

ONLINE MECHANIC BOOKING SYSTEM USING AI & ML

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Abstract

This paper presents the design and development of an Online Mechanic Booking System using Artificial Intelligence (AI) and Machine Learning (ML). The system is a web-based platform that connects users with nearby mechanics for services such as vehicle repair, appliance servicing, and electronic maintenance. The platform uses location-based services and map technologies to identify and assign the nearest available mechanic to the user. Real-time tracking enables users to monitor the mechanic's movement toward their location. The system improves service efficiency, reduces search time, and enhances transparency through feedback and rating mechanisms. The proposed solution provides a reliable, user-friendly, and scalable approach to modern service booking systems.

Keywords: AI, Machine Learning, Online Booking System, Location Tracking, Flask, Web Application.

1. INTRODUCTION

In today's fast-paced world, vehicles and electronic devices play a crucial role in daily life. However, unexpected breakdowns create inconvenience, especially when users are unable to find nearby mechanics quickly. Traditional methods of searching for mechanics are time-consuming and inefficient.

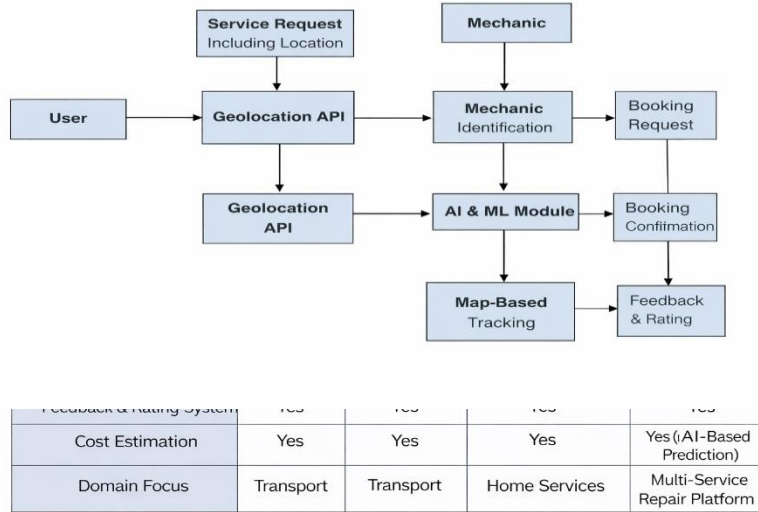
To address this problem, an Online Mechanic Booking System using AI & ML is proposed. The system enables users to locate nearby mechanics based on their current location and service requirements. By integrating web technologies and intelligent features, the system provides faster service, improved communication, and real-time tracking.

The platform allows users to register, select services, and book mechanics instantly. Mechanics can accept requests and provide services efficiently. This system enhances reliability and reduces the delay in accessing repair services.

2. LITERATURE SURVEY

Recent advancements in web technologies and mobile applications have enabled the development of service-based platforms that connect users with service providers. Many systems use GPS and map-based technologies to locate nearby resources efficiently.

Existing research highlights the importance of location-based services for improving accessibility and reducing response time. Platforms integrating real-time tracking and booking systems have significantly improved user experience.



Artificial Intelligence and Machine Learning techniques are increasingly used for recommendation systems. These technologies analyze user behaviour and location data to provide optimal service matching.

However, many existing systems lack real-time tracking, cost-effectiveness, and efficient service allocation. The proposed system addresses these gaps by combining AI-based recommendations with real-time location tracking and user-friendly design.

The proposed Online Mechanic Booking System using AI & ML addresses these challenges by integrating intelligent service matching, real-time location tracking, automated booking management, and a user-friendly interface. The system aims to provide a faster, more reliable, and transparent solution for connecting users with nearby mechanics.

3. PROPOSED SYSTEM

The proposed system is a web-based Online Mechanic Booking Platform designed to provide quick and efficient service access. It uses AI & ML concepts along with location-based services to identify the nearest available mechanic.

