Lab 5 Group 13

1. **Identify all the stakeholders and users of the systems:**

   Stakeholders:

   - Admin
   - Supervisors
   - Farmers (Customers)
   - Project Team (From Software Maintenance Side)
   - Project Manager (From Software Maintenance Side)

   Users:

   - Admin
   - Supervisors
   - Farmers

2. **The various features exercised by each user of the system and all of them in detail (the user requirements and system requirements both)**

   Admin:

   - Can use/ access the system at any time; all the administrative functionalities should be accessible to him/her.
   - Can check details about the local supervisor and the farmer.
   - Can edit the details about his warehouse for marketing purposes.
   - Can display the Dynamic details of the current storage capacity available in each of the warehouses.
   - Details of the total quantity and type of crops and kept in the warehouse.

   Supervisor:

   - Have the details about the warehouse under his/her supervision
   - Can update the storage to use the warehouse more efficiently
   - Have the details about farmers who have used the warehouse under his/her supervision
   - Access the payment details of the farmers using the warehouse under his/her supervision
   - Access details of the staff working at the warehouses.
   - Can see the Dynamic details of the current storage capacity available in each of the warehouses.
   - Details of the total quantity and type of crops and kept in the warehouse.
   - Details about the Permissible time for each of the crops to farmers

Farmers:

- Check the condition of his crop in the warehouse.
- Use the system for payment purposes.
    - Instant Deposit
    - Installment Payment
    - Advance Booking
- Current Capacity available in warehouses
- The total amount of time for which they want to keep the crops.
- Can choose the most suitable warehouse according to their location and requirements.
- The total yield of their crop.
- Can know the available capacity in warehouses.
- Pest Protection (Crop) facilities available for crops in warehouses.
- Details of each crop:
    - The number of sacks of each crop.
    - Future crop reaping.
    - Crop Storage Life

3. The non-functional requirements of the system are:

- The system should remain accessible 24x7.
- It should be a web application that should work with every web browser on PC and mobiles.
- The system should encrypt the passwords of all its users.
- The system should be able to send notifications to the farmers.
- The system should be capable of handling many user logins at the same time.
- The error rate of users for payment at the checkout page must be minimum.
- The system should show all the nearest warehouses according to the farmers' location.
- The date format in the system must be date/month/year.
- The system should be able to calculate the amount of free space available in the warehouse.
- Each request of the farmer must be processed within 10 seconds by the system.

4. Specify user interfaces for each user of the system

There are a total of 3 different types of users of our system. Customer, Supervisor, and Admin/Owner.

Customer: When a customer/farmer opens the system, he/she will be landed on the home page, on which there will be some options available to him 1) Sign Up/Sign In 2) Know the standard information about the warehouses located nearby him/her.

If the user selects the second option, then he/she will be redirected to another page containing information about the warehouses nearby him/her. If the user selects the first option, then he/she will be redirected to the login page; there will also be the facility to sign up for first-time users. Once logged in, all the data related to that customer will be made available to him/her. There will be options like Payment, Storage, Complaint, Contact details.

- If there are some of his goods in any of the warehouses in the Storage option, then there will be details about his/her goods in the warehouse. There will also be some options like renewing the storage(if available) and information on any warehouse, which implies whether storage space is available or not.
- In the Complaint section, He/She will be able to give his/her feedback to the warehouse owner directly. Email and other details handles will be shared here.

- In the Contact details section, there will be information about the warehouse supervisors, in which his/her goods have been currently stored.

- In the Payment section, Information about his/her remaining/advance payment will be made available to him/her. He/She will also be able to make online payments under this section. That will be done by other online payment gateways.

Supervisor: When the supervisor opens the system, he will first need to login/register on the home page. Then after successful registration/login, he will be directed to a menu containing the following :

- Current conditions/details of his/her warehouse.
- An indicator showing current storage capacity and storage left.
- A list containing the details of all the farmers who have their crops in his/her warehouse along with details of their respective crops and quantity, time and date of allotment, their payment details.
- A list containing the details of staff working in the warehouse.
- List of advance bookings done for the warehouse.
- A section containing details of the respective admin/owner.

