment.

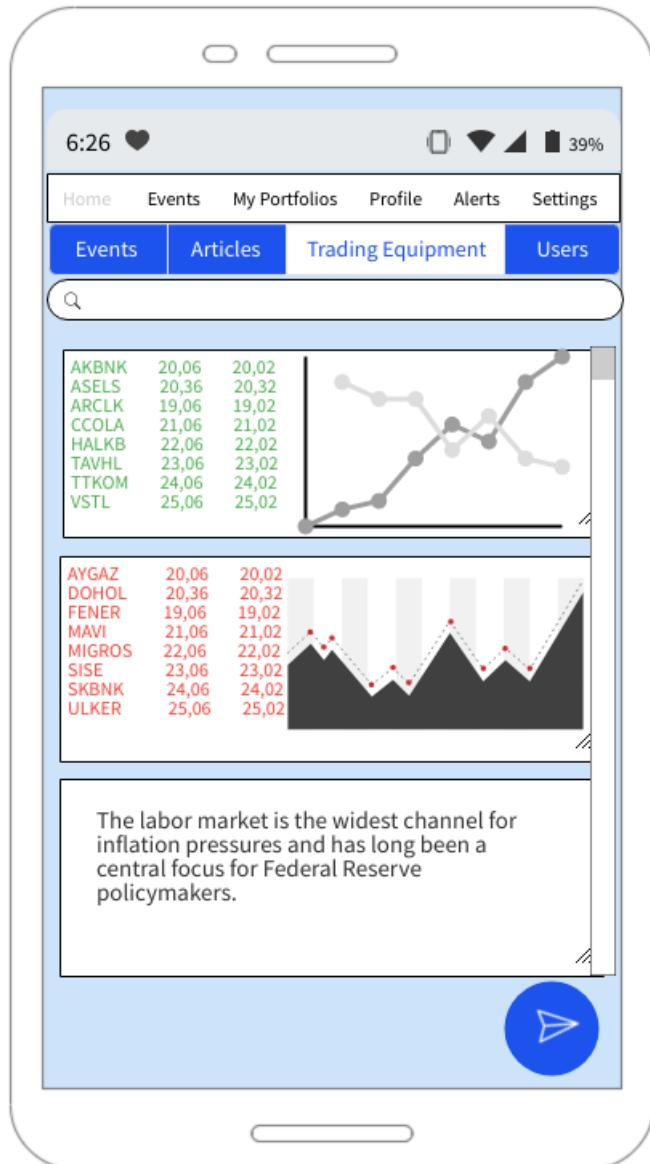


Figure 20: Viewing trading equipment

- She reviews some information and comments on a piece of trading equipment.

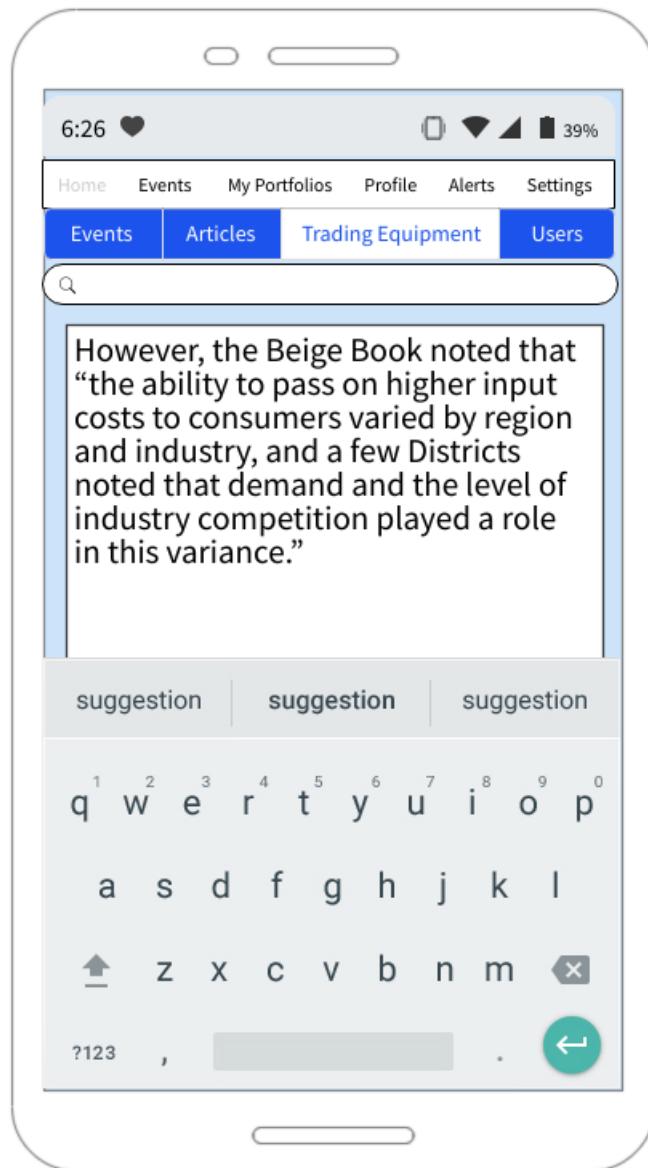


Figure 21: Commenting on trading equipment

- She goes to her own profile page and checks how many followers she has. Then she takes a glance at her prediction success rate and thinks that she can do even better than this.

