

Rop-Connect

**Kishori T. Salunkhe¹, Shravanee .R. Jadhav², Vaishnavi .S. Mali ³ Shweta .M.Jadhav⁴ ,
Vaishnavi .S.Gurav⁵**

¹Lecturer, Computer Technology, AITRC Vita

²Student, Computer Technology, AITRC Vita

³Student, Computer Technology, AITRC Vita

⁴Student, Computer Technology, AITRC Vita

⁵Student, Computer Technology, AITRC Vita

Abstract –The RopConnect project is a software-based system designed to simplify sugarcane nursery management and sapling booking for farmers and nursery owners. In many nurseries, the booking process, payment management, and record keeping are still done manually, which can be time-consuming and inefficient. Farmers often need to visit nurseries physically to check sapling availability and complete bookings. This project provides a digital platform where farmers can easily register, view available sugarcane saplings, and book them online using a mobile or web application. Nursery owners can manage bookings, track orders, maintain payment records, and monitor business activities through an admin dashboard. The system also improves communication by sending notifications and updates about bookings. By replacing manual work with a software system, the project helps save time, reduce errors, and organize nursery operations more efficiently. Overall, the system makes the sapling booking process easier, faster, and more convenient for both farmers and nursery owners.

Key Words: Sugarcane Nursery Management System, Agriculture Management, Farmer Management, Nursery Data Management, Plantation Records .rop-connect .

INTRODUCTION

Rop-Connect is a software-based project developed to simplify sugarcane nursery management. In many nurseries, the booking of saplings, payment process, and record management are still done manually. This manual system takes more time and sometimes creates confusion between farmers and nursery owners. Farmers often have to visit the nursery to book saplings and make payments, which is inconvenient and time-consuming. Nursery owners also face difficulties in managing orders, payments, and communication with farmers. The RopConnect system provides a digital solution to these problems by introducing a web and mobile-based application. Through this system, farmers can easily book sugarcane saplings online and make secure digital payments. Nursery owners can manage bookings, track payments, and generate reports through an admin

dashboard. This software system improves efficiency, saves time, and makes nursery management more organized and transparent.

Body of Paper-

2.1 Literature Review

Many researchers and developers have worked on agriculture management systems to help farmers manage their crops more efficiently. Traditional sugarcane nursery management is mostly done manually, which can lead to errors in maintaining records of seedlings, irrigation, fertilizers, and pest control. Various studies show that digital systems can improve the efficiency of farm management by storing data in an organized way and providing easy access to information. Earlier agriculture management applications mainly focused on crop monitoring and farm record management. Some systems also include features like irrigation scheduling, fertilizer tracking, and pest management to support farmers in maintaining healthy crops. Research also highlights the use of simple software tools that help nursery owners keep records of planting dates, growth stages, and seedling availability. These systems reduce paperwork and help in better planning of nursery activities. With the advancement of technology, many modern solutions use web or mobile applications to make the system more accessible for farmers. Such systems help farmers make better decisions by providing proper information about crop growth and management. Studies also suggest that using digital management systems in agriculture increases productivity and reduces time and effort. Therefore, developing a Sugarcane Nursery Management System can help farmers and nursery managers manage their data efficiently and improve the overall productivity of sugarcane cultivation.

2.2 Existing System

In the existing system, sugarcane nursery management is mostly done using manual methods. Farmers and nursery managers keep records of seedlings, planting dates, irrigation, fertilizers, and pest control in

notebooks or paper files. This method requires a lot of time and effort to maintain and update the information. Sometimes data may be lost, damaged, or recorded incorrectly. It is also difficult to track plant growth, nursery stock, and farmer details properly using manual records. When the information is needed, searching through papers becomes time-consuming. Communication and coordination between farmers and nursery managers are also not very efficient. Because of these problems, the traditional system is less organized and may lead to mistakes in managing the nursery. Therefore, there is a need for a computerized system that can store and manage all nursery information in a simple and efficient way.

