2019A.sofer
Farmground

Date: 07/01/19
Students:

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Introduction

‘Farmground’ is a realistic game platform for simulating the management of a virtual farm.

In order to create a realistic platform, Farmground will provide the experience of dealing with real-life farm tasks as planting seeds and harvest their crops. For each task the players will earn ‘Farmpoints’.

Additionally, Farmground will contain the ‘Farmground Messages Board’, where players can post messages and use it as a forum.

Purpose of System

The purpose of the system would be using the platform as a game for players around the world and gives them opportunity to be a farmers.

Scope of System

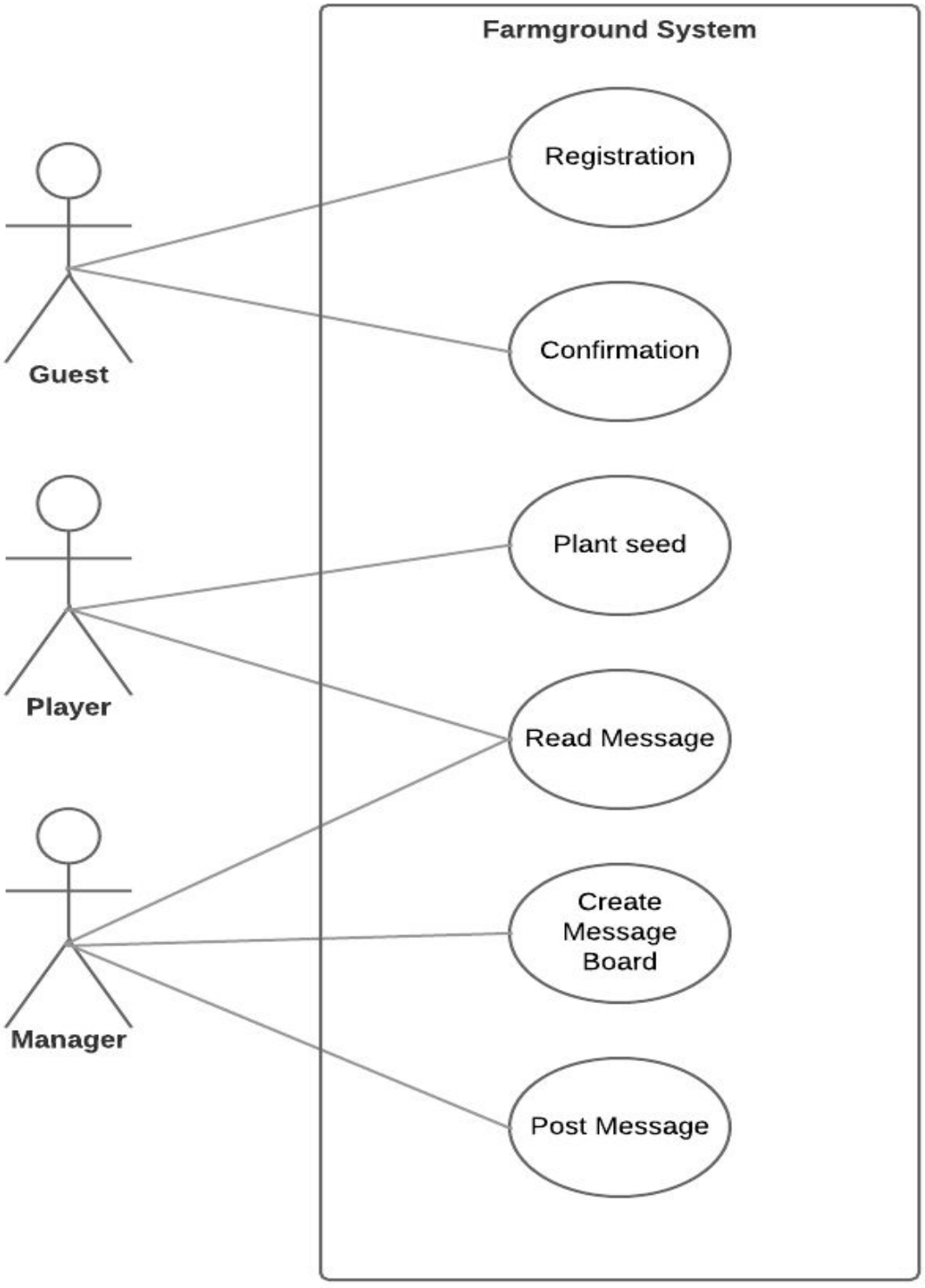
The system will allow the players planting vegetables.
The system will allow the players to read messages from the Farmground - Messages Board.
The system will give Farmpoints to players after completing tasks.

Actors and Goals

Actors Names	Primary/ Support	Description	Goals
Manager	Primary	Can create message board and post messages to the board	Update the players in everything that happens on the farm
Player	Primary	Can plant seeds and read messages from the board	Earn Farmpoints
Guest	Primary	Non-Registered player	To register to Farmground