The system includes the following features:

- User and mechanic registration
- Location-based mechanic identification
- Real-time tracking using map technology
- Booking request management
- Feedback and rating system

Users can select services such as vehicle repair, appliance servicing, and electronic maintenance. The system automatically assigns the nearest mechanic based on location and availability.

The platform ensures transparency by allowing users to track the mechanic's movement in real time

The proposed system enables users to select services and automatically connects them with the nearest available mechanic based on location. It provides real-time tracking, secure booking, and feedback features to ensure transparency and efficient service

4. METHODOLOGY

The working of the system is divided into the following steps

1. User Registration and Login

Users register and log in using their mobile number and password to access the system.

2. Mechanic Registration and Login

Mechanics register by providing details such as name, service type, experience, and location. After registration, mechanics log in to receive and manage service requests.

3. Location Detection

The system uses the Geolocation API to detect the user's current location and display it on the map.

4. Service Selection

Users select the required service such as vehicle repair, home appliance servicing, or electronic maintenance.

5. Mechanic Identification

The system identifies nearby available mechanics based on user location and availability using location-based algorithms.

6. Booking Request

Users send booking requests to selected or nearest mechanics.

7. Request Handling

Mechanics receive notifications and can accept or reject service requests based on availability.

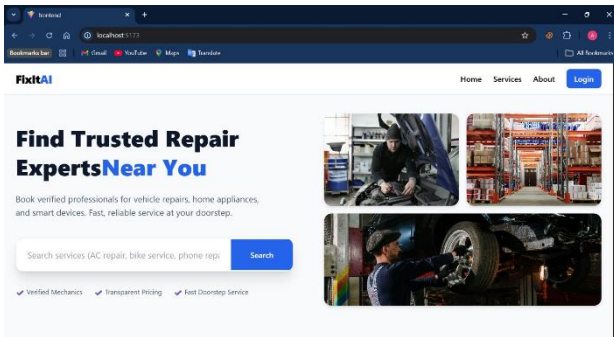
8. Real-Time Tracking

Once the request is accepted, users can track the mechanic's live location using map-based technology.

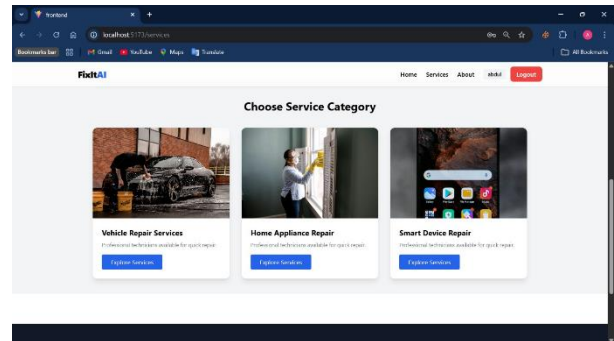
9. Feedback System

After service completion, users provide ratings and feedback to evaluate service quality.

