



AGRICULTURE MANAGEMENT SYSTEM



PROJECT MEMBERS:

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DISCIPLINE:

BS SOFTWARE ENGINEERING

SECTION:

BSSE-05

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01-USER'S STORY:

The user wants to develop an application that tells them when the water is needed based on cloud situation.? The system talks about the weather condition of the day to determine that this weather condition is appropriate for crops or not. It has the feature of uploading everyday temperature to the database. The system also provides next day's weather condition. They want that which crops, vegetables, and fruits are infected by how many types of insects and prevention of that insects. The system tells what type of fertilizers are required to improve the quality of fertilization of crops, vegetables, and fruits. And increase the production of fertilization. The system generates the report of all crops and vegetables, their fertilizers, their infected insects. The system tells us that how many types of insects and what types of crops are infected by these insects. Only authorized users can run the system. The system tells the water alert when there is

need of water. The software run smoothly, and it is better to be desktop-based application. The user can add the vegetables, crops, and fruits. And search the specific vegetable and fertilizers.

02-Risks:

- N/A

03-Assumption / Constraints:

- The software run smoothly

04-Application:

- The following applications are in scope:

Desktop based Application

- The following applications are out of scope:

N/A

05-STAKEHOLDERS:

Stakeholder's Name	Organization	Role
Dr. Asif Ayyub	National Textile University	Supervisor
Hamza Sharif Khan	National Textile University	President
Muhammad Qamar Nawaz	National Textile University	Vice President

Taskeen Haider	National Textile University	Treasurer
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06-SOFTWARE REQUIREMENT:

Requirement ID	Description	Must / Want	Comment
SR-001	The software has username and password page for confirmation of authorized user.	Must	It is functional requirement.
SR-002	The software Water alert option. When there is need of water according to the weather condition.	Must	It is functional requirement. Knowledge of temperature is required on which water needs.
SR-003	The software stores the data of crops, vegetables, and fruits and their fertilizers as a database system.	Must	It is functional requirement.
SR-004	The software is design for desktop.	Want	It is non-functional requirement.
SR-005	The software has Add option to add vegetables, crops, and fruits and their fertilizers.	Must	It is functional requirement.
SR-006	The software has Search option to search the crops and their relevant fertilizers.	Must	It is functional requirement.

SR-007	The software has search option by city about the weather condition of current day.	Must	It is functional requirement. Humidity, speed of air, max-min temperature, city, country.
SR-008	The software has option to talk about how many types of insects that infected the crops, vegetables, and fruits.	Must	It is functional requirement.
SR-009	The software has option to add insects and their prevention for specific crops.	Must	It is functional requirement.
SR-010	The software is run by only authorized user of department.	Must	It is constraints.
SR-011	The software run smoothly.	want	It is Non-functional requirement.

07-Problem Statement:

1. The Fertilizer institution want to store the data of fertilizers and insects in the database to increase the plant growth.

2. The Fertilizer institution also want a weather update module which tell them whether there is need of tube well or not.

08-INTRODUCTION:

Background:

The Fertilizer institution want to store the data of fertilizers and insects in the database to increase the plant growth.

The Fertilizer institution also want a weather update module which tell them whether there is need of tube well or not.

System Investigation:

The Agriculture System will store the data of fertilizers, crops and insects. The weather update system will tell the need of tube well on the basis of precipitation and overcast condition.

Perform an analysis of the problem using object-oriented techniques:

