SOFTWARE REQUIREMENT SPECIFICATIONS

Project Topic: [Buddy Farmer]

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Scope:

Limited to farmer and agriculture students of bhutan.

Purpose:

purpose is to built in view of database integration approach; it tries to automate the entire process in an effective, simple, and reliable way.

AIMS: To develop a application for farmer and agriculture students.

OBJECTIVES:

The specific objective of this project are:

1. to provide information to the farmers and agricultural students.
2. to provides better solutions for farmers in providing the information regarding soils, fertilizers.
3. It helps the users in getting training regarding various technologies that can be used in farming.

Requirements:

Functional Requirements:

Features:

Farmer(User)

1. **Queries: Allows farmers and agricultural students to write their doubt**
2. **Report: user can report on not working function.**
3. **Mail: User can notification on mail.**

Canteen owner (Admin)

1. **Registration: admin has to register.**
2. **Login: admin can login with username and password.**
3. **Soil: admin can test the soil.**
4. **Fertilizer: admin can gives various used of fertilizers.**

5. **Crop: admin can gives what crops are used in season based.**
6. **Queries: admin can gives answer to farmers question.**
7. **Report: admin can response to report.**

Non-functional Requirements:

Some of the non-functional requirements of our application are:

1. Security

To login in to this application farmer does not need to login.

2. Portability

Deals with moving the component from one environment to another.

Our application is portable as this application can be used in different platforms as it will be supported and suited in all the platforms of android versions.

3. Usability

Our application is very easy to use as:

a. Learnability: The users will be able to use our application very easily since the direction and naming conventions will be properly written in a simple language that can be understand by anyone. For now, our scope is limited to the farmers and agriculture students of Bhutan, therefore the farmer will be able to use our application very easily.

b. Errors: from user side they does not have any error since they can only do is ask question and views. On admin side may have the error add and answering the question.

c. Memorability: Since our application is not complex as the user don't have to learn anything to use our application, the users will not face trouble when using our application after long time also.

Software Requirements:

The technology and version to be used for developing this application is

A. Android studio with version:
   Version: 4.1.2
   Gradle Version: 6.5

B. JDK 15

C. Firebase Real-time Database

Hardware Requirements

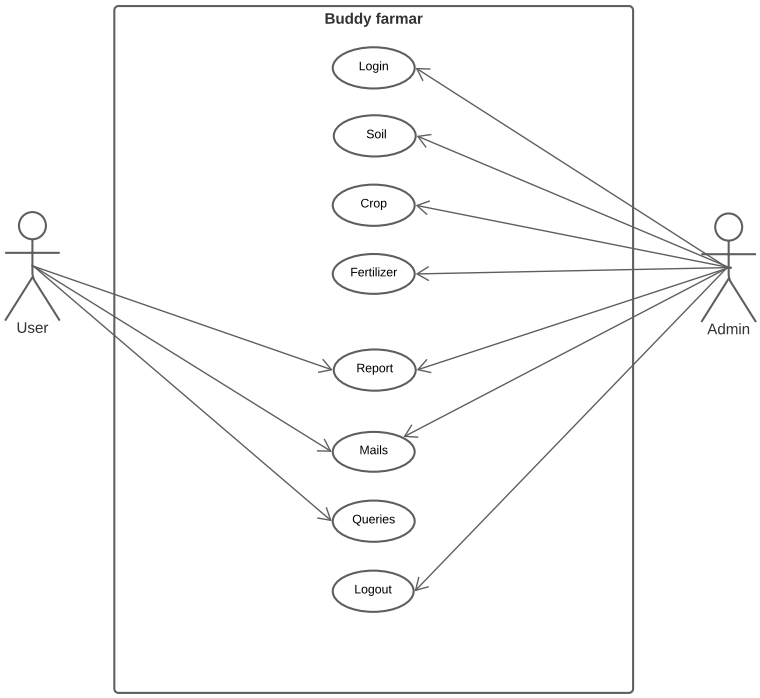
Developer requirements:

1. Laptop/Desktop (Microsoft Windows 7/8/10 (64 bits)/linux/mac)
2. 4 GB RAM minimum, 8 GB RAM recommended
3. 1280 * 800 minimum screen resolution
4. Processor 2.00GHz * 4
5. Android smart phone (as emulator)

User requirements:

