**Project Name: Sugarcane Factory E-Portal**

**Batch PG-DAC Sep-2021**

Submitted By : Group No. 28

Project Member:

1. Akshay B. Patil
2. Abhishek Chandankere
3. Kartikkumar S. Gore
4. Akshay P. Patil

**UNDER THE GUIDENCE OF:** Mrs. Harshita Maheshwari

**Infoway Technologies, Pune.**

**Introduction**

The sugar industry of India is one that is highly is labor oriented and has several processes starting from case production, harvesting to sugar-production and sales. There are several departments in of sugar factory, which in themselves contain home to enormous functions. The application of IT to these departments gives optimization of processes, which is the need of the day for Sugar Industry.

Rena sahakari sakhar karkhana is a registered society under the Maharashtra co-operative societies act 1950, bearing registration no. L.T.R./R.N.R./P.R.G./(A) 110/2001 Date 27/09/2001 Since then, its area of work is growing day by day. It is one of the most sugar crushing factory They accustomed to automation, where ever possible. Currently they are having lots of manual work in the area of Farmers field area registration & Cane yard data collection. In field sleep-boy interact with farmer, measures the area under orchard in the field registration sleep. After completing the all registrations, then travels to Sugar Factory submits it. After that data entry operators enter data to the registers It leads to human errors. Data doesn't get updated in time. Same thing happens with the Cane yard process Management doesn't get exact details about the cane arrival, transporter bill amount to be paid. farmers bill & its installments. So, to overcome this traditional process the proposed system will provide new approach for automation in which the Farmer and Contractor will make use of android application from his mobile phone. Which will intern updated the registration on web server as soon as entry gets completed. And the second part for the office administration process will be combining with both field registration & sugarcane harvesting schedule can be fixed by Farmer on just one click. Administration office of factory can get Farmers information, Contractor’s information, harvesting schedule, transportation details all this info on this portal. Farmers, contractors and factory administration can save time of themselves by using this portal and this will show positive effect on productivity on farmers and factory side.

**1.1. Problem Definition:**

To design and develop an appropriate and effective Android and Web based application for Rena Sugar factory  
 **1.2. Objective of Project:**

This portal will help to do maximum work online so it will increase the productivity of the factory.

* Easy to maintain data of farmers and transporter team.
* Convenience for the farmers.
* Communication between factory and farmers will improve.
* Best facility for the farmers to buy or sell shares.
* Easy to understand the schedule of cultivation.
* Easy to get information about fertilizers for good productivity.
* Minimum man power requirement

**3. Analysis**                                    
  **3.1. Existing System**

* Now a days farmers has to wait several days to know the progress.
* Farmer’s data and transportation team data is stored in the written format.
* No direct communication between cultivators and factory.
* Existing process is time consuming.

**3.2. Proposed System:**

* Farmer will know the date and progress running at factory.
* Farmer can request buy and purchase share at home.
* Communication between farmers and the factory strengthen.
* Time productivity will be there.
* Farmers will get information about good nursery and fertilizer.

**3.3. Hardware and software Requirements:**

**Hardware:**

1. Intel i3 processor 3rd generation or later / AMD Ryzen 200 2nd generation or later

2. 2 GB ddr3 ram.