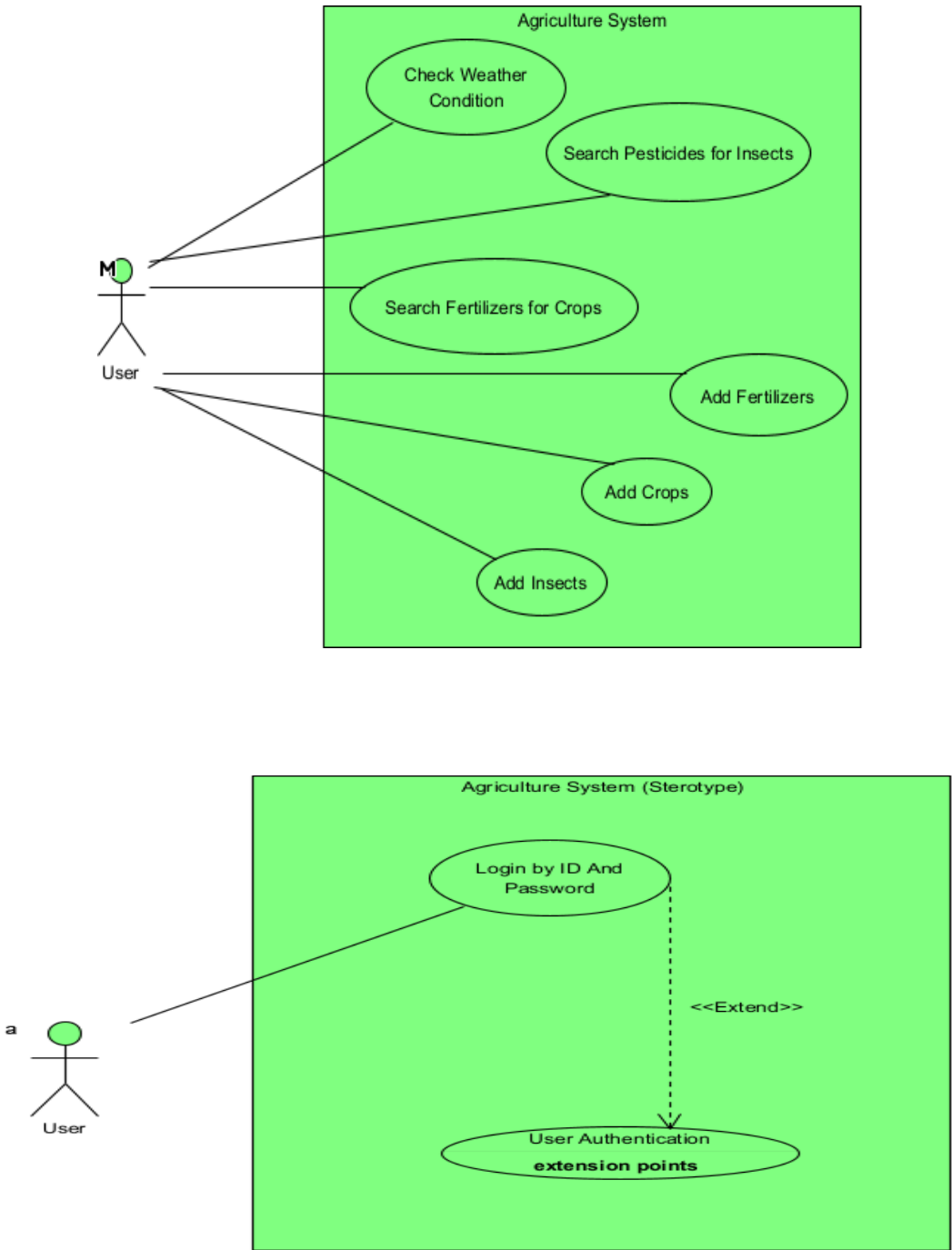
An external view of the model of agriculture system including the water alert, search fertilizer, insects and to search fertilizer.

- Provide an add form for fertilizers.
- Predict the weather condition.
- Search suitable fertilizers for insects.
- Fertilizers for which insects.

Unified Modelling Language (UML):

UML will be used again for the graphical representation and documentation of the design. The system will primarily concern itself with the login process. The system then adds the fertilizer data, search the fertilizers for insects, search insects for a particular fertilizer and finally the weather update module.

USE CASE DIAGRAM



Prototyping:

Prototyping method will be used to implement a limited and functional prototype for the Agriculture System. The prototype will be a working example of part of the system for demonstration and proof of concept purposes only. It will include ADO.NET forms as an end-user interface with SQL Server database. The prototype will be presented to the implementation team.

Constraints:

Weather update:

The system should tell the tube well need on the basis of precipitation percentage.

Database:

The system should use the SQL server for store the data. And application should be made in Ado.net framework (a desktop application).

Functional Requirements:

ADD Fertilizers:

In this section the user can enter the data of fertilizers which are the following.

- Name
- For which crop
- Crop status
- Crop type

Insects:

In this section the user can search the fertilizers for a certain insect. In will take only one input and that is name of insects.

Search Fertilizer:

In this section the user can search the insects for certain fertilizer. In will take only one input and that is name of fertilizer.

