NORTH SOUTH UNIVERSITY

Department of Electrical & Computer Engineering

LAB REPORT- Agricultural Management System (AMS)

Final Project Report

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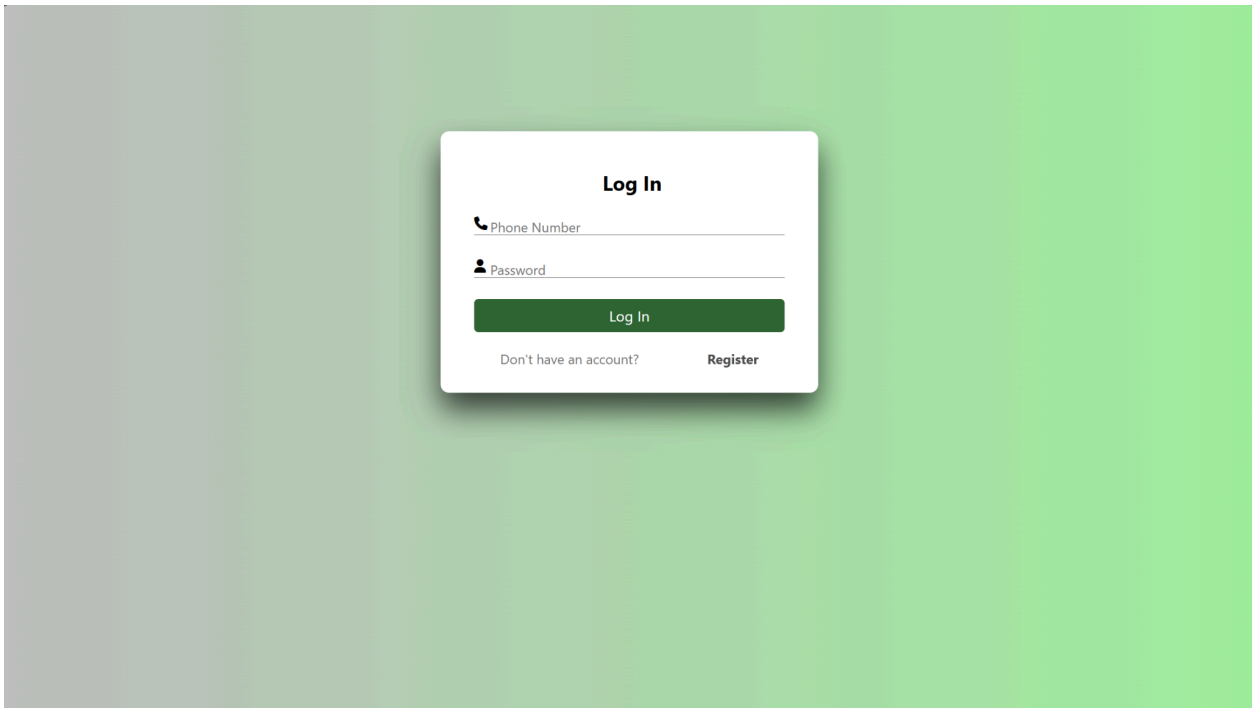
1. Introduction

The **Agricultural Management System (AMS)** is a comprehensive platform aimed at assisting farmers and agricultural professionals in managing their crops, livestock, income, and expenses. The system provides features such as crop management, livestock tracking, daily crop price monitoring, veterinary doctor services, and expense tracking. By integrating these functionalities into a single platform, AMS helps farmers make informed decisions, streamline daily activities, and optimize resource management.

The system is designed to be user-friendly and accessible, even for those with minimal technical expertise. The AMS platform utilizes modern web technologies (HTML, CSS, JavaScript, PHP, and MySQL) to provide a seamless user experience.



2. About the Agricultural Management System

AMS is built to help manage various aspects of farming, including:

- **Crop Management**: Keeping track of crops from planting to harvesting.
- **Livestock Management**: Monitoring the health and well-being of livestock.
- **Veterinary Doctor**: Accessing services from veterinary professionals for animal health.
- **Marketplace**: Viewing daily prices of crops to make informed selling decisions.
- **Expense and Income Management**: Keeping a record of income and expenses to maintain a budget.

