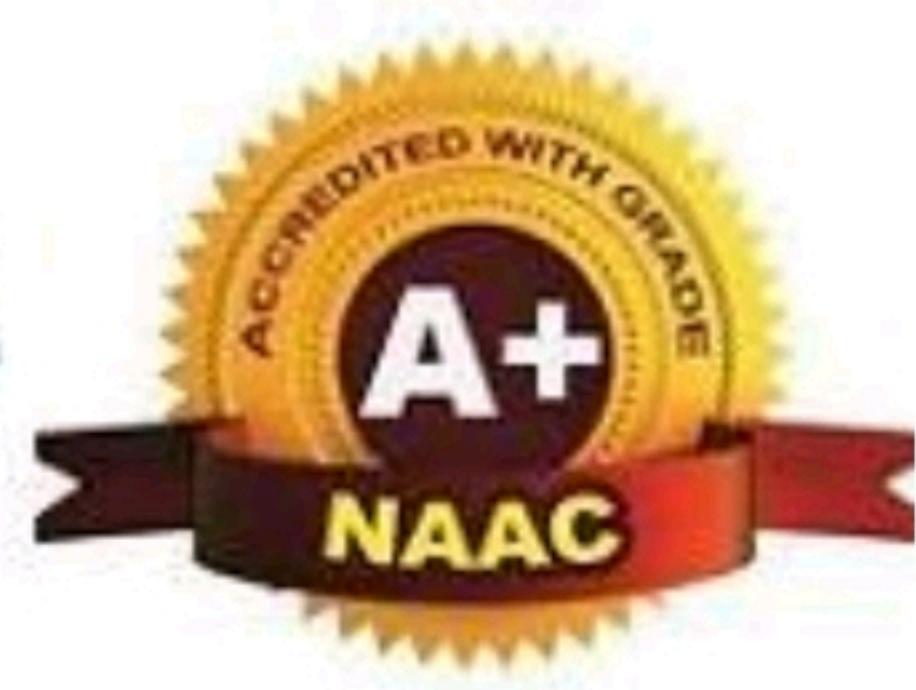




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SIPNA COLLEGE OF ENGINEERING & TECHNOLOGY, AMRAVATI.

Department of Computer Science and Engineering

Academic Year : 2023-2024

Semester: Fifth

A PROJECT REPORT ON FARM MANAGEMENT SYSTEM

Submitted for

DATABASE MANAGEMENT SYSTEM LAB

Submitted in

November 2023

Under The Guidance Of

Dr.H.R.Vyawahare

**SIPNA COLLEGE OF ENGINEERING & TECHNOLOGY,
AMRAVATI**

CERTIFICATE

This is to certify that this mini project report entitled

“ FARM MANAGEMENT SYSTEM ”

has been completed by the following students in the partial fulfillment of project work of the fifth semester, Department of Computer Science and Engineering, During the Academic Session of 2023-2024. This is the record of their work under my guidance and to my immense satisfaction.

Dr.H.R.Vyawahare

Project Guide

Dr. V.K. Shandilya

HOD

(Dept. Computer Science&

Engineering)

ACKNOWLEDGEMENT

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Group members:

1. Akshay Lakhekar
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SIPNA C.O.E.T., Amravati.

INDEX:

- ❖ **Abstract**
- ❖ **Introduction**
- ❖ **Software Requirements (Frontend, Backend)**
- ❖ **Database Design (ER- Diagram)**
- ❖ **Snapshots**
- ❖ **Conclusion.**

INTRODUCTION

1.1 OBJECTIVES:

- The main objective of the project is to design and develop a user friendly-system
- Easy to use and an efficient computerized system.
- To develop an accurate and flexible system, it will eliminate data redundancy.
- To study the functioning of Farm management System.
- To make a software fast in processing, with good user interface.
- To make software with good user interface so that user can change it and it should be used for a long time without error and maintenance.
- To provide synchronized and centralized farmer and seller database.
- Computerization can be helpful as a means of saving time and money.
- To provide better Graphical User Interface (GUI).
- Less chances of information leakage.
- Provides Security to the data by using login and password method.
- To provide immediate storage and retrieval of data and information.
- Improving arrangements for farmers co-ordination.
- Reducing loss.

1.2 LIMITATIONS:

- Small size of **farm** business: Due to fragmentation and subdivision of holding the average size of operational holdings is very small
- Less labour per unit areas is required to **farm** large areas, especially since expensive alterations to land (like terracing) are completely absent.
- Mechanisation can be used more effectively over large, flat areas

STUDY OF EXISTING SYSTEM

2.1 CASE STUDY

SourceTrace is collaborating with Small Farmers Agri-business consortium (SFACH) and Karnataka Horticulture Department, deploying its digital solutions to support the horticulture farmers of India. Karnataka Agriculture Department is committed to providing a responsive and effective mechanism for the welfare of farmers and farm-based communities and recognizes the need to harness the growing power of Information Technologies for the betterment of life of the farmers and management of Farmer Producer Organizations (FPOs) in Haryana. To deploy its digital solution, Source Trace is in the process of creating 100,000 farmer profiles. The system was developed using technologies such as, HTML, CSS ,JS and MySQL. PYTHON- FLASK, HTML and CSS are used to build the user interface and database was built using MySQL. The system is free of errors and very efficient and less time consuming due to the care taken to develop it. All the phases of software development cycle are employed and it is worthwhile to state that the system is very robust. Provision is made for future development in the system.

