SERVICE MANAGEMENT SYSTEM

A MINI PROJECT REPORT

SUBMITTED BY

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BONAFIDE CERTIFICATE

Certified that this project report **"SERVICE MANAGEMENT SYSTEM"** is the Bonafide work of **"NAVEEN RAJ B V(221701501), NAVEEN S(221701502),THEJESH NS(221701503), SANTHOSH K(221701505),VISHAL VP(221701701)"** who carried out the project work under my supervision.

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ABSTRACT

The **Vehicle Service Management System (VSMS)** is a comprehensive software solution designed to streamline and optimize the management of vehicle maintenance and repair services. By automating key functions such as service scheduling, inventory tracking, customer communication, and technician management, the system enhances operational efficiency, reduces errors, and improves service delivery. It also provides service centers with valuable insights through data analytics, enabling better decision-making and resource allocation. The system aims to improve customer satisfaction by offering transparent service histories, timely notifications, and easy access to service-related information.

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INTRODUCTION

1. INTRODUCTION

A Vehicle Service Management System (VSMS) is a comprehensive digital platform designed to streamline and optimize the processes involved in managing the maintenance and servicing of vehicles. This system serves as a vital tool for automotive businesses, fleet managers, and vehicle service centers to efficiently schedule, track, and manage vehicle service and repair activities.The VSMS automates key operations such as service appointment scheduling, vehicle history tracking, inventory management, and invoicing, improving overall operational efficiency. By centralizing all service-related data, it enables timely maintenance, reduces downtime, enhances customer satisfaction, and ensures compliance with industry standards.

2. SCOPE OF THE WORK

The Vehicle Service Management System aims to automate and improve the efficiency of managing vehicle maintenance and repair services, from scheduling and service requests to inventory management and customer communication.

- Tracking vehicle history, including past services, repairs, and inspections
- Allowing customers to book service appointments online or via an app.
- Integration with calendar and appointment management systems for seamless scheduling.
- Creating work orders for service requests, detailing required tasks, spare parts, and labor hours.
- Tracking the status of ongoing work (e.g., in progress, completed, pending approval)

3. PROBLEM STATEMENT

The Vehicle Service Management System (VSMS) is designed to address the numerous challenges faced by automotive service centers, fleet management companies, and workshops in managing their operations efficiently. Traditional, manual methods of scheduling, inventory management, and billing often lead to inefficiencies, errors, and delays that impact both service quality and customer satisfaction

1.4 AIM AND OBJECTIVES OF THE PROJECT

Aim: The **Vehicle Service Management System (VSMS)** project is to design and implement a comprehensive software solution that streamlines and automates the operations of automotive service centers, workshops, and fleet management companies

Objectives:

- Many service centers still rely on manual or semi-manual systems (e.g., spreadsheets, paper logs) for managing appointments, service records, and inventory. This leads to inefficiencies, human errors, and delays in providing services.
- Service scheduling is often fragmented and lacks synchronization, causing double-booking, overloading of resources, and missed appointments, which directly impacts customer satisfaction.
- Communication with customers is often inadequate, with little visibility into service progress, leading to frustration and a lack of trust in the service provider.
- The absence of a comprehensive system to manage spare parts inventory results in either shortages, delays in procuring necessary parts, or excess stock, which ties up capital and reduces profitability.
- Billing processes are prone to errors due to manual entries, leading to discrepancies in invoices and delays in payments.

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SYSTEM SPECIFICATIONS

2.1 HARDWARE SPECIFICATIONS

Processor	:	Intel i5
Memory Size	:	8GB (Minimum)
HDD	:	1 TB (Minimum)

2.2 SOFTWARE SPECIFICATIONS

Operating System	:	WINDOWS 11
Front – End	:	React,js
Back - End	:	Node.js,express,js ,mongodb
Language	:	Html,css,java script,sql

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MODULE DESCRIPTION

This application consists of two modules. When the program runs, it will ask for a confirmation to the login window. The person who interacts can login as an Administrator or as a User. The description of the modules are as follows:

1. **Admin login**

   When the person who interacts tries to login as Admin then he needs to login with his username and password. The administrator only has the power to change and manipulate the data in the database.

