

myrentalequipment.in

**A project report submitted in partial fulfillment of the requirements for the
degree of Bachelor in Science (Computer Science).**

By

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Project Guide

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ACKNOWLEDGMENT

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● Introduction:

In India the construction industry is one of the major industries in the country which contributes largely to the growth of the nation. This industry is mainly dominated by a hand full of big companies involved in all the construction activities across all segments. Small and medium construction agencies working on subcontractor basis carry out the work in the field. In India for such a vast industry there are only just over 500 construction equipment manufacturing companies. Which has resulted in more demand and less supply, as a consequence the construction equipment are sold at a high cost which makes it difficult for small and medium scale construction agencies to purchase such equipment. Hence they opt to hire equipment on a rental basis, but in India currently agencies who provide construction equipment on a rental basis are rare. This task of hiring an equipment is tedious and time consuming. The main objective of this project is to address this issue of the small and medium scale construction agencies by creating a website where these agencies can hire the construction equipment on a rental basis and thus eliminating the time consumed in the process of hiring an equipment. Also enabling users who own such heavy equipment to rent the equipment to willing customers by creating a suitable platform.

- **Problem Description:**

Construction Industry is one of the largest and a major industry in India. Such a large industry requires a lot of construction equipment. It may not be feasible for small scale construction companies to purchase these construction equipment as they are expensive to purchase and require maintenance. To overcome this issue construction agencies look to hire the equipment on a rental basis. Currently in India agencies who rent such equipment are rare and there are no online options available. Construction agencies need to visit such agencies to check for the availability of the equipment they require.

People who own such equipment and wish to rent their equipment find it difficult to get deals for their equipment as there is no proper platform available for this purpose.

- **Study of existing system:**

Construction companies need to visit equipment renting agencies , check for the availability of the equipment they need , compare rates and hire the equipment. People who own construction equipment and wish to rent their equipment need to hire agents to get deals for their equipment , they need to pay the agents for their services.

- **Drawbacks of existing system:**

Currently in India equipment renting agencies are rare and difficult to find. There are no options available online. If the construction companies need to hire equipment on a regular basis it is an extremely time consuming job. Hiring heavy equipment may not be feasible for some construction agencies due to unavailability of equipment renting agencies in their vicinity. Construction companies may not get the best deal as it is not feasible for them to visit each and every renting agency in their vicinity and compare rates. People who want to rent their heavy equipment need to hire agents to get deals for their equipment which is a time consuming job and they need to pay the agents for their services.

- **Scope of proposed system :**

Construction companies (hiring customers) provide information such as name , address , contact number to register on the website.They can browse equipment based on their location , select type of equipment they require , compare equipment based on prices , check for the availability of the equipment, they can also view the bookings they have made.For booking an equipment they need to pay a refundable security deposit.Companies can book equipment according to their requirements.Companies can hire an equipment for at least one day or at most six months.Companies can cancel the booking only upto 2 days before the actual booking date.Customers can rate the equipment after successful completion of the order.

People who own equipment and want to rent their equipment (renting customers) can register on the website by providing basic details such as name , address , contact number. They can upload photos and information about their equipment on our website and rent the equipment to willing customers.They can view a report of their equipment to get information about all bookings made for that equipment.They can remove their equipment from our website only if the equipment is not booked.

Study of Feasibility

- **Operational Feasibility:**

The system is Operationally feasible because it will be a GUI based system and will be simple and easy to use. In the existing system the time consumed in the process of hiring or renting an equipment is too much as compared to the proposed system, so the chances of the user refusing to use the system are scarce.

- **Economical Feasibility:**

The system is Economically feasible as it does not require any expensive technology or any expensive hardware resource and as far as benefits are concerned, it gives benefits in terms of reduced time and reduction of human intervention. As the system is going to be developed in an open source software which is freely available to use, hence the system in terms of development also is Economically feasible.

- **Technical Feasibility:**

The system is technically feasible because the hardware and software tools to design , develop and run the system are available and the minimum requirements to run the system are as follows:

Minimum requirements are :

1.Hardware Requirements:

- 2 Gb Ram.
- 10 Gb Hard Disk.
- Intel Pentium Processor.
- Key-Board , Mouse.

2.Software Requirements:

- Frontend - HTML5,Bootstrap4.
- Backend - Java,PostGreSql.

Entity Relationship Diagram

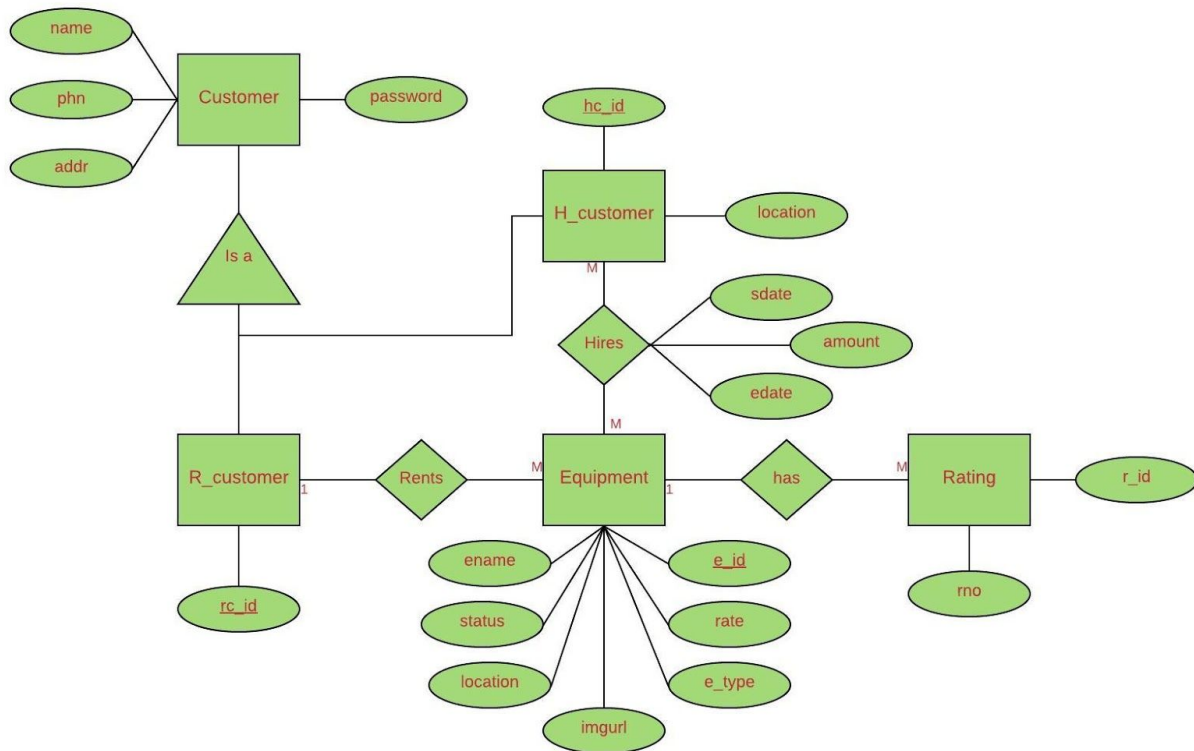


Table Specifications

R_customer - Equipment: 1 - M.

