

# **FARM MANAGEMENT SYSTEM**

## **A MINI PROJECT REPORT**

*Submitted by*

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*Under the guidance of*

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*In partial satisfaction of the requirements for the degree of*

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**SCHOOL OF COMPUTING**

**COLLEGE OF ENGINEERING AND TECHNOLOGY**

**SRM INSTITUTE OF SCIENCE AND TECHNOLOGY**

**KATTANKULATHUR - 603203**

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## **BONAFIDE CERTIFICATE**

Certified that this project report **“Farm Management System”** is the bonafide work of **“Syrus Neil(RA2011027010001) & Aashna JC(RA2011027010009)”** of III Year/VI Sem B.tech(CSE) who carried out the mini project work under my supervision for the course 18CSC303J- Database Management systems in SRM Institute of Science and Technology during the academic year 2022-2023(Even sem).

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Department name and seal

## **ABSTRACT**

The purpose of farm management system is to automate the existing manual system by the help of computerized equipment and full-fledged computer software, fulfilling their requirements, so that their valuable data can be store for a longer period with easy accessing and manipulation of the same. Farm management system can lead to error free, secure, reliable, and fast management system. It can assist the user to concentrate on their other activities rather to concentrate on the record keeping. Thus, it will help the organization in better utilization of resources. The organization can maintain computerized records without redundant entries. That means that one need not be distracted by information that is not relevant while being able to reach the information.

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# **CHAPTER 1**

## **INTRODUCTION**

### **1.1 INTRODUCTION:**

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.

### **1.2 PROBLEM STATEMENT:**

The agricultural sector faces numerous challenges that can impact the productivity and sustainability of farms. One of the primary challenges that farmers face is the need to manage multiple tasks simultaneously, such as crop planning, resource management, and record-keeping. Traditional methods of managing these tasks can be time-consuming, error-prone, and inefficient, leading to decreased productivity and increased costs. The purpose of this project report is to design and implement a farm management system that addresses the challenges faced by farmers and provides a comprehensive solution to improve the efficiency and sustainability of farming operations. The system aims to integrate various functions of farm management into a single platform, providing farmers with the tools they need to make informed decisions and optimize their operations for maximum yield and profitability.

### **1.3 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.

## **1.4 SCOPE AND APPLICATIONS:**

- In computer system the person must fill the various forms and number of copies of the forms can be easily generated at a time
- To assist the staff in capturing the effort spent on their respective working areas
- To utilize resources in an efficient manner by increasing their productivity through automation
- The system generates types of information that can be used for various purposes.
- It satisfies the user requirement
- Be easy to understand by the user and operator.
- Easy to operate
- Has a good user interface
- Be expandable

## **1.5 GENERAL AND UNIQUE SERVICES IN THE DATABASE APPLICATIONS:**

Farm-to-table traceability: The system could provide tools to track the origin and movement of food products from farm to table, helping farmers to meet regulatory requirements and providing consumers with more transparency and confidence in the food they consume.

## **1.6 SOFTWARE REQUIREMENTS SPECIFICATIONS:**

Frontend- HTML, CSS, Java Script, Bootstrap

Backend-Python flask (Python 3.7),

SQLAlchemy

- Operating System: Windows 11
- Google Chrome/Internet Explorer
- XAMPP (Version-3.7)
- Python main editor (user interface): PyCharm Community
- workspace editor: Sublime text 3

## **CHAPTER 2**

### **LITERATURE SURVEY**

#### **1) Uses of ICT in agriculture:**

*Manish Mahant, Abhishek Shukla, Sunil Dixit, Dileshwer Patel, (2012)*

The application of Information and Communication Technology (ICT) in agriculture is increasingly important. E-Agriculture involves the conceptualization, design, development, evaluation, and application of innovative ways to use information and communication technologies (ICT) in rural domain, with a primary focus on agriculture. Information and Communication Technology (ICT) can play a significant role in maintaining properties of information as it consists of three main technologies. These technologies are applied for processing, exchanging and managing data, information and knowledge.

#### **2) Farm management information systems: A case study on a German multifunctional farm:**

*Christoph Husemann, Nebojsa Novkovic*

Accurate and easy to use Farm Management Information Systems (FMIS) are of fundamental importance for a successful operational farm management. However, still today many farmers do not use FMISs for various reasons, like lack of knowledge and the complexity of many available FMISs. For small to medium-sized farms and for multifunctional farms appropriate FMISs hardly exist. This paper aims on the deduction of a concrete FMIS from a general FMIS. The concrete FMIS must focus on the needs of medium-sized and multifunctional farms. This means that the farmer must be empowered to allocate the scarce resources of the farm. The case study farm helps to identify and to analyze relevant material and information flows, production processes, and their interconnections and synergies.

