

Project Report

Project Title	Design, Develop, Implement, Test & Document Used Car Sales Portal Website
Qualification Name (NICF)	Advanced Certificate in Software Applications (Development and Process)
Product Name	ABC Cars Pte Ltd Portal
Module Name (NICF)	Application Development & Process

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Learner declaration
I certify that the work submitted for this assignment is my own and research sources are fully acknowledged.
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Date: 20/01/2023

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1) Project Background

ABC cars Pte Ltd' has been engaged as a website developer for the improvement. Creates a car sales portal for used cars. For that it creates users who can register on the portal. this is, assisting portal users look for cars the usage of the registration page, make, model, and many others. abilities required for planning, implementation, testing and documentation are also studied underneath this task. There, the website for a used car sales portal has been designed greater effectively using Spring Framework, MySQL server, Spring safety and test. It additionally allows users to view car information after registration and charge range. This portal lets in users to log inside and out on every occasion they want. Used car sales portal has categories as users and admin. There separate duties are assigned below them. inside the portal, users can register on the portal, get right of entry to the portal, post a car for sale with image upload, close an existing car sale, replace their profile after logging in, e book an appointment for a take a look at force in addition to post a put up. except, the admin has any other job right here. Registering at the portal, logging into the portal, viewing the listing of registered users, marking a user as an administrator, allowing and disabling a car post, updating their profile, approving or rejecting user appointments whilst bidding and making sales transactions are only some.

2) Project Objective

- The grant objective of this project is considered to be development of skills required for project planning, implementation, testing and documentation.
- For that, using Spring Framework, spring security, MySQL server and test, the website has been created for a used car sales portal.
- Identify and analyse business processes
- Creating a business process session.
- Create the project plan document.
- Create test concepts.
- Create test planning phase. 8. View and understand and complete all tests, assignments, e-content related to the module