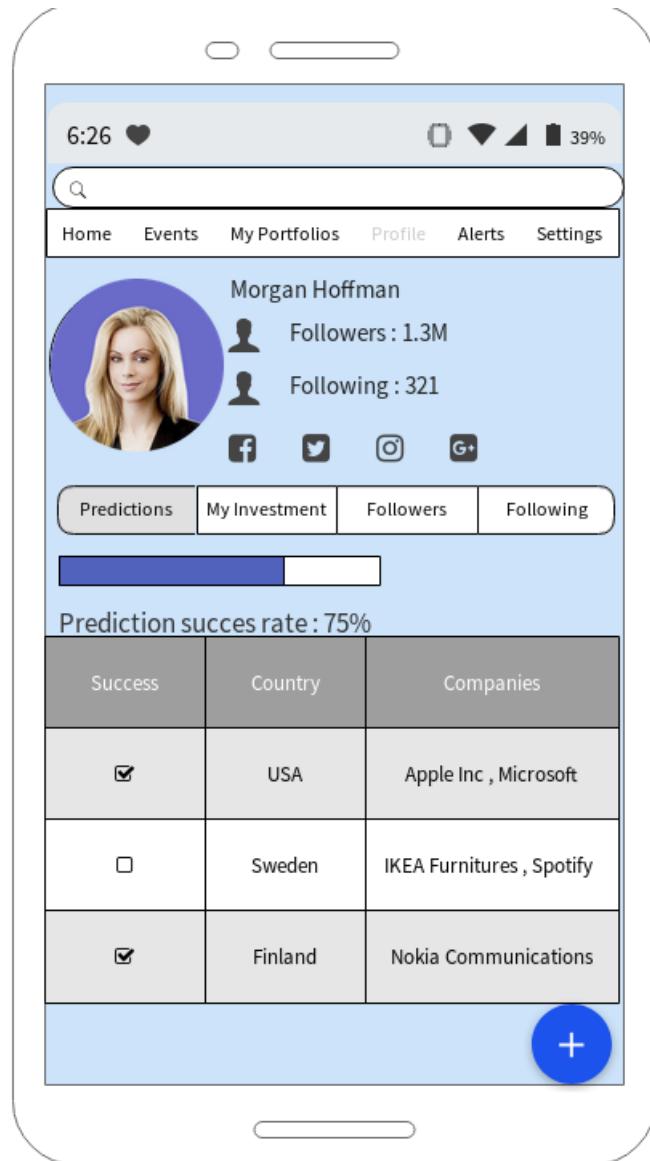


Figure 22: Viewing a profile

- She clicks the "My Investment" section and makes some investments.

