



UNIVERSITY OF
PLYMOUTH



NSBM Green University
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Lecture: Mr. Pramudya Thilakarathne

Project Proposal
Child Vaccination Management System

Arranged by Group A Batch 11 :
Group 05 Members

PU Index No	Name	Degree Program
10898479	Pulindu Hettiarachchi (Leader)	Software Engineering
10899157	Amarasinghe Arachchige Amarasinghe	Software Engineering
10898557	Jayalath Melisha	Software Engineering
10898489	Bodhisaranage Jayamanna	Software Engineering
10898713	Gihan Wipulaguna	Software Engineering
10898705	Ruvindi Wikramasinghe	Software Engineering

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Project Overview

The Child Vaccination Management System is an innovative web-based platform carefully developed to improve child healthcare and vaccination practices, giving underdeveloped countries like Sri Lanka priority. By streamlining scheduling, automating timely reminders, and assuring accurate record-keeping, it aims to optimize the vaccination landscape. In addition to increasing vaccination rates, this concentrated effort aims to lower newborn mortality significantly. Integrating the system with healthcare institutions creates a smooth communication channel, encouraging cooperation between the Ministry of Health, hospitals, and parents. This all-encompassing strategy not only promises to increase vaccine effectiveness but also opens the way for a more responsive and integrated healthcare ecosystem, eventually ensuring the safety of the most helpless and young members of the community.

Introduction

In the hospital environment, maintaining the safety of our youngest citizens is crucial. The crucial task of guaranteeing that every child, regardless of their financial situation, has unrestricted access to timely vaccines is addressed through the Child Vaccination Management System (CVMS). The CVMS was created with an emphasis on simplicity, accessibility, and efficacy to change the way we approach child healthcare in underdeveloped nations.

The Challenge:

In several parts of the world, logistical and informational obstacles make it difficult to provide vaccinations on time, which results in avoidable health problems and, regrettably, higher infant death rates. Our solution to this problem is the CVMS, a digital channel that connects parents and healthcare professionals, speeding up the vaccination process and promoting a culture of proactive child healthcare.

The Vision:

Our goal is to develop a system that provides parents with knowledge, enables healthcare professionals with effective data management, and, most importantly, safeguards the health and future of our children. By embracing technology, we hope to create a future where no kid misses essential vaccinations and where every parent has the information, they need to make an educated choice about their child's medical care.

Key Features:

The Vaccination Management System adds several features that completely change the vaccination process. Parents get access to a dashboard that is specifically designed for them, including up-to-date information on their child's vaccination history, upcoming visits, and educational materials. The secure, simplified interface also benefits healthcare providers by ensuring accurate and current vaccination data.

We set out on a mission to rewrite the story of child healthcare with the Child Vaccination Management System, where technology acts as an engine for progress. Let's work together to create a world where all children receive the care, they need to lay the foundation for a healthier and more promising future.

Project Objectives

1. Efficient Appointment Management

Simplify the process for parents to make appointments for their kids' vaccinations, reducing obstacles and boosting participation.

2. Automated Reminders

Implement a proactive communication system to notify parents of vaccination due dates so that vaccinations are given on time and continuously.

3. Comprehensive Record-Keeping

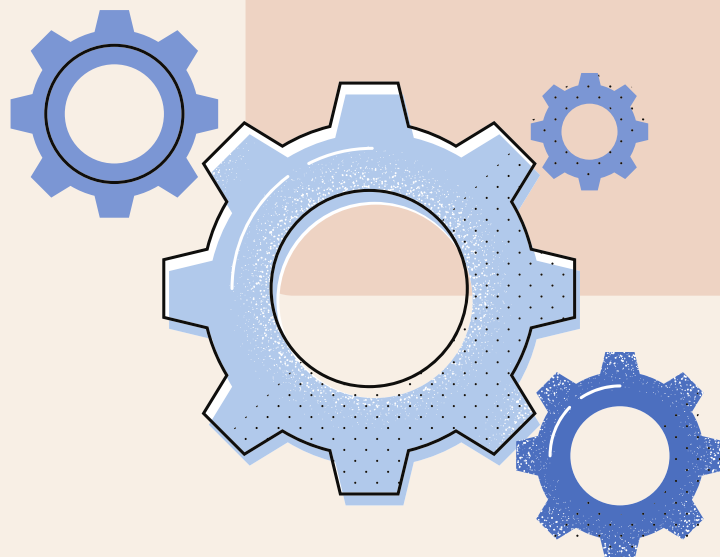
Create a secure, centralized database that hospitals can use to register children, update vaccination information, and keep track of their whole vaccination history.