2.1 Tools and Platforms used

- Spring Tool Suite – To implement the project

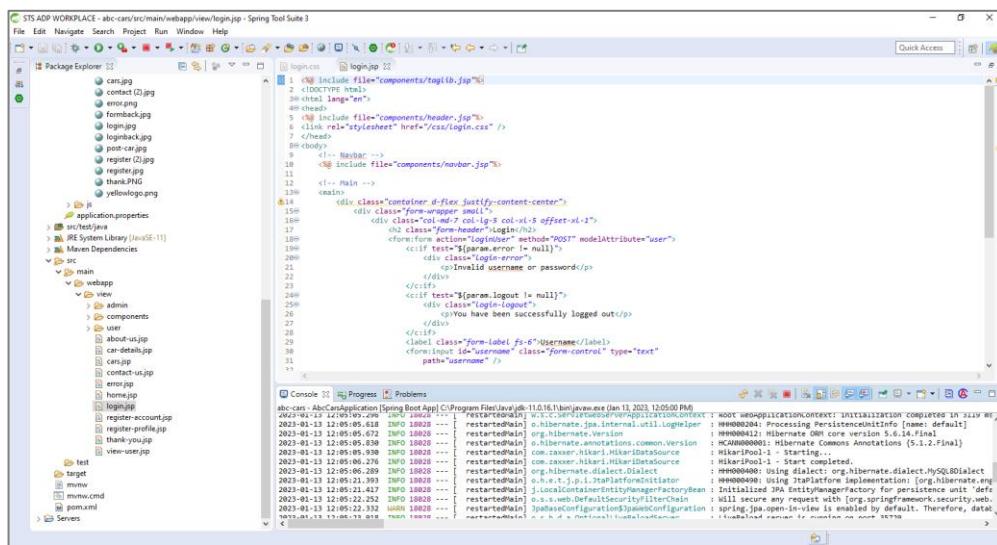


Figure 1: Screenshot of STS Workplace

- MySQL Workbench – To connect database

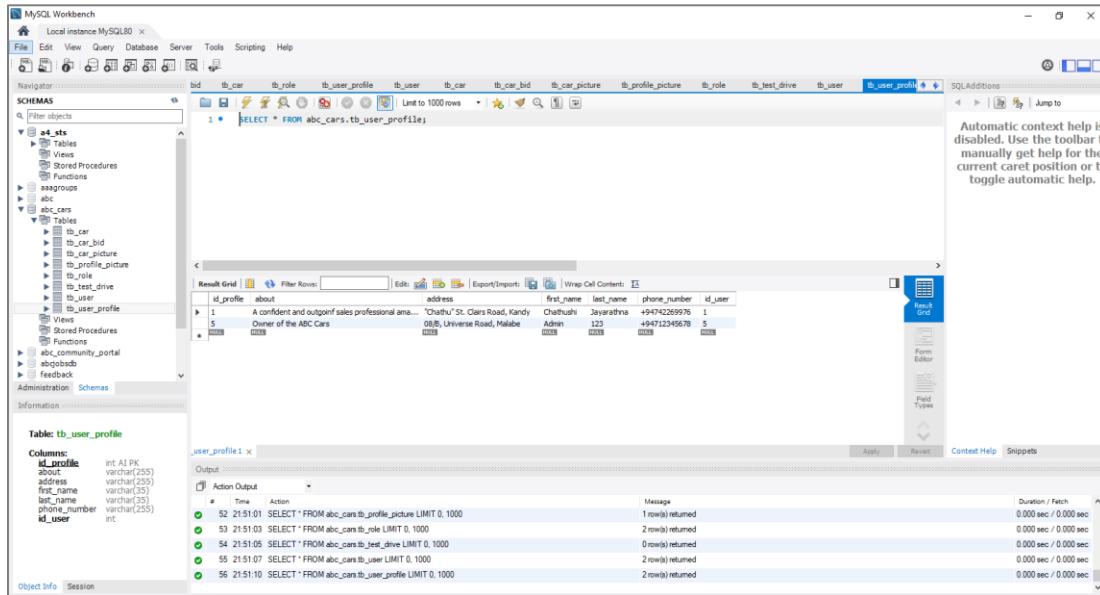


Figure 2: Screenshot of MySQL Workbench

- Diagram.net – To create flow charts

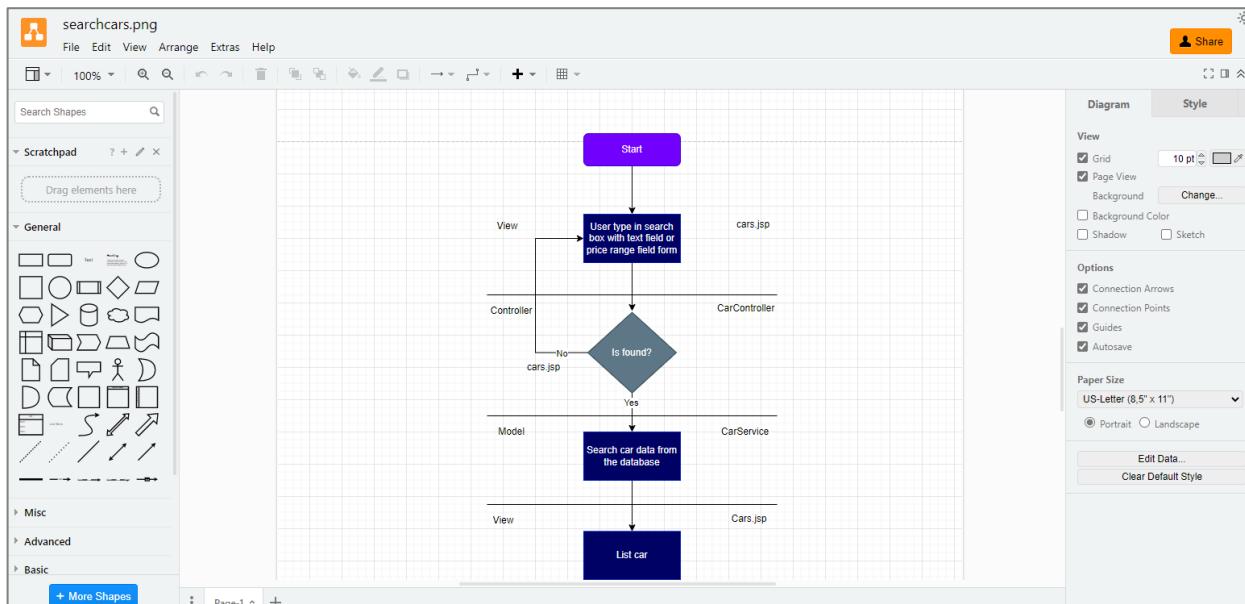


Figure 3: Screenshot of Diagram.Net

- MS Word – To create Project Report

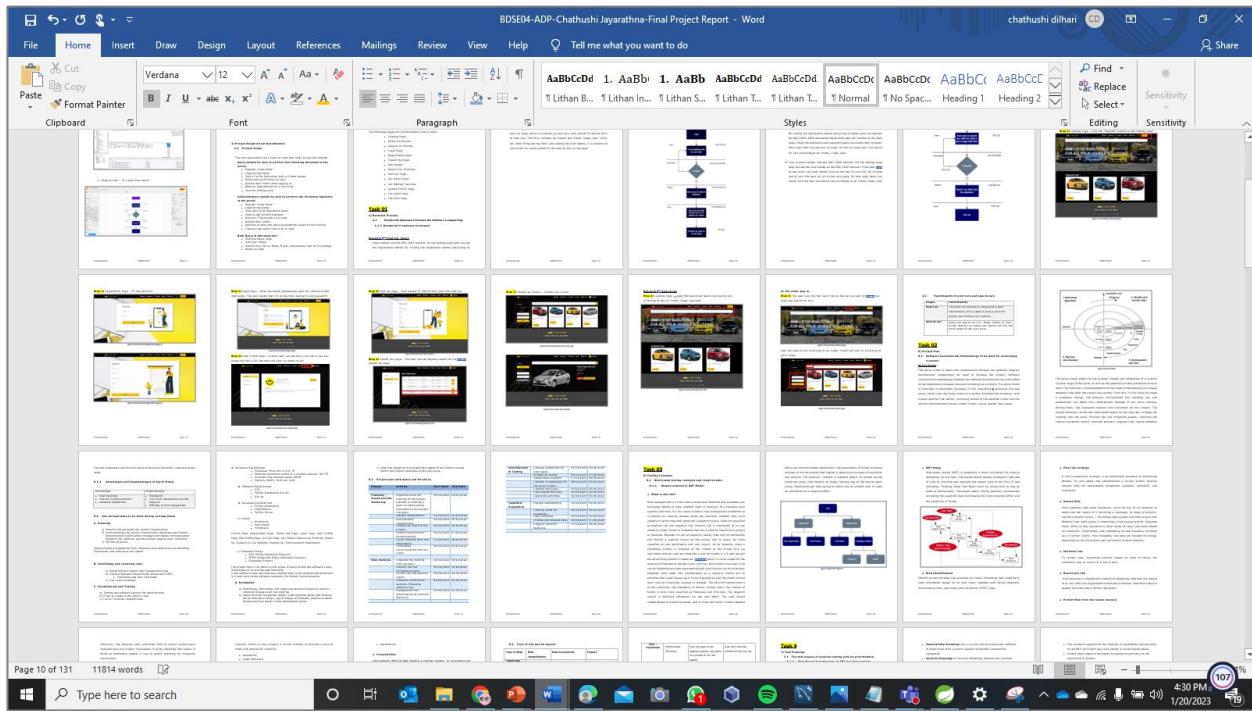


Figure 4:Screenshot of MS Words

- MS PowerPoint – To create Project Presentation

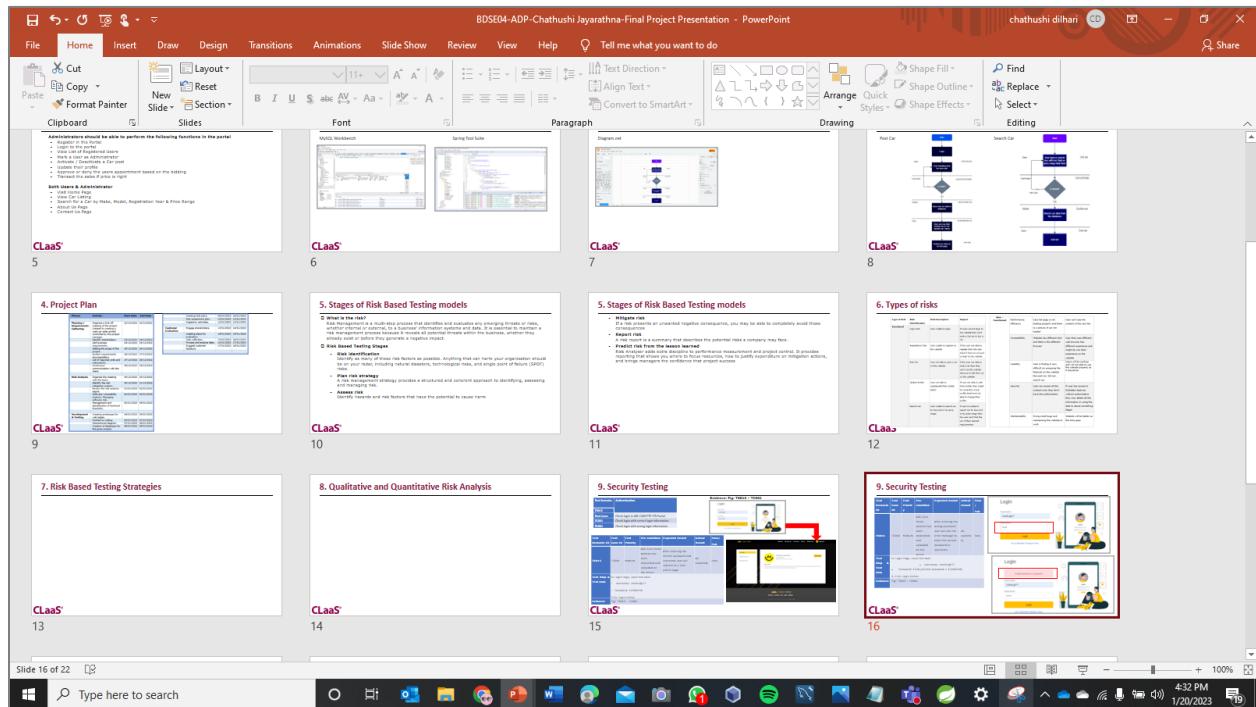


Figure 5:Screenshot of MS PowerPoint

3) Project Requirement Specification

3.1 Project Scope

The web application has 2 types of roles that could access the website

Users should be able to perform the following functions in the portal

- Register in the Portal
- Login to the Portal
- Post a Car for Sale along with a Picture upload
- Deactivate an Existing car sale
- Update their Profile after logging in.
- Book an appointment for a test drive
- Post the bidding price

Administrators should be able to perform the following functions in the portal

- Register in the Portal
- Login to the portal
- View the List of Registered Users
- Mark a User as Administrator
- Activate / Deactivate a Car post
- Update their profile
- Approve or deny the users appointment based on the bidding
- Transact the sales if the price is right

Both Users & Administrator

- Visit the Home Page
- View Car Listing
- Search for a Car by Make, Model, Registration Year & Price Range
- About Us Page
- Contact Us Page

3.2 Functional Requirement

The following pages will be developed in the project.

- Landing Page.

- About Us Section.
- Contact Us Section
- Login Page.
- Registration Page.
- Thank You Page.
- Homepage.
- Search Car Function.
- Post Car Page.
- Car Detail Page.
- Car Bidding Function.
- Update Profile Page.
- List Users Page.
- List Cars Page.

Task 01

4) Business Process

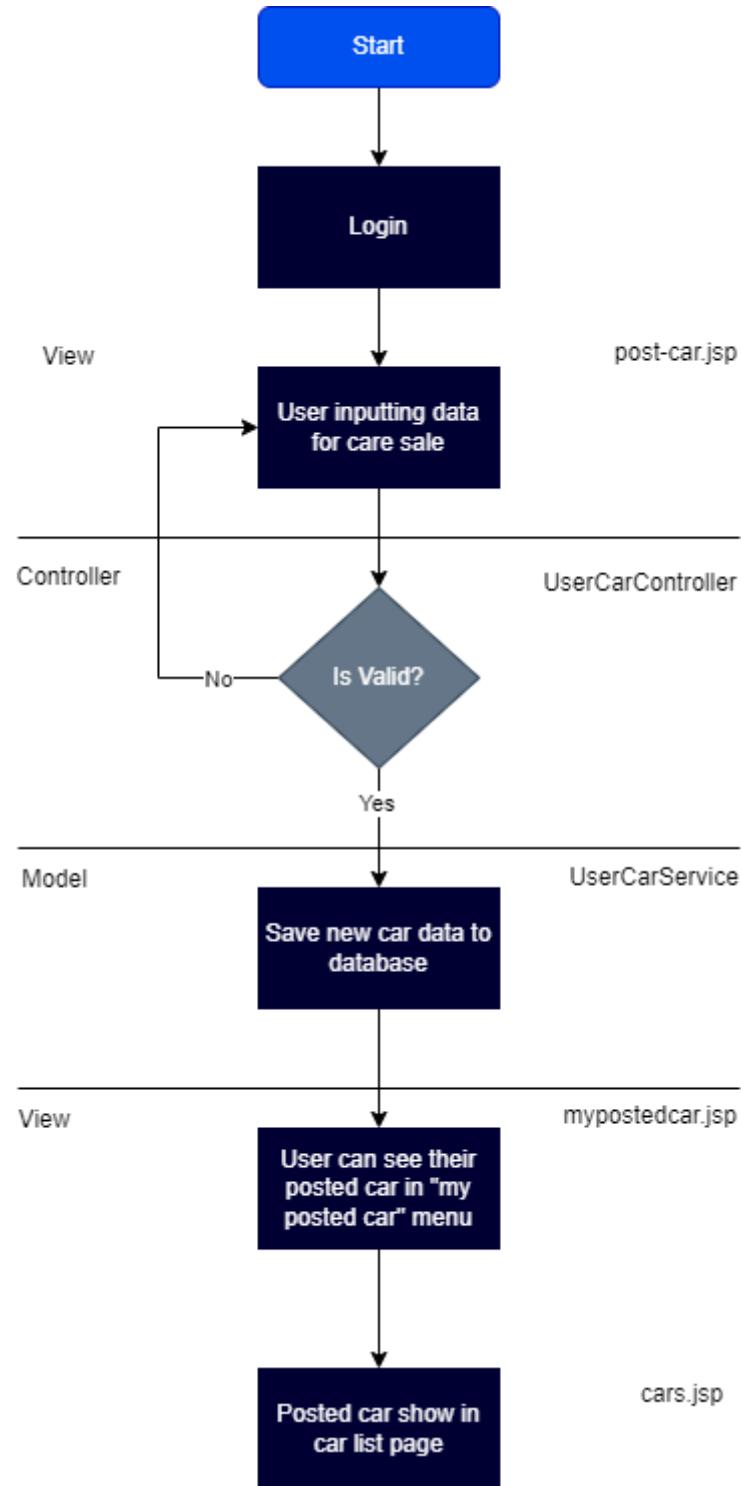
4.1 Explain the Business Processes the Software is supporting.

4.1.1 Document 2 business processes

Scenario 1 : Post Car (User)

Users should visit the ABC CARS website. On the landing page user can see the registration button. By clicking the registration button and giving all details user can register for ABC CARS. After successful registration user will redirect to the login page. Using the Login form user can access their account. After login user can post a car list the using "My posted car" menu. By clicking my posted car user can go to the post on the car page. In the post car page, there is an option to post cars. User should fill out the form to post cars. The form includes car details like model, make, year, price,

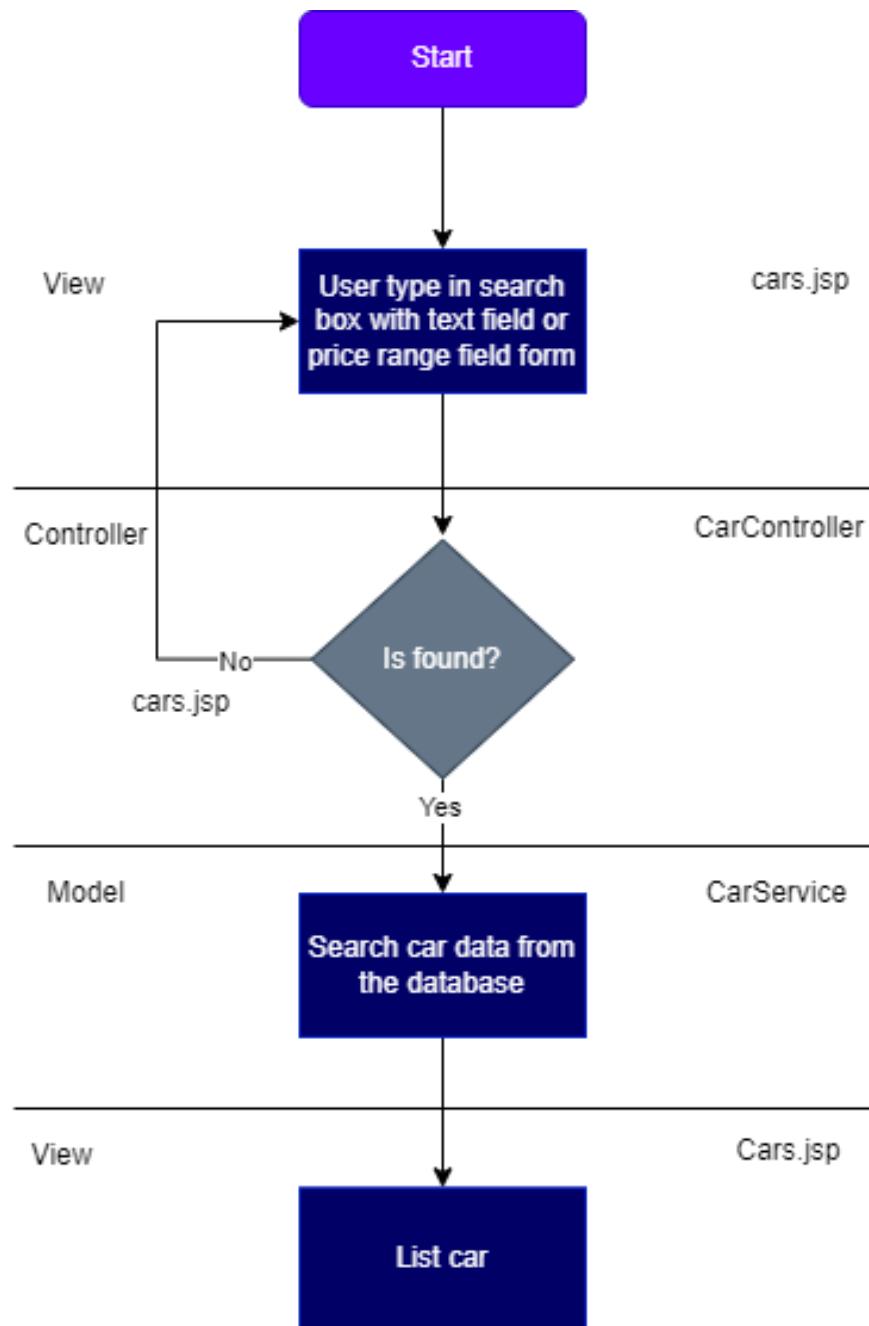
etc. After filling out the form and clicking the post button, it is possible to see all the car posts posted by the user on the car list page



Scenario 2 : Search Car

There are 2 ways to search cars. 1st one is users should visit the ABC CARS website. On the landing page user can see the registration button. By clicking the registration button and giving all details user can register for ABC CARS. After successful registration user will redirect to the login page. Using the username and password users can access their account. After login user can see the car page. On the car page user can search for cars according to car model, make, year.