H_customer - Equipment: M - M.

Equipment - Rating: 1 - M.

H-customer - Equipment: 1 - M.

Table Name: H_customer.

SR.	Attribute Name.	Data type.	Description.
1.	Hc_id	integer	Primary key.
2.	name	varchar(30)	NOT NULL.
3.	phn	numeric(10)	NOT NULL UNIQUE.
4.	addr	text	NOT NULL.
5.	Location	varchar(20)	NOT NULL check();
6.	password	varchar(6)	NOT NULL.

Table Name: R_customer.

SR.	Attribute Name.	Data type.	Description.
1.	Rc_id	integer	Primary key.
2.	name	varchar(30)	NOT NULL.
3.	phn	numeric(10)	NOT NULL UNIQUE
4.	addr	text	NOT NULL.
5.	password	varchar(20)	NOT NULL

Table Name: Equipment.

SR.	Attribute Name.	Data type.	Description.
1.	E_id	integer	Primary key.
2.	E_name	varchar(30)	NOT NULL UNIQUE.
3.	E_type	varchar(30)	NOT NULL check().
4.	Rate	money	NOT NULL.
5.	Status	varchar(12)	check () Default: available
6.	Rc_id	integer	Foreign key.

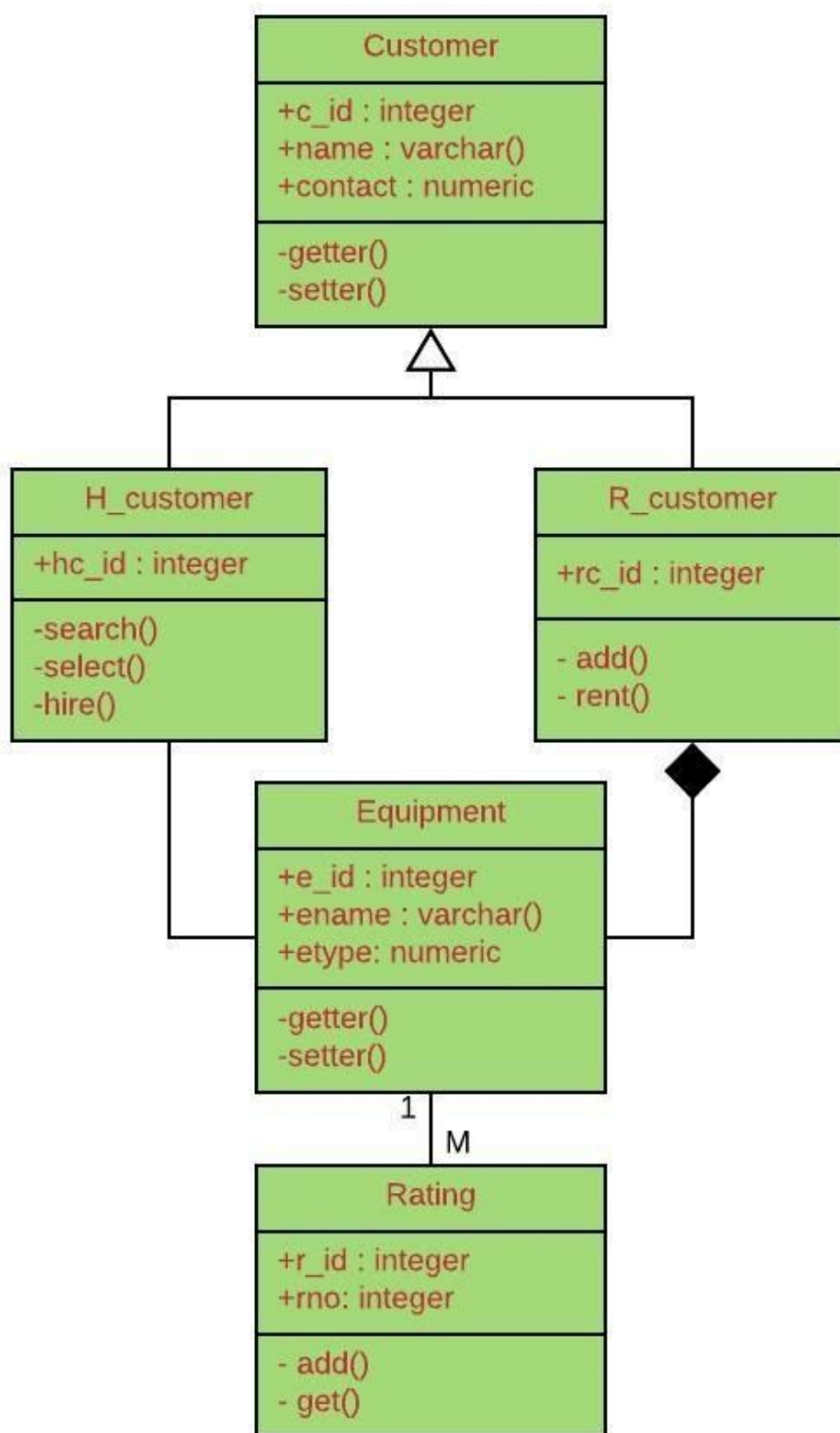
Table Name: Hcust_equip.

SR.	Attribute Name.	Data type.	Description.
1.	Hc_id	integer	Foreign key.
2.	E_id	integer	Foreign key.
3.	S_date	date	NOT NULL
4.	E_date	date	NOT NULL.
5.	amnt	integer	NOT NULL.

