

Title of the Project

Gearhead Garage: ‘Your One-Stop Auto Care Hub’

Student Information

Name: Brian Muriungi Kimathi

Student Adm No: ICP/426/2023

Course: Computer Programming

Instructor: Lecturer Isaac Muteru

1. Introduction

This project, titled Gearhead Garage: ‘Your One-Stop Auto Care Hub’, aims to address the need for quick and reliable access to local mechanic shops and specialists.

2. Purpose of the Project

The purpose of this project is to develop a web-based application that helps users locate the nearest mechanic shops and individuals specializing in auto repair. This proposal aligns with my goal of improving accessibility to essential auto care services. The project addresses the issue of finding reliable and nearby auto repair services in a timely manner. This issue is significant because delays in finding the right mechanic can lead to extended vehicle downtime and inconvenience. My approach to solving this problem involves using geolocation technology and a comprehensive database of service providers, which I have chosen due to their effectiveness in delivering precise and useful information. The project will specifically benefit car owners and drivers in urban and suburban areas, achieving enhanced convenience and reducing the time spent searching for reliable auto care.

3. Project Activity

This project will involve the following activities:

Activity 1: Research and compile a database of mechanic shops and individual specialists.

Estimated Time: 168 hours (7 days)

Details: This includes gathering data from various sources, verifying the information, and organizing it in a structured format.

Activity 2: Design and develop the web application using HTML, CSS, Bootstrap, JavaScript, and a backend PHP, along with integrating geolocation APIs (Google Maps).

Estimated Time: 1200 hours (50 days)

Details: This involves creating the user interface, setting up the backend, integrating the geolocation feature, and ensuring smooth interaction between components.

Activity 3: Test the application with a group of users and refine based on their feedback.

Estimated Time: 72 hours (3 days)

Details: This includes setting up user tests, collecting feedback, and making necessary adjustments to enhance usability and functionality.

My approach is good because it integrates real-time geolocation services with a comprehensive and verified database of local auto care providers, making it deserving of special attention. I will collaborate with local automotive organizations, who will help validate the data and provide additional resources. For example, the Local Auto Mechanics Association will handle data verification while I focus on web development and user experience design.

4. Methodology

I will adopt an Agile methodology for this project. Agile allows for flexibility and iterative progress, which is ideal for developing a user-centered application. The project will be broken down into sprints, each lasting two weeks. Each sprint will involve planning, development, testing, and review stages to ensure continuous improvement and responsiveness to user feedback. This iterative approach will help us address any issues promptly and adapt the project according to stakeholder needs.

5. Stakeholders

The stakeholders involved in this project include:

- Car Owners and Drivers: Primary users who will benefit from the application by finding reliable and nearby auto care services.
- Local Auto Mechanics Association: Collaborators who will help verify data and provide additional resources.
- Local Mechanic Shops and Specialists: Service providers whose information will be included in the database.

- Project Development Team: Responsible for designing, developing, and maintaining the application.
- Instructor Isaac Muteru: Provides guidance and evaluates the project's progress.

6. Outcomes

The specific outcomes of this project include:

Outcome 1: A functional web application that allows users to find the nearest mechanic shops and specialists quickly.

Outcome 2: Increased accessibility to reliable auto care services for users in the target areas.

I will evaluate the success of these outcomes through user feedback surveys, web analytics to track usage patterns, and user satisfaction ratings. Both formative and summative assessments will be utilized, including usability testing and post-launch user feedback analysis.

7. Technical Feasibility

My project is technically feasible because it leverages well-established web development technologies and geolocation APIs. The technologies and tools I plan to use, such as HTML, CSS, Bootstrap, JavaScript, PHP, and Google Maps API, are well-established and suitable for this project. I have assessed potential challenges such as ensuring data accuracy and managing real-time updates, and have devised strategies to mitigate these risks, including implementing data verification protocols and efficient API handling techniques.

8. Budget

The total project cost is estimated to be KES 830,000. The breakdown of the costs is as follows:

- Web Hosting and Domain: KES 70,000
- Development Tools and Software Licenses: KES 165,600
- Data Compilation and Verification: KES 276,000
- Testing and User Feedback Sessions: KES 110,400
- Marketing and Community Outreach: KES 208,000

9. Closing

This project, Gearhead Garage: ‘Your One-Stop Auto Care Hub’, seeks to streamline the process of finding reliable auto care services through a dedicated web application. By leveraging

geolocation technology and community partnerships, I aim to create a lasting impact on auto care accessibility and demonstrate the practical application of web development skills.