2.3 Proposed System

The proposed Sugarcane Nursery Management System is a software-based solution designed to manage nursery activities in an organized and efficient way. In this system, all important information such as farmer details, seedling records, planting dates, irrigation schedules, fertilizer usage, and pest control data will be stored digitally in a database. The system will provide an easy interface where users can add, update, and view nursery information whenever needed. It will help nursery managers track plant growth and manage the availability of sugarcane seedlings. The software will also reduce manual paperwork and minimize errors in record keeping. By using this system, users can quickly access information and generate reports related to nursery management. The proposed system will improve efficiency, save time, and help farmers make better decisions for managing sugarcane nurseries effectively.

2.4 System Architecture

User Interface: The user interacts with the system through a simple interface to enter and view nursery information.

Application Layer: The application processes the user's requests and controls the system functions.

Data Processing: The system processes information such as farmer details, seedling records, and nursery activities.

Database: All data related to sugarcane nursery management is stored in a database.

Data Retrieval: The system retrieves the required information from the database when requested by the user.

Information Display: The processed information is displayed to the user in an organized format.

System Management: The system helps in managing irrigation schedules, fertilizers, pest control, and seedling availability efficiently.

Link System: We have created a link to open our application. It is the easiest and simplest way to open an application

2.4.1 Data Flow Diagram

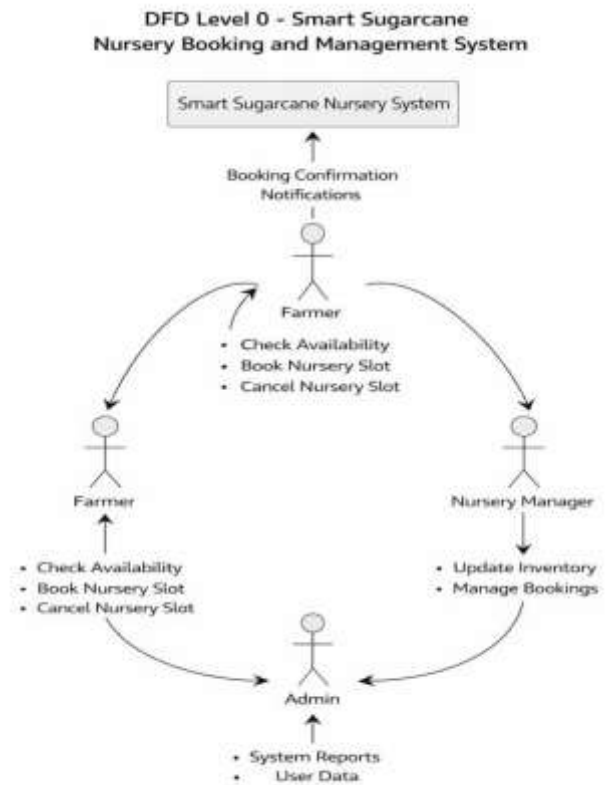


Fig.,1

The Level 0 Data Flow Diagram (DFD) represents the overall working of the Smart Sugarcane Nursery Booking and Management System. It shows how different users interact with the system and how information flows between them. The main component of the diagram is the Smart Sugarcane Nursery System, which processes all the requests and manages the nursery data. In this system, the Farmer is one of the main users who can book or cancel nursery slots and check the availability of sugarcane seedlings. The farmer sends booking requests to the system and receives booking confirmation notifications after the process is completed.

The Nursery Manager is responsible for managing nursery operations and monitoring booking activities. The manager receives booking request reports from the system and updates the inventory of available seedlings. The manager also manages nursery bookings and ensures that the required seedlings are available for farmers. Another important user in the system is the

Admin. The admin manages user accounts, system data, and generates system reports. The admin also monitors overall system activities to ensure smooth functioning. All these users interact with the central system, which processes their requests and stores the necessary information. The system helps in organizing nursery management activities efficiently and reduces manual work. It also improves communication between farmers, nursery managers, and administrators. This system makes the nursery booking process faster, more accurate, and easy to manage.

