Dept. of Computer Science and Engineering (Data Science)

Adichunchanagiri Institute of Technology, Chikkamagaluru

Mini- Project Synopsis

TITLE: AI Driven hospital queue and bed availability tracking system.

Problem Statement: To design an AI-driven hospital management system that addresses long queues, overcrowded waiting areas, and mismanagement in patient flow. The system will synchronize offline tokens with digital records, provide real-time updates on bed and ICU availability, and streamline doctor appointments. By enhancing transparency and efficiency, it ensures timely access to healthcare services and better patient experience during emergencies.

Description: The project is an AI-driven hospital management system that unifies offline and online patient tokens into a single queue. It allows hospital staff to update and monitor real-time bed and ICU availability across different hospitals.
AI is used to estimate patient waiting times and patients can also book doctor appointments digitally by checking hospital-wise availability. The system improves patient convenience, hospital efficiency, and transparency in healthcare services.

Expected Outcomes:

- A unified queue system combining offline and online tokens.
- Real-time bed and ICU availability tracking across multiple hospitals.
- AI-powered queue waiting time estimation for patients.
- Online doctor appointment booking with availability details.
- Reduced patients waiting time through efficient queue management.

Technologies and Tools:

- **Frontend**: HTML, CSS (for interface design)
- **Backend**: Django (Python)
- **Database**: SQLite /MongoDB
- **AI/ML Integration**: Python (Scikit-learn / TensorFlow / PyTorch)
- **Authentication & Security**: Django Auth (built-in user login system)
- **API Communication**: Django REST Framework (for mobile/other integrations, optional)

Team Members:

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