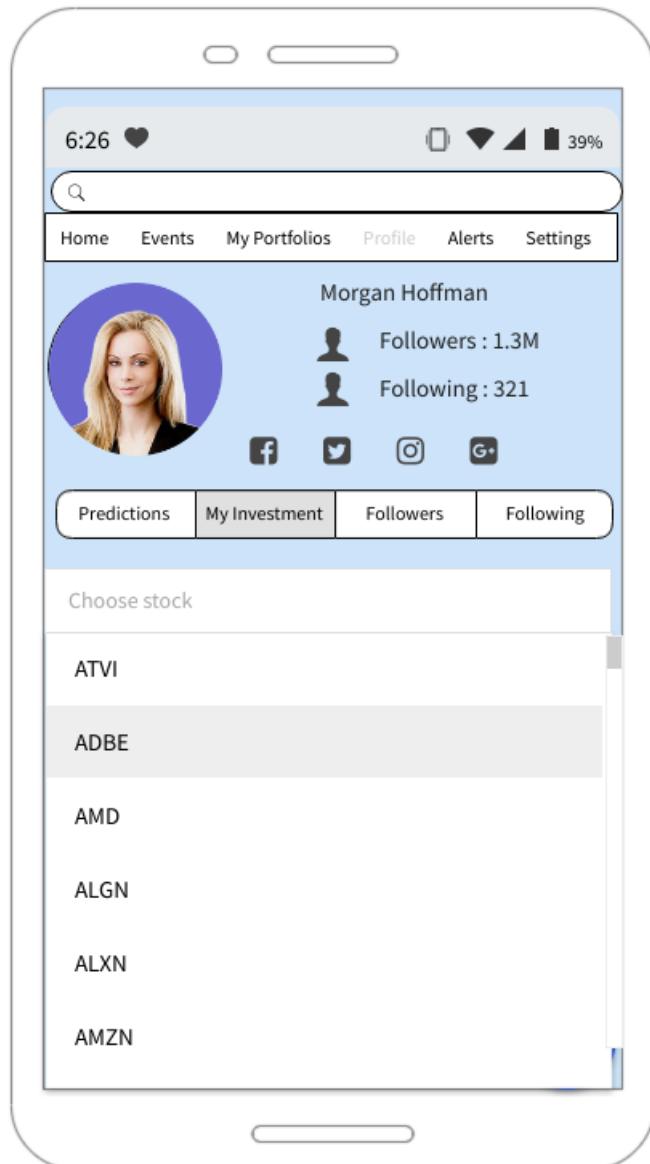


Figure 23: Making an investment

8 Design(UML Diagrams)

8.1 Use case Diagram

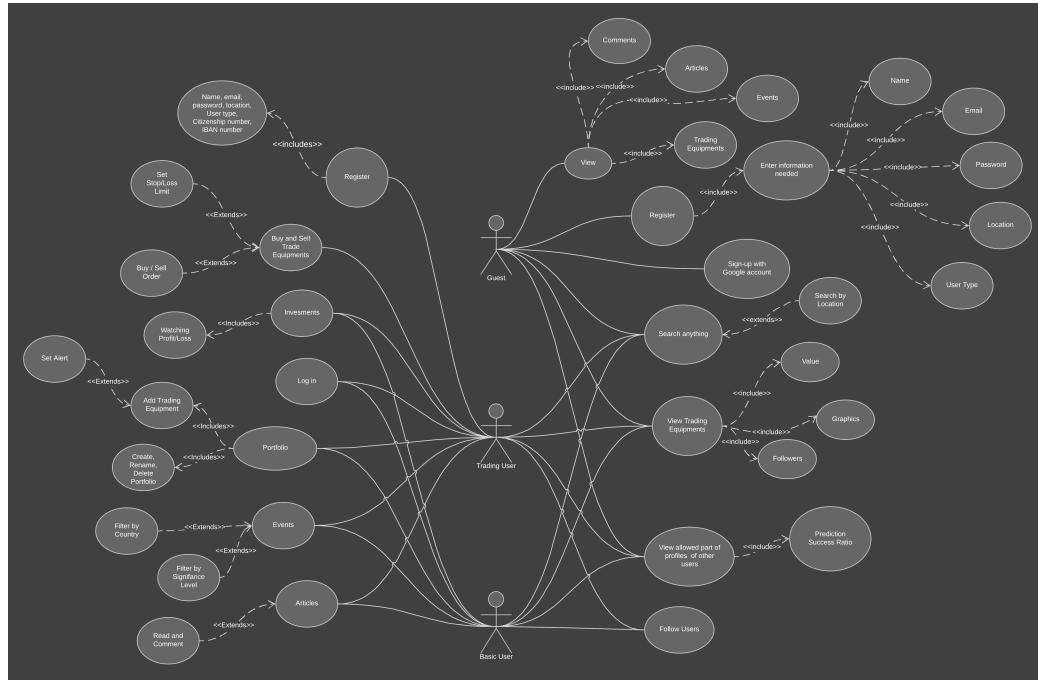


