

Agriculture Office Internal Management System

Hnin Su Hlaing, Hnin Hnin Wai

Student, 5th Year, B.C.Sc.

University of Computer Studies, Hinthada

Supervised By

Htet Wai Lwin

Faculty of Computer Science

University of Computer Studies, Hinthada

Abstract The Agriculture Office Internal Management System is a web-based application developed to improve the efficiency and effectiveness of administrative operations within the Agriculture Office. The system provides a centralized platform for managing employee records, pesticide shop registrations, fertilizer license applications, farmer inquiries, agricultural information, office announcements, and pesticide shop inspection records. It also supports the dissemination of agricultural news, weather updates, crop disease information, and seed-related information to farmers and stakeholders. By integrating these services into a single platform, the system enables staff to manage information more efficiently and provide timely agricultural services. Traditionally, many office activities are performed manually, resulting in data duplication, record loss, inaccuracies, and delays in accessing information. To address these challenges, the system digitizes and automates administrative processes, allowing information to be stored, updated, and managed through a centralized database. The system is developed using the Laravel Framework, Laravel Eloquent ORM, MySQL, and Tailwind CSS to provide a secure, responsive, and user-friendly environment. By centralizing data management and reducing paperwork, the system improves data accuracy, enhances communication, supports better decision-making, and increases the overall efficiency of Agriculture Office administration and agricultural service delivery.

Keywords: agriculture office, internal management system, agricultural services, farmer inquiries, pesticide shop license, fertilizer shop license, crop disease information, weather advisories.

INTRODUCTION

The Agriculture Office Internal Management System is a web-based application developed to improve the management of agricultural services and administrative activities within the Agriculture Office. The system provides a centralized platform for managing pesticide shop registrations, fertilizer license applications, farmer inquiries, agricultural information, inspection records, staff information, and office announcements. Traditionally, many of these processes are handled manually, which can lead to delays, data duplication, paperwork, and difficulties in maintaining accurate and up-to-date records. The proposed system addresses these challenges by digitizing and automating various administrative tasks, allowing information to be stored, updated, searched, and retrieved efficiently. Developed using PHP, MySQL, and the Laravel framework, the system provides a user-friendly, reliable, and secure environment for administrators and users. It also supports the dissemination of agricultural news, weather updates, crop disease information, pesticide information, seed information, and other important agricultural resources to farmers and relevant stakeholders. By integrating multiple agricultural services into a single platform, the system improves communication between the Agriculture Office and users, enhances data accuracy, reduces paperwork, and increases the overall efficiency and effectiveness of office operations. Furthermore, the system supports better decision-making by providing organized data management, timely access to information, and useful records for monitoring agricultural activities.

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PROBLEM

In the Agriculture Office, many administrative activities are still carried out using manual and paper-based methods, including pesticide shop registration, fertilizer license applications, farmer inquiry management, staff record management, pesticide shop inspection records, and the dissemination of agricultural information and announcements. These traditional processes often result in data duplication, record loss, inaccurate information, and delays in retrieving or updating records. As the volume of information continues to increase, managing and maintaining records manually becomes more difficult, time-consuming, and prone to human error. In addition, tracking application statuses, managing inspection records, generating reports, and maintaining historical data can be challenging without a centralized system. Farmers also require timely access to important information such as agricultural news, weather updates, crop disease information, and pest management recommendations; however, the absence of an integrated digital platform can limit the efficient distribution of such information and delay communication between the Agriculture Office and farmers. Furthermore, storing information in separate documents and files makes it difficult for administrators to monitor office activities, access accurate records, and make informed decisions. Therefore, a centralized, reliable, and user-friendly system is needed to efficiently manage agricultural services and administrative activities. The proposed Agriculture Office Internal Management System is developed to address these challenges by digitizing office operations, centralizing data management, improving data accuracy, reducing paperwork, simplifying administrative processes, enhancing communication with farmers, and increasing the overall efficiency and effectiveness of Agriculture Office management. The benefits of the system include faster access to information, improved record management, and more effective monitoring of agricultural services and administrative activities. Furthermore, it helps staff make informed decisions based on accurate data while providing farmers and stakeholders with timely and reliable agricultural information and services.