The system connects the frontend (user interface) with a robust backend (database management and processing), allowing real-time updates and easy access to critical data.

3. Purpose and Benefits

The main goal of AMS is to simplify the management of agricultural tasks, providing farmers with tools to:

- Track and manage crop growth and health.
- Monitor and manage livestock, ensuring timely veterinary care.
- View daily crop prices in the marketplace, aiding in informed selling decisions.
- Keep a clear record of income, expenses, and budgets.

Key benefits include:

- **Efficiency**: Eliminates the need for manual tracking and calculations.
- **Data Visualization**: Enables farmers to view their data in easy-to-understand graphs and reports.
- **Real-Time Monitoring**: Provides real-time updates on crop and livestock data.
- **Market Insights**: Helps farmers stay informed about current crop prices, leading to better financial planning.

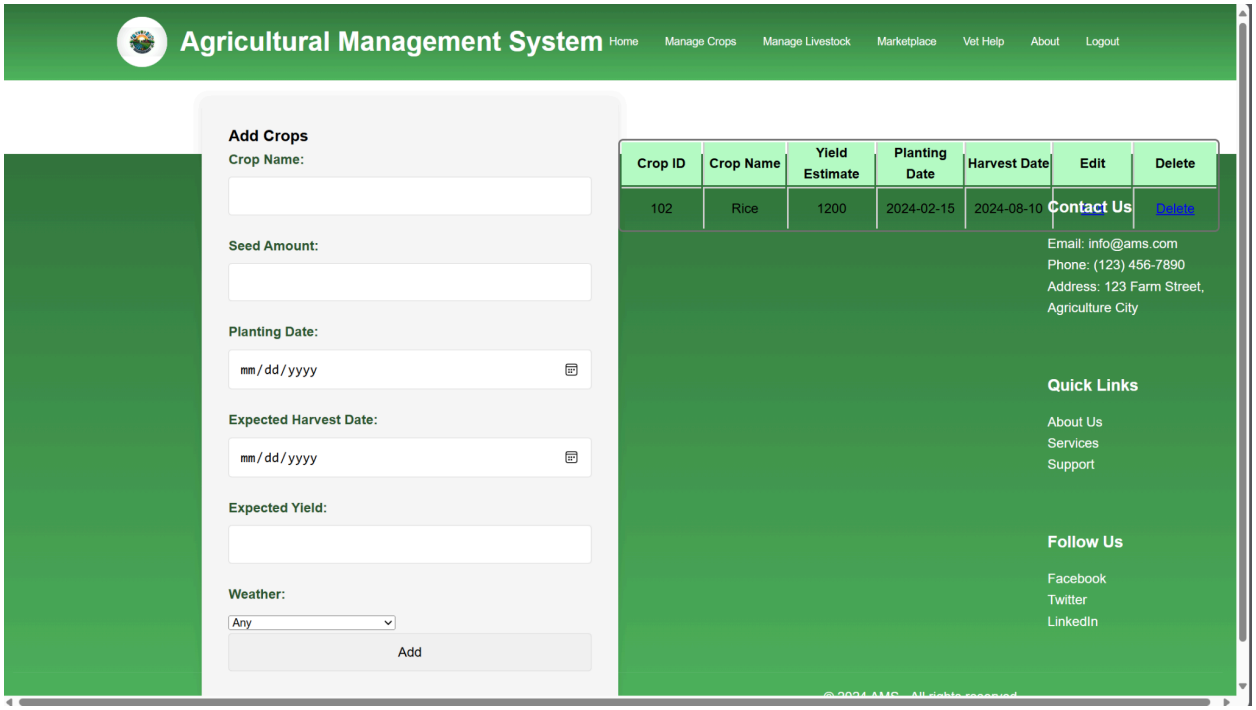
4. Features of AMS

AMS includes the following features, designed to provide a comprehensive solution for agricultural management:

Crop Management

AMS allows users to:

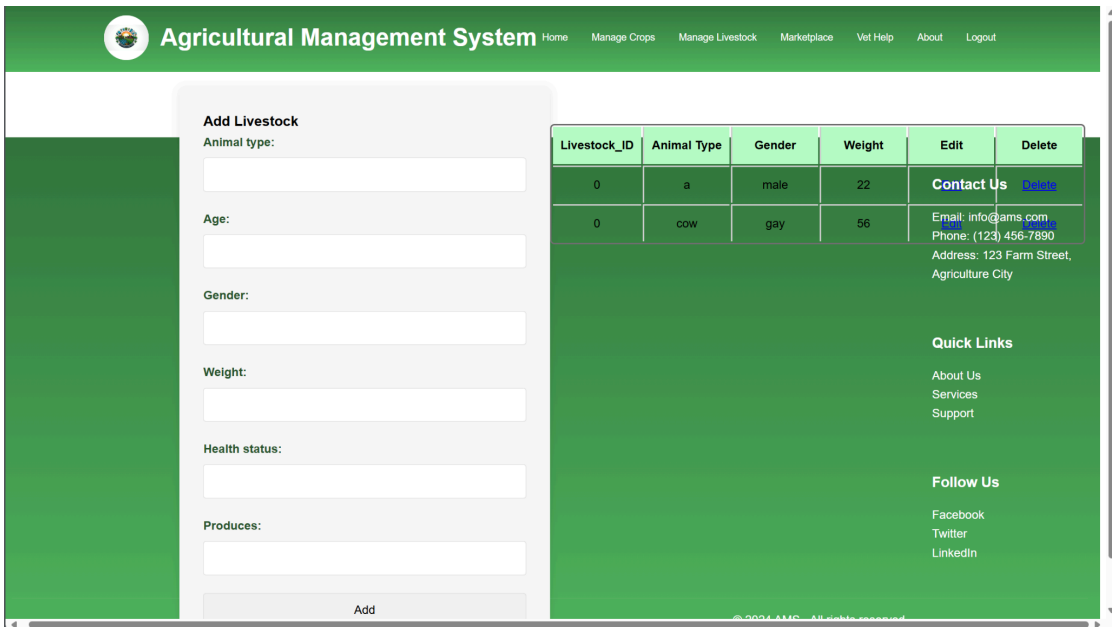
- Add new crops and record their growth stages.
- Track soil conditions, planting dates, and expected harvest dates.
- View and update crop data regularly.



Livestock Management

Users can manage their livestock by:

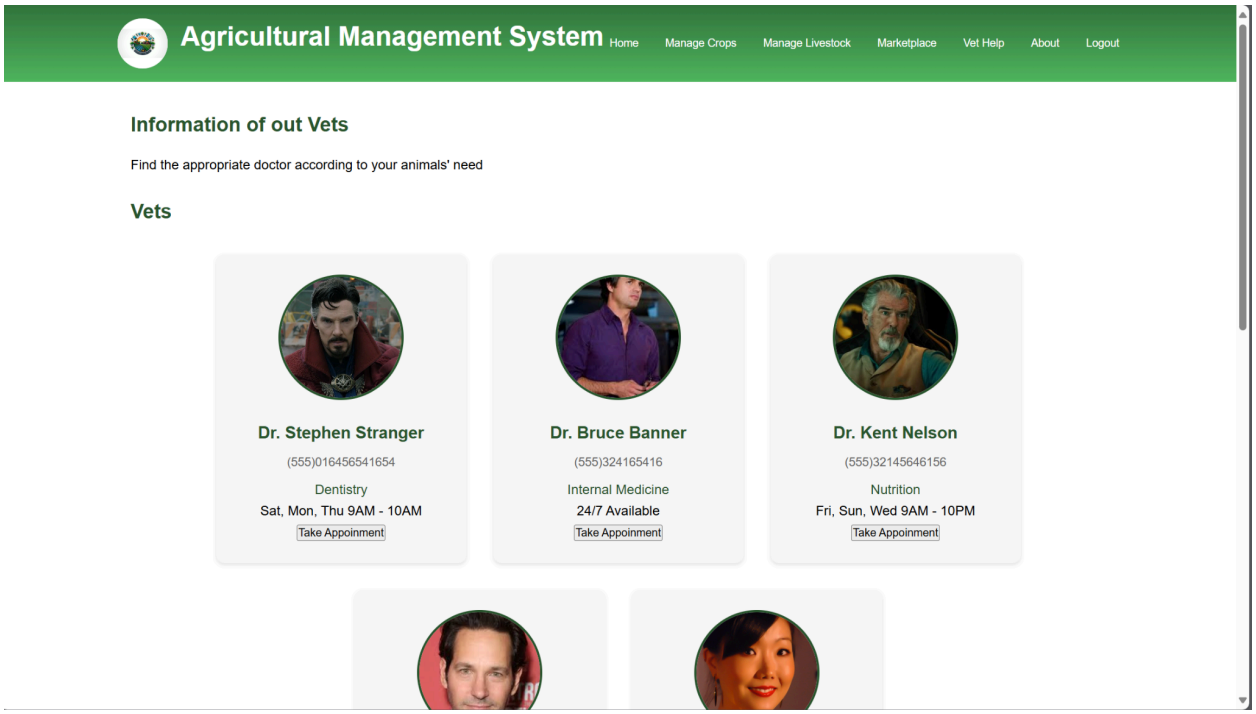
- Adding new livestock and tracking health records.
- Monitoring feeding schedules, vaccinations, and growth stages.
- Keeping a record of veterinary visits and treatment plans.



