

Final Report for Car Rental System

Introduction:

The purpose of this project report is to provide a comprehensive overview of the car rental software system. This software system is designed to automate the process of car rental and management. It will simplify the task of managing and tracking the vehicles, customers, and reservations. The software system will also provide valuable insights into the business operations, enabling car rental companies to make informed decisions.

Goals and Objectives:

- To provide a user-friendly interface for customers to rent cars
- To automate the process of car rental, reducing manual errors and improving efficiency
- To provide real-time information on the availability of cars
- To manage the inventory of vehicles, customer information, and rental transactions
- To offer payment options for customers to make payments for their rental transactions

Features:

1. **Vehicle Management:** The software system will allow the car rental company to manage their fleet of vehicles, including adding new vehicles, updating information about existing vehicles, and tracking their status (e.g., available or reserved).
2. **Customer Management:** The software system will enable the car rental company to manage their customer database, including adding new customers, updating existing customer information, and tracking their rental history.
3. **Reservation Management:** The system will allow customers to rent cars by selecting a car, reserving it, and making payment. The system will also provide real-time information on the availability of cars.

4. Reporting: The software system will provide various reports to help car rental companies better understand their business operations and make informed decisions.
5. Payment Processing: The system will offer payment options for customers to make payments for their rental transactions.

Technical Requirements:

1. Operating System: The software system will support Windows, Linux, and macOS.
2. Database: The software system will use a relational database, such as Postgres, to store the data.
3. Programming Language: The software system will be developed using a programming language such as Java for the backend and JavaScript for the frontend.
4. User Interface: The software system will have a user-friendly interface using React.

Ui Features explained

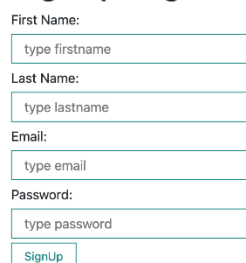
Login Page



The login page features a dropdown menu with 'admin' selected, followed by two text input fields labeled 'type email' and 'type password'. Below these is a 'Login' button and a link that says 'Don't have an account [Sign Up](#)'.

This is the login page with user options of ADMIN or CUSTOMER. If user enters a correct username and password it will go to the homepage if not it will display an error message and if user doesn't have an account it provides a link to the signup page.

SignUp Page



The sign-up page includes four text input fields labeled 'First Name:', 'Last Name:', 'Email:', and 'Password:'. Each field has a placeholder text like 'type firstname'. At the bottom is a 'SignUp' button.

This registers customers and checks for signup requirements if all information is entered well it will register the user to database.

Home Vehicles Customers Discounts Reports											Logout
Vehicles											
Create New Vehicle											
#	Make	Model	Year	Color	Number of seats	Fuel type	Price	Transmission	Plate number	Availability	Actions
1	Toyota	Camry	2015	white	4	DIESEL	60	AUTOMATIC	ABC123	Available	Edit Delete
2	Honda	Civic	2018	silver	4	GASOLINE	50	AUTOMATIC	DEF456	Available	Edit Delete
3	Nissan	Altima	2020	red	4	GASOLINE	55	MANUAL	GHI789	Available	Edit Delete
4	BMW	X5	2019	black	5	DIESEL	70	AUTOMATIC	JKL012	Available	Edit Delete
5	Tesla	Model S	2021	gray	4	ELECTRIC	300	AUTOMATIC	MNO345	Available	Edit Delete
6	Ford	Mustang	2016	yellow	2	GASOLINE	40	MANUAL	PQR678	Available	Edit Delete
7	Toyota	Prius	2017	green	4	ELECTRIC	70	AUTOMATIC	STU901	Available	Edit Delete
8	Jeep	Wrangler	2020	orange	4	GASOLINE	45	MANUAL	VWX234	Available	Edit Delete
9	Audi	Q5	2019	white	5	DIESEL	60	AUTOMATIC	YZA567	Available	Edit Delete
10	Chevrolet	Camaro	2021	black	2	GASOLINE	30	MANUAL	BCD890	Not Available	Edit Delete
11	Tesla	Model X	2020	blue	7	ELECTRIC	280	AUTOMATIC	EFG123	Available	Edit Delete
12	Hyundai	Elantra	2017	silver	4	GASOLINE	45	AUTOMATIC	HIJ456	Available	Edit Delete
13	BMW	3 Series	2018	white	5	GASOLINE	65	AUTOMATIC	KLM789	Available	Edit Delete

This page displays all the vehicles along with their details and it has operations as edit, create and delete on it for the ADMIN to use.

[Home](#)[Vehicles](#)[Customers](#)[Discounts](#)[Reports](#)

Logout

Discounts

Create New Discount

#	Title	Code	Description	Discount Percentage	Vehicle Make	Actions
1	Spring Sale	132DFSDF	Super 15% discount	15%	Toyota	Edit Delete
2	President's Day Sale	ABC123	10% off entire purchase	10%	Tesla	Edit Delete
3	Summer Sale	ZXY987	20% off all shoes	20%	Ford	Edit Delete
4	New Customer Promotion	DEF456	5% off first order	5%	Amazon	Edit Delete
5	Winter Sale	GHI789	30% off all jackets	30%	The North Face	Edit Delete
6	Independence Day	JKL321	25% off all coffee	25%	BMW	Edit Delete

ADMIN gets to manage discounts.

