FARMER MANAGEMENT

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

BACHELOR OF TECHNOLOGY

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CORE

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INSTITUTE OF SCIENCE AND TECHNOLOGY KATTANKULATHUR

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BONAFIDE CERTIFICATE

Certified that this lab report titled **Farmers Management** is the bonafide work done by **Divyansh Gautam (RA2111003010625)** who carried out the lab exercises under my supervision. Certified further, that to the best of my knowledge the work reported herein does not form part of any other work.

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ABSTRACT

The main aim of developing “Farm Management " application is to help farmers by providing all kinds of agriculture related information on the site. “Farm Management System Project” is a web application which helps farmers to share best practice farming processes. It helps farmers to improve their productivity and profitability. It enables farmers to sell their products online and farmers can purchase tools and seeds directly from sellers. Farmers can view their profile and they can register, edit and delete data.

The farmers can sell their productions online and the buyer can purchase various agricultural products online. Buyer can send purchase requests to check the quality of the Agro product through mails.

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CHAPTER 1
INTRODUCTION

The introduction lays out the objectives and limitations of the project. Objectives include designing and developing a user-friendly system, eliminating data redundancy, studying the existing farm management systems, and providing synchronized and centralized databases for farmers and sellers. Additionally, the project aims to enhance security, improve coordination among farmers, reduce losses, and facilitate immediate storage and retrieval of data.

However, the project acknowledges certain limitations such as the small size of farm businesses and the requirement for less labor per unit area in large-scale farming operations. Despite these challenges, the Farm Management System endeavors to leverage technological advancements to streamline agricultural processes and enhance overall productivity.

This report provides a comprehensive overview of the Farm Management System, covering its development process, system architecture, database design, user interfaces, implementation details, and future enhancements. Through this project, we aim to contribute towards the modernization and optimization of farm management practices, ultimately fostering growth and sustainability in the agricultural sector.

CHAPTER-2
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 the 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 proposed system enables farmers to sell their produce online, facilitating buyers to purchase various agricultural products through the platform. Buyers can request to inspect the quality of the products before making a purchase. Once all farm produce is collected from the farmers, it is made available for sale to customers.

The system caters to two types of users: Customers and Farmers, each requiring a login ID and password for access. Additionally, the system includes sections for articles and agricultural products, enabling farmers to showcase their products and enhance profitability.

CHAPTER 3
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,

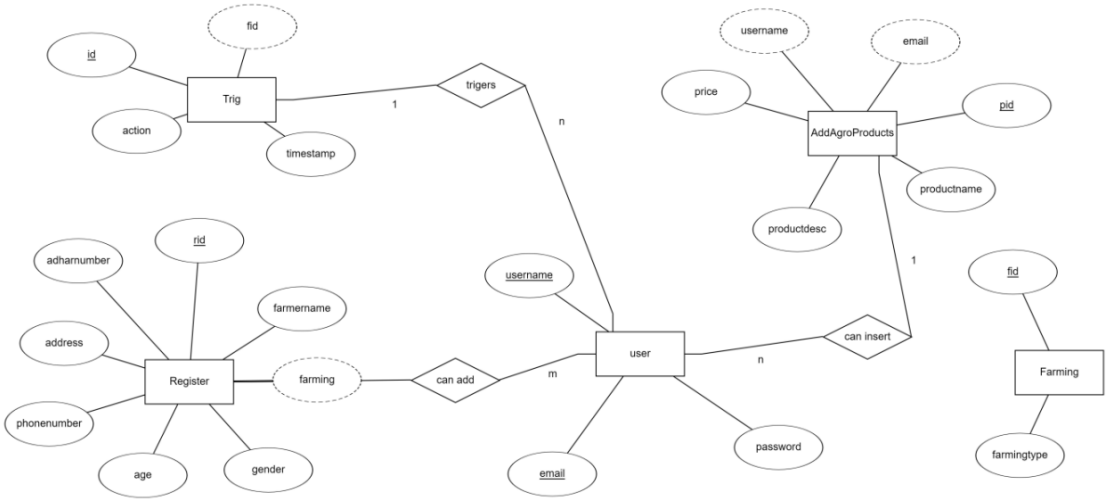
- O perating System: Windows 10
- G oogle Chrome/Internet Explorer
- X AMPP (Version-3.7)
- P ython main editor (user interface): PyCharm Community
- w orkspace editor: Sublime text 3

HARDWARE REQUIREMENTS:

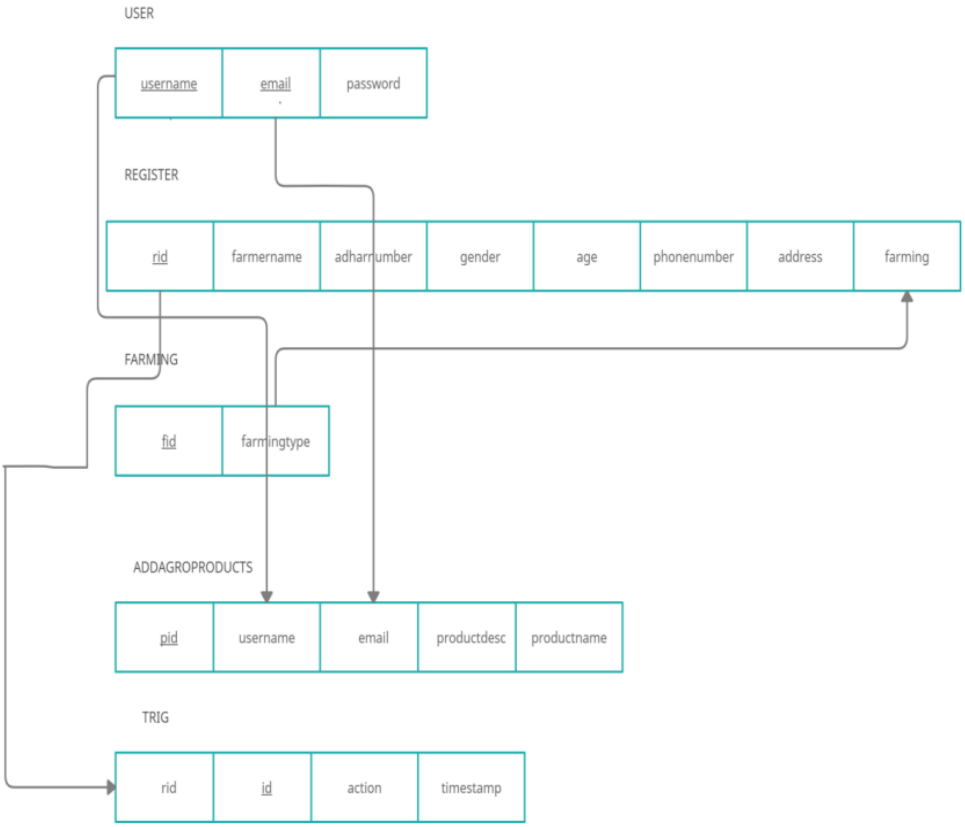
- C omputer with a 1.1 GHz or faster processor
- M inimum 2GB of RAM or more
- 2 .5 GB of available hard-disk space
- 5 400 RPM hard drive
- 1 366 × 768 or higher-resolution display
- D VD-ROM drive

