



AMAL JYOTHI
COLLEGE OF ENGINEERING
(AUTONOMOUS)

NURTURENEST

20INMCA509 - Mini Project 2

Scrum Master

Ms. Merin Chacko

Assistant Professor

Department of Computer Applications

Ashlymol Thomas

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https://github.com/IntAshly/MiniProject_2.git

ashlymolthomas2025@mca.ajce.in

**DEPARTMENT OF
COMPUTER APPLICATIONS**



REQUIREMENT GATHERING

Date: 19-06-2024

1. Project Overview:

- Briefly describe your project. What problem does it aim to solve, and what are its main objectives?

NurtureNest: Ultimate Baby Health and Growth Companion is a web-based platform designed to assist parents in managing their baby's health and developmental milestones effectively. The platform provides a comprehensive solution for scheduling vaccination appointments and sending timely reminders. It offers periodic updates on the baby's growth every three months, including recommendations on nutrition, developmental stages, and appropriate activities. By employing machine learning algorithms, NurtureNest analyzes growth data to identify deviations from typical patterns, enabling proactive interventions. Additionally, predictive analytics offer early warnings about potential growth issues, ensuring parents have all the necessary information to nurture their child's well-being. The platform includes modules for parents, administrators, and healthcare providers, facilitating secure profile management, appointment scheduling, growth tracking, and virtual consultations. NurtureNest addresses the challenge of managing a baby's health and developmental milestones by providing a centralized platform for tracking vaccinations, growth, and developmental activities. It helps parents avoid missed vaccinations, unnoticed growth issues, and lack of timely health interventions. The primary objectives of NurtureNest are to streamline vaccination management, track growth, provide nutritional and activity recommendations, detect growth deviations, and facilitate virtual consultations and secure messaging between parents and healthcare providers, ensuring comprehensive support and personalized health advice for optimal child care.

2. System Scope:

- Specify the extent to which the system is proposed. Is it for research purposes, a prototype, or a full-scale implementation?

NurtureNest is proposed as a full-scale implementation. The system is designed to be a comprehensive, web-based platform for parents, healthcare providers, and administrators. It goes beyond a prototype or research tool, aiming to deliver practical, real-world solutions for managing a baby's health and developmental milestones. The platform integrates advanced technologies like machine learning and predictive analytics to provide proactive health interventions, making it a robust and scalable solution for everyday use in various healthcare and home settings.

3. Target Audience:

- Identify the viewers or public who will be involved with the system. Are there specific user groups or stakeholders?

Parents: Primary users who manage their baby's health and developmental milestones.

Healthcare Providers: Doctors and nurses who monitor growth, update vaccination records, and conduct virtual consultations.

Administrators: System admins who manage user accounts, update vaccination schedules, and generate reports.

4. Modules:

- List the key modules included in your system. What functionalities do they provide?

Main Modules

1. User Module (Parents)

Registration and Login: Allows parents to create an account and log in securely.

Profile Management: Parents can manage their child's profile, including personal details and medical history.

Vaccination Schedule: Displays the vaccination schedule and allows parents to book appointments.

Notifications: Sends reminders for upcoming vaccinations and health check-ups via email or SMS.

Growth Tracking: Provides updates on the baby's growth every three months, including weight, height, and developmental milestones.

Nutritional Guidance: Recommends age-appropriate foods and dietary plans.

Activity Suggestions: Offers suggestions for activities and exercises based on the child's age and developmental stage.

Health Tips: Provides general health tips and advice for parents.

2.Admin Module

User Management: Allows administrators to manage user accounts, including adding, editing, or deleting profiles.

Vaccination Management: Admins can update the vaccination schedule, add new vaccines, and manage appointments.

Content Management: Admins can update nutritional guidelines, growth-related content, and health tips.

Notification Management: Configures and sends notifications to users.

Report Generation: Generates reports on vaccination status, user activity, and system usage.

3.Healthcare Provider Module

Provider Registration and Login: Allows healthcare providers to create accounts and log in securely.

Patient Management: Providers can view and manage patient profiles, including medical history and vaccination records.

Appointment Management: Providers can view, approve, or reschedule appointments requested by parents.

Vaccination Records Update: Providers can update the vaccination status after each appointment, ensuring the records are up to date.

Health Reports: Providers can generate and upload health reports, growth charts, and developmental assessments for individual patients.

Telemedicine Services: Enables providers to conduct virtual consultations and follow-ups with parents.

Communication: Facilitates secure messaging between healthcare providers and parents for any queries or follow-ups.

Main Project

Machine Learning Algorithms: Utilizes machine learning to analyse growth data and detect deviations from typical growth patterns.

Predictive Analytics: Offers predictions and early warnings about potential growth issues based on historical data and trends.

Virtual Consultations: Facilitates virtual doctor consultations for parents to discuss health concerns without visiting a clinic.