Functional Requirements

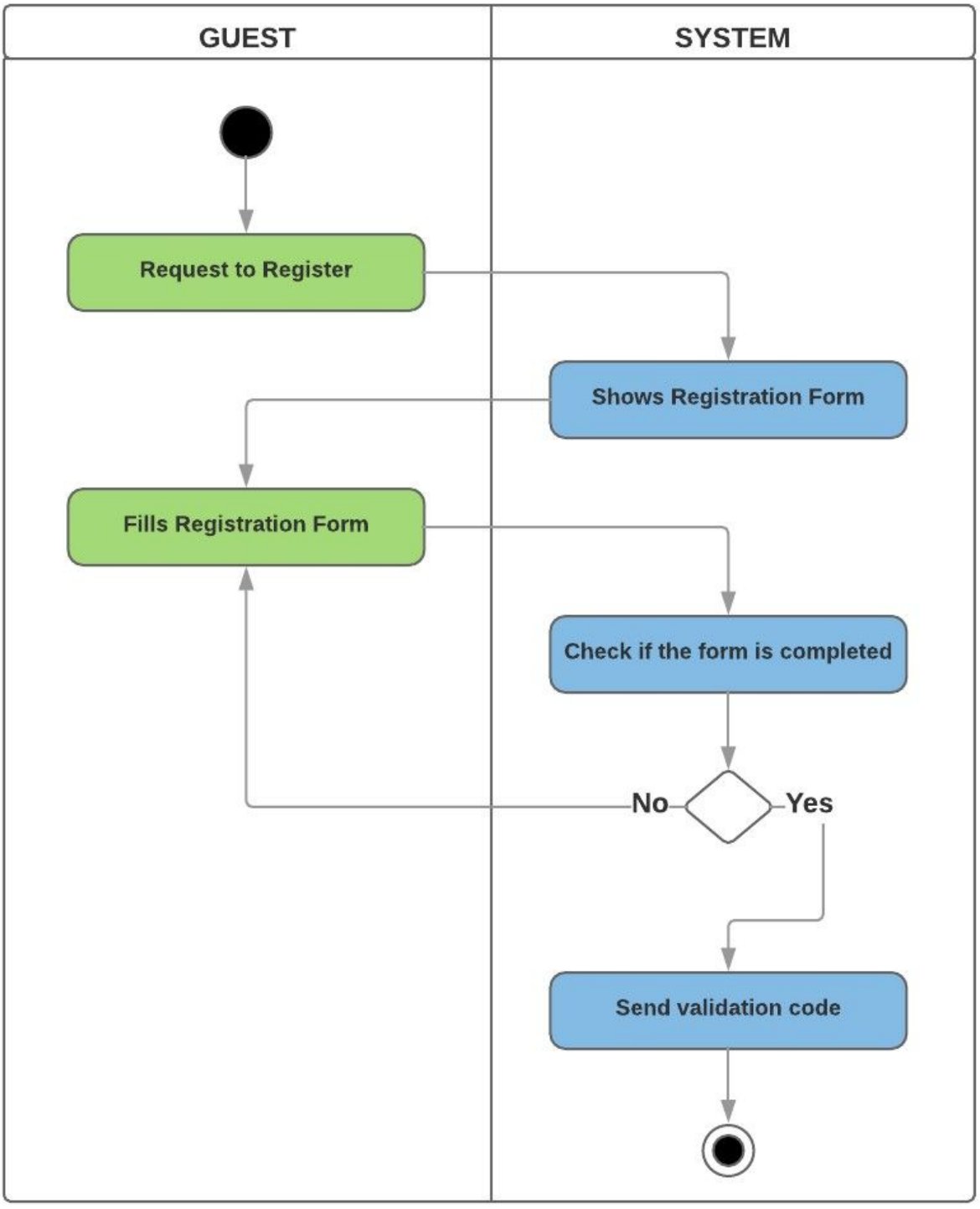
Use Case Diagram



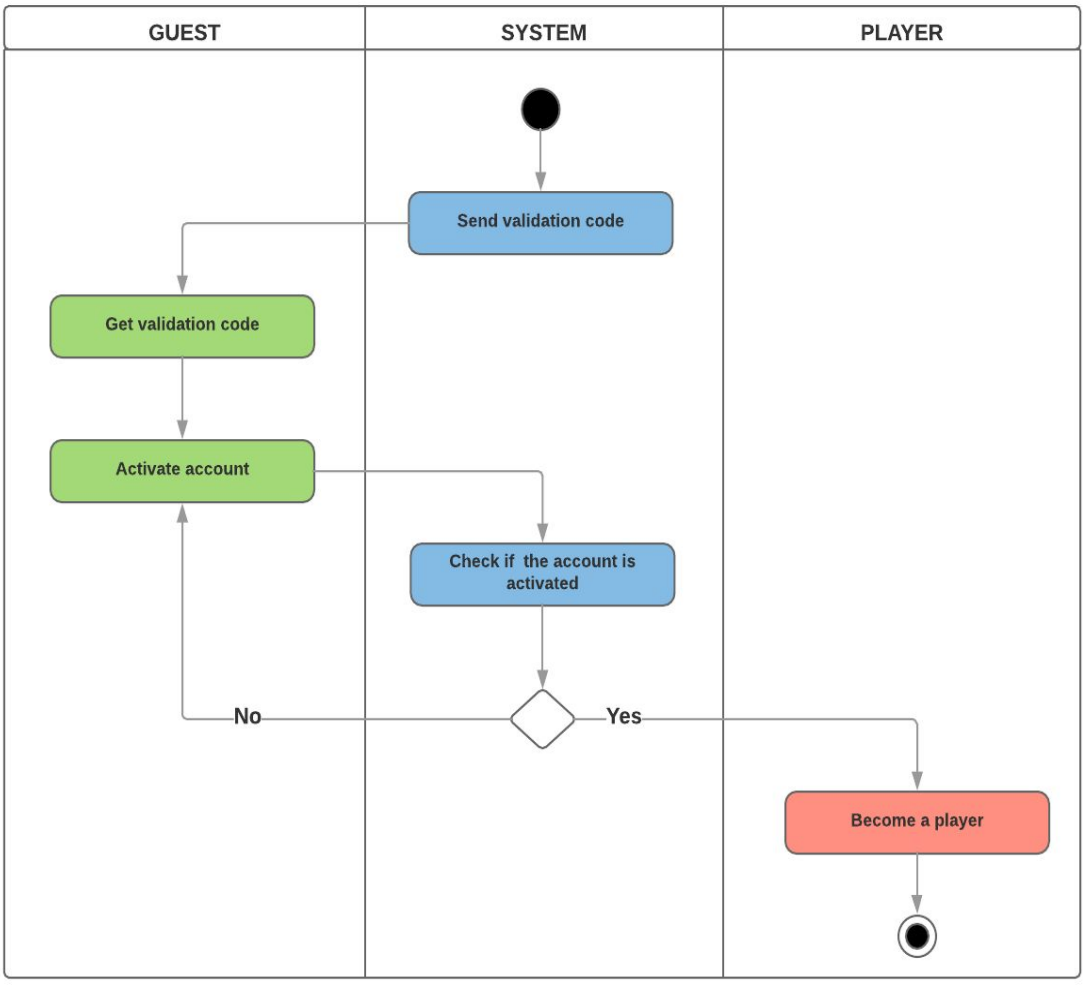
Use Case Details

Use Case: Registration

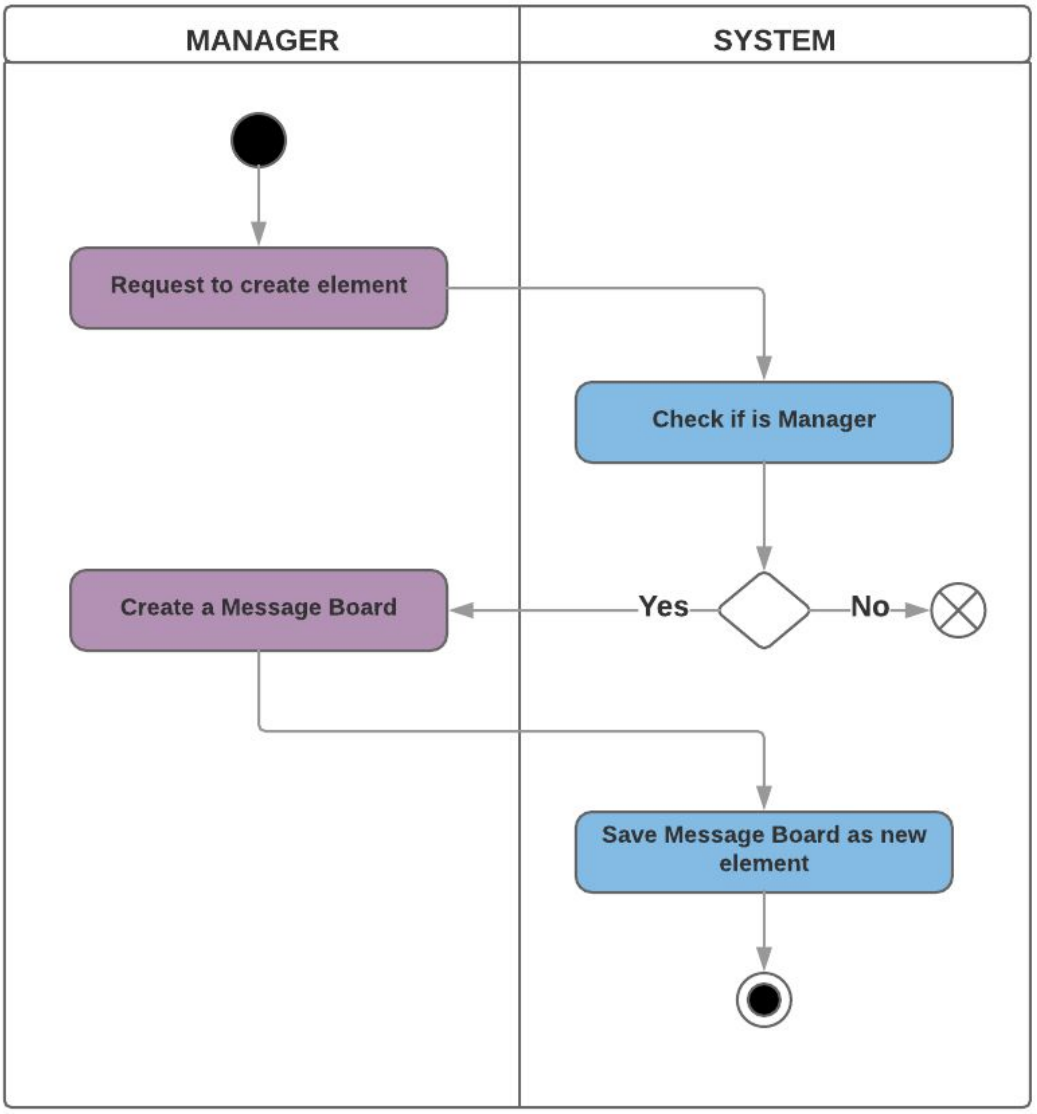
Participating Actors: Guest
Goal: To register to Farmground



Use Case: Confirmation
Participating Actors: Guest
Goal: To validate the account and become a player

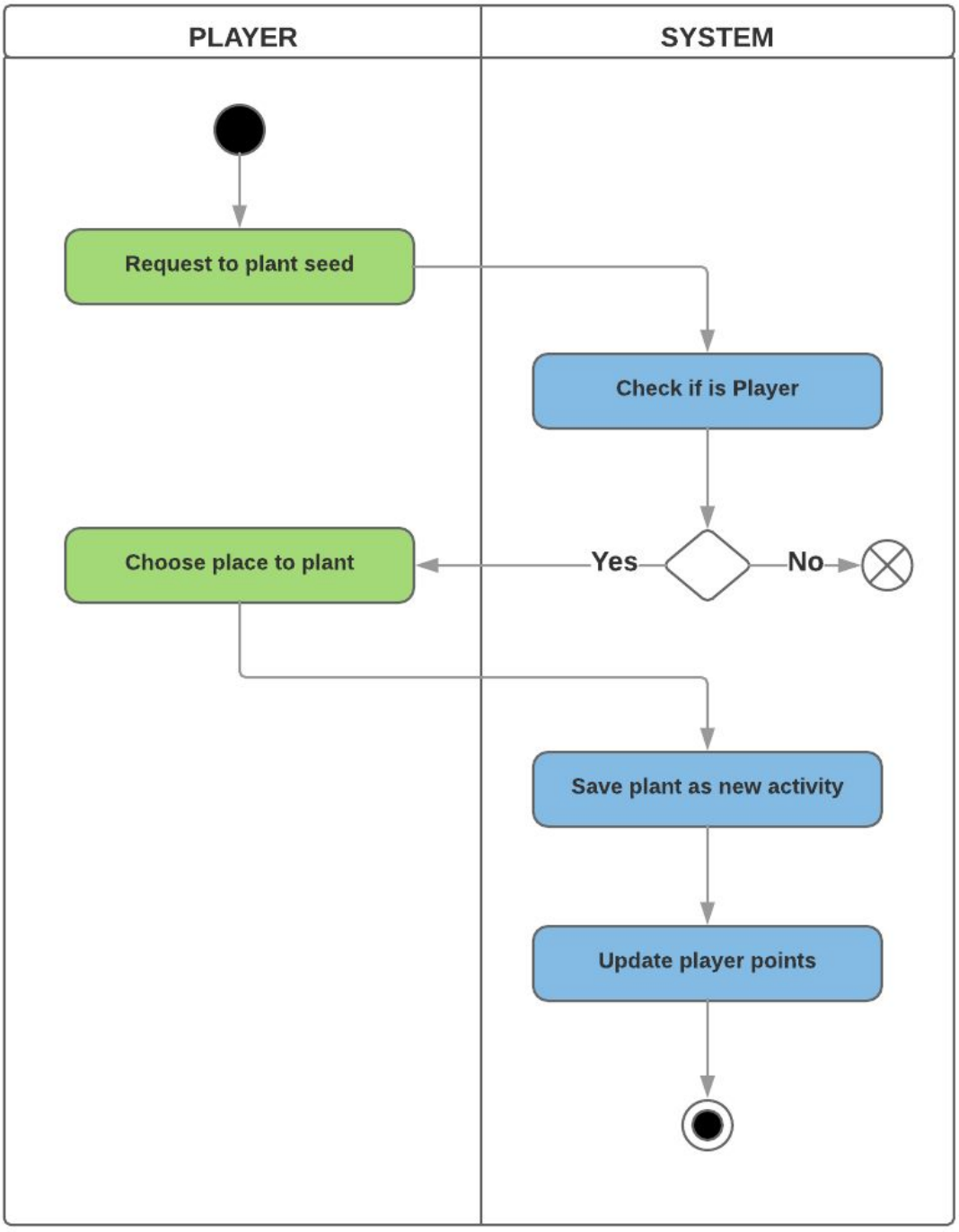


Use Case: Create Message Board
Participating Actors: Manager
Goal: Managing Messages Board