#### **3) Development of Software for Research Farm Management System**

*Sonam, O P Gupta, B K Sawhney*

In this research work we have developed an integrated application for farm management which works, on first building decision tree for recommendation of agricultural solutions that a research student (user) is looking for, and the recommended solution may include application of some fertilizer, pesticide etc.. Inventory related to farming such as various machines, fertilizers, chemicals is maintained and all task involved can be e-mailed as report by the student to their respective advisor. Advisors can post the daily tasks list for each supervised student and the current status of that job will be visible to the advisor, helping to maintain better communication channel and easy record maintenance. Finally, the system was evaluated against the ground truth, and we found the recall and precision values for our system



# CHAPTER 3

## SYSTEM ARCHITECTURE AND DESIGN

### 3.1 ARCHITECTURE DIAGRAM

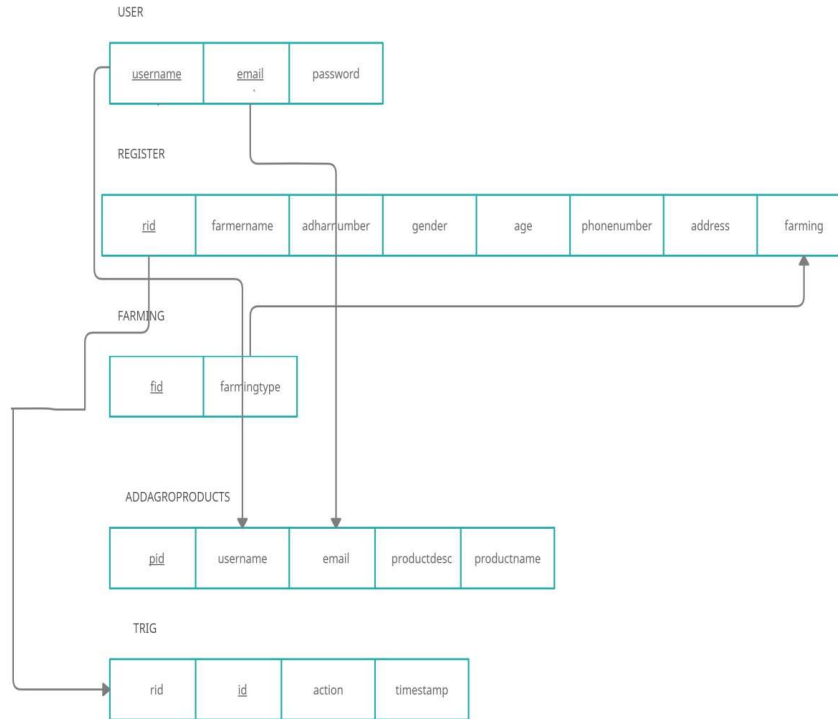


Fig no 1

### 3.2 ER DIAGRAM

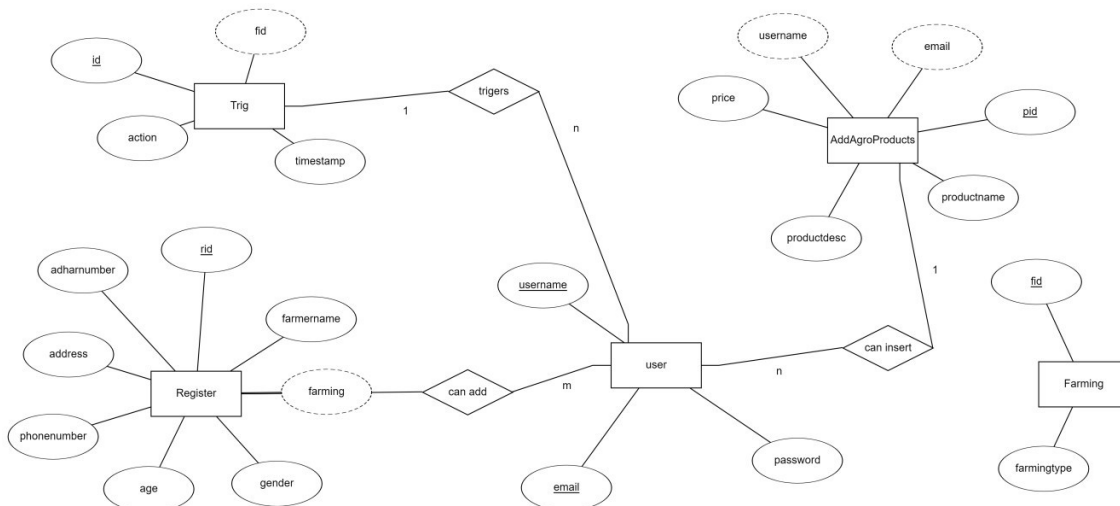
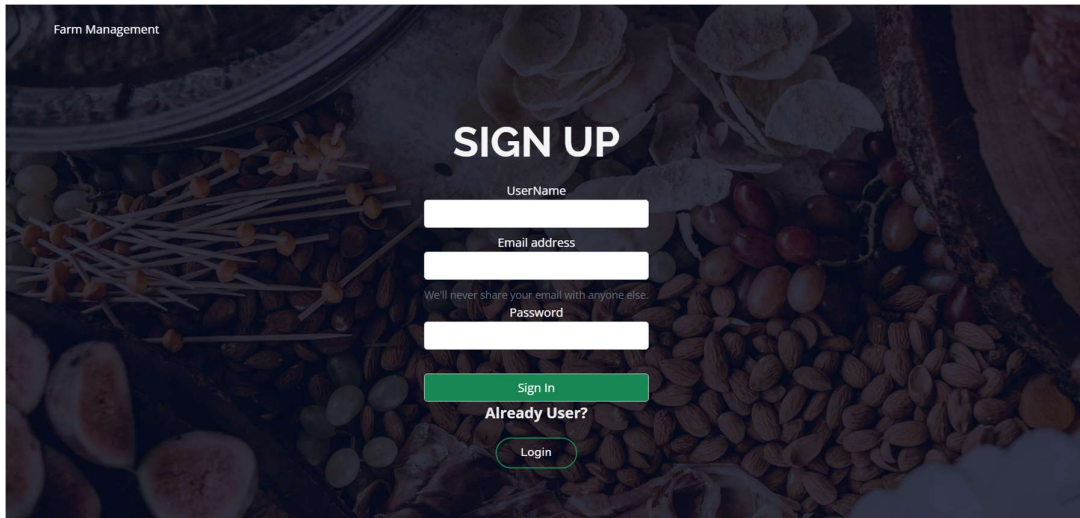


Fig no 2

## CHAPTER 4

### MODULES AND FUNCTIONALITIES

#### 4.1 MODULES:



Farm Management

## SIGN UP

UserName

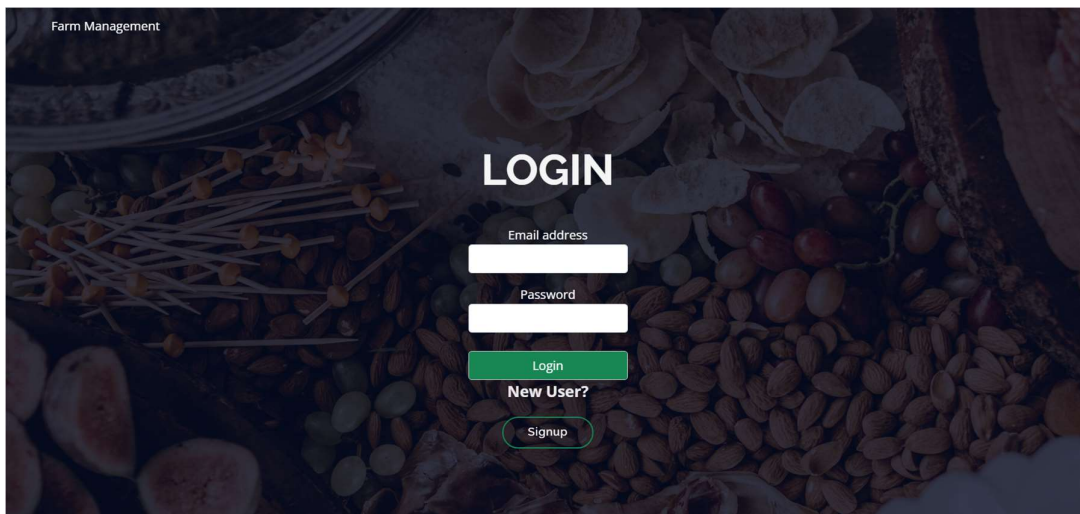
Email address

We'll never share your email with anyone else.

Password

Already User?

