Auto Clean

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Auto Clean: Car Wash System

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Abstract

This project presents the development of a desktop-based Car Wash Center Management System using Windows Forms. The system is designed to streamline the daily operations of a car wash center by automating service management, customer registration, employee tracking, merchant dealings, and revenue monitoring. Two user roles are supported: managers with full administrative control and employees with limited access. Managers can manage employees, services, and merchants, track business performance through dashboards, and monitor employee attendance. Employees are responsible for customer handling and are incentivized based on service transactions. The system enhances operational efficiency, improves customer service, and supports informed decision-making through data analysis features. Overall, the solution aims to digitize and optimize the management process of car wash centers.

Introduction

In recent years, the increasing demand for car care services has highlighted the need for efficient and organized management systems within car wash centers. Many car wash businesses continue to rely on manual methods to handle customer data, manage services, and monitor revenue, which often results in inefficiencies, errors, and poor customer experiences.

This project aims to develop a Car Wash Center Management System using Windows Forms to digitize and simplify the center's operations. The system provides features for managing customers, employees, merchants, services, and finances. By automating routine tasks and offering powerful data analysis tools, the system enables car wash center managers to make informed decisions and streamline their operations.

The solution is designed for two main user roles: managers, who oversee all operations and have full control over the system, and employees, who interact primarily with customers. The system ensures data integrity, enhances productivity, and supports customer satisfaction through a user-friendly interface and secure role-based access.

Problems to be Addressed

- Inefficient record keeping: Customer, employee, and merchant data are often managed using paper or basic spreadsheets, which are prone to errors and difficult to maintain.
- Limited service tracking: There is no effective system to monitor which services were provided, how often, or to whom, making it hard to analyze trends or customer behavior.
- Manual attendance tracking: Without a digital method for logging employee attendance, it becomes difficult to ensure accountability and manage staff performance.
- Lack of real-time reporting: Managers struggle to get instant insights into revenue, services, and daily operations, making business analysis timeconsuming.
- Difficulty in applying discounts or loyalty programs: Manual tracking of customer spending makes it challenging to apply consistent and fair discount policies.
- No structured merchant deal tracking: Keeping track of loans and goods from merchants is disorganized, increasing the risk of financial mismanagement.

Goals/Objectives

Goals

- To automate and streamline the day-to-day operations of a car wash center.
- To improve the efficiency of managing customers, employees, services, and merchants.
- To enable data-driven decision-making through real-time dashboards and reports.
- To enhance the overall customer service experience through digital tracking and personalized offers.

Objectives

- Develop a Windows Forms application with a role-based login system for managers and employees.
- Implement CRUD functionality for managing customers, employees, merchants, and services.
- Design a dashboard to visualize revenue, service usage, and employee activity.
- Create a system to track employee attendance and performance metrics.
- Enable discount management based on customer payment history.
- Build a merchant deal tracking module to monitor loans and goods taken.
- Ensure the system is user-friendly, secure, and scalable for future updates.

Home Page

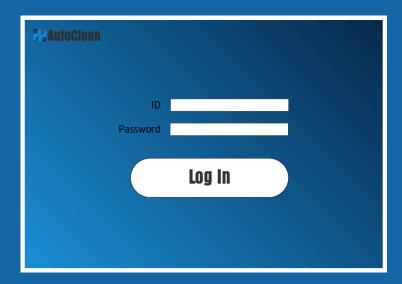


Customer Dashboard

P&AutoClean Req	uesting Services
Name	
National ID	
Phone	
Car Brand	•
Car Model	
Licence Plate Number	
Service	•
Cost	
	Purchase

PaAut	Purchase a Service									
	Customer: Car: Service:	Name Brand Service Name	National ID Model	Phone Licence Plate Number						
	Total Cost: ###\$ Choose Payment Method: Coupon Code:									
Back Purchase										

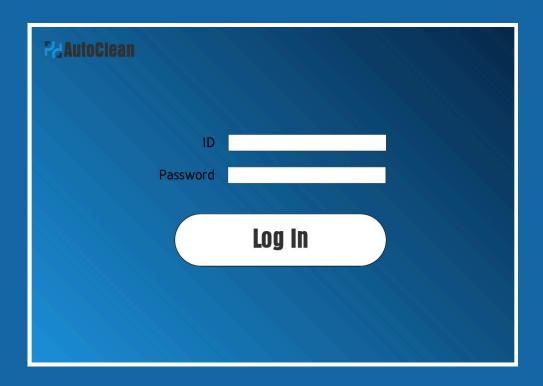
Worker Dashboard







Manager Dashboard



PA AutoClean	#	Customer ID	Licence Number	Service	Total Cost	Starting Time	Ending Time	Discount	Date
	1								
	2								
	3								
Name									
Sessions									
Services									
Employone									
Employees									
Customers									
Profile									
Log out									

Manager Dashboard

Pautoclean ID: 0000000000	#	Service	Price	Buyers
	1			
Name	2			
Sessions	3			
Services				
Employees				
Customers			Add Service	
Profile				
Log out				

Pautoclean ID: 00000000000	#	ID	Name	Phone	Salary	# Sessions	
	1						Edit
Name	2		16.2				Edit
Name	3						Edit
Sessions							
Services				Add Emp	loyee		
Employees							
Customers							
Profile							
Log out							

Manager Dashboard

Pautoclean ID: 00000000000	#	ID	Name	Phone	#Sessions
Name	1				
Sessions	2				
Services	3				
Employees					
Customers					
Profile					
Log out					