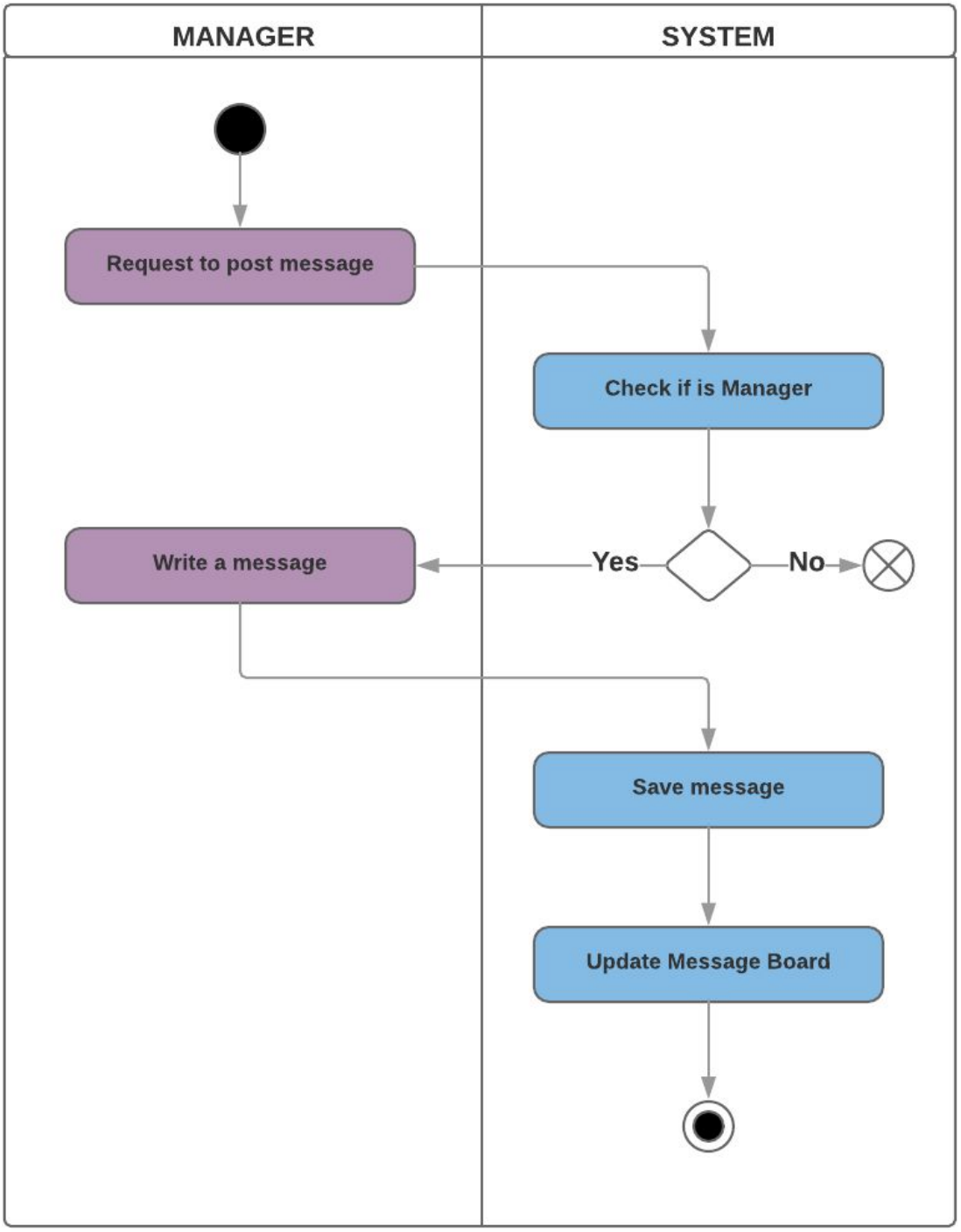


Use Case: Plant seed

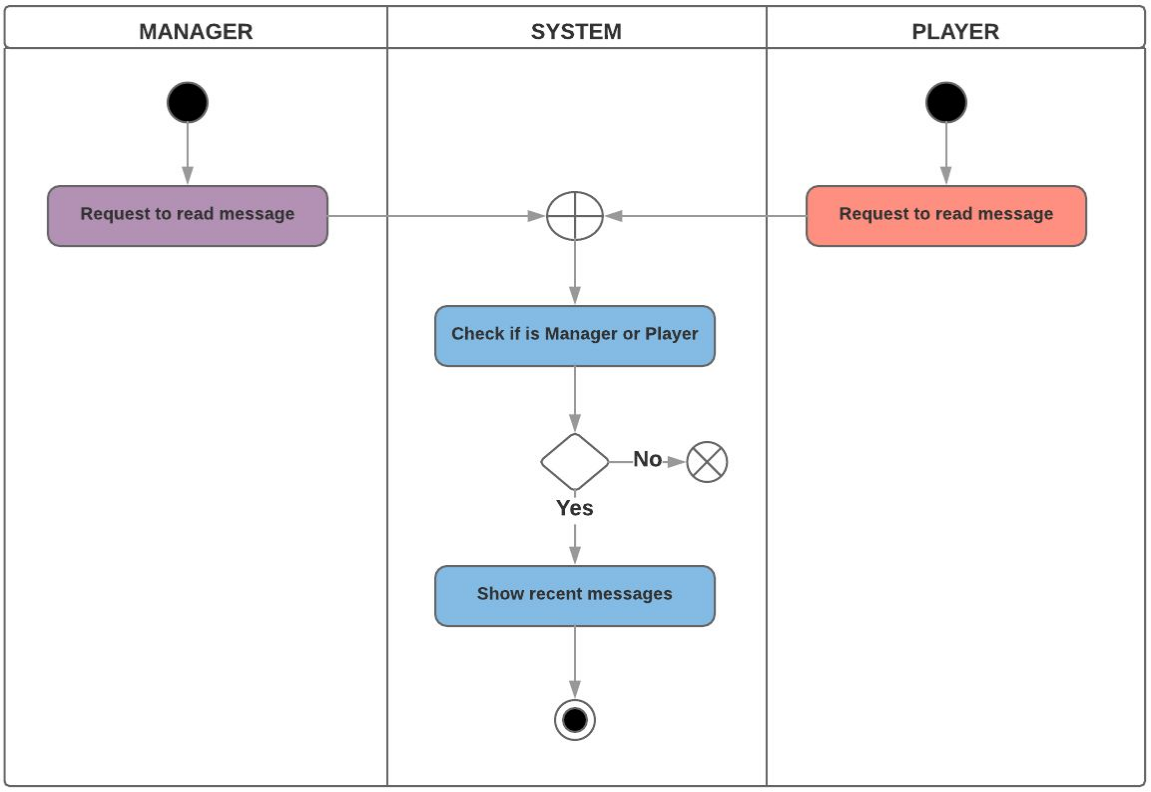
Participating Actors: Player.
Goal: plant seed and earn farmpoints.



Use Case: Post Message
Participating Actors: Manager
Goal: Inform players about Farmground.



Use Case: Read Message
Participating Actors: Manager, Player
Goal: Be informed about Farmground.



Non - Functional Requirements

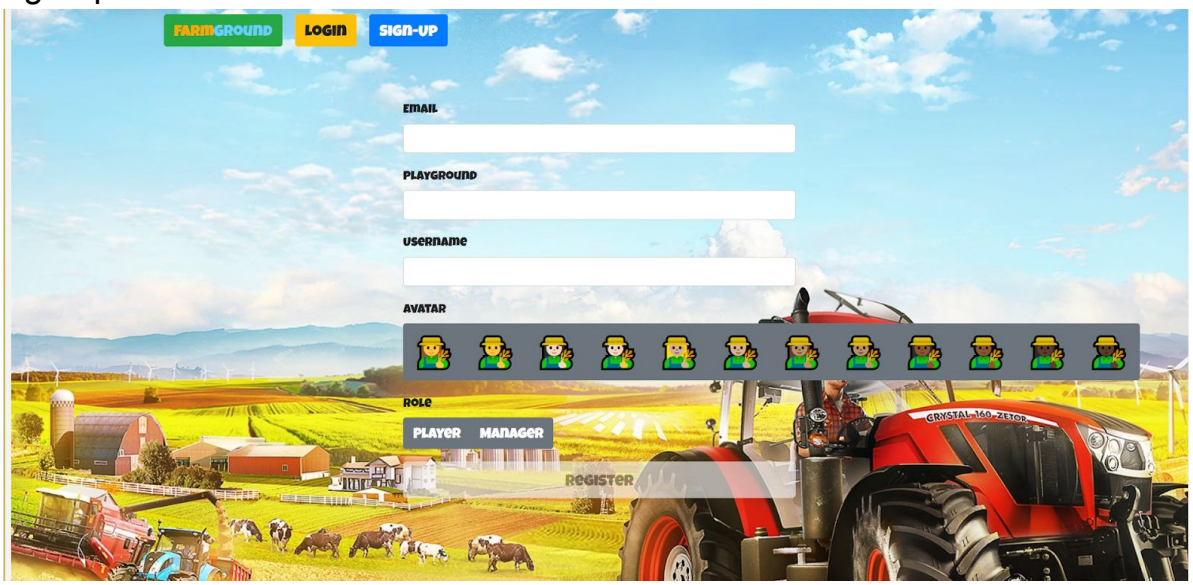
Requirement Number	Requirement Description	Requirement Type
1	The system will be convenient to the user	Usability
2	The system will not allow guests to play the game	Reliability
3	The system will allow three players to play simultaneously	Performance
4	The system will support all operating system	Supportability

- Test for requirement number 3:
  We created 3 players and played them simultaneously.
- Test for requirement number 4:
  The system was written in Java language and therefore supported on all operating systems.