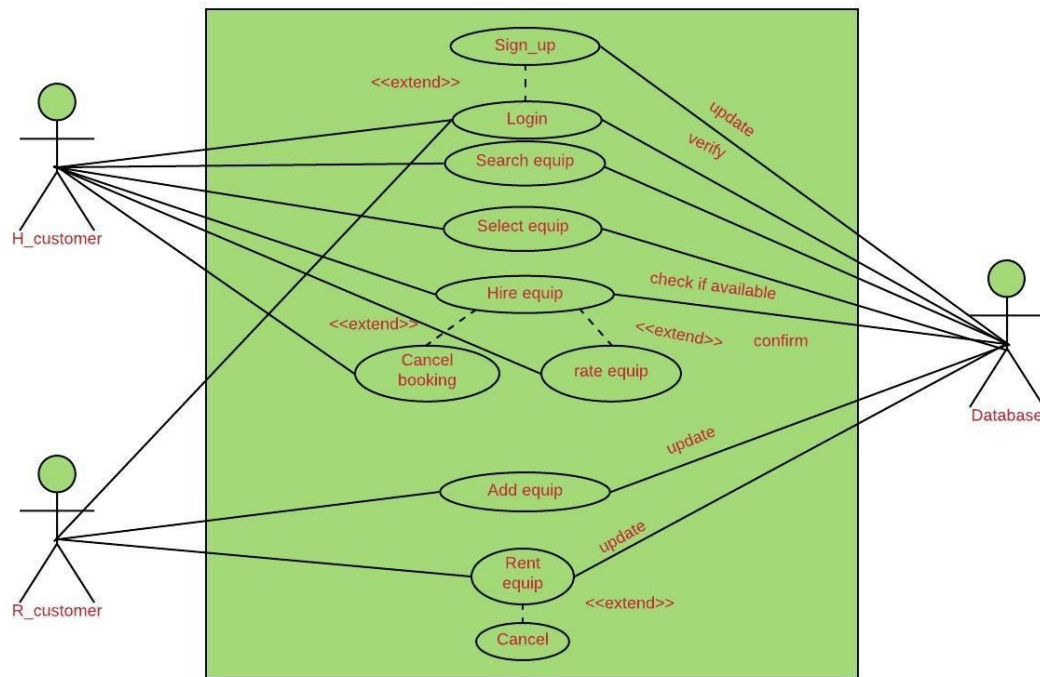
Table Name: Rating

SR.	Attribute Name.	Data type.	Description.
1.	r_id	integer	Primary key.
2.	rno	integer	NOT NULL
3.	e_id	integer	Foreign key.