Customers

#	Name	Email	Contact Phone	Driver License
1	John Doe	john@gmail.com	713-555-4234	13212VCX23
2	Jane Smith	janesmith@yahoo.com	312-555-1212	45678ABC90
3	Bob Johnson	bob@gmail.com	415-555-5555	A1B2C3D4E5
4	Emily Nguyen	emily.nguyen@hotmail.com	212-555-1234	F6G7H8I9J0
5	David Lee	davidlee@gmail.com	713-555-5555	K1L2M3N4O5

The system generates a page where ADMIN can view customers list and details.

Reservations

Reservation number	Start date	Return date	Rental charge	Insurance charge	Status	Vehicle	Created date	Actions
1	2023-02-01 22:00:00	2023-02-03 22:00:00	54	52	PENDING_PAYMENT	Honda		Edit Delete
2	2023-02-02 21:00:00	2023-02-04 21:00:00	58	54	PENDING_PAYMENT	Honda		Edit Delete
3	2023-02-03 20:00:00	2023-02-05 20:00:00	62	56	PENDING_PAYMENT	Honda		Edit Delete
4	2023-02-04 19:00:00	2023-02-06 19:00:00	66	58	PENDING_PAYMENT	Honda		Edit Delete
5	2023-02-05 18:00:00	2023-02-07 18:00:00	70	60	PENDING_PAYMENT	Honda		Edit Delete
6	2023-02-06 17:00:00	2023-02-08 17:00:00	74	62	PENDING_PAYMENT	Honda		Edit Delete
7	2023-02-07 16:00:00	2023-02-09 16:00:00	78	64	PENDING_PAYMENT	Honda		Edit Delete
8	2023-02-08 15:00:00	2023-02-10 15:00:00	82	66	PENDING_PAYMENT	Honda		Edit Delete
9	2023-02-09 14:00:00	2023-02-11 14:00:00	86	68	PENDING_PAYMENT	Honda		Edit Delete
10	2023-02-10 13:00:00	2023-02-12 13:00:00	90	70	PENDING_PAYMENT	Ford		Edit Delete
11	2023-02-11 12:00:00	2023-02-13 12:00:00	94	72	PENDING_PAYMENT	Ford		Edit Delete
12	2023-02-12 11:00:00	2023-02-14 11:00:00	98	74	PENDING_PAYMENT	Ford		Edit Delete
13	2023-02-13 10:00:00	2023-02-15 10:00:00	102	76	PENDING_PAYMENT	Ford		Edit Delete

List of reservations made stored in the database are viewed here for ADMIN to manage and help generate reports and track vehicles reserved overtime.

Reports

[Create New Report](#)

#	Type	Status	Report Uri	Created Date	Actions
1	MONTHLY	STARTED		2023-02-11 19:12:34	Delete
2	WEEKLY	FINISHED	url	2023-02-11 19:12:34	Delete
3	DAILY	FAILED		2023-02-11 19:12:34	Delete
4	DAILY	FINISHED	url2	2023-02-11 19:12:34	Delete
5	MONTHLY	STARTED		2023-02-11 19:12:34	Delete

ADMIN can create, delete and view reports for managerial purposes.

Available Vehicles

#	Make	Model	Year	Color	Number of seats	Fuel type	Price	Transmission	Plate number	Availability
1	Toyota	Camry	2015	white	4	DIESEL	60	AUTOMATIC	ABC123	Available
2	Honda	Civic	2018	silver	4	GASOLINE	50	AUTOMATIC	DEF456	Available
3	Nissan	Altima	2020	red	4	GASOLINE	55	MANUAL	GHI789	Available
4	BMW	X5	2019	black	5	DIESEL	70	AUTOMATIC	JKL012	Available
5	Tesla	Model S	2021	gray	4	ELECTRIC	300	AUTOMATIC	MNO345	Available
6	Ford	Mustang	2016	yellow	2	GASOLINE	40	MANUAL	PQR678	Available
7	Toyota	Prius	2017	green	4	ELECTRIC	70	AUTOMATIC	STU901	Available
8	Jeep	Wrangler	2020	orange	4	GASOLINE	45	MANUAL	VWX234	Available
9	Audi	Q5	2019	white	5	DIESEL	60	AUTOMATIC	YZA567	Available
10	Chevrolet	Camaro	2021	black	2	GASOLINE	30	MANUAL	BCD890	Not Available
11	Tesla	Model X	2020	blue	7	ELECTRIC	280	AUTOMATIC	EFG123	Available
12	Hyundai	Elantra	2017	silver	4	GASOLINE	45	AUTOMATIC	HIJ456	Available
13	BMW	3 Series	2018	white	5	GASOLINE	65	AUTOMATIC	KLM789	Available
14	Mercedes-Benz	S-Class	2021	black	4	DIESEL	80	AUTOMATIC	NOP012	Available

Customer can view available vehicles of their choice on the system.