Personalized Health Recommendations

Chatbot Support

5. User Roles:

- Identify the different user roles in your project. Who will interact with the system, and what permissions or access levels do they have?

Parents: Access and manage their baby's health profiles, book vaccination appointments, receive notifications, and consult health tips.

Healthcare Providers: View and update patient profiles, manage appointments, update vaccination records, and conduct virtual consultations.

Administrators: Manage user accounts, update vaccination schedules, configure notifications, and generate system reports.

6. System Ownership:

- Who owns the system? Is it an academic institution, an organization, or an individual?

The system is owned by an organization.

7. Industry/Domain:

- a. Specify the industry or domain to which the system is related (e.g., healthcare, finance, transportation).

The system is related to the healthcare industry.

8. Data Collection Contacts:

- a. Provide details of the person(s) you have contacted for data collection. Include their name, role, and contact information.

Contact Name: Julie Jayas

Role: Nurse Edakunnam Heath Centre

Contact Information: 8086302324

Contact Name: Maria Sojo

Role: Parent of a child

Contact Information: 7902657107

9. Questionnaire for Data Collection:

- a. Create a questionnaire with at least 10 questions. Ensure it covers relevant aspects of your project. If applicable, attach additional documents (e.g., bill receipts, certificate models).

Questions for Parents:

1. How do you currently keep track of your child's vaccination schedule?

We keep track of our child's vaccination schedule through reminders from the local health center, which calls to inform us of the date and time for our child's vaccinations.

2. What challenges do you face in remembering vaccination dates?

The main challenge we face in remembering vaccination dates is the lack of a consistent reminder system; we rely on calls from the local health centre and often mark the dates on a calendar ourselves.

3. How often do you visit your healthcare provider for your child's check-ups?

We do not visit the hospital weekly; we only go if our child has any health issues, whether minor or serious, and when the health centre informs us about scheduled check-ups.

4. What kind of reminders (email, SMS, app notifications) would you prefer for upcoming vaccinations?

We would prefer any of the above reminders—email, SMS, or app notifications—as all are convenient for us to keep track of upcoming vaccinations.

5. What information do you find most helpful in managing your child's growth and development?

We find information on developmental milestones, nutrition guidelines, vaccination schedules, and tips for managing common childhood illnesses most helpful in managing our child's growth and development.

6. How do you currently receive updates on your child's growth milestones and nutritional needs?

We currently do not receive regular updates on our child's growth milestones and nutritional needs; we mainly rely on advice from our parents or grandparents and refer to a short handbook provided by the health centre for information on vaccinations and growth.

7. What features would you like to see in a baby health management platform?

We would like a baby health management platform that includes features such as receiving updates about vaccinations, scheduling vaccinations conveniently, providing instructions on baby care during different growth stages, and offering guidance on suitable activities and foods for optimal growth and development.

8. Are you interested in virtual consultations with your healthcare provider? Why or why not?

Yes, we are interested in virtual consultations with our healthcare provider because they offer convenience, reduce travel time, and allow us to seek medical advice from the comfort of our home, which is especially helpful during busy schedules or when facing minor health concerns.

9. How do you usually find activities and exercises suitable for your child's developmental stage?

We typically find activities and exercises suitable for our child's developmental stage through advice from parents or grandparents, as well as from information provided by the health center in the handbook given during vaccination appointments.

Questions for Healthcare Providers (about Vaccination Maintenance):

1. What system do you currently use to manage patient vaccination records?

We use the U-WIN system to manage patient vaccination records, which facilitates accurate tracking, updating, and timely reminders for vaccinations.

2. How do you remind parents about upcoming vaccination appointments?

We remind parents about upcoming vaccination appointments through Short Message Service (SMS).

3. What are the common reasons for missed vaccination appointments in your practice?

The common reason for missed vaccination appointments in our practice is a lack of awareness among patients and their families.

4. How do you ensure that vaccination records are kept up-to-date?

We ensure that vaccination records are kept up-to-date using the Kiddohealth app.

5. What challenges do you face in maintaining accurate vaccination schedules for patients?

We face challenges in maintaining accurate vaccination schedules due to the incomplete understanding of how immunity develops among patients and their families.

6. How do you communicate vaccination schedules and updates to parents?

We communicate vaccination schedules and updates to parents through immunization cards.

7. What features would help you better manage and track patient vaccinations?

The features of the CARD system would help us better manage and track patient vaccinations.

8. How do you handle deviations from the recommended vaccination schedule?

We handle deviations from the recommended vaccination schedule by following the ACIP immunization schedule guidelines and providing personalized recommendations based on individual patient needs.

9. How do you monitor vaccine stock levels and manage them?

The Min/Max inventory control system is used to monitor vaccine stock levels and manage them efficiently in our hospital.

10. What procedures are in place for ordering new vaccines when stock is low?

Procedures for ordering new vaccines when stock is low include reviewing past ordering records to inform timely replenishment decisions in our hospital.