4. Friendly User Interface

Create a user-friendly, accessible web-based platform for parents so they can easily use the system and keep up with their child's health.

5. Healthcare Facility Integration

Encourage seamless connectivity with authorized hospitals, enabling real-time updates, and improving communication between parents and medical professionals.



Target Users

Primary Target: Ministry of Health, Sri Lanka

Responsibilities: Oversight, policy implementation, and monitoring of the national vaccination program.

Interactions: Access to aggregated data, monitoring system performance, and policy adjustments.

Secondary Targets: Government Hospitals:

Responsibilities: Registering hospitals and children, updating vaccination records, and facilitating communication.

Interactions: Inputting and accessing vaccination data, receiving system alerts, and managing appointments.

Secondary Targets: Parents of Children:

Responsibilities: Registering children, scheduling appointments, and staying informed about vaccination schedules. appointments, and staying informed about vaccination schedules.

Interactions: Accessing child vaccination records, receiving automated reminders, and updating personal information.



Application Features and Description

1. User Registration and Authentication

Hospital Registration

- Hospitals can register in the vaccination management system, providing essential details for the authentication.

Child Registration

- The authorized hospitals will register the children into the system by updating the necessary details.

Secure Authentication

- Secure login credentials provided to parents, ensuring the confidentiality of personal information.
- Implementation of multi-factor authentication for heightened security.

2. Parent Dashboard

Vaccination History

- Parents have access to a user-friendly dashboard displaying their child's complete vaccination history.

Updates

- Real-time information on vaccination dates and schedules provides parents with proactive knowledge.

Educational Resources

- Access to educational materials on vaccinations, empowering parents with knowledge to make informed decisions.

3. Hospital Interface

Secure Login for Healthcare Professionals

- Healthcare professionals have a secure login to access the system.

Update Vaccination Details

- Efficiently update vaccination details for each child under their care.

Comprehensive Records

- Access comprehensive records of vaccinations administered, ensuring accurate and up-to-date information.

4. Notification System

Email and SMS Notifications

- Automated email and SMS notifications to alert parents about the upcoming vaccination schedules.

5. Access Control and Security Measures

Role-Based Access Controls

- Differentiated access controls for various user types (doctors, nurses, administrators)
- Strict control to ensure access only to relevant information.

Encryption Protocols

- Sensitive data is protected from unauthorized access by robust encryption.

6. Data Minimization and Consent

Minimal data Collection

- Collect only necessary information to minimize the risk in case of a security breach.

Transparent Communication

- Clear communication of data usage policies to parents, with explicit consent obtained.

7. Secure Data Transmission

Utilization of Secure Channels

- Use of secure channels (HTTPS) for data transmission within the system, ensuring the integrity of transmitted data.



Benefits of the Proposed System

1. Improved Vaccination Rates

Accessibility is improved, which raises parents' knowledge of and understanding of recommended vaccination schedules.

Reduces the possibility of missed vaccinations by sending out automatic alerts for upcoming and due doses.

2. Improved Healthcare Management

Streamlined Data Entry: Gives medical professionals a user-friendly interface so they can quickly update and keep accurate records of vaccinations.

Real-time Information: Enables healthcare workers to get thorough and current information on each kid in their charge's vaccination status.

3. User- User-friendly experience for the Parents

Dashboard Visibility: This gives parents a simple and user-friendly dashboard to track their child's history of vaccinations and upcoming visits.

Educational Resources: Provides access to educational resources, promoting the use of information while making vaccination decisions.

4. Security and Privacy

Ensures the confidentiality and integrity of sensitive health data by putting in place strong security measures, such as access limits, encryption, and frequent audits.

Compliance: Respect for laws governing the protection of health information, increasing user confidence.

5. Efficient Communication

Multi-Channel alerts: Uses SMS and email alerts to contact parents across their chosen methods of communication.