Figure 24: Use Case Diagram of Traders Platform

8.2 Class Diagram

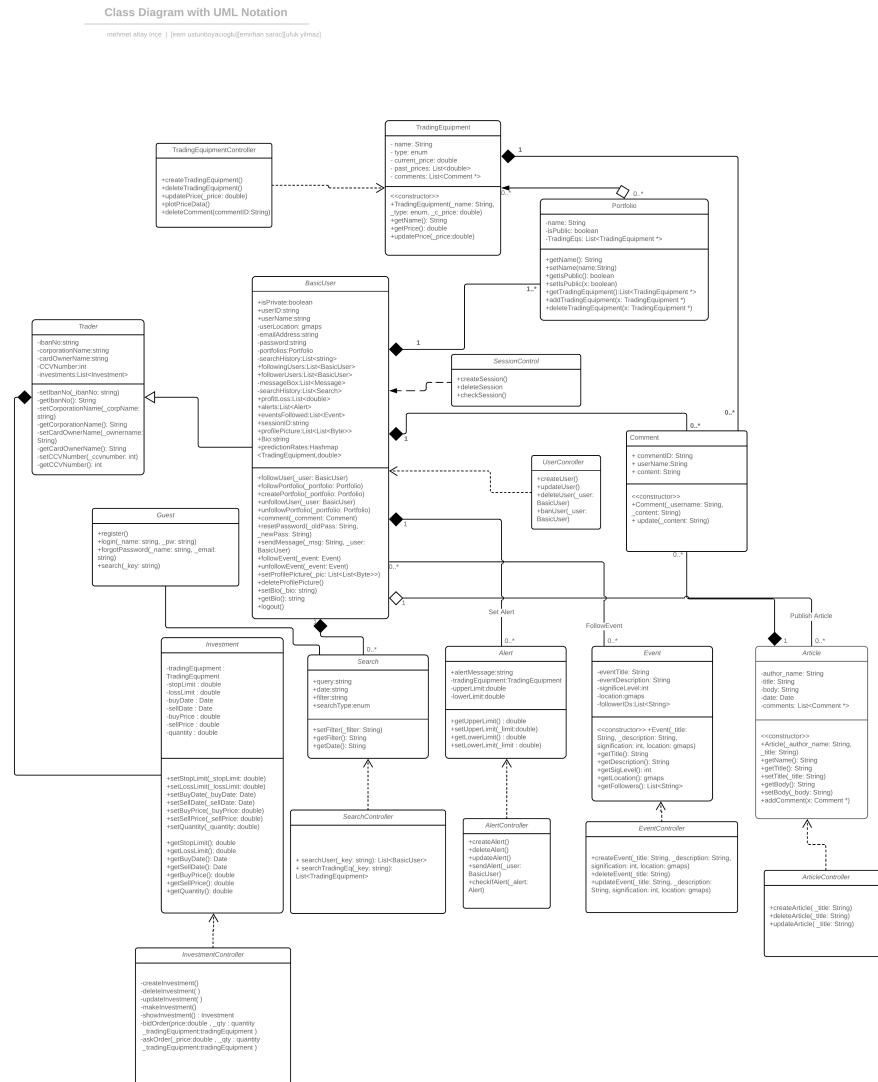


Figure 25: Class Diagram of Traders Platform

8.3 Sequence Diagrams

8.3.1 Register

