Software Requirements Specification (SRS)

PROJECT: **WHERE IS MY BUS ??**

Track Your Ride, Anytime, Anywhere

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Introduction

Purpose: This smart bus tracking application aims to enhance the commuting experience by providing real-time GPS tracking of buses in Jaipur city, offering users estimated arrival times and ensuring efficient public transportation.

Scope: Provides real-time GPS-based tracking of buses, allowing passengers to track the exact location of buses and receive accurate estimated time of arrival (ETA) updates. Passengers will receive notifications and alerts about schedule changes, delays, or other important updates.

Target User: Passengers: Users looking for real-time bus tracking and arrival updates.
Drivers: Users updating bus location and status via GPS.

Functional requirements

LIVE LOCATION TRACKING

- Real-time display of buses on an interactive map.
- Display details like bus route number, current speed, and direction.
- Update bus location every 5 seconds for accuracy.

ROUTE FINDER

- Allow users to input source and destination.
- Suggest optimal routes with detailed ETAs for each stop.
- Include information on travel duration.

NOTIFICATIONS

- Real-time alerts for delays, route changes, or cancellations.
- Push notifications for subscribed users regarding their preferred routes

ADMINISTRATOR FUNCTIONS

- Ability to add, update, and remove bus schedules.
- Monitor real-time performance and GPS connectivity.

Non-Functional requirements

SCALABILITY

- Should support expansion to other cities.
- Ability to accommodate more routes and buses in the future.
- The system should support an increasing number of users without performance degradation.

USABILITY

- The app should be intuitive and easy to navigate.
- Provide support for multiple languages.

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COMPATIBILITY

- Should work across Android, iOS, and web platforms.
- Support for different screen sizes and resolutions.

PERFORMANCE

- The app should update bus locations within 5 seconds.

Feasibility Analysis

TECHNICAL FEASIBILITY

Software Requirements:

- Mobile apps (Android/iOS) and web-based platforms.
- GPS tracking integration via Google Maps API or OpenStreetMap.
- Backend technologies like Node.js, Python, or PHP.
- Database solutions such as MySQL, Firebase, or PostgreSQL.
- Use of cloud services and mobile frameworks ensures scalability.
- Efficient data processing and seamless integration with GPS systems.

ECONOMIC FEASIBILITY

- **Development within a reasonable budget.**
- **Considerations:**

Development Costs:

- Mobile app and web development.
- GPS devices and server infrastructure.

Operational Costs:

- Server hosting and maintenance

- **Use of open-source tools and cloud-based solutions to minimize costs.**
- **Potential revenue sources:**
1. **Government funding.**
2. **Advertisements.**

Feasibility Analysis

OPERATIONAL FEASIBILITY

- Objective: Evaluate whether the project can function smoothly in the real world.
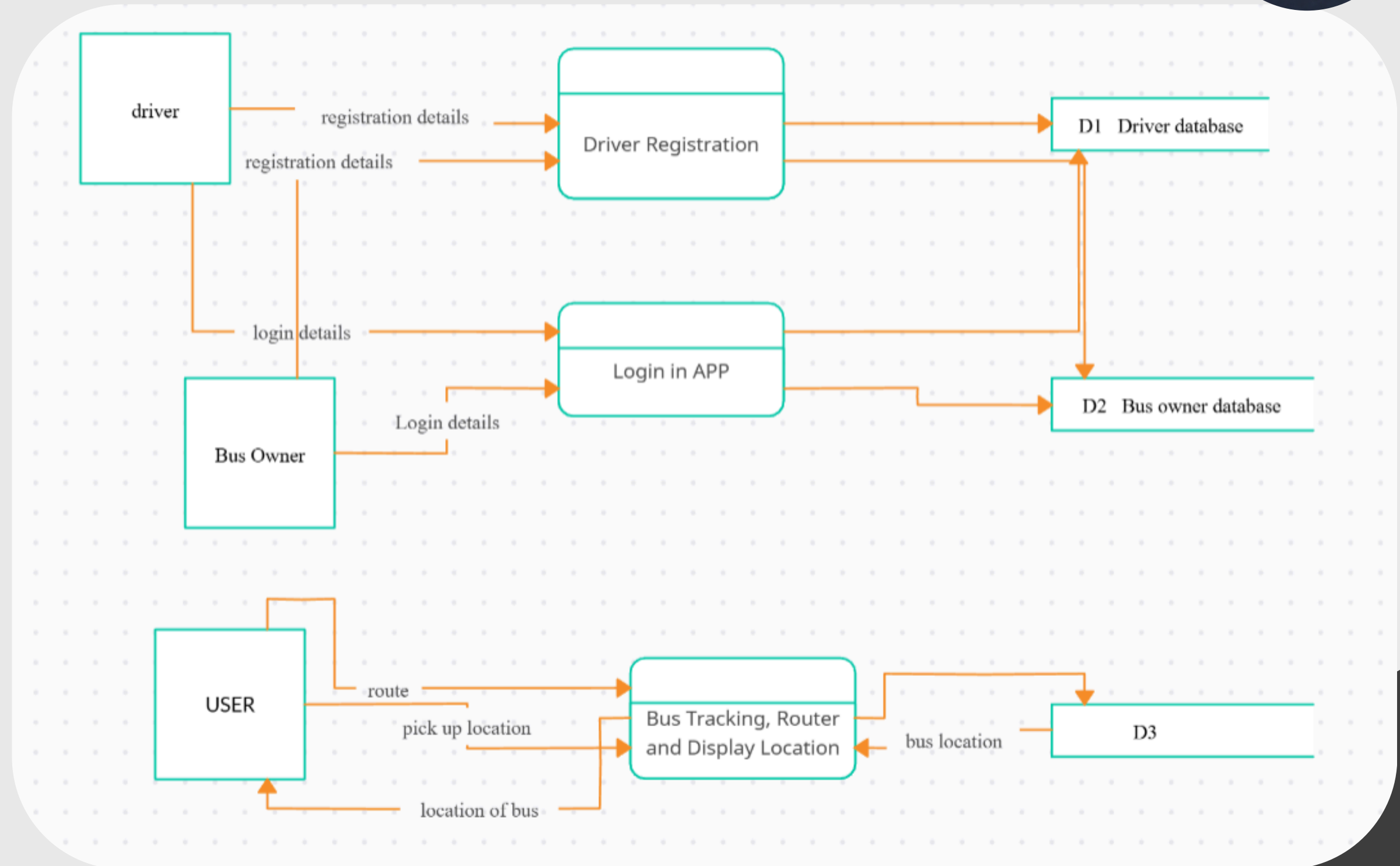
User Adoption:

- Will passengers and drivers be willing to use the app regularly?
- Need for proper awareness and training for drivers.
- User-friendly interface for passengers and drivers.

SCHEDULE FEASIBILITY

- Estimated development timeline: 4-6 months.
- Phased approach:
- Requirement gathering.
- Development.
- Testing.
- Deployment.

Data Flow Diagram

CONTEXT DIAGRAM