APPROACH

The Agriculture Office Internal Management System is designed with different roles, including administrator, farmer, and shop owner. Each role has specific responsibilities and permissions to ensure efficient management of agricultural services and administrative activities. The Administrator is responsible for managing the overall system operations and maintaining the accuracy and security of system data. The administrator also monitors user activities, manages agricultural information, and ensures that all submitted applications and records are properly processed. After logging in, the administrator can:

- Manage staff information and user accounts
- Review and process pesticide shop registration applications
- Manage fertilizer license applications submitted by business owners
- Record and monitor pesticide shop inspection activities
- Manage agricultural information such as crop diseases, pesticides, seeds, and related recommendations
- Publish agricultural news, announcements, weather updates, and agricultural advisories
- View, search, and generate reports from system records
- Respond to and manage farmer inquiries submitted through the system
- Monitor system activities and maintain data accuracy
- Ensure system security and proper information management

The system was developed using the Laravel framework for application development, Laravel Eloquent ORM for database operations, MySQL as the database management system, and Tailwind CSS for creating a responsive and user-friendly interface.

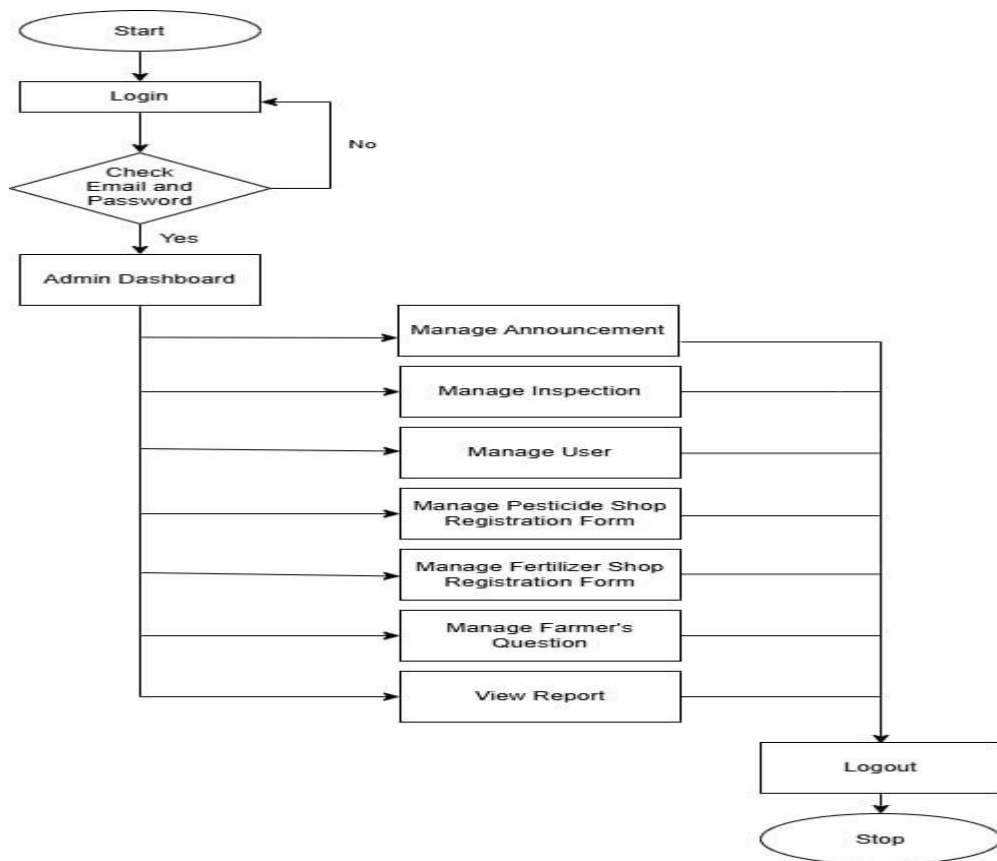


Figure 1: System Flow Diagram for Admin

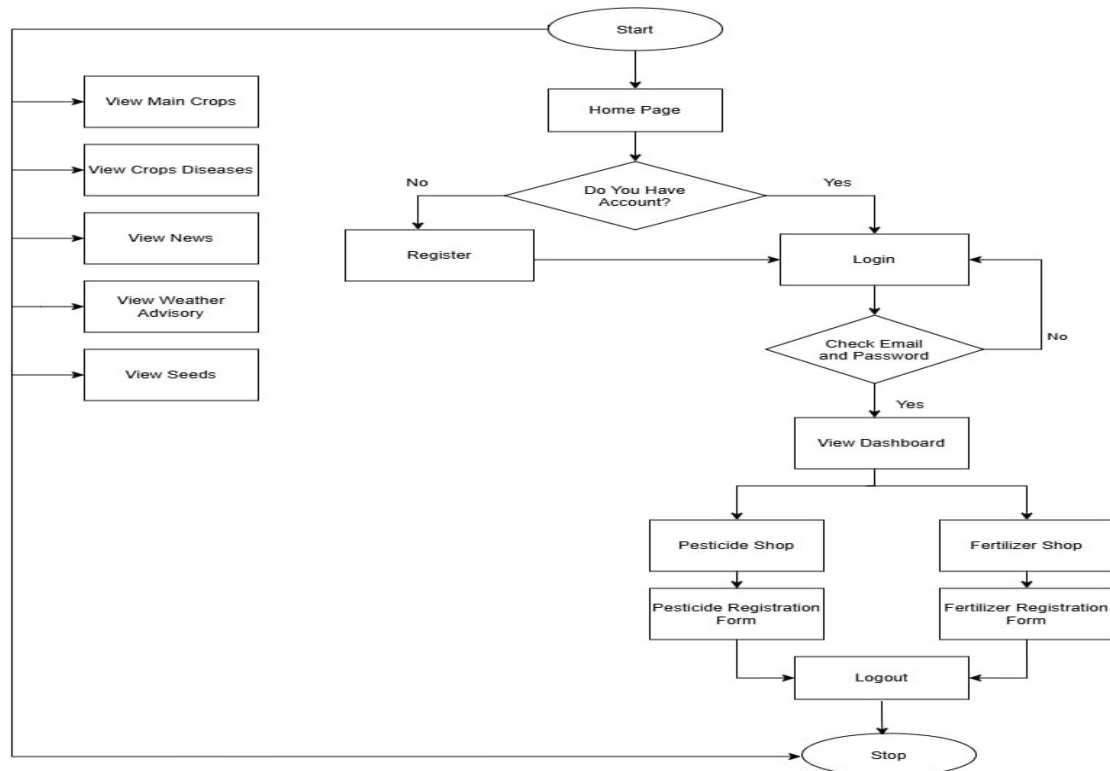


Figure 2: System Flow Diagram for User

This centralized system enables the Agriculture Office to efficiently store, manage, and retrieve information while reducing paperwork and minimizing data redundancy. It also improves communication between the Agriculture Office, farmers, and business owners, enhances data accuracy, supports better decision-making, and increases the overall efficiency and effectiveness of agricultural service management and office administration. Furthermore, the system allows authorized users to access relevant agricultural information and services more conveniently through a centralized platform.

