TED UNIVERSITY

Faculty of Engineering

Department of Computer Engineering

CMPE491 - PROJECT SPECIFICATION REPORT

Project Title

ALSApp (Agriculture and Livestock Support Application)

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Introduction:

This documentation that we created, targets to offer all stakeholders with a shared knowledge and broad understanding of our application “ALSapp (Agriculture and Livestock Support Application)”. This document points out the project’s solution, initial requirements, objectives, constraints, and professional and ethical responsibilities regarding the project’s execution. The ultimate objective of this document determined as to guarantee transparency and congruence among the project contributors and stakeholders.

Project Description:

The goal of our project is to develop an application that will make tracking easier for farmers in a variety of ways. Furthermore, this platform combines all of the necessary resources to improve the performance of livestock and farming activities. Users will be able to enter their animals' health data and receive relevant information, track their crops digitally for optimal efficiency, and track the growth and development of their crops and animals in real time using an easy-to-use interface that is favorable to both farmers and livestock.

By consolidating all agricultural and livestock management needs onto a single platform, this system enables users to manage their operations in a more organized, efficient and planned manner. It also provides instant updates on industry developments, helping users stay informed and responsive to industry changes. They will be aware of government support, mainly offered by the Ministry of Agriculture and Forestry, and benefit from funding opportunities. In addition, the following process can also be used by Ministry of Agriculture and Forestry staff to keep track of the reliability and accuracy of support.

Business Goals:

The business goals of this application are to increase the convenience in the farming business space for the farmers and help them grow their business. Farmers who would like to utilize the application that has been stated in this project will be able to track their yield and take support by taking the personalized support that has been offered. Moreover, they gain an opportunity to increase their economic capability and grow their business in a sustainable way by utilizing the supports of the Ministry of Agriculture and Forestry. Hence, by these utilities the farmers will be able to increase their productivity more conveniently and the business goal for our farmer customers will be satisfied. By the use of this app, both farmers and livestock breeders will have more crops using the same amount of products and resources which will make things more economic and will create sustainability in the big picture.

Constraints:

Limited Internet Connectivity:
The ability to reach a stable internet connection may not be possible for the rural areas of the Turkiye. Therefore, the aim is to reduce the usage of internet connection for our application as much as possible.

Low Digital Literacy:
Farmers may face lack of knowledge when they try to use an application due to low digital literacy. Consequently, the application targets to increase easiness for the farmers by making the user interface user-friendly.

Capacity of the application to use in long term:
Farmers who constantly work with the physical power may see the usage of such application as tedious and time consuming. Therefore, the application offers the farmers to increase the yield even in a short period of time and economical support in which they can use in a long period of time. Thus, the farmers will be willing to use this app after trying it thanks to the beneficial results which they will witness.

Stakeholders:

- Clients: Ministry of Agriculture and Forestry
- Project development team
- Consumers: farmers who will use this application, and the ministry officials
- Supervisor and jury members

Requirements:

The initial requirements of our project are as follows:

1. Functional Requirements

User Registration and Profile Management:

Application should provide consumers and clients to create a profile with using certain information's to specialize the application according to their interests.

Yield Tracking and Data Entry:

In compliance with the consumers the capability to follow the yield is expected from the application. Moreover, the application should hold the entered data from the users.

Access to Government Support Programs:

The application requires to give available opportunities to the consumers and clients when they reach the Ministry of Agriculture and Forestry's supports. This app will help the ministry officials to follow and control the accuracy of the support and the consumers (farmers and stockkeepers) will be able to reach the supports easily.

Weather Alerts:

Since the weather conditions are crucial for the farmers the application also offers the easiness to reach the weather conditions up to date. This requirement aims to provide safety for the users of this app by alerting them about the possible disasters and enabling them to take precautions.

2. Technical Requirements

Offline Functionality:

Since at the rural areas the farmers may encounter problems with unstable connection or lack of connection the application will have been planned accordingly with this problem when the application is finished.

Integration with External APIs:

The application should take information as real time weather and government plan updates so it is important to use APIs features properly.

Privacy:

Privacy of the clients and the consumers is a crucial element. The clients may be workers of the ministry which will make privacy an even bigger concern. Moreover, the consumers' information should be stored privately due to the KVKK laws.

3. Non-Functional Requirements

Usability:

The application should be user friendly since the users will suffer from the low digital literacy. Therefore, it should be created as simple as it can to reduce difficulties.

Reliability:

The information stated in the application should be accurate to keep the consumers trust to the application. The application's reliability is directly proportioned to customers' satisfaction.

Scalability:

The application should work properly especially when the number of users from different regions are increased which has a probability of slowing the app.

Professional and Ethical Issues:

Data Privacy and Security: According to the ACM and IEEE Codes of Ethics, we as the developers should consider the privacy of our consumers' and clients' data. The application uses crucial information such as their private information (location, personal information etc.) so it is important to sustain privacy and security of the users.

Transparency and Consent: The users should be aware of the usage of their data for the application. Moreover, their consent to share these data and information is important to sustain professional and ethical issues with a positive manner.

Respecting the work required to produce new ideas, inventions, creative works, and computing artifacts: While this project is being carried out, the rights of the owners of previously created projects will not be usurped. New ideas will be produced, and if existing ideas are quoted, the name of the owner will be indicated to prevent the risk of plagiarism.

Designing and implementing systems that are robustly and usably secure: This application will be produced with considering the benefit of farmers and livestock breeders. Therefore, it is critical to minimize bugs and problems during the development phase. In this way, the robustness and security of the application can be ensured in a healthy way by reducing vulnerabilities such as bugs etc.

Communication Plan

● The meetings with our supervisor will be conducted once every two weeks.

● Meeting will be conducted between team members both face-to-face and through platforms such as Zoom, Teams, WhatsApp, etc.

● We will also keep in touch with our client (Ministry of Agriculture and Forestry) while we are developing the application.

References

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