

Dream Crafters

MAJOR PROJECT SYNOPSIS
BACHELOR OF TECHNOLOGY



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PROJECT GUIDE

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1.1

1.2 Technology: - MERN Stack, Bootstrap, HTML, CSS

MongoDB: - MongoDB is a database that is known for its flexibility and scalability.

Express.js: - Express.js is a web application framework for Node.js that simplifies the process of building robust and scalable server-side applications.

React.js: - React is a JavaScript library for building user interfaces. It focuses on creating reusable UI components that can efficiently update and render based on changes in data.

Node.js: - Node.js is a server-side JavaScript runtime built on the V8 JavaScript engine. It allows developers to use JavaScript for server-side scripting

3.1 Literature

Certainly, here is a literature review focused specifically on Broker CRM within the context of Agricultural Produce Market Committees (APMCs)

The Agricultural Produce Market Committees (APMCs) play a vital role in the agricultural supply chain by facilitating the trading of produce between farmers, traders, brokers, and buyers. Within this complex ecosystem, brokers serve as intermediaries who bridge the gap between farmers and markets, making their role pivotal. To optimize the efficiency and effectiveness of broker operations within APMCs, the integration of specialized Customer Relationship Management (CRM) systems has become increasingly significant. This literature

The incorporation of Broker Customer Relationship Management (CRM) systems into Agricultural Produce Market Committees (APMCs) presents a significant opportunity to enhance broker operations, promote transparency, and optimize trade processes. These systems equip brokers with the necessary tools to manage relationships, access vital information, and make informed decisions. Nevertheless, the successful implementation of such systems requires addressing challenges and leveraging mobile technology to cater to the evolving needs of brokers in the dynamic agricultural trading landscape.

By identifying the limitations of the existing system, we have developed a computerized solution that is compatible with the current system, user-friendly, and GUI-oriented. The existing system is not able to create all the accounting and billing solutions and lord creates different forms for necessity.

3.2 Demerits of the existing system: -

- Lot manual work increasing
- Everything is not able to be accessed faster.
- Required more employment power to accomplish a work.
- Management of all the things & and systems is not easy.
- Older records are difficult to monitor.
- Filtering the agent based on the requirement becomes extremely difficult.

4.1 Feasibility

A feasibility study for a Broker CRM system in the context of Agricultural Produce Market Committees (APMCs) involves an assessment of the practicality, viability, and potential benefits of implementing such a system. The study should consider the following key components:

Need and Significance:

The Broker CRM system serves as a crucial solution for Agricultural Produce Market Committees (APMCs), where brokers play a pivotal role in facilitating transactions between farmers, traders, and buyers. The conventional manual processes employed in such transactions often result in inefficiencies, delayed transactions, and missed market opportunities. The project's significance lies in its potential to convert these challenges into opportunities by streamlining the process and enhancing efficiency.

- 1. Technical Feasibility:** This involves assessing the technical capabilities and requirements for developing and deploying the Broker CRM system.
- 2. Financial Feasibility:** This component evaluates the financial aspects associated with implementing the Broker CRM system. It includes estimating the development costs and analyzing the potential return on investment.
- 3. Operational Feasibility:** It includes analyzing how the CRM system will integrate into the existing trade processes, identifying potential bottlenecks and challenges, and assessing the willingness of stakeholders to adopt the CRM.
- 4. Market Feasibility:** This component examines the potential demand and acceptance of the Broker CRM system within the APMC ecosystem.
- 5. Legal and Regulatory Feasibility:** This component considers any legal, regulatory, or compliance requirements that the Broker CRM system must adhere to. It includes ensuring that the system complies with data protection laws, privacy regulations, and industry-specific standards.

A comprehensive feasibility study provides insights into the potential benefits, challenges, and considerations that will guide decision-making for the successful development and implementation of a Broker CRM system in APMCs. Based on the findings from each feasibility area, a comprehensive conclusion can be drawn regarding the viability of implementing the system.

5.1 Methodology/ Planning of

Research-Based Project: -

The methodology delineates a systematic approach that will steer the project development process toward the attainment of the goal of implementing a Broker Customer Relationship Management (CRM) system customized for Agricultural Produce Market Committees (APMCs).