2nd one is users should visit the ABC CARS website. On the landing page user can see the cars posted on the ABC CARS website. If the user want to see every cars user should click on the see all cars link. By clicking see all cars link user will go to the cars page. On that page users can see all cars and user can search cars according to car model, make, year



4.2 Document 2 Module functionality

4.2.1 UI Screenshots

Scenario 1: Post car

Step 1: Landing Page - Click the “Register” button on the landing page



Figure 6: Screenshot of Landing page

Step 2: Registration Page – Fill out the form.

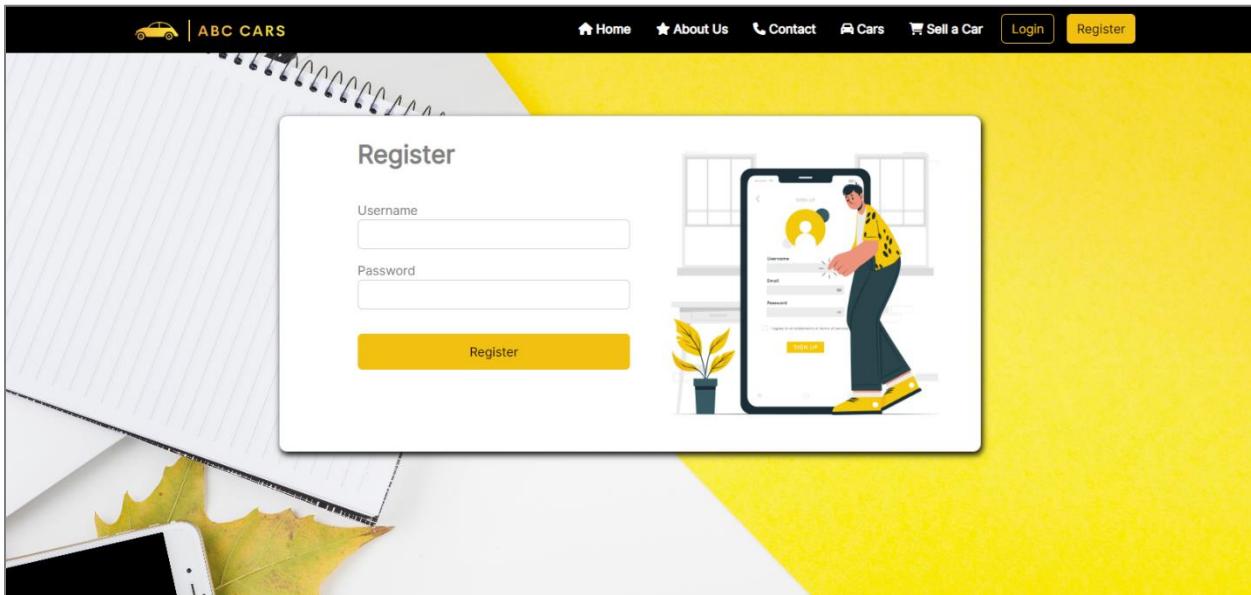


Figure 7: Screenshot of Registration Page (1)

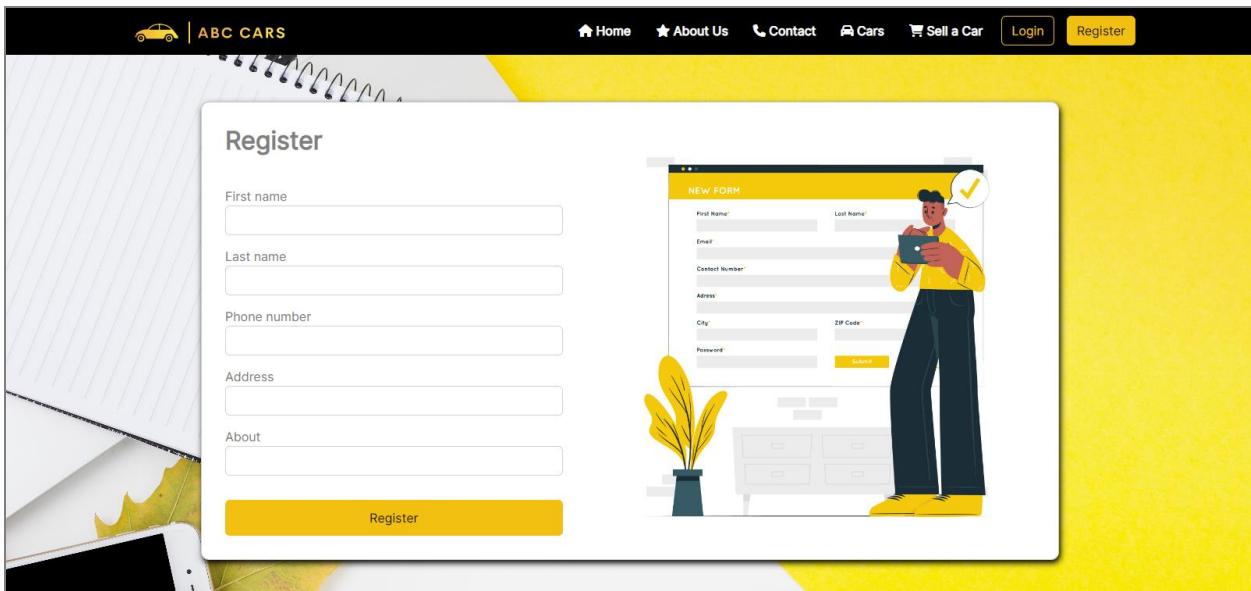


Figure 8: Screenshot of Registration Page (2)

Step 3: Login Page – After successful registration, user will redirect to the login page. The user should login by giving their username and password

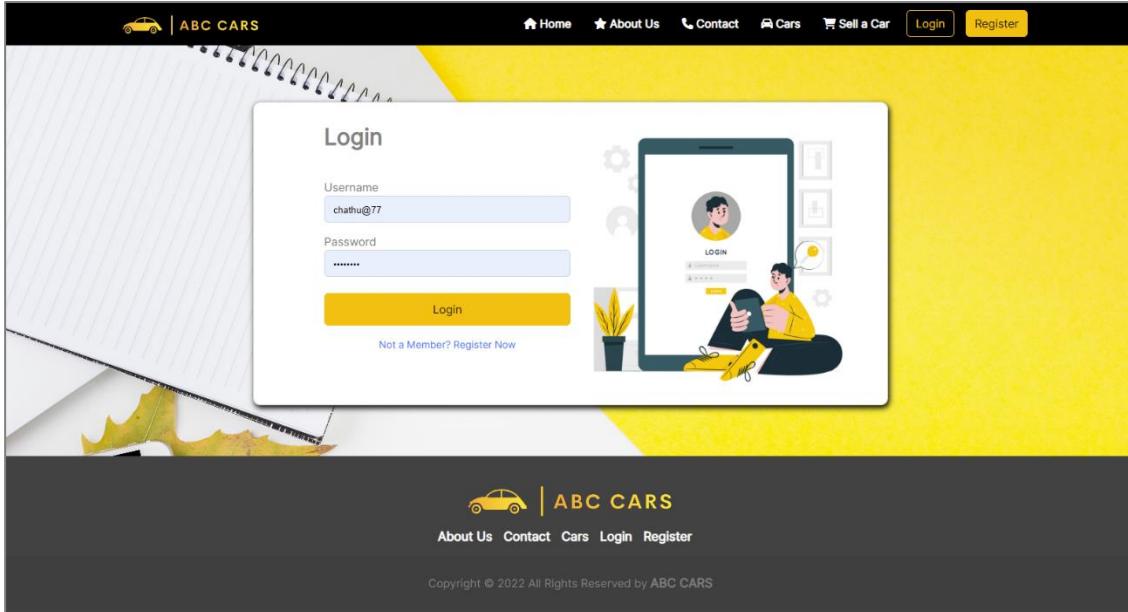


Figure 9: Screenshot of login page

Step 4: User Profile Page – In here user can see Sell a Car link in nav bar. Using this Sell a Car link user can post car detail to sell

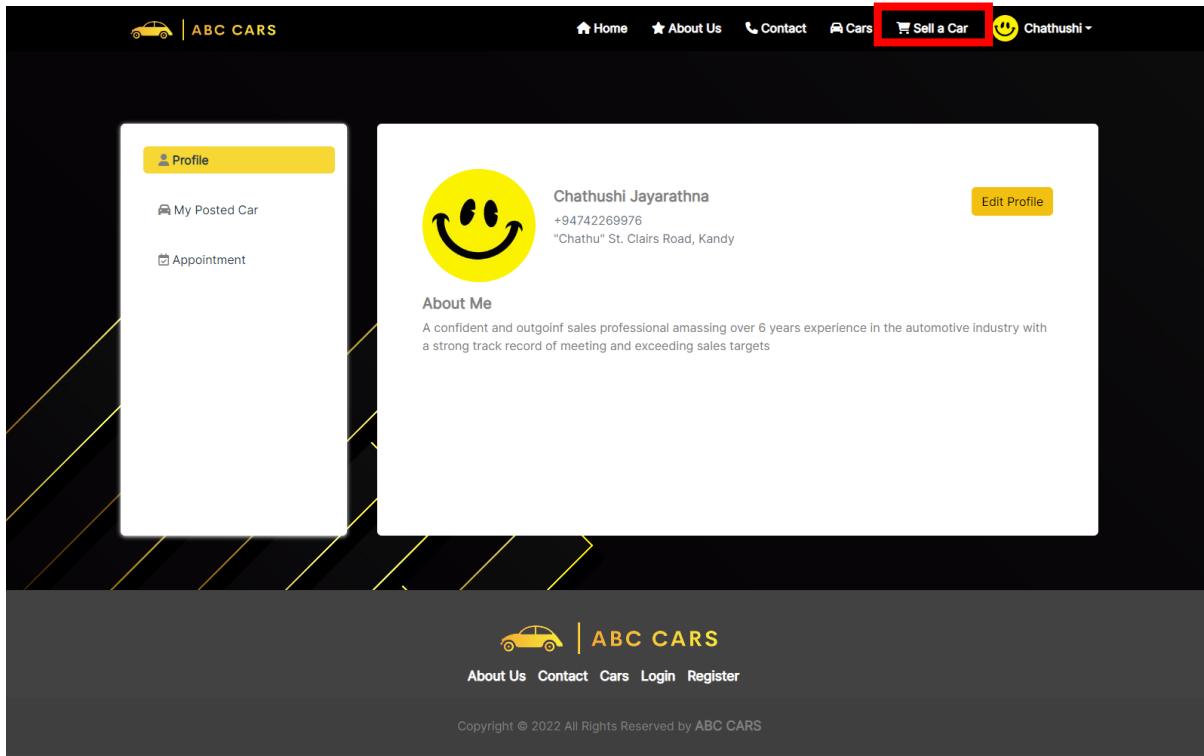


Figure 10: Screenshot of user profile page

Step 5: Post car page – User should fill out the form and click post car

The screenshot shows the 'Post Car' form on the ABC CARS website. The form fields are as follows:

- Make: Toyota (Japan)
- Model: Prius
- Year: 2021
- Price: 840000
- Car Picture: Choose File (Image-removal-view (9).png)

A yellow 'Post Car' button is at the bottom. To the right of the form is a cartoon illustration of a person standing next to a smartphone displaying a file upload interface, with boxes labeled V2.0 and V3.0 nearby.

