

Portal for Farmer Registry and Loan Appraisal

BALAJI K

*Electronics & Communication Engineering
Mailam Engineering College, Mailam & post, Tindivanam Taluk, Villupuram DT*

ARAVIND S

*Electronics & Communication Engineering
Mailam Engineering College, Mailam & post, Tindivanam Taluk, Villupuram DT*

KAVIN KUMAR K

*Electronics & Communication Engineering
Mailam Engineering College, Mailam & post, Tindivanam Taluk, Villupuram DT*

VENGATESH P

*Electronics & Communication Engineering
Mailam Engineering College, Mailam & post, Tindivanam Taluk, Villupuram DT*

DINESH T

*Electronics & Communication Engineering
Mailam Engineering College, Mailam & post, Tindivanam Taluk, Villupuram DT*

ABSTRACT - Achieving agricultural success relies heavily on factors such as accurate prediction of the monsoon, optimal fertilizer usage, and selecting suitable crops for cultivation. However, these tasks pose significant challenges for farmers. This paper proposes an online monitoring and management system aimed at improving crop yield by facilitating efficient decision-making processes. The system requires farmers to register on a portal, providing essential details about their farming practices. Throughout the cultivation period, an agricultural officer monitors progress by reviewing regular photo updates uploaded by the farmers. Based on this monitoring, the officer offers suggestions to optimize crop management practices. Additionally, the system integrates with loan management, enabling loan managers to assess productivity status and allocate appropriate funds accordingly. By leveraging technology to streamline communication and data sharing, this approach ensures that farmers receive timely guidance and financial support, ultimately maximizing crop yield.

KEYWORDS - Agricultural success, Crop selection, Decision-making processes, Farmer registration, Agricultural officer, Photo updates, Suggestions, Loan management, Financial support.

I. INTRODUCTION

"Welcome to our innovative agricultural portal, designed to empower farmers with the tools and guidance they need for success. In an industry where variables like monsoon patterns, fertilizer efficacy, and crop selection can make or break a season, our platform offers a revolutionary solution. By registering with us and providing essential details, farmers gain access to a comprehensive support system.

Our platform connects farmers with agricultural experts who monitor crop progress through regular photo updates. This real-time monitoring allows for timely interventions and tailored suggestions to optimize yield. Furthermore, our collaboration with loan managers ensures that farmers receive the necessary financial support aligned with their projected productivity.

With our online system, the uncertainty of traditional farming methods is minimized, and the potential for success is maximized. Join us as we revolutionize agriculture, one harvest at a time."

II. LITERATURE REVIEW

Aditi Rai*1, Dr. Santosh Kr. Dwivedi*2, Mr. Aakash Srivastava*3 "ONLINE LOAN MANAGEMENT SYSTEM" IEEE-May 2023:

The Block chain-Based Online Loan Management System (BOLMS) is an innovative web application that leverages block chain technology to revolutionize the process of loan management for financial institutions. By utilizing the decentralized and

transparent nature of block chain, BOLMS aims to enhance security, trust, and efficiency in the loan management process. BOLMS provides a secure and immutable platform for borrowers to apply for loans online. Through the system, borrowers can create digital identities, store and manage their financial data securely on the block chain, and submit loan applications without the need for intermediaries. The use of block chain ensures that borrower information remains tamper-proof and resistant to unauthorized modifications, reducing the risks associated with data breaches and identity theft.

2.NirmalaGaniger¹,M.Swathi²,K.Vishrutha³ et all proposed “Online Loan Application and Verification for Personal Loan” IEEE-May 2017:

The portal has 3 user types namely Loan Applicant or Customer and the Loan Verification officer of the bank and CIBIL officer. The security and data privacy is at the core of the design of the portal, data can be accessed only by registered users and they can only access data that is relevant to them. The authenticated applicant will get access to the Loan Application Form which includes several fields like loan amount expected, value of the supporting documents, age, gender, address, if there are any previously existing loans and the liability remaining in existing loans. If Applicant is accessing the portal the first time, then he/she should enter the complete details in the user Registration page. The Loan requests submitted by the applicants will be viewed by the Verification officer from the bank, they go through all the details including the supporting documents. Once the officer verifies the CIBIL link and they provide score once credit details in other banks, the officer will approve the loan application. If the details are found not matching the officer can reject the application. All the status updates will be notified to the concerned users through email. To design and develop smart online loan application and verification system for PKGB by eliminating the manual process by completely digitising the system. The customer can register loan in this banking system only if we have credit account in same bank.The loan approval process is done only for registered customers .The personal loan application and verification is done through CIBIL report verification with CIBIL score.The customer must login with email-id and password.It is only limited to initial stage of online approval of documents by admin.The customer can login and get approval status only through website.