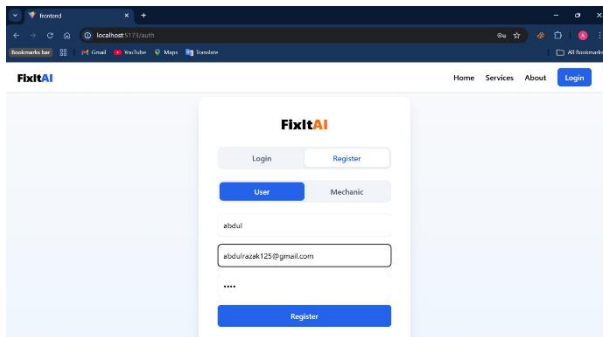
5. RESULTS AND DISCUSSION



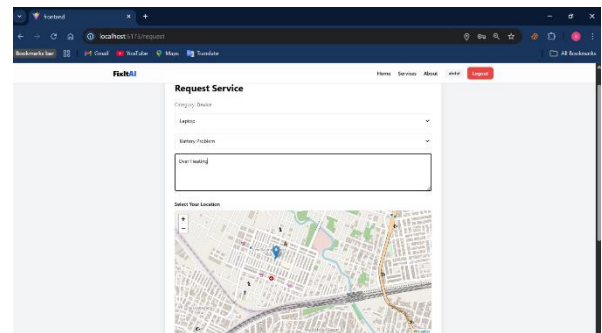
1.Home Page



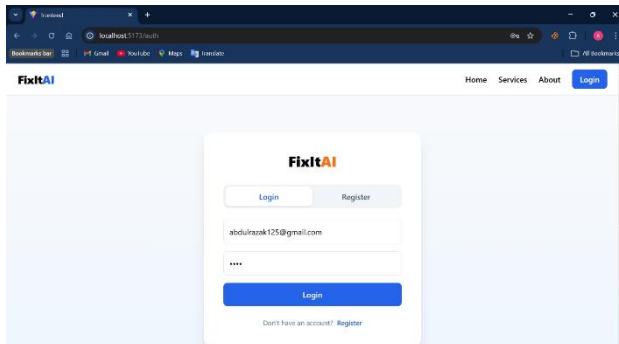
5.User Service Selection



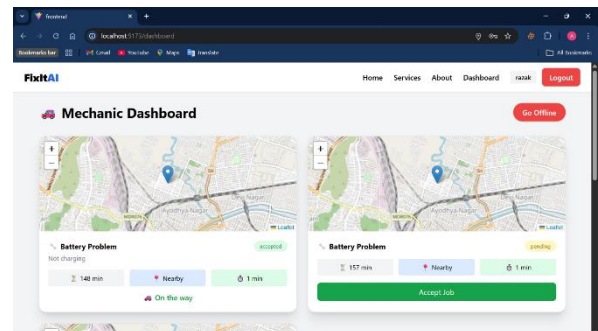
2.User Registration



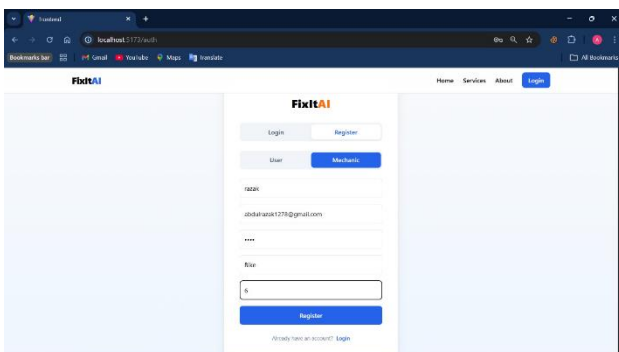
6. User Service Request



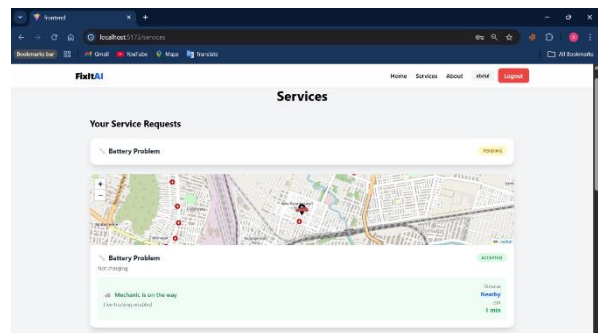
3.User Login



7. Mechanic Accepts Request



4.Mechanic Registration & Login



8. Mechanic Live Tracking On Map

The system was successfully developed and tested under various scenarios. The results demonstrate the efficiency and reliability of the platform.

- The system accurately identifies nearby mechanics using location data.
- Real-time tracking improves transparency and user trust.
- Booking requests are processed quickly with minimal delay.
- The user interface is simple and easy to use.
- Feedback system helps improve service quality.

The system significantly reduces the time required to find mechanics and enhances overall service efficiency.

6. CONCLUSION

This project successfully developed an Online Mechanic Booking System using AI & ML to provide a smart and efficient service platform. The system integrates location-based services, real-time tracking, and booking management to improve accessibility and user experience.

By reducing manual effort and providing instant service connections, the system offers a reliable and modern solution for both users and mechanics. Future improvements may include advanced AI-based recommendations, mobile application support, and enhanced security features.

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