Team Name (Registered on Devfolio): MediTech

Theme: Healthcare

DSU DevHack 2024

University/Institute name: Future Institute of Engineering and Management

city/state: Kolkata , West Bengal

Problem Statement Title: Smart Ambulance Booking System

Problem Statement Description:

Smart Ambulance Booking services are crucial for Health & Medical facilities. The requirement is to build a mobile app similar to Ola/Uber cab services, but tailored for ambulance services. In this app, ambulance drivers will register their availability and location. Both executives at the Emergency Helpline and users through the app's client interface will be able to book an ambulance. This ensures a fast and reliable ambulance service in case of emergency. Additionally, hospital administrators can update bed availability in real-time, providing essential information for better patient routing and care.

Idea/Solution:

🚑 **Ambulance Booking:** A mobile app allows users to book ambulances in real-time, providing location and destination details , check Hospital bed availability.

👨‍✈️ **Driver Interface:** Ambulance drivers can set availability, receive booking requests, and update their status through the app.

🏥 **Hospital Admin:** Set hospital Bed Availability both emergency's and non emergencies.

👀 **Real-Time Tracking:** Users can track the ambulance's real-time location using integrated Google Maps Api.

💳 **Payment Integration:** Secure payment options are available for users to complete transactions seamlessly.

✍️ **User Feedback:** Users can provide feedback and rate the service, helping to ensure quality and reliability.

Innovation and Uniqueness of the Solution:

- **Real-time Ambulance Tracking:** The app enables real-time GPS tracking of ambulances, ensuring users can monitor the vehicle's location and estimated arrival time, reducing response times in emergencies.
- **Integrated Hospital Database:** Provides nearby hospital details, including facilities and bed availability, for quicker decisions.
- **Integrated Medical Support:** The app could provide essential first aid instructions or medical information based on the user's condition while they wait for the ambulance.

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TECHNICAL APPROACH

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TECHNOLOGIES

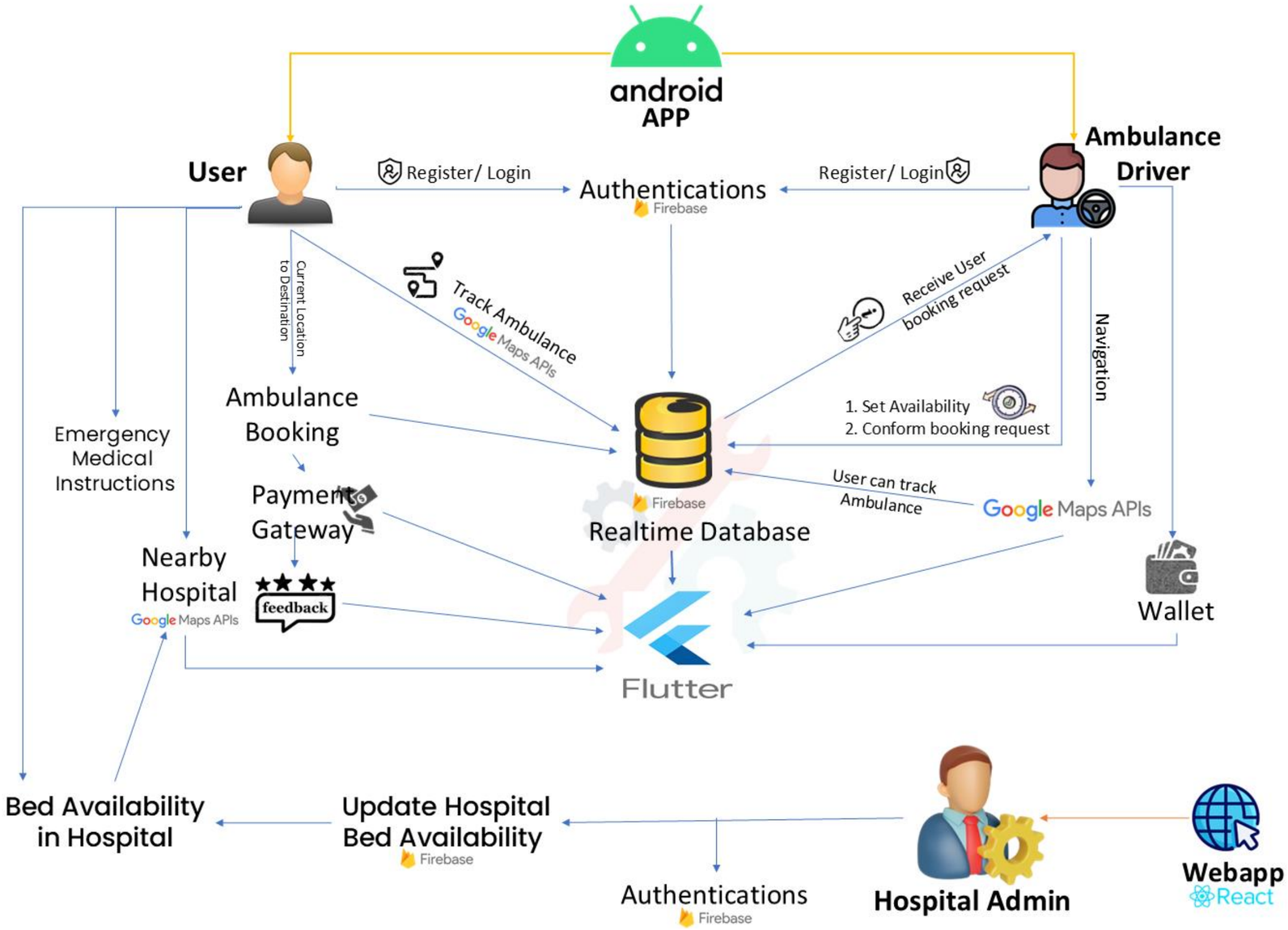
Mobile Application Development:
Flutter, Dart , Google Maps API,

Web Application Development:
React js, JavaScript, HTML , CSS , Bootstrap

Cloud Services:

Firebase – authentication and realtime DB

Software Used for Development-
Visuals Studio Code , Android Studio



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FEASIBILITY AND IMPACT

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Feasibility Analysis:

- The concept is technologically feasible using GPS tracking, real-time location updates, and mobile communication similar to ride-sharing apps.
- Integration with hospital management systems for real-time bed availability may require partnerships and data sharing agreements.

Potential Challenges and Risks:

- Ensuring a network of reliable ambulance providers across regions might be difficult, especially in rural areas.
- Data privacy concerns, especially regarding medical information, could be a significant risk.
- The system's effectiveness depends on consistent internet access and GPS accuracy.

Potential Impact on Target Audience:

- Faster response times for emergencies, reducing critical delays in medical assistance.
- Provides convenience for users and healthcare providers in managing emergency situations.
- Reduced stress for families in emergency situations by providing reliable services and real-time tracking.

Benefits of the Solution:

- **Social:** Increases access to timely medical assistance, reducing mortality rates.
- **Economic:** May reduce healthcare costs by optimizing resource allocation and reducing delays.
- **Environmental:** Could help optimize routes, reducing fuel consumption and emissions for ambulances.