

# ABSTRACT

## AUTOMOBILE PAINTING AND WORKSHOP MANAGEMENT WEBSITE

- SPLASH PAINTZONE

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### MINI PROJECT

The automobile industry plays a crucial role in vehicle aesthetics and protection. To succeed in this competitive sector, automobile painting workshops must embrace modern technologies and user-friendly online platforms.

This is a personalized automobile painting management workshop website project aims to create an interactive and user-friendly platform that enhances the customer experience and streamlines the process of selecting and booking automobile painting services. The website aims to cater to different user types, including customers, employees, and administrators. The website provides a comprehensive range of modules designed to showcase services, display a portfolio of previous work, facilitate pricing inquiries, enable appointment scheduling, and faster customer engagement.

The website's modules include a visually appealing home page that introduces the business. The services section provides detailed information about the various painting services offered, including complete vehicle repainting, color change, touch-up painting, and custom designs. And module contain login or sign in of users. Including the workshop's contact information and testimonials. It aims to streamline and enhance various aspects of workshop operations, customer interactions, and administrative tasks. It incorporates technological solutions to improve efficiency, customer experience, and overall business performance.

#### Functionalities:

1. **User Registration and Login:**  
Implement functionality that allows new users to create accounts by registering with their email addresses or social media accounts. Existing users can log in to access their profiles and utilize personalized features.
2. **Profile Customization:**  
Provide options for users to customize their profiles by adding personal details, such as their name, contact information, vehicle details and preferences. This information can help tailor the user experience and provide personalized recommendations.
3. **Ratings and Feedback:**  
Provide a platform for users to rate and give feedback on the quality of painting services they have received. This module allows users to share their experiences, provide feedback, and contribute to the reputation and credibility of the automobile painting service.
4. **Painting Assessment:**  
Developing a module that utilizes machine learning algorithms to analyze the uploaded car images and assess the painting requirements. This module should provide an output of recommendation on whether painting is needed, considering factors like damage or surface defects.
5. **Appointment Scheduling:**  
Enable users to schedule appointments for automobile painting services.  
Provide a calendar interface for users to select their preferred date and time.  
Send confirmation notifications to users with appointment details.

6. **Pick-up and Drop-off Service:** Offer pick-up and drop-off services for customers who may find it inconvenient to bring their vehicles to the workshop.
7. **Admin Dashboard:**  
A centralized dashboard that provides an overview of the workshop's operations, including key metrics, appointments, pending tasks, and recent activities.
8. **Appointment Management:**  
An interface to manage and view all appointments, including the ability to schedule, reschedule, and cancel appointments. The admin should also have access to a calendar view to see the workshop's schedule at a glance.
9. **Customer Management:**  
A section where the admin can view and manage customer information, including their contact details, service history, and any notes or preferences associated with individual customers.
10. **Service Management:**  
Allow admin to manage the services offered by the automobile painting business. This includes the ability to add, edit, or remove services, update pricing information, and modify service descriptions.
11. **Employee Management:**  
A section where the admin can view and manage employee information, including their names, contact details, year of joining and salary details
12. **Customer feedback Management:** Provide a section that aggregates customer feedback and reviews from various sources, such as online forms, emails, and social media. The feedback should be organized, easily accessible, and sortable by date or rating.
13. **Employee Profiles:** Allow employee to view and update their personal information, contact details, work schedules and their salaries status.
14. **Online Payments:**  
Integrate secure online payment gateways to facilitate seamless payment processing.  
Support multiple payment methods such as credit/debit cards, digital wallets, or bank transfers.

## MAIN PROJECT

1. **Color Selection:**  
Provide a color visualization tool that allows users to preview different paint colors and finishes on their car.  
Integrate with a paint database to offer a wide range of color options.  
Enable users to select and save their preferred colors for reference.
2. **Customer Support:**  
This could include answering frequently asked questions, providing information about services, scheduling appointments, or assisting with basic troubleshooting.
3. **Key metrics:**  
Including various performance indicators and statistics that help assess and manage the overall performance of the Car Workshop Management System [revenue generated or total appointments]
4. **Track Progress with Photos:**  
Enable painters to take and upload progress photos of the car during the painting process, allowing customers to see the work in real-time.

5. **Car Paint History Archive:**  
Maintain a historical archive of famous car paint jobs, iconic designs, and classic paint colors for customers' inspiration.
6. **Custom Paint Preservation Tips:**  
Provide customers with personalized tips on how to preserve and maintain their custom paint for longevity.
7. **Appointment Reminders and Notifications:**  
Send automated appointment reminders and notifications to customers to reduce no-shows and improve efficiency.
8. **Emergency Repairs:**  
Introduce an emergency repair service where customers can request immediate paint fixes for minor damages or scratches.

### **Users Types and functionalities:**

There are four Users: Guest users, Customers, admin and employee

#### **Guest users:**

- Guest users can visit website without creating an account or logging in.
- They can access the painting assessment and browse for the services

#### **Customer:**

- Allows new users to create accounts and login
- To analyze the uploaded Car images and assess the painting requirements.
- The ability to schedule, reschedule, and cancel appointments.
- They can customize the color selection through the available paint dataset.
- They can give ratings and feedback on the website

#### **Admin:**

- Hold the highest level of privilege, control and management of system
- Can perform operations [add, delete and update status] to manage the appointments, services, customers and employees
- They can view all of the modules to perform actions
- Generate the key metrics of the management i.e., the revenue and total appointments.
- They can also manage the feedback from customers

#### **Employee:**

- They can login through the website for view and update their personal information, contact details, work schedules and their salaries status.
- They can view the appointments details about the services.

### **Technologies used:**

Python With Django | SQLite

**Seminar:** Object detection of car surface image using image processing:

Detecting the scratch from the upload image using image processing recommend whether painting is required or not. The final result will be generated only after satisfy the conditions that taken from users like the model, year of last painting