2.2 PROPOSED SYSTEM

The farmers can sell their productions online and the buyer can purchase various agricultural products online. Buyer can send purchase request to check the quality of the product. After collecting all the farm produce from the farmers, it should be sold to the customers. This project covers these entries and the data collections. There are 2 types of users: Customer & Farmers. The login id and password must be required to login the system. The article and agro products section helps farmers to share their products and increase profitability.

DATABASE DESIGN

3.1 SOFTWARE REQUIREMENTS SPECIFICATION

3.1.2

SOFTWARE REQUIREMENTS:

Frontend- HTML, CSS, Java Script, Bootstrap

Backend-Python flask (Python 3.7) , SQLAlchemy,

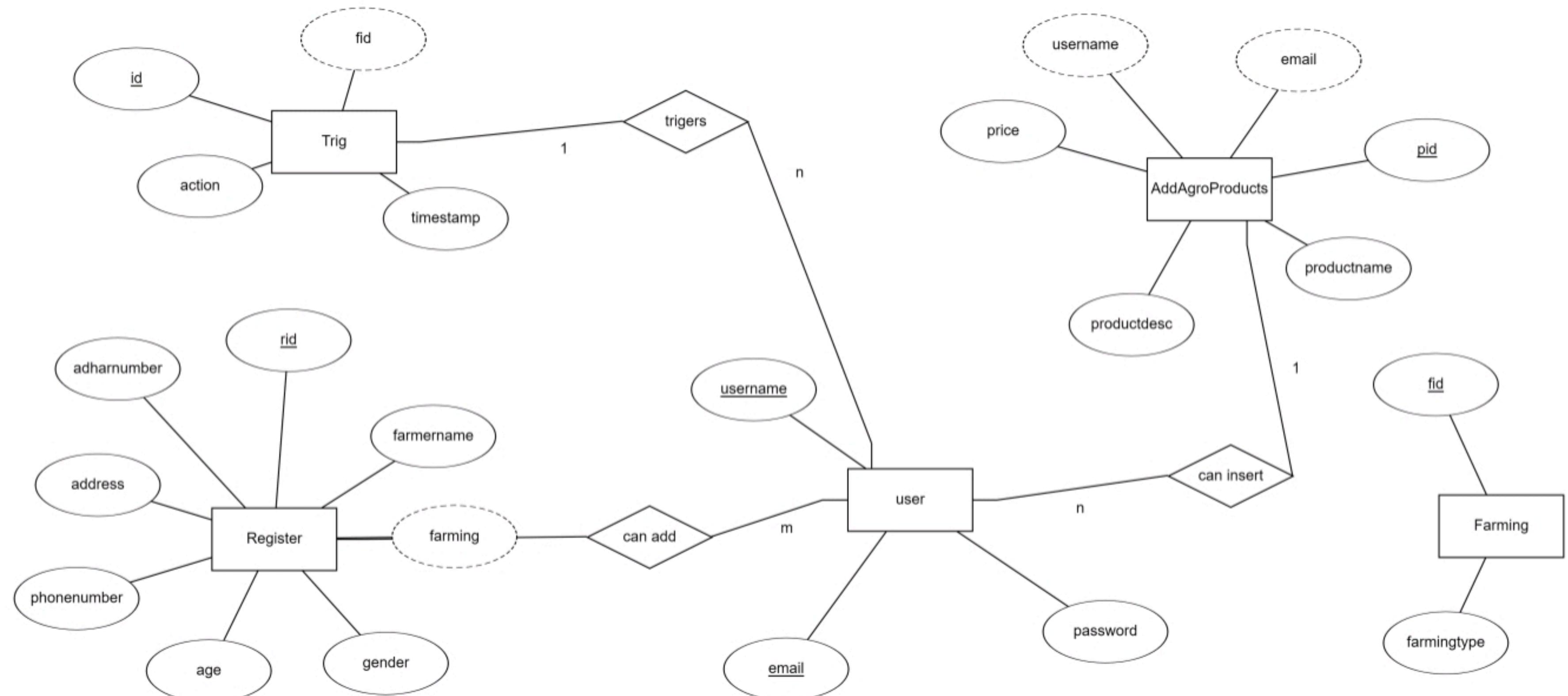
- Operating System: Windows 10
- Google Chrome/Internet Explorer
- XAMPP (Version-3.7)
- Python main editor (user interface): PyCharm Community
- workspace editor: Sublime text 3

HARDWARE REQUIREMENTS:

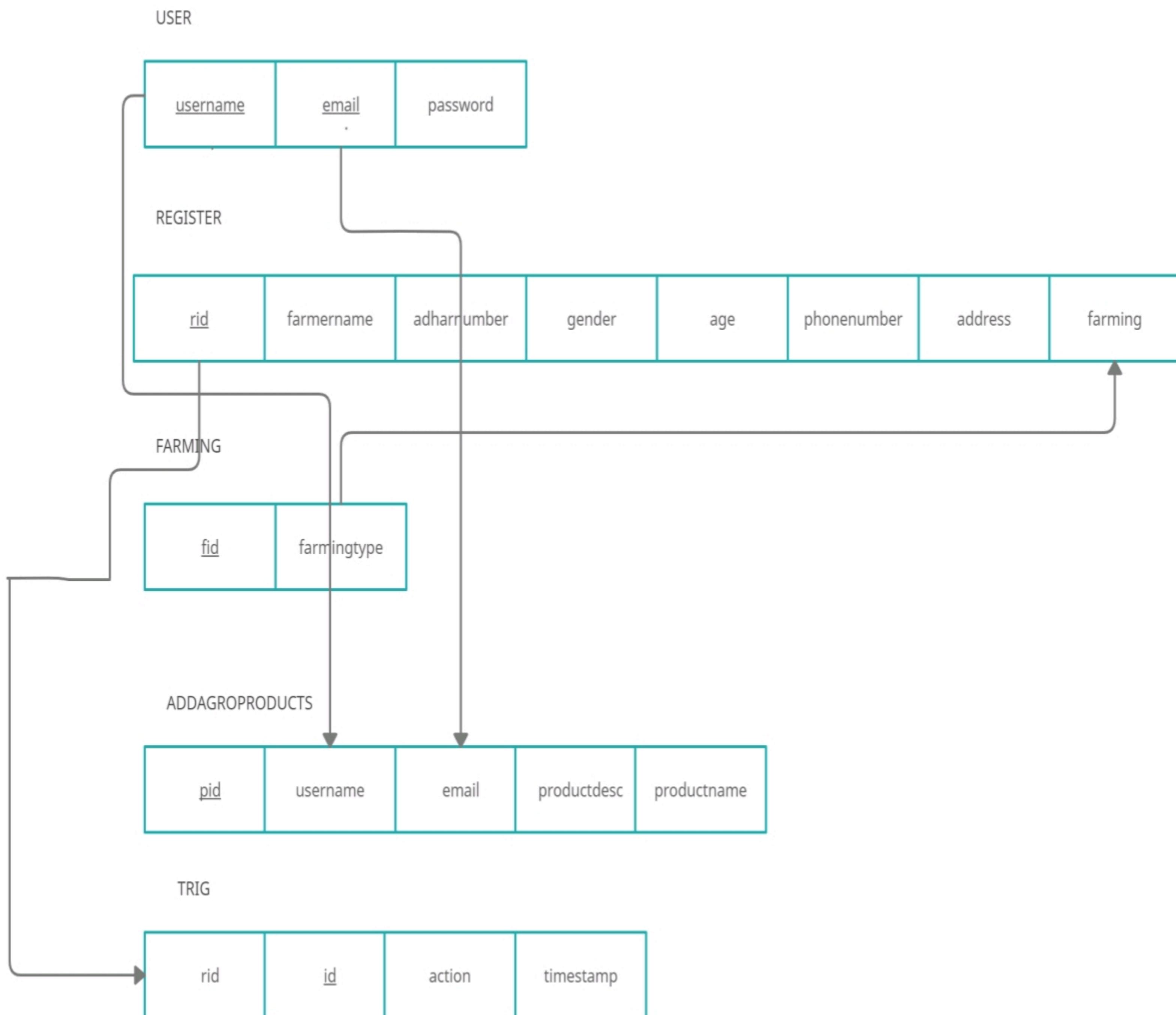
- Computer with a 1.1 GHz or faster processor
- Minimum 2GB of RAM or more
- 2.5 GB of available hard-disk space
- 5400 RPM hard drive
- 1366 × 768 or higher-resolution display
- DVD-ROM drive

3.2 CONCEPTUAL DESIGN:

3.2.1 E-R DIAGRAM:



3.2.2 SCHEMA DIAGRAM:



3.3 IMPLEMENTATION:

An "implementation" of Python should be taken to mean a program or environment which provides support for the execution of programs written in the Python language, as represented by the [CPython](#) reference implementation.

There have been and are several distinct software packages providing what we all recognize as Python, although some of those are more like distributions or variants of some existing implementation than a completely new implementation of the language.

BackEnd (MySQL)

Database:

A Database Management System (DBMS) is computer software designed for the purpose of managing databases, a large set of structured data, and run operations on the data requested by numerous users. Typical examples of DBMSs include Oracle, DB2, Microsoft Access, Microsoft SQL Server, Firebird, PostgreSQL, MySQL, SQLite, FileMaker and Sybase Adaptive Server Enterprise. DBMSs are typically used by Database administrators in the creation of Database systems. Typical examples of DBMS use include accounting, human resources and customer support systems. Originally found only in large companies with the computer hardware needed to support large data sets, DBMSs have more recently emerged as a fairly standard part of any company back office.

A DBMS is a complex set of software programs that controls the organization, storage, management, and retrieval of data in a database. A DBMS includes:

- A modeling language to define the schema of each database hosted in the DBMS, according to the DBMS data model.
- The dominant model in use today is the ad hoc one embedded in SQL, despite the objections of purists who believe this model is a corruption of the relational model, since it violates several of its fundamental principles for the sake of practicality and performance. Many DBMSs also support the Open Database Connectivity API that supports a standard way for programmers to access the DBMS.