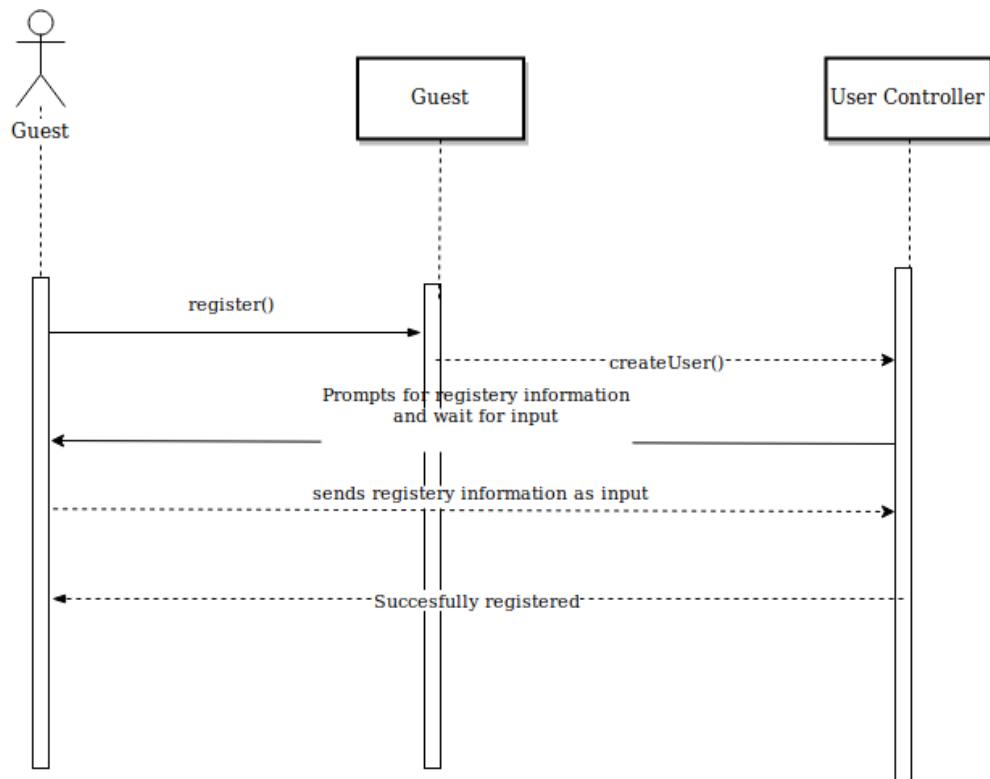


Figure 26: Register to Traders Platform

8.3.2 Login

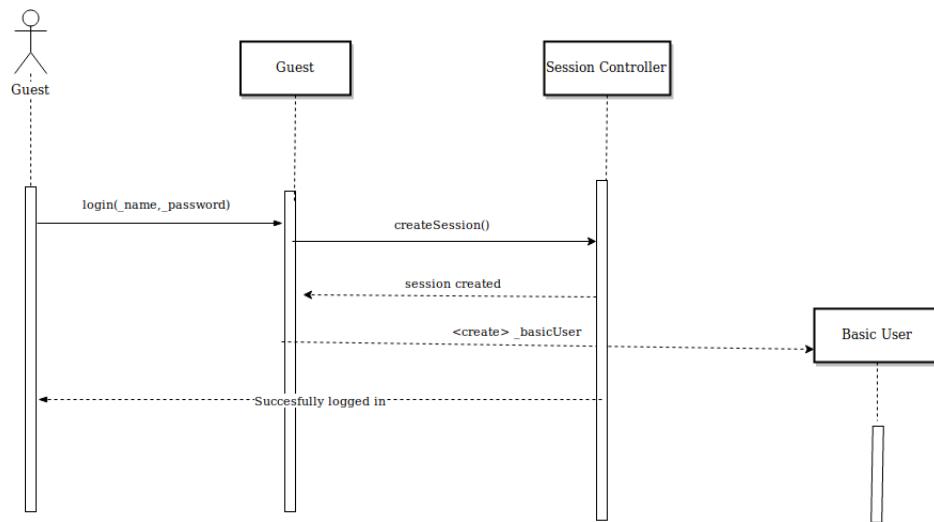


Figure 27: Login to Traders Platform

8.3.3 Article