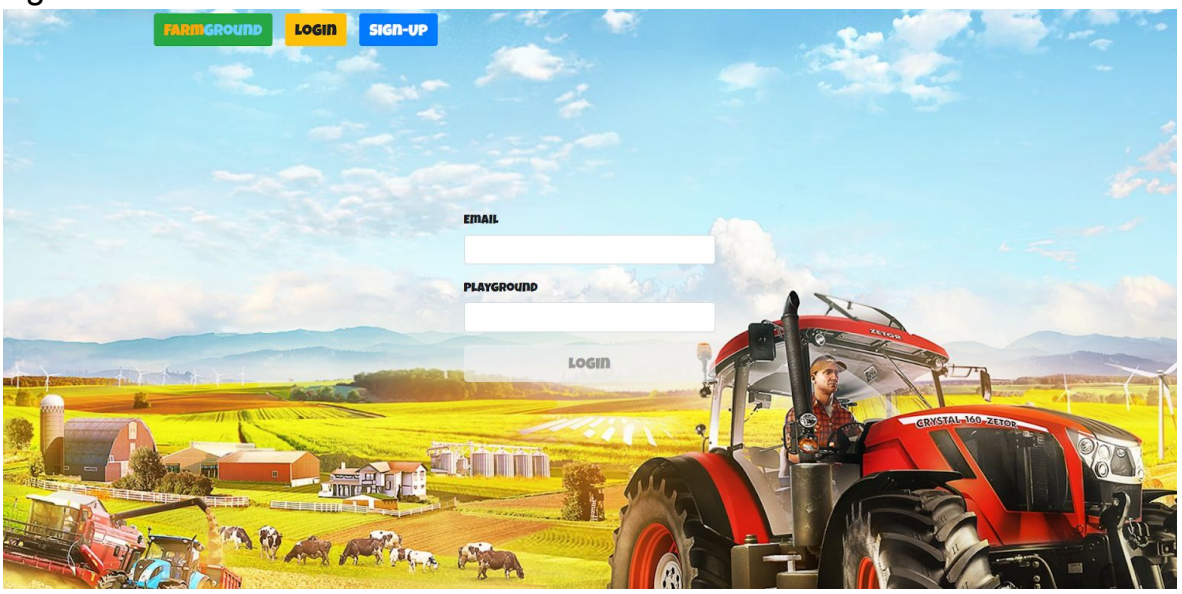
Appendix

Screenshots

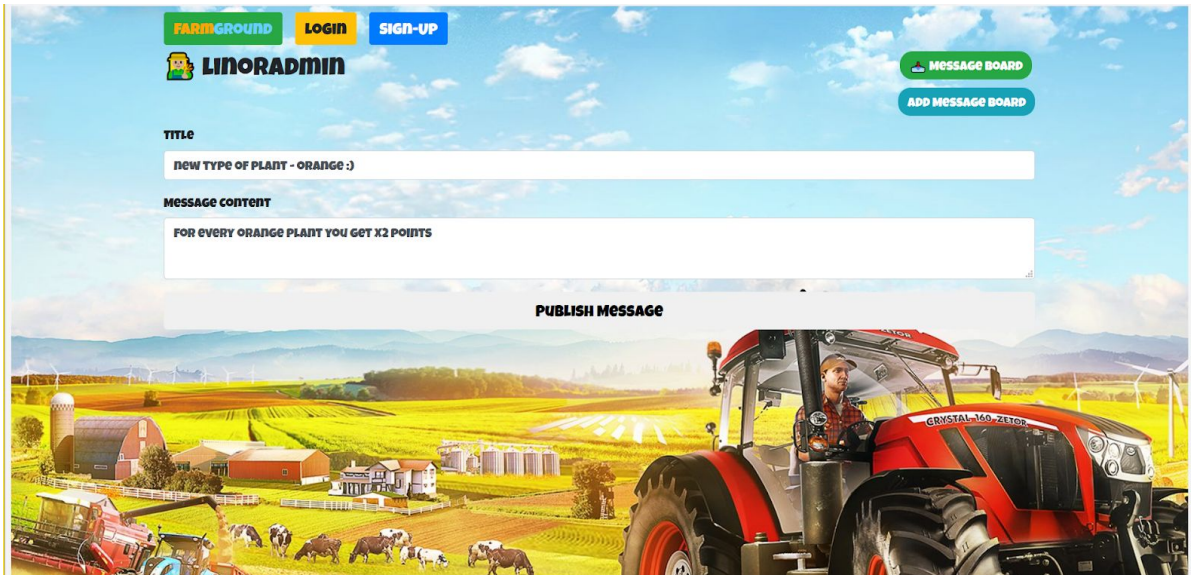
sign-up



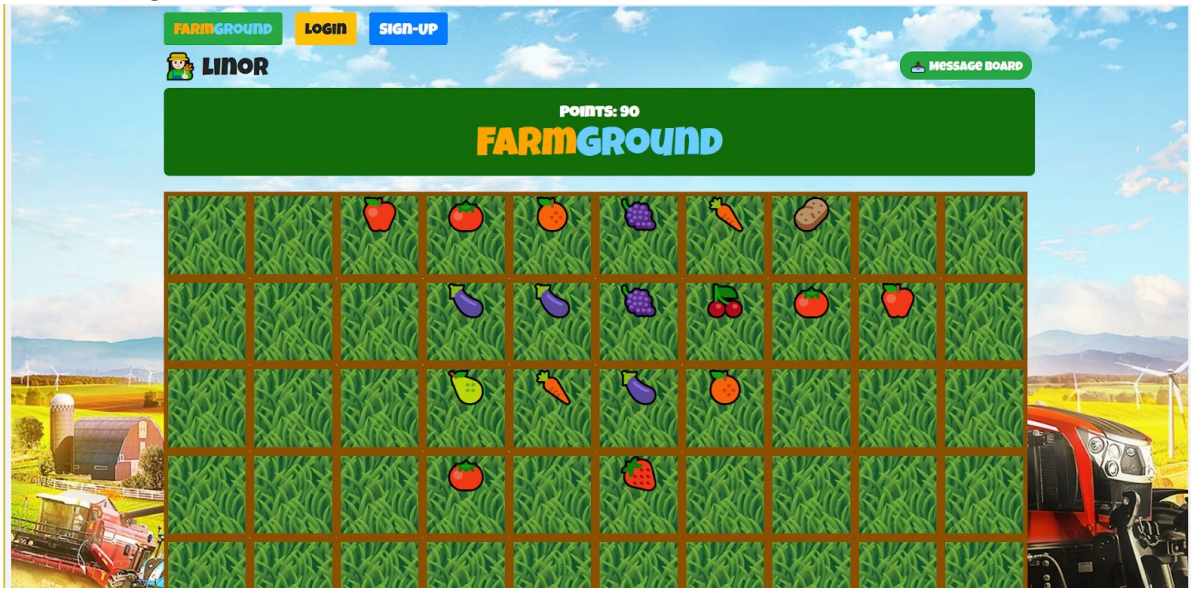
login



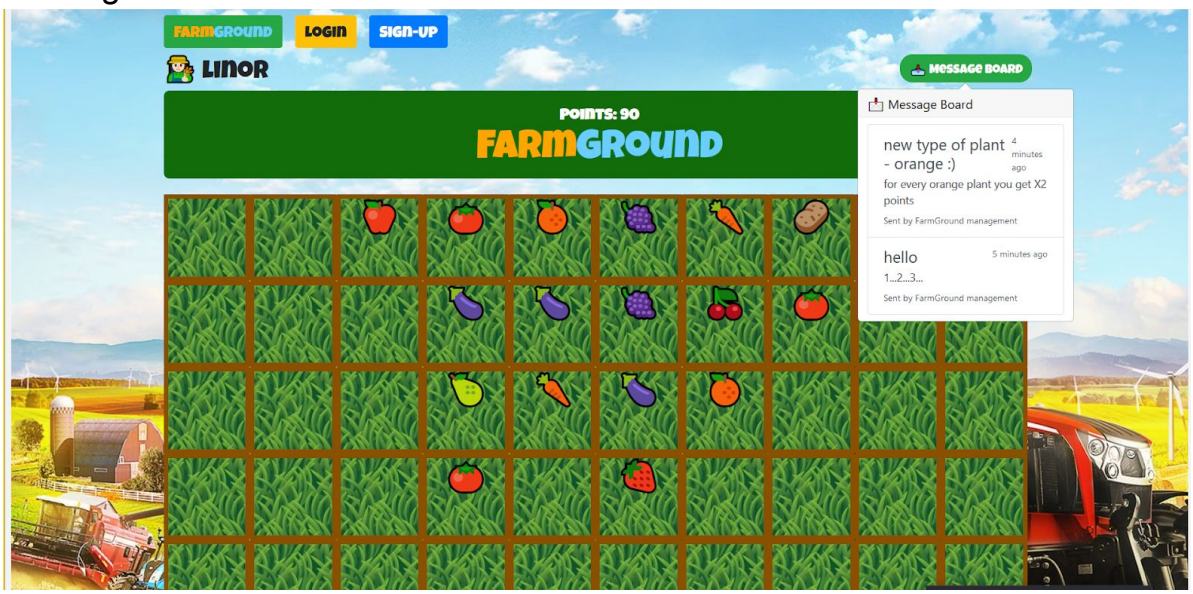
post message to the board



user farmground



message board



Gherkin

Feature: farmground server

❏ Scenario: test server initialized properly
Given nothing
When I starts the server
Then the server runs without throwing any errors/exception

Feature: register user

❏ Scenario: test register user
Given the server is up
When I **POST** /playground/users
With { "email": "dummyUser@gmail.com",
"username": "dummyUser",
"avatar": "emoji",
"role": "player" }
and header: **Accept:** application/json
Content-Type: application/json
Then the return status is 200
And the returned value is:

```
{
  "email": "dummyUser@gmail.com",
  "playground": "defaultPlayground",
  "username": "dummyUser",
  "avatar": "emoji",
  "role": "player",
  "points": 0
}
```

❏ Scenario: register user with email that already registered
Given the server is up
And the database contains
[{“NewUserFormEntity”:“registerForm”}]
When I **POST** /playground/users
With { "email": "dummyUser@gmail.com",
"username": "dummyUser",
"avatar": "emoji",
"role": "player" }
and header: **Accept:** application/json
Content-Type: application/json
Then the return status is <> 2xx

Feature: confirm user

- Scenario: test confirm user

Given the server is up
And the database contains [{“UserEntity”:“userEntity”}]
With code:200
When I **GET** /playground/users/confirm/dummyPlayground/dummyUser@gmail.com/123
and header: **Accept:** application/json
Content-Type: application/json
Then the return status is 200
And the returned value is:

```
{
    "email": "dummyUser@gmail.com",
    "playground": "dummyPlayground",
    "username": "dummyUser",
    "avatar": "emoji, the code is:200",
    "role": "player",
    "points": 0
}
```

- Scenario: test confirm user that does not exist

Given the server is up
And the database not contains [{“UserEntity”:“userEntity”}]
When I **GET** /playground/users/confirm/dummyPlayground/dummyUser@gmail.com/123
and header: **Accept:** application/json
Content-Type: application/json
Then the return status is <> 2xx

Feature: login User

- <u>Scenario: test login user</u>

  Given the server is up
  And the database contains [{“UserEntity” :“userEntity”}]
  When I **GET** /playground/users/login/dummyPlayground/dummyUser@gmail.com
  and header: **Accept:** application/json
  Content-Type: application/json
  Then the return status is 200
  And the returned value is:

```
{
    "email": "dummyUser@gmail.com",
    "playground": "dummyPlayground",
    "username": "dummyUser",
    "avatar": "emoji",
    "role": "player",
    "points": 0
}
```

- <u>Scenario: test login user that does not exist</u>

  Given the server is up
  And the database not contains [{“UserEntity” :“userEntity”}]
  When I **GET** /playground/users/login/dummyPlayground/dummyUser@gmail.com
  and header: **Accept:** application/json
  Content-Type: application/json
  Then the return status is <> 2xx

- <u>Scenario: test login user that already logged in</u>

  Given the server is up
  And the user is already logged in
  When I **GET** /playground/users/login/dummyPlayground/dummyUser@gmail.com
  and header: **Accept:** application/json
  Content-Type: application/json
  Then the return status is <> 2xx.

Feature: Update user

- <u>Scenario: test update user</u>

  Given the server is up
  And the database contains: [{“UserEntity”:“entity”}]
  When I **PUT** /playground/users/dummyUser/dummyUser@gmail.com
  and header: **Content-Type:** application/json
  Then the return status is 200

- <u>Scenario: update user that does not exist</u>

  Given the server is up
  And the database not contains: [{“UserEntity”:“entity”}]
  When I **PUT** /playground/users/dummyUser/dummyUser@gmail.com
  and header: **Content-Type:** application/json
  Then the return status is <> 2xx

Feature: Update points

- Scenario: test update points

  Given the server is up
  And the database contains: [{“UserEntity”:“entity”}]
  When I **PUT** /playground/users/dummyUser/dummyUser@gmail.com
  and header: **Content-Type:** application/json
  Then the return status is 200

Feature: create a new element

- Scenario: test create element successfully

  Given the server is up

  When I POST /playground/elements/playground/elements/{userPlayground }/{email} with body { "id":"e1",
  ”name”:”dummyElement”,
  “Type”:”elementType”,
  “expirationDate”:”null”,
  "Attributes":{"attr1":1},
  “creatorPlayground”:”playground”,
  “creatorEmail”:”dummyUser@gmail.com” }

  Then the return status is 200.

- Scenario: test create element with existing key

  Given the server is up

  And the database already contains an element with id: “e1”

  When I POST /playground/elements/playground/elements/{userPlayground }/{email} with body { "id":"e1",
  ”name”:”dummyElement”,
  “Type”:”elementType”,
  “expirationDate”:”null”,
  "Attributes":{"attr1":1},
  “creatorPlayground”:”playground”,
  “creatorEmail”:”dummyUser@gmail.com” }

  Then the return status is <> 2xx.

Feature: update an existing element

- Scenario: test update element successfully

  Given the server is up
  And the database contains { "id":"e1",
  "name":”dummyElement”}

  When I PUT
  /playground/elements/{userPlayground}/{email}/{playground}/{id}
  with body { "id":"e1",
  ”name”:”dummyElement-UPDATED”,
  “Type”:”elementType”,
  “expirationDate”:”null”,
  "Attributes":{"attr1":1},
  “creatorPlayground”:”playground”,
  “creatorEmail”:”dummyUser@gmail.com” }

  Then response status is 200
  And the database contains for id "e1" { "id":"e1",
  "name":”dummyElement-UP
  DATED}

- Scenario: test update non existing element

  Given the server is up

  When I PUT
  /playground/elements/{userPlayground}/{email}/{playground}/{id}
  with body { "id":"e1",
  ”name”:”dummyElement-UPDATED”,
  “Type”:”elementType”,
  “expirationDate”:”null”,
  "Attributes":{"attr1":1},
  “creatorPlayground”:”playground”,
  “creatorEmail”:”dummyUser@gmail.com” }

  Then the return status is <> 2xx.