3. Windows 7 Home edition or later.

4. 200 GB Sata HDD Space

5. Data Connection 200 kbps

**Software:**

1. Eclipse 4.7

2. Spring Boot

3.MySQL 5.7 with Workbench 8.0

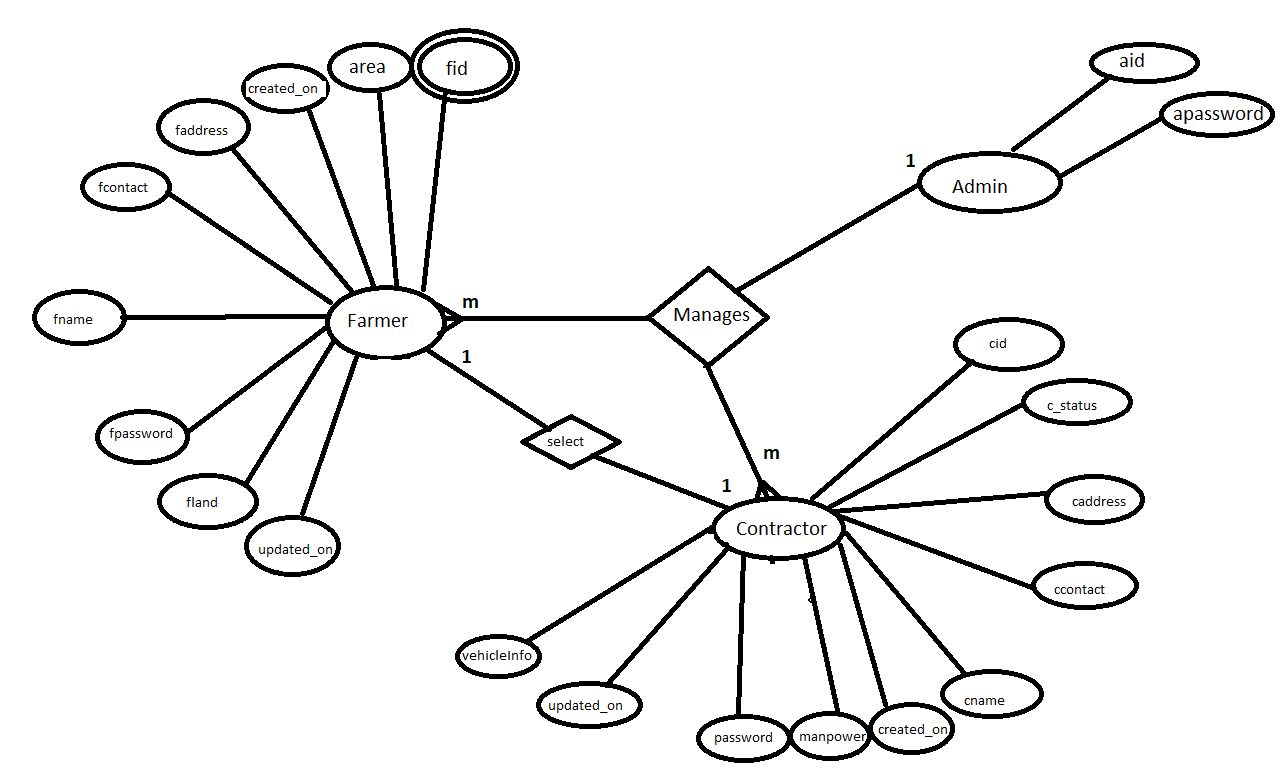
4. React

5. Google Chrome version 79.0

6. Maven Dependencies

**4. Design**

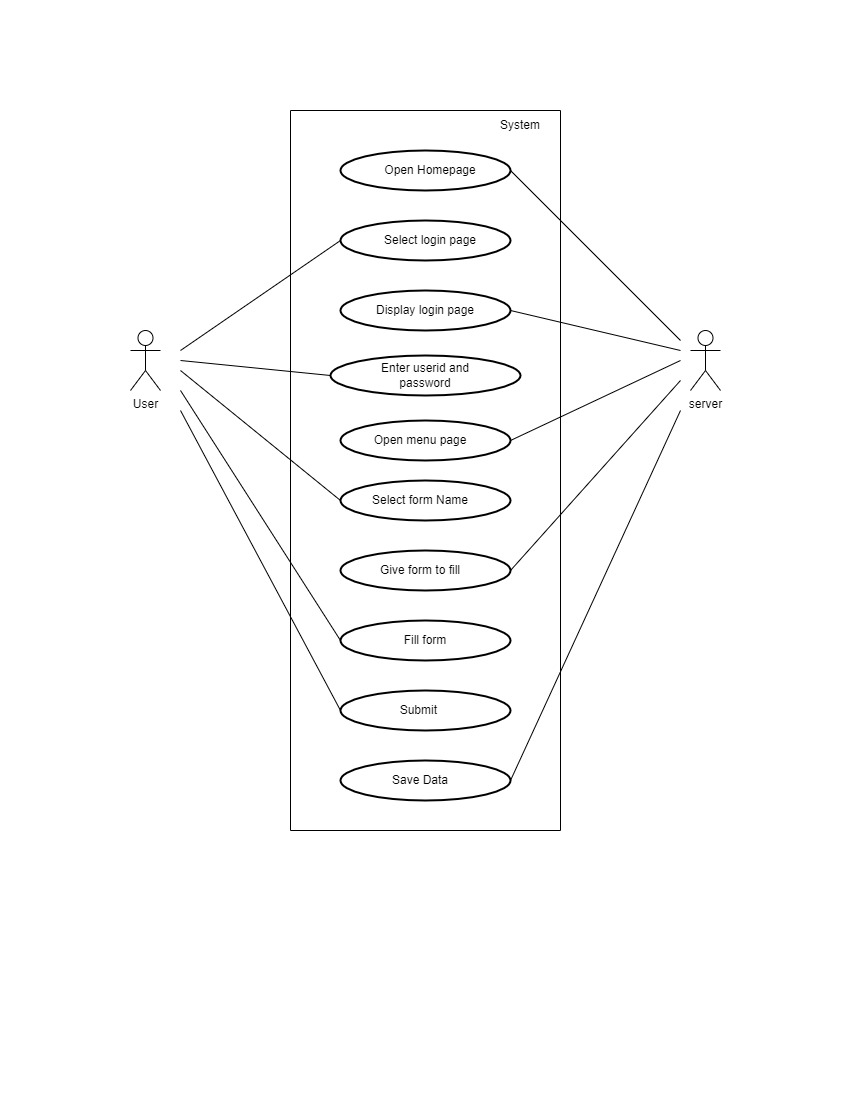
**4.1 ER Diagram**



**4.2. Table Structure**

**Graphical user interface

Description automatically generated**

**4.3. UML diagrams** **5. Implementation:**

**5.1. Modules:**

Our proposed system i.e., Dream cake wonderland consists of four

modules listed as below.

1. Farmer Module

2. Contractor module

3.Admin module

**5.2. Module description :(correction)**

**Web Server Module**

5.2.1 Module 1: Login-In Login module Admin. Manager and Computer operator can login according to their userid and password.

5.2.2 Module 2: Farmer Registration-This module provide information about farmer details as shown. To get membership of factory, farmer have to fill all the information in that form. This provides the unique id to every application that is applied by farmer. If authorized person want to see all the record of members then he/she have to access report page. This page display record of members which are stored in database.

6.1.3 Module 3: Contractor Registration-This module provide detail information about contractor. In current condition registration done by sleep boy. In field registration sleep boy have to interact with farmer, unfortunately sleep boy cannot reach at farm then farmer directly contact with factory. The information about field filled by employee which are mentioned in that form. This information is stored in database. If authorized person want to see all the record of fields then he/she have to access report page. This page display record of fields which are stored in database.

**5.3. Introduction of technologies used :**

**1. Spring Boot:**

Spring Boot provides a good platform for Java developers to develop a stand-alone and production-grade spring application that you can just run. You can get started with minimum configurations without the need for an entire Spring configuration setup.

**1.1 Features of Spring Boot:**

* Web Development
* Spring Application
* Application events and listeners
* Admin features
* Externalized Configuration
* Properties Files
* YAML Support
* Type-safe Configuration
* Logging
* Security

**1.2 Advantages of Spring Framework**:

* Spring Framework can be employed on all architectural layers used in the development of web applications;
* Uses the very lightweight POJO model when writing classes;