Class Diagram



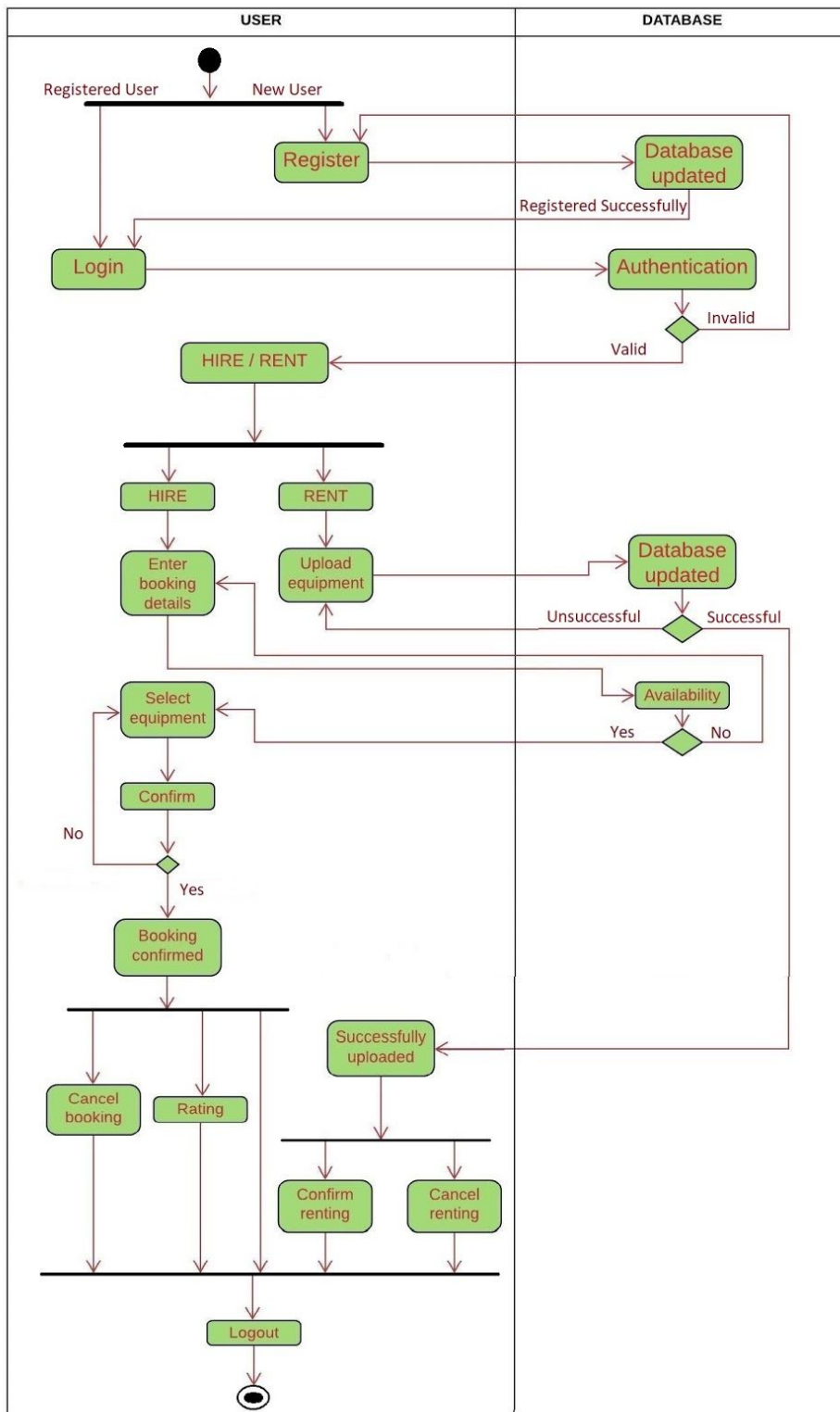
Use-Case Diagram



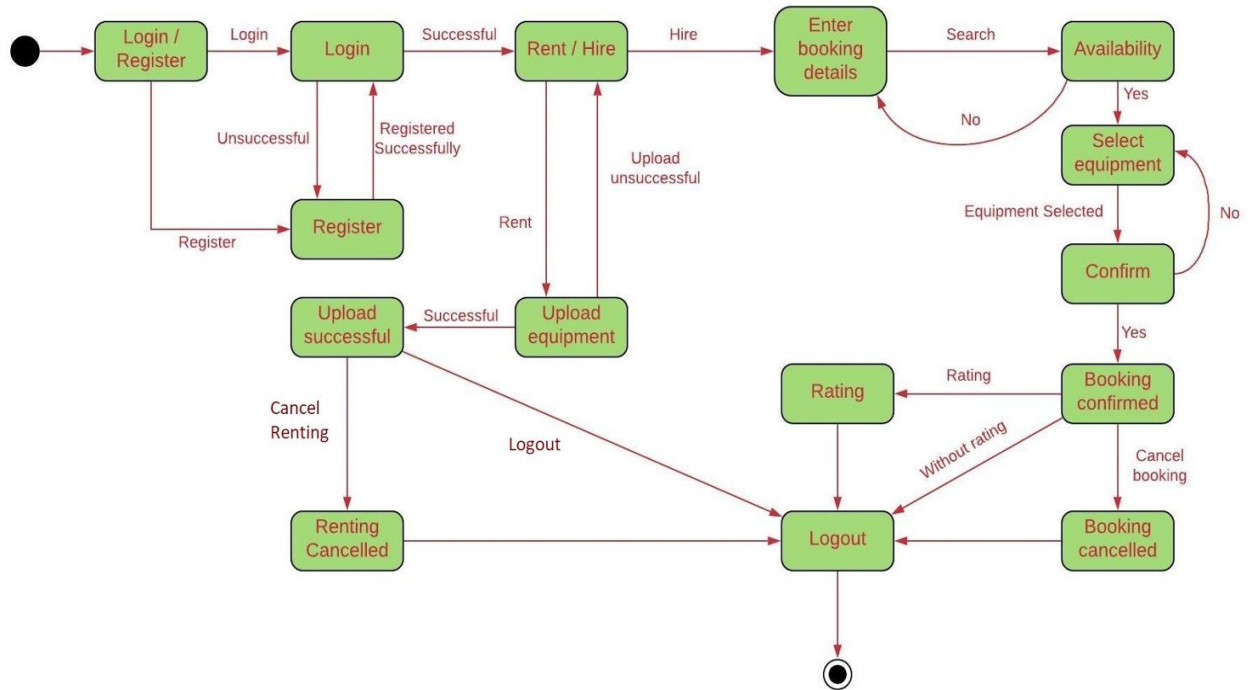
Use-Case Scenario

- **Use-Case Description:** This Use-Case describes the working of the system. It describes how the Users will hire or rent construction equipment.
- **Actors:** User , System.
- **Preconditions:** User has successfully logged in.
- **Postcondition:** User information gets created in the database.
- **Basic flow of the system after user registration:**
 - User opts to hire/rent equipment.
 - User logs in.
 - If he wishes to hire equipment he has to confirm booking for the desired equipment.
 - The equipment is booked for the user and is tagged as “booked” until the order is completed , and it cannot be booked by other users for this particular time period.
 - If he wishes to rent an equipment he uploads information about the equipment.
 - The equipment as default is tagged as “available” and can be booked by willing customers for a particular time period.
- **Alternative flow:** If the user enters invalid user-name or password an error is raised.