Admin/Owner：

When the Admin/Owner opens the system, he will also be needed to login into the system first. Once logged in, he will be provided with some options like Storage details, Payment details. There will be some *Administrator only* accesses provided to him.

- In one section, He will be able to access all the details about his warehouses. There will be details like total capacity, total available capacity, and other details about all of his warehouses independently.

- There will be one feature, through which he will be able to have the details about all the staff working in his warehouses.
- In one section, he will be able to access the payment details about all the customers currently using or whose payment is remaining.
- In one feature, he will be able to update/edit the details about his warehouses/supervisors.

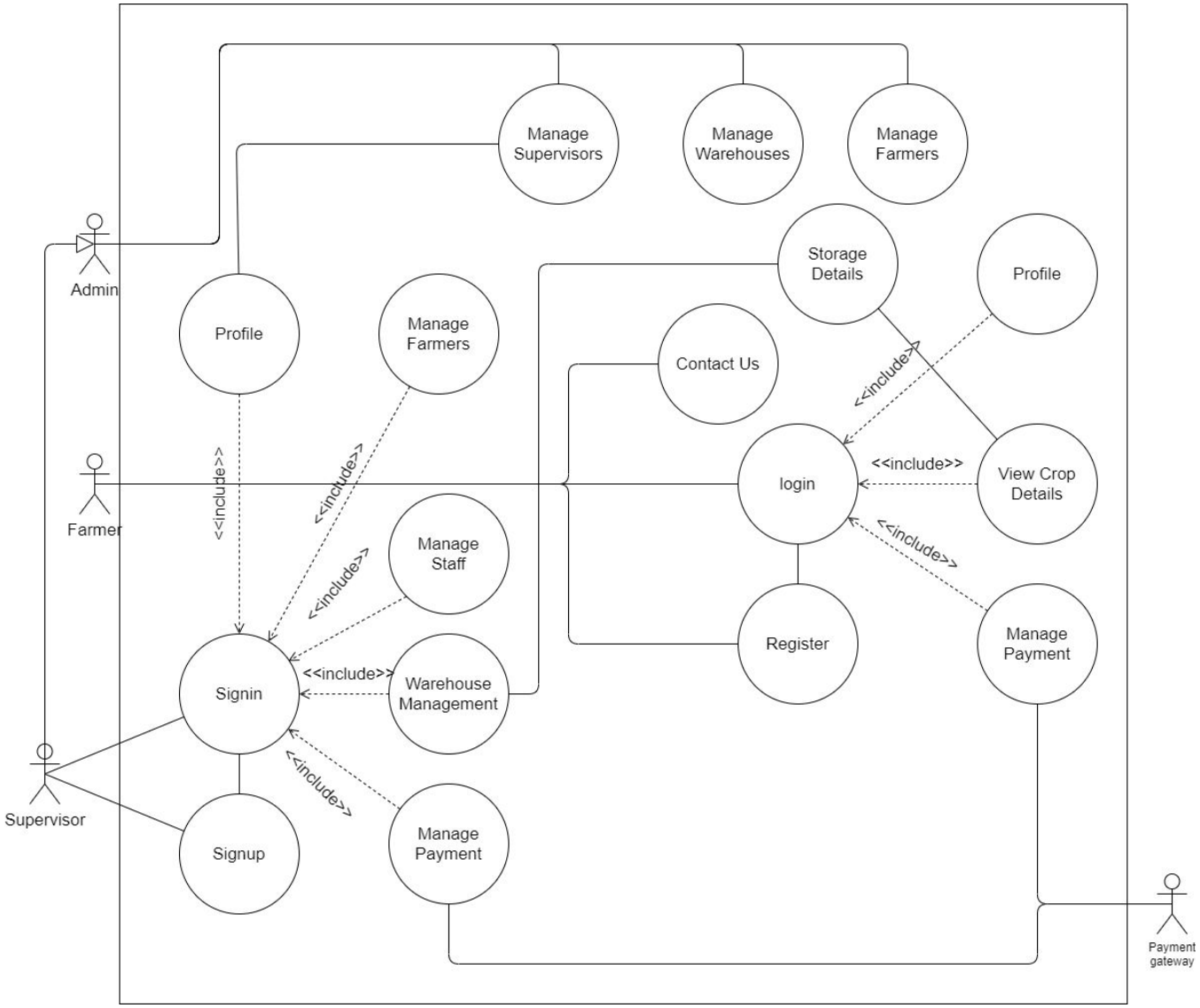
Apart from the above, all the functionalities which were there for the supervisor will also be available for Admin/Owner.