The main gap is, that no proper system exists for a grain broker in APMC. They do a lot of manual work and create different reports which is time-consuming, they don't bifurcate their bills into different divisions and lack connection to the customers. Accounting is challenging at the end of the financial year. They do not create a legal contract, which is a major problem.

- **Requirement Analysis:** Collaborate with brokers, farmers, traders, and buyers, to gather detailed requirements. Document functional and non-functional specifications.
- **System Design:** Design the architecture of the Broker CRM system, considering scalability, security, and integration with existing APMC systems. Create wireframes and prototypes of the user interface (UI) to visualize the system's layout.
- **Technology Stack Selection:** Evaluate suitable technologies for backend development (Node.js, Express.js, MongoDB) and frontend development (React). Choose a mobile app development framework for the integration of mobile accessibility.
- **Development:** Develop the backend of the CRM system, implementing features such as trade management, contract monitoring, and inventory tracking.
- **Mobile App Integration:** Develop the mobile app, aligning its functionalities with the CRM system's capabilities. Ensure cross-platform compatibility and responsiveness for optimal user experience.

- **Testing:** Conduct comprehensive testing, including unit testing, integration testing, and user acceptance testing. Identify and rectify any defects, ensuring the system's stability and functionality.
- **Deployment:** Deploy the Broker CRM system and the mobile app to a test environment for final validation. Collaborate with users to perform beta testing, collecting feedback, and making necessary refinements.
- **Training and User Adoption:** Develop user manuals and conduct training sessions for brokers, ensuring they are proficient in using the CRM system and mobile app.
- **Data Migration:** Migrate existing data from manual records and other systems to the new CRM system. Verify data integrity and accuracy during the migration process.
- **Support and Maintenance:** Provide ongoing technical support, addressing user queries and resolving any technical glitches. Continuously update and enhance the system based on user feedback and emerging needs.
- **User Training and Documentation:** Conduct training sessions for new users joining the APMC network. Maintain up-to-date documentation for the Broker CRM system and mobile app, facilitating self-help and troubleshooting.

The Broker CRM system integrates mobile accessibility and facilitates a seamless transition to the new system. By adhering to these steps, the project aims to achieve its objectives of enhancing broker operations, improving transparency, and fostering better relationships within the APMC ecosystem.

6.1 Facilities Required for Proposed

To develop this project, we used different types of software facilities. They help to understand design, workflow, authorizations, basic fundamentals, etc. the utilization of a combination of software and hardware resources. These resources are critical to ensure the efficient development, testing, and deployment of the CRM system and its integrated mobile app.

- The software requirements include an Integrated Development Environment (IDE) such as Visual Studio Code, for coding, debugging, and version control.
- Backend development requires Node.js, a runtime environment for executing JavaScript code on the server, Express.js, a web application framework for building APIs and handling routes, and MongoDB, a database for storing and managing data.
- Frontend development necessitates the use of React, a JavaScript library for building user interfaces, and CSS preprocessors (e.g. Less) for efficient styling and design.
- Mobile app development requires the use of mobile app development frameworks such as React Native for building cross-platform mobile apps.
- API documentation tools like Swagger or Postman are necessary for documenting and testing APIs.