Figure 11: Screenshot of Post Car form

Step 6: Posted Car page – The user can see he/she posted car list the on posted car page

The screenshot shows the 'My Posted Cars' page. On the left, there's a sidebar with 'Profile', 'My Posted Car' (which is highlighted in yellow), and 'Appointment'. The main area displays a table titled 'My Posted Cars' with the following data:

ID	Car	Make	Model	Year	Price	Status
1	Suzuki (Japan)		WagonR	2020	\$25000	ACTIVE
2	Renault (India)		Kiwd	2017	\$18000	ACTIVE
3	Mini (Netherlands)		Countryman	2016	\$55000	SOLD
4	Peugeot (France)		5008	2022	\$630000	ACTIVE
5	Toyota (Japan)		Prius	2021	\$840000	ACTIVE

Figure 12: Screenshot of posted car list

Step 7: Posted car Details – Posted cars review

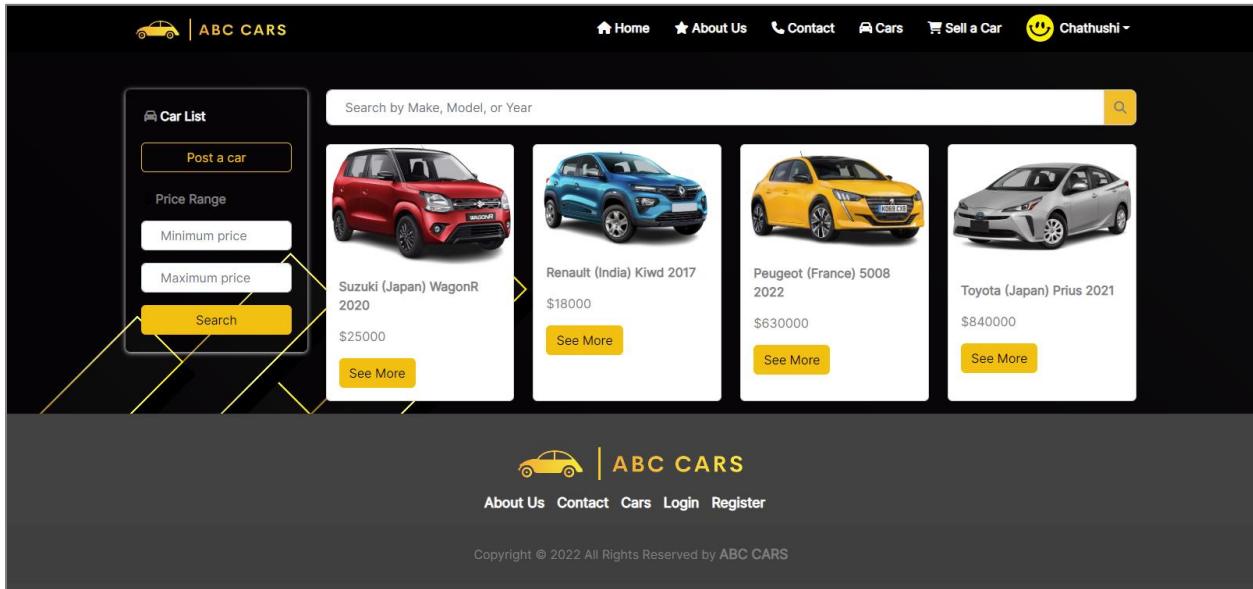


Figure 13: Screenshot of all posted cars page

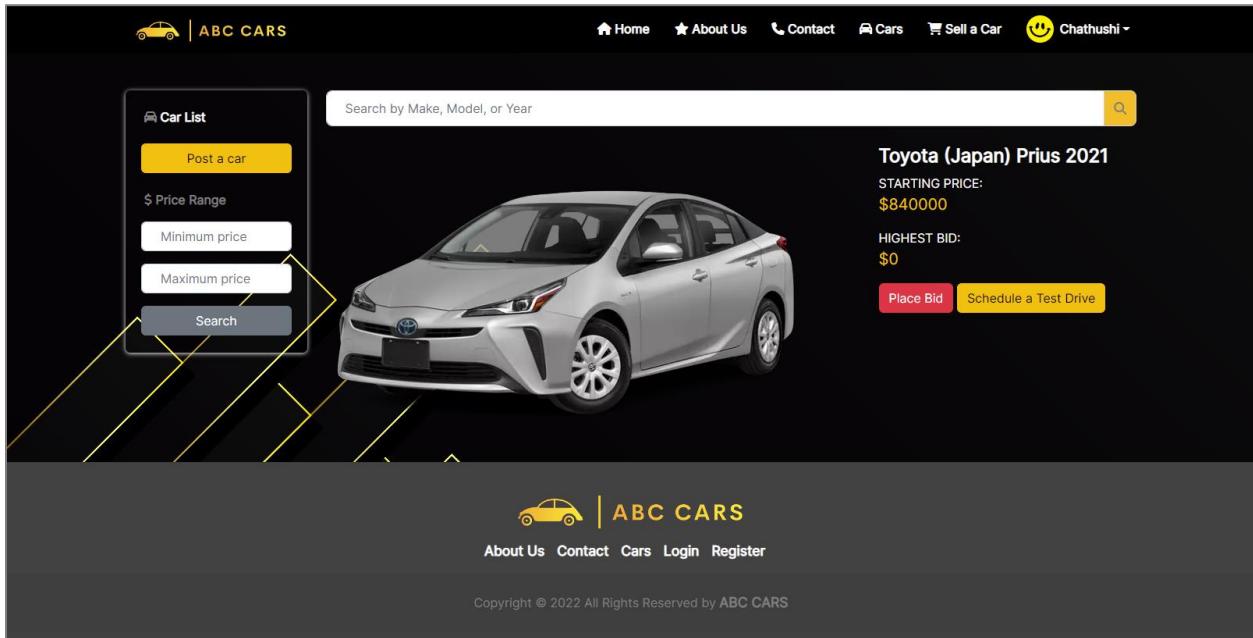


Figure 14: Screenshot of car details

Scenario 2 : Search car

Step 1: Landing Page – Using the search bar users can search cars according to the car model, make, and year

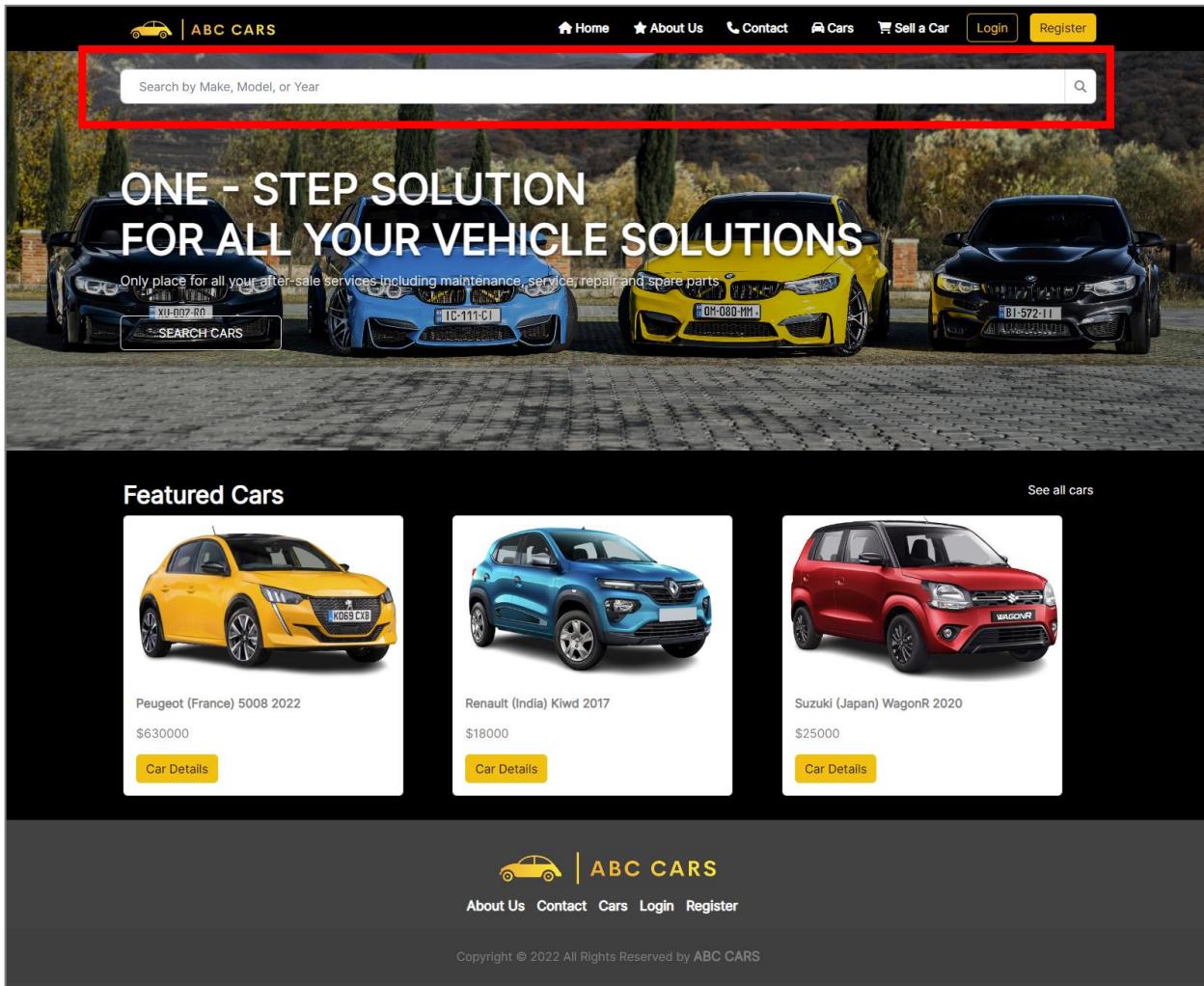


Figure 15: Screenshot of search cars

Or the other way is,

Step 1: The user can click the “cars” link on the nav bar and go the to car page and search for cars

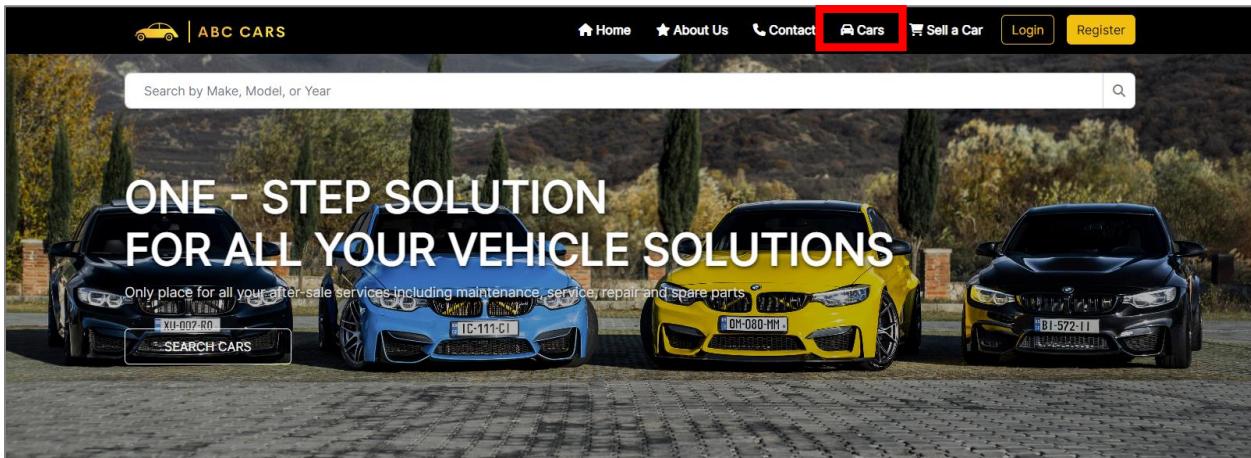


Figure 16: Screenshot of home page

User can search cars according to car make, model and year or according to price range