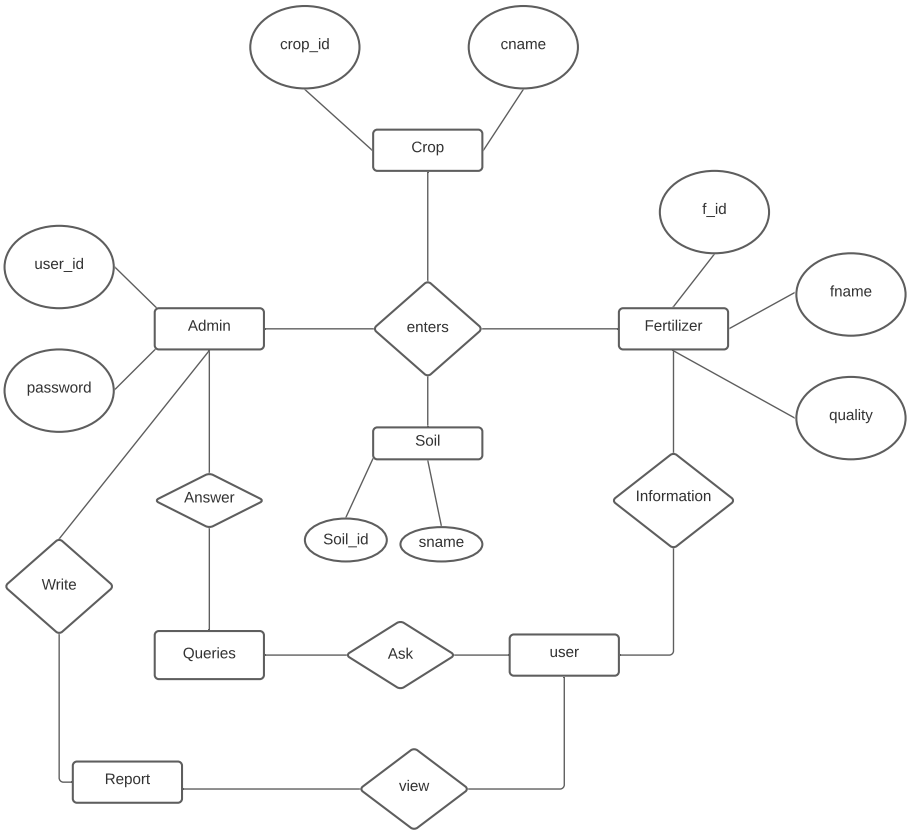
Android smart phone
Internet Connection

Use case diagram



It consists of actors, primary actor as the user and secondary actor as the admin.
Firstly, the admin has to register and then he can perform many functionalities like logging in to the system with username and password, and can test the soil. Admin can test the fertilizer and it can gives what type of crop need to grow in seasonal based.

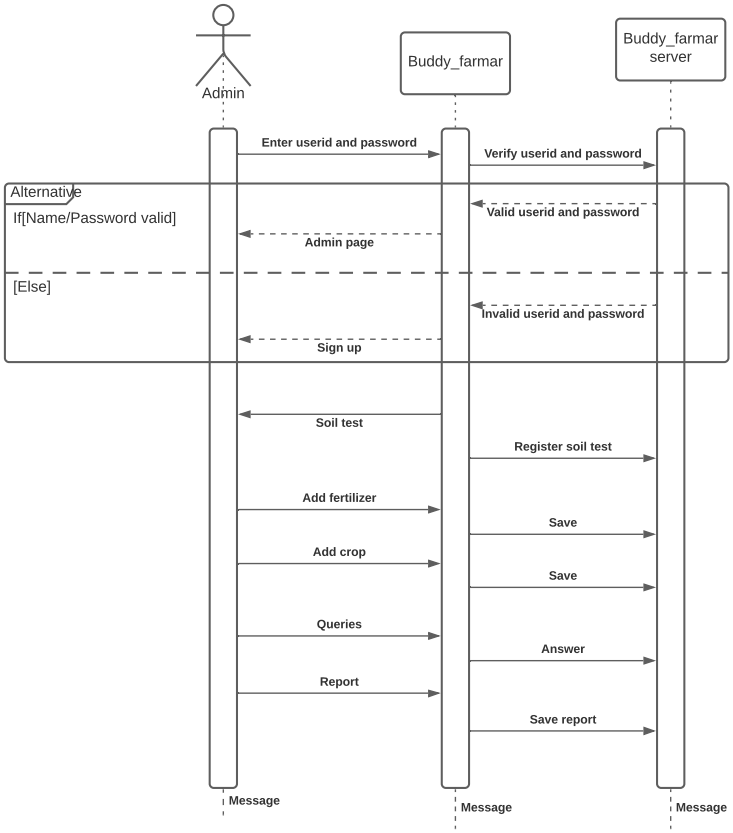
Entity Relationship Diagram



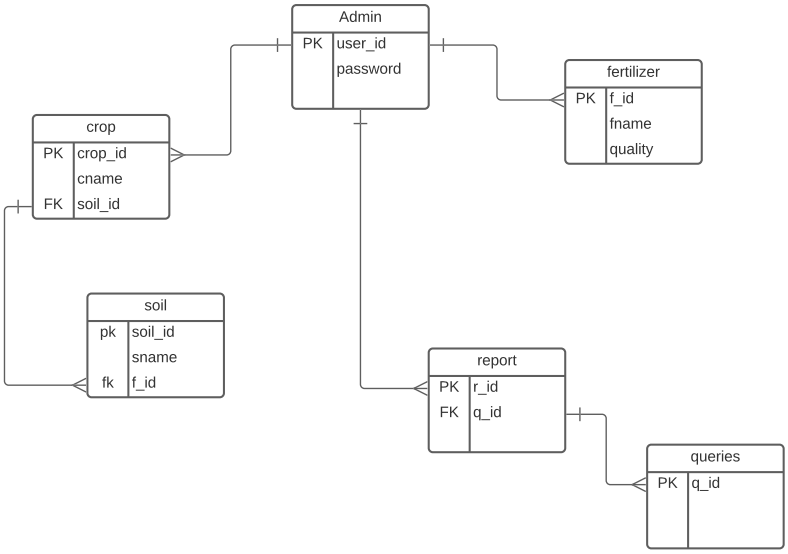
ER diagram

This diagram describes the overall design of our system. Buddy farmer contain of seven entities namely the admin, farmer(user), soil, fertilizer, crop, queries and report.
Entity admin has attributes username(as primary key) and password.

Sequential diagrams



Relation schema



This application consists of six tables: admin, crop, soil, fertilizer, report and queries.

Table admin has two columns with attribute name: username as the primary key, password.
Table fertilizer has three columns with attribute name: f_id as the primary key, fname and quality.
Table soil has three columns with attribute name: soil_id as the primary key, sname and f_id as foreign key.
Table crop has three columns with attribute name: crop_id as the primary key, crop name and soil_id as foreign key.
Table queries has one columns with attribute name: queries_id as the primary key.
Table report has two columns with attribute name: report_id as the primary key and queries_id as foreign key.