Fig no 3



Farm Management

## LOGIN

Email address

Password

New User?

Fig no 4

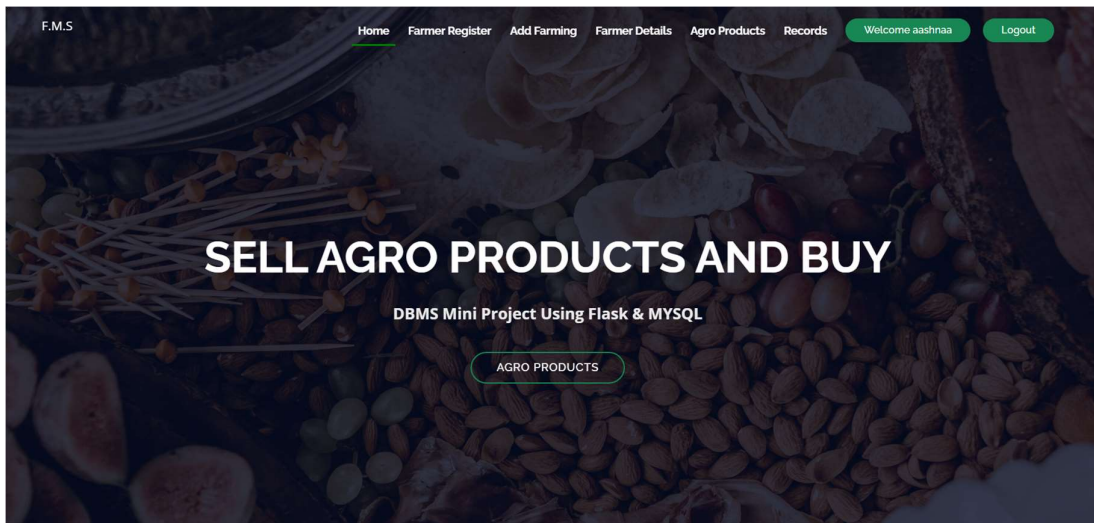


Fig no 5

Fig no 6

Fig no 7



### Farmer Details

RID	FARMER NAME	ADHAR NUMBER	AGE	GENDER	PHONE NUMBER	ADDRESS	FARMING	EDIT	DELETE	ADD AGRO PRODUCT
9	aashna	123456789101	20	female	986541756	chennai	silk	<a href="#">Edit</a>	<a href="#">Delete</a>	<a href="#">ADD</a>
10	syrus	123456789011	21	male	9876543210	chennai	cocon	<a href="#">Edit</a>	<a href="#">Delete</a>	<a href="#">ADD</a>

Fig no 8

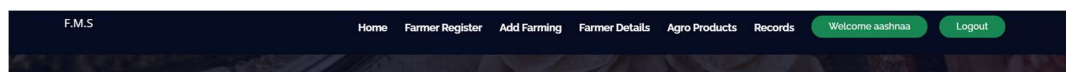


Fig no 9



<p><b>GIRIJA CAULIFLOWER</b> <b>Price : 520</b></p> <p>Tips for Growing Cauliflower. Well drained medium loam and or sandy loam soils are suitable.</p> <p>Owner : test</p> <p>Email : test@gmail.com</p> <p><a href="#">Purchase</a></p>	<p><b>COTTON</b> <b>Price : 563</b></p> <p>Cotton is a soft, fluffy staple fiber that grows in a boll, around the seeds of the cotton</p> <p>Owner : test</p> <p>Email : test@gmail.com</p> <p><a href="#">Purchase</a></p>	<p><b>silk</b> <b>Price : 456</b></p> <p>Silk is a natural protein fiber, some forms of which can be woven into textiles. The protein fiber of silk is composed mainly of fibroin and is produced by certain insect larvae to form cocoons.</p> <p>Owner : aashnajc</p> <p>Email : aashna@gmail.com</p> <p><a href="#">Purchase</a></p>
<p><b>Cotton</b> <b>Price : 570</b></p> <p>Natural, dried pods of the cotton plant often used in home accents, table decorations, and more</p> <p>Owner : syrus</p>	<p><b>Jute</b> <b>Price : 1200</b></p> <p>Jute is a long, soft, shiny bast fiber that can be spun into coarse, strong threads.</p> <p>Owner : aashnajc</p>	