Feature: get specific element by id

- <u>Scenario: test get specific element by id successfully</u>

  Given the server is up
  And the database contains an element with id: “e1”
  When I GET /playground/elements/{userPlayground}/{email}/{playground}/{id}
  and **Accept**:application/json
  Then response status is 200
  And the return value is { "id":"e1",
  ”name”:”dummyElement”,
  “Type”:”elementType”,
  “expirationDate”:”null”,
  "Attributes":{"attr1":1},
  “creatorPlayground”:”playground”,
  “creatorEmail”:”dummyUser@gmail.com
  ” }

- <u>Scenario: test get specific element by invalid id</u>

  Given the server is up
  When I GET /playground/elements/{userPlayground}/{email}/{playground}/”null”
  and **Accept**:application/json
  Then the return status is <> 2xx.

Feature: show all elements

- Scenario: test show all elements using pagination successfully

Given the server is up
And the database contains an elements
[{“id”: “e1”, “id”: “e11”, “id”: “e11”}]

When I GET
/playground/elements/{userPlayground}/{email}/all?size={5}&page={1}
and **Accept**:application/json

Then response status is 200
And the return value is { "id":"e1",
”name”:”dummyElement”,
“Type”:”elementType”,
“expirationDate”:”null”,
"Attributes":{"attr1":1},
“creatorPlayground”:”playground”,
“creatorEmail”:”dummyUser@gmail.com
”,

"id":"e11",
”name”:”dummyElement1”,
“Type”:”elementType”,
“expirationDate”:”null”,
"Attributes":{"attr1":1},
“creatorPlayground”:”playground”,
“creatorEmail”:”dummyUser@gmail.com
”,

"id":"e111",
”name”:”dummyElement11”,
“Type”:”elementType”,
“expirationDate”:”null”,
"Attributes":{"attr1":1},
“creatorPlayground”:”playground”,
“creatorEmail”:”dummyUser@gmail.com
”}

Feature: get elements by distance

- <u>Scenario: test get elements by distance</u>

  Given the server is up
  And the database contains elements
  [{“id”: “e1”, “x”:”3.0”, “y”:”2.7”},
  {“id”: “e2”, “x”:”1.5”, “y”:”4.2”},
  {“id”: “e3”, “x”:”1D”, “y”:”100D”}]

  When I **GET**
  /playground/elements/dummyUser/dummyUser@gmail.com/near/3.0/2.7/50D
  and header: **Accept:**application/json

  Then the return status is 200
  And the returned value is:
  [{ “id”: “e1”,
  "location": { "x": 3, "y": 2.7},
  "name": "dummyElement"
  “Type”:”elementType”,
  “expirationDate”:”null”,
  "Attributes":{"attr1":1},
  “creatorPlayground”:”playground”,
  “creatorEmail”:”dummyUser@gmail.com” },
  { “id”: “e2”,
  "location": { "x": 1.5, "y": 4.2},
  "name": "dummyElement"
  “Type”:”elementType”,
  “expirationDate”:”null”,
  "Attributes":{"attr1":1},
  “creatorPlayground”:”playground”,
  “creatorEmail”:”dummyUser@gmail.com” }]

- <u>Scenario: test get elements by distance with ilegal x</u>

  Given the server is up
  When I **GET**
  /playground/elements/dummyUser/dummyUser@gmail.com/near/2D/2.7/50D
  and header: **Accept:**application/json

  Then the return status is <> 2xx

- <u>Scenario: test get elements by distance with ilegal y</u>
  Given the server is up
  When I **GET** /playground/elements/dummyUser/dummyUser@gmail.com/near/3.0/2D/50D
  and header: **Accept:**application/json

  Then the return status is <> 2xx

- <u>Scenario: test get elements by distance with ilegal distance</u>
  Given the server is up
  When I **GET** /playground/elements/dummyUser/dummyUser@gmail.com/near/3.0/2.7/-2D
  and header: **Accept:**application/json

  Then the return status is <> 2xx

- <u>Scenario: test not found distance</u>
  Given the server is up
  And the database contains element
  [{ “id”: “e1”,
  "location": { "x": 1D, "y": 1D},
  "name": "dummyElement"
  “Type”:”elementType”,
  “expirationDate”:”null”,
  "Attributes":{"attr1":1},
  “creatorPlayground”:”playground”,
  “creatorEmail”:”dummyUser@gmail.com” }]
  When I **GET** /playground/elements/dummyUser/dummyUser@gmail.com/near/100D/100D/1D
  and header: **Accept:**application/json

  Then the return status is <> 2xx

Feature: search elements

- Scenario: test search elements

Given the server is up

And the database contains elements

```
{       “id”: “e1”,
        "name": "dummy"
        “Type”:”value”,
        “creatorPlayground”:”playground”,
        “creatorEmail”:”dummyUser@gmail.com”    },
{       “id”: “e2”,
        "name": "dummyElement"
        “Type”:”value”,
        “creatorPlayground”:”playground”,
        “creatorEmail”:”dummyUser@gmail.com”    },
{       “id”: “e3”,
        "name": "dummyElement"
        “Type”:”elementType”,
        “creatorPlayground”:”playground”,
        “creatorEmail”:”dummyUser@gmail.com”    }
```

When I **GET** /playground/elements/userPlayground/dummyUser@gmail.com/search/attributeName/value

and **Accept:**application/json
Content-Type: application/json

Then the return status is 200

And the returned value is:

```
{       “id”: “e1”,
        "name": "dummy"
        “Type”:”value”,
        “creatorPlayground”:”playground”,
        “creatorEmail”:”dummyUser@gmail.com”    }
```

Feature: create activity

- ❑ <u>Scenario: test create activity successfully</u>

  Given the server is up

  When I POST /playground/activities/{userPlayground}/{email}

  with body { "playground":"playground",
  "id":"a1",
  "elementPlayground":"dummyElement",
  "elementId":"e1",
  "type":"type",
  "playerPlayground":"Farmground",
  "playerEmail":"dummyUser@gmail.com",
  "Attributes":{"attr1": 1} }

  Then response status is 200

Feature: Plant Plugin

- ❑ <u>Scenario: test Plant Plugin Successfully</u>

  Given the server is up

  When I POST /playground/activities/{userPlayground}/{email}

  with body { "playground":"playground",
  "id":"a1",
  "elementPlayground":"dummyElement",
  "elementId":"e1",
  "type":"Plant",
  "playerPlayground":"Farmground",
  "playerEmail":"dummyUser@gmail.com",
  "Attributes":{"color": Purple}, {"name": Eggplant} }

  Then response status is 200

- ❑ <u>Scenario: test Plant Plugin With User That Is Not Exist</u>

  Given the server is up

  When I POST /playground/activities/{userPlayground}/{email}

  with body { "playground":"playground",
  "id":"a1",
  "elementPlayground":"dummyElement",
  "elementId":"e1",

“type”:”Plant”,
“playerPlayground”:”Farmground”,
“playerEmail”:”dummyUser@gmail.com”,
“Attributes”:{“color”: Purple}, {“name”: Eggplant} }

Then the return status is <> 2xx

- <u>Scenario: test Plant Plugin With Wrong Element Type</u>

  Given the server is up
  When I POST /playground/activities/{userPlayground}/{email}
  with body { “playground”:”playground”,
  “id”:”a1”,
  “elementPlayground”:”dummyElement”,
  “elementId”:”e1”,
  “type”:”Plant”,
  “playerPlayground”:”Farmground”,
  “playerEmail”:”dummyUser@gmail.com”,
  “Attributes”:{“color”: Purple, “name”: Eggplant} }

  Then the return status is <> 2xx

Feature: Message Board Plugin

- Scenario: test Add Messages Board Successfully

  Given the server is up

  When I POST /playground/elements/{userPlayground}/{email}

  with body { "id":"e1",
  ”name”:”Message Board”,
  “Type”:”Message Board”,
  “expirationDate”:”null”,
  “Attributes”:{“name”: addMessageBoard}
  “creatorPlayground”:”playground”,
  “creatorEmail”:”dummyUser@gmail.com”}

  Then response status is 200

Test Status Report

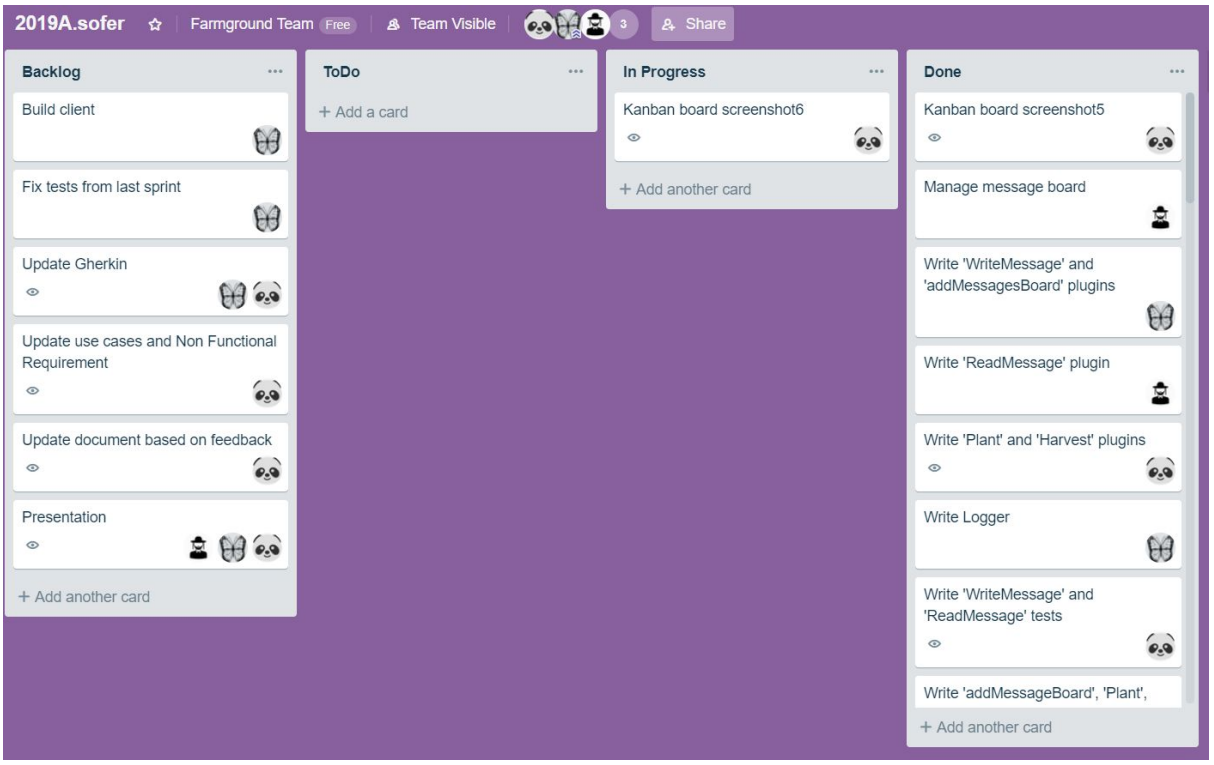
test	status
server initialized properly	V
register user	V
register user with email that already registered	V
confirm user	O
confirm user that does not exist	V
login user	O
login user that does not exist	V
login user that already logged in	V
update user	O
update user that does not exist	V
Update user points	O
create element successfully	V
create element with existing key	V
update element successfully	V
update element with existing key	V
get specific element by id	V
show all elements using pagination successfully	V
get elements by distance	V
get elements by distance with ilegal x	V
get elements by distance with ilegal y	V
get elements by distance with ilegal distance	V
search elements	V
create activity successfully	V
plant plugin successfully	O

test Plant Plugin With User That Is Not Exist	V
test Plant Plugin With Wrong Element Type	V
test Add Messages Board Successfully	V
test write message to the messages board	V
test read message from the messages board	V