3.Patel Karan D et all proposed “Loan Management System” IEEE-2014:

Main objective is to provide good interaction & communication facilities between customers & Administrator. Loan management system has been designed to online the back office activities of bank and finance company which offers any type of loan., Administrator manage customer information database more efficiently, Loan details, maintain loan type and interest rate information. Admin can use calculator to give exact payable loan amount for the customer & generate all these work info as a report of each customers.

4. Asian Development Bank et all proposed “Digitization of the loan application process” IEEE-2022:

The Asian Development Bank (ADB) and Finca Bank Georgia (FBG) signed an implementation agreement to conduct a pilot project on the digitization of the loan underwriting process using a tablet-based digital field application (DFA). The pilot formed part of the regional ADB technical assistance project “Strengthening Financial Sector Operations in Asia and the Pacific” and built on previous support from ADB’s Private Sector Operations Department, including development of a credit score card system and provision of tablets for increased field presence. A local service provider was selected to provide FBG with the DFA, enabling digitized loan underwriting for all FBG loan products online and offline.

III. EXISTING SYSTEM

- Here the existing system is a manual that doesn't maintain details with proper security and can't track details easily.
- It doesn't allow the farmers to check their profile in proper way which leads farmers dis-satisfaction.
- Existing system doesn't contains functionalities of fast retrieval information such details and maintenance of all the loan details so it involves lots of paperwork as customer
- Doesn't user-friendly interface.

IV. PROPOSED SYSTEM

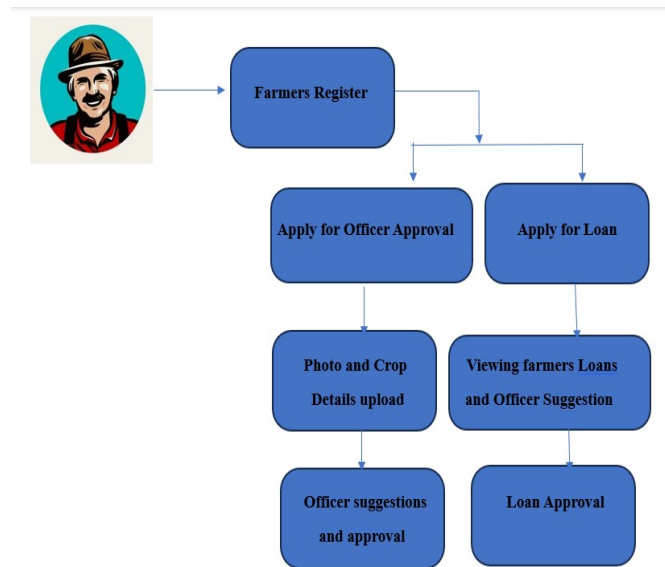
- Maintain details with proper security and we can track details easily.
- User-friendly interface.

- Farmers can apply Loan easily and fast approval.
- Farmers as the rating by the Officer, So they can apply high loan amount.

V.OBJECTIVE

- To establish an integrated online platform for farmers, agricultural officers, and loan managers to facilitate informed decision-making, monitor crop cultivation progress, provide timely suggestions, and optimize loan allocation, thereby enhancing crop yield and ensuring agricultural success.

VI.BLOCK DIAGRAM



VII. LANGUAGE

AND FRAME WORK:

FRONT END:

1. The metadata for a component class associates it with a *template* that defines a view. A template combines ordinary HTML with Angular *directives* and *binding markup* that allow Angular to modify the HTML before rendering it for display.

- The metadata for a service class provides the information Angular needs to make it available to components through *dependency injection (DI)*

An application's components typically define many views, arranged hierarchically. Angular provides the Router service to help you define navigation paths among views. The router provides sophisticated in-browser navigational capabilities.