2.4.1 Design Methodology

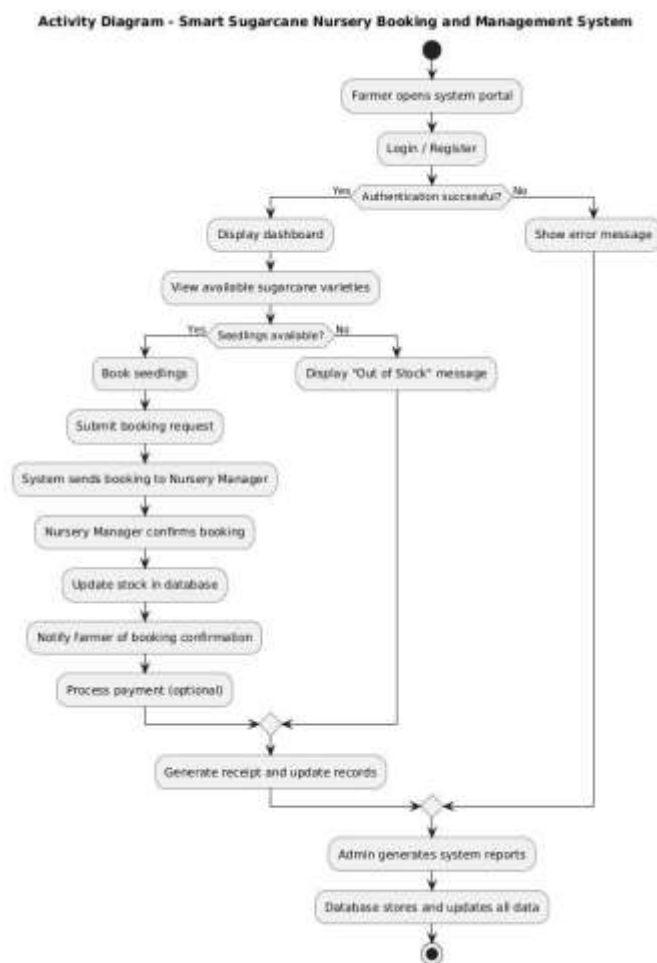


Fig.,2

The activity diagram explains the step-by-step working of the Smart Sugarcane Nursery Booking and Management System. The process starts when a farmer opens the system portal. After opening the portal, the farmer needs to login or register in the system. The system checks whether the authentication is successful or not. If the login details are incorrect, the system shows an error message and the user must try again. If

the authentication is successful, the farmer can access the dashboard of the system.

From the dashboard, the farmer can view the available sugarcane varieties in the nursery. The system then checks whether the seedlings are available or not. If the seedlings are not available, the system displays an “Out of Stock” message to the farmer. If the seedlings are available, the farmer can proceed to book the seedlings. After selecting the seedlings, the farmer submits the booking request through the system.

The system then sends the booking request to the nursery manager for approval. The nursery manager reviews the request and confirms the booking. After confirmation, the system updates the stock information in the database. The farmer then receives a notification about the booking confirmation. In some cases, the farmer may also complete the payment process. After that, the system generates a receipt and updates the booking records. Finally, the admin can generate system reports and the database stores and updates all the information related to bookings and nursery management. This process helps manage nursery bookings in an organized and efficient way.

2.5 Modules

Open the System – The user first opens the Sugarcane Nursery Management System on a computer or mobile device. This is the starting point where the user accesses the application to use its services.

Login Page – After opening the system, the login page appears on the screen. Here the user needs to enter their username and password to access the system.

User Authentication – The system checks the entered username and password with the stored data in the database. This step ensures that only authorized users can use the system.

Access Dashboard – If the login details are correct, the system allows the user to enter the dashboard. The dashboard is the main page where the user can see different options and information related to the nursery.

View Nursery Information – On the dashboard, the user can view important information such as different sugarcane varieties available in the nursery and the current stock of seedlings.

Check Availability – The farmer checks whether the required sugarcane seedlings are available in the nursery before placing a booking request.

Book Seedlings – If the seedlings are available, the farmer selects the type and quantity of seedlings and submits a booking request through the system.

Manager Approval – The booking request is sent to the nursery manager. The manager reviews the request and

checks the stock before approving or rejecting the booking.

Payment Process – If the booking is approved, the farmer may need to complete the payment process depending on the system. This confirms the booking of the seedlings.

Booking Confirmation – After successful approval and payment, the system sends a confirmation message or notification to the farmer about the booking.

View Reports or Details – The user can check booking details, history, and other nursery information in the system whenever required.

Logout – After completing all the tasks, the user logs out from the system to close the session and keep the account secure.

book certified sugarcane seeds and plants easily through the system. This feature helps farmers get trusted sugarcane varieties for farming.

