



MID DAY MEAL STOCK MANAGEMENT SYSTEM

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Abstract: The Mid-Day Meal Scheme in India is a key government initiative designed to enhance the nutritional health of school-aged children by offering free lunches in schools. Despite its commendable goals, the scheme encounters several obstacles, such as administrative inefficiencies, logistical challenges, and issues related to quality and hygiene. This project proposes the development of an Android application to overcome these hurdles, focusing on streamlining the management and execution of the Mid-Day Meal Scheme. The app aims to automate administrative processes, increase transparency, and strengthen monitoring, ultimately improving the delivery of nutritious meals to students.

I. INTRODUCTION

1. Background

The Mid-Day Meal Scheme is one of India's most significant social welfare programs, designed to address the dual challenges of hunger and education among school-aged children. Launched in 1995, this initiative provides free, nutritious meals to children in government and government-aided schools, with the primary objectives of improving nutritional levels, boosting school enrollment, and reducing dropout rates. However, despite its far-reaching impact, the scheme has faced persistent challenges, including administrative inefficiencies, logistical complexities, and concerns over the quality and hygiene of the meals provided.

In response to these issues, there is a growing need for innovative solutions that can enhance the effectiveness and sustainability of the program. This project aims to introduce an Android application specifically designed to streamline the management and implementation of the Mid-Day Meal Scheme, ensuring that the benefits reach the children who need them most. By leveraging technology to automate tasks, improve transparency, and enhance monitoring, the application aspires to address the existing challenges and optimize the overall delivery of the program. Addressing these issues requires innovative solutions that leverage technology to automate administrative processes, enhance transparency, and improve monitoring mechanisms.

The proposed Android application aims to bridge these gaps by providing a centralized platform for efficient management and implementation of the Mid-Day Meal Scheme, ultimately contributing to the well-being and development of schoolchildren.

2. Objectives

- Create an Android application to automate and simplify administrative tasks associated with the Mid-Day Meal Scheme, such as managing school registrations, overseeing faculty responsibilities, and coordinating meal preparation and distribution logistics.
- Integrate features within the application to improve transparency and accountability in the Mid-Day Meal Scheme, enabling stakeholders to monitor student attendance, track the distribution of meals, and ensure adherence to program standards.
- Incorporate real-time data analytics into the application to provide insights on meal consumption patterns, helping administrators make informed decisions on resource allocation and menu adjustments.
- Develop a user-friendly interface within the application that allows schools to easily report issues related to meal quality, hygiene, or delivery, ensuring prompt action and continuous improvement in the scheme's implementation.

II. LITERATURE REVIEW**1. ANDROID BASED MID-DAY MEALS MONITORING SYSTEM**

Mid-day meals is a school meal programme designed to improve the nutrition status of the school children. The government had started the scheme to ensure that the children get nutritious food in order to reduce the dropout rate in schools. State governments implement this scheme by providing menus with culturally acceptable items. Though this scheme has more benefits for the school children, the effective implementation of it is not monitored. Government had established committee to monitor the effective implementation of the scheme. Physical monitoring is a challenging task as it not cost effective as well it requires more human resource. In this paper, mobile application based monitoring system is proposed for School and Mass Education Department to continuously monitor the Mid-Day Meal scheme with less economy and human resources. This application evaluates the scheme by ensuring the robustness, cleanliness and timely availability of quality meals to the students by collecting feedback from parents and faculties. It can also be used to calculate the food grains stock availability and expenses required for implementing the scheme. The monitoring system collects the feedback from the stakeholders of the school on Daily/weekly/monthly basis. The system captures the total meals served to the children; reasons for the meals not served; food grain, cooking and transportation expenses required in advance through regular update of bills. This information is analyzed and instant report is submitted to the higher authorities for availing the needed support required by the schools.

2. Strengthening the Mid-Day Meal Scheme through MIS

The present paper deals with strengthening of the MidDay Meal Program (MDMP) through the use of Management Information System (MIS). The authors discuss the implementation of MDMP in India and the current system that is being used for implementation of the program. The drawbacks in the current system are identified and the authors highlight the use of MIS and Interactive Voice Response System (IVRS) in implementing the MDMP in a better manner. The benefits and challenges of IVRS are discussed in detail later in the paper and the authors suggest the road ahead so that better results can be reaped out of this program.