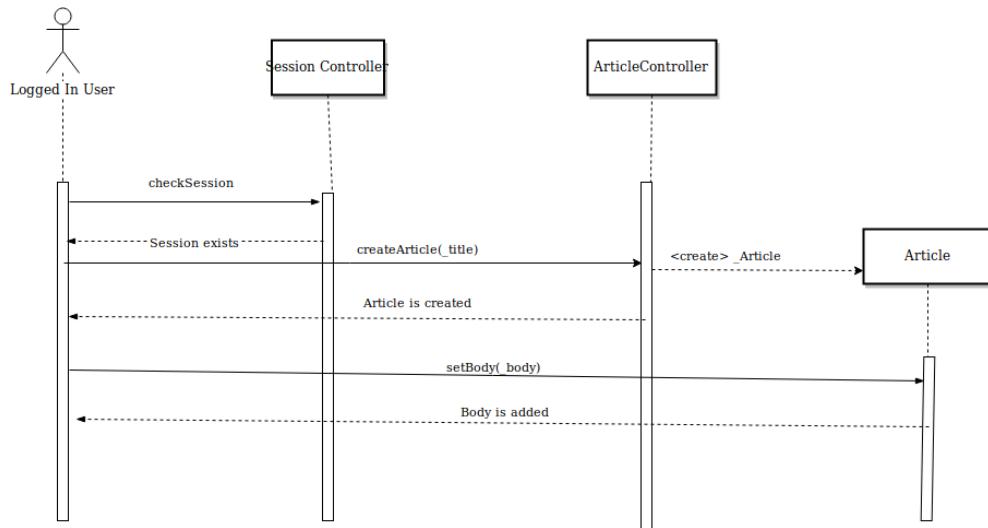


Figure 28: Publish an Article

8.3.4 Investment

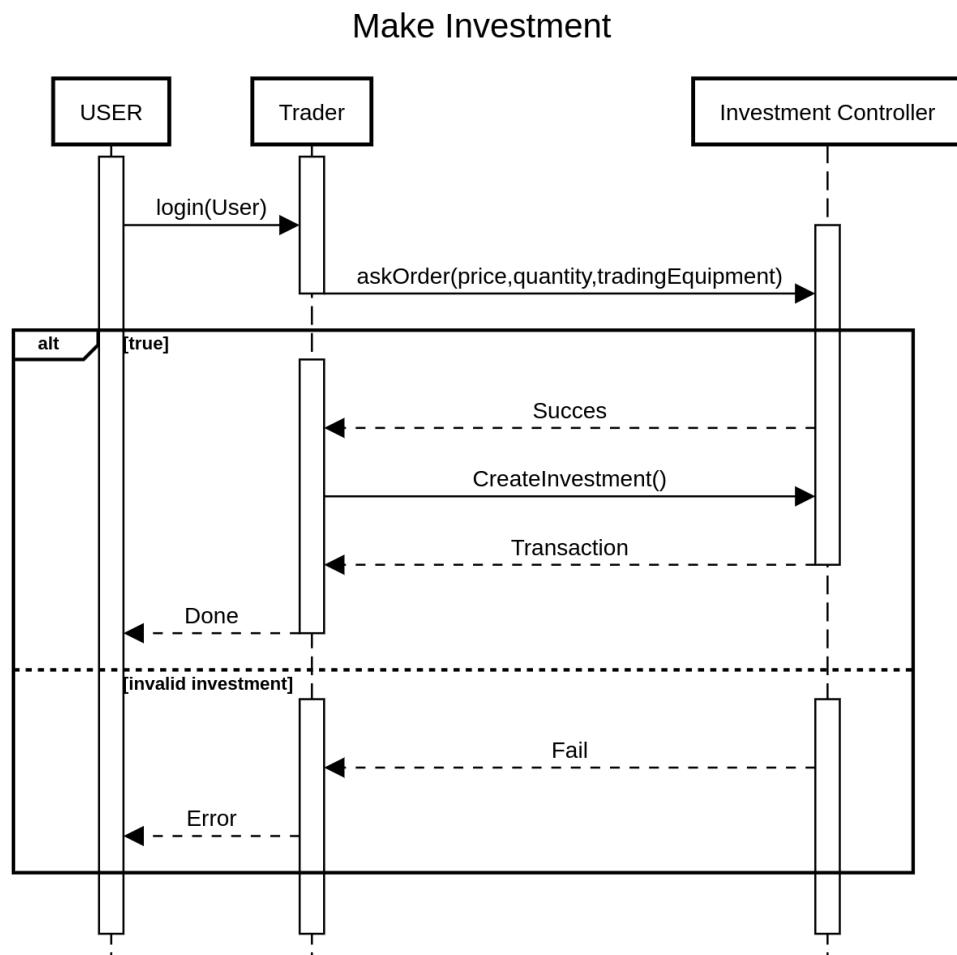


Figure 29: Make an Investment

8.3.5 Search