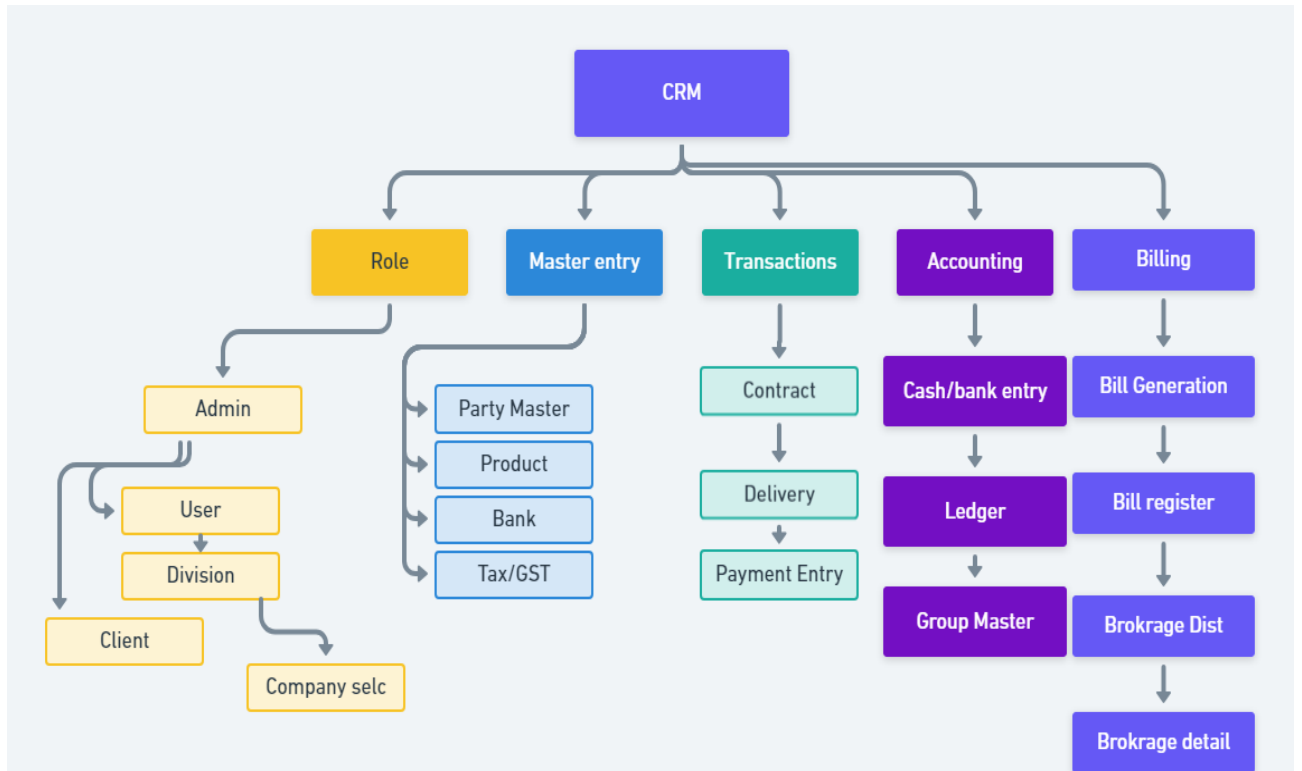
This CRM doesn't require a high performance system and laptops, for development, they are developed by minimum requirements. Testing, and debugging, servers for hosting backend applications and databases during development and testing phases, and a range of mobile devices (smartphones and tablets) for testing the mobile app's compatibility and responsiveness.

Additional facilities include test environments that mimic real-world scenarios for rigorous testing of the CRM system and mobile app, cloud platforms such as AWS for hosting, scaling, and deploying the application, communication, and collaboration tools for seamless coordination among development team members, regular data backups and recovery plans to ensure the safety of critical project data, and security tools.

This CRM is Cloud-based access so, you need the minimum requirements of the system:-

1. 4GB RAM.
2. Good Internet Connection.
3. Browser (Chrome, Edge etc.)
4. Support Windows 7 to 11 version both / Mac-book also.

7.1



This figure represents the basic working of CRM how to login and how to use the modules one by one. Every module contains six plus different modules which is used to store different details about customer, billing, accounting, stock, contract etc.

8.1 Bibliography and

1. First reference taking by all existing CRM and ERP which is working already in the market for... **ex:** - Telly, Sigma etc.
2. Modern ERP Book, third edition by **Marianne Bradford**. The Modern ERP book offers a complete overview of ERP and related systems alongside technological concepts
3. Customer Relationship Management: Concepts and Cases" Book by **Rai A.K.**
4. **DR.K. VANITHA, DR.K. VANITHA** "Customer Relationship Management on Customer Satisfaction." International Journal of Scientific Research.
5. **Erlygina, E., and V. Filimonova.** "Customer Relationship Management." *Bulletin of Science and Practice*
6. Google search: -
 - a. <https://www.salesforce.com/in/form/sem/salesforce-crm>
 - b. https://en.wikipedia.org/wiki/Market_segmentation
 - c. <https://www.zoho.com/crm/customer-success/>
 - d. <https://www.odoo.com/app/crm>
 - e. <https://www.accountingcoach.com/>
7. Book **Accounting for Non-Accountants** helps understand accounting basics.