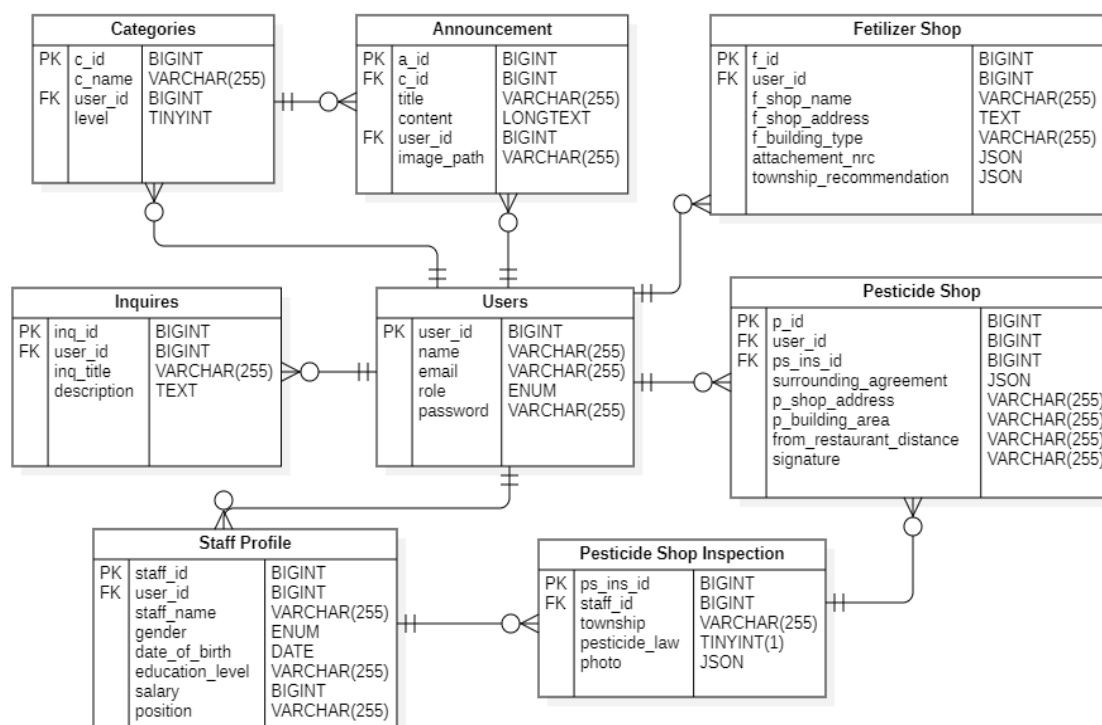


Figure 3: Database Design

Figure 3 presents the Entity Relationship Diagram (ERD) for the Agricultural Services and Licensing System, illustrating the database structure and relationships among the major entities of the system. The ERD provides the foundation for organizing and managing agricultural service data by defining primary keys, foreign keys, and relationships between related tables. In the Agricultural Services and Licensing System, the ER diagram consists of eight main tables, including:

- **users** – stores system user information, including names, email addresses, roles, and password details for authentication and access control.
- **staff_profile** – manages detailed information about agricultural staff, including staff name, gender, date of birth, education level, salary, and position.
- **categories** – manages categories used to organize and classify announcements within the system.
- **announcement** – stores agricultural announcements and information, including titles, content, categories, publishing users, and related images.
- **inquires** – records inquiries submitted by users, including inquiry titles and descriptions for communication with agricultural staff.

- **fertilizer_shop** – stores fertilizer shop application and registration information, including shop name, address, building type, NRC attachment, and township recommendation documents.
- **pesticide_shop** – stores pesticide shop registration and application information, including shop address, building area, surrounding agreement, distance from restaurants, and signature information.
- **pesticide_shop_inspection** – manages pesticide shop inspection records, including the responsible staff member, township, pesticide law compliance status, and inspection photos.

Each table is interconnected through primary keys and foreign keys to maintain referential integrity and establish relationships among users, staff, announcements, inquiries, fertilizer shops, pesticide shops, and inspection records. The Users table serves as a central entity and is connected with several other tables, while the Staff Profile table stores additional information about staff members. The Pesticide Shop Inspection table is associated with staff members and pesticide shops to support the inspection and monitoring process. The ERD also defines one-to-many and one-to-one relationships where appropriate, representing the operational workflows of user management, agricultural information dissemination, farmer inquiries, fertilizer shop applications, pesticide shop registration, and pesticide shop inspections.

RESULTS

The Agriculture Office Internal Management System centralizes agricultural information management and administrative operations within the Agriculture Office. The system provides a digital platform that enables authorized users to manage pesticide shop registrations, fertilizer license applications, staff records, farmer inquiries, agricultural information, office announcements, and pesticide shop inspection records. It also supports the management and dissemination of crop disease information, pesticide information, seed-related information, agricultural news, and weather updates. By integrating these functions into a single platform, the system allows information to be organized, stored, updated, and accessed more efficiently.

The implementation of the system significantly reduces the reliance on traditional paper-based processes and manual record-keeping methods. Previously, managing applications, inspection records, and agricultural information required considerable time and effort. With the introduction of the system, all information is maintained in a centralized database, allowing users to quickly search, retrieve, and update records whenever necessary. This improves data accessibility and enhances the overall management of office operations.

In addition, the system improves data accuracy and consistency by reducing data redundancy and minimizing human errors. Built-in validation mechanisms help ensure that only valid and complete information is stored in the database. The system also facilitates effective communication between the Agriculture Office and farmers by providing timely access to agricultural news, weather advisories, crop disease information, pesticide information, and other important agricultural resources.

Developed using PHP, MySQL, HTML, CSS, JavaScript, and the Laravel Framework, the system provides a secure, reliable, responsive, and user-friendly environment for

administrators and users. The reporting features support monitoring and management activities, while the overall system helps reduce manual workload, improve administrative efficiency, support better decision-making, and enhance the delivery of agricultural services. As a result, the system contributes to the modernization and digital transformation of Agriculture Office management.