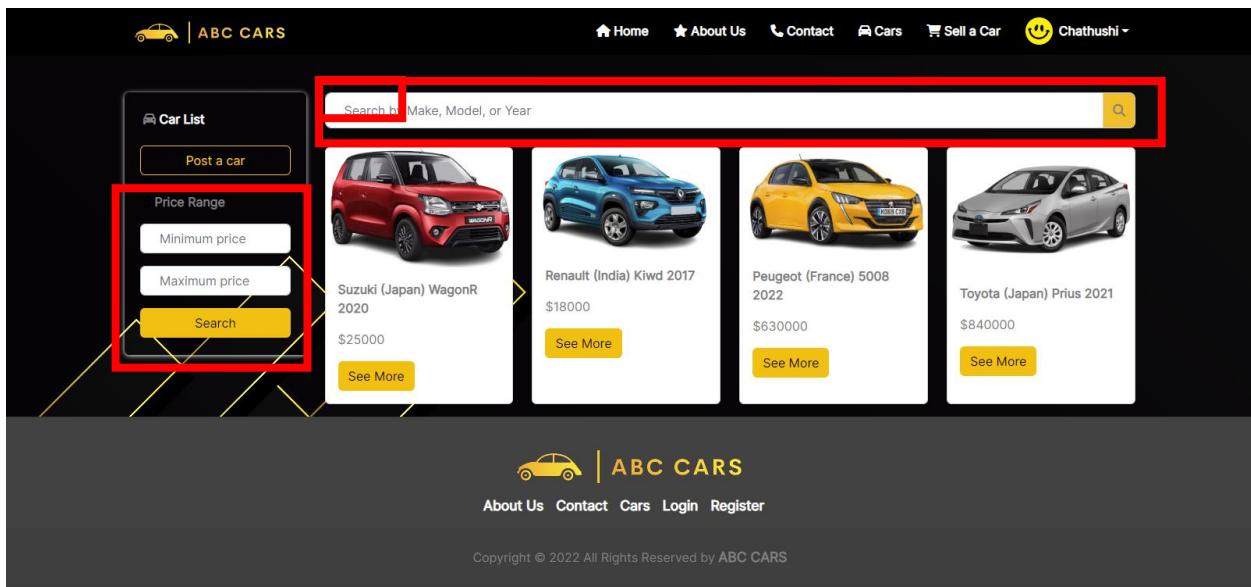


Figure 17: Screenshot of cars page

4.3 Functionality of post cars and search cars

Pages	Functionality
Post Car	The post-car function is considered a user functionality and is used to post a price for selling and bidding on a vehicle.
Search Car	Users can search cars by "Make, Model, or Year" of the desired car users can search cars by the price range of the car's price

Task 02

5) Project Plan

5.1 Software Development Methodology to be used for developing a system

Spiral Model

The spiral model is taken into consideration because the software program development methodology for used to increase the system. software improvement methodology beneath the software development life cycle refers to the dependent processes involved in working on a project. The spiral model is important in structured processes. it's far considered a excessive risk safe place. clearly put, the Spiral model is a system development existence cycle system used for risk control, combining factors of the waterfall model with the iterative development process model. It has a spiral shaped loop shape

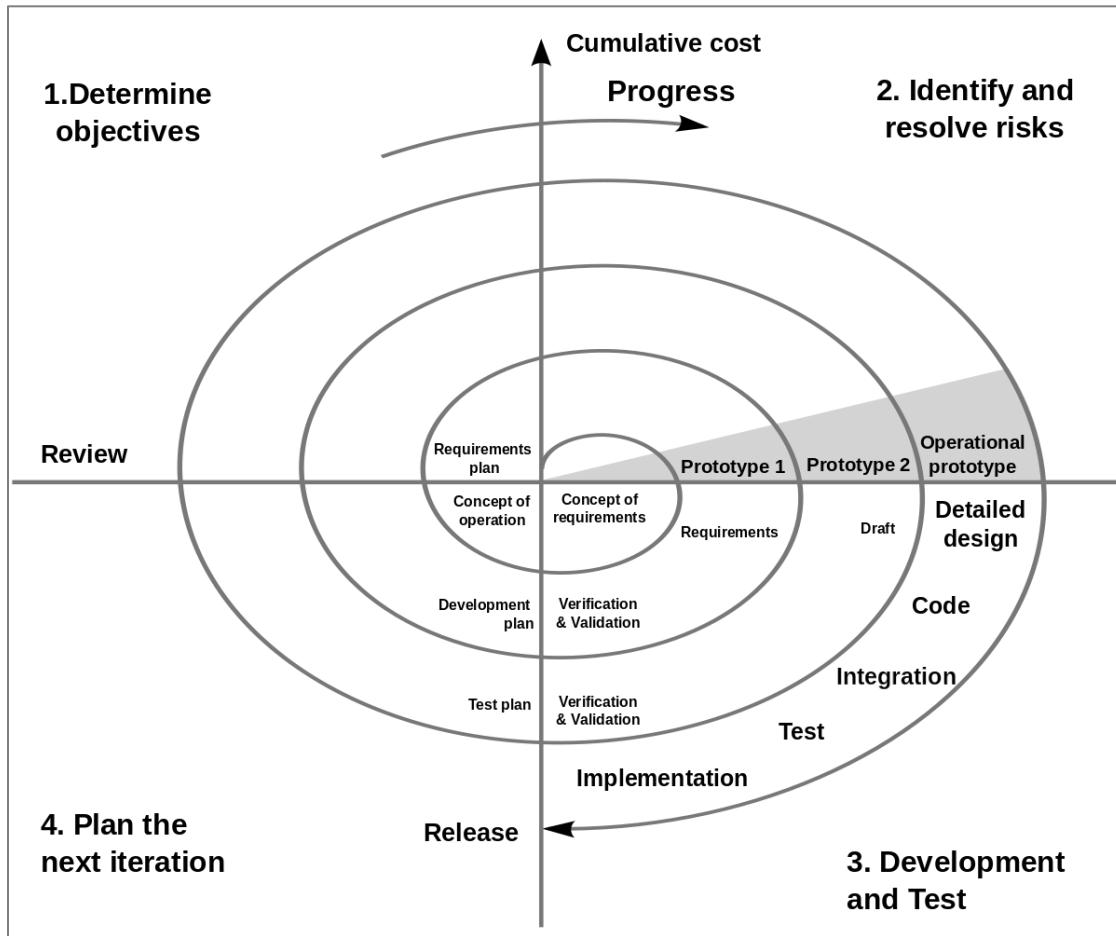


Figure 18:Spiral Model

The spiral model allows for the gradual release and refinement of a product via each stage of the spiral, as well as the potential to build prototypes at each level. The maximum important feature of the model is the potential to manage unknown risks after the project has started. From this, it's far viable to create a prototype. design, risk analysis, improvement and checking out, and assessment, are taken into consideration because of the spiral process. Among them, risk evaluation become very important for this project. The project develops carried-out code based totally on the risk plan. arrange the meeting with the team, discover the risk mitigation system, overview the chance evaluation record, examine software program risk, control software

risk and manipulate and become aware of technical feasibility, chance analysis tasks

5.1.1 Advantages and Disadvantages of Spiral Model

Advantages	Disadvantages
<ul style="list-style-type: none">• Risk Handling• Flexible in Requirements• Customer Satisfaction	<ul style="list-style-type: none">• Expensive• Too much dependable on Risk Analysis• Difficulty in time management

5.2 List various tasks to be done during various phase

A. Planning

- a) Identify and gathered the system requirements
- b) Understanding the system requirements (Business and System Requirements Specification) through continuous communication between the customer and the system analyst team members
- c) Set the objective

Requirements are gathered from customers and objectives are identified, Elaborated, and analyse at the outset

B. Identifying and resolving risks

- a) Document the project risk management plan
- b) Prepare Software Requirement Document (SRS)
 - Functional and Non-Functional
- c) Use Case Document

C. Development and Testing

- a) Testing the software against the requirements
- b) Fixed all issues in the source code
- c) List of Technical requirements

1. Hardware Requirement

- Processor: Minimum 2 GHz, i5
- Ethernet connection (LAN) or a wireless adapter (WI-FI)
- Minimum free storage space: 20GB
- Memory (RAM); Minimum 4GB

2. Software Requirement

- STS
- MySQL Workbench 8.0.30
- JDK 11

3. Database Requirement

- MySQL Workbench
- PhpMyAdmin
- MySQL Server

b) Create,

- Wireframe
- Storyboard
- Prototypes

(Home Page, Registration Page, Thank You Page, Login Page, User Profile Page, Edit Profile Page, List Car Page, Car Details, Search Car Function, About Us, Contact Us, Car Bidding, Posting Car, Administrator Dashboard)

c) Database Design

- ERD (Entity Relational Diagram)
- EERD (Enhanced Entity Relational Diagram)
- Relational Schema

The project team may select a pilot group of users to test the software's user-friendliness or to provide user feedback

If the software does not meet the requirements in the requirement document it is sent back to the software engineers for further implementation

D. Evaluation

- a) Identifying, estimating, and observing technical feasibility such as schedule slippage and cost overrun
- b) starts with the conceptual design in the baseline spiral and involves the architectural design, logical design of modules, physical product design and final design in the subsequent spirals

- c) allow the customer to evaluate the output of the project to data before the project continues to the next spiral

5.3 Project plan with dates and timelines

Phases	Activity	Start Date	End Date
Planning / Requirements Gathering.	Organize a kick-off meeting of the project (related to creating a used car sales portal) controlled by the project manager.	22/12/2022	23/12/2022
	Identify stakeholders.	23/12/2022	24/12/2022
	Add business requirements.	24/12/2022	25/12/2022
	Setting the scope of the project.	25/12/2022	26/12/2022
	System requirements documentation.	26/12/2022	27/12/2022
	List of required units and subsystems.	27/12/2022	28/12/2022
	Continuous communication with the client.	28/12/2022	29/12/2022
Risk Analysis.	Organize the meeting with the team.	29/12/2022	30/12/2022
	Identify the risk mitigation system.	30/12/2022	31/12/2022
	Review the risk analysis report.	31/01/2023	02/01/2023
	Software vulnerability analysis. Managing software risk.	02/01/2023	03/01/2023
	Management and identification of technical feasibility.	03/01/2023	04/01/2023

Development & Testing.	Creating prototypes for web pages.	04/01/2023	05/01/2023
	Worked on coding.	05/01/2023	07/01/2023
	Interactional diagram.	07/01/2023	08/01/2023
	Creation of databases for the given project.	08/01/2023	09/01/2023
	Creating test plans.	09/01/2023	10/01/2023
	Risk assessment plan.	10/01/2023	12/01/2023
	Inspection activities.	12/01/2023	13/01/2023
Customer Evaluation	Engage shareholders.	13/01/2023	14/01/2023
	Creating plans for evaluation.	14/01/2023	15/01/2023
	Data collection.	15/01/2023	16/01/2023
	Process and analyse data.	16/01/2023	17/01/2023
	Suggest customer feedback.	17/01/2023	18/01/2023

Task 03

6) Testing Concepts

6.1 Risk-based testing concepts and requirements

6.1.1 Stages involved in RBT Model

✓ What is the risk?

Risk management is a multi-step process that identifies and evaluates any emerging threats or risks, whether inner or external, to a business facts systems and data. It's far crucial to hold a risk management procedure as it exhibits all capacity threats inside the business, whether they exist already or earlier than they generate a negative impact. Risks are classified as positive risk and negative risk. Positive risk is considered to be any scenario, event, event or situation that has a positive impact on a project or business. Because it's not all negative, taking risks may be worthwhile and feature a positive impact on the project and its goals. Its miles classified as new opportunity and cost impact. As an instance, when a marketing product is released to the market at the wrong time via individuals who do now not recognize a way to market it, it'll now not get the advertising benefits it deserves. However while it's miles issued for the duration of festivals or unique times, you may get properly blessings. Risk can be diagnosed and new opportunities and cost impacts can be accurately adjusted. Also taken into consideration as a negative impact are all activities that could reason harm to an organization and the extent of that harm may be minimized, avoided or reduced. The point of interest here is at the possibility and frequency of failure. Among them, the chance of failure is once more classified as frequency and first-rate. The negative impact is definitely influenced via the cost effect. The cost impact consequences in economic losses, lack of client self-belief, critical business

effect and time to market. Additionally, the opportunity of failure increases because of the complexity that regularly takes place because of possibility and severity. For example, consider a scenario where my phone variety would not work. One become no longer running due to the fact he gave wrong information and after giving accurate info he worked well. It could be considered as a negative effect.