Data structures (fields, records, files and objects) optimized to deal with very large amounts of data stored on a permanent data storage device (which implies relatively slow access compared to volatile main memory). A database query language and report

writer to allow users to interactively interrogate the database, analyze its data and update it according to the users privileges on data.

- Data security prevents unauthorized users from viewing or updating the database. Using passwords, users are allowed access to the entire database or subsets of it called sub schemas. For example, an employee database can contain all the data about an individual employee, but one group of users may be authorized to view only payroll data, while others are allowed access to only work history and student data.
 - If the DBMS provides a way to interactively enter and update the database, as well as interrogate it, this capability allows for managing personal databases. However, it may not leave an audit trail of actions or provide the kinds of controls necessary in a multi-user organization. These controls are only available when a set of application programs are customized for each data entry and updating function.
- ✓ A transaction mechanism, that ideally would guarantee the ACID properties, in order to ensure data integrity, despite concurrent user accesses (concurrency control), and faults (fault tolerance).
- It also maintains the integrity of the data in the database.
 - The DBMS can maintain the integrity of the database by not allowing more than one user to update the same record at the same time. The DBMS can help prevent duplicate records via unique index constraints; for example, no two customers with the same customer numbers (key fields) can be entered into the database. See ACID properties for more information (Redundancy avoidance).

When a DBMS is used, information systems can be changed much more easily as the organization's information requirements change. Organizations may use one kind of DBMS for daily transaction processing and then move the detail onto another computer that uses another DBMS better suited for random inquiries and analysis. Overall systems design decisions are performed by data administrators and systems analysts. Detailed database design is performed by database administrators.

SQL:

Structured Query Language (SQL) is the language used to manipulate relational databases. SQL is tied very closely with the relational model.

- In the relational model, data is stored in structures called relations or tables.

SQL statements are issued for the purpose of:

- Data definition: Defining tables and structures in the database (DDL used to create, alter and drop schema objects such as tables and indexes)

4.2 : Stored Procedure

Routine name: proc

Type: procedure

Definition: Select * from register;

4.3: Triggers

It is the special kind of stored procedure that automatically executes when an event occurs in the database.

Triggers used :

1: Trigger name: on insert

Table: register

Time: after

Event: insert

INSERT INTO trig VALUES(null,NEW.rid,'Farmer Inserted',NOW())

2: Trigger name: on delete

Table: register

Time: after

Event: delete

Definition: INSERT INTO trig VALUES(null,OLD.rid,'FARMER DELETED',NOW())