2. **User login**

   When the person tries to login as a user then he/she will be prompted to enter the number of symptoms and the final result will be printed in the form of table.

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#LOGINPOP.JSX

```
import React, { useContext, useState } from 'react'

import './LoginPopup.css'

import { assets } from '../../assets/assets'

import { StoreContext } from '../../context/StoreContext'

import axios from "axios"

const LoginPopup = ({setShowLogin}) => {

  const {url,setToken} = useContext(StoreContext)

  const [currState,setCurrState] = useState("Login")

  const [data,setData] = useState({

    name:"",

    email:"",

    password:""

  })

const onChangeHandler = (event) => {

    const name = event.target.name;

    const value = event.target.value;

    setData(data=>({...data,[name]:value}))

  }

  const onLogin = async (event) => {

    event.preventDefault()

    let newUrl = url;

    if (currState==="Login"){

      newUrl += "/api/user/login"

    }

    else{
```

```jsx
    newUrl += "/api/user/register"

  }

  const response = await axios.post(newUrl,data);

  if (response.data.success){

    setToken(response.data.token);

    localStorage.setItem("token",response.data.token)

    setShowLogin(false)

  }

  else{

    alert(res.data.message)

  }

}

return (

  <div className='login-popup'>

    <form onSubmit={onLogin} className="login-popup-container">

      <div className="login-popup-title">

        <h2>{currState}</h2>

        <img onClick={()=>setShowLogin(false)} src={assets.cross_icon} alt="" />

      </div>

      <div className="login-popup-inputs">

        {currState==="Login"?<></>:<input name='name' onChange={onChangeHandler}
value={data.name} type="text" placeholder='Your name' required/>}

        <input name='email' onChange={onChangeHandler} value={data.email} type="email"
placeholder='Your email' required/>

        <input name='password' onChange={onChangeHandler} value={data.password}
type="password" placeholder='Password' required/>

      </div>

      <button type='submit'>{currState==="Sign Up"?"Create account":"Login"}</button>
```

```jsx
        <div className="login-popup-condition">

          <input type="checkbox" required/>

          <p className='continuee'>By continuing, i agree to the terms of use & privacy policy</p>

        </div>

        {currState==="Login"

        ?<p>Create a new account? <span onClick={()=>setCurrState("Sign Up")}>Click

here</span></p>

        :<p>Already have an account? <span onClick={()=>setCurrState("Login")}>Login

here</span></p>

        }

      </form>

    </div>

  )

}

export default LoginPopup
```