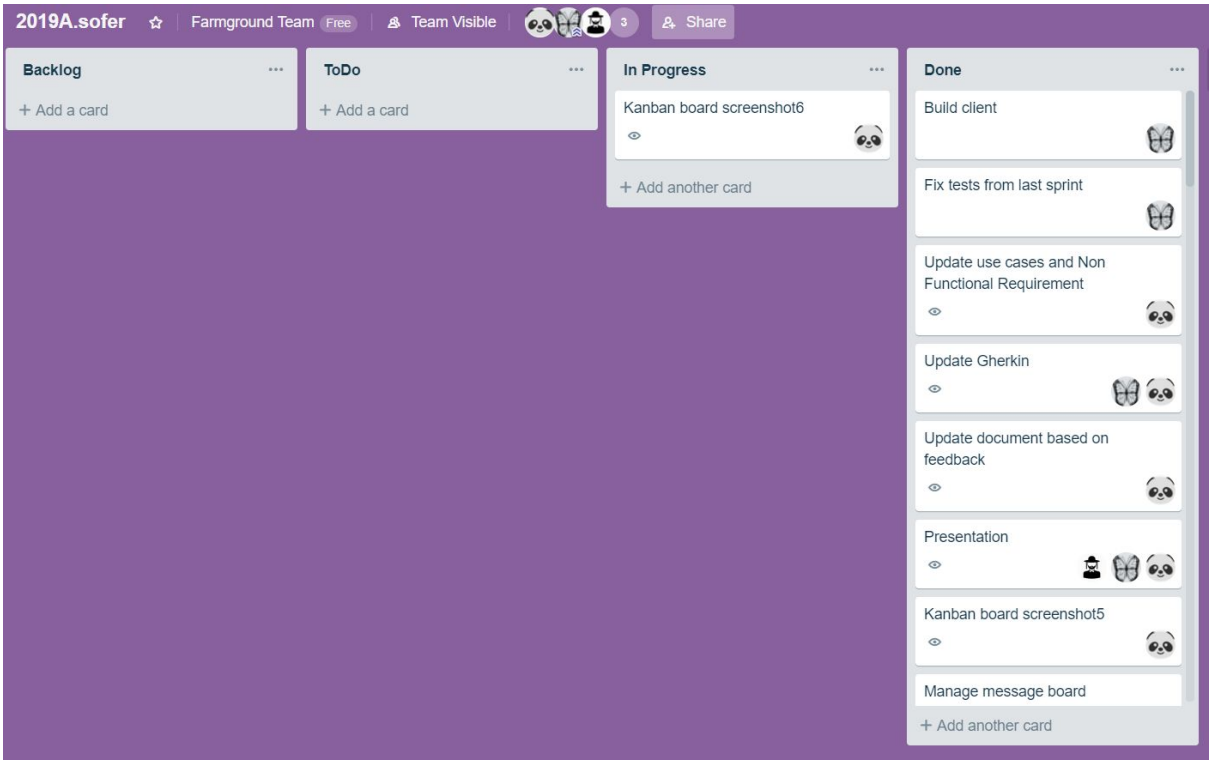
O - Registration test and user authentication are irrelevant when working with real email.

Kanban Board

24/12/18:



07/01/19:



Technologies

- Spring Core, Boot, Web, test, Jpa, Transaction, AOP.
- RESTful web.
- HTTP.
- JUnit.
- AssertJ.
- Postman.
- Bitbucket.
- Hibernate.
- H2 Database.
- Apache Common Logging.
- Java Reflection.
- JavaScript
- Reactjs.
- JavaMail API.

Install instructions

1. Download Eclipse 2018-2019 - from the moodle.
2. Download jar files from web.lib dir - from the moodle.
3. Download JavaMail API jars.
   In Eclipse:
4. Open new java project.
5. Remove source folder by
   right click on your project -> Build Path -> Configure Build Path -> Remove src folder.
6. Import Projects from Git - Copy the Clone URI from BITBUCKET. Import as a general project.
7. Switch it again to JAVA Project by - right click on your project -> Project facets -> check Java.
8. Import jar files by
   right click on your project -> Build Path -> Configure Build Path -> Libraries -> Add External JARs -> select jars from stage 2.
9. Run it as a java application.
10. Download WebStorm from https://www.jetbrains.com/webstorm/

a. Open in WebStorm the client: File -> Open -> choose ‘farmground-client’ folder.

11. Write in terminal: npm install.
12. Write in terminal: npm start.

List of students

- Linor Dolev - 201619079 
- Shiran Sofer - 308535483 
- Itay Goz - 307920074 

Roles In Team

- Linor Dolev - Scrum Master, DBA
- Shiran Sofer - Team Leader, QA
- Itay Goz - Product Owner, DevOps

General summary of work

- What went well throughout the sprint:
  - We finished our project and we are satisfied from the result
- What should be improved in team work:
  - Planning our time more correctly according to the difficulty of tasks.
- What problems we had throughout the sprint:
  - It was difficult to learn new language in short time.
  - We had problems to connect the client to the server.
    We solved those problems by Google.

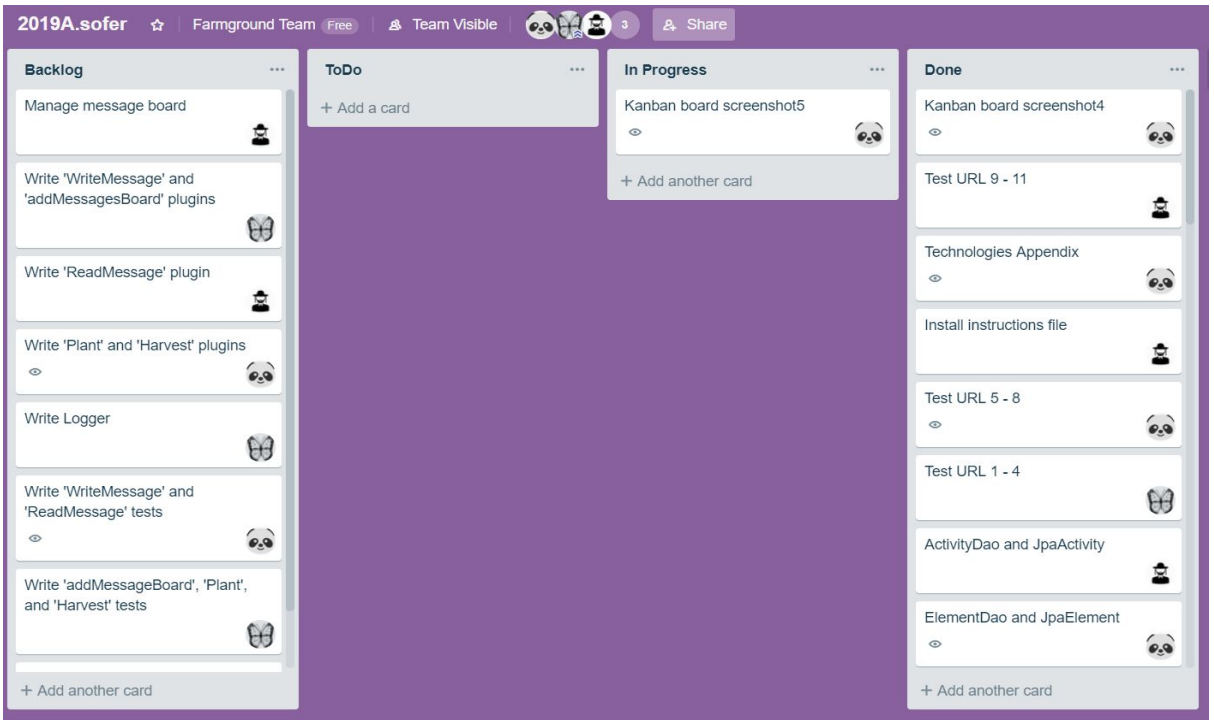
General summary of project

- What went well throughout the project:
  We learned how to work in a team and a face-to-face meeting is not always necessary, we managed communication via whatsapp.
- What should be improved in team work:
  Divide the work into smaller tasks between members and plan our time more correctly.
- What we enjoyed most about working on the project:
  We enjoyed handling every sprint with new technologies that we did not know before.
- What would we do differently if you started the project now, after the knowledge and experience you accumulated in the semester:
  We would have start from writing the client because in that way the requirements would be more understandable.

