Software Requirements Specification

for

Agrian

Version 1.0 approved

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Table of Contents

Revision History

Name	Date	Reason For Changes	Version

1. Introduction

1.1 Purpose

Agrian is an online application for farmers to avail loans easily for short-term to mid-term at very reasonable rates. It also provides a platform for the farmers to sell their harvest at reasonable prices as compared to the current market. The overall purpose of the application is to make the farmer's lives a bit easier.

1.2 Document Conventions

Bold text represents something of higher importance.

1.3 Intended Audience and Reading Suggestions

*The different types of reader that the document is intended for are developers, project managers, marketing staff, users, testers, and documentation writers. The rest of this SRS contains specifications on how to run the application on any system. I would recommend the readers to read this document from **top to bottom** as it is arranged.*

1.4 Product Scope

The scope is for both the farmers as well as commodity traders as they can trade efficiently by eliminating multiple middlemen in the process.
The farmers can also avail loans at comparatively lower interest rates than the market.

1.5 References

https://github.com/babe8901/agrian-docs

2. Overall Description

2.1 Product Perspective

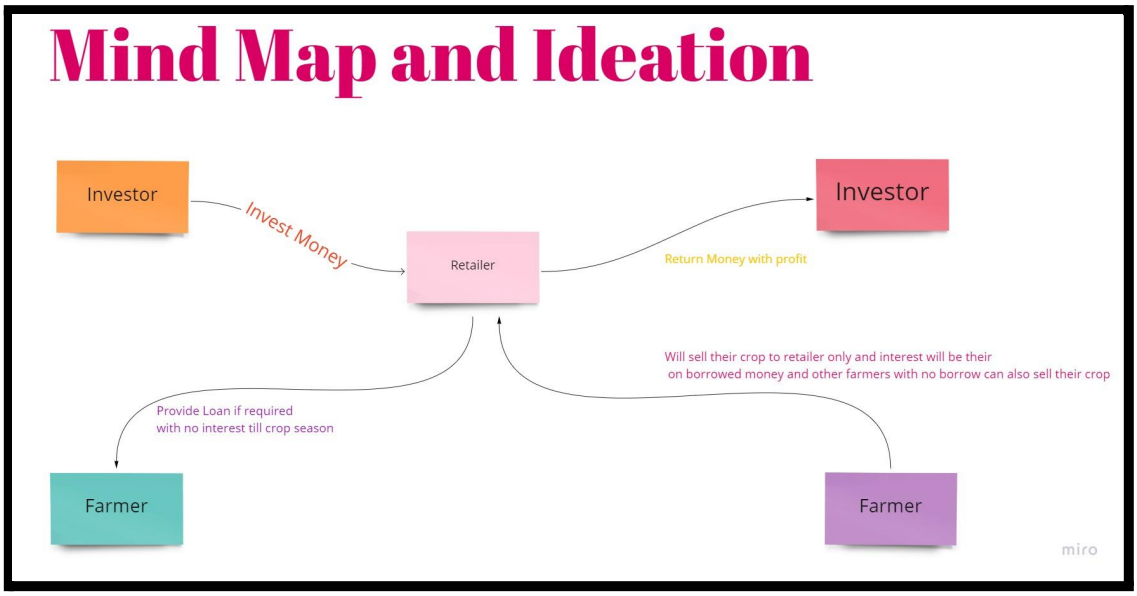
This product is a new, self-contained product. SRS defines the components of a large system.

2.2 Product Functions

- *Provide a trading platform for farmers and commodity traders.*
- *Provide a platform to avail loans easily at cheaper interest rates to the farmers.*
- *Organize trades and loan data efficiently.*

2.3 User Classes and Characteristics

- *Farmers: frequent users of the application, main benefactors and targeted users for the application.*
- *Traders: frequent users of the application, buy yields from the farmers.*
- *Investors: less frequent users, provide fixed deposits to be used to give loans to the farmers.*



2.4 Operating Environment

The software will operate in the ubuntu 20.04 LTS operating system. The environment used is Node js and the devices compatible are any desktop, laptop or smartphones, etc. It will run alongside a mongodb database in the environment.

2.5 Design and Implementation Constraints

The developers must have at least 2GB of data to run the development environment for debugging or testing the application. The processor speed must be greater than 1 GHz. The environment must also have the dependencies installed for the application.

2.6 User Documentation

https://github.com/babe8901/agrian-docs

2.7 Assumptions and Dependencies

It is assumed that the developers are not running the project in an outdated environment or without the recommended requirements. The users are assumed to be using the latest version of the application or browser. JavaScript must be enabled in the browser.

3. External Interface Requirements

3.1 User Interfaces

Users will have access to the portal after they register and login with the valid credentials.

3.2 Hardware Interfaces

The devices supported for the application are all smart devices including smartphones, tablets, laptops, computers, etc. The application uses http protocol for sending requests. It also uses FTP for transfer of files to and from the application.

3.3 Software Interfaces

This product is connected to the mongodb client which is located in the same environment as the product. The system is receiving http requests with payloads and performing some actions on those payloads. The system communicates through this method with the user on a low level. Refer to documents that describe detailed application programming interface protocols. Trade and loan data will be shared across software components.

3.4 Communications Interfaces

This product can be communicated with e-mail, web browser, network server communications protocols, electronic forms, and so on. Message must be formatted in prescribed json format before sending it to the server. Communication standards that will be used are FTP and HTTP. Sensitive data is encrypted before transmitting over the network.