Veterinary Doctor Integration

The platform includes veterinary services, allowing users to:

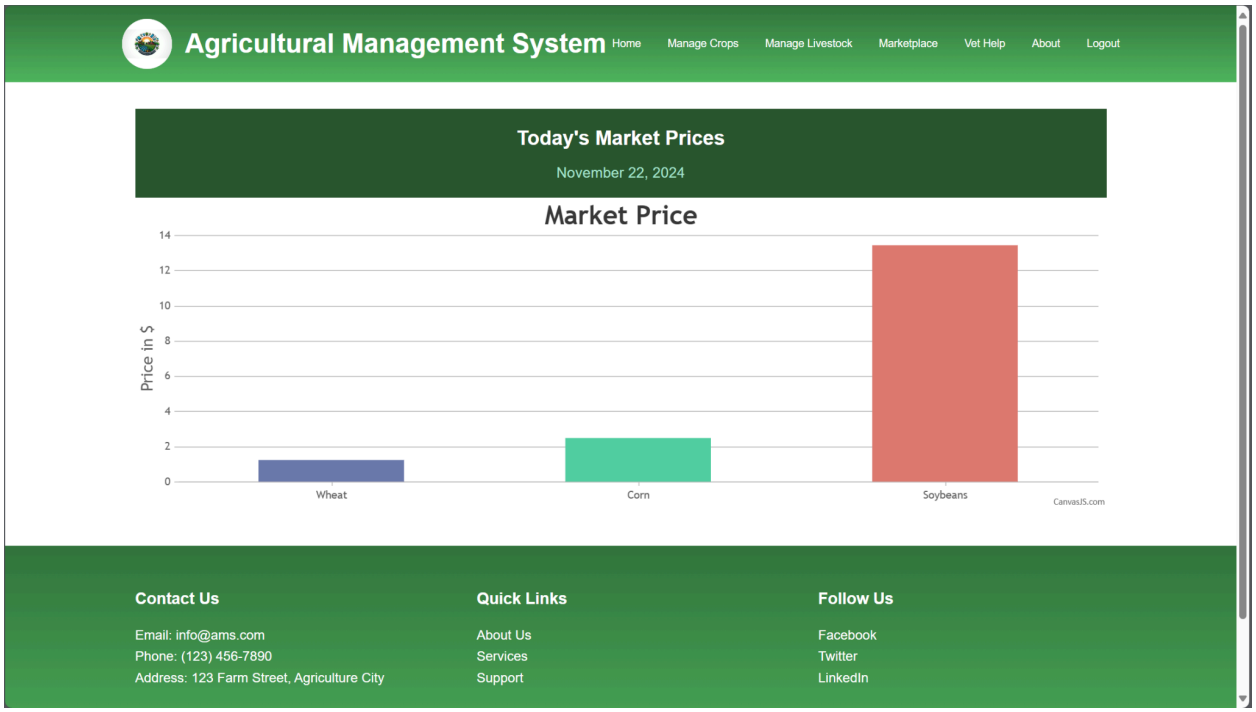
- Schedule veterinary visits.
- Track treatments and vaccinations for each animal.
- View advice or recommendations provided by veterinary doctors.