3.2 CONCEPTUAL DESIGN:

3.2.1 E-R DIAGRAM:



3.2.2 SCHEMA DIAGRAM:



3.3 IMPLEMENTATION:

Python Implementation:

The term "implementation" of Python refers to a program or environment that supports the execution of programs written in the Python language, typically represented by the CPython reference implementation. There are various software packages providing Python, some of which are distributions or variants of existing implementations.

BackEnd (MySQL) Database:

A Database Management System (DBMS) is computer software designed for managing databases, structured data, and executing operations on the data requested by numerous users. Examples of DBMSs include Oracle, MySQL, PostgreSQL, and SQLite. DBMSs are used in various applications such as accounting, human resources, and customer support systems.

A DBMS comprises:

A modeling language to define the schema of each database.

Data structures optimized for dealing with large amounts of data.

A database query language like SQL.

Data security mechanisms to prevent unauthorized access.

Transaction mechanisms to ensure data integrity.

Triggers, which are special stored procedures that automatically execute when certain events occur in the database.

SQL:

Structured Query Language (SQL) is used to manipulate relational databases. In the relational model, data is stored in structures called relations or tables. SQL statements are used for data definition, manipulation, and querying.

Stored Procedure:

Routine name: proc

Type: procedure

Definition: Select * from register;

Triggers:

Triggers are special stored procedures that automatically execute when certain events occur in the database.

Here are the triggers used:

Trigger name: on insert

Table: register

Time: after

Event: insert

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

Trigger name: on delete

Table: register

Time: after

Event: delete

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

Trigger name: on update

Table: register

Time: after

Event: update

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

BACKEND PYTHON WITH MYSQL CODE:

```
from flask import Flask, render_template, request, session, redirect, url_for, flash
from flask_sqlalchemy import SQLAlchemy
from flask_login import UserMixin, login_user, logout_user, login_manager, LoginManager, login_required, current_user
from werkzeug.security import generate_password_hash, check_password_hash


# DB connection
local_server = True
app = Flask(__name__)
app.secret_key = 'harshithbhaskar'

# Login Manager setup
login_manager = LoginManager(app)
login_manager.login_view = 'login'

@login_manager.user_loader
def load_user(user_id):
    return User.query.get(int(user_id))

# Database configuration
app.config['SQLALCHEMY_DATABASE_URI'] =
```

```
'mysql://username:password@localhost/database_table_name'
app.config['SQLALCHEMY_DATABASE_URI'] =
'mysql://root:@localhost/farmers'
db = SQLAlchemy(app)

# Define database models
class Test(db.Model):
    id = db.Column(db.Integer, primary_key=True)
    name = db.Column(db.String(100))

class Farming(db.Model):
    fid = db.Column(db.Integer, primary_key=True)
    farmingtype = db.Column(db.String(100))

class Addagroproducts(db.Model):
    username = db.Column(db.String(50))
    email = db.Column(db.String(50))
    pid = db.Column(db.Integer, primary_key=True)
    productname = db.Column(db.String(100))
    productdesc = db.Column(db.String(300))
    price = db.Column(db.Integer)

class Trig(db.Model):
    id = db.Column(db.Integer, primary_key=True)
    fid = db.Column(db.String(100))
    action = db.Column(db.String(100))
    timestamp = db.Column(db.String(100))

class User(UserMixin, db.Model):
    id = db.Column(db.Integer, primary_key=True)
    username = db.Column(db.String(50))
```

```
    email = db.Column(db.String(50), unique=True)
    password = db.Column(db.String(1000))

class Register(db.Model):
    rid = db.Column(db.Integer, primary_key=True)
    farmername = db.Column(db.String(50))
    adharnumber = db.Column(db.String(50))
    age = db.Column(db.Integer)
    gender = db.Column(db.String(50))
    phonenumber = db.Column(db.String(50))
    address = db.Column(db.String(50))
    farming = db.Column(db.String(50))

# Routes definition
@app.route('/')
def index():
    return render_template('index.html')

@app.route('/farmerdetails')
@login_required
def farmerdetails():
    query = db.engine.execute("SELECT * FROM `register`")
    return render_template('farmerdetails.html', query=query)

@app.route('/agroproducts')
def agroproducts():
    query = db.engine.execute("SELECT * FROM `addagroproducts`")
    return render_template('agroproducts.html', query=query)

@app.route('/addagroproduct', methods=['POST', 'GET'])
@login_required
```

```
def addagroproduct():
    if request.method == "POST":
        username = request.form.get('username')
        email = request.form.get('email')
        productname = request.form.get('productname')
        productdesc = request.form.get('productdesc')
        price = request.form.get('price')

        products = Addagroproducts(username=username, email=email, productname=productname, productdesc=productdesc, price=price)
        db.session.add(products)
        db.session.commit()
        flash("Product Added", "info")
        return redirect('/agroproducts')

    return render_template('addagroproducts.html')

@app.route('/triggers')
@login_required
def triggers():
    query = db.engine.execute("SELECT * FROM `trig`")
    return render_template('triggers.html', query=query)

# Add more routes as needed...

# Run the application
if __name__ == "__main__":
    app.run(debug=True)
```