3. Implementation Paper on Web Based Mid-Day-Meal Analysis

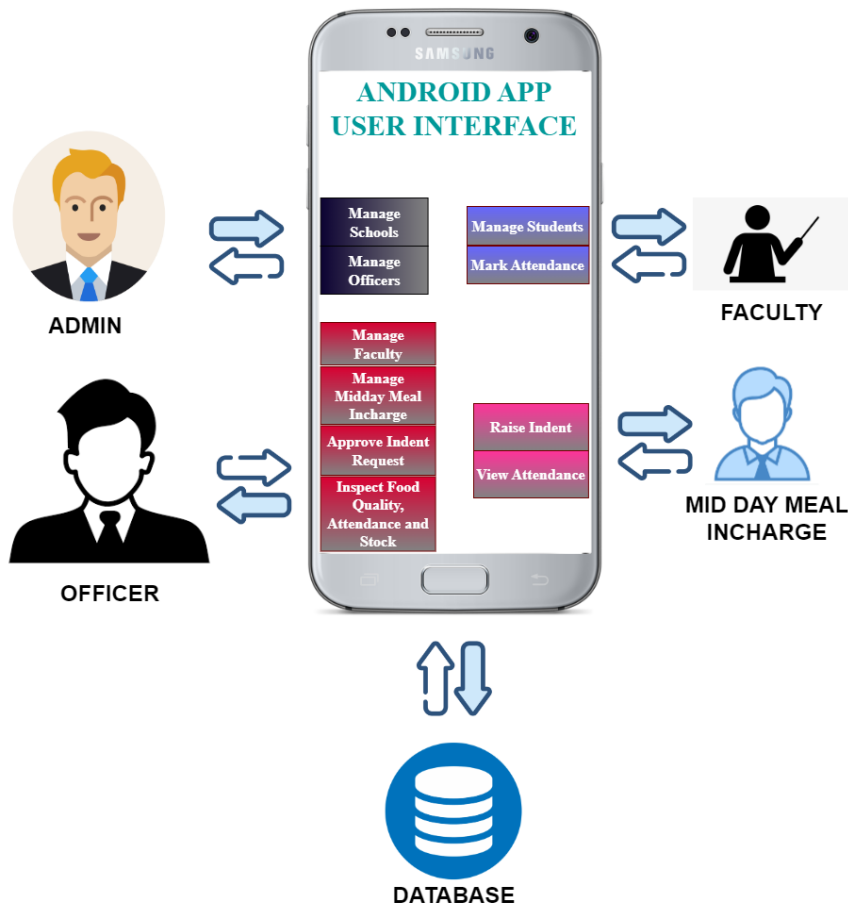
The Mid Day Meal Programme (MDMP) is a welfare programme that is being operated through the country and involves millions of children, crores of public funds, and thousands of officials manning the programme. While there can no denying that the programme needs to be monitored with an eagle's eye for lacunae, discrepancies and malpractices, it is equally imperative that each and every well-intentioned effort, however miniscule, needs to be appreciated, rewarded and publicized for the simple reason that man motivation is a simple but a highly effective tool that can rev up the gargantuan lumbering machinery involved in the implementation of MDMP to generate unprecedented results, as expected of this populist programme.

4. Study on Mid-Day-Meal Analytics Scheme for School Children

This paper focuses on the Midday Meal Scheme may be a school meal programme of the govt. of India and is meant to enhance the nutritional standing of school-age children nationwide. Student teams are expected to create machine vision solution to watch the activities under the Midday Meal Scheme. Solution Expected: because the MidDay Meal program runs in schools across the country, continuous auditing and monitoring of the program could be challenging. Typical Auditing and Monitoring could involve: Ensuring number of scholars that took meal is same number reported. Lunch served is same as published/reported menu. Alerting just in case of discrepancy and capability to centrally see past records / proof (numbers and visual) for any school. To style modules supported the above-mentioned activities, video feed shall be provided to the scholar teams.