On the right side of the screen, the system displays available sugarcane seeds or plants. Each item shows an image of the sugarcane crop, the variety name (for example Co 86032 Sugarcane Seeds), maturity time, and price per unit. This information helps farmers understand the details of the seed before purchasing. Below the product details, there are two buttons: View Details and Buy. The View Details button allows the user to see more information about the seed variety, while the Buy button allows the farmer to purchase or book the sugarcane seeds directly through the system. This interface makes the process of selecting and booking sugarcane seeds simple and user-friendly for farmers.

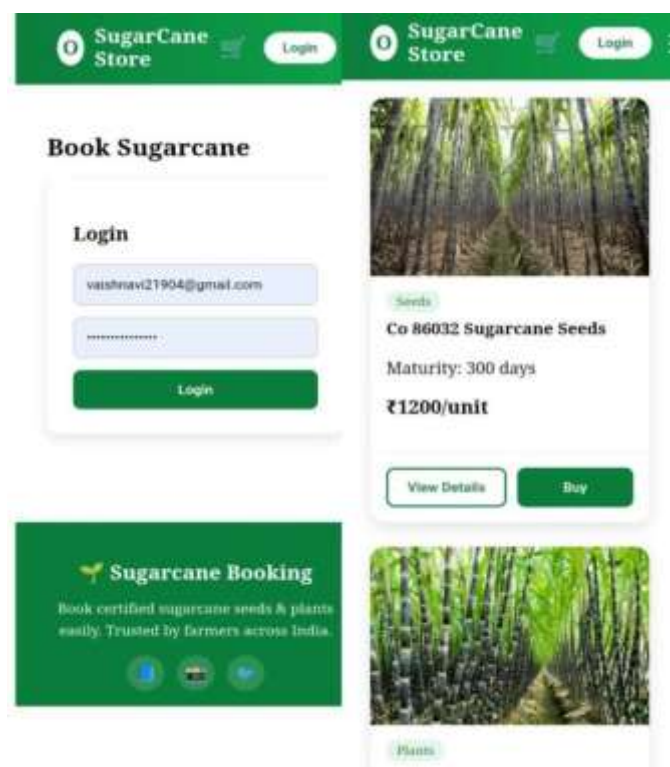


Fig.,3

This screen shows the interface of the Sugarcane Store / Sugarcane Nursery Booking System. At the top of the screen, there is a header that displays the name “SugarCane Store” along with a login option and menu icon. This helps users easily navigate the application.

On the left side, the Login Page is displayed. In this section, the user needs to enter their email ID and password to access the system. After entering the correct login details, the user clicks the Login button to enter the application. This step ensures that only registered users can use the system.

Below the login section, there is an information area about Sugarcane Booking. It explains that farmers can

3. CONCLUSIONS

The Smart Sugarcane Nursery Booking and Management System is a useful digital solution that helps farmers and nursery managers manage sugarcane seedlings more effectively. Through this system, farmers can easily check the availability of different sugarcane varieties, view details about seeds or plants, and book them online without visiting the nursery physically. This makes the process faster and more convenient for farmers.

The system also helps nursery managers maintain proper records of seedling stock, booking requests, and farmer details. By using this system, the manager can update nursery inventory, approve or reject booking requests, and monitor nursery activities easily. All the information is stored in a database, which reduces paperwork and minimizes the chances of errors or data loss.

Another advantage of this system is that it improves communication between farmers and nursery managers. Farmers receive notifications about booking confirmation and can check their booking history anytime. The admin can also generate reports to analyze nursery operations and manage the system efficiently.

Overall, this system makes the sugarcane nursery management process more organized, transparent, and user-friendly. It saves time, reduces manual work, and supports farmers in getting quality sugarcane seedlings easily.

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REFERENCES

1. P. K. Gupta, “**Agricultural Management Systems**”, Agriculture Technology Publication, 2019.
2. S. K. Sharma, “**Modern Farming and Crop Management**”, New India Publishing Agency, 2020.
3. Food and Agriculture Organization (FAO), “**Sugarcane Production and Management Practices**”, FAO Publications.
4. Government of India, Ministry of Agriculture and Farmers Welfare, www.agricoop.gov.in
5. Sugarcane Research Institute resources and agricultural information websites such as www.icar.org.in and www.agritech.tnau.ac.in.