* Allows you to freely link modules and easily test them;
* Supports declarative programming;
* Eliminates the need to independently create factory and singleton classes;
* Supports various configuration methods;
* Provides middleware-level service.

**2. The JDBC Template**

The central class of the Spring JDBC abstraction framework is the JDBC Template class that

includes the most common logic in using the JDBC API to access data, such as handling the creation

of connection, statement creation, statement execution, and release of resource. The JDBC-

Template class can be found in the org.springframework.JDBC.core package.

The JDBC Template class instances are thread-safe once configured. A single JDBC Template can

be configured and injected into multiple DAOs.

We can use the JDBC Template to execute the different types of SQL statements. Data

Manipulation Language (DML) is used for inserting, retrieving, updating, and deleting the data in

the database such as SELECT, INSERT, or UPDATE statements

**2.1 MySQL**

MySQL, the most popular Open-Source SQL database management system, is

developed, distributed, and supported by Oracle Corporation.

## Open-Source

MySQL is open-source, which means this software can be downloaded, used and modified by anyone. It is free-to-use and easy-to-understand. The source code of MySQL can be studied, and changed based on the requirements.  It uses GPL, i.e. GNU General Public license which defines rules and regulations regarding what can and can’t be done using the application.

## Quick and Reliable

MySQL stores data efficiently in the memory ensuring that data is consistent, and not redundant. Hence, data access and manipulation using MySQL is quick.

## Scalable

Scalability refers to the ability of systems to work easily with small amounts of data, large amounts of data, clusters of machines, and so on. MySQL server was developed to work with large databases.

## Data Types

It contains multiple data types such as unsigned integers, signed integers, float (FLOAT), double (DOUBLE), character (CHAR), variable character (VARCHAR), text, blob, date, time, datetime, timestamp, year, and so on.

## Character Sets

It supports different character sets, and this includes latin1 (cp1252 character encoding), German, Ujis, other Unicode character sets and so on.

## Secure

It provides a secure interface since it has a password system which is flexible, and ensures that it is verified based on the host before accessing the database. The password is encrypted while connecting to the server.