Activity Diagram

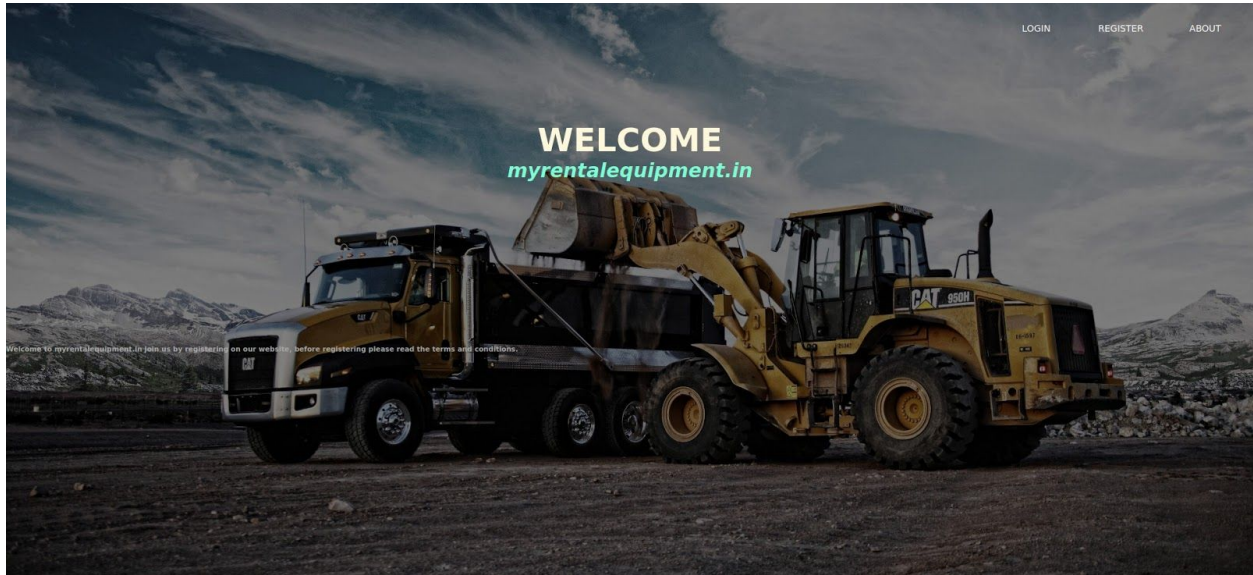


State Diagram



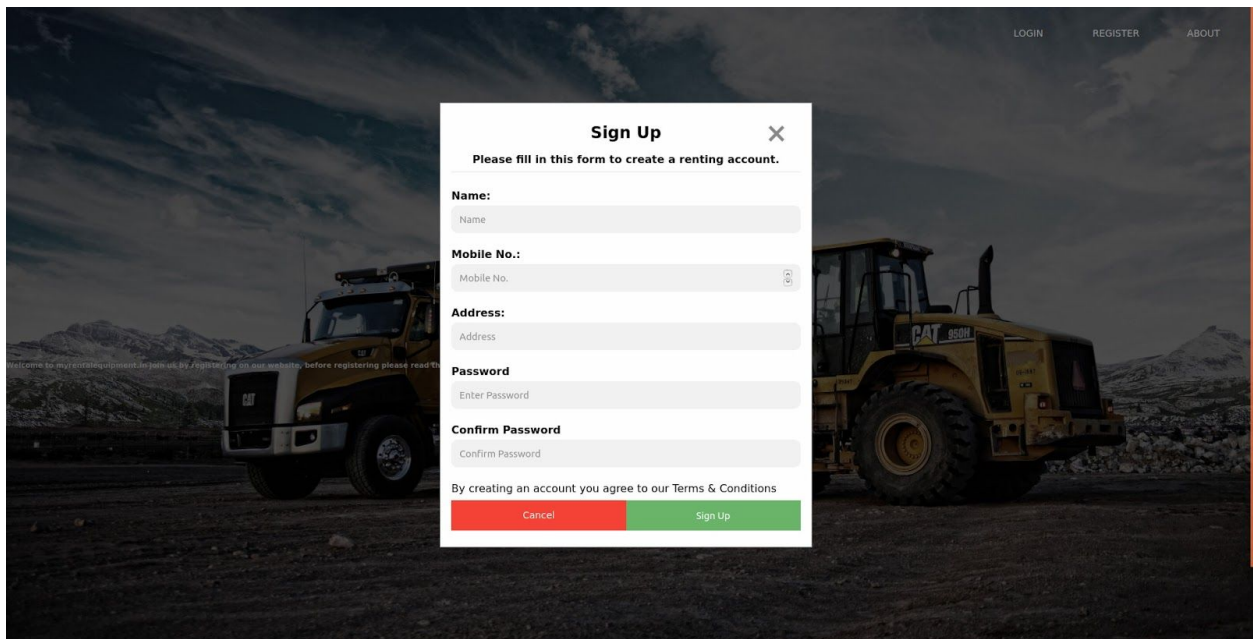
Input/Output Screens

Landing Page:

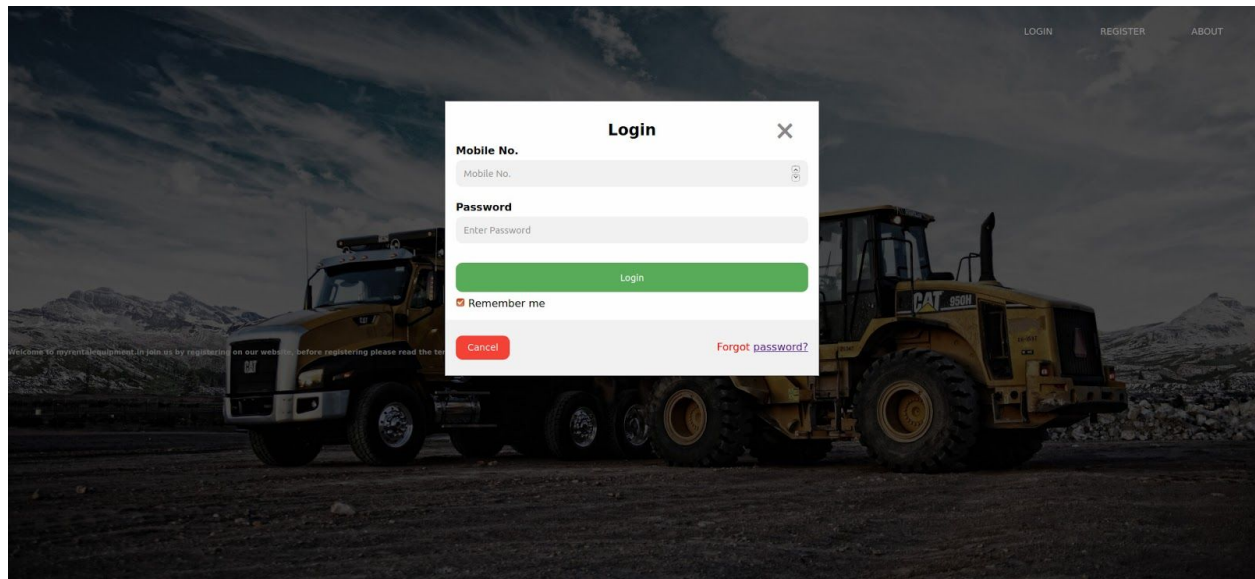


Renting Customer:

Registration:



Login:



WELCOME TO MYRANTRUCKS.COM. To join us by registering on our website, before registering please read the terms and conditions.

LOGIN REGISTER ABOUT

Login

Mobile No.

Mobile No.

Password

Enter Password

Login

☒ Remember me

Cancel

[Forgot password?](#)

Home:



Edit Profile:

Go Back

Edit your profile

Personal

Bank

☐ Phone No.

Phone No.

☐ Address

Address

☐ Password

Password

☐ Confirm Password

Confirm Password

Update

Go Back

Edit your profile

Personal

Bank

☐ Bank Name

Bank Name

☐ Branch

Branch

☐ Account No.

Account No.

☐ IFSC

IFSC

Update

Rent Equipment:

Go Back

Enter equipment details

Equipment Name

Equipment type:

Location :

Rent rate

Continue

Upload equipment image

Select image

UPLOAD

Your Equipment is uploaded
successfully

HOME

View Report:

Go Back



Excavator-9511

Type:Excavator
Rs:5000



Bulldozer-95112

Type:Bulldozer
Rs:8000



Bulldozer-9511

Type:Bulldozer
Rs:6000

Go Back

HOME LOGOUT

Name	Number	Start Date	End Date	Total Rent
Shantanu	9511251878	2020-02-05	2020-02-19	112000
Dixit	9822656556	2020-02-20	2020-02-27	56000