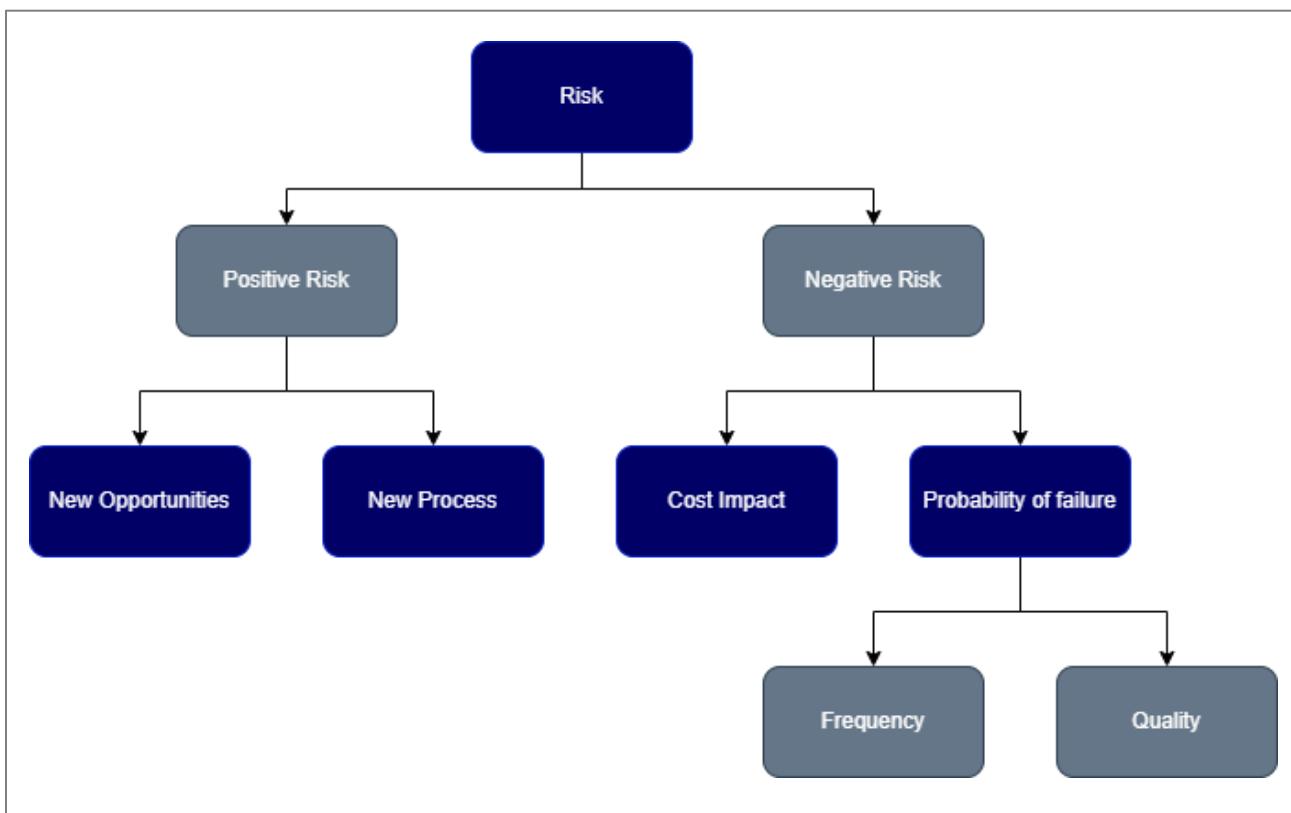
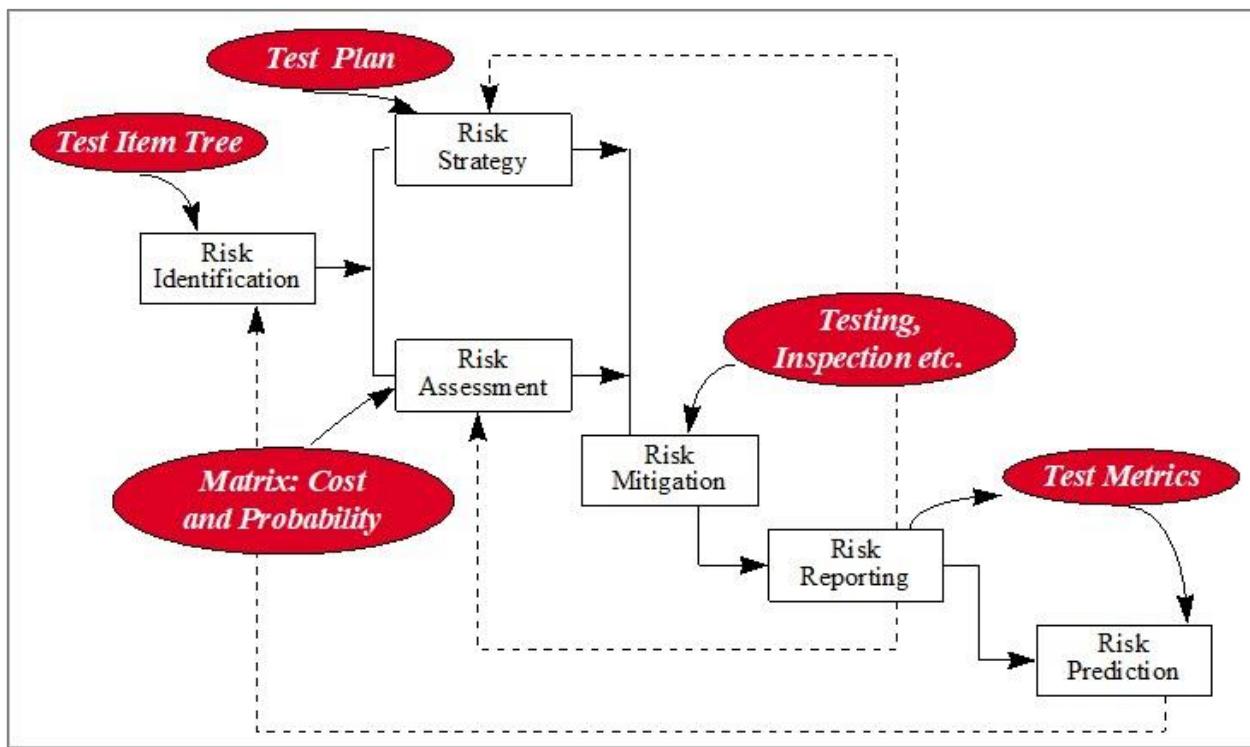


Figure 19: Risk Plan Diagram

✓ RBT Stage

Risk-based testing (RBT) is essentially a check completed for projects depending on the risks. Risk-based totally testing strategies make use of risks to prioritize and highlight the proper tests at the time of test execution. Thinking about that there won't be ample time to test all kinds of functionality, risk-based totally testing specially concentrates on testing the capability that incorporates the most important effect and the possibility of failure.



✓ Risk Identification

Identify as lots of those risk elements as viable. Something that could harm your corporation should be on your radar, together with herbal disasters, technological risks, and single point of failure (SPOF) risks.

✓ **Plan risk strategy**

A risk management strategy is an established approach to addressing threats. It's also taken into consideration a cyclical system wherein present risks are continuously recognized, assessed, controlled, and monitored.

✓ **Assess Risk**

Once potential risks were diagnosed, each risk has to be assessed to determine the chance of it becoming a challenge, its stage of severity, and the probable impact — this allows audit groups prioritize to each risk. Whether your audit group is conducting a risk assessment for Sarbanes Oxley (SOX) or that specialize in other styles of risks, your tests should be systematic, documented, and, depending on your business, reviewed as a minimum yearly. How frequently risk tests are finished will range, depending on the dimensions and complexity of each business

✓ **Minimize risk**

To reduce risks, everything possible should be done to reduce the probability and, or impact of a risk to zero.

✓ **Report the risk**

Risk reporting is considered a method of identifying risks that are related to or may affect an organization's business processes. Identified risks are usually compiled into a formal risk report.

✓ **Predict Risk from the lesson learned**

Predictive, risk Analyzer adds additional field to overall performance measurement and project manipulate. It gives reporting that shows in which to awareness assets, a way to justify spending on mitigation movements.

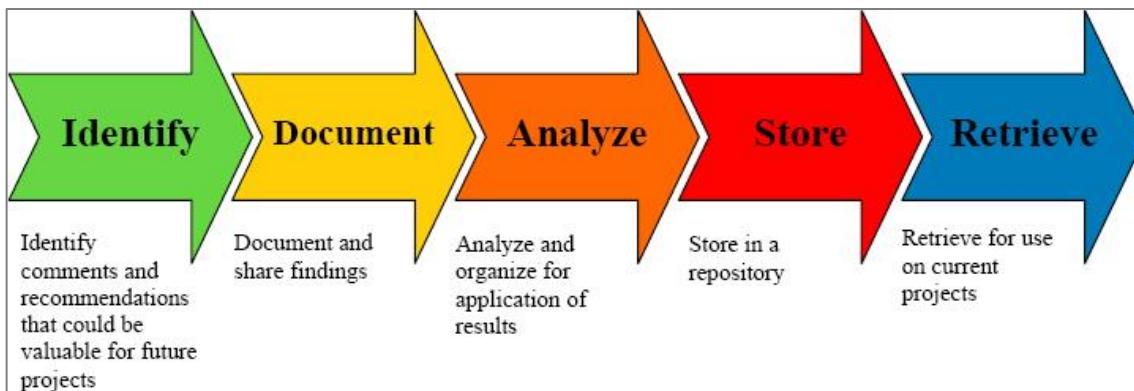


Figure 20:Lesson learned Diagram

6.2 Eight characteristics of Software Product Quality.

The product quality model classifies products best into eight characteristics. specifically, functional suitability, reliability, performance efficiency, usability, safety, compatibility, maintainability and portability.

✓ **Functional Suitability**

Functional Suitability refers to how well a product or machine is able to offer features that meet the stated and implied needs.

- Functional Completeness
- Functional Correctness
- Useful Appropriateness

✓ **Reliability**

Reliability refers to how nicely a system, product, or element performs precise functions below special conditions.

maturity: Refers to how properly a device, product, or element is able to meet your desires for reliability.

- Availability
- Fault Tolerance
- Recoverability

✓ **Performance efficiency**

Performance efficiency refers back to the performance related to the number of sources used.

- Time behavior
- Resource utilization
- Capacity

✓ **Usability**

Usability refers to how well a product or system may be used to gain distinct goals efficiently, efficiently, and satisfactorily.

- Appropriateness Recognizability
- Learnability
- Operability
- user mistakes safety
- consumer Interface Aesthetics
- Accessibility

✓ **Safety**

Security refers to how nicely a product or system protects data and information from security vulnerabilities.

- Confidentiality
- Integrity
- Non-repudiation
- responsibility

- Authenticity

✓ **Compatibility**

Compatibility refers to how properly a product, system, or component can change records in addition to carry out its required functions whilst sharing the same hardware or software program environment.

- Co-lifestyles
- Interoperability

✓ **Maintainability**

Maintainability refers to how well a product or system can be changed to enhance, correct, or adapt to adjustments inside the environment in addition to necessities.

- Modularity
- Reusability
- Analyzability
- Modifiability
- Testability

✓ **Portability**

Portability refers to how properly a system, product, or aspect can be transferred from one surrounding to any other.

- Adaptability
- Install ability
- Replaceability

6.3 Type of risk and its impact

Type of Risk	Risk Identification	Risk Description	Impact
Functional	Login Risk	User unable to login	If users cannot login to the website they can't post or bid car to buy a car
	Registration Risk	User unable to register to the website	If the user not able to register then the user doesn't have an account to login to the website
	Post Car	User not able to post a car on the website	If the user not able to post a car then they can't use the website features to sell their car on the website
	Update Profile	User not able to update/edit their profile detail	If user not able to edit their profile, they might be using the wrong profile detail and not able to change their profile
	Search Car	User unable to search car by keyword or by price range	If user is unable to search car by keyword or by price range then the user can't find the car of their desired requirements

Non – Functional	Performance Efficiency	Cars list page is not loading properly and there is a picture of car not loaded	User can't see the content of the cars list
	Compatibility	Website has different look and feels in the different browser	User that uses different web browser has different experience and might be ruin their experience on the website
	Usability	User is finding it very difficult on accessing the features on the website like post car, bid car, search car	Users will be confuse and will not able to use the website properly as it should be
	Security	User can access all the content even they don't have the authorization	If user has access to forbidden features without authorization they may delete all the information or using the data to abuse something illegal
	Maintainablity	Fixing small bugs and maintaining the website to work	Website will be better as the time goes

Task 4

7) Test Planning

7.1 The test phases of security testing with its prioritization

7.1.1 Risk-Based Test Strategy in ABC Car Sale website.

a) What is Security Testing ?