FRONT END

```
<!DOCTYPE html>
<html lang="en">
```

```
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Agro Portal</title>
    <link rel="stylesheet" href="https://stackpath.bootstrapcdn.com/bootstrap/4.5.2/css/bootstrap.min.css" integrity="sha384-JcKb8q3iqJ61gNV9KGb8thSsNjpSL0n8PARn9HuZOnIxN0hoP+VmmDGMN5t9UJ0Z" crossorigin="anonymous">
</head>
<body>
    <nav class="navbar navbar-expand-lg navbar-light bg-light">
        <a class="navbar-brand" href="/">Agro Portal</a>
        <button class="navbar-toggler" type="button" data-toggle="collapse" data-target="#navbarSupportedContent" aria-controls="navbarSupportedContent" aria-expanded="false" aria-label="Toggle navigation">
            <span class="navbar-toggler-icon"></span>
        </button>

        <div class="collapse navbar-collapse" id="navbarSupportedContent">
            <ul class="navbar-nav mr-auto">
                <li class="nav-item">
                    <a class="nav-link" href="/farmerdetails">Farmer Details</a>
                </li>
                <li class="nav-item">
                    <a class="nav-link" href="/agroproducts">Agro Products</a>
                </li>
                <li class="nav-item">
                    <a class="nav-link" href="/addagroproduct">Add Agro Product</a>
                </li>
                <li class="nav-item">
                    <a class="nav-link" href="/triggers">Triggers</a>
                </li>
```

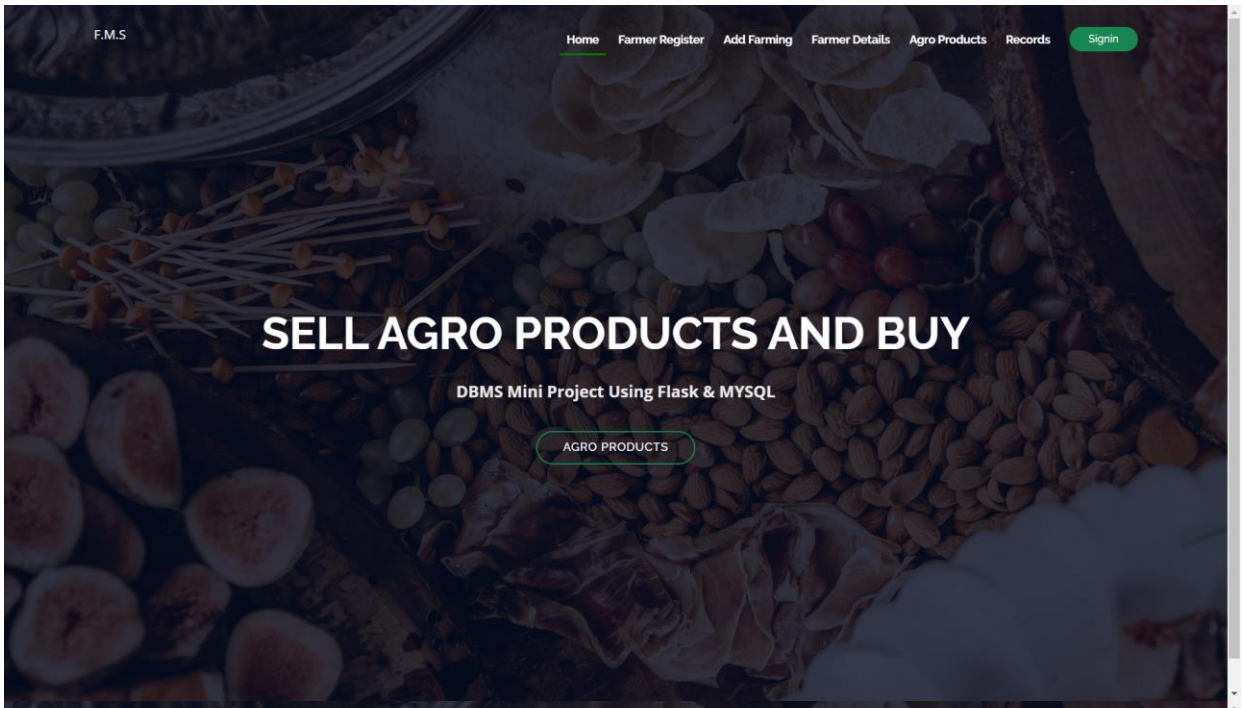
```
        </ul>
        <form class="form-inline my-2 my-lg-0">
          <button class="btn btn-outline-success my-2 my-sm-0" type="submit">Logout</button>
        </form>
      </div>
    </nav>

    <div class="container mt-5">
      <h2>Add Agro Product</h2>
      <form action="/addagroproduct" method="POST">
        <div class="form-group">
          <label for="username">Username</label>
          <input type="text" class="form-control" id="username" name="username" placeholder="Enter username">
        </div>
        <div class="form-group">
          <label for="email">Email address</label>
          <input type="email" class="form-control" id="email" name="email" placeholder="Enter email">
        </div>
        <div class="form-group">
          <label for="productname">Product Name</label>
          <input type="text" class="form-control" id="productname" name="productname" placeholder="Enter product name">
        </div>
        <div class="form-group">
          <label for="productdesc">Product Description</label>
          <textarea class="form-control" id="productdesc" name="productdesc" rows="3"></textarea>
        </div>
        <div class="form-group">
          <label for="price">Price</label>
```