3: Trigger name: on update

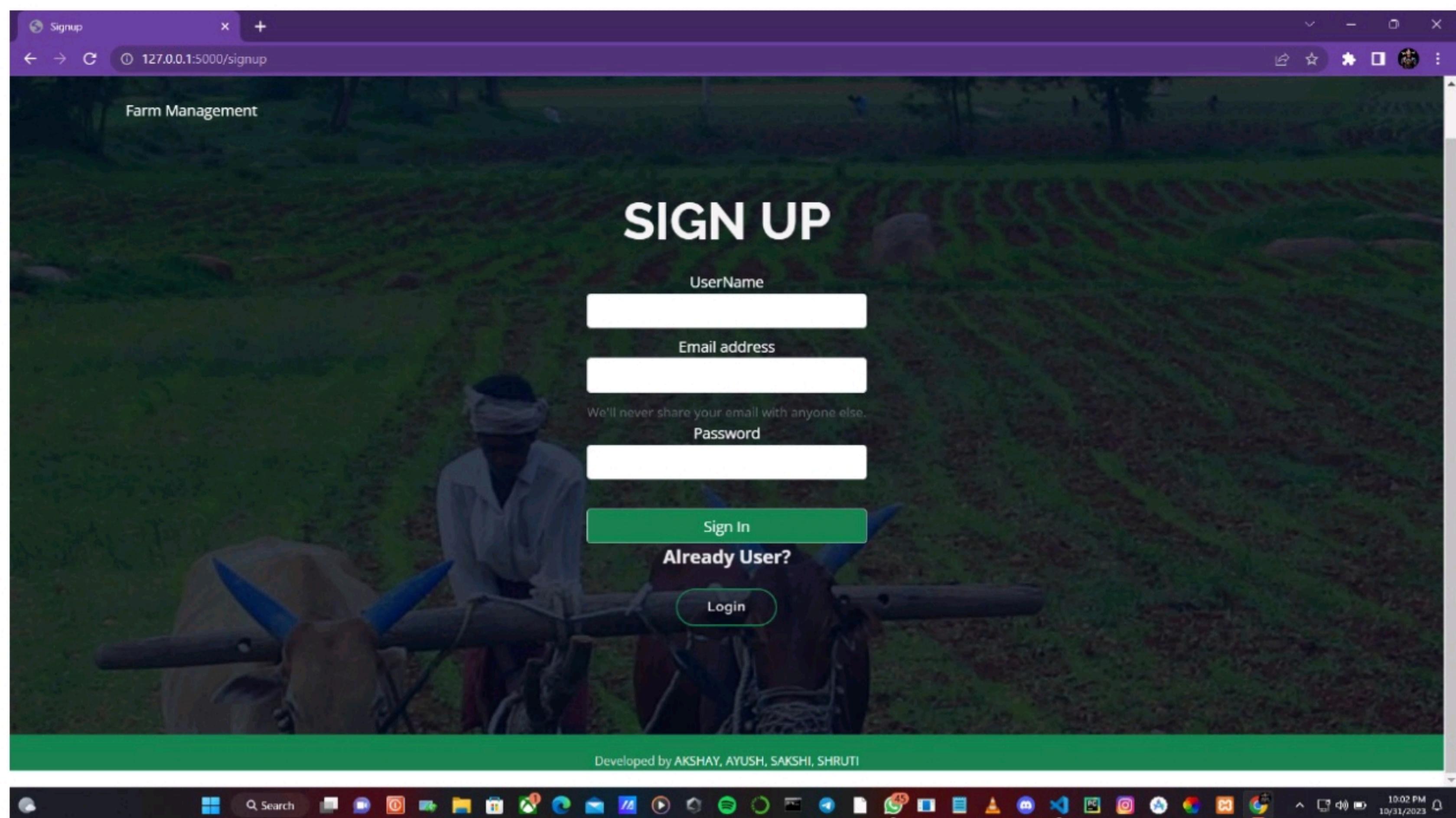
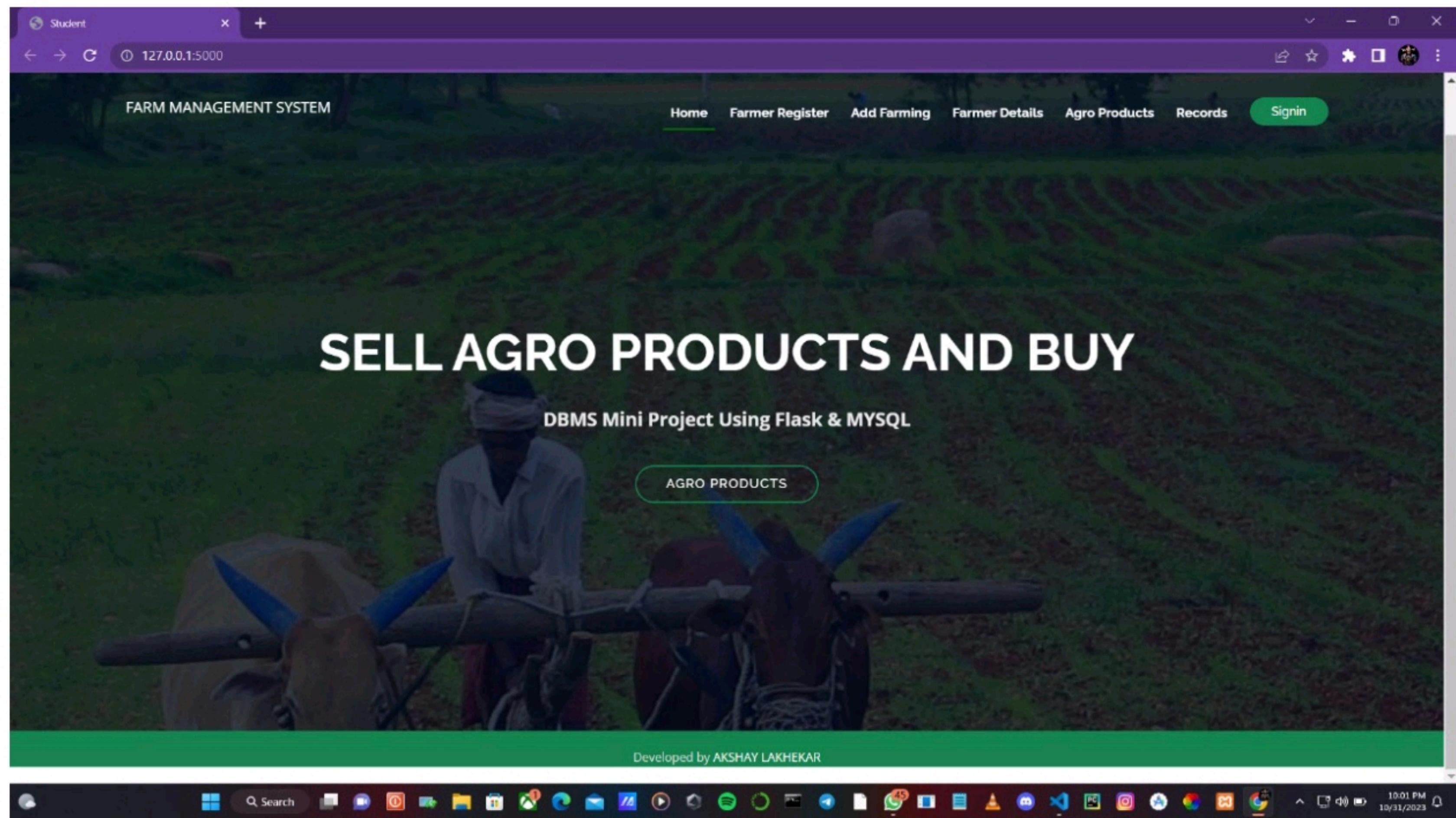
Table: register

