1. Introduction

1.1. PROBLEM STATEMENT

Modern vehicles are equipped with onboard diagnostic systems that generate codes when something goes wrong, but for most drivers, understanding these Diagnostic Trouble Codes (DTCs) is a frustrating challenge. These codes are often cryptic, lacking sufficient explanation or context. Drivers are left scouring the internet for answers or relying on mechanics, which can result in costly repairs or potential overcharging due to a lack of understanding.

In today's fast-paced world, people don't have time to research every potential issue with their car, and many are unsure if they're receiving an honest assessment from their mechanic. This knowledge gap affects both seasoned DIY enthusiasts who want to repair their own vehicles and everyday drivers who just want to avoid unnecessary expenses.

FixIt is here to solve this problem. Our AI-driven app translates those confusing DTC codes into easy-to-understand insights by gathering information from a wide range of trusted online sources and communities. It gives users the full story of what's wrong with their vehicle, right at their fingertips, empowering them to make informed decisions, whether they're performing the repair themselves or taking the car to a professional. In doing so, FixIt not only saves users time and money but also provides peace of mind, protecting them from inflated repair costs.

1.2. INTENDED USERS

DIY Car Enthusiasts

These are car owners who enjoy working on their vehicles, often performing maintenance and repairs on their own. They are typically knowledgeable about car systems but may not always understand the complexity behind modern diagnostic codes. They value tools that enhance their ability to maintain their cars independently.

Needs: DIY car enthusiasts need a tool that translates complex DTC codes into actionable insights, allowing them to quickly diagnose issues without sifting through multiple online forums or manuals. They want to save money and avoid relying on mechanics for every repair.

Benefits: FixIt empowers DIYers by providing clear, accurate explanations of DTC codes, drawn from AI-sourced community insights. By simplifying this process, FixIt saves them time and ensures they have all the information they need to perform repairs efficiently. This connects to the broader problem of complex diagnostic codes and eliminates the hassle of researching each issue.

Everyday Car Owners

This group includes people who rely on their vehicles for daily transportation but have little technical knowledge about cars. They typically rely on mechanics for maintenance and repairs and may be susceptible to overcharging or unnecessary services due to a lack of understanding.

Needs: Everyday car owners need a tool that demystifies car diagnostics, enabling them to understand what's going wrong with their vehicle without needing to be mechanically inclined. They want peace of mind and confidence when discussing repairs with mechanics, knowing they're not being taken advantage of.

Benefits: FixIt ensures these users get straightforward, reliable information about their car's issues. By doing so, the app reduces the risk of being overcharged by unscrupulous mechanics and enables them to make informed decisions about repairs. This value aligns with the problem of mechanic scams and helps to protect users from inflated repair costs, giving them more control over their car maintenance.

Car Sellers
Car sellers, whether individuals or small dealerships, need to keep their vehicles in good working order to sell them for the best price. They may want to diagnose and fix issues themselves or at least understand the vehicle's condition to communicate effectively with potential buyers.

Needs: Sellers need a reliable and quick way to assess the health of a vehicle before putting it up for sale. They want to identify and fix any issues beforehand to maximize the sale price or provide potential buyers with accurate diagnostic information to build trust.

Benefits: FixIt helps car sellers by quickly identifying problems and offering solutions, ensuring their vehicle is in top condition for sale. It also helps them provide detailed diagnostics to buyers, increasing the likelihood of a successful sale by offering transparency. This addresses the broader issue of ambiguous diagnostic codes and builds trust between seller and buyer, fostering smoother transactions.

Connection to Problem Statement:

All these user groups—DIYers, everyday car owners and car sellers —benefit from FixIt because it tackles the core problem of DTC code complexity. By transforming confusing diagnostic information into clear, actionable insights, FixIt saves time, money, and effort for all users while ensuring transparency and preventing mechanic scams. The app bridges the gap between professional-level diagnostics and everyday car maintenance, ensuring that users are equipped with the knowledge they need to make informed decisions about their vehicles.