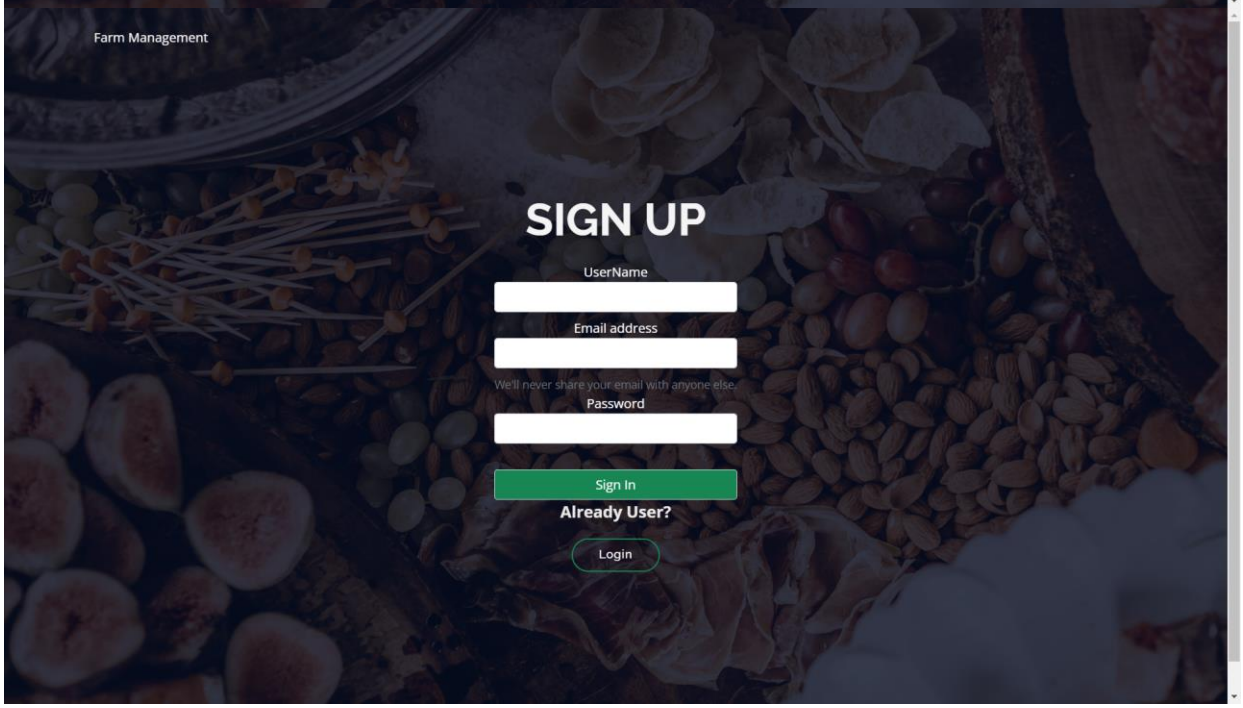
```
            <input type="number" class="form-control" id="price" name="price" placeholder="Enter price">
        </div>
        <button type="submit" class="btn btn-primary">Submit</button>
      </form>
   </div>


   <script src="https://code.jquery.com/jquery-3.5.1.slim.min.js" integrity="sha384-DfXdz2htPH0lsSSs5nCTpuj/zy4C+OGpamoFVy38MVBnE+IbbVYUew+OrCXaRkfj" crossorigin="anonymous"></script>
   <script src="https://cdn.jsdelivr.net/npm/@popperjs/core@2.5.4/dist/umd/popper.min.js" integrity="sha384-2P5EGUUh5oA/x+ow23M5oTwk5B2vFMyTCZ/rWjyOvrO6z8kzRrjkaUJi5OZIVVy1" crossorigin="anonymous"></script>
   <script src="https://stackpath.bootstrapcdn.com/bootstrap/4.5.2/js/bootstrap.min.js" integrity="sha384-B4gt1jrGC7Jh4AgTPSdUtOBvfO8shCk+5E8xcm1OyvHPSu6Ivo5h7Ique5wX6Jcb" crossorigin="anonymous"></script>
</body>
</html>
```

