SMART INDIA HACKATHON 2024

Ministry/Organization Name: Government of NCT of Delhi

- **Problem Statement ID –** SIH1620
- **Model Name- RAM SETU**
- **Problem Statement Title-**Queuing models in OPDs/ availability of beds/ admission of patients. A hospital based solution is ideal which can be integrated with city wide module.
- **Theme-**MedTech / BioTech / HealthTech
- **PS Category-** Software
- **Institute Code-**
- **Team ID-**
- **Team Name-** TechMate

IDEA DESCRIPTION

IDEA / SOLUTION :

Implementation of a **queuing model** for OPD appointments, and **database management** for availability of beds and admission updating, keeping a **profile management system** for users in hospitals.

- A one-stop formula to ensure user comfort by providing them the option to **book appointments** for OPD with doctors and specialists with the few clicks of their **preferred devices**.
- **Online platform** for hospital staff to keep **patient record** and accordingly reflect availability of beds and other resources, by managing **extensive database**.
- Advanced **profile management system** for hospital staff.

Problem Resolution :

- It is a small step in **digitalisation** of our medical institutions by moving from **paper-based record** and filing systems to **online mode**.
- **Eliminates maximum crowd** from queue counters and facilitates ease of service provision.
- **Easy access** to information of **available resources, Real-time Bed Monitoring** with a centralized dashboard for tracking bed availability.

Unique Value Propositions (UVP) :

- **Minimum clicks** required to book appointments.
- **User-friendly** interface and **cross device** support.
- **Queue management** system.
- Extensive **database updating** algorithms.
- **Unique user-profile** and dashboard management.

TECHNICAL APPROACH

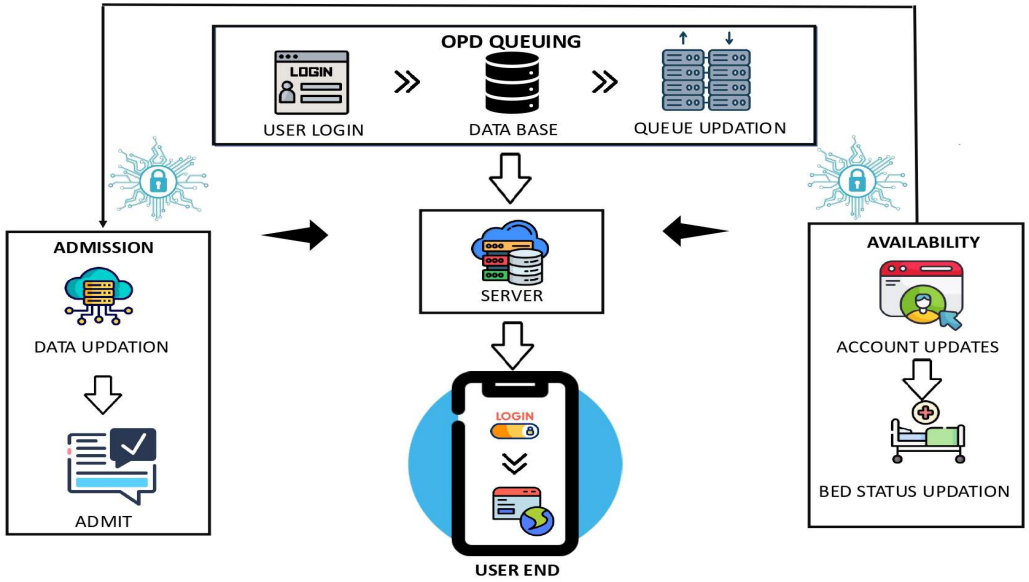
Algorithm Development:
Next.js & Express.js - For handling server-side logic and routing.
RESTful APIs: To connect frontend and backend, ensuring data flows smoothly between components.
Encryption and Security:
Custom encryption algorithm powered by 8 layer octa 512 bit encryption for secure data transmission and authentication.
Cloud Services:
MongoDB: For the database, managing patient records, bed status, etc.
MySQL - Relational database management

TECHNOLOGY STACK

M E R N MySQL

RAM SETU
BRIDGING HEALTHCARE

PROCESS FLOW ARCHITECTURE



FEASIBILITY AND VIABILITY

Analysis of the feasibility of the idea

- **Technical** – Easily available resources such as powerful DBMS (eg-MongoDB/MySQL), high level PLs, React web framework.
- **Financial** – Basic expenses for hosting a domain and managing data via cloud services, along with copyright certification.
- **Market** – Both private and public options viable, but primarily focusses on public facilities.
- **Operational** – Regular updating and protection against data breach.

Potential challenges and risks

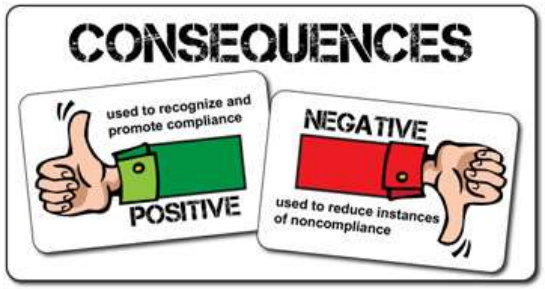
- **Technical** – Possibility of data mismanagement without proper protocols in place.
- **Financial** – Extra expenses for storage hardware and cloud services.
- **Market** – Low acceptance among technically unaware demographics.
- **Operational** – Conflict between offline existing procedures and our online solution.

IMPACT AND BENEFITS

Potential impact on the target audience:

👍 **Pros:-**

- Improvement – Leads to less paper filing work, better time management and ease of access to hospital resources.
- Economical – Improved resource allocation and enhanced operational efficiency.
- New Opportunities – Provides numerous facilities that impacts the patient care to a greater extent.
- Social Benefits – Increased accessibility for people of diverse backgrounds and means.



👎 **Cons:-**

- Technology Adoption Issues – For technologically unaware and inadept audiences it might prove as a hard transition.

Team Member Details

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