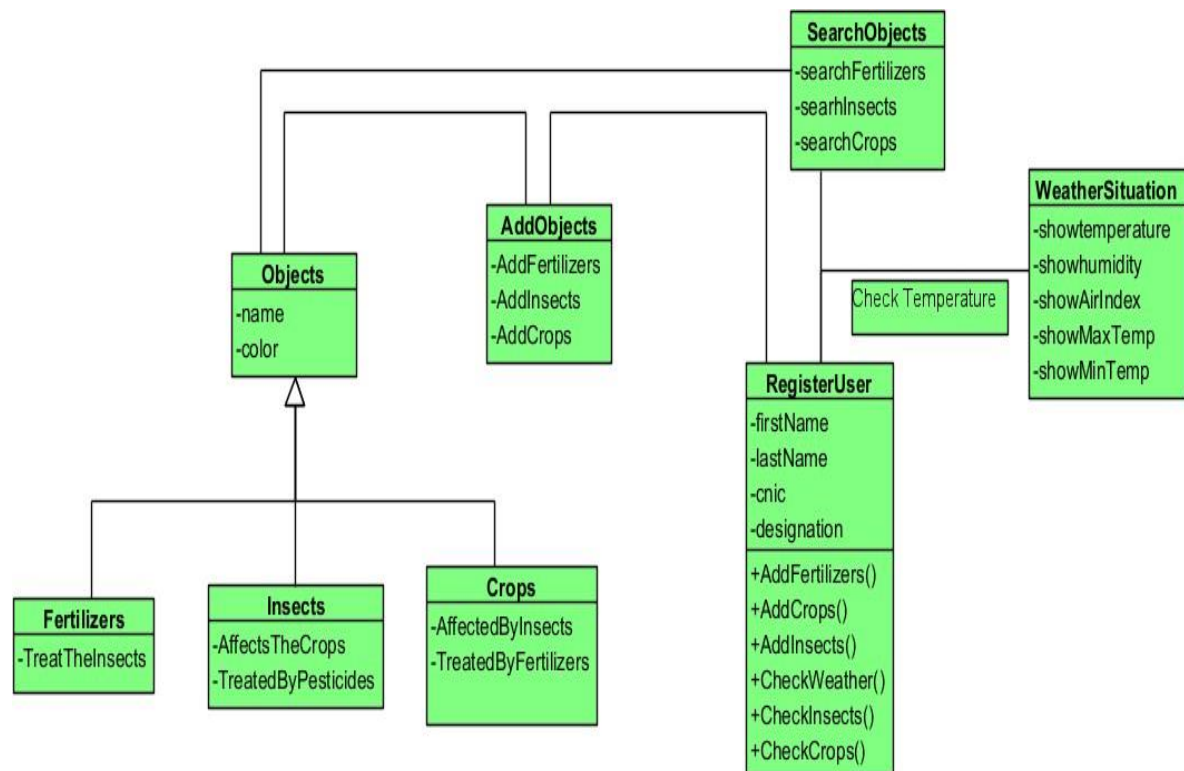
Weather Update:

This module will tell the weather system and need of tube well or not this will need only one input that is name of the city.

Database:

The system must be able to send, receive transaction to SQL Server database system.

CLASS DAIGRAM VIEW



Hardware Requirements:

Network:

Client and server system.

Client Computers:

Mac, Unix and Windows client computers

IBM Mainframe:

The environment that will host the Fertilizer institution wide databases

Production support systems:

Clients (PC) and related hardware support.

Software Requirements

Client Operating Systems

- UNIX (any flavour)
- MAC
- Windows

Mainframe system

- SQL Server Database

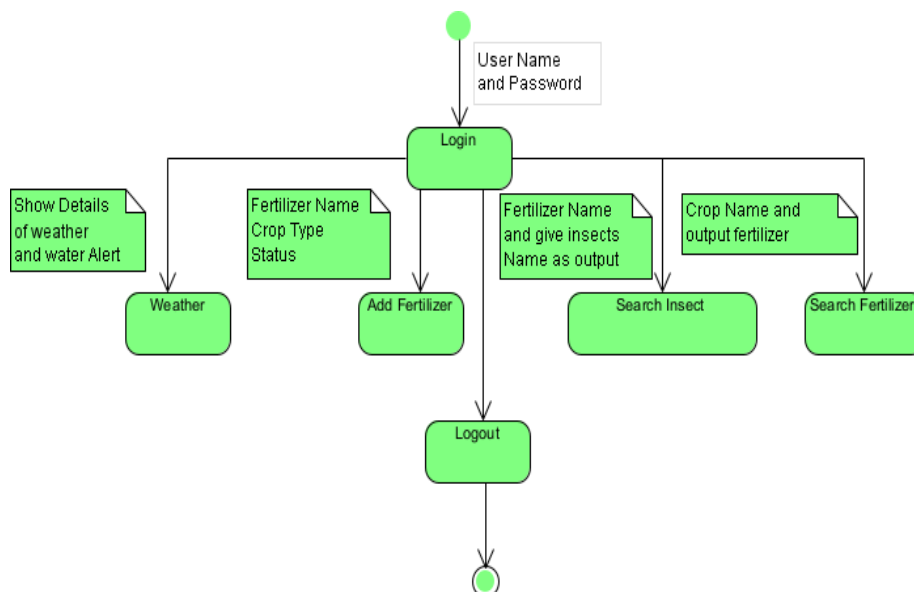
Data validation:

Data error from the user's end and from the back-end database-processing end must be gracefully handled. There will be data validation and error-handling routines as part of the online registration system.

Data repository:

The online registration system will maintain the SQL Server management registration database as the main repository of data.

STATE MACHINE DIAGRAM



SEQUENCE DIAGRAM