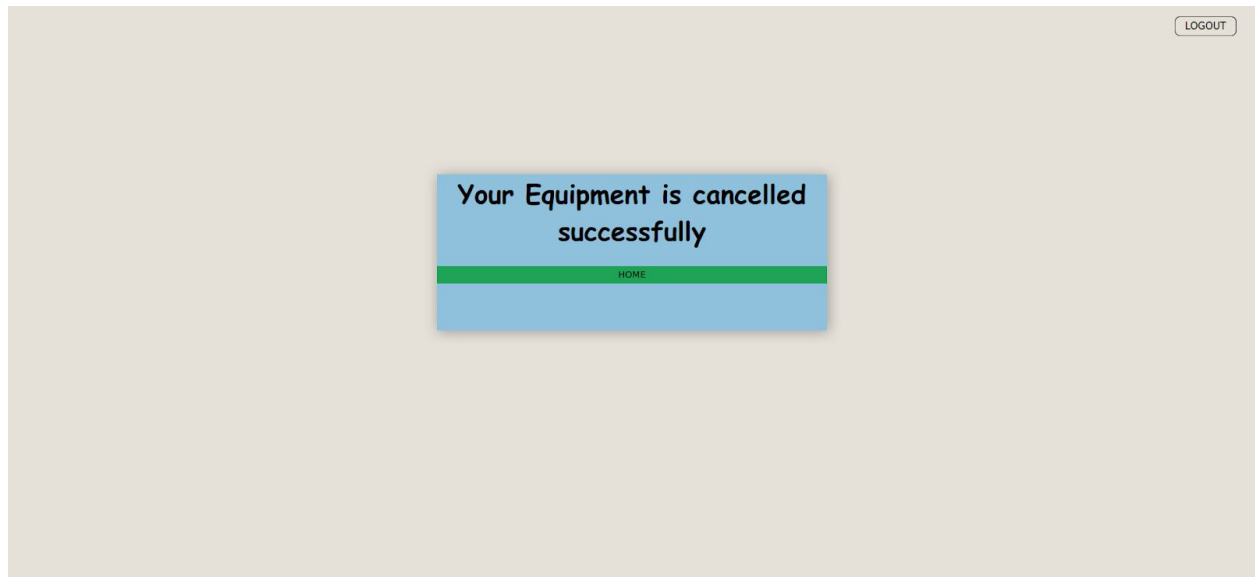
Cancel Equipment:

Go Back

Excavator-9511
Type:Excavator
Rs:5000
[delete](#)

Bulldozer-9511
Type:Bulldozer
Rs:6000
[delete](#)

Bulldozer-95112
Type:Bulldozer
Rs:8000
[delete](#)

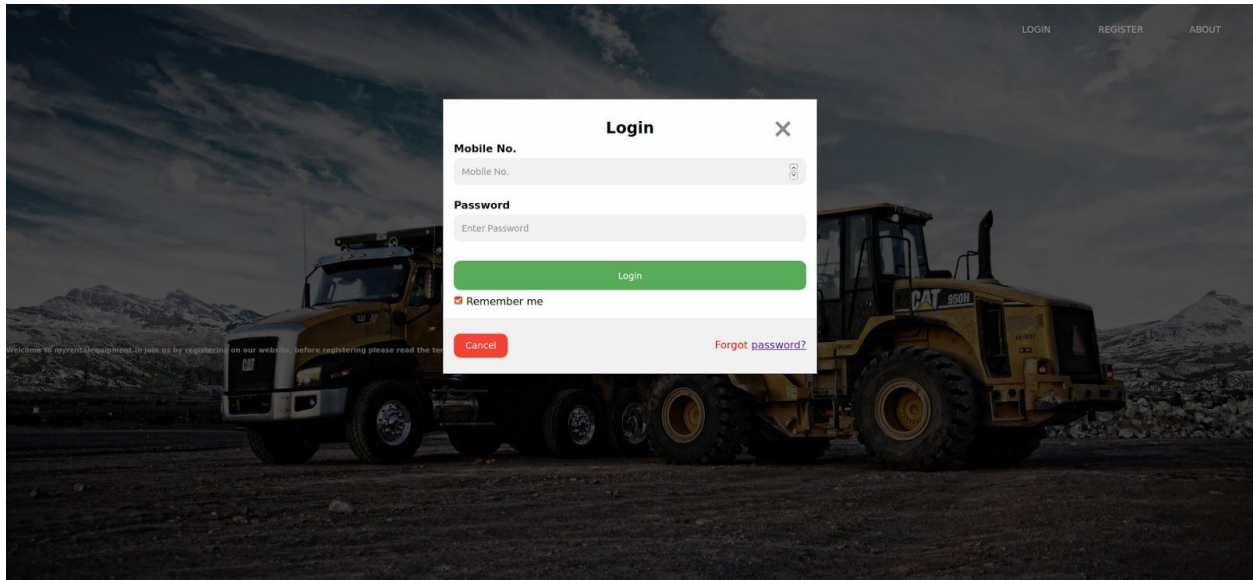


Hiring Customer:

Registration:

A screenshot of a 'Sign Up' form overlay on a background image of a yellow CAT 980H wheel loader. The form is titled 'Sign Up' with a close button (X) in the top right corner. Below the title, it says 'Please fill in this form to create a hiring account.' The form contains the following fields: 'Name:' with a text input field; 'Mobile No.:' with a text input field and a small icon on the right; 'Location :' with a dropdown menu showing 'Pune'; 'Address:' with a text input field; 'Password:' with a text input field and the placeholder 'Enter Password'; and 'Confirm Password:' with a text input field and the placeholder 'Confirm Password'. Below the form fields, there is a line of text: 'By creating an account you agree to our Terms & Conditions'. At the bottom of the form, there are two buttons: a red 'Cancel' button and a green 'Sign Up' button. In the top right corner of the background image, there are three links: 'LOGIN', 'REGISTER', and 'ABOUT'.

Login:



WELCOME TO MYRANTRUCKS.COM. To join us by registering on our website, before registering please read the terms and conditions.

LOGIN REGISTER ABOUT

Login

Mobile No.

Mobile No.

Password

Enter Password

Login

☒ Remember me

Cancel

[Forgot password?](#)

Home:



Edit Profile:

Go Back

Edit your profile

☐ Phone No.
Phone No.