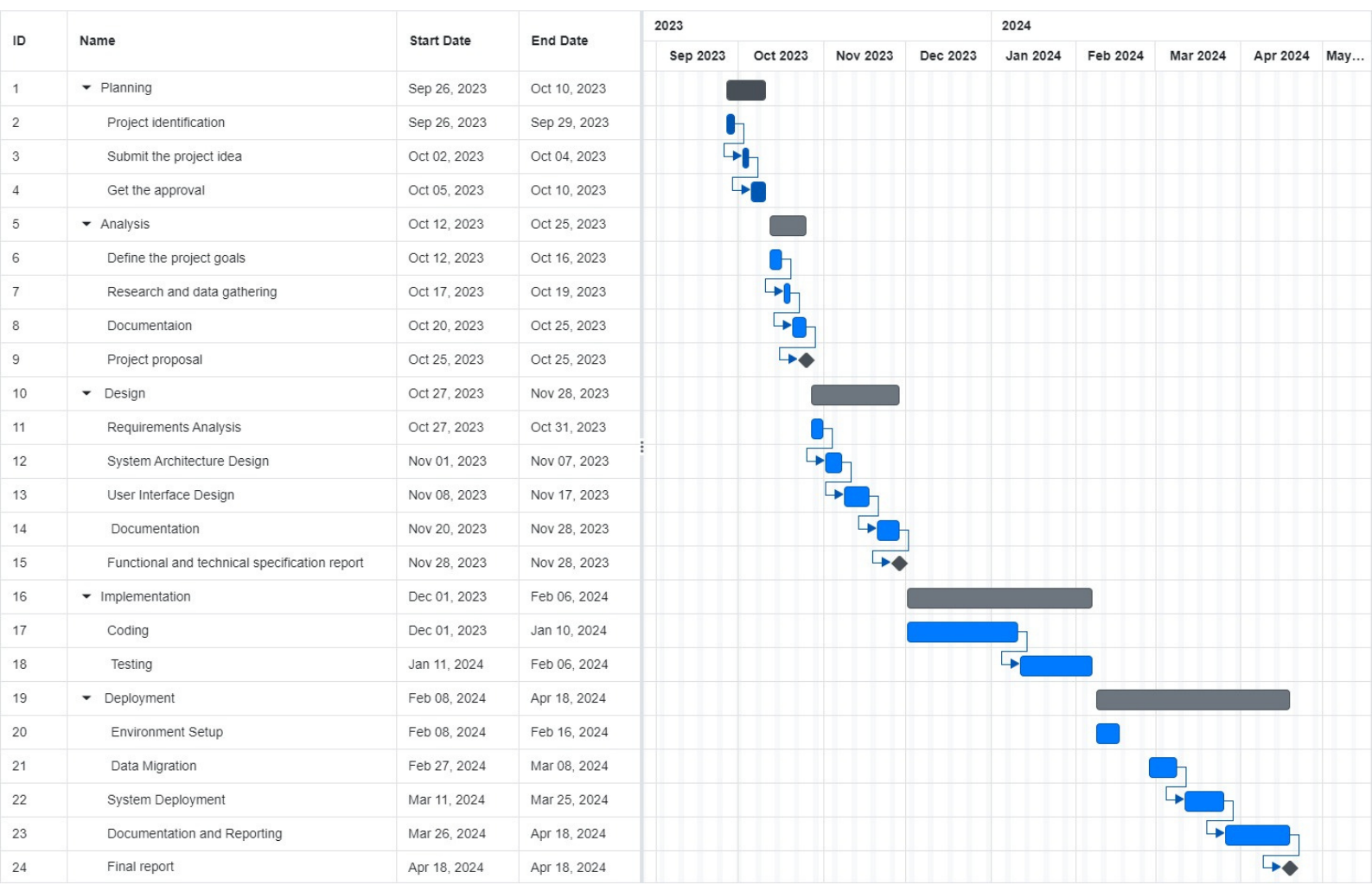
Automated Reminders for Healthcare Professionals: By automating reminders for vaccine updates, this feature enhances communication between healthcare professionals and parents.

6. Data Minimization and Consent

Reduced danger: By restricting data collection to only the information that is absolutely necessary, the danger of a security breach is lower.

Transparency: Ensures that parents are informed clearly of the rules for the use of their children's data and receive their express approval to do so.

Gantt Chart



Conclusion

At the conclusion of this proposal, we are on the verge of a unique project: the development and implementation of the Child Vaccination Management System (CVMS). This program symbolizes a commitment to the future of our communities and the welfare of our children, not just a technological marvel.

Our system promises to be a ray of hope as we set out on this path by tackling the issues that prevent everyone from getting timely vaccines. The CVMS is positioned to have a significant influence on child healthcare by harnessing technology, encouraging cooperation, and placing a high priority on security and privacy.

The CVMS is proof of the value of teamwork, offering parents a user-friendly interface and physicians a reliable data management system. By providing healthcare professionals with effective tools and educating parents, we hope to provide a seamless and proactive approach to child healthcare.

Our goal goes beyond the digital world; it imagines a world in which every child, no matter what their situation, gets the vaccines they require. The CVMS is more than simply a system; it is a group effort to rewrite the history of child healthcare, lowering infant death rates dramatically and promoting healthier neighbourhoods.

Join Us in Shaping Tomorrow: As we end, we offer an invitation to communities, governments, and healthcare organizations to work together to make the CVMS a reality. Let's work together to create a future where every child receives the care they need and where technology drives progress.