**ELTE**

**Faculty of Informatics**



Topic: FarmMind

Subject: Software Technology

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# Recap of the Farmind

Our idea is a web application for people who work in the agriculture sector (farmers, landowners and agricultural businesses) in Hungary. This application will provide farmers a platform where they can rent farmlands to grow and work on the crops. Search criteria was provided to the farmers based on size, area and type of crop that was used to grow.

Upon selecting the page of the land, the farmer will be able to see the price of the land, pictures covering it and available heavy machinery and details regarding the crops. Data Analytics will also be provided to the farmers in order to present the amount of crops that the land would yield. A platform will be implemented where both the buyer/lessor and seller/lessee will be able to talk about additional information regarding the land.

# Features of Farmind

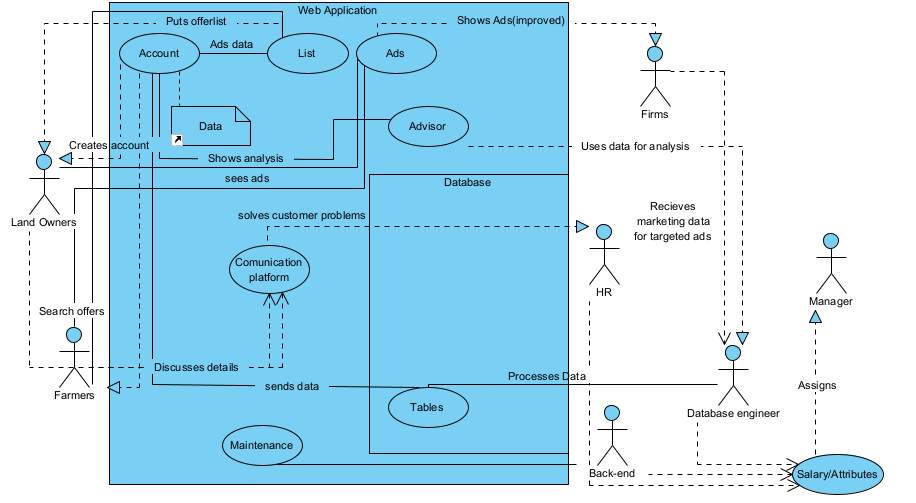
* Authentication , Authorization and account management
* Register New User
* Login
* Logout
* Update user profile
* Reseat password
* Update email and confirm the new email
* -Searching for lands based on specific criteria (min area , max area , min price , max price , etc)
* -Display information about the land along with pictures of the land , price area and other information , and display google maps with marker to point out the Land Location on map
* Provide static data analysis showing crop production according to the type of land (Arable, Grassland etc.).
* Land renting service witch allow the user to rent a land after searching and viewing land properties.
* Communication platform that will enable a farmer to have communication with the landowner.
* Landowners can register the land by inserting the land details.
* Dashboard functionality given to the farmers to control and manage land offers information.
* Dashboard functionality witch allow the farmer to control and manage the rented lands Crops information