Marketplace for Daily Crop Prices

AMS provides users with access to the **marketplace**, where they can view the latest crop prices:

- View daily prices for various crops.
- Compare prices from different markets.
- Use the information to decide the best time to sell crops.



Expense and Income Management

Users can track their income and expenses, set budgets, and generate financial reports:

- Record daily income and expenses.
- Set monthly or annual budgets.
- Visualize expenses using charts and graphs.

5. Use Case Scenarios

AMS is designed to simplify various tasks for users. Here are some practical use cases:

Use Case 1: Adding a New Crop

1. The user logs into AMS and navigates to the **Manage Crops** page.
2. The user inputs the crop's name, planting date, and expected harvest date.
3. The system saves the crop data and allows the user to update it as necessary.

Use Case 2: Managing Livestock Health

1. The user logs in and navigates to the **Manage Livestock** page.
2. The user enters the livestock's details and health records, including feeding schedules.
3. The system saves and tracks the livestock's health information.

Use Case 3: Viewing Daily Crop Prices

1. The user logs in and navigates to the **Marketplace** page.
2. The user selects a crop type and views its daily price.
3. The system displays price comparisons from different markets.

6. Limitations

- **Manual Data Entry**: Users are required to manually enter data for crops, livestock, and expenses, which can be time-consuming and prone to errors.
- **Technical Requirements**: Users need basic technical knowledge to navigate the platform effectively.
- **Market Price Variability**: Daily crop prices may fluctuate based on external factors, affecting the accuracy of data presented.

7. Advantages

- **Efficiency**: Streamlined data management for crops, livestock, and finances in one platform.
- **Accessibility**: The system can be accessed from anywhere via a web browser.
- **Real-Time Insights**: Provides real-time updates on crop growth, livestock health, and financials, helping users make timely decisions.
- **Market Intelligence**: The marketplace feature allows users to make informed decisions based on up-to-date crop prices.