## Support for large databases

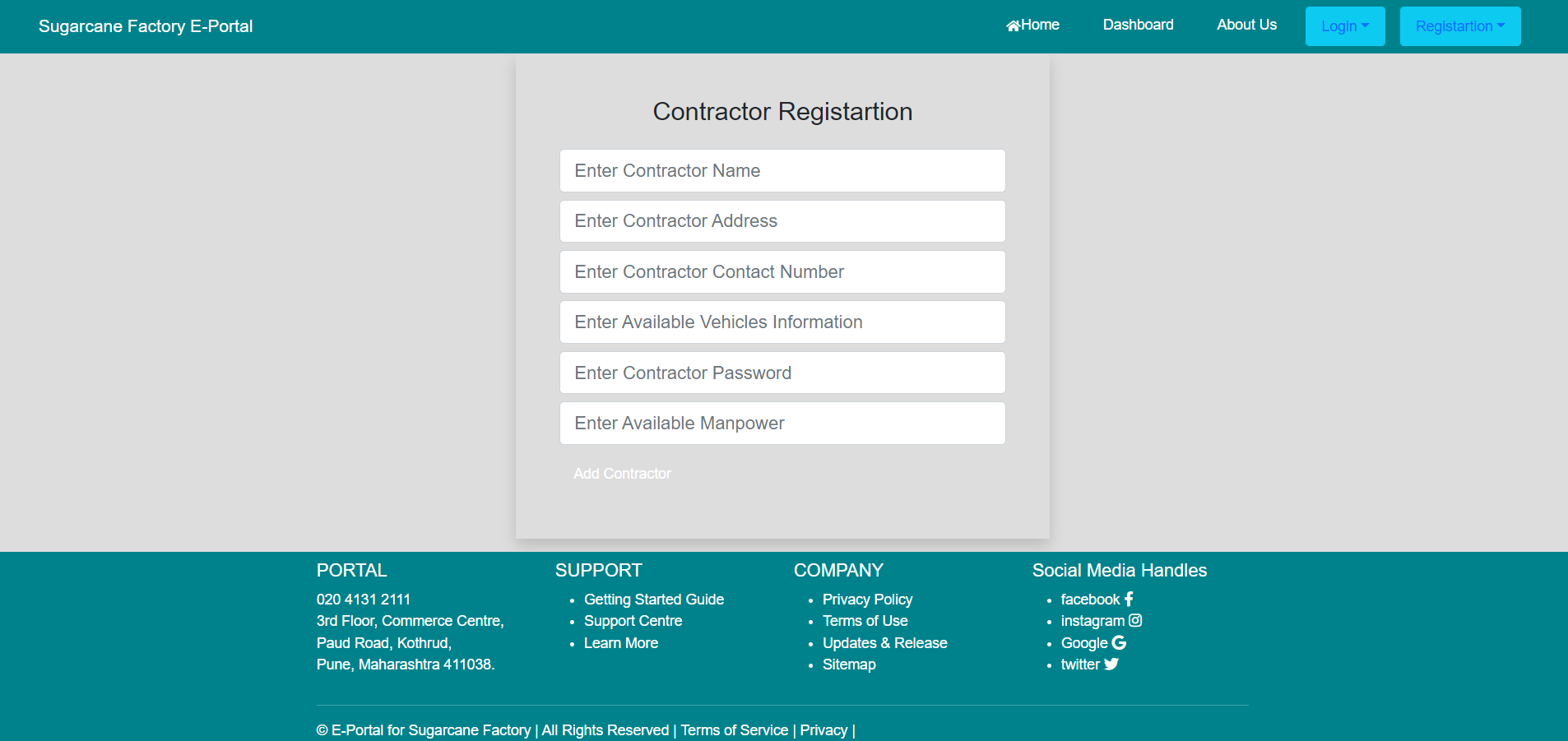
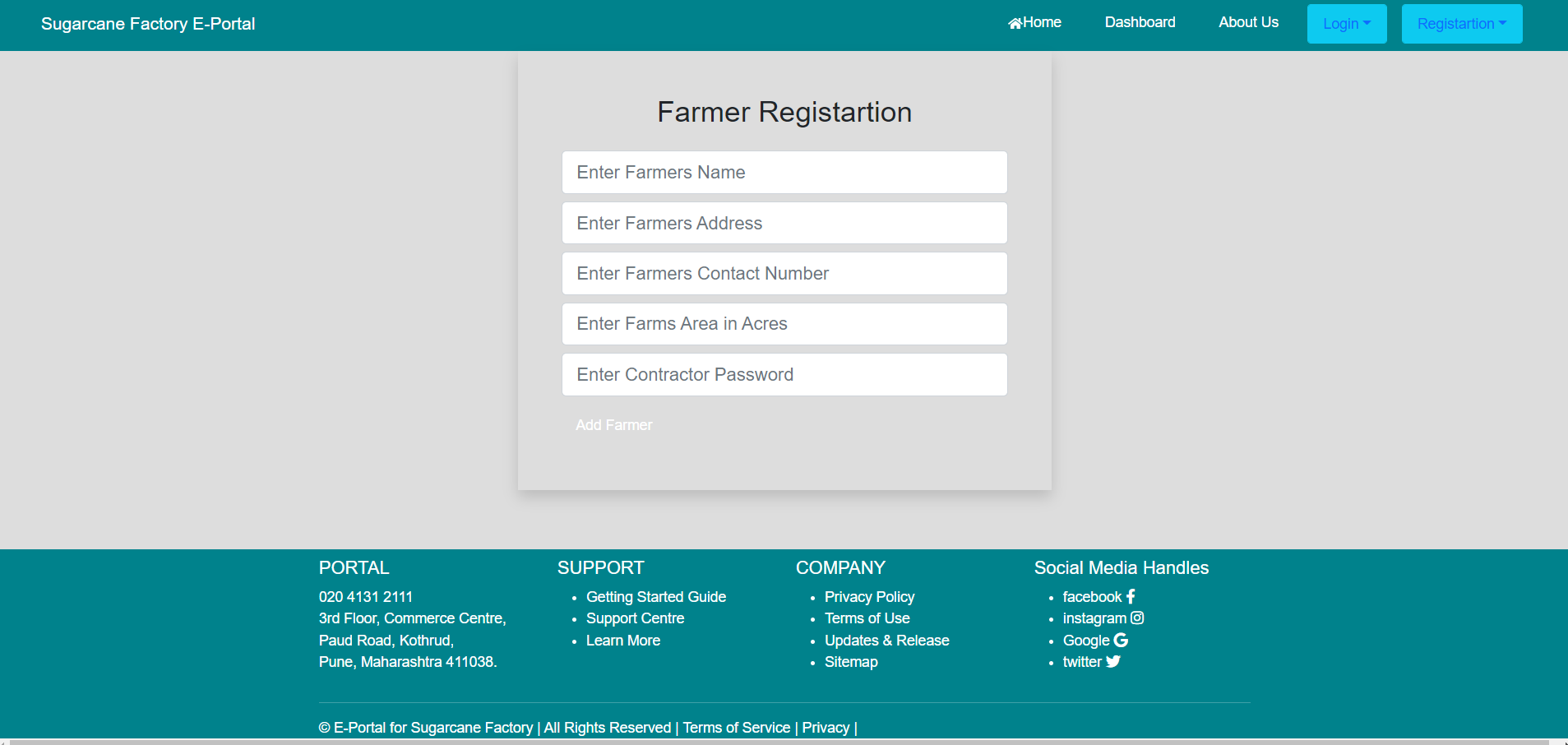