5. Mid-Day Meals Scheme Monitoring System in School using Image Processing Techniques

The Government of India introduced the Mid - Day meal scheme which is a school meal programme and that also helps to enhance the nutritional standing of school students. This program is designed to support for both primary and secondary school education. This mid day meal scheme provides cost free lunches on all working days for children in primary and upper primary classes in Government schools. In our work Ensuring number of students that took meal is same number as reported. This System monitoring comprise of human face detection through a webcam where identification of image done using an effective algorithm called Viola jones Algorithm. Feature Extraction is a technique that process the captured visual content into image of indexing and retrieval. After face detection, then it checks whether the food is served in plate or not. If food is served then count is increased, else no change in count. Food is recognized through Deep learning approach. With the improvement of deep CNN learning algorithm, Food identification and recognition estimation have been developed. we use Deep Convolutional neural network for visual recognition. So admin can verify lunch served is same as published/reported menu. Alerting in case of discrepancy and capability to centrally see past records / proof (numbers and visual) for any school. In order to observe this activity, we need image processing.

III. METHODOLOGY

The methodology for developing the Android application to enhance the Mid-Day Meal Scheme begins with a thorough requirement analysis and planning phase, where existing challenges in administrative tasks, such as school registration, faculty management, attendance tracking, and meal logistics, are identified. Input from key stakeholders is gathered to define the app's objectives and scope. The design and development phase involves creating a user-friendly interface with customized dashboards for different user roles and building a robust backend architecture to support task automation.

The mobile application is developed with a focus on performance, security, and offline capabilities, ensuring reliable access in remote areas. Key features are then implemented, including automation of administrative tasks, real-time monitoring, and reporting tools that allow stakeholders to track attendance, oversee meal distribution, and manage inventory efficiently. Data analytics are integrated to provide insights on meal consumption patterns and attendance trends, enabling informed decision-making. Rigorous testing, including pilot testing in selected schools, ensures the app's reliability and usability. Once deployed, training sessions and user manuals are provided to ensure effective use by school staff and administrators. The methodology concludes with continuous evaluation and improvement, allowing the application to evolve and remain effective in enhancing the Mid-Day Meal Scheme.

IV. RESULTS & DISCUSSIONS

1. The app automates administrative tasks such as school registration, faculty management, attendance tracking, and meal preparation logistics, reducing the need for manual data entry and paperwork.
2. By eliminating manual data entry and paperwork, the app reduces the likelihood of errors and discrepancies in attendance records, meal distribution, and stock inventory, ensuring data accuracy and reliability.

3. The app can be accessed from mobile devices, making it convenient for stakeholders to perform tasks and access information anytime, anywhere, without the need for physical presence or reliance on specific communication channels.
4. With the app, stakeholders can monitor attendance, track meal distribution, and manage stock inventory, providing instant updates on program implementation and enabling timely interventions.
5. The app can lead to cost savings by reducing paperwork, streamlining processes, and optimizing resource utilization, making the management and implementation of the Mid-Day Meal Scheme more cost-effective.

V. CONCLUSION

In conclusion, the development and implementation of the Android app for managing the Mid-Day Meal Scheme present a transformative solution to the challenges faced by traditional methods. By leveraging technology to automate administrative tasks, streamline processes, and enhance monitoring capabilities, the app promises to revolutionize the efficiency, transparency, and effectiveness of the program. With real-time data access, improved communication channels, and increased accountability, stakeholders can ensure the timely delivery of nutritious meals to schoolchildren, ultimately contributing to their health, well-being, and academic success. As a user-friendly and cost-effective tool, the Android app stands poised to make a significant impact on the lives of millions of children across India, affirming the government's commitment to promoting education, nutrition, and holistic development. Through continued innovation, collaboration, and stakeholder engagement, the app has the potential to serve as a model for similar initiatives globally, fostering positive social change and inclusive growth.

Future Work:

Nutritional Analysis: Expand the application to include a feature for nutritional analysis of meals provided. This could involve integrating databases of nutritional information for various food items and generating reports on the nutritional value of meals served to ensure they meet recommended dietary guidelines.

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