

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 **RAM SETU** 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



Tech 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

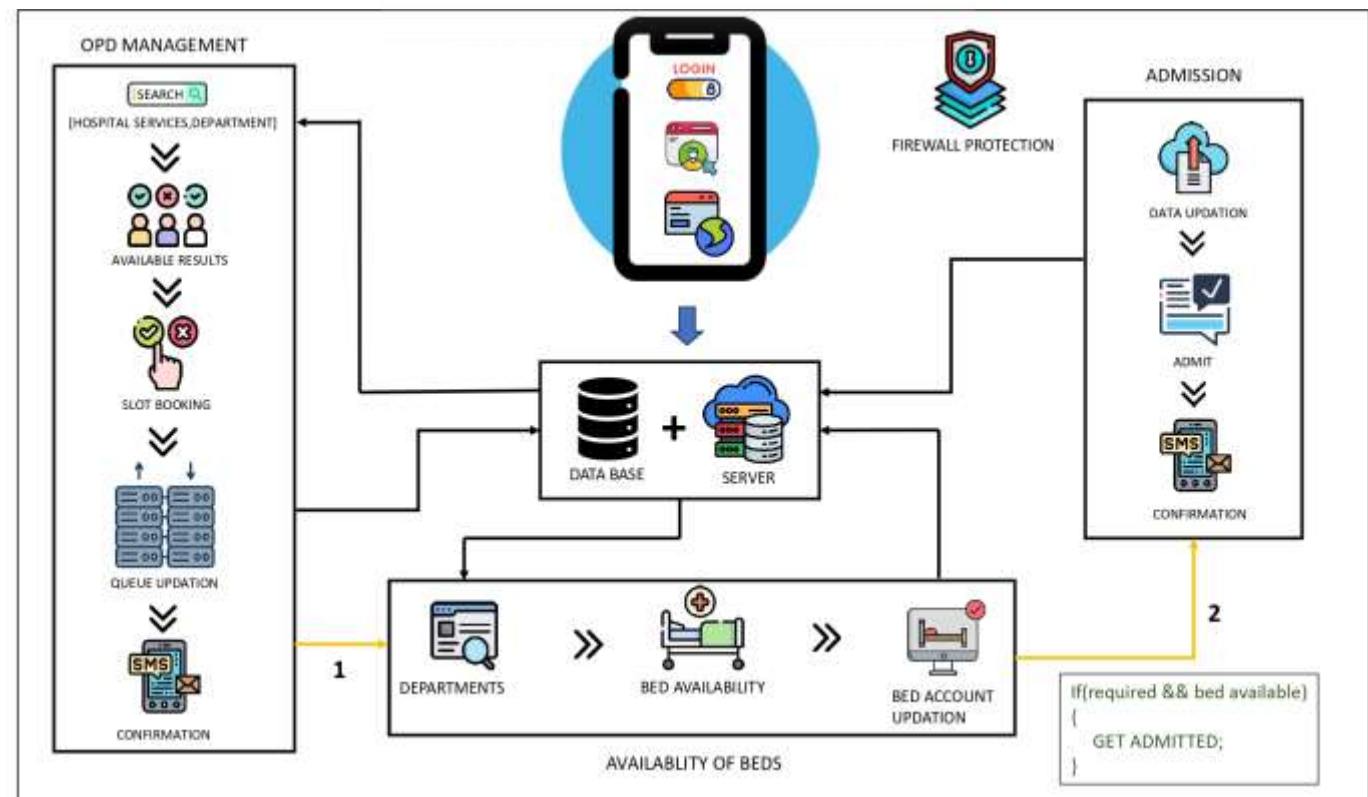


For more Details:-

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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.

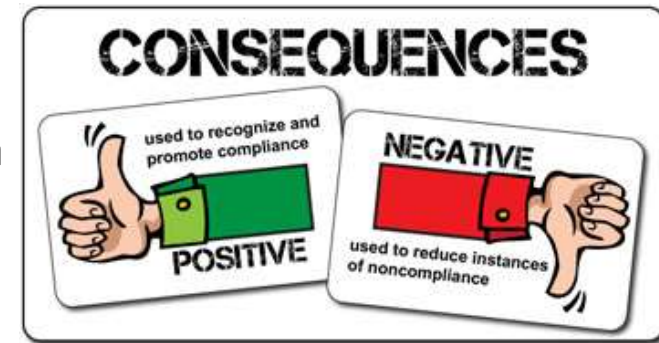
Potential impact on the target audience:

👍 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



Team Leader :-

Name : Mansi Rawat	Branch : B.Tech	Stream : CSE	Year : II
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Team Member 1 :-

Name : Rajat Sisodia	Branch : B.Tech	Stream : CSE	Year : II
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Team Member 2 :-

Name :Priyanshu Bansal	Branch : B.Tech	Stream : CSE	Year : II
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Team Member 5 :-

Name : Aarti Bhardwaj	Branch : B.Tech	Stream : CSE	Year : II
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Mentor Name 1 :-

Mr. Kireet Joshi	Expertise:-	Experience(in years):-
	M.L, Algo. Design and Software Engg.	14 years

Mentor Name 2 :-

Mr.Gulshan Dhasmana	M.L ,Data science	3 years
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