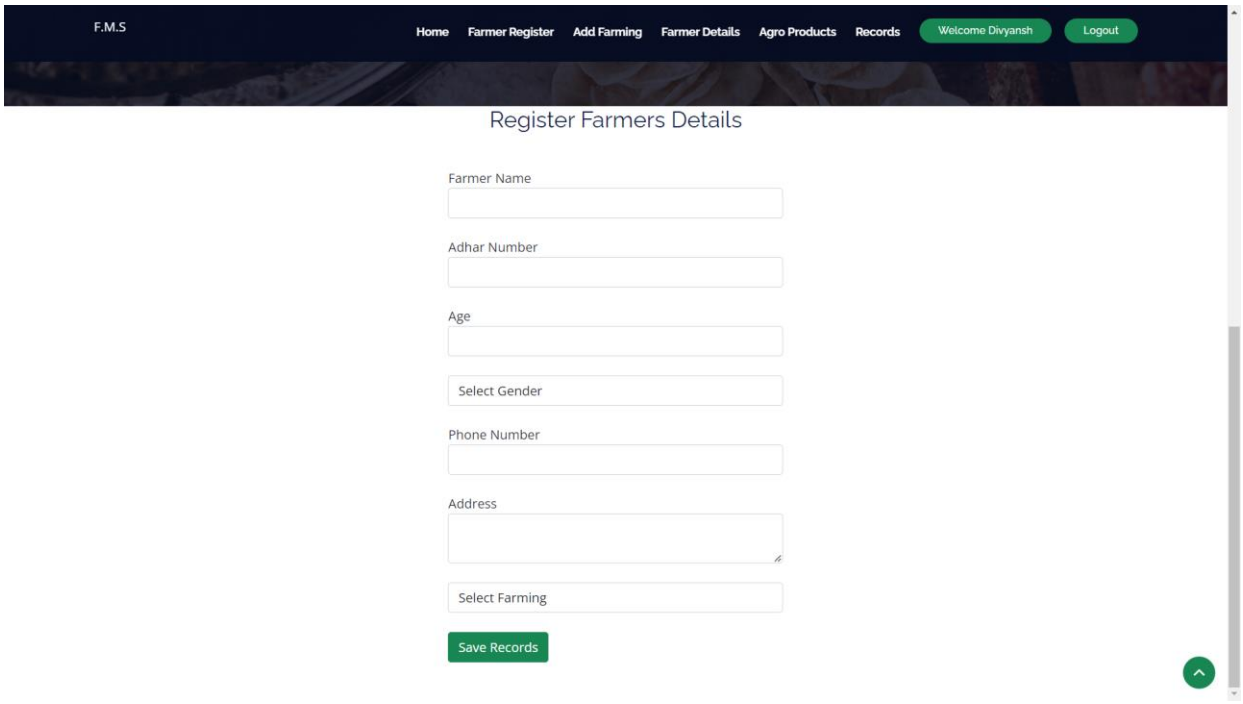
USER INTERFACE

4.1 SCREENSHOTS:

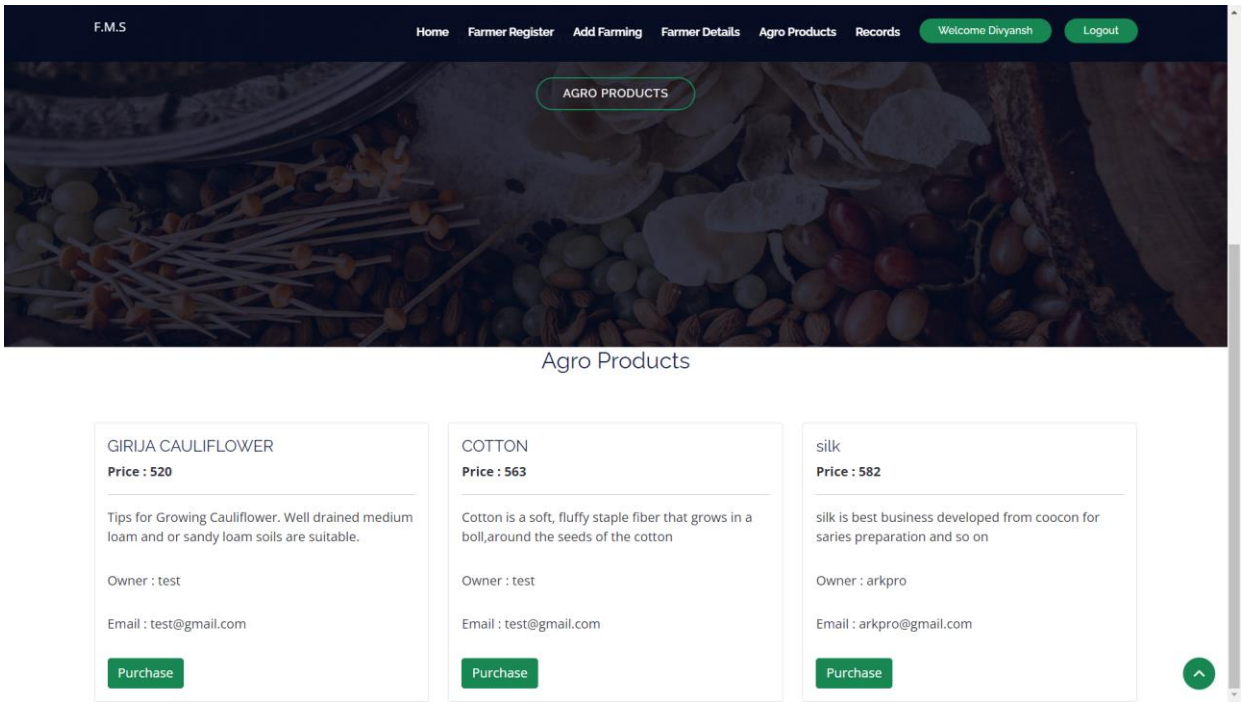
SIGN IN PAGE:

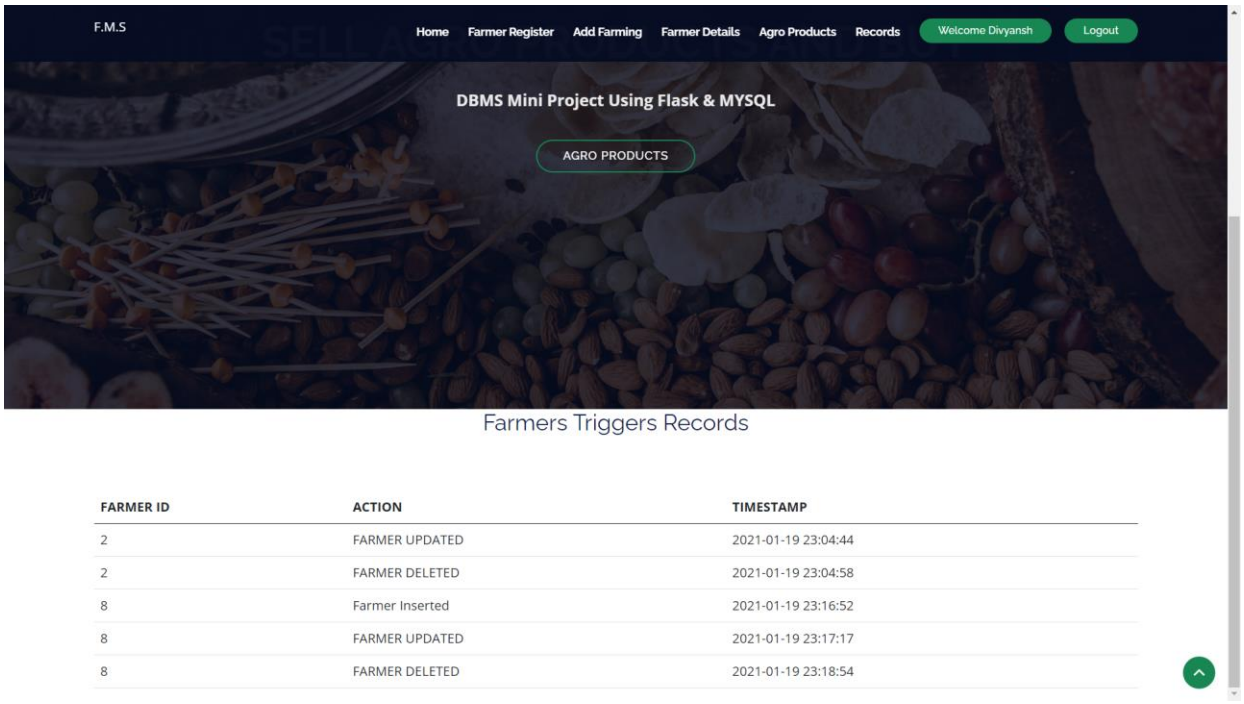




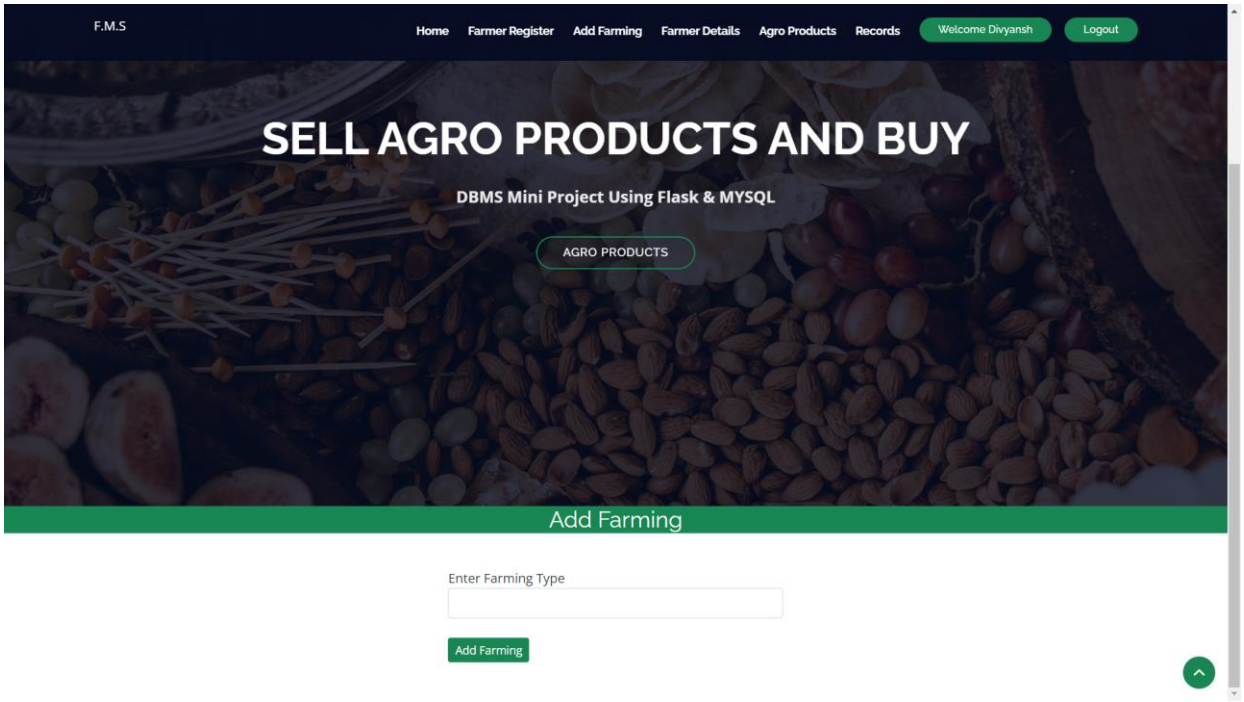


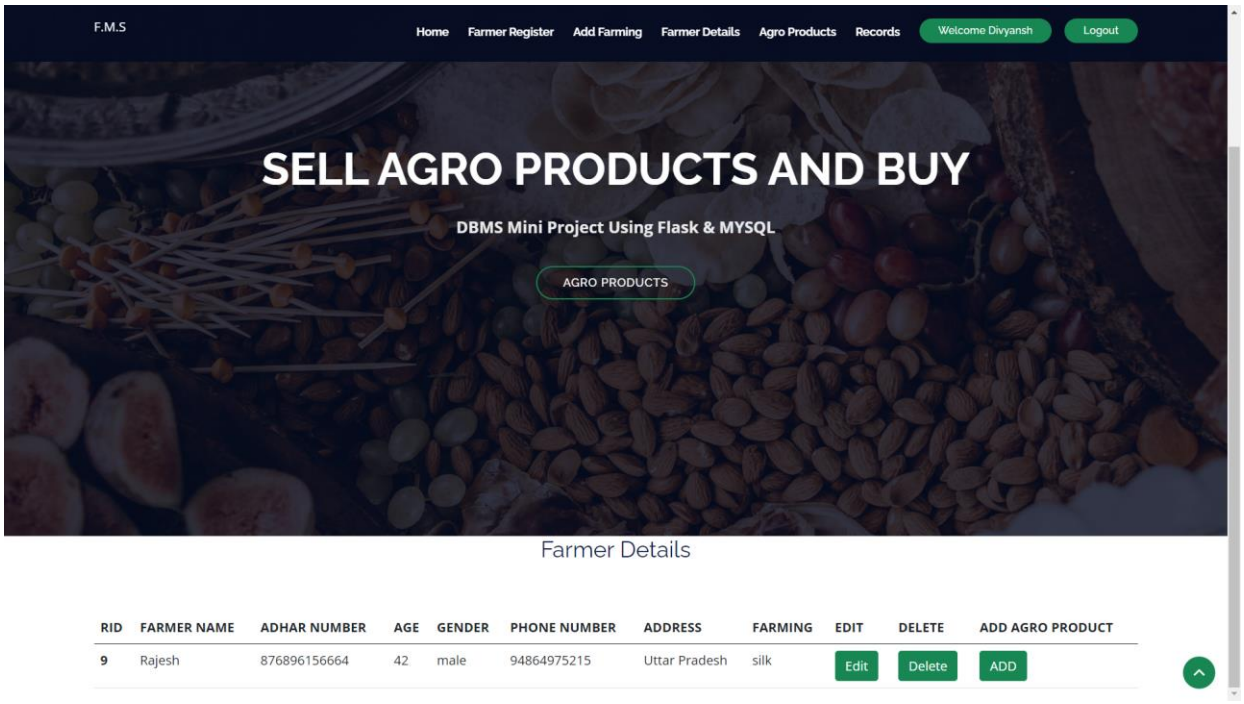
REGISTRATION PAGE & PRODUCTS:



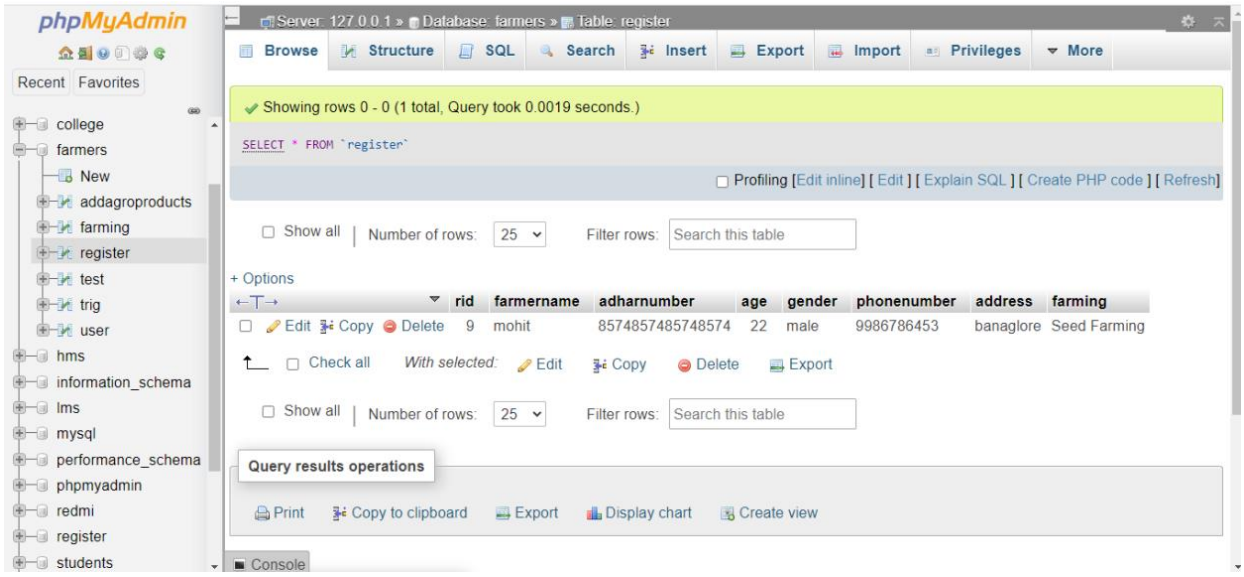


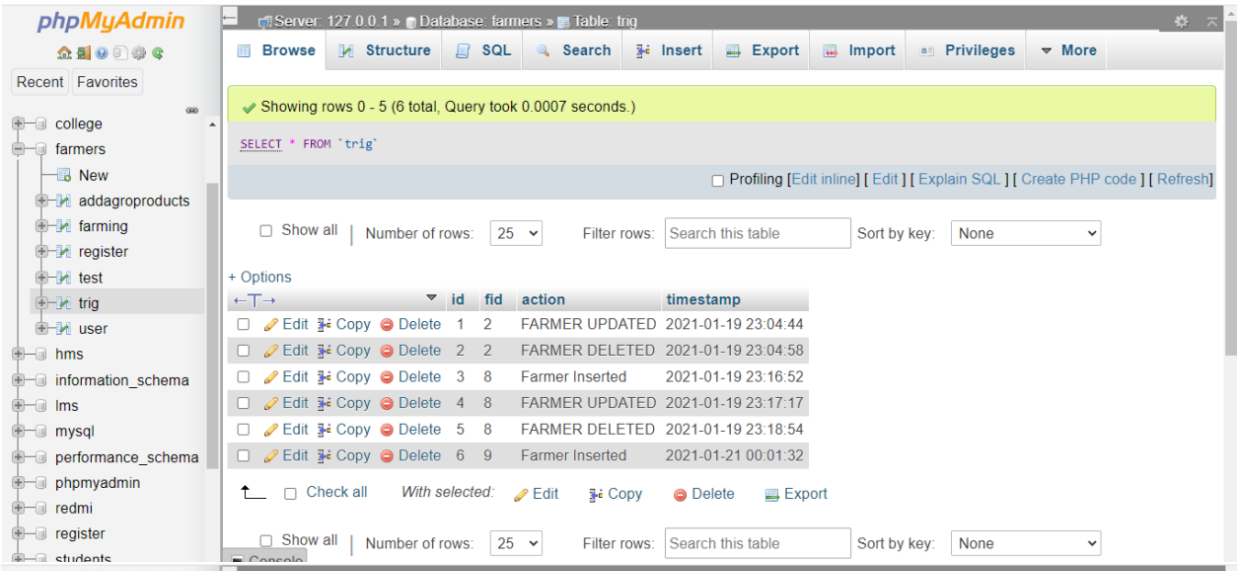
TRIGGERS RECORDS




F.M.S
Home
Farmer Register
Add Farming
Farmer Details
Agro Products
Records
Welcome Divyansh
Logout
SELL AGRO PRODUCTS AND BUY
DBMS Mini Project Using Flask & MYSQL
AGRO PRODUCTS
Farmer Details
RID FARMER NAME ADHAR NUMBER AGE GENDER PHONE NUMBER ADDRESS FARMING EDIT DELETE ADD AGRO PRODUCT
9 Rajesh 876896156664 42 male 94864975215 Uttar Pradesh silk Edit Delete ADD

DATABASE:


phpMyAdmin
Recent Favorites
college
farmers
New
addagroproducts
farming
register
test
trig
user
hms
information_schema
lms
mysql
performance_schema
phpmyadmin
redmi
register
students
Server: 127.0.0.1 » Database: farmers » Table: register
Browse Structure SQL Search Insert Export Import Privileges More
Showing rows 0 - 0 (1 total, Query took 0.0019 seconds.)
SELECT * FROM `register`
Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]
Show all | Number of rows: 25 Filter rows: Search this table
+ Options
rid farmername adharnumber age gender phonenumber address farming
Edit Copy Delete 9 mohit 8574857485748574 22 male 9986786453 banaglore Seed Farming
Check all With selected: Edit Copy Delete Export
Show all | Number of rows: 25 Filter rows: Search this table
Query results operations
Print Copy to clipboard Export Display chart Create view
Console


