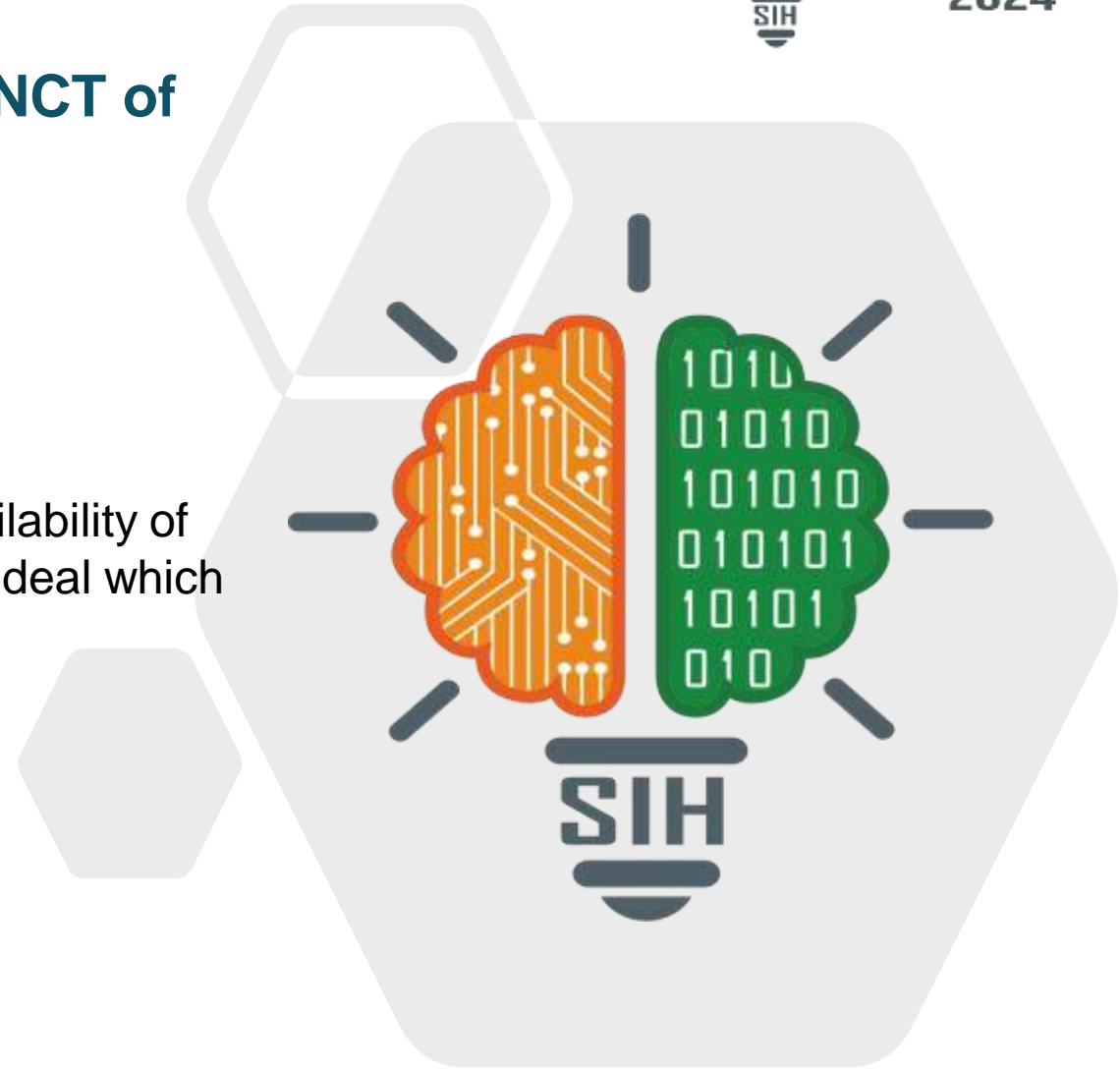


# SMART INDIA HACKATHON 2024



**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 / 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:

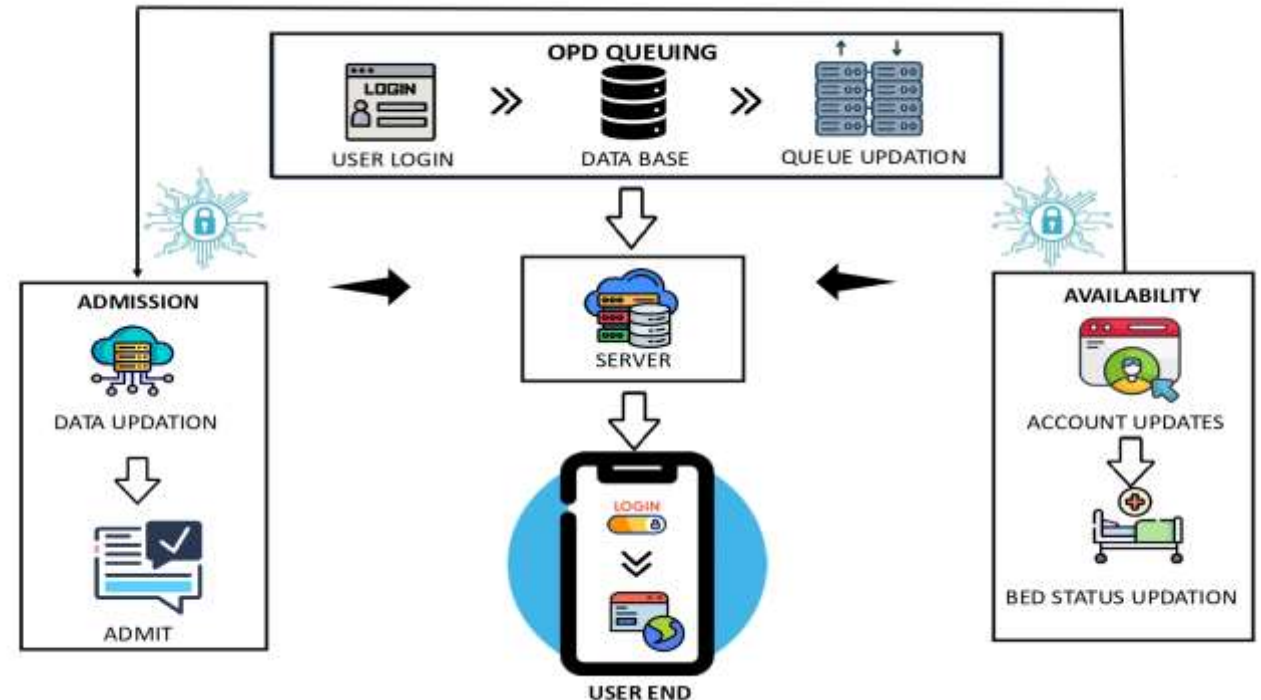
MongoDB: For the database, managing patient records, bed status, etc.

MySQL - Relational database management

## TECHNOLOGY STACK



## 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 aims at 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.

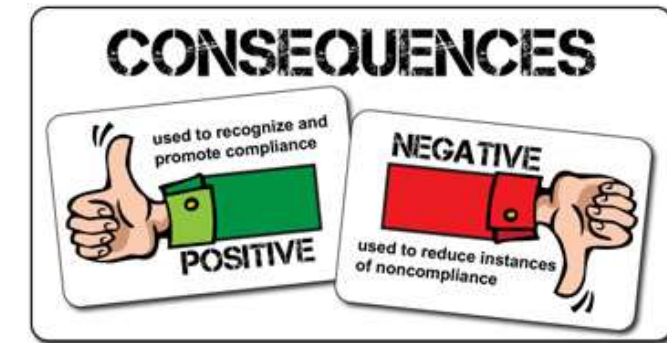
## Potential impact on the target audience:

### 👍 Positive:-

- 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 – Allows for a larger target area for patient care.
- Social Benefits – Increased accessibility for people of diverse backgrounds and means. Allows for better patient care.

### 👎 Negative:-

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





# Team Member Details



## Team Leader :-

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Branch : B.Tech

Stream : CSE

Year : II

## Team Member 1 :-

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