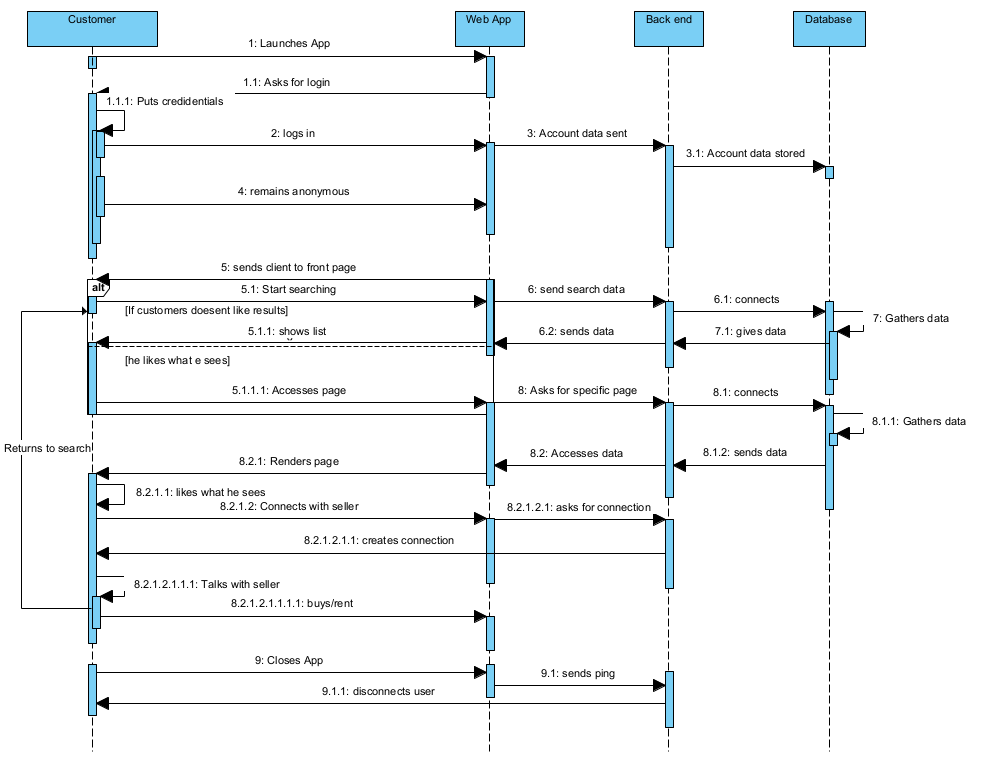
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# Project Details

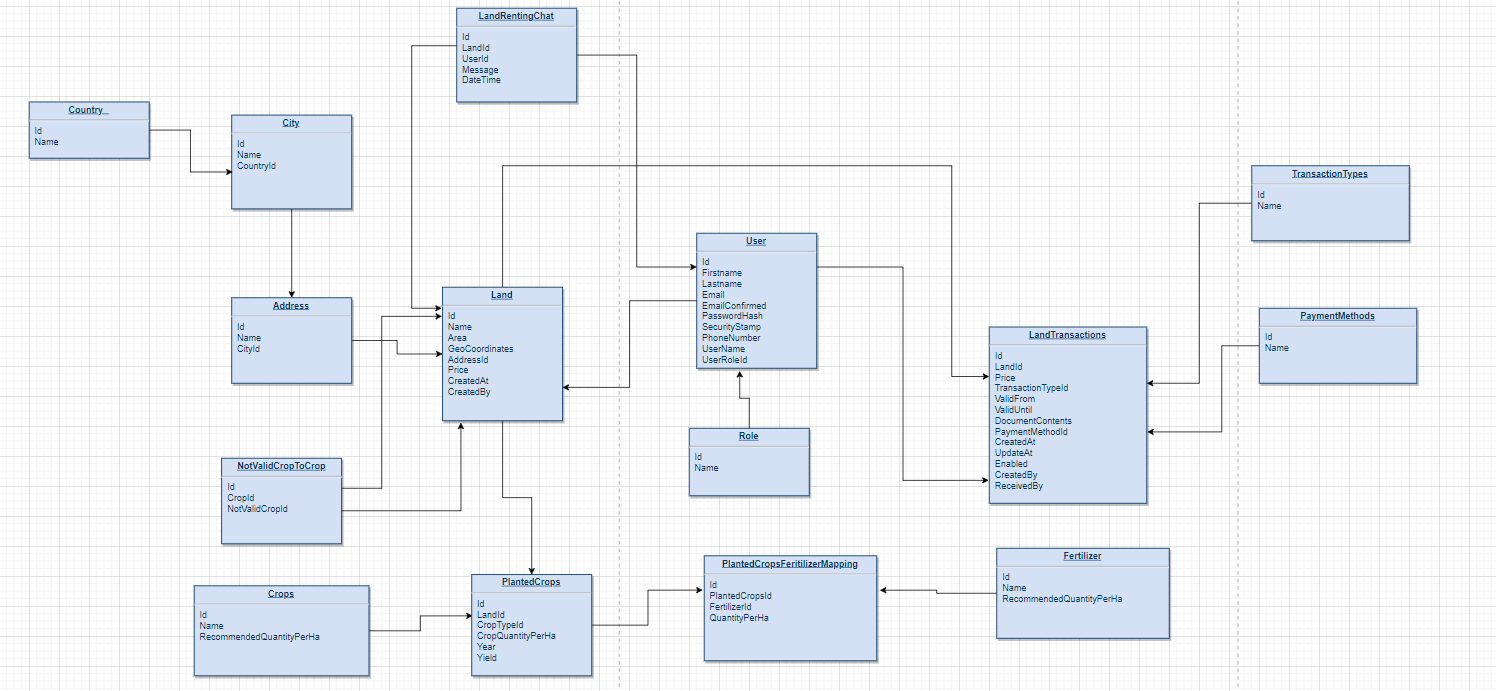
## Journey of the Project:

