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JanSahayak: Subsidy & Government Scheme Finder with Farm Budget and Profit Planner

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Abstract: *JanSahayak is a digital governance application that provides citizens with centralized access to government welfare schemes and public services. It addresses challenges such as scattered information, complex eligibility criteria, and manual application processes through a unified platform. The system consists of three modules—Admin, Agent, and User—where administrators manage schemes and service data, agents assist users with eligibility checks and application support, and users can securely register, manage profiles, upload documents, and access services. An integrated agriculture support module helps farmers with crop planning and cost estimation based on land area and crop type. With secure authentication and role-based access control, JanSahayak enhances transparency, efficiency, and accessibility in public service delivery, promoting inclusive digital governance*

Keywords*:* Digital Governance, Government Welfare Schemes, JanSahayak Application, Agriculture Support System, E-Governance

I. INTRODUCTION

Government welfare schemes play a crucial role in supporting minorities, women, disabled persons, farmers, and economically weaker sections of society. However, access to these schemes remains a major challenge due to lack of awareness, scattered information sources, and time-consuming manual procedures. Citizens often need to visit multiple government offices to collect scheme information, submit documents, and track application status.

With the advancement of digital technology, e-governance solutions provide an opportunity to simplify service delivery and improve transparency. The JanSahayak application is designed to act as a bridge between citizens and government services by providing a centralized digital platform. The system allows users to easily search, view, and understand government schemes, communicate with service agents, and securely manage documents. Additionally, JanSahayak includes an agriculture planning module that supports farmers in making accurate and cost-effective decisions. This project aims to enhance accessibility, efficiency, and inclusiveness in government service delivery.

II. LITERATURE REVIEW

E-governance systems have been widely studied for improving efficiency, transparency, and accessibility of government services. Pressman [1] emphasized that automation and modular software architecture play a crucial role in reducing manual effort and enhancing system reliability in public service applications. Secure data handling and scalable system design are essential for long-term sustainability.

Sommerville [2] highlighted the importance of requirement engineering and role-based access control in large-scale information systems, particularly those handling sensitive user data.

Centralized digital platforms have been shown to reduce information fragmentation and dependency on intermediaries by providing verified service information from official sources.

Research on agricultural decision support systems indicates that automated calculation of crop inputs such as seed, fertilizer, and labour improves planning accuracy and reduces financial risk for farmers. However, most existing systems operate independently and lack integration with welfare service platforms.

Mobile-based governance applications with real-time communication features have demonstrated improved interaction between service providers and beneficiaries. Despite these advancements, existing solutions focus on isolated

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functionalities. This limitation motivates the development of integrated platforms like JanSahayak, which combine welfare scheme management, secure document handling, communication services, and agricultural support within a single system.

III. METHODOLOGY

The JanSahayak system follows a structured and systematic methodology to design and implement a centralized digital platform for government welfare services and agricultural support. The methodology is divided into multiple phases, including requirement analysis, system design, module development, integration, and testing. This approach ensures efficient service delivery, data security, and ease of use for all stakeholders.

3.1 Requirement Analysis

Requirement analysis is the initial phase of the methodology, where the functional and non- functional requirements of the system are identified. This phase focuses on understanding the challenges faced by citizens in accessing government welfare schemes, such as lack of centralized information, manual document handling, and limited communication support.

Requirements related to user registration, scheme management, agent support, document storage, and agricultural planning are carefully analysed. Security requirements, including authentication and role-based access control, are also identified to protect sensitive user data.

3.2 System Design

Based on the identified requirements, the system architecture is designed using a layered client–server model. The design includes separate modules for Admin, Agent, and User to ensure controlled access and efficient management. The presentation layer handles user interfaces such as login, registration, scheme browsing, document upload, and communication features. The application layer contains the business logic responsible for authentication, scheme processing, agent interaction, and agricultural calculations. The data layer manages secure storage and retrieval of system data using a relational database.

3.3 Module Development

The JanSahayak application is developed by dividing the system into independent modules to improve maintainability and scalability.

Admin Module: This module is developed to manage government schemes, policies, service centres, agents, and official government links. Admin users can add, update, or delete scheme details and monitor system activities.

Agent Module: The Agent module enables agents to assist users by providing guidance on scheme eligibility, document requirements, and application procedures. Integrated chat and calling features support real-time communication.

User Module: The User module allows citizens to register and log in securely, search and view schemes based on categories and eligibility, manage profiles, upload and download documents, and locate nearby JanSahayak Kendra.

Agriculture Support Module: This module is designed to assist farmers in crop planning. Based on crop type and land area entered by the user, the system automatically calculates seed, fertilizer, labour requirements, and estimated cost.

3.4 Data Management and Security

Data management is handled using a MySQL relational database to store user profiles, schemes, documents, agents, and communication records. Secure authentication mechanisms are implemented to verify user identity. Role-based access control ensures that Admin, Agent, and User can access only authorized functionalities. Sensitive data is protected through secure server-side processing and controlled database access.

3.5 Communication and Integration

The system integrates real-time communication features to improve interaction between users and agents. RESTful APIs are used to enable secure communication between the frontend and backend components. Official government

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links are integrated to provide users with verified and authentic scheme information. Notification and messaging services are implemented to deliver important updates and alerts to users.

3.6 Testing and Validation

The system undergoes functional testing to verify that all modules perform as expected. Security testing is conducted to ensure safe authentication and data protection.

Performance testing is carried out to evaluate system response time during scheme search and agricultural calculations. Identified issues are resolved to improve system reliability and usability.

IV. IMPLEMENTATION

The JanSahayak system is implemented using a client–server architecture. The frontend is developed using Android Studio, while the backend uses PHP with a MySQL database hosted on XAMPP. RESTful APIs handle communication between system components.

Role-based access control ensures secure access, and the agriculture module performs automatic crop input and cost calculations based on user inputs.

V. RESULTS AND DISCUSSION

The JanSahayak application successfully provides centralized access to government welfare schemes and agricultural planning tools. The system reduces processing time, improves transparency, and enhances communication between citizens and service providers.

Automated agricultural calculations help farmers plan resources accurately and reduce financial risks. Secure document management improves record keeping and data safety.

VI. SYSTEM FLOWCHART DESCRIPTION

The system follows the steps below:

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VII. CONCLUSION

JanSahayak is an effective digital governance solution that simplifies access to government services and agricultural support. By integrating Admin, Agent, and User modules, the system ensures efficient management, secure access, and improved service delivery. The project demonstrates the practical application of information technology in strengthening public service systems and promoting inclusive development.

VIII. FUTURE SCOPE

Integration with government identity databases for automatic verification online application submission and real-time status tracking multilingual support for regional languages AI-based scheme recommendation system cloud-based deployment for scalability and reliability GIS integration for accurate service centre location.

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