Fig no 10

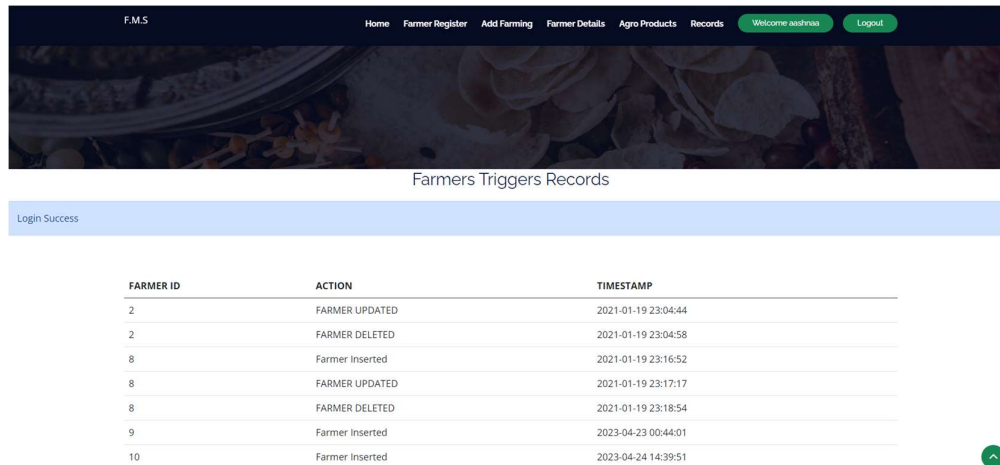


Fig no 11

## 4.2 DATABASE CONNECTIVITY

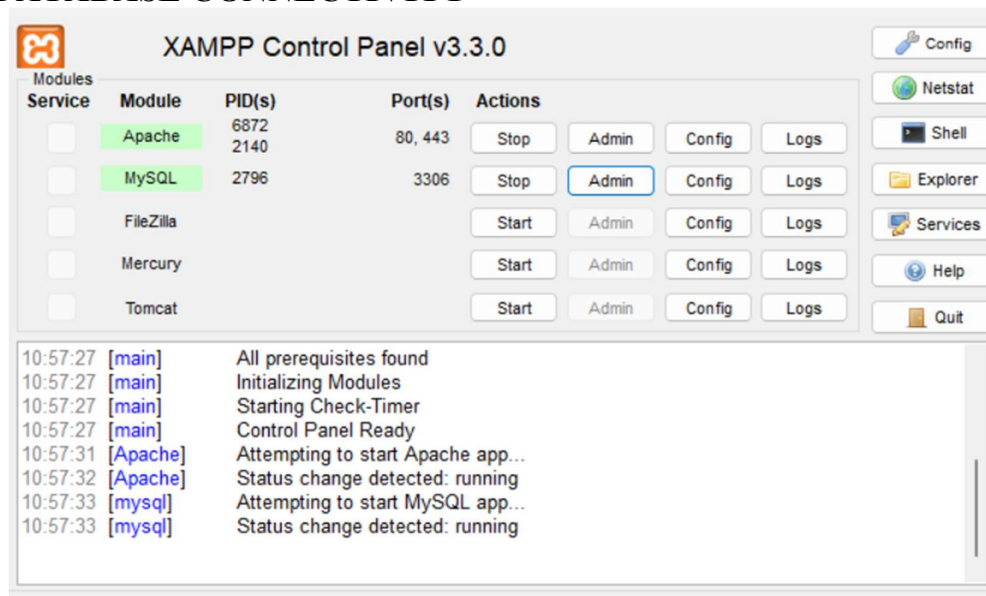


Fig no 12

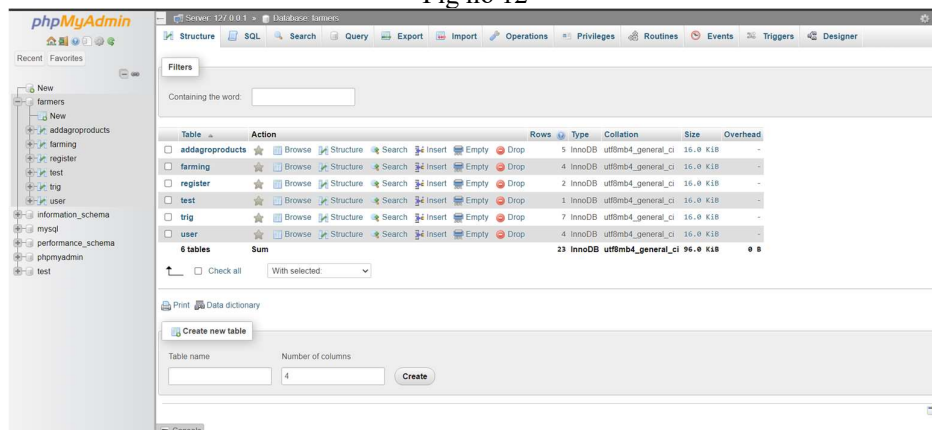


Fig no 13



<div><div><div><div></div><div></div><div></div></div></div><div></div></div>			▼ username	email	pid	productname	productdesc	price	
<input type="checkbox"/>	<div><div><div></div><div></div><div></div></div><div>Edit</div></div>	<div><div><div></div><div></div><div></div></div><div>Copy</div></div>	<div><div><div></div><div></div><div></div></div><div>Delete</div></div>	test	test@gmail.com	1	GIRIJA CAULIFLOWER	Tips for Growing Cauliflower. Well drained medium...	520
<input type="checkbox"/>	<div><div><div></div><div></div><div></div></div><div>Edit</div></div>	<div><div><div></div><div></div><div></div></div><div>Copy</div></div>	<div><div><div></div><div></div><div></div></div><div>Delete</div></div>	test	test@gmail.com	2	COTTON	Cotton is a soft, fluffy staple fiber that grows i...	563
<input type="checkbox"/>	<div><div><div></div><div></div><div></div></div><div>Edit</div></div>	<div><div><div></div><div></div><div></div></div><div>Copy</div></div>	<div><div><div></div><div></div><div></div></div><div>Delete</div></div>	aashnajc	aashna@gmail.com	4	silk	Silk is a natural protein fiber, some forms of whi...	456
<input type="checkbox"/>	<div><div><div></div><div></div><div></div></div><div>Edit</div></div>	<div><div><div></div><div></div><div></div></div><div>Copy</div></div>	<div><div><div></div><div></div><div></div></div><div>Delete</div></div>	syrus	syrus@gmail.com	5	Cotton	Natural, dried pods of the cotton plant often used...	570
<input type="checkbox"/>	<div><div><div></div><div></div><div></div></div><div>Edit</div></div>	<div><div><div></div><div></div><div></div></div><div>Copy</div></div>	<div><div><div></div><div></div><div></div></div><div>Delete</div></div>	aashnajc	aashna@gmail.com	6	Jute	Jute is a long, soft, shiny bast fiber that can be...	1200

Fig no 14