5. ‘Open Issues’- issues those are identified but not taken care of

Although we tried to include all the features that should be there for a real-world warehouse management system, we identified some of the features that can not be included in our project due to a few technical/ non-technical constraints. They are as following :

- There can be one feature providing internal communications between different actors of the system, which can be extensively used in the Complaint section. There can also be other benefits of this feature to improve the overall user experience.
- The supervisor should be made aware of the minor facilities such as Fire Extinguisher services, Pest control cylinders, etc., in his warehouse. It can be done by implementing some type of alert messages/mails. We are not currently exploring it because it requires us to know about some other domains as well.
- In the real-world warehouse system, Supervisors should be given the facility of paying the laborers, who are working on daily wages in the warehouse, under his supervision.

6. Develop use-case diagrams for your project.



7. Write 2-3 paragraphs describing the requirements/needs/objectives of your project.

Requirements: Our System has been designed for warehouses and farmers. The system should be able to track the required details of goods kept inside the warehouse by farmers. The farmer will be able to see the details of the crop and other storage-related information. Diversified payment methods are also embedded in the system to keep its versatility intact. Payments are categorized so that farmers can book storage for a future crop. From the supervisors' perspective, they should be able to keep a record of the details of farmers and

available space for them and the payment history for each farmer who has placed his/her crop for storage. Furthermore, the crop's details and suitable time to use them before it gets destroyed, along with regular notifications and updates regarding their crops and payments, are also displayed. The admin will be able to keep track of all the warehouses, employees, and their details.

Needs:

➢ **Hardware Requirement:**

Hardware is a set of physical components, which performs the function of applying appropriate, predefined instruction. In other words, one can say that electronic or mathematical parts of computers constitute hardware.

The following are the minimum hardware specifications required to run this package:

- Processor: Intel Core processor 2 GHz
- System type: 32- bit or 64- Operating System
- RAM: 1.00 GB
- Hard Disk: 80 GB HDD
- Monitor: Compatible Printing Device
- Internet Connectivity with Ports configured.
- Keyboard: Any Keyboard
- Mouse: Any Mouse

➢ **Software Requirement:**

The software is a set of coded information procedures or a program when fed into the computer hardware, enabling the computer to perform various tasks. Software is like a current inside the wire, which cannot be seen, but its effect can be felt.

The following are the minimum software specifications to run this package:

- Operating System: Microsoft Windows 7 / 8/8.1/10
- Platform: C++ ,JavaScript ,HTML languages through Microsoft visual studio
- Database: Database access (MY SQL)

Objectives: This project aims to help the farmers and all those who want to keep their crops at the most affordable price and location according to their requirements. This project will help the farmers choose the best suitable warehouse convenient to their location and the necessary details. The farmer can book the slots in the warehouse according to their crop and quantity, thereby easy management of crop in massive quantities with just a few clicks in the system. Another target is to help the warehouse owners, and supervisors better manage warehouses by quick allocation speed, versatile payments, enhanced visibility in the outside world hence attracting more customers. According to crop type and conditions, they can rely on the system

to handle the automatic and better allocation of space in their warehouses. Staff management is also optimized accordingly. The farmers can also take advantage of reserving space in advance according to their future crops requirement, thus facilitating a booking in the warehouse. This feature thus allows the farmer to reserve space for his crops in advance. Farmers will be able to manage their crop business being empowered by technology efficiently.