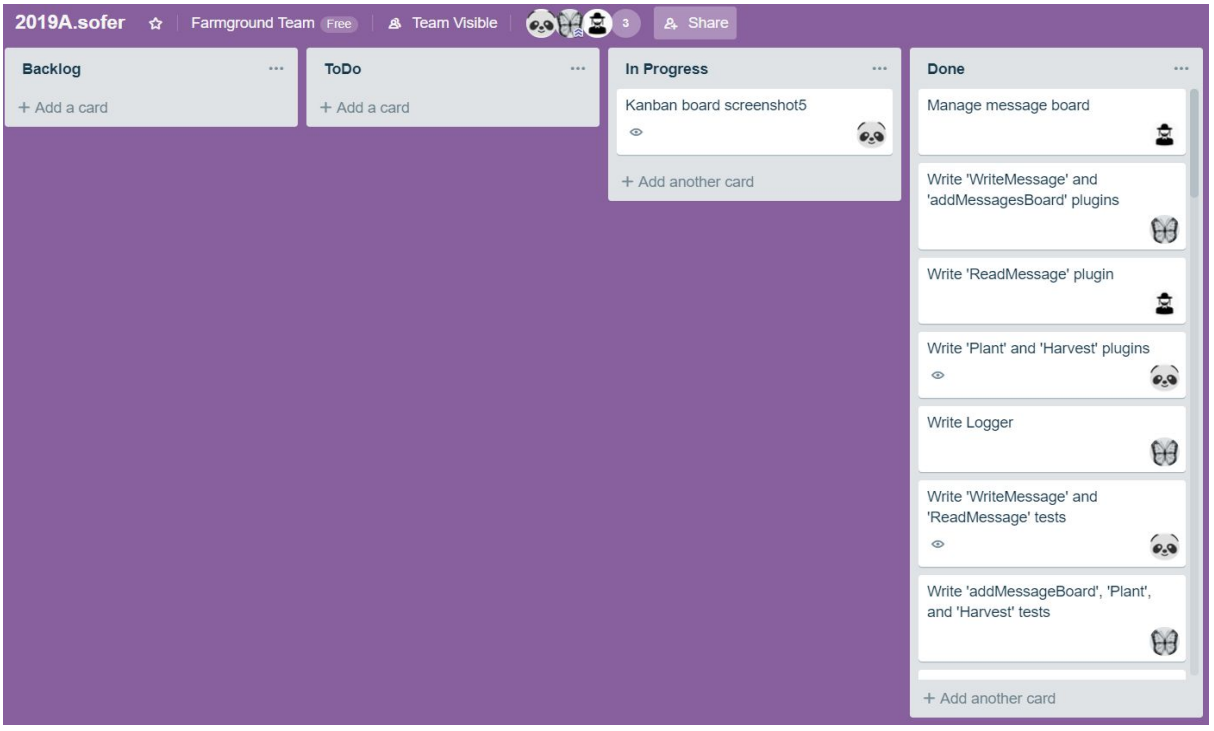
Kanban board - history

sprint 5

10/12/18:

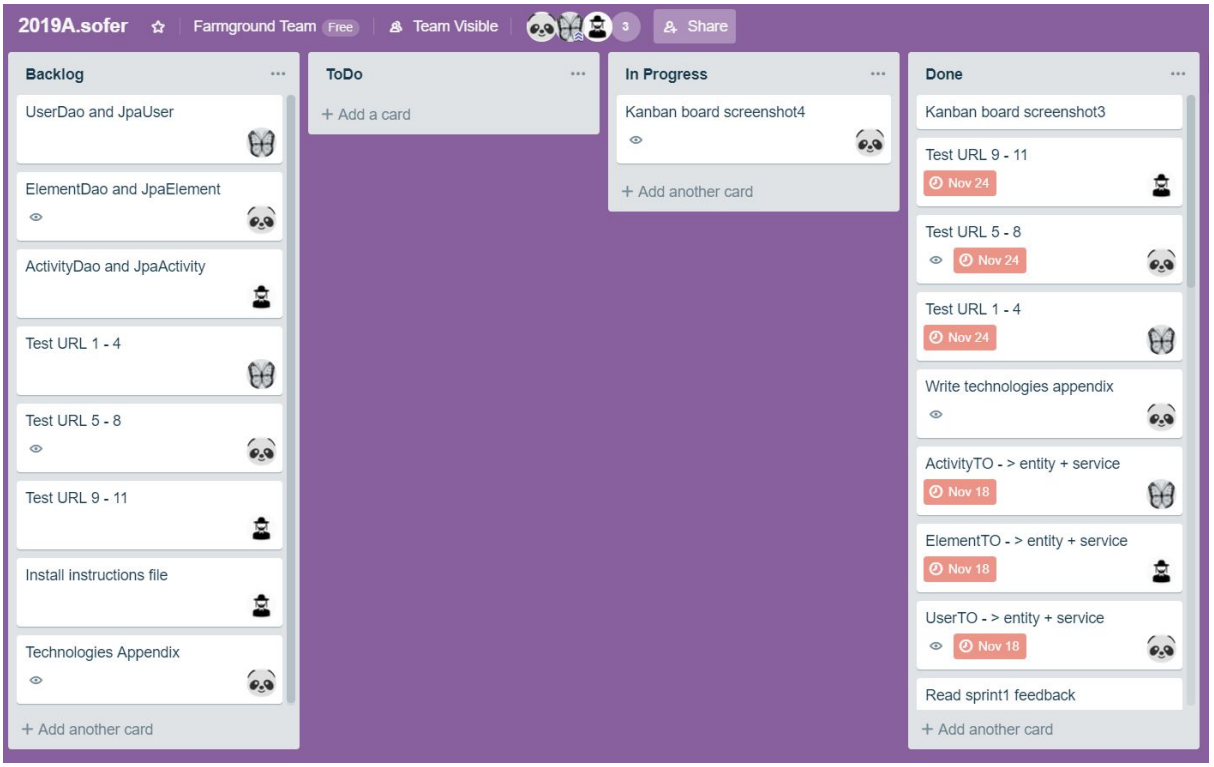


24/12/18:

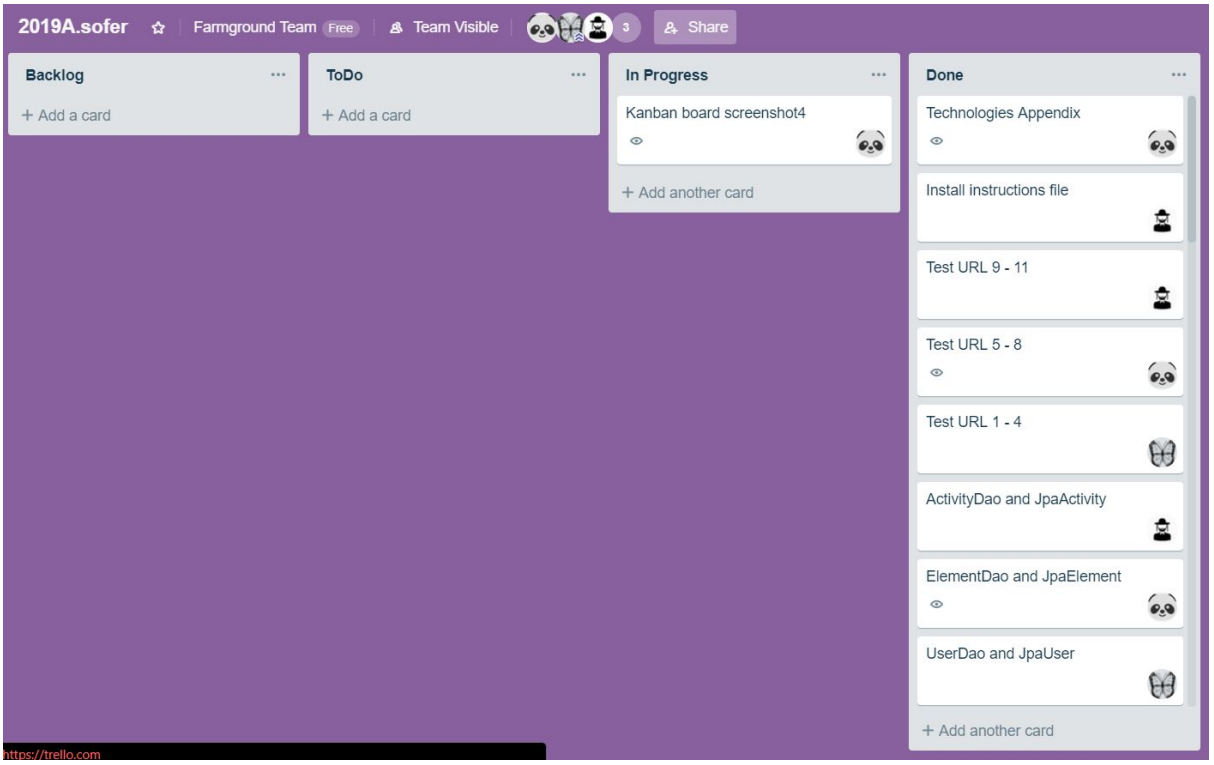


Sprint 4

26/11/18:

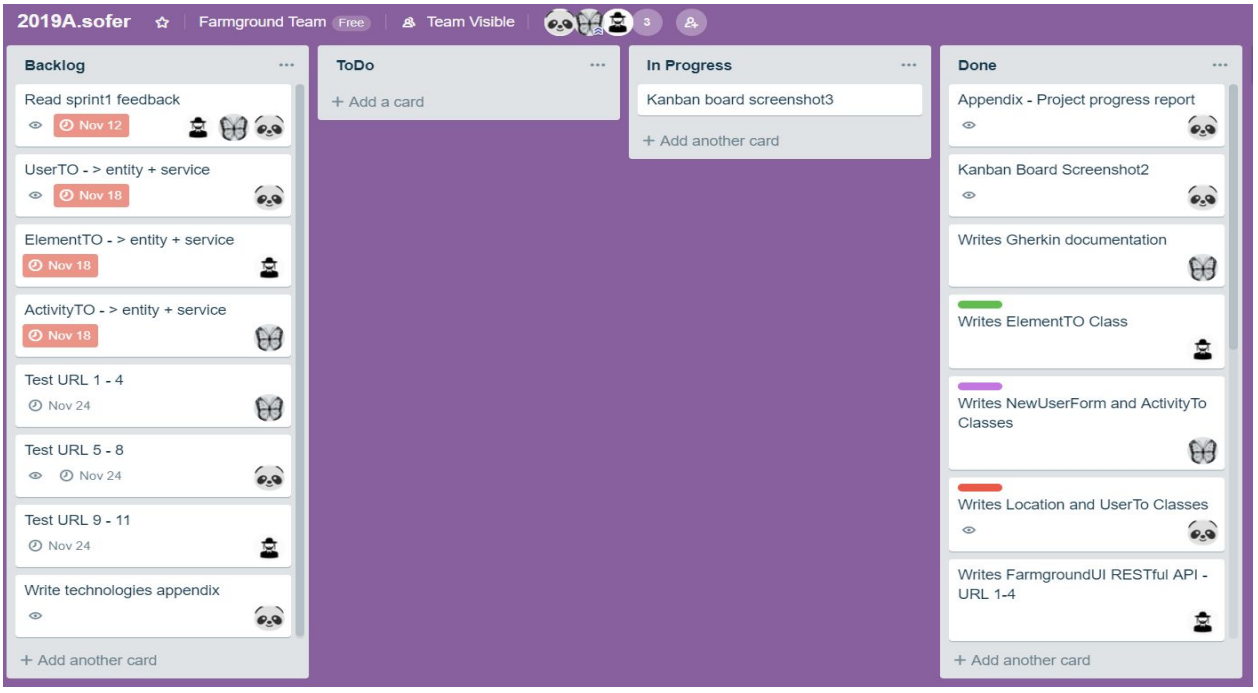


9/12/18:

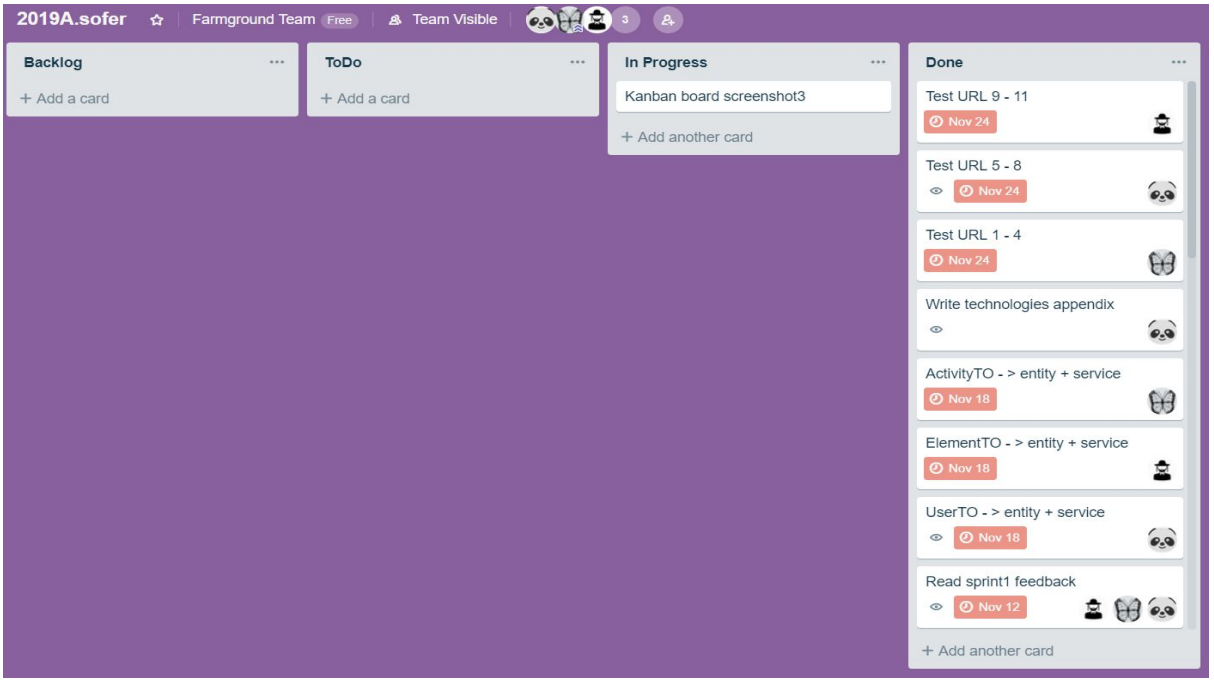


Sprint 3

12/11/18:

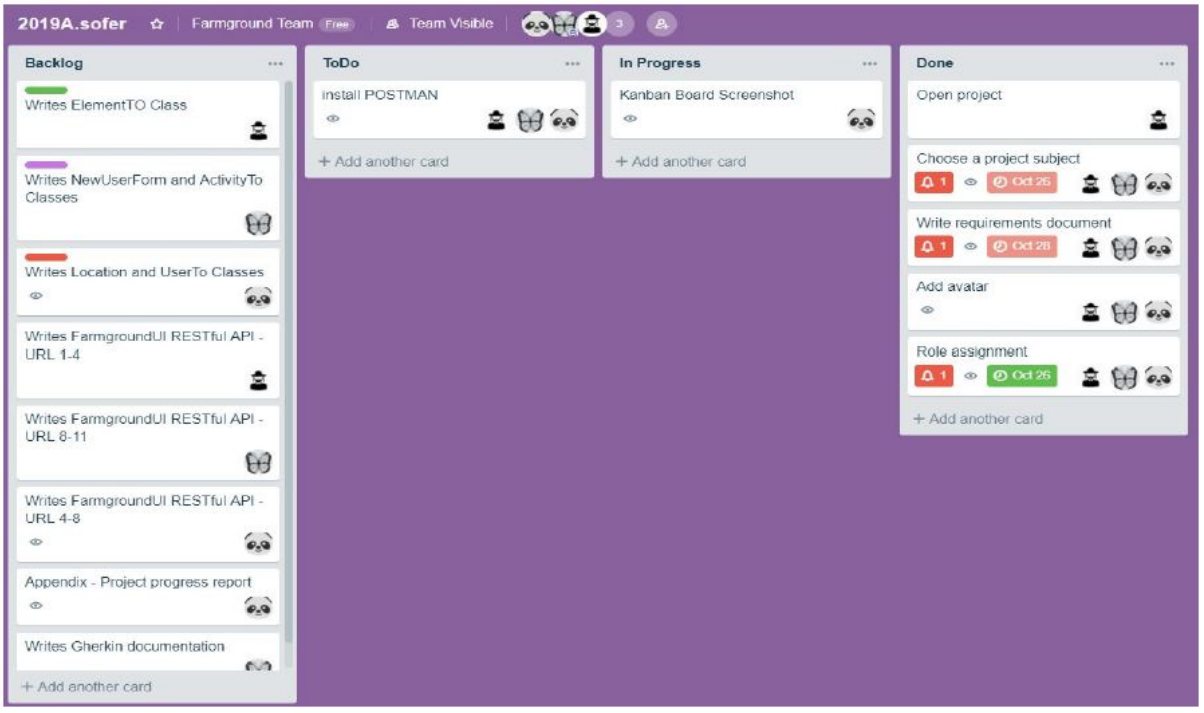


25/11/18:

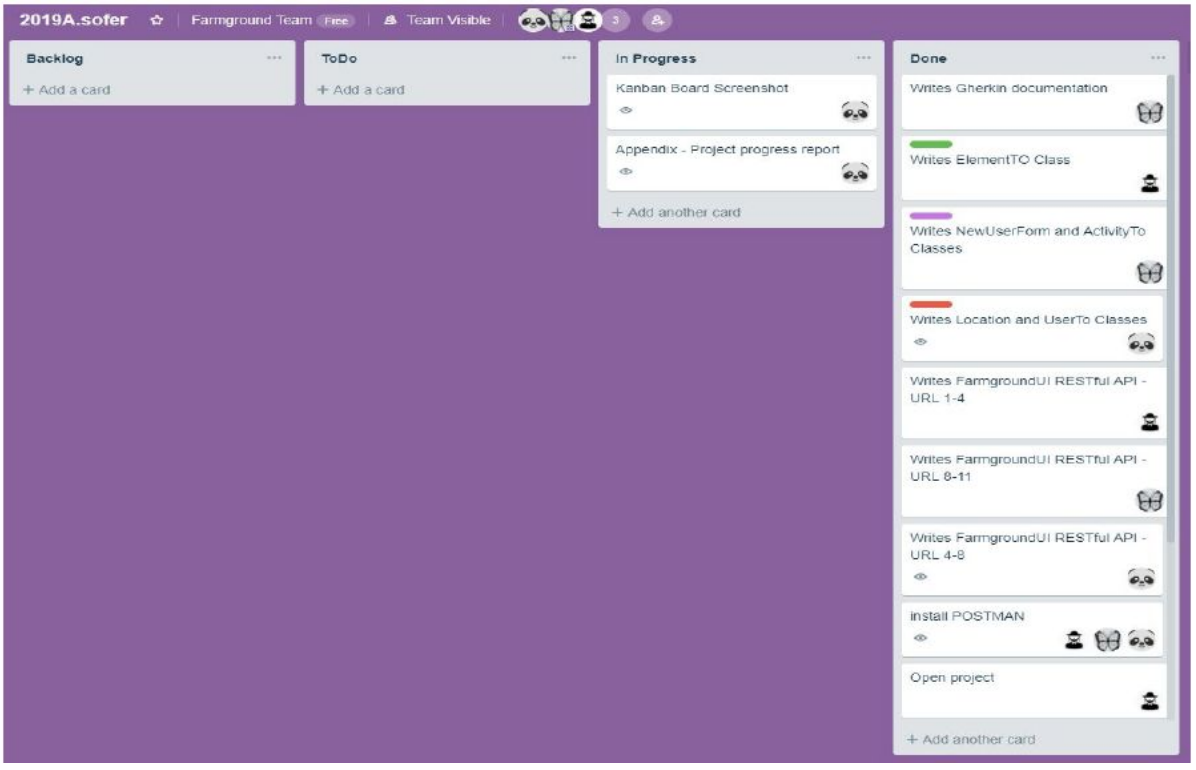


Sprint 2

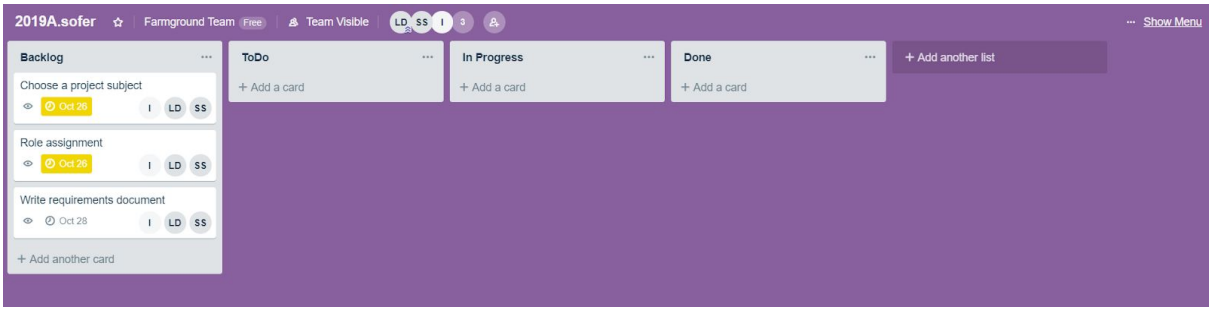
October 29th:

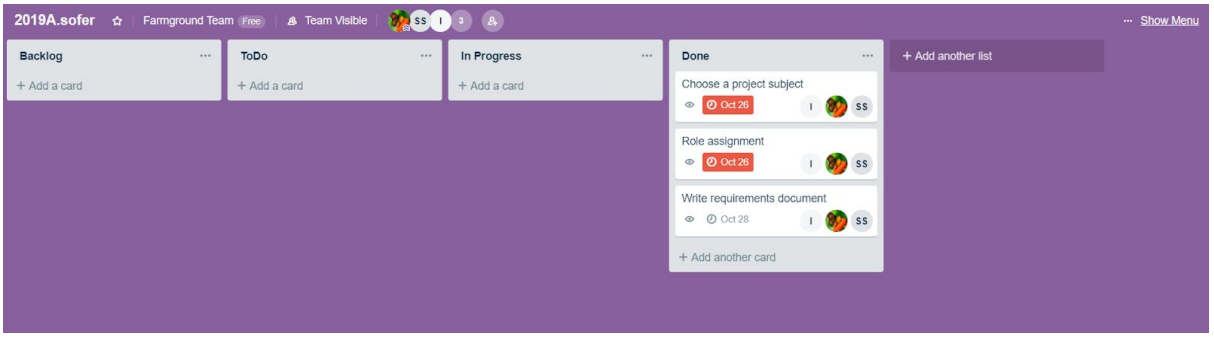


November 12th:



Sprint 1


2019A.sofer
Farmground Team Free
Team Visible
Show Menu
Backlog
Choose a project subject
Oct 26
Role assignment
Oct 26
Write requirements document
Oct 28
Add another card
ToDo
Add a card
In Progress
Add a card
Done
Add a card
Add another list


2019A.sofer
Farmground Team Free
Team Visible
Show Menu
Backlog
Add a card
ToDo
Add a card
In Progress
Add a card
Done
Choose a project subject
Oct 26
Role assignment
Oct 26
Write requirements document
Oct 28
Add another card
Add another list