8. Front-End and Back-End Development

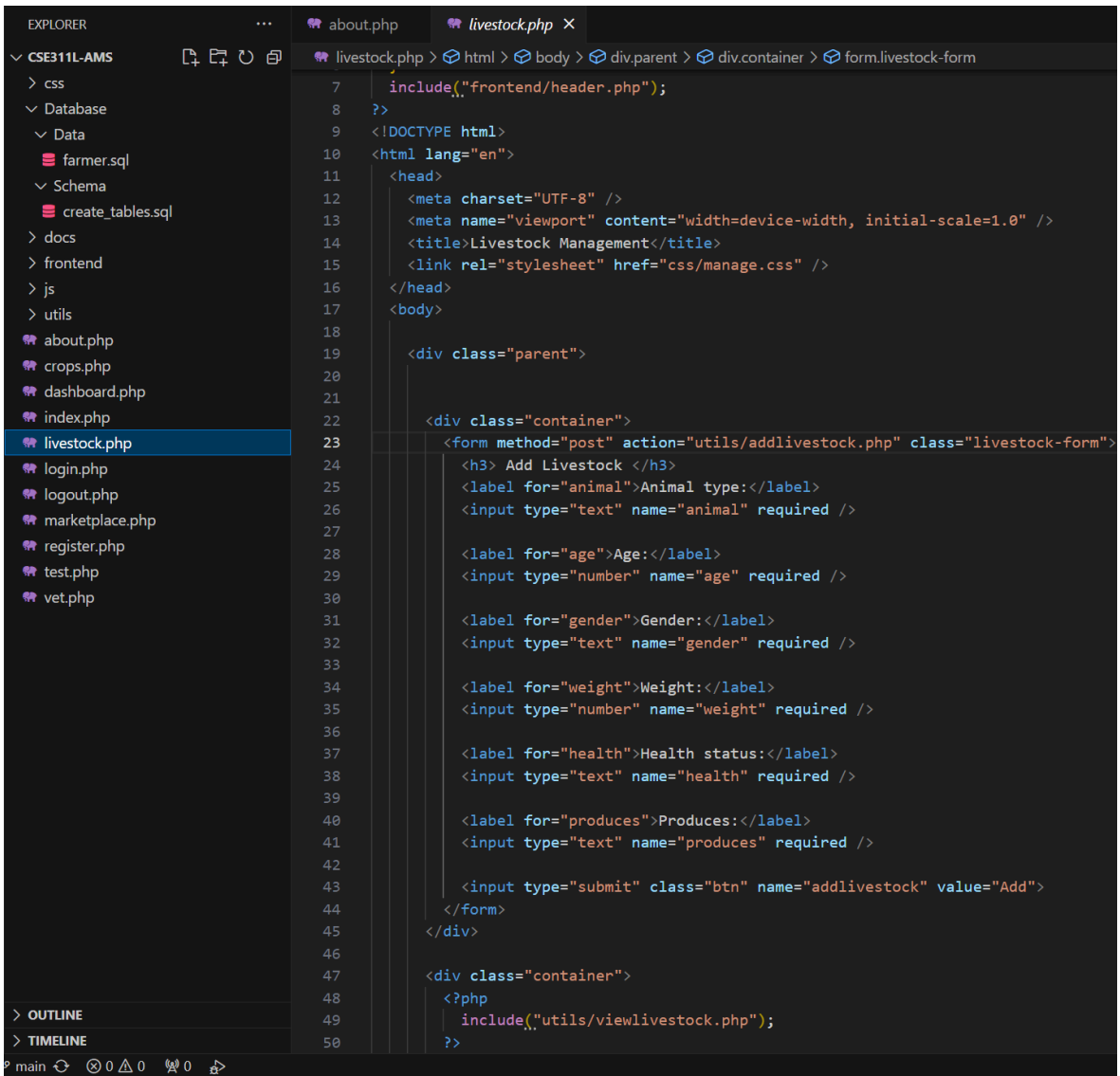
Front-End Development

The front-end is developed using **HTML**, **CSS**, and **JavaScript** to create an interactive and responsive user interface. The interface includes the **login page**, **dashboard**, **crop management page**, **livestock management page**, and other key pages. All pages are designed to be user-friendly, ensuring an intuitive experience.

Back-End Development

The back-end is powered by **PHP**, which handles:

- **User Authentication**: Managing logins and user sessions.
- **Database Management**: Storing and retrieving crop, livestock, and financial data from the **MySQL** database.
- **Reporting and Graphing**: Generating financial reports and graphs based on user data.



9. Challenges

Some challenges encountered during the development of AMS include:

- **Data Consistency**: Ensuring that users consistently input accurate data to generate reliable reports.
- **User Engagement**: Encouraging users to update their crop and livestock data regularly.
- **Scalability**: Ensuring the system can efficiently handle large amounts of agricultural data as more users adopt the platform.

10. Future Enhancements

Future enhancements to AMS could include:

- **Mobile App Integration**: Developing a mobile version of AMS to allow users to manage their data on-the-go.
- **AI Integration for Crop Predictions**: Using machine learning to predict crop growth and market conditions.
- **IoT Integration**: Integrating IoT sensors for real-time monitoring of crops and livestock health.

11. Conclusion

The **Agricultural Management System (AMS)** is a robust solution for managing various aspects of farming, including crop and livestock management, financial tracking, and market price monitoring. The system helps farmers make better decisions, optimize their resources, and visualize their

financials. With its user-friendly interface and powerful backend, AMS has the potential to significantly improve agricultural productivity and efficiency.

ER Diagram of AMS