☐ Address
Address

☐ Location:
Pune

☐ Password
Password

Confirm Password

Update

Hire Equipment:

Go Back

Hiring date

Equipment type:
Bulldozer

Start Date:
13 / 01 / 2020

End Date:
25 / 01 / 2020

Continue

[Go Back](#)

BULLDOZER

[LOGOUT](#)



Bulldozer-95112
Rating:4.0

Rs:8000
[select](#)



Bulldozer-9511
Rating:4.0

Rs:8000
[select](#)

[Go Back](#)



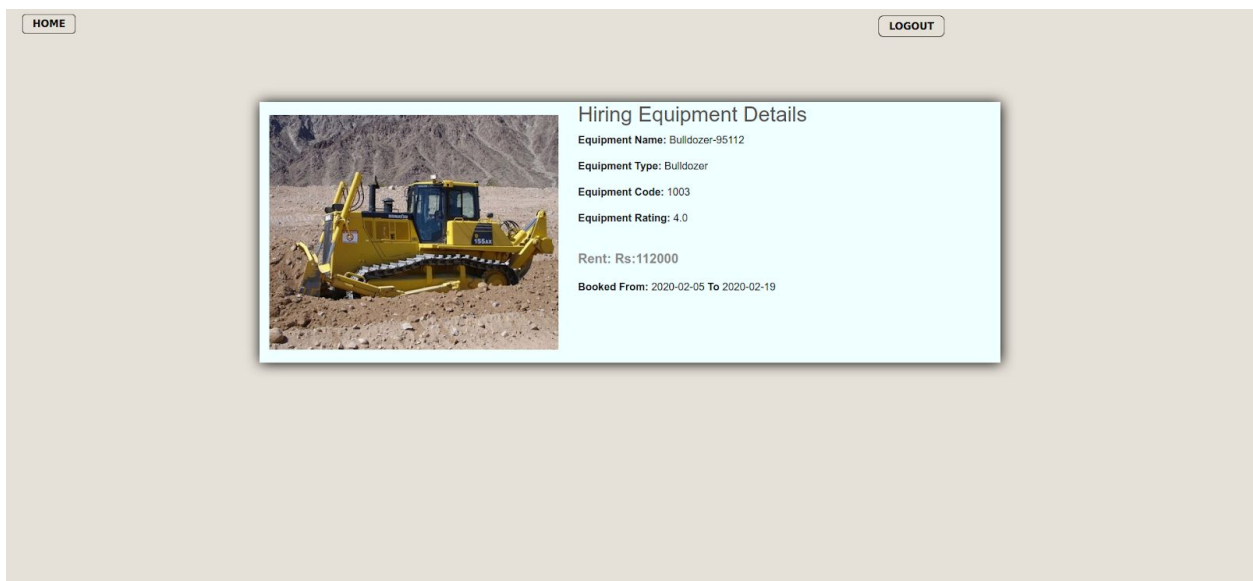
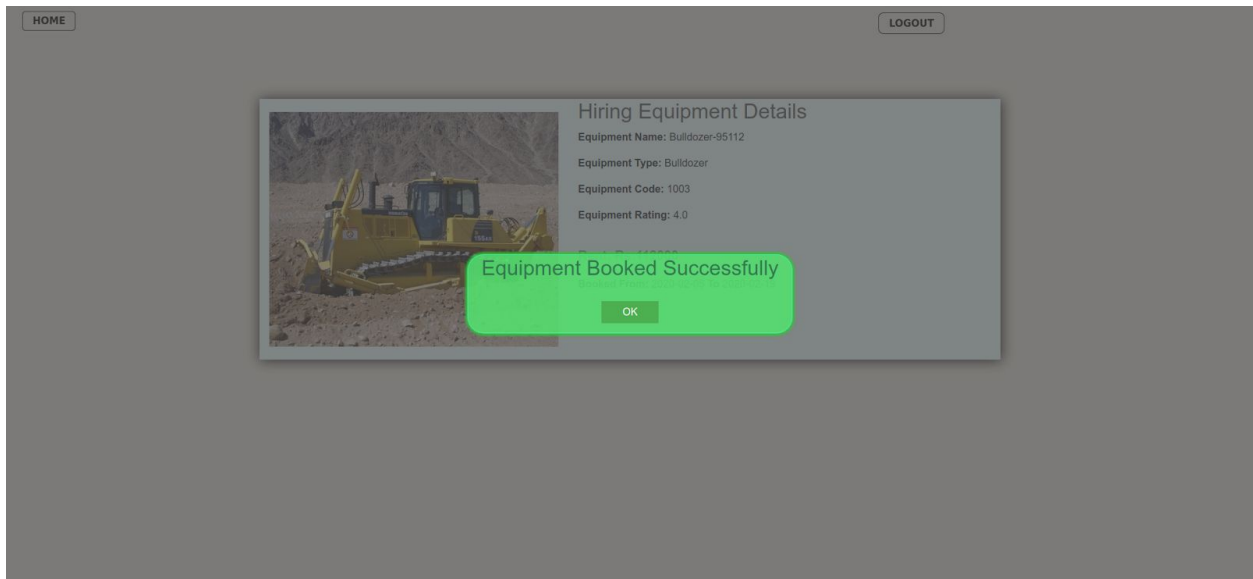
Bulldozer-95112