The first deadline was to show how the web application would be executed so that we could get an idea of it and for this; we used Use Case diagram and Sequence Diagram. Below show images of the Use Case Diagram and Sequence Diagram as follows:





The second deadline was to create and implement the databases of our web application and which was done in first week of October. Below is the image of the ERP diagram of our web application’s database:



The third deadline was to finish developing the front end of our application, and which was done in the first week of November. Fourth deadline was to include the back-end develop which included API creation in order to retrieve user data and included smooth transition between front-end and databases. The last deadline was to include the processing of data for the data analytics, which was achieved in the last week of November.

## Methodology

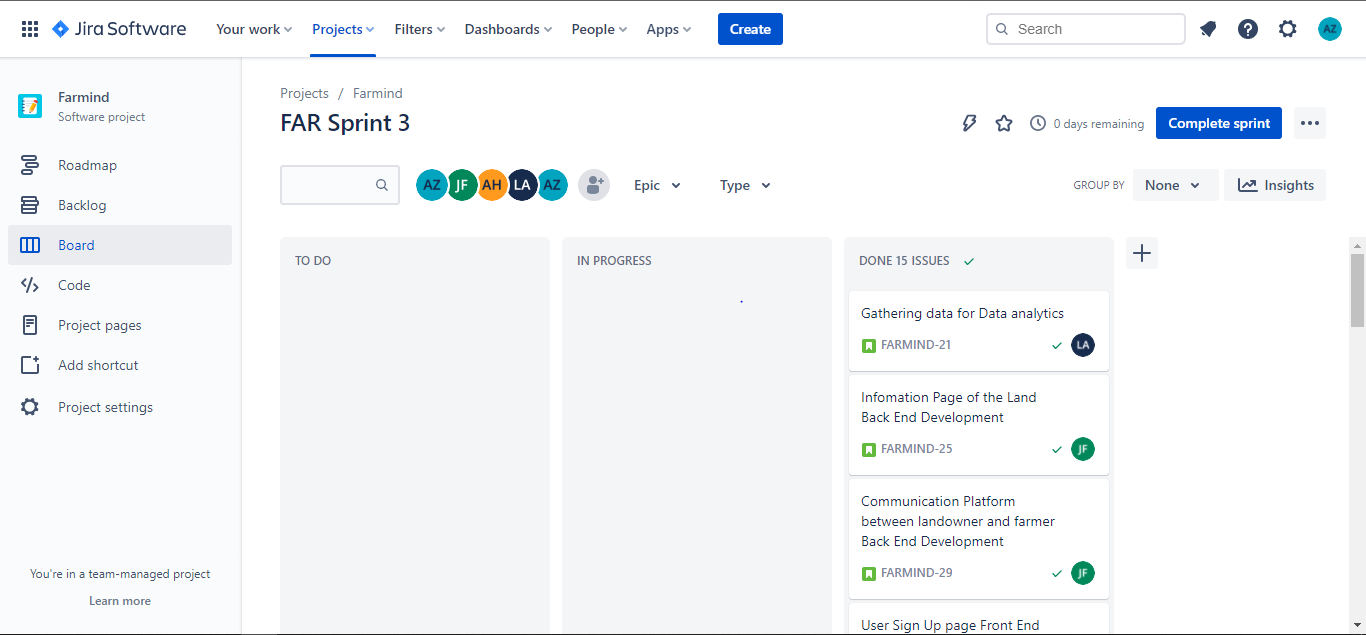
### JIRA

Dummy account for further checking:

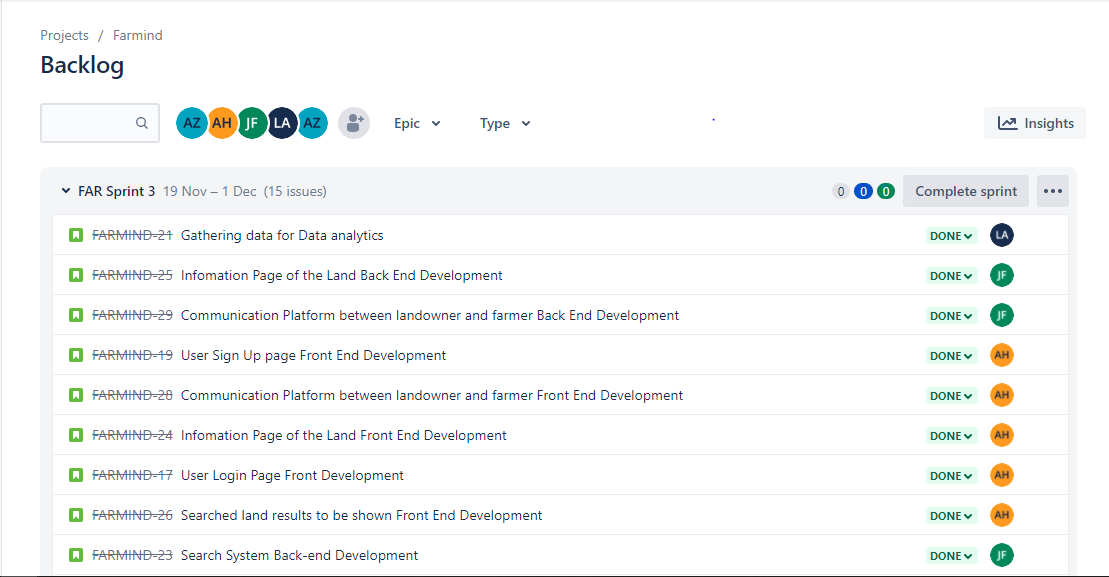
Username: [luca122199@gmail.com](mailto:luca122199@gmail.com)

Password: 12345678ABC

The Agile methodology that we used was Scrum. The software tool for agile methodology that we used was JIRA in order to keep track of how the progress is going. The stories were made regarding the features of our application and assigned to each of the team members so that it can be developed with in time limit of each sprint. Each sprint lasted for one month. If the feature was not be able to finish it was shifted to the next sprint so that it be finished in the current sprint. A picture is shown below of the Jira dashboard of our application:



An image of our backlog items is shown as well:



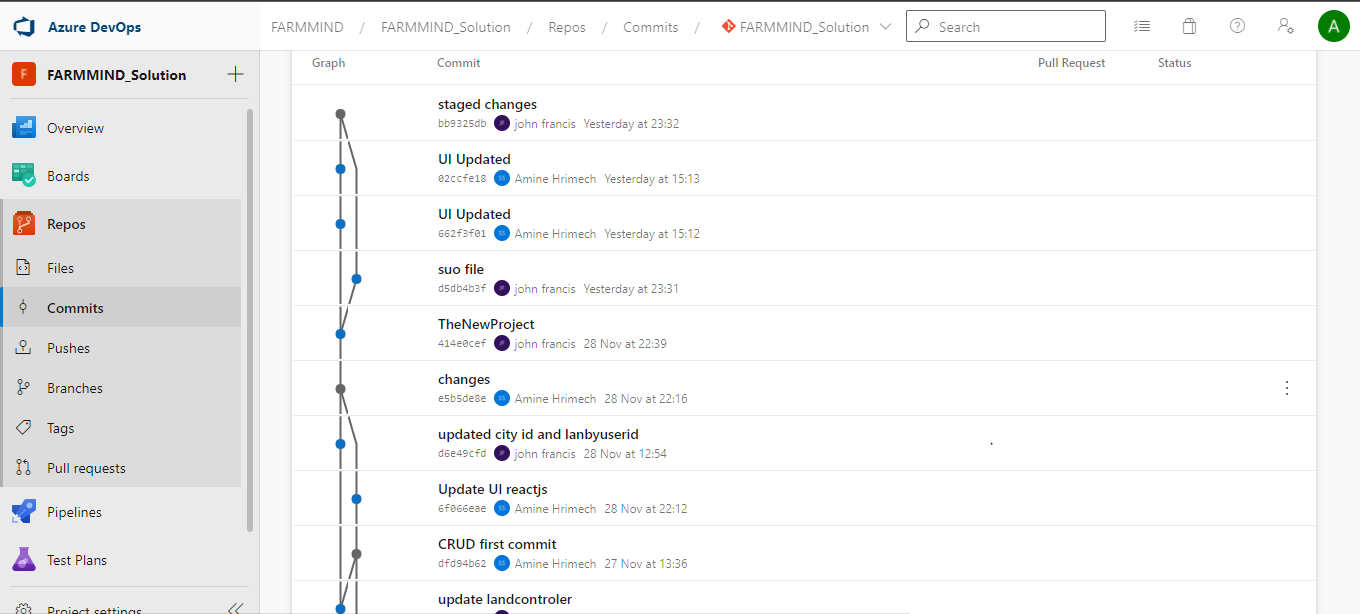
### Azure DevOps

Dummy account for further checking:

Username: anghelutaluca@gmail.com

Password: 12345678ABC

Team Work was managed via Azure DevOps Server using Git as Version Control. Master branch was made of the project, separate branches were made for developing the features, and later on when the features were done, being developed, feature branches were merged with the master branch after everything worked fine. This can be seen in the image below:



## Problems that we encountered

We analyzed from those websites that it is better to consider those crop, which are the main crops like wheat, tomatoes and potatoes. We also encountered with difficulties like coding difficulties like errors, flow of the code etc. and in order to overcome them we conducted meetings in order to solve the problem faced by the developer. Time was also one of the factors as well because all the team members had lectures in different time of the day. Therefore, we tackled this problem by communicating on teams and whenever the member of our team had time during the weekday and weekend before the consultation meeting with the mentor tasks that were to the team members were done accordingly. Then we wanted provided a dynamic crop production yield based on type of yield but due to non-availability of the personal farmer’s lands information and not having time, we decided to go with the approach to provide statistical analysis and use data from websites showing the crop production based on type of farmlands Hungary.

# Technologies:

## Server Side:

**Operating System**: Windows Server 2016

**Database**: SQL Server 2019

**Web Server**: IIS 9

**Web Application**: .NetCore 3.1 MVC + .NetCore 3.1 API

## Frontend:

Bootstrap 4, CSS 3, HTML 5

Database:

DataBase : SqlServer 2016

# Credentials:

**DataBase : SqlServer 2016 :**

IP: 104.37.188.74

UserName : FarmMind

Password : FarmMind

Database Name : FarmMind

Test DataBase Name : FarmMindTest

**Live Website :**

Url : <http://104.37.188.74:2025/>

Demo User Accounts

User 1 : [testuser@gmail.com](mailto:testuser@gmail.com)

Password : FarmMind@01

User 2 : farmeruser@gmail.com

Password : FarmMind@01

# Other Links:

* For Jira:

<https://farmindsoftware.atlassian.net/jira/software/projects/FARMIND/boards/1>

* Azure DevOps

Server: <https://dev.azure.com/FARMMIND/FARMMIND_Solution/_git/FARMMIND_Solution>

* Code Base of the application: <https://dev.azure.com/FARMMIND/_git/FARMMIND_Solution?path=/FarmMindApi/FarmMind2>
* Code implementation for data analytics: https://colab.research.google.com/drive/1YMZyS0jXTDRz99sNMc7yNXyuFAKCovla?usp=sharing