Time: after

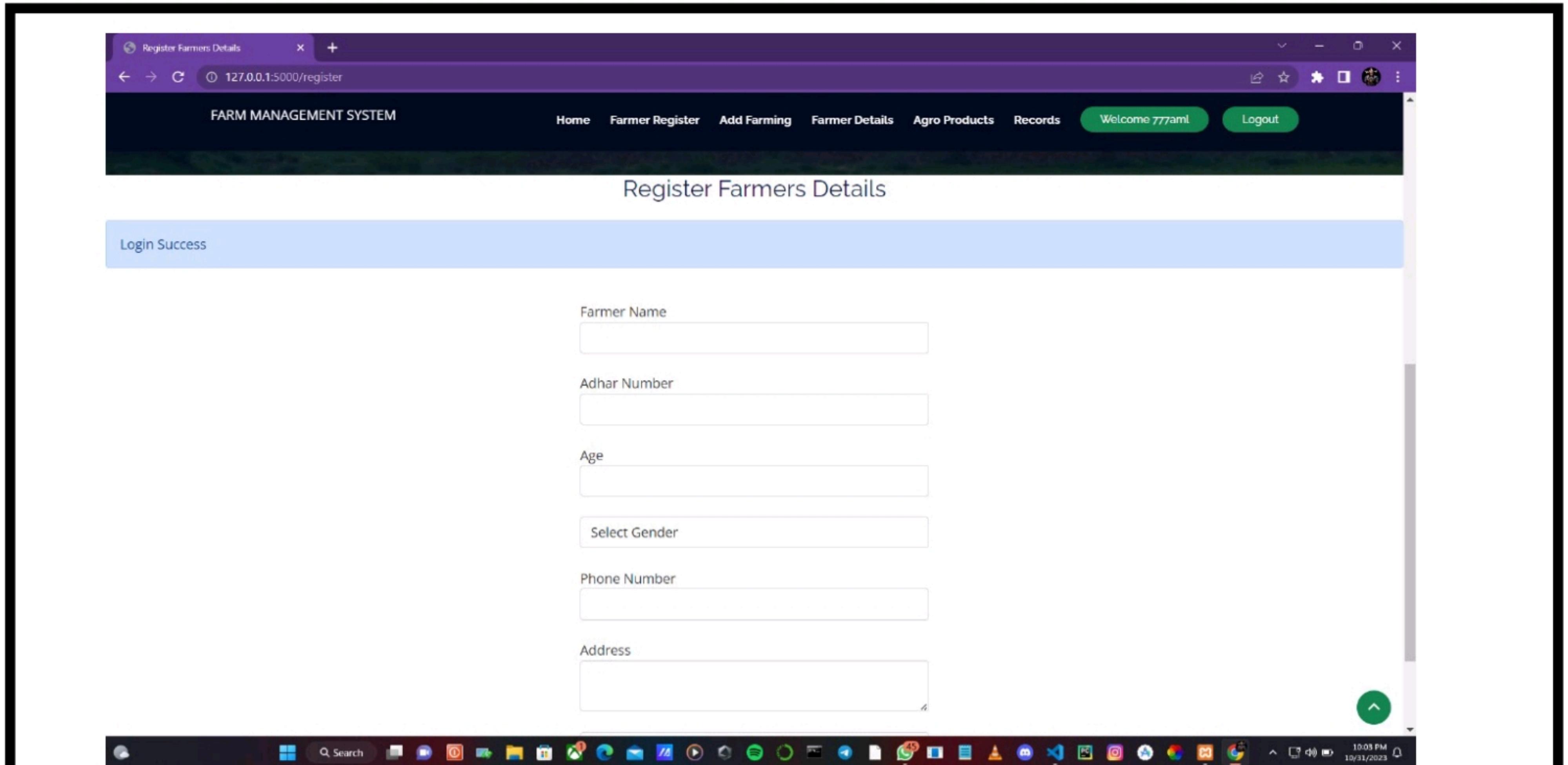
Event: update

Definition: INSERT INTO trig VALUES(null,NEW.rid,'FARMER UPDATED',NOW())