#APP.JSX

```jsx
import React, { useContext, useEffect } from "react";
import "./App.css";
import { BrowserRouter as Router, Routes, Route } from "react-router-dom";
import Home from "./Pages/Home";
import Appointment from "./Pages/Appointment";
import Register from "./Pages/Register";
import Footer from "./components/Footer";
import Navbar from "./components/Navbar";
import AboutUs from "./Pages/AboutUs";
import {ToastContainer} from "react-toastify";
import "react-toastify/dist/ReactToastify.css";
import axios from "axios";
import { Context } from "./main";
import Login from "./Pages/Login";
const App = () => {
  const { isAuthenticated, setIsAuthenticated, setUser } =
    useContext(Context);

  useEffect(() => {
    const fetchUser = async () => {
      try {
```

```jsx
      const response = await axios.get(
        "http://localhost:4000/api/v1/user/patient/me",
        {
          withCredentials: true,
        }
      );
      setIsAuthenticated(true);
      setUser(response.data.user);
    } catch (error) {
      setIsAuthenticated(false);
      setUser({});
    }
  };
  fetchUser();
}, [isAuthenticated]);

return (
  <>
    <Router>
      <Navbar />
      <Routes>
        <Route path="/" element={<Home />} />
        <Route path="/appointment" element={<Appointment />} />
        <Route path="/about" element={<AboutUs />} />
        <Route path="/register" element={<Register />} />
        <Route path="/login" element={<Login />} />
      </Routes>
      <Footer />
      <ToastContainer position="top-center" />
    </Router>
  </>
);
};

export default App;
```
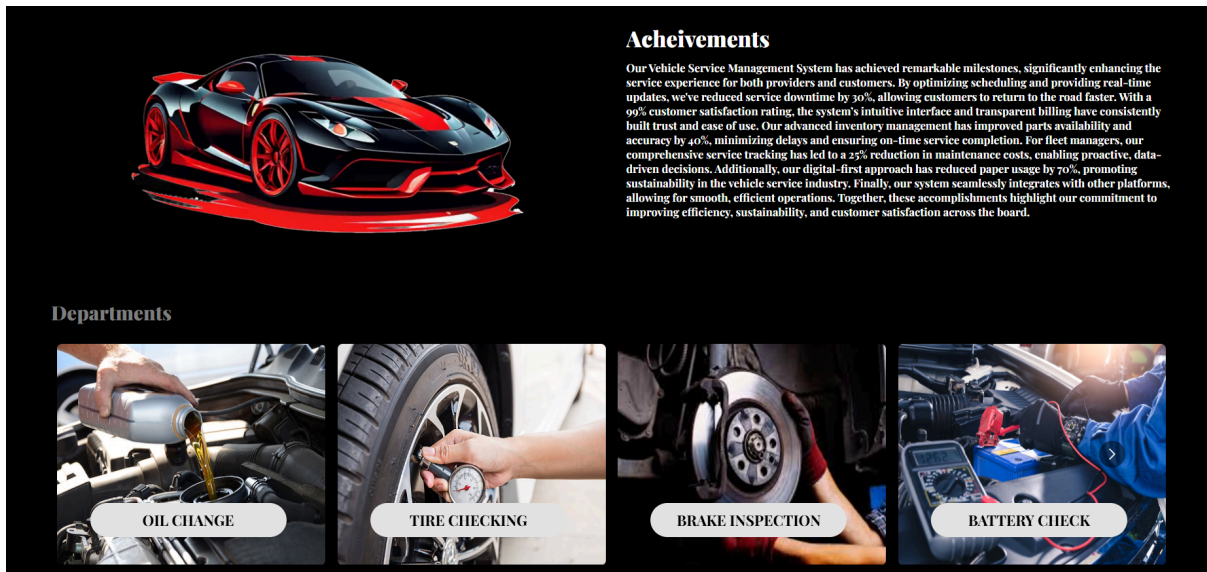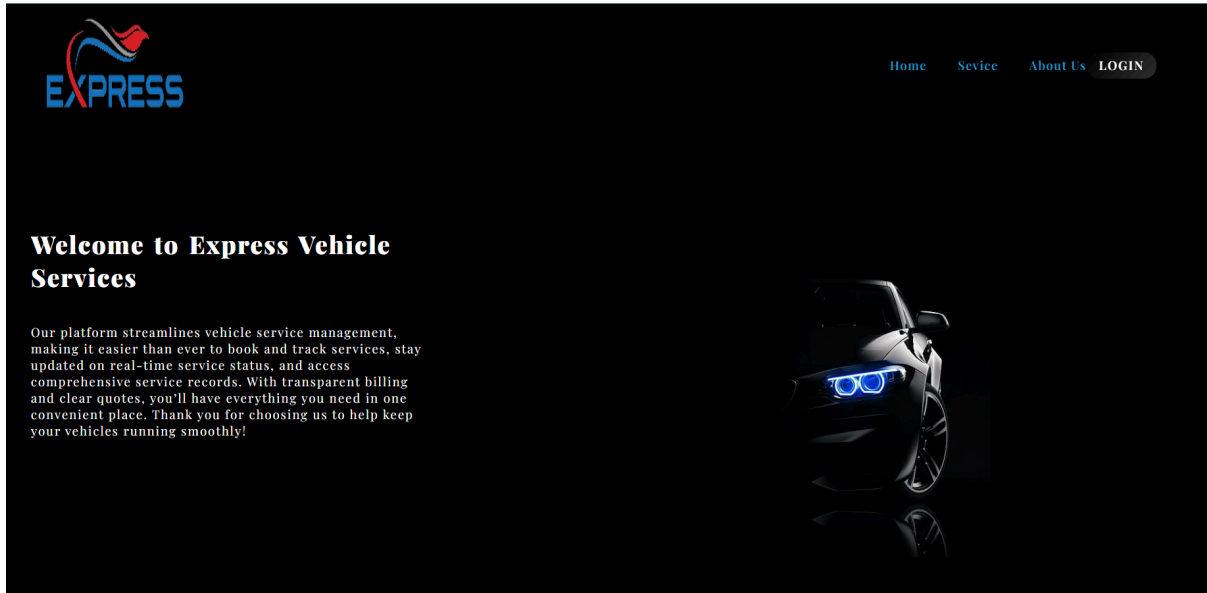
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SCREEN SHOTS