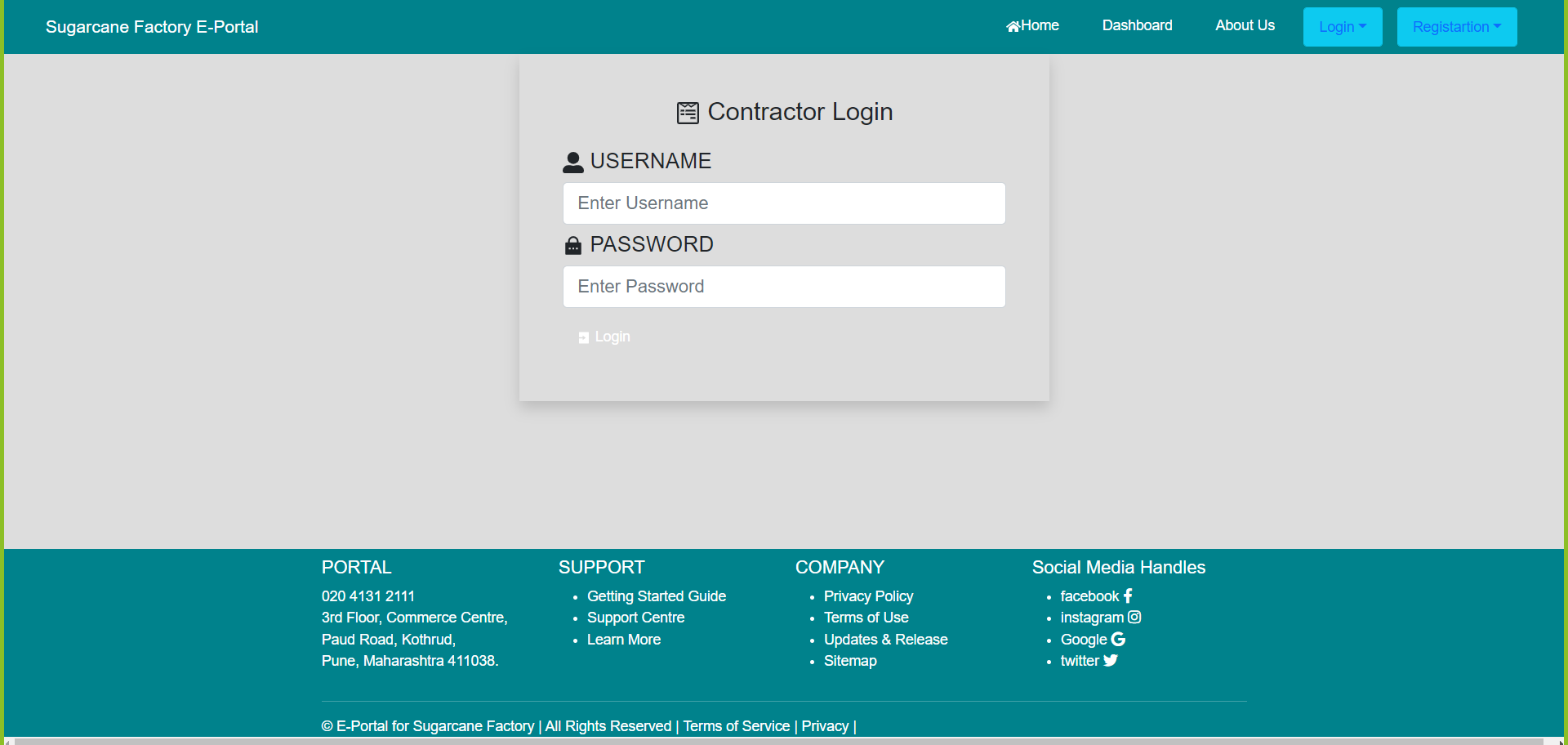
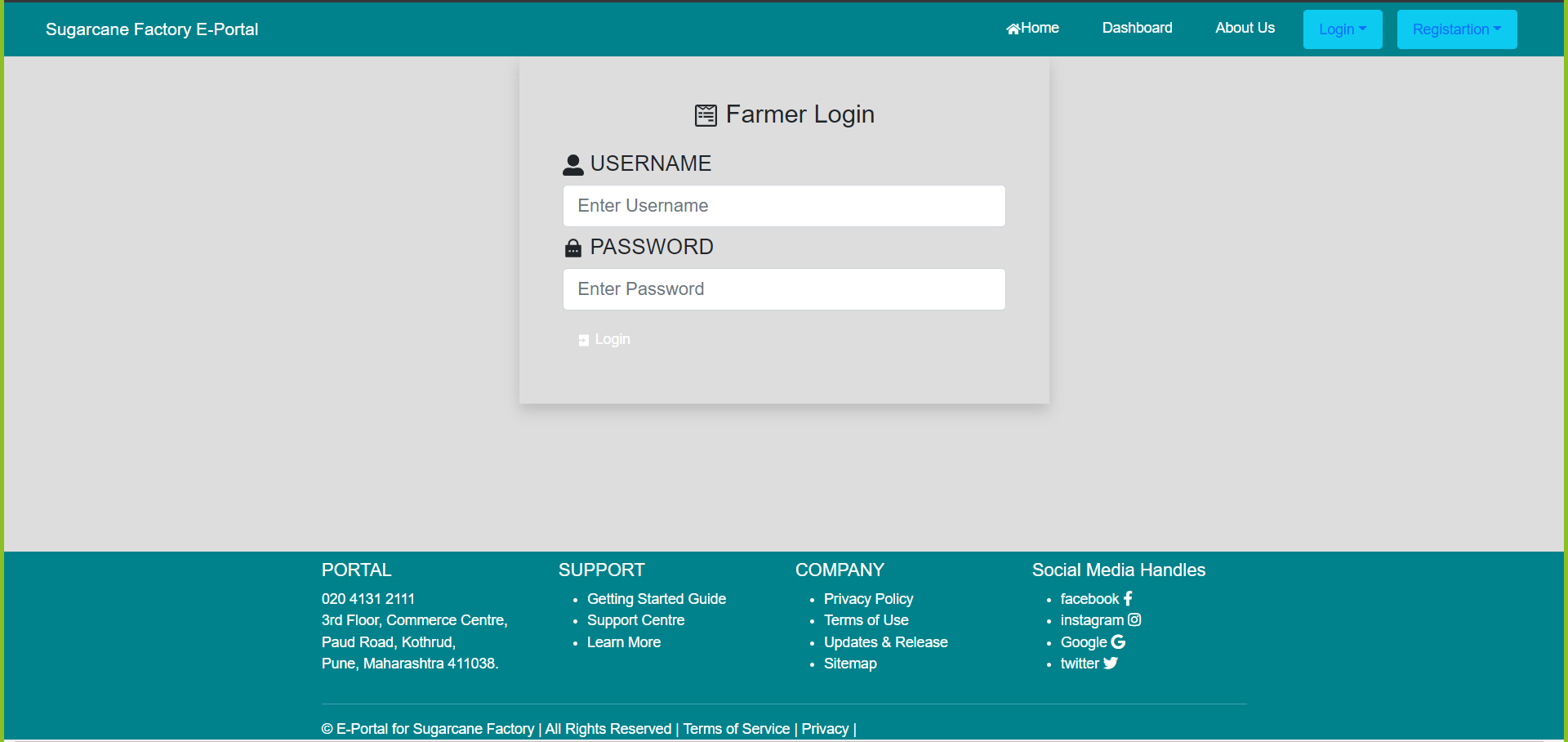