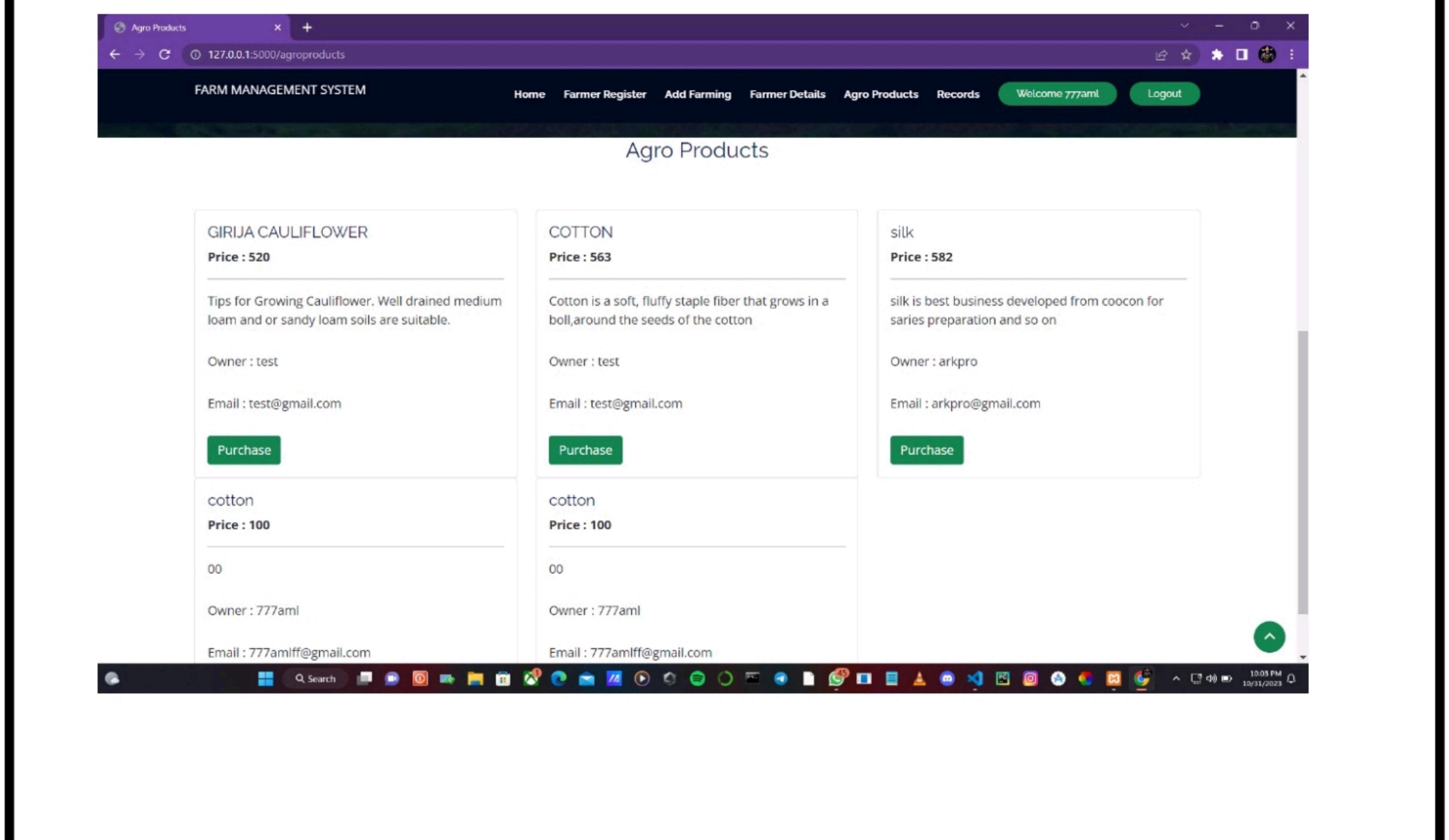
Farm Management System



Farm Management System



REGISTERATION PAGE & PRODUCTS:



Farm Management System

The screenshot shows a web browser window titled "Triggers" with the URL "127.0.0.1:5000/triggers". The page header includes the "FARM MANAGEMENT SYSTEM" logo and navigation links: Home, Farmer Register, Add Farming, Farmer Details, Agro Products, Records, "Welcome 777aml" (logged-in user), and Logout. Below the header is a large background image of a green field with rocks. The main content area is titled "Farmers Triggers Records" and displays a table of log entries:

FARMER ID	ACTION	TIMESTAMP
2	FARMER UPDATED	2021-01-19 23:04:44
2	FARMER DELETED	2021-01-19 23:04:58
8	Farmer Inserted	2021-01-19 23:16:52
8	FARMER UPDATED	2021-01-19 23:17:17
8	FARMER DELETED	2021-01-19 23:18:54
9	Farmer Inserted	2023-10-20 12:53:47
10	Farmer Inserted	2023-10-30 20:25:41

The browser's taskbar at the bottom shows various open applications and the system clock.

TRIGGERS RECORDS

The screenshot shows a web browser window titled "Add Farming" with the URL "127.0.0.1:5000/addfarming". The page header includes the "FARM MANAGEMENT SYSTEM" logo and navigation links: Home, Farmer Register, Add Farming, Farmer Details, Agro Products, Records, "Welcome 777aml" (logged-in user), and Logout. The main content area features a large background image of a person working in a field. Overlaid text reads "SELL AGRO PRODUCTS AND BUY" and "DBMS Mini Project Using Flask & MYSQL". A green button labeled "AGRO PRODUCTS" is visible. At the bottom, a green bar contains the text "Add Farming". Below this, there is a form field labeled "Enter Farming Type" with a placeholder input box and a green "Add Farming" button. The browser's taskbar at the bottom shows various open applications and the system clock.