EXPRESS

Schedule Your Service Appointment Toyota

Our platform streamlines vehicle service management, making it easier than ever to book and track services, stay updated on real-time service status, and access comprehensive service records. With transparent billing and clear quotes, you'll have everything you need in one convenient place. Thank you for choosing us to help keep your vehicles running smoothly!

Add Service

First Name	Last Name
Email	Mobile Number
Service Number	Date of Birth

First Name	Last Name
Email	Mobile Number
Service Number	Date of Birth dd-mm-yyyy
Select Gender	Appointment Date dd-mm-yyyy
Select Service	Select Mechanic

Address

Have you visited before?

GET APPOINTMENT

EXPRESS

Learn More About Us | Express

Our platform streamlines vehicle service management, making it easier than ever to book and track services, stay updated on real-time service status, and access comprehensive service records. With transparent billing and clear quotes, you'll have everything you need in one convenient place. Thank you for choosing us to help keep your vehicles running smoothly!

Acheivements

Our Vehicle Service Management System has achieved remarkable milestones, significantly enhancing the service experience for both providers and customers. By optimizing scheduling and providing real-time updates, we've reduced service downtime by 30%, allowing customers to return to the road faster. With a 99% customer satisfaction rating, the system's intuitive interface and transparent billing have consistently built trust and ease of use. Our advanced inventory management has improved parts availability and accuracy by 40%, minimizing delays and ensuring on-time service completion. For fleet managers, our comprehensive service tracking has led to a 25% reduction in maintenance costs, enabling proactive, data-driven decisions. Additionally, our digital-first approach has reduced paper usage by 70%, promoting sustainability in the vehicle service industry. Finally, our system seamlessly integrates with other platforms, allowing for smooth, efficient operations. Together, these accomplishments highlight our commitment to improving efficiency, sustainability, and customer satisfaction across the board.

CHAPTER 6

CONCLUSION AND FUTURE ENHANCEMENT

In conclusion, the **Vehicle Service Management System (VSMS)** plays a crucial role in optimizing the management of vehicle maintenance and repair processes. By automating key tasks such as service scheduling, inventory management, and customer communication, the system significantly improves operational efficiency, enhances customer satisfaction, and reduces operational costs for service centers. Furthermore, it enables data-driven decision-making, allowing businesses to better understand trends and improve service offerings. However, to stay competitive and continue evolving, future enhancements should focus on integrating advanced technologies such as IoT for real-time diagnostics, AI for predictive maintenance, and mobile apps for improved customer interaction. Additionally, automating inventory management, integrating with manufacturers' databases, and adopting blockchain for secure service histories could further streamline operations, enhance transparency, and build customer trust. With these upgrades, the VSMS could become even more powerful, positioning service centers to deliver high-quality, efficient, and personalized services to their customers in the future.

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