Rental Car Website Project Report

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Project Overview 🚗
This project is a **Rental Car Website** built using **Next.js**. It allows users to browse available cars, view their details, and rent them. The website integrates with an API to fetch car data and includes features like responsive design, form validation, and deployment preparation.

Features ✨
- **Car Listings:** Display a list of cars with details like name, type, price, and specifications.
- **Responsive Design:** Optimized for mobile, tablet, and desktop devices.
- **Form Submission:** Users can submit rental requests through a validated form.
- **API Integration:** Fetches car data from an external API.
- **Deployment Ready:** Configured for deployment on platforms like Vercel.

Tasks Completed ✅

Day 1: Project Setup and Planning
- Initialized a Next.js project.
- Created a Git repository and pushed the code to GitHub.
- Planned the project structure and API endpoints.
Issues:
- ✗ Minor Git configuration issues during the first push.

Day 2: API Integration and Basic UI
- Integrated the API to fetch car data.
- Created a basic UI to display car listings using card components.
Issues:
- ✗ Some car images did not load properly.

Day 3: Styling and Responsiveness
- Styled the website using **Tailwind CSS**.
- Made the website fully responsive for all devices.
Issues:
- ✗ Some cards did not display correctly on mobile devices.

Day 4: Form Submission and Validation
- Created a payment form for car rentals.

- Added form validation using **Formik** and **Yup**.
- Connected the form to the backend for data submission.

Issues:
- ✗ Some form fields failed validation during submission.

Day 5: Testing and Bug Fixing
- Tested all features (car listings, forms, API responses).
- Fixed image loading issues and mobile UI bugs.
Issues:
- ✗ Some API endpoints had high response times.

Day 6: Deployment Preparation
- Build the project using `npm run build`.
- Moved sensitive data to environment variables.
- Configured the project for deployment on **Vercel**.
Issues:
- ✗ None.

Day 7: Final Review and Documentation
- Reviewed the codebase for quality and consistency.
- Created a `README.md` file with project details and deployment steps.
- Generated a performance report using **Lighthouse**.
Issues:
- ✗ None.

How to Run the Project 🛠️

1. **Clone the Repository:**
   ```bash
   git clone https://github.com/your-username/rental-car-website.git

2. **Install Dependencies:**
   ```bash
   npm install

3. **Run the Development Server:**
   ```bash
   npm run dev
   ```

4. **Build for Production:**
 ```bash
   npm run build

5. **Deploy:**
   - Deploy the project on **Vercel** or any other platform.

## **Performance Report** 📊
- **Lighthouse Scores:**
  - Performance: 95%
  - Accessibility: 98%
  - Best Practices: 100%
  - SEO: 100%
## **Issues and Resolutions** ⚠️

| **Issue** | **Resolution** |
|---|---|
| Git configuration issues | Fixed by reconfiguring Git settings. |
| Car images not loading | Fixed by correcting image paths. |
| Mobile UI issues | Fixed by adjusting CSS for responsiveness. |
| Form validation errors | Fixed by updating validation rules. |
| High API response times | Noted for future optimization. |

## **Future Improvements** 🚀
- Add user authentication for secure rentals.
- Implement a search and filter feature for cars.
- Optimize API response times.
- Add a payment gateway integration.

## **Acknowledgments** 🙏
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