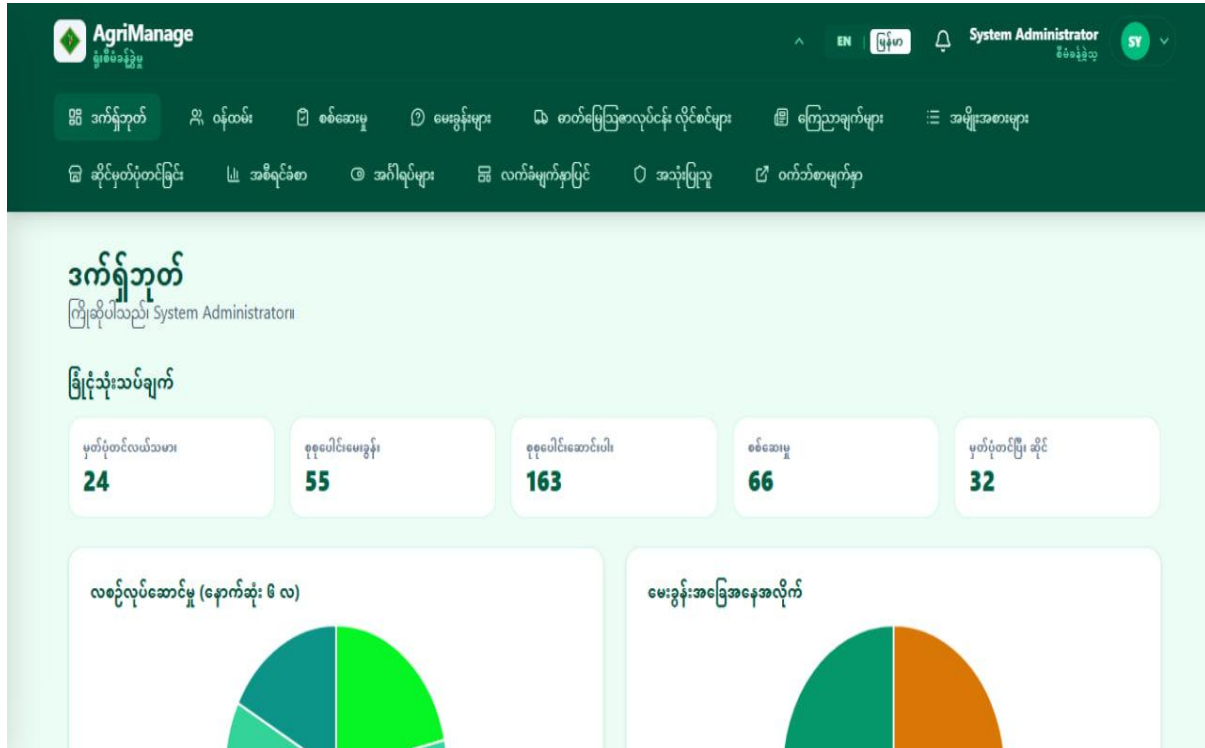


Figure 4: Dashboard interface for managing the staff performance and shop operator

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ဆိုင်မှတ်ပုံတင်မှုများ

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50	ဦးလေးမျို	၁၄/(ဟသတ)/(နိုင်)၆၆၂၃၁၂	ဟင်္သာတ	ဟင်္သာတ	သွပ်မိုး	လက်လီ	Approved	2026-08-08 00:00
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61	ဒေါ်လှဝေ	၁၂/(အလန)/(နိုင်)၃၅၆၆၆၇	ဧရာဝတီ	ဧရာဝတီ	ကွန်ကရစ်	လက်လီ	Approved	2026-08-18 00:00
62	ဦးတင်စိန်	၁၄/(ဧရာဝတီ)/(နိုင်)၃၅၆၆၆၇	ဧရာဝတီ	ဧရာဝတီ	သွပ်မိုး	လက်လီ	Approved	2026-08-22 00:00
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69	ဒေါ်နုနုဦးဝင်း	၁၄/(ဧရာဝတီ)/(နိုင်)၂၃၂၆၇၅	ဧရာဝတီ	အာကတန်းမဲသောင်ပင်ရွာ	ကွန်ကရစ်	လက်လီ	Pending	2026-08-25 00:00

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Figure 5: Pesticide shop registration record reports

CONCLUSION

The Agriculture Office Internal Management System was developed to improve the management of agricultural information and administrative activities within the Agriculture Office. It replaces traditional paper-based processes with a centralized digital platform that allows administrators to manage staff records, pesticide shop registrations, fertilizer applications, inspection records, agricultural information, and office updates efficiently. Using the Laravel framework, the system provides a secure, reliable, and user-friendly environment. It reduces manual workload, improves data accuracy, enhances communication between officers and farmers, and supports effective agricultural service management. Overall, the system contributes to the modernization of agricultural administration by providing efficient data management, faster information access, and improved decision-making processes.

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