User Search

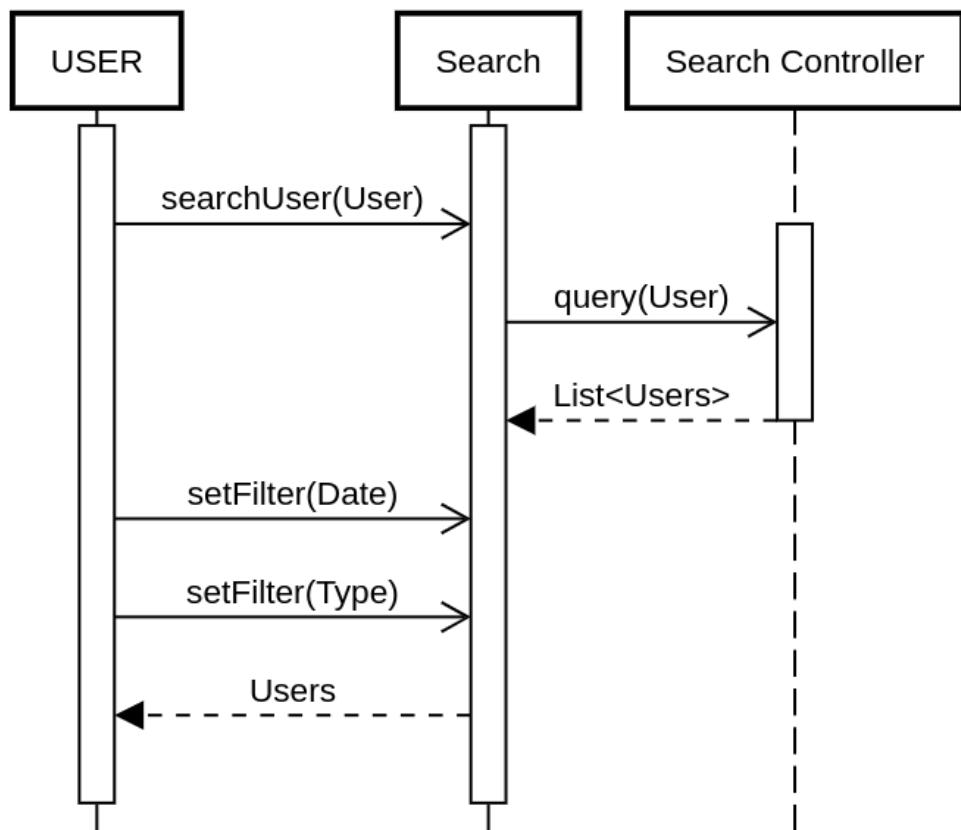


Figure 30: Search for a User

8.3.6 Event

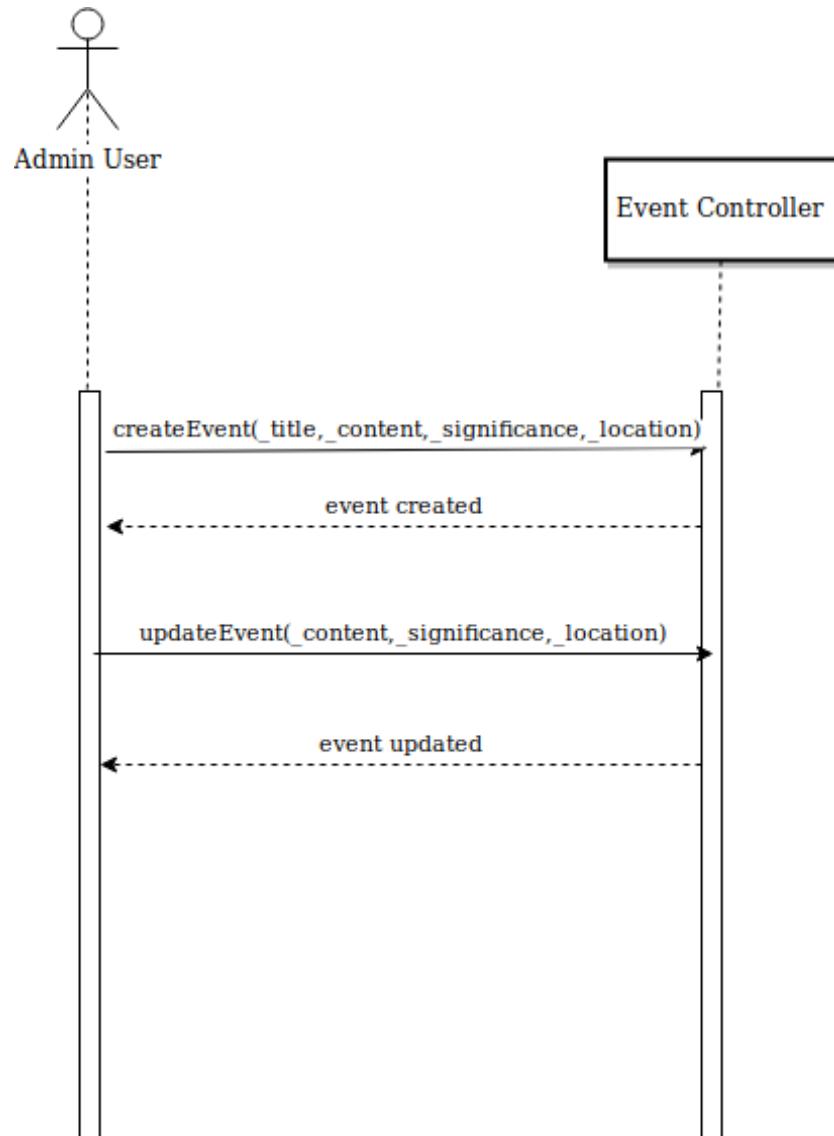


Figure 31: Create and Update an Event