1.SPRINGBOOT:

Spring Boot is an open-source Java-based framework used for programming standalone, production-grade Spring-based applications with minimal effort. Spring Boot is a convention-over-configuration extension for the Spring Java platform intended to help minimize configuration concerns while creating Spring-based applications. Most of the application can be preconfigured using Spring team's "opinionated view" of the best configuration and use of the Spring platform and third-party libraries.

It is widely used for building microservices, web applications, and other Java-based projects due to its ease of use and robustness.

DATABASE:

1. **MySQL:** MySQL is an open-source relational database management system (RDBMS). Its name is a combination of "My", the name of co-founder Michael Widenius's daughter My, and "SQL", the acronym for Structured Query Language. A relational database organizes data into one or more data tables in which data may be related to each other; these relations help structure the data. SQL is a language that programmers use to create, modify and extract data from the relational database, as well as control user access to the database. In addition to relational databases and SQL, an RDBMS like MySQL works with an operating system to implement a relational database in a computer's storage system, manages users, allows for network access and facilitates testing database integrity and creation of backups.

MySQL is free and open-source software under the terms of the GNU General Public License, and is also available under a variety of proprietary licenses. MySQL was owned and sponsored by the Swedish company MySQL AB, which was bought by Sun Microsystems (now Oracle Corporation).^[8] In 2010, when Oracle acquired Sun, Widenius forked the open-source MySQL project to create MariaDB.

MySQL has stand-alone clients that allow users to interact directly with a MySQL database using SQL, but more often, MySQL is used with other programs to implement applications that need relational database capability. MySQL is a component of the LAMP web application software stack (and others), which is an acronym for *Linux, Apache, MySQL, Perl/PHP/Python*. MySQL is used by many database-driven web applications.

X. FUTURE SCOPE

The future scope for a system like this is promising and multifaceted. Here are some potential avenues for development and expansion:

1. **Integration of Advanced Technologies:** Incorporating artificial intelligence and machine learning algorithms could enhance predictive capabilities, allowing for more accurate forecasting of factors like monsoon patterns and fertilizer requirements. This could further optimize crop management strategies and increase yield potential.
2. **Expansion of Services:** Beyond crop cultivation, the platform could expand to include livestock management, pest control, and soil health monitoring. By providing comprehensive agricultural support, farmers can optimize all aspects of their operations for maximum efficiency and profitability.
3. **Data-driven Insights:** With a wealth of data collected through the platform, there's an opportunity to derive valuable insights into regional farming trends, crop performance, and market dynamics. This information can inform policy decisions, research initiatives, and investment strategies in the agricultural sector.
4. **Accessibility and Outreach:** Efforts should be made to ensure that the platform is accessible to farmers of all backgrounds, including those in remote or marginalized communities. Mobile-friendly interfaces, multilingual support, and community outreach programs can help bridge the digital divide and empower a wider range of farmers.
5. **Partnerships and Collaborations:** Collaborating with government agencies, research institutions, and agribusinesses can enhance the platform's effectiveness and reach. By leveraging expertise and resources from various stakeholders, the platform can offer more comprehensive and tailored solutions to farmers' needs.

Overall, the future of this platform lies in its ability to adapt to evolving agricultural challenges and leverage emerging technologies to empower farmers and ensure sustainable and resilient food production systems.

XI. CONCLUSION

In conclusion, the implementation of an online portal for farmers to register and receive guidance on loan allocation

and crop cultivation procedures holds significant promise. Through meticulous monitoring by agricultural officers and oversight from loan managers, farmers can access the necessary support to optimize crop yield and financial resources. By leveraging technology and expert assistance, this approach fosters accountability, transparency, and efficiency in agricultural practices, ultimately contributing to the sustained success and prosperity of farmers.

