TEST PLAN FOR

AMBULANCE TRACKER

ChangeLog

Version	Change Date	By	Description
V1	12/10/2023	Anshika Dubey	Added the Ambulance and Hospital Model in the SQL Lite database
V2	15/10/2023	Ashlesha Sharma	Added authentication using JSON WebToken
V3	25/10/2023	Anshika Dubey	Added refresh token functionality

1 Introduction

According to an AIIMS report, in 2020 98.5% of ambulances carry dead bodies as they are late in reaching the spot because of the unavailability of ambulances and heavy traffic. Emergency response is critical in saving precious lives, but we don't have any criteria that ensures that patient will reach the hospital on time and will get proper treatment with standardized protocols. Many hospitals lack in providing ambulance services on time because they don't have a proper record of ambulances. After contacting the ambulance service, the further process is also delayed due traffic and other reasons like not getting medical history of patient that will obstruct the treatment and can also lead to severe problems. So we need an integrated system that will provide all the services starting from booking ambulances to clearing the route by creating green corridors. We have seen that general public doesn't possess basic first aid skills and that too is very important in saving lives.

1.1 Scope

1.1.1 In Scope

The Ambulance Tracker project encompasses real-time ambulance tracking, comprehensive data storage, and first aid assistance. It includes ambulance deployment optimization, telemetry data recording, secure patient medical history storage, and real-time first aid guidance. The project's scope covers user registration, user profiles, ambulance booking, and administrator functions, as well as integration with React and Django to create a robust web application.

1.1.2 Out of Scope

The project does not involve ambulance manufacturing or hardware modifications. It also does not extend to national or international regulatory compliance, as these may vary. In addition, the project does not handle the physical maintenance of ambulances or infrastructure for emergency services. While the system provides real-time first aid guidance, it does not replace professional medical expertise and is not a substitute for in-person medical care. Finally, the project does not include emergency call center systems, as these are typically separate components of emergency response services.

1.2 Quality Objective

The quality objectives for the Ambulance Tracker project are to ensure high standards of performance, reliability, and user satisfaction. These objectives include achieving real-time tracking accuracy with minimal data latency, maintaining data security and privacy, and providing a seamless user experience. We aim to minimize system downtime, maximize data integrity, and promptly address any software issues or vulnerabilities. Our objective is to continually monitor and improve system performance, user feedback, and feature scalability to deliver a reliable, secure, and user-friendly solution that enhances emergency medical services and patient outcomes.

1.3 Roles and Responsibilities

1. **Project Manager**: Mr. Anurag Mishra
2. **Backend Developer**: Anshika Dubey
3. **Frontend Developer**: Ashlesha Sharma

2 Test Methodology

2.1 Overview

The test methodology for the Ambulance Tracker project ensures a systematic and comprehensive approach to quality assurance. It encompasses various test levels, bug triage, suspension criteria, resumption requirements, and the assessment of test completeness.

2.2 Test Levels

1. **Unit Testing:**
Developers test individual components and functions to ensure they work correctly. This includes verifying APIs for telemetry data, ambulance booking, and first aid assistance.

2. **Integration Testing:**
Testing the integration of various modules within the system, such as the React frontend with the Django backend and the WebSocket communication for real-time updates.

3. **System Testing**:
Evaluate the complete system to ensure it meets requirements. Test functionalities including ambulance tracking, telemetry data recording, first aid assistance, and user authentication.

2.3 Test Completeness

Here you define the criterias that will deem your testing complete.
For instance, a few criteria to check Test Completeness would be

- 90% test coverage
- All Manual cases executed
- All open bugs are fixed or will be fixed in next release

3 Test Deliverables

Test Case	Test Objective	Test Data	Expected Result	Actual Result	Pass/Fail
1	User Login	User Id, User Role, and Password	Only Valid User login in the system based on the user role	Unauthorized User can not login	Pass
2	Data entry in the hospital and ambulance model.	Hospital and ambulance data with the necessary details.	Consistent database	Model successfully updated	Pass
3	Verify data security	Testing with simulated security breaches	No unauthorized access or data breaches detected	Unauthorized User can not access	Pass

Decision Table for User Login

		Rule 1	Rule 2	Rule 3	Rule 4
2	Conditions	TC1	TC2	TC3	TC4
3	User ID	Valid	Invalid	Valid	Valid
4	Password	Blank	Invalid	Valid	Invalid
5	Actions				
6	Login Successfully			Execute	
7	Error	Execute	Execute		Execute

4 Resource & Environment Needs

4.1 Testing Tools

Manual testing technique is used in which the project is examined from a user's perspective, guaranteeing that it performs as expected in critical, real-world emergency situations.

4.2 Test Environment

- Modern operating system (e.g., Windows 10, macOS, or Linux).
- Common web browsers (e.g., Chrome, Firefox, Edge).
- Manual Testing.
- Additional software like an integrated development environment (IDE) and virtualization tools if needed.

5 Terms

Make a mention of any terms or acronyms used in the project

TERM	DEFINITION
API	Application Program Interface
AUT	Application Under Test