<div><div>←</div><div>T</div><div>→</div></div>				fid	farmingtype
<input type="checkbox"/>	 Edit	 Copy	 Delete	1	Seed Farming
<input type="checkbox"/>	 Edit	 Copy	 Delete	2	coccon
<input type="checkbox"/>	 Edit	 Copy	 Delete	3	silk
<input type="checkbox"/>	 Edit	 Copy	 Delete	4	Cotton

Fig no 15

<div><div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div></div><div></div></div>				rid	farmername	adharnumber	age	gender	phonenumber	address	farming			
<div><div><div></div></div><div><div></div><div></div><div></div></div></div>	<div><div></div><div></div><div></div></div>	Edit	<div><div></div><div></div><div></div></div>	Copy	<div><div></div><div></div><div></div></div>	Delete	9	aashna	123456789101	20	female	986541756	chennai	silk
<div><div><div></div></div><div><div></div><div></div><div></div></div></div>	<div><div></div><div></div><div></div></div>	Edit	<div><div></div><div></div><div></div></div>	Copy	<div><div></div><div></div><div></div></div>	Delete	10	syrus	123456789011	21	male	9876543210	chennai	coccon

Fig no 16

<div><div><div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div></div><div></div></div></div>				id	name
<div><div><div><div></div></div></div><div><div><div></div></div></div></div>	<div><div><div></div></div></div> Edit	<div><div><div></div></div></div> Copy	<div><div><div></div></div></div> Delete	1	harshith

Fig no 17














<div><div><div></div><div></div><div></div></div></div>				▼	id	fid	action	timestamp
<input type="checkbox"/>	 Edit	 Copy	 Delete		1	2	FARMER UPDATED	2021-01-19 23:04:44
<input type="checkbox"/>	 Edit	 Copy	 Delete		2	2	FARMER DELETED	2021-01-19 23:04:58
<input type="checkbox"/>	 Edit	 Copy	 Delete		3	8	Farmer Inserted	2021-01-19 23:16:52
<input type="checkbox"/>	 Edit	 Copy	 Delete		4	8	FARMER UPDATED	2021-01-19 23:17:17
<input type="checkbox"/>	 Edit	 Copy	 Delete		5	8	FARMER DELETED	2021-01-19 23:18:54
<input type="checkbox"/>	 Edit	 Copy	 Delete		6	9	Farmer Inserted	2023-04-23 00:44:01
<input type="checkbox"/>	 Edit	 Copy	 Delete		7	10	Farmer Inserted	2023-04-24 14:39:51