4	BMW	X5	2019	black	5	DIESEL	70	AUTOMATIC	JKL012	Available
5	Tesla	Model S	2021	gray	4	ELECTRIC	300	AUTOMATIC	MNO345	Available
6	Ford	Mustang	2016	yellow	2	GASOLINE	40	MANUAL	PQR678	Available
7	Toyota	Prius	2017	green	4	ELECTRIC	70	AUTOMATIC	STU901	Available
8	Jeep	Wrangler	2020	orange	4	GASOLINE	45	MANUAL	VWX234	Available
9	Audi	Q5	2019	white	5	DIESEL	60	AUTOMATIC	YZA567	Available
10	Chevrolet	Camaro	2021	black	2	GASOLINE	30	MANUAL	BCD890	Not Available
11	Tesla	Model X	2020	blue	7	ELECTRIC	280	AUTOMATIC	EFG123	Available
12	Hyundai	Elantra	2017	silver	4	GASOLINE	45	AUTOMATIC	HIJ456	Available
13	BMW	3 Series	2018	white	5	GASOLINE	65	AUTOMATIC	KLM789	Available
14	Mercedes-Benz	S-Class	2021	black	4	DIESEL	80	AUTOMATIC	NOP012	Available

Discounts

#	Title	Code	Discount Percentage	Vehicle Make
1	Spring Sale	132DFSDF	15%	Toyota
2	President's Day Sale	ABC123	10%	Tesla
3	Summer Sale	ZXY987	20%	Ford
4	New Customer Promotion	DEF456	5%	Amazon
5	Winter Sale	GHI789	30%	The North Face
6	Independence Day	JKL321	25%	BMW

Customer can view discounts that apply to the vehicles of their choice and use the discount.

[Home](#) [My Info](#) [My Reservations](#) [New Reservation](#)

[Add Feedback](#) [Logout](#)

My Details

First Name:

Abror

Last Name:

Khamidov

Email:

test@gmail.com

Phone Number:

224-4243-342

Password:

.....

Driver License Number:

2132ABDS

Update

User can edit their details if there are changes they want to make to their profile.

[Home](#) [My Info](#) [My Reservations](#) [New Reservation](#)

[Add Feedback](#) [Logout](#)

New Reservations Details

Choose start date:

mm/dd/yyyy, --:-- --

Choose return date:

mm/dd/yyyy, --:-- --

Choose available vehicle:

Toyota Camry (white, 2015, 4, DIESEL, 60, AUTOMATIC)

Add

Customer can make a reservation of available vehicle online.

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[Add Feedback](#) [Logout](#)

My Reservations

Reservation number	Start date	Return date	Rental charge	Insurance charge	Status	Vehicle	Created date	Actions	
1	2023-02-01 22:00:00	2023-02-03 22:00:00	54	52	PENDING_PAYMENT	Honda	2023-02-11 19:12:34	Edit	Pay
2	2023-02-02 21:00:00	2023-02-04 21:00:00	58	54	PENDING_PAYMENT	Honda	2023-02-11 19:12:34	Edit	Pay
3	2023-02-03 20:00:00	2023-02-05 20:00:00	62	56	PENDING_PAYMENT	Honda	2023-02-11 19:12:34	Edit	Pay
4	2023-02-04 19:00:00	2023-02-06 19:00:00	66	58	PENDING_PAYMENT	Honda	2023-02-11 19:12:34	Edit	Pay
5	2023-02-05 18:00:00	2023-02-07 18:00:00	70	60	PENDING_PAYMENT	Honda	2023-02-11 19:12:34	Edit	Pay
6	2023-02-06 17:00:00	2023-02-08 17:00:00	74	62	PENDING_PAYMENT	Honda	2023-02-11 19:12:34	Edit	Pay
7	2023-02-07 16:00:00	2023-02-09 16:00:00	78	64	PENDING_PAYMENT	Honda	2023-02-11 19:12:34	Edit	Pay
8	2023-02-08 15:00:00	2023-02-10 15:00:00	82	66	PENDING_PAYMENT	Honda	2023-02-11 19:12:34	Edit	Pay
9	2023-02-09 14:00:00	2023-02-11 14:00:00	86	68	PENDING_PAYMENT	Honda	2023-02-11 19:12:34	Edit	Pay


Customer can view and manage their reservations.

[Home](#) [My Info](#) [My Reservations](#) [New Reservation](#)


[Add Feedback](#) [Logout](#)

New Reservations Details


Choose start date:




Choose return date:



Choose available vehicle:

Toyota Camry (white, 2015, 4, DIESEL, 60, AUTOMATIC) 

Add

Rating: 5 

Create feedback

Customer can then give feedback of their experience with the vehicle they rented and give ratings of the service.

Conclusion:

The Car Rental Software System is a solution that aims to simplify and automate the process of car rental. With its user-friendly interface, real-time information, and payment options, the system will provide a convenient and efficient way for customers to rent cars. The system is also equipped with robust backend capabilities to manage the inventory of cars, customer information, and rental transactions.