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Department of Computer Science & Engineering

Minor Project 2 Synopsis

(APR-MAY 2025)

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Project Title:

Queuing Models in OPDs, Availability of Beds, and Patient Admission – A Hospital-Based Solution

Objective of the Project:

The objective of this project is to develop an efficient queuing system for Outpatient Departments (OPDs), real-time availability tracking of hospital beds, and automated patient admission management. The system will optimize patient flow, reduce waiting times, and improve inventory management for medicines and consumables at the hospital level. The solution will be designed for seamless integration with a city-wide healthcare module.

Project Category:

Healthcare Management System

Problem Statement:

Hospitals face challenges in managing patient queues, bed availability, and admission processes efficiently. Long waiting times in OPDs, lack of real-time tracking of bed availability, and

inefficient medicine inventory management often lead to delays in patient treatment. While NIC has developed certain healthcare modules, their implementation in Delhi is pending. This project aims to create a hospital-based solution that can be integrated with a city-wide module, providing real-time data on patient queues, hospital beds, and inventory management.

Type of Project:

Software

Software Requirements:

- Frontend: HTML, CSS, JavaScript (React.js or Angular)
- Backend: Python (Django/Flask) or Node.js
- Database: MySQL / PostgreSQL / Firebase
- APIs: RESTful APIs for integration with hospital and city-wide modules
- Cloud Services: AWS / Google Cloud for real-time data processing

Hardware Requirements:

- Server: Cloud-based or on-premises server for database and application hosting
- Computers: Hospital workstations for data entry and monitoring
- Tablets/Mobile Devices: For real-time tracking and patient updates
- Internet Connectivity: High-speed network for seamless integration

Prof. D Siva Sankar
(MINOR PROJECT –II INCHARGE)