Fig no 18

## CHAPTER 5

### CODING AND TESTING

```

▶ Run on active connection | Select block
-- phpMyAdmin SQL Dump
-- version 5.0.2
-- https://www.phpmyadmin.net/
--
-- Host: 127.0.0.1
-- Generation Time: Jan 20, 2021 at 06:31 AM
-- Server version: 10.4.11-MariaDB
-- PHP Version: 7.2.29

SET SQL_MODE = "NO_AUTO_VALUE_ON_ZERO";
START TRANSACTION;
SET time_zone = "+00:00";

/*!40101 SET @OLD_CHARACTER_SET_CLIENT=@@CHARACTER_SET_CLIENT */;
/*!40101 SET @OLD_CHARACTER_SET_RESULTS=@@CHARACTER_SET_RESULTS */;
/*!40101 SET @OLD_COLLATION_CONNECTION=@@COLLATION_CONNECTION */;
/*!40101 SET NAMES utf8mb4 */;

--
-- Database: `farmers`
--
-- -----
--
-- Table structure for table `addagroproducts`
--
CREATE TABLE `addagroproducts` (
  `username` varchar(50) NOT NULL,
  `email` varchar(50) NOT NULL,
  `pid` int(11) NOT NULL,
  `productname` varchar(100) NOT NULL,
  `productdesc` text NOT NULL,
  `price` int(100) NOT NULL
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4;

--
-- Dumping data for table `addagroproducts`
--
INSERT INTO `addagroproducts` (`username`, `email`, `pid`, `productname`, `productdesc`, `price`) VALUES
('test', 'test@gmail.com', 1, 'GIRIJA CAULIFLOWER', ' Tips for Growing Cauliflower. Well drained medium loam and or sandy loam soil', 582),
('test', 'test@gmail.com', 2, 'COTTON', 'Cotton is a soft, fluffy staple fiber that grows in a boll,around the seeds of the cotton', 582),
('arkpro', 'arkpro@gmail.com', 3, 'silk', 'silk is best business developed from cocoon for saries preparation and so on', 582);

--
-- Table structure for table `farming`
--
CREATE TABLE `farming` (
  `fid` int(11) NOT NULL,
  `farmingtype` varchar(200) NOT NULL
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4;

--
-- Dumping data for table `farming`
--
INSERT INTO `farming` (`fid`, `farmingtype`) VALUES
(1, 'Seed Farming'),
(2, 'coccon'),
(3, 'silk');