Farm Management System

The screenshot shows a web browser window titled "Farmer Details" with the URL "127.0.0.1:5000/farmerdetails". The page header includes "FARM MANAGEMENT SYSTEM" and navigation links for Home, Farmer Register, Add Farming, Farmer Details, Agro Products, Records, "Welcome 777aml", and Logout. A banner at the top reads "DBMS Mini Project Using Flask & MYSQL". Below the banner is a circular button labeled "AGRO PRODUCTS". The main content area is titled "Farmer Details" and displays a table of farmer records:

RID	FARMER NAME	ADHAR NUMBER	AGE	GENDER	PHONE NUMBER	ADDRESS	FARMING	EDIT	DELETE	ADD AGRO PRODUCT
9	akshay	000000	0	male	000000	scoet	Cotton Farming	<button>Edit</button>	<button>Delete</button>	<button>ADD</button>
10	pavan	00000	20	male	00000	00000	silk	<button>Edit</button>	<button>Delete</button>	<button>ADD</button>

The status bar at the bottom indicates "Login Success". The system is running on a Windows operating system.

ADDING AGRO PRODUCTS

The screenshot shows a web browser window titled "Add AgroProducts" with the URL "127.0.0.1:5000/addagrop product". The page header includes "FARM MANAGEMENT SYSTEM" and navigation links for Home, Farmer Register, Add Farming, Farmer Details, Agro Products, Records, "Welcome 777aml", and Logout. A banner at the top reads "DBMS Mini Project Using Flask & MYSQL". Below the banner is a circular button labeled "AGRO PRODUCTS". The main content area is titled "Add Agro Products" and contains form fields for adding a new agro product:

Farmer Name	<input type="text" value="777aml"/>
Farmer Email	<input type="text" value="777amlff@gmail.com"/>
Product Name	<input type="text" value="cotton"/>
Product Description	<input type="text" value="cotton product for making clothes"/>
Price	<input type="text" value="500"/>

A green "Add Product" button is located below the form fields. The status bar at the bottom indicates "10:05 PM 10/31/2023". The system is running on a Windows operating system.

DATABASE :

Farm Management System

The screenshot shows the phpMyAdmin interface for the 'farmers' database. The left sidebar lists databases like college, farmers, addagroproducts, farming, register, test, trig, user, hms, information_schema, lms, mysql, performance_schema, phpmysql, redmi, register, and students. The 'register' table is selected in the main area. The SQL query `SELECT * FROM `register`` is displayed at the top. Below it, the table structure is shown with columns: rid, farmername, adharnumber, age, gender, phononenumber, address, and farming. One row is highlighted: rid 9, farmername mohit, adharnumber 8574857485748574, age 22, gender male, phononenumber 9986786453, address banaglore, and farming Seed Farming. There are buttons for Edit, Copy, Delete, and Export.

The screenshot shows the phpMyAdmin interface for the 'farmers' database. The left sidebar lists the same set of databases. The 'trig' table is selected. The SQL query `SELECT * FROM `trig` is shown at the top. The table structure includes columns id, fid, action, and timestamp. Six rows are listed, each with a timestamp from January 19, 2021, to January 21, 2021. The actions are FARMER UPDATED, FARMER DELETED, Farmer Inserted, and FARMER UPDATED. There are buttons for Edit, Copy, Delete, and Export.

Farm Management System

The screenshot shows the phpMyAdmin interface for the 'farmers' database. The left sidebar lists various databases and tables, with 'addagroproducts' currently selected. The main area displays the contents of the 'addagroproducts' table.

Table: addagroproducts

	username	email	pid	productname	productdesc	price
1	GIRIJA	test@gmail.com	1	CAULIFLOWER	Tips for Growing Cauliflower. Well drained medium...	520
2	COTTON	test@gmail.com	2	COTTON	Cotton is a soft, fluffy staple fiber that grows i...	563
3	silk	arkpro@gmail.com	3	silk	silk is best business developed from cocon for sa...	582

Table: user

	id	username	email	password
5	arkpro	arkpro@gmail.com	pbkdf2:sha256:150000\$TfhDWqOr\$d4cf40cc6cbfcbcd14...	
6	test	test@gmail.com	pbkdf2:sha256:150000\$RL4jFCwx\$bcb27905ac80d431267...	

CONCLUSION

FARM MANAGEMENT SYSTEM successfully implemented based on online selling which helps us in administrating the agroproducts user for managing the tasks performed in farmers. The project successfully used various functionalities of Xampp and python flask and also create the fully functional database management system for online portals.

Using MySQL as the database is highly beneficial as it is free to download, popular and can be easily customized. The data stored in the MySQL database can easily be retrieved and manipulated according to the requirements with basic knowledge of SQL.

With the theoretical inclination of our syllabus it becomes very essential to take the atmost advantage of any opportunity of gaining practical experience that comes along. The building blocks of this Major Project “Farm Management System” was one of these opportunities. It gave us the requisite practical knowledge to supplement the already taught theoretical concepts thus making us more competent as a computer engineer. The project from a personal point of view also helped us in understanding the following aspects of project development:

- The planning that goes into implementing a project.
- The importance of proper planning and an organized methodology.
- The key element of team spirit and co-ordination in a successful project.