4. System Features

- *Trade: Trading can be done by both the farmers who sell their yield as well as the commodity traders that buy the yield.*
- *Loans: Loans are provided to the farmers at an affordable rate by using the money deposited by the investors.*

4.1 Trading

4.1.1 Description and Priority

It is an important component of our product with a high priority. It provides the platform for the farmers and commodity traders to execute their trade easily and efficiently.

4.1.2 Stimulus/Response Sequences

Farmers can set the minimum amount for the bids that are to be placed by the traders as well as the time limit until which the bids are accepted. The traders can then place their bids as per the last highest bid made.

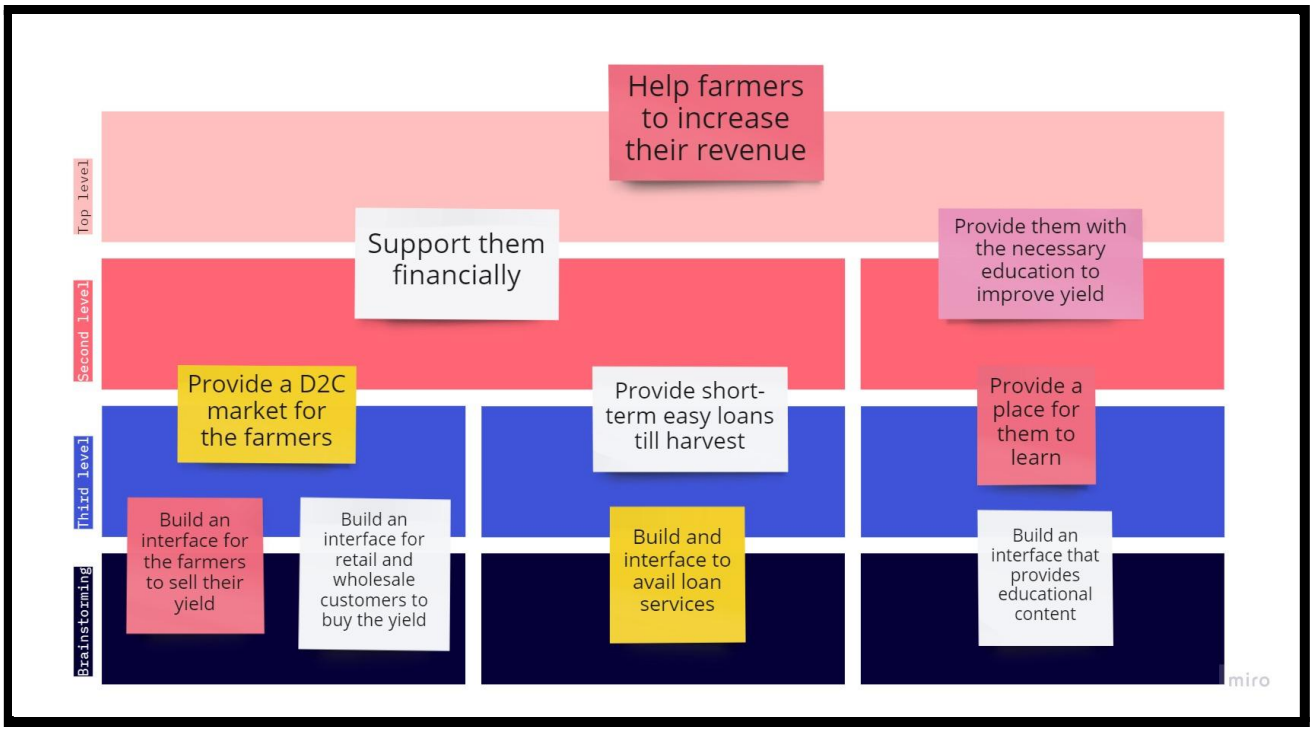
4.2 Avail Loan

4.2.1 Description and Priority

It is an important component of our product with a high priority. It provides the platform for the farmers to avail loans at a lower interest cost.

4.2.2 Stimulus/Response Sequences

Farmers can set the amount for which the loan is required. The feature will calculate the interest rates, EMI(Equated Monthly Installment) and other parameters and then ask the farmer to proceed or not. Then it will collect all the necessary details and file the loan application.



5. Other Nonfunctional Requirements

5.1 Performance Requirements

The requests made on the product should take minimum time to be responded to by the server or the backend. The overall latency of the system should be low.

5.2 Safety Requirements

The product must be run in a safe and harmless environment. There should be no malware or virus attack possible on the product. The product should be resistant to Denial of Service attacks.

5.3 Security Requirements

The user data should be stored safely in the database and any data that is sensitive to the user or the application should be encrypted first and then only transmitted over the network. All the necessary attacks that can take place on the product must be examined well and taken care of.

5.4 Software Quality Attributes

The quality characteristics for the product that will be important to either the customers or the developers are: adaptability, availability, correctness, flexibility, interoperability, maintainability, portability, reliability, reusability, robustness, testability, and usability. The product must be easy to use for the customers so that it can be highly available for the majority of the targeted audience.

5.5 Business Rules

The user data will be completely confidential and stored safely. Only certain employees can have access to certain data on certain conditions.

6. Other Requirements

The product uses the mongodb database, so the additional setup for the same must be done appropriately. The required dependencies for the same must be installed in the development as well as the production environment.