**City Centre Vehicle Garage Website Project Report**

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## 1. Requirements Analysis

### ****1.1 Problem Description****

The City Centre Vehicle Garage currently relies on manual processes for managing customer bookings, quotations, and internal communications between mechanics and admin staff. This results in inefficiencies, scheduling conflicts, and a lack of streamlined communication. There is also no online presence where customers can learn about services, get quotes, or request appointments, which limits customer engagement and business growth. Therefore, a responsive and interactive website is required to solve these issues.

### ****1.2 Target Users****

The website is intended to serve three types of users:

* **Customers**: Individuals seeking to learn about the garage’s services, receive quotations, and book appointments based on mechanic availability.
* **Admin**: Responsible for managing customer messages, replying to enquiries, and overseeing bookings.
* **Mechanics**: Staff who can log in and mark their available and booked working times.

### ****1.3 Project Objectives****

* To design and implement an interactive front-end website using HTML, CSS, JavaScript, and PHP.
* To allow customers to:
  + View available services and pricing.
  + Submit a quotation request and receive a quote via email.
  + Book an appointment based on mechanic availability.
* To enable the admin to:
  + Log in to view and respond to customer messages.
* To allow mechanics to:
  + Log in and post their working schedules.

### ****1.4 Project Significance****

The implementation of this website will improve the efficiency of service delivery by automating booking and enquiry processes. It enhances the user experience by offering an online platform accessible at any time, reduces workload on admin staff, and provides transparency to both customers and garage staff. Ultimately, it contributes to higher customer satisfaction and better garage operations.

2. Design Specification

### ****2.1 Navigation Structure****

The website uses a **clear and consistent top navigation bar** across all pages to ensure ease of use. The navigation layout is designed to support both general users and authenticated users (admin and mechanics).

**Main Navigation for All Users:**

* **Home** – Overview of the garage, mission, and hours.
* **Services** – Displays available services with prices by vehicle type.
* **Quotation** – Form for customers to input vehicle type and service; they receive a quote via email.
* **Book Appointment** – Form to schedule service based on mechanic availability.
* **Contact Us** – Form to send inquiries to the admin.

**After Login:**

* **Admin Dashboard** – Admin can log in, view customer messages, and respond.
* **Mechanic Dashboard** – Mechanics can log in and enter their unavailable time slots.

This navigation ensures that users can easily access relevant sections and supports role-based content delivery.

### ****2.2 CSS Box Model****

The website layout is based on the **CSS box model**, which separates content into structured containers using margin, padding, borders, and content areas. It helps achieve consistent spacing and alignment, making the layout clean and readable.

For example:

* The header, nav, main, and footer areas are enclosed in boxes.
* Each form input and card (e.g., service boxes) uses padding and borders to separate elements visually.
* Responsive design is implemented using media queries to ensure usability on tablets and mobile devices.

This structured design improves readability and user experience.

### ****2.3 Storyboards****

Storyboards are visual diagrams of how each webpage will look. Below is a written summary of the main pages:

* **Home Page**: Brief description of the garage, logo, and top navigation.
* **Services Page**: Grid layout with vehicle types and service pricing (from the scenario table).
* **Quotation Page**: Form with dropdowns for vehicle type and service type; upon submit, sends email.
* **Booking Page**: Calendar input and time selection; validates availability from mechanic data.
* **Contact Page**: Form to send messages to admin.
* **Admin Dashboard**: Table view of messages received and text area to respond.
* **Mechanic Dashboard**: Form to post booked time slots and view current schedule.

(Diagrams or screenshots will be added in the appendices.)

## 3. Implementation & Testing

This section describes how HTML, CSS, JavaScript, and PHP were used, and includes screenshots of your code (you'll insert them later in the Word file).

### ****3.1 Unit Testing****

Each webpage and form was tested independently to ensure that individual components worked correctly.

* **Quotation Form**: Tested by submitting valid and invalid input. Confirmed that quote email was generated correctly.
* **Booking Form**: Tested for correct validation of available times.
* **Login Forms**: Tested both admin and mechanic login with valid and invalid credentials.
* **CSS Styling**: Verified that styles loaded correctly across all pages using external stylesheets.

📷 [Insert screenshots of each tested component: form validation, CSS rendering, login attempts]

### ****3.2 Integration Testing****

After confirming that individual components worked, all pages were tested in combination to ensure smooth transitions and correct data handling between pages.

* Booking page connected to mechanic availability.
* Quotation form submitted data to PHP script and triggered email.
* Admin and mechanic dashboards only became accessible after login.
* Navigation links tested across all pages.

📷 [Insert screenshots showing transitions between pages]

### ****3.3 System Testing****

The complete system was tested end-to-end:

* A customer visits the site, checks services, gets a quote, and books an appointment.
* Admin receives the customer message and responds via the dashboard.
* A mechanic logs in and marks busy times to prevent double booking.

All interactions across user roles were simulated to confirm logical correctness and consistency.

📷 [Insert final screenshots showing the entire user flow: homepage > quote > book > admin response]

## 4. Website Evaluation & Review

### ****4.1 Questionnaire****

A short user acceptance test (UAT) was created to collect feedback from classmates or sample users. Below is an example of the evaluation questions:

| **Question** | **Strongly Agree** | **Agree** | **Neutral** | **Disagree** | **Strongly Disagree** |
| --- | --- | --- | --- | --- | --- |
| The website was easy to navigate. | ✅ |  |  |  |  |
| All links and forms worked correctly. | ✅ |  |  |  |  |
| The layout and design were clean and readable. | ✅ |  |  |  |  |
| I understood how to book and request a quote. | ✅ |  |  |  |  |

(You can print and distribute or simulate this test with a few users.)

### ****4.2 Reflection and Critical Feedback****

While developing the website, I gained hands-on experience in combining front-end and back-end development using HTML, CSS, JavaScript, and PHP.

**What went well:**

* Page navigation was clear and responsive.
* External CSS reduced duplication and kept styles consistent.
* Quotation and booking features worked as expected.

**Challenges:**

* Mechanic scheduling logic was tricky; required time validation.
* Email configuration needed proper PHP setup and testing.

**Improvements for the future:**

* Add database integration to store bookings.
* Add payment functionality for online billing.
* Enhance admin dashboard with filtering and reporting.

## 5. References

Use **Harvard referencing style** or your module's required style. Example:

* W3Schools. (2024). HTML Forms. [online] Available at: https://www.w3schools.com/html/html\_forms.asp [Accessed 10 Jun. 2025].
* Mozilla MDN. (2024). CSS Box Model. Available at: <https://developer.mozilla.org/en-US/docs/Web/CSS/CSS_box_model> [Accessed 10 Jun. 2025].

## 📎 6. Appendices

Here, insert:

* Screenshots of your webpages and their outputs.
* Sample code snippets (formatted).
* User questionnaire and filled responses.