Security testing is a sort of software program testing that uncovers vulnerabilities, threats, risks in a software program software and prevents malicious assaults from intruders. The purpose of security tests is to identify all feasible loopholes and weaknesses of the software program system which might bring about a lack of statistics, sales, reputation at the palms of the personnel or outsiders of the corporation.

b) Types of Security Testing

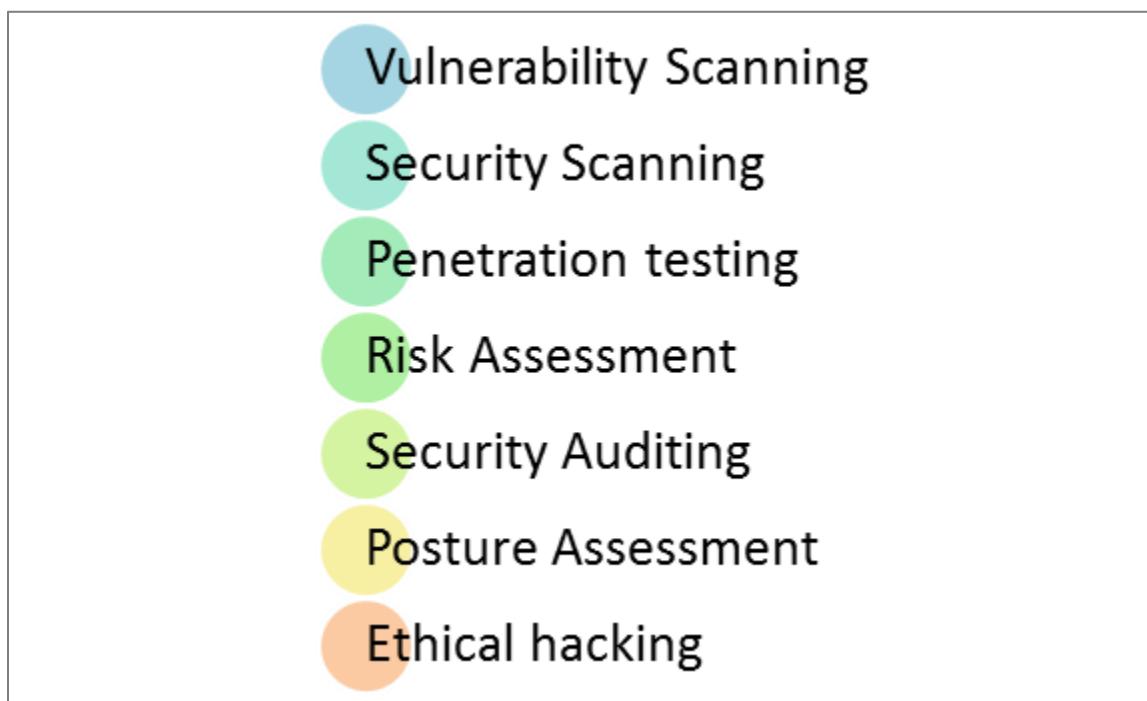


Figure 21:Types of security Testing

- **Vulnerability Scanning:** this is carried out thru automatic software to experiment with a system against recognized vulnerability signatures.
- **Security Scanning:** It involves identifying network and machine weaknesses, and later offers solutions for decreasing these risks. This scanning can be done for both manual and automated scanning.
- **Penetration testing:** This form of testing simulates an attack from a malicious hacker. This trying out includes the evaluation of a selected gadget to test for capacity vulnerabilities to an outside hacking try.
- **Risk assessment:** This testing involves analysis of security risks observed inside the company. Risks are categorized as Low, Medium, and excessive. This checking out recommends controls and measures to reduce the risk.
- **Security Auditing:** This is an inner inspection of packages and operating systems for safety flaws. An audit also can be executed via line-by-line inspection of code
- **Ethical hacking:** It's hacking a company software program system. In contrast to malicious hackers, who thieve for their own gains, the cause is to expose safety flaws inside the device.
- **Posture assessment:** This combines security scanning, moral Hacking, and risk assessments to reveal a usual safety posture of a business enterprise.

7.2 Among test strategies, how to carry out security testing.

The ABC cars project's security testing method,

- The security checking out technique for the car Portal project is completed via Spring Boot security.
- In Most of the testing strategies, vulnerability evaluation is used within the Safety testing procedure.

- The password supplied for the duration of registration and get entry to the ABC car Project has to be stored in an encrypted shape.
- Invalid users ought to no longer be allowed to get entry to the application or system.
- For the software, cookies and session time should be checked.
- The browser's returned button has to not work on financial websites.
- other pages cannot be accessed without a login.
- Everybody concerned must set expectations and only display applicable Pages to users and administrators.
- Provides material for project managers and program managers to
- Develop and put into effect their own plans.

7.3 Test phases in security testing

Security testing is carried out after the software implementation phase or after deployment. Also, if its miles are postponed, the value will increase. Consequently, security testing is involved in the early stages of the SDLC life cycle. SDLC levels are numerous safety system stages. That is necessities, design, coding and unit testing, integration testing, system testing, implementation, and support.

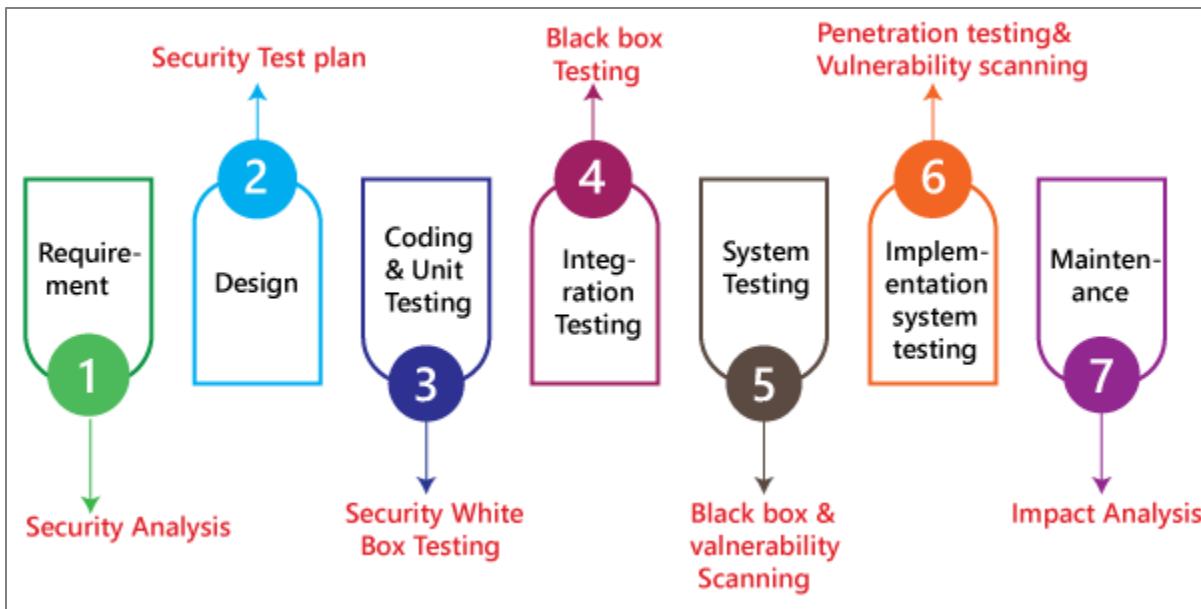


Figure 22:Test phases in security testing

7.4 Detailed test plan with test cases based on quantitative risk analysis

7.4.1 Quantitative risk analysis

- ✓ Functional Testing - UAT Test (5 cases).
- ✓ Compatibility - Cross Browser Testing.
- ✓ Performance - Load Testing / Stress Testing.
- ✓ Usability - Prototyping.
- ✓ Security - Security Testing / Spring Security.
 - SQL Injection
 - Logging
 - Authentication and Authorization
- ✓ Portability - Multi Platforms.
- ✓ Reliability - Usability
- ✓ Maintainability - Dependency Injections / JUnit Testing

7.5 Develop a test risk matrix for the given specification

Risk No	Test Scenario ID	Test Scenario	Test Objective	Test Priority	Risk	Technique	Expected Result
1	TS001	Ensure that users are able to register in the car portal.	Whether or not the user can register using data input like username, password, first name, last name, phone number, contact number	High	Whether or not the user can register using data input like username, password, first name, last name, phone number, contact number	Functional Testing	After submitting the registration data, the user is taken to a page the page will display the user's successfully saved information and a login link.
2	TS002	Ensure that users are able to login to the car portal.	Whether the user can log in with the credentials or not		Users will not be able to login to ABC Cars Portal	Functional Testing	After registration, the user can successfully log in to the home page
3	TS003	Ensure that users are able to post the car on the car portal.	Whether the user can post the car.	Medium	Users will not be able to post cars on the ABC Car portal.	Functional Testing	Users can post the car successfully

4	TS004	Ensure that the data is entered into the database	Whether the data database can be added	Medium	Users will not be able to add data to the database.	Functional Testing	After submitting the registration data, the user's successfully saved information will be displayed in the database.
5	TS005	Ensure that the registration details are valid.	Is it possible to enter user details and check the validity?	Medium	Users cannot use valid data.	Functional Testing	After submitting valid registration data, the user's successfully saved details will be displayed
6	TS006	Ensure that the home page loads at the expected time	Whether the home page can be loaded at the expected time.	High	Users cannot load the home page.	Non-Functional Testing	When the user runs the car portal successfully, the user can successfully login to the home page
7	TS007	Ensure that the Spring Boot security code can be authenticated and authorized	Whether the Spring Boot security code can be authenticated and authorized	Low	Spring Boot security code cannot be authenticated and authorized	Technical Testing	After the Spring Boot security code is verified and authorized, the code can be run with security

		authorized.					
8	TS008	Make sure the home page has a different look and feel in different browsers.	Whether the home page looks and feels different in different browsers	Low	The home page does not look and feel different to different browsers.	Non-Functional Testing	Setting the home page to look different in different browsers.
9	TS009	Ensure that parts of the Spring Boot code are running.	Whether it is possible to ensure that parts of the Spring Boot code are running?	Low	Spring boot code could not work.	Non-Functional Testing	Spring boot code can be run when errors occur again to make it work

7.6 Create a test risk matrix with the evaluation of the impact

How Risk Evaluation is conducted.

In general, to carry out an evaluation, it's miles vital to pick out risks. everyday working conditions, as well as maintenance, shutdowns, power outages, and emergencies, are affected. This consists of identifying risks, determining who can be harmed and how, assessing risks and determining control measures, reporting your findings, and identifying risks. The assessment is reviewed.