REFERENCES

- [1] Xiaoou Liu (2020), 'Dynamic Response Characteristics of Fast Charging Station-EVs on Interaction of Multiple Vehicles', IEEE Access, Vol.8.
- [2] S. G. Dehkordi, M.E Cholette, G.S. Larue, A. Rakotonirainy and S. Glaser, "Energy Efficient and Safe Control Strategy for Electric Vehicles Including Driver Preference," in IEEE Access, vol. 9.
- [3] Chirag Panchal, SaschaStegen, Junwei Lu (2018) 'Review of static and dynamic wireless electric vehicle charging system', Engineering Science and Technology, Vol.21, Issue 5.
- [4] Elena Paul, Nimmy Paulson, Rijo Bijoy, Benny K.K.(2019) 'Wireless Charging of Electric Vehicles', International Research Journal of Engineering Technology, Vol.6, Issue 6.
- [5] Fei Lu, Hua Zhang and Chris Mi "A review on the recent development of capacitive wireless power transfer technology" Energies 2017,10,1752; doi:10.3390/en10111752.
- [6] Pradyumna Yambar "Dynamic Wireless Charging of Electric Vehicle" International Journal for Research in Applied science and Engineering Technology (IJRASET), volume 6 Issue III, March 2018.
- [7] Mustapha DEBBOU, Francis Colet, "Inductive Wireless Power Transfer for Electric Vehicle Dynamic Charging" 9781-5090-3414-7/16.
- [8] <http://circuitdigest.com/article/wireless-electricvehicle-charging-systems>.
- [9] C.Nagarajan and M.Madheswaran - 'Experimental verification and stability state space analysis of CLL-T Series Parallel Resonant Converter' - Journal of ELECTRICAL ENGINEERING, Vol.63 (6), pp.365-372, Dec.2012.
- [10] C.Nagarajan and M.Madheswaran - 'Performance Analysis of LCL-T Resonant Converter with Fuzzy/PID Using State Space Analysis'- Springer, Electrical Engineering, Vol.93 (3), pp.167-178, September 2011.
- [11] C.Nagarajan and M.Madheswaran - 'Stability Analysis of Series Parallel Resonant Converter with Fuzzy Logic Controller Using State Space Techniques'- Taylor & Francis, Electric Power Components and Systems, Vol.39 (8), pp.780-793, May 2011.
- [12] C.Nagarajan and M.Madheswaran - 'Experimental Study and steady state stability analysis of CLL-T Series Parallel Resonant Converter with Fuzzy controller using State Space Analysis'- Iranian Journal of Electrical & Electronic Engineering, Vol.8 (3), pp.259-267, September 2012.
- [13] Nagarajan C., Neelakrishnan G., Akila P., Fathima U., Sneha S. "Performance Analysis and Implementation of 89C51 Controller Based Solar Tracking System with Boost Converter" Journal of VLSI Design Tools & Technology. 2022; 12(2): 34–41p.
- [14] C. Nagarajan, G.Neelakrishnan, R. Janani, S.Maithili, G. Ramya "Investigation on Fault Analysis for Power Transformers Using Adaptive Differential Relay" Asian Journal of Electrical Science, Vol.11 No.1, pp: 1-8, 2022.
- [15] G.Neelakrishnan, K.Anandhakumar, A.Prathap, S.Prakash "Performance Estimation of cascaded h-bridge MLI for HEV using SVPWM" Suraj Punj Journal for Multidisciplinary Research, 2021, Volume 11, Issue 4, pp:750-756
- [16] G.Neelakrishnan, S.N.Pruthika, P.T.Shalini, S.Soniya, "Perfromance Investigation of T-Source Inverter fed with Solar Cell" Suraj Punj Journal for Multidisciplinary Research, 2021, Volume 11, Issue 4, pp:744-749
- [17] C.Nagarajan and M.Madheswaran, "Analysis and Simulation of LCL Series Resonant Full Bridge Converter Using PWM Technique with Load Independent Operation" has been presented in ICTES'08, a IEEE / IET International Conference organized by M.G.R.University, Chennai.Vol.no.1, pp.190-195, Dec.2007
- [18] M Suganthi, N Ramesh, "Treatment of water using natural zeolite as membrane filter", Journal of Environmental Protection and Ecology, Volume 23, Issue 2, pp: 520-530,2022
- [19] M Suganthi, N Ramesh, CT Sivakumar, K Vidhya, "Physiochemical Analysis of Ground Water used for Domestic needs in the Area of Perundurai in Erode District", International Research Journal of Multidisciplinary Technovation, pp: 630-635, 2019