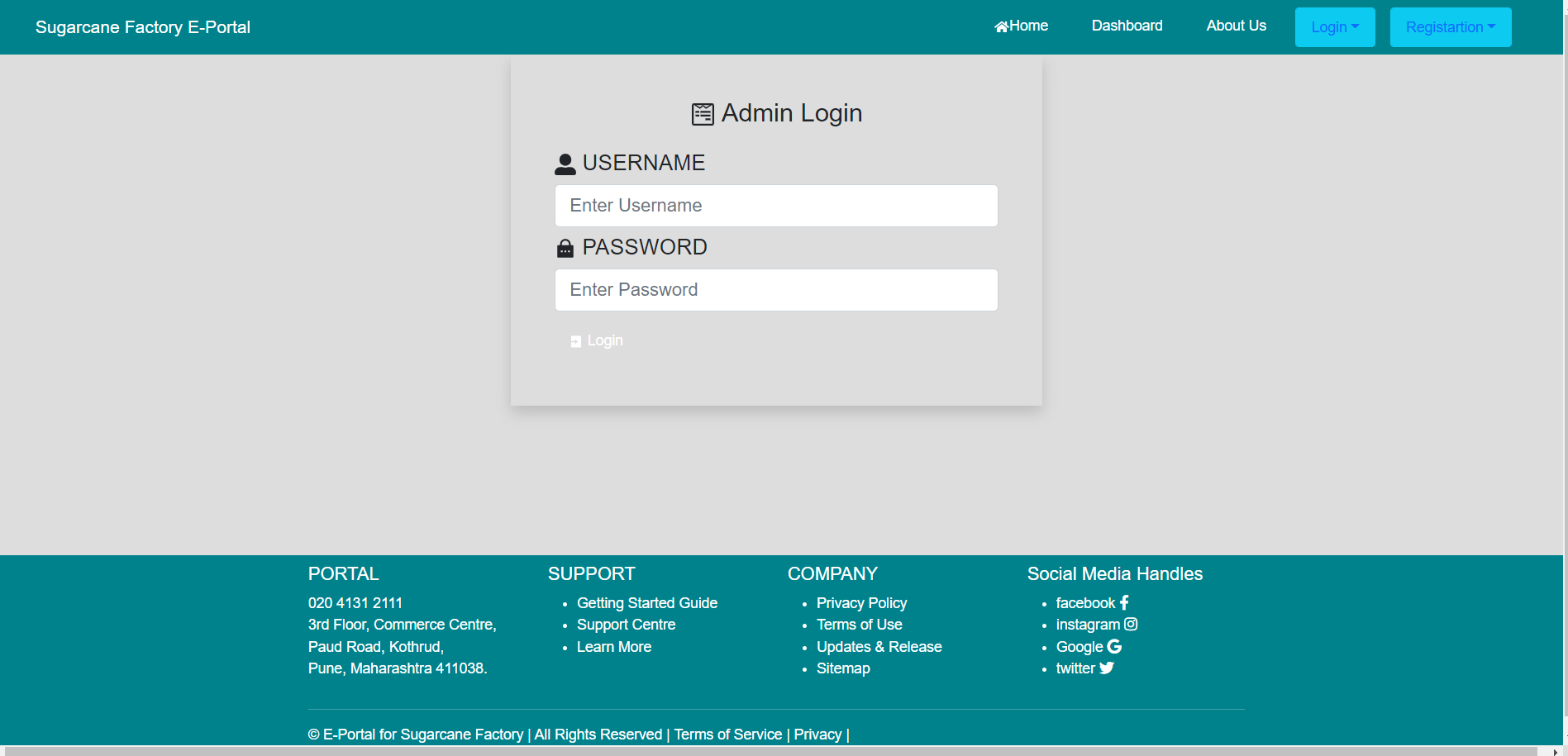
It comes with support for large databases, which could contain about 40 to 50 million records, 150,000 to 200,000 tables and up to 5,000,000,000 rows.