8.3.7 Portfolio

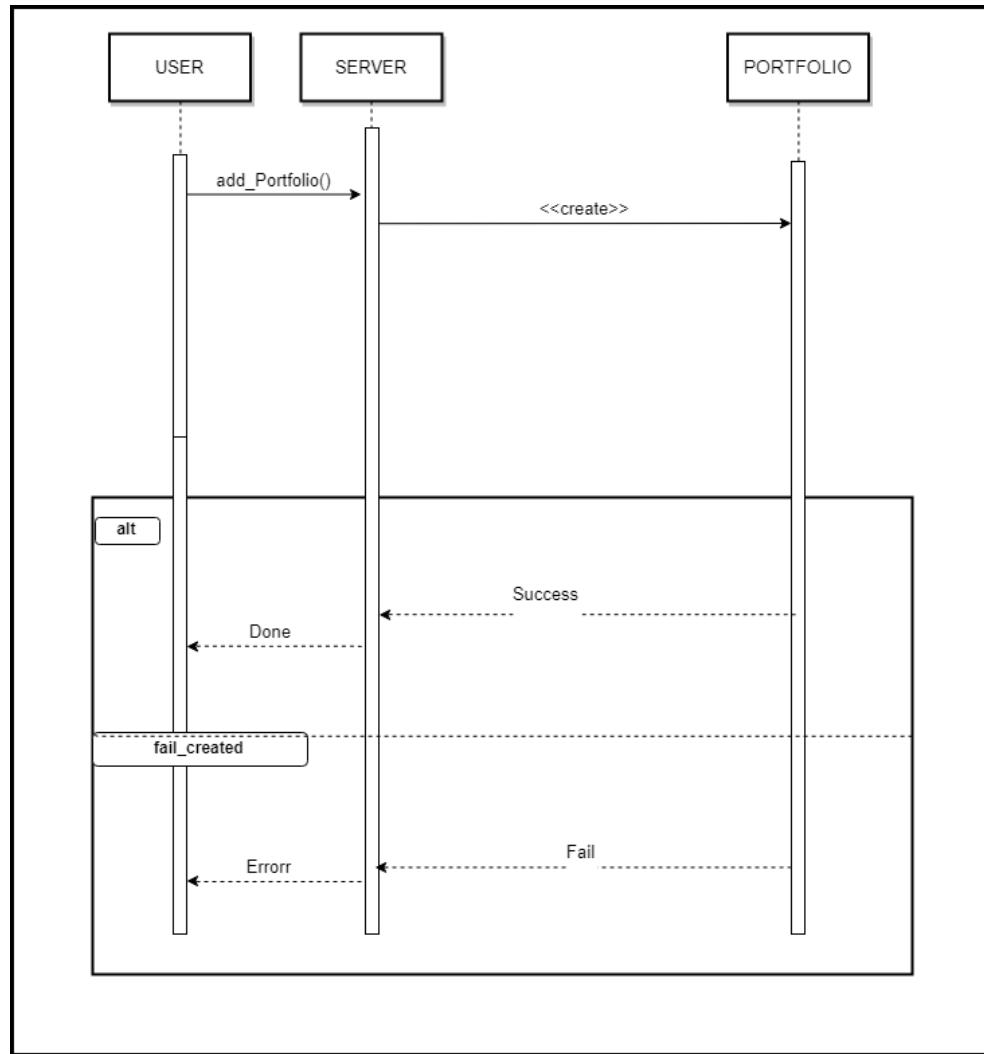


Figure 32: Create a Portfolio

8.3.8 Follow User Profile

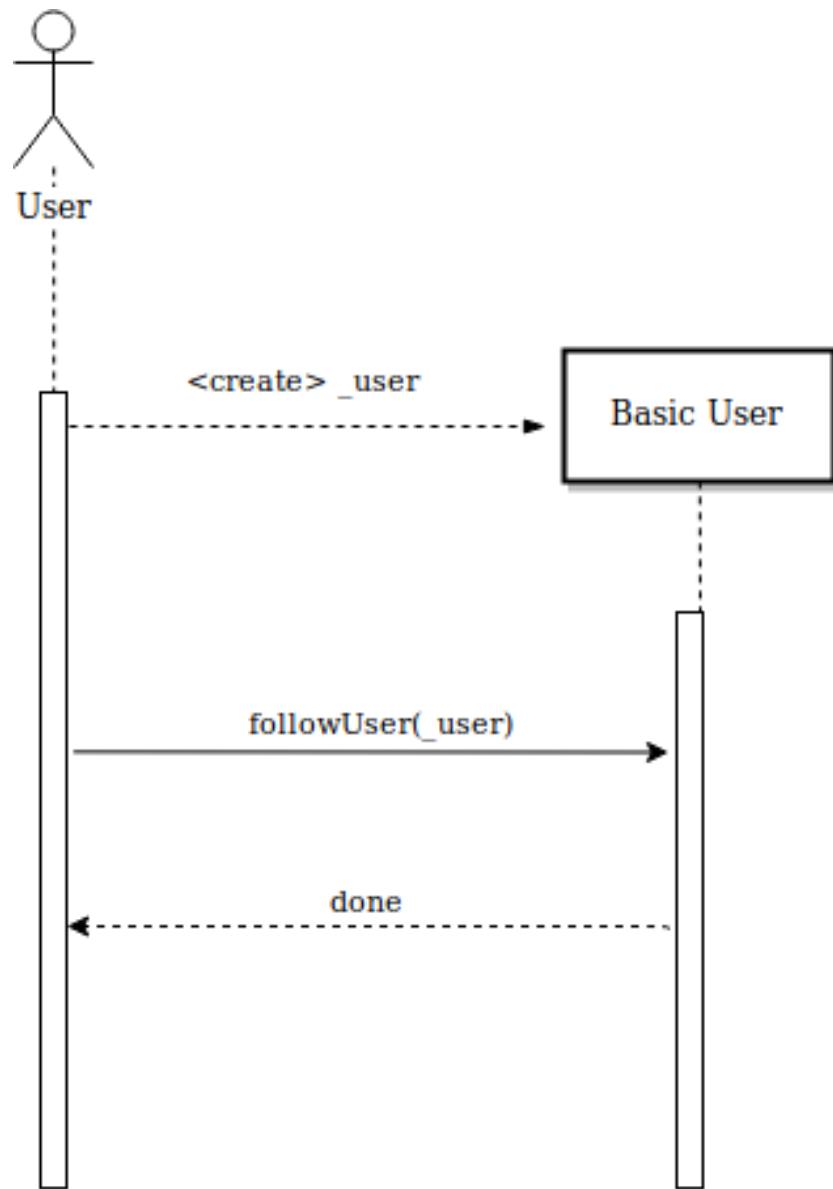


Figure 33: Follow a User