```

```
-- Table structure for table `register`
--

CREATE TABLE `register` (
  `rid` int(11) NOT NULL,
  `farmername` varchar(50) NOT NULL,
  `adharnumber` varchar(20) NOT NULL,
  `age` int(100) NOT NULL,
  `gender` varchar(50) NOT NULL,
  `phonenummer` varchar(12) NOT NULL,
  `address` varchar(50) NOT NULL,
  `farming` varchar(50) NOT NULL
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4;

--
-- Triggers `register`
--
DELIMITER $$
CREATE TRIGGER `deletion` BEFORE DELETE ON `register` FOR EACH ROW INSERT INTO trig VALUES(null,OLD.rid,'FARMER DELETED',NOW())
$$
DELIMITER ;
DELIMITER $$
CREATE TRIGGER `insertion` AFTER INSERT ON `register` FOR EACH ROW INSERT INTO trig VALUES(null,NEW.rid,'Farmer Inserted',NOW())
$$
DELIMITER ;
DELIMITER $$
CREATE TRIGGER `updation` AFTER UPDATE ON `register` FOR EACH ROW INSERT INTO trig VALUES(null,NEW.rid,'FARMER UPDATED',NOW())
$$
DELIMITER ;
```

```
--
-- Table structure for table `test`
--

CREATE TABLE `test` (
  `id` int(11) NOT NULL,
  `name` varchar(50) NOT NULL
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4;
```

```
--
-- Dumping data for table `test`
--
```

```
INSERT INTO `test` (`id`, `name`) VALUES
(1, 'harshith');
```

```
-----
```

```
--
-- Table structure for table `trig`
--
```

```
CREATE TABLE `trig` (
  `id` int(11) NOT NULL,
  `fid` varchar(50) NOT NULL,
  `action` varchar(50) NOT NULL,
  `timestamp` datetime NOT NULL
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4;
```



```

--
-- Dumping data for table `trig`
--

INSERT INTO `trig` (`id`, `fid`, `action`, `timestamp`) VALUES
(1, '2', 'FARMER UPDATED', '2021-01-19 23:04:44'),
(2, '2', 'FARMER DELETED', '2021-01-19 23:04:58'),
(3, '8', 'Farmer Inserted', '2021-01-19 23:16:52'),
(4, '8', 'FARMER UPDATED', '2021-01-19 23:17:17'),
(5, '8', 'FARMER DELETED', '2021-01-19 23:18:54');

-----

--
-- Table structure for table `user`
--

CREATE TABLE `user` (
  `id` int(11) NOT NULL,
  `username` varchar(50) NOT NULL,
  `email` varchar(50) NOT NULL,
  `password` varchar(500) NOT NULL
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4;

--
-- Dumping data for table `user`
--

INSERT INTO `user` (`id`, `username`, `email`, `password`) VALUES
(5, 'arkpro', 'arkpro@gmail.com', 'pbkdf2:sha256:150000$TfhDwQOr$d4cf40cc6cbfccbdcd1410f9e155ef2aa660620b0439a60c4d74085dbf007a4a');

-- Indexes for table `addagroproducts`
--
ALTER TABLE `addagroproducts`
  ADD PRIMARY KEY (`pid`);

--
-- Indexes for table `farming`
--
ALTER TABLE `farming`
  ADD PRIMARY KEY (`fid`);

--
-- Indexes for table `register`
--
ALTER TABLE `register`
  ADD PRIMARY KEY (`rid`);

--
-- Indexes for table `test`
--
ALTER TABLE `test`
  ADD PRIMARY KEY (`id`);

--
-- Indexes for table `trig`
--
ALTER TABLE `trig`
  ADD PRIMARY KEY (`id`);

--
-- Indexes for table `user`
--
ALTER TABLE `user`
  ADD PRIMARY KEY (`id`);

```

```

--
-- AUTO_INCREMENT for table `addagroproducts`
--
ALTER TABLE `addagroproducts`
  MODIFY `pid` int(11) NOT NULL AUTO_INCREMENT, AUTO_INCREMENT=4;

--
-- AUTO_INCREMENT for table `farming`
--
ALTER TABLE `farming`
  MODIFY `fid` int(11) NOT NULL AUTO_INCREMENT, AUTO_INCREMENT=4;

--
-- AUTO_INCREMENT for table `register`
--
ALTER TABLE `register`
  MODIFY `rid` int(11) NOT NULL AUTO_INCREMENT, AUTO_INCREMENT=9;

--
-- AUTO_INCREMENT for table `test`
--
ALTER TABLE `test`
  MODIFY `id` int(11) NOT NULL AUTO_INCREMENT, AUTO_INCREMENT=2;

--
-- AUTO_INCREMENT for table `trig`
--
ALTER TABLE `trig`
  MODIFY `id` int(11) NOT NULL AUTO_INCREMENT, AUTO_INCREMENT=6;

--
-- AUTO_INCREMENT for table `user`
--
ALTER TABLE `user`
  MODIFY `id` int(11) NOT NULL AUTO_INCREMENT, AUTO_INCREMENT=6;
COMMIT;

```

## **CHAPTER 6**

### **RESULTS AND DISCUSSIONS**

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 utmost 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.

## **CHAPTER 7**

### **FUTURE ENHANCEMENT**

**Sustainability and Environmental Monitoring:** Integrating sustainability metrics and environmental monitoring tools into the system would allow farmers to track and manage their environmental impact. This could include features for monitoring water usage, pesticide application, and carbon footprint calculations, helping farmers adopt more sustainable practices.

**Data Sharing and Collaboration:** Enabling data sharing and collaboration features within the farm management system would facilitate knowledge exchange and collaboration among farmers, agricultural experts, and researchers. This could include features such as discussion forums, data sharing protocols, and collaborative research projects.

**Blockchain Integration:** Implementing blockchain technology can enhance the security, traceability, and transparency of data within the farm management system. This could enable secure transactions, provenance tracking, and certification of agricultural products.

By incorporating these future enhancements, the farm management system can become a more advanced and comprehensive tool for farmers, enabling them to optimize their operations, improve productivity, and contribute to sustainable agriculture practices

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