Equipment Code: 1003

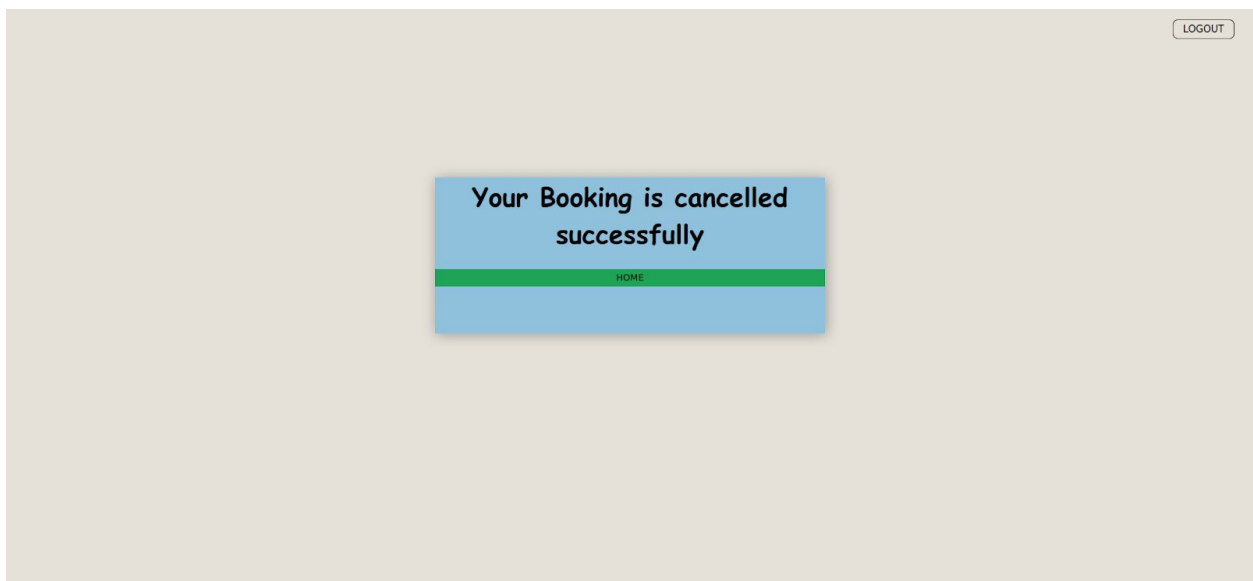
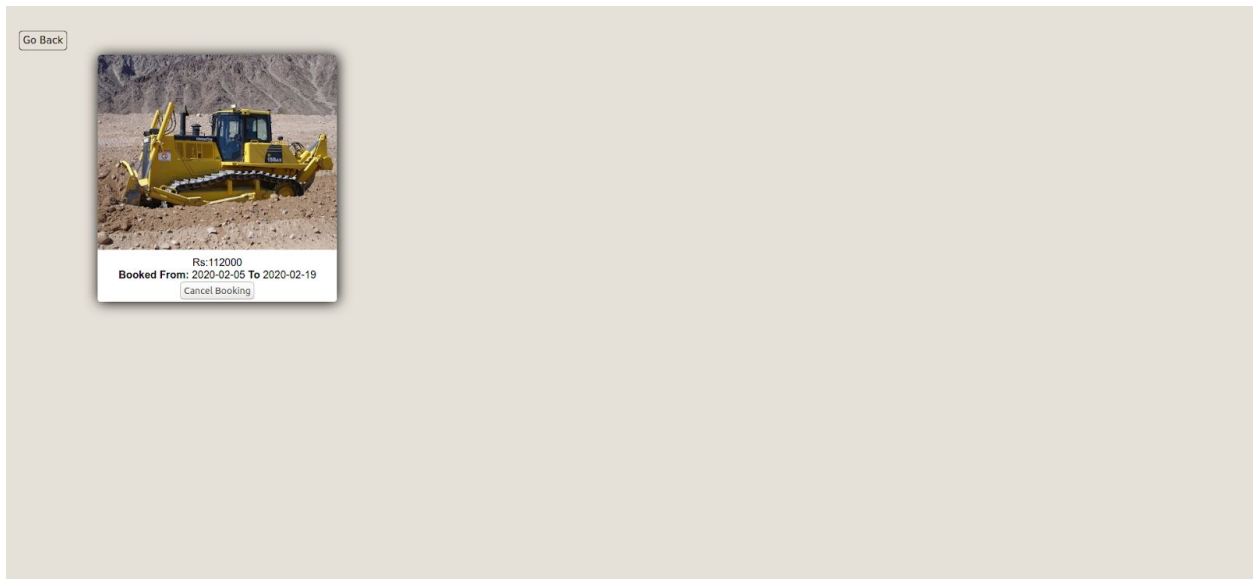
Rent: Rs.8000

Equipment Rating: 4.0

[Book](#)



Cancel Booking:




Rating:


[Go Back](#)

BULLDOZER

[LOGOUT](#)



From:2020-02-12
To:2020-02-20
Rs:64000
[rate](#)



From:2020-02-03
To:2020-02-04
Rs:6000
[rate](#)

[Go Back](#)

[LOGOUT](#)

Give rating for the equipment.

★★★★★

OK

Test Cases:

Test case id	Test Cases	Priority	Precondition	Input test Data	Steps to be executed	Expected Result	Actual Result	Pass /Fail
1]	Test whether the user enters all necessary details while registration.	A		name,mobile number ,password etc.	Enter name ,mobile number ,password etc.	If all details are entered user is registered successfully and is redirected to login page	If all details are entered user is registered successfully and is redirected to login page	Pass
2]	Test whether mobile number is 10 digit number	A		mobile number	Enter mobile number	If the mobile number is less than 10 digits prompt message is displayed	If the mobile number is less than 10 digits prompt message is displayed	Pass
3]	Test if the password contains at least 6	A		Password	Enter Password	If password doesn't	If password	Pass

	characters out which one is a number					satisfy the conditions prompt message is displayed	doesn't satisfy the conditions prompt message is displayed	
4]	Test if user is able to login successfully	A	User must be registered	Correct mobile number and password	1.Enter mobile number and password 2.Click login.	User must successfully login.	User logs successfully	Pass
5]	Test if an unknown user is able to login successfully	A		Incorrect mobile number	1.Enter incorrect mobile number	Error message displayed and the user is redirected to the registration page.	Error message displayed and the user is redirected to the registration page.	Pass
6]	Test if the user enters incorrect password	A	User must be registered	Correct mobile number and incorrect password	1.Enter mobile number and incorrect password	Error message is displayed and user is asked to try again	Error message is displayed and user is asked to try again	Pass
7]	Test if the renting	B	User must	Equipment	Enter	If all details	If all	Pass

	customers enter all necessary data while renting the equipment		be logged in	type,name, rate , location, image	equipment type,name, rate , location, image	are not entered a prompt message is displayed	details are not entered a prompt message is displayed	
8]	Test if the hiring customers enter/selects all required data while hiring The equipment	B	User must be logged in	Equipment type,starting date and ending date, location	Enter equipment type,starting date and ending date, location	If all details are not entered a prompt message is displayed	If all details are not entered a prompt message is displayed	Pass
9]	Test if the starting date entered by the hiring customers are valid	C	User must be logged in	Starting date and ending date	Enter starting date and ending date	If the starting date falls after the ending date or ending date falls before the starting date a prompt message is displayed ,otherwise the user is directed to the next page.	If the starting date falls after the ending date or ending date falls before the starting date a prompt message is displayed, otherwise the user is directed to	Pass

							the next page.	
10]	Test if the renting customer can remove the equipment only if it has no bookings	B	User must be logged in	Select an equipment	Select an equipment	If the equipment is booked it should not be available for cancellation	If the equipment is booked it should not be available for cancellation	Pass
11]	Test if the hiring customer can cancel a booking only two days prior to the starting date.	B	User must be logged in	Select the booking	Select the booking	If the current date is two days prior to the starting date then only the booking can be cancelled	If the current date is two days prior to the starting date then only the booking can be cancelled	Pass
12]	Test if user logs out successfully	C	User must be logged in	Click Log out	Click Log out	User is logged out and session is terminated	User is logged out and session is terminated	Pass

Future Enhancements:

- In later versions an option to pay rent online will be available .
- In later versions a notification system will be developed where the renting customers will receive a notification when their equipment gets booked.

References:

- **Websites:-**

- www.google.com
- www.stackoverflow.com
- www.geekforgeeks.com
- www.w3schools.com