## Client and Utility Programs

MySQL server also comes with many client and utility programs. This includes Command line programs such as ‘mysqladmin’ and graphical programs such as ‘MySQL Workbench’. MySQL client programs are written in a variety of languages. Client library (code encapsulated in a module) can be written in C or C++ and would be available for clients that have C bindings.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **6 .Testcases :** |  |  |  |  |  |  |
| **Module name : Register** |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| **Test Case ID** | **Test Scenario** | **Test Case** | **Pre-Condition** | **Test Steps** | **Test data** | **Expected Result** |
| Register Farmer | Check whether able to Register for Farmer. | Fill the all the details on the form. | Account should not be exist already. | Fill out all the details in form. | Username : akshay patil address : Latur contact : 9381742068 Date : 15/05/2021 Area : 1 Password : 12345 | Should be redirect to login page. |
| Register Contractor | Check whether able to Register for Contractor. | Fill the all the details on the form. | Account should not be exist already. | Fill out all the details in form. | Username : abhi chandankere Address : Latur Contact : 8668223535 Vehicle Info : MH 24 bb 1522 Password : abhi123 Manpower : 14 | Should be redirect to login page. |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| **Module Name : Login** |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| **Test Case ID** | **Test Scenario** | **Test Case** | **Pre-Condition** | **Test Steps** | **Test data** | **Expected Result** |
| Login Admin | Verify login credentials of Customer. | Enter valid username and valid password. | Need to register before login | 1.Enter username. 2.Enter password. 3.Click on log in button | Username : kartik gore Password : kar123 | Successful login-Redirect to Admin Home page |
| Login Admin | Verify login credentials of Customer. | Enter invalid username and invalid password. | Need to register before login | 1.Enter username. 2.Enter password. 3.Click on log in button | Username : shreyas limaye Password : Shreyas123 | Invalid Credentials.Should be remain on same page. |
| Login Farmer | Verify login credentials of Customer. | Enter valid username and valid password. | Need to register before login. | 1.Enter username. 2.Enter password. 3.Click on log in button | Username : akshay patil Password : 12345 | Successful login-Redirect to Farmer Home page |
| Login Farmer | Verify login credentials of Customer. | Enter invalid username and invalid password. | Need to register before login. | 1.Enter username. 2.Enter password. 3.Click on log in button | Username : chaitanya waghmode Password : chait987 | Invalid Credentials.Should be remain on same page. |
| Login Contractor | Verify login credentials of Customer. | Enter valid username and valid password. | Need to register before login. | 1.Enter username. 2.Enter password. 3.Click on log in button | Username : abhi chandankere Password : abhi123 | Successful login-Redirect to Contractor Home page |
| Login Contractor | Verify login credentials of Customer. | Enter invalid username and invalid password. | Need to register before login. | 1.Enter username. 2.Enter password. 3.Click on log in button | Username : nitin dang Password : nitin123 | Invalid Credentials.Should be remain on same page. |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| **Module Name : Appointment** |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| **Test Case ID** | **Test Scenario** | **Test Case** | **Pre-Condition** | **Test Steps** | **Test data** | **Expected Result** |
| Farmer | Check whether able to submit details successfully | Fill the all the details on the form. | Need to logged in. | 1.Login to Farmer page. 2.Fill out all the details in form. | Username : akshay patil Password : 12345 | Should be able to book appointment successfully. |

**7 . Screenshots :**

****

**8. Conclusion :**

* The presented system provides automization for sugar factory.
* Our System provides a very user-friendly platform registration system where farmers and contractors can easily place their requirements.
* This portal will handle the farmers as well as goods transportation data.
* This portal will maintain the farmers records like area of land under cultivation, start tentative date of cultivation.
* We are also providing the transportation service registration.
* Sugarcane Factory E-portal is the website which will provide sophisticated communication between the farmers and the factory.

**9. Future Enhancement:**

* The further development in the project is to provide payment gateway system with various types of byproducts selling system to gov. contractors.
* In future, we can add many gov. schemes related to sugar industry for farmers.
* In future, we can add seminar videos modern farming for farmers.
* In future farmer can buy and sell their share on this portal with respected documentation.

**10 . Bibliography :**

### <https://www.javatpoint.com/spring-boot-tutorial>

### <https://www.w3schools.com/REACT/DEFAULT.ASP>

### <https://www.javatpoint.com/mysql-tutorial>

* **https://youtu.be/n43h1eJ2EUE**

Thank You!