phpMyAdmin
Recent Favorites
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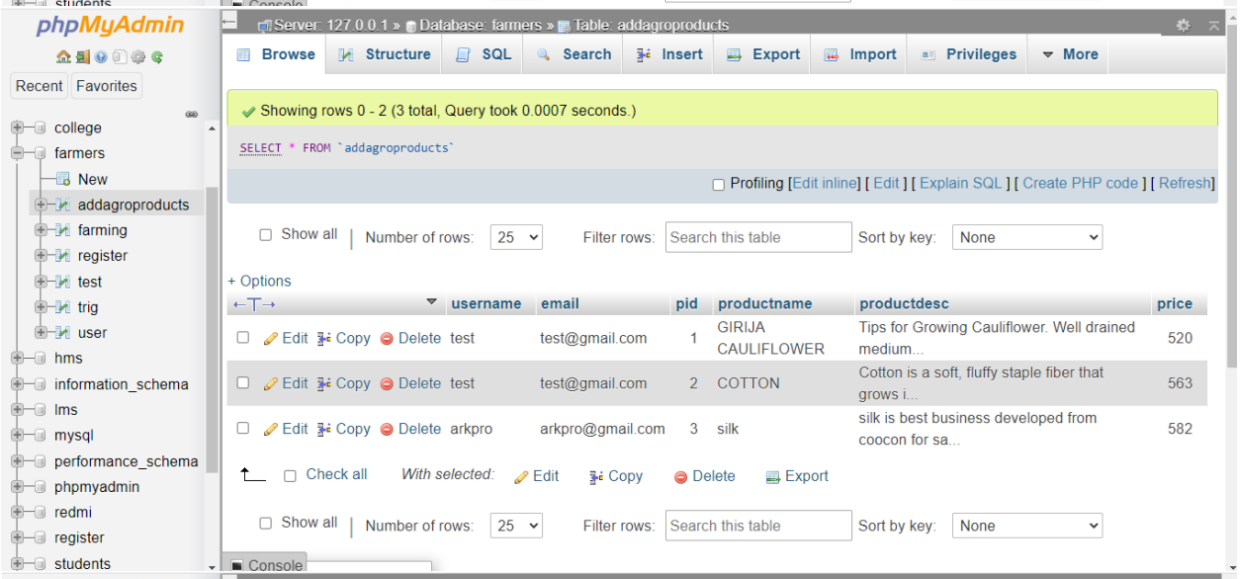
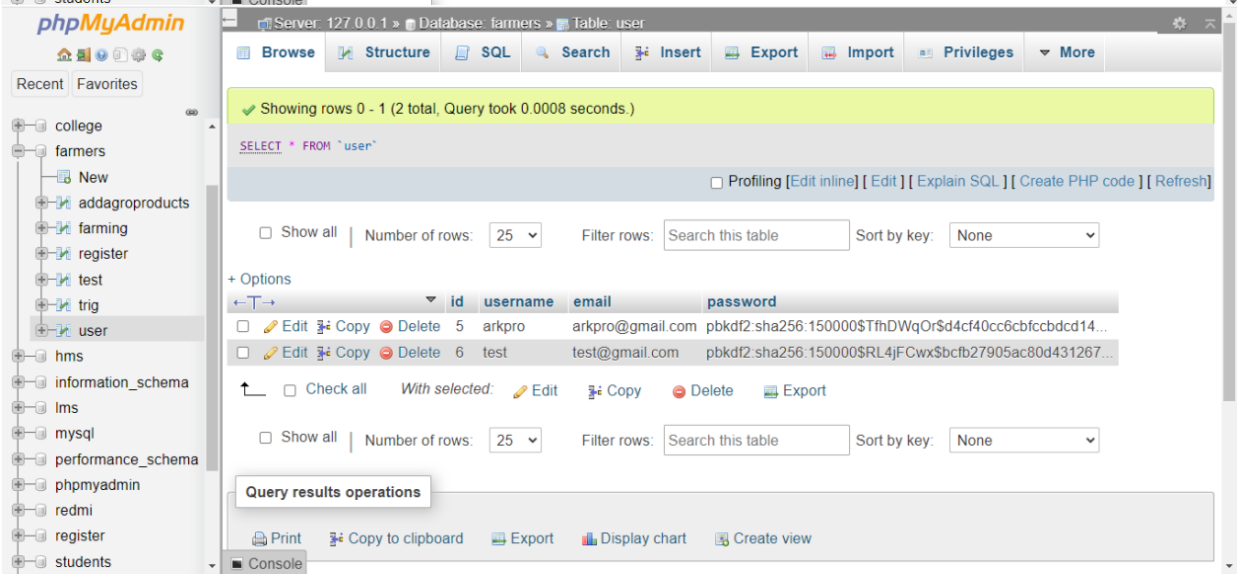
farmers
New
addagroproducts
farming
register
test
trig
user
hms
information_schema
lms
mysql
performance_schema
phpmyadmin
redmi
register
students
Server: 127.0.0.1 » Database: farmers » Table: trig
Browse Structure SQL Search Insert Export Import Privileges More
Showing rows 0 - 5 (6 total, Query took 0.0007 seconds.)
SELECT * FROM `trig`
Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]
Show all | Number of rows: 25 Filter rows: Search this table Sort by key: None
+ Options
id fid action timestamp
Edit Copy Delete 1 2 FARMER UPDATED 2021-01-19 23:04:44
Edit Copy Delete 2 2 FARMER DELETED 2021-01-19 23:04:58
Edit Copy Delete 3 8 Farmer Inserted 2021-01-19 23:16:52
Edit Copy Delete 4 8 FARMER UPDATED 2021-01-19 23:17:17
Edit Copy Delete 5 8 FARMER DELETED 2021-01-19 23:18:54
Edit Copy Delete 6 9 Farmer Inserted 2021-01-21 00:01:32
Check all With selected: Edit Copy Delete Export
Show all | Number of rows: 25 Filter rows: Search this table Sort by key: None
Console


phpMyAdmin
Recent Favorites
college
farmers
New
addagroproducts
farming
register
test
trig
user
hms
information_schema
lms
mysql
performance_schema
phpmyadmin
redmi
register
students
Server: 127.0.0.1 » Database: farmers » Table: addagroproducts
Browse Structure SQL Search Insert Export Import Privileges More
Showing rows 0 - 2 (3 total, Query took 0.0007 seconds.)
SELECT * FROM `addagroproducts`
Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]
Show all | Number of rows: 25 Filter rows: Search this table Sort by key: None
+ Options
username email pid productname productdesc price
Edit Copy Delete test test@gmail.com 1 GIRIJA CAULIFLOWER Tips for Growing Cauliflower. Well drained medium... 520
Edit Copy Delete test test@gmail.com 2 COTTON Cotton is a soft, fluffy staple fiber that grows i... 563
Edit Copy Delete arkpro arkpro@gmail.com 3 silk silk is best business developed from coocon for sa... 582
Check all With selected: Edit Copy Delete Export
Show all | Number of rows: 25 Filter rows: Search this table Sort by key: None
Console


phpMyAdmin
Recent Favorites
college
farmers
New
addagroproducts
farming
register
test
trig
user
hms
information_schema
lms
mysql
performance_schema
phpmyadmin
redmi
register
students
Server: 127.0.0.1 » Database: farmers » Table: user
Browse Structure SQL Search Insert Export Import Privileges More
Showing rows 0 - 1 (2 total, Query took 0.0008 seconds.)
SELECT * FROM `user`
Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]
Show all | Number of rows: 25 Filter rows: Search this table Sort by key: None
+ Options
id username email password
Edit Copy Delete 5 arkpro arkpro@gmail.com pbkdf2:sha256:150000$TfhDWqOr$d4cf40cc6cbfccbdcd14...
Edit Copy Delete 6 test test@gmail.com pbkdf2:sha256:150000$RL4jFCwx$bcfb27905ac80d431267...
Check all With selected: Edit Copy Delete Export
Show all | Number of rows: 25 Filter rows: Search this table Sort by key: None
Query results operations
Print Copy to clipboard Export Display chart Create view
Console

CONCLUSION

FARM MANAGEMENT successfully implemented based on online selling which helps us in administering the agro products user for managing the tasks performed in farmers. The project successfully used various functionalities of Xampp and python flask and also created 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 coordination in a successful project