7.7 Develop a test risk matrix for the given specification

		Consequence				
		Negligible 1	Minor 2	Moderate 3	Major 4	Catastrophic 5
Likelihood	5 Almost certain	Moderate 5	High 10	Extreme 15	Extreme 20	Extreme 25
	4 Likely	Moderate 4	High 8	High 12	Extreme 16	Extreme 20
	3 Possible	Low 3	Moderate 6	High 9	High 12	Extreme 15
	2 Unlikely	Low 2	Moderate 4	Moderate 6	High 8	High 10
	1 Rare	Low 1	Low 2	Low 3	Moderate 4	Moderate 5

Risk ID	Risk	Likelihood (1-5)	Impact (1 - 5)	Type of Testing	Risk Rating	Risk Level
1	Data not getting into the database	3	4	Functional Testing	12	High
2	Empty fields are getting into the database	5	4	Functional Testing	20	Extreme
3	The name fields are taking numbers with the characters	2	3	Functional Testing	6	Moderate
4	Website navigation links not working properly instead going to the wrong pages	2	2	Functional Testing	4	Moderate
5	The button is not working when user is trying to submit	1	5	Functional Testing	5	Moderate
6	Check if the website is not working properly in the google chrome	2	4	Compatibility Testing	8	High
7	Check if the website is not working properly in safari	3	2	Compatibility Testing	6	Moderate
8	Check if the website is not working properly in the Microsoft Edge	2	1	Compatibility Testing	2	Low

9	Pages get loaded in less time or not under 5-sec pages should get a load	4	3	Performance Testing	12	High
10	Check whether the user finds it easy to run the website	2	2	Usability Testing	4	Moderate
11	Maintaining the code and adding features and updating the website is comparatively easy	3	3	Maintainability Testing	9	High
12	authentication authorization working properly or not in the website	3	2	Security Testing	6	Moderate
13	the website is able to run on different screen size and different device without compromising feature, design and function.	4	4	Portability Testing	16	Extreme

Task 5

8) Test Strategy

8.1 Suitable RBT cycle content and priorities further test cycles

Based on ABC Car Sale website, below are design and explanation of suitable risk base test cycle

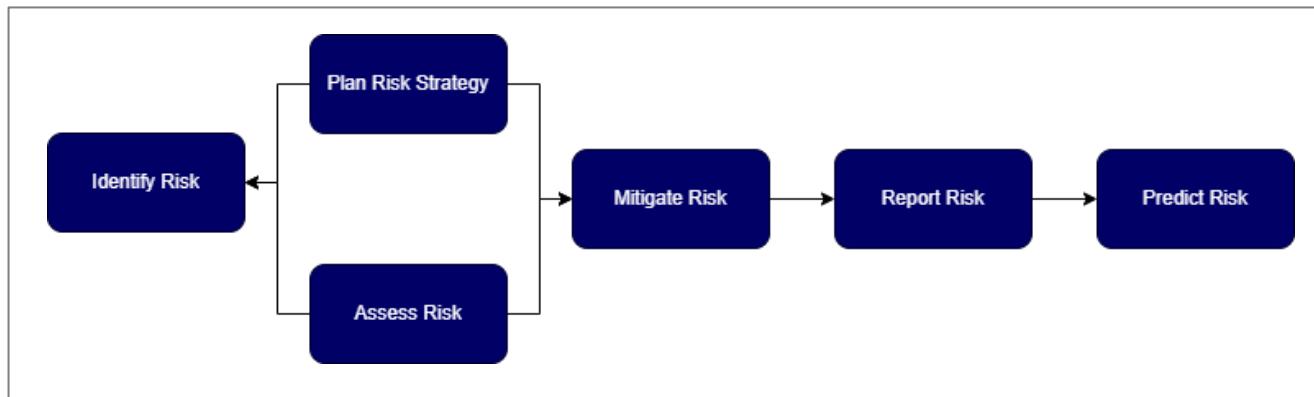


Figure 23:RBT Cycle Design

a. Identify Risk

Even as identifying risks in ABC car Portal, it specializes in workshops, checklists, interviews, Delphi method, purpose and effect diagrams, instructions discovered from preceding tasks, root reason analysis, domain specialists and subject matter. All participants involved inside the car Portal challenge help pick out risks.

b. Plan Risk Strategy

Right here, strategic risk control is the technique of identifying, quantifying and mitigating any risks that have an effect on or are inherent to ABC car's business strategy, strategic targets and strategy implementation.

c. Assess Risk

Risk assessment is a time period used to describe the whole system or technique that you do. This is to identify risks and risk elements which could cause damage to car portals. Here, evaluation and assessment of chance is likewise vital.

d. Mitigate Risk

Right here, risk mitigation is a method to prepare for and mitigate the consequences of threats that the car portal enterprise faces. Compared to risk reduction, risk mitigation is critical to reduce the terrible outcomes of threats and disasters on commercial enterprise continuity.

e. Report Risk

Risk reporting here is a way of figuring out risks that can relate to or affect ABC Car PVT Ltd. enterprise strategies. Diagnosed risks are typically compiled right into a formal risk document, which is exceeded over to an employer's senior control or to diverse control groups throughout the employer.

f. Predict Risk

Prediction is an crucial a part of any test. Prediction supports the improvement of vital questioning talents via requiring students to draw on their previous know-how and experience in addition to observations to expect what would possibly appear.

8.2 Communicate the details of the strategy and test planning to the key stakeholders with proper justifications

a. Justification of selected test methods based on project-quantified risk

Type of Testing	Main Purposes
Functionality	The purpose of the test is to ensure that the features based on project requirements are working as intended.
Performance	To ensure the performance of the webpages are consistent with the project requirement below 3 seconds.
Compatibility	The goal of it to ensure that the website works properly within multiple browsers.
Usability	The main purpose is to ensure that the website interfaces are able to be understood and can be accessed by most visitors.
Security	The main purpose of the test is to identify any potential threats from the external party that would access the website and create exploitation to the website.
Portability	The goal is to ensure that the website could be accessed using multiple different devices.
Maintainability	The main purpose is to determine how suitable the project is for maintenance in difficulty wise.

- b. Communicate the details of the strategy and test planning to the key stakeholders with proper justifications
- Stakeholders Identification of ABC Cars Pte Ltd
 - Determine for Communication Tool
 - Interview Stakeholders
 - Gather Together

What is a Stakeholder?

A stakeholder is someone, group, or organization with a vested interest, or stake, in the decision-making and activities of a commercial enterprise, enterprise, or undertaking. Stakeholders can be individuals of the organization they have a stake in, or they could haven't any legit affiliation. Stakeholders will have an immediate or indirect effect on the activities or tasks of an organization. Their help is frequently required for business and project achievement.

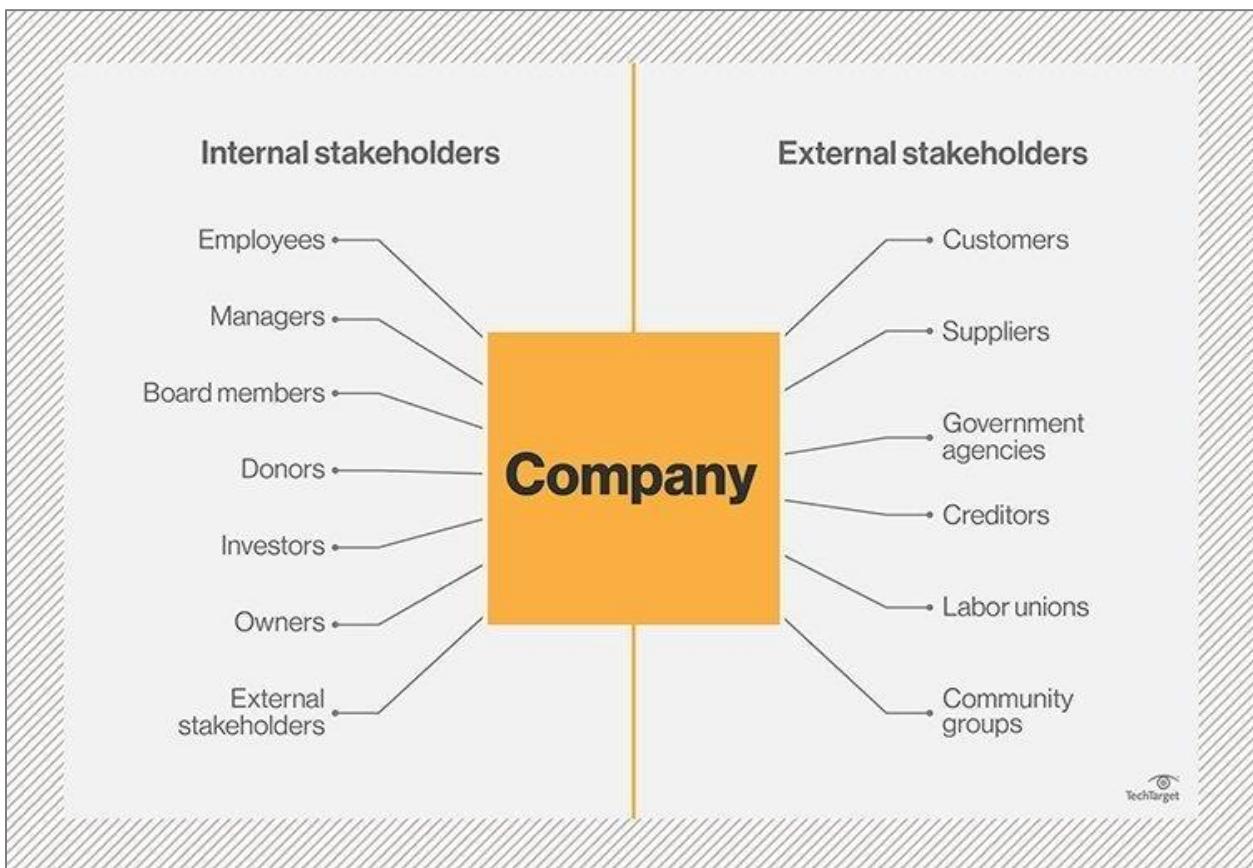


Figure 24:Types of Stakeholders

Why communicate with key stakeholders is important?

Risks need to be truly communicated before, for the duration of and after a assignment to ensure stakeholder expectancies and opinions are confirmed. Also, project managers need to engage stakeholders in project conversations,

involve key humans, and use the right gear to permit effective communication. Speaking risks to stakeholders. It is also vital to interaction the team, consider the stakeholder state of affairs, use technology, report and use alerts. Additionally, by way of communicating effectively, permitting them to research and alternate how they are enabled, a better understanding of a purchaser's or stakeholders' targets and average desires can be acquired. Moreover, stakeholders are very important because they offer support and comments on your projects and business enterprise. Also, they boom the wide variety of human beings taking part in my task and appearance after the first-class interests of the challenge corporation.

1. Identify and evaluate our ABC Cars Pte Ltd key stakeholders

Create a list of all project stakeholders, each inner and external, and include Customers, Investors, Company leaders, Creditors, Employees, Department Managers, Business owners, Regional or national communities, Potential customers, Suppliers, Distributors, Shareholders and etc and others who have got an interest in the project or its results. within the case of one individual group, the names of the stakeholders should be delivered, and in the case of an individual, the names of the stakeholders have to also be added. Then observe the identity or vicinity of the touch and provide touch records of the stakeholders such as e-mail and phone number. eventually, the undertaking engages stakeholders

2. Determine available communication tools.

various communique tools are used for external and internal communication. those tools consist of mail, e-mail, telephone, cell phones, smartphones, computers, video, and internet conferencing tools, social networks, as well as online collaboration and productivity platforms. communication equipment can

be utilized by the team in interacting with the stakeholders before they are recognized, earlier than engaging with them. They must be privy to the subsequent for every medium of conversation

- Internal Preferences - Your organization in all likelihood has a few strategies which can be preferred, whether or not due to ease of use, extensive availability, or truly way of life.
- Geographical Limitations - Notice whether positive channels are only practical inside a sure geographic radius or location or whether or not they'll be prohibited in a few areas.
- Frequency Limitations - Some communique strategies make extra feel for month-to-month updates than each day.
- Internal Cost
- Stakeholder Costs
- Additional Notes

3. Interview Stakeholders.

You want as plenty information as possible about your stakeholders, mainly key stakeholders.

where possible, get this information from non-public conferences, but some facts may be garnered via oblique manner if necessary.

Your purpose right here is to determine,

- The aim of every stakeholder
- Their desired communication frequency
- Any extra issues they've
- Preferred or available verbal exchange channels

4. Assign communication channels.

Frequency communique, primarily based on their availability and possibilities, the maximum stakeholder must have one or more communication channels assigned to them, based totally on preference,

Boundaries, and charges as cited in the step. It's far very essential to have the very last variations of those assignments with the stakeholders, especially to deal with many situations throughout the interview. With the complexity of commonplace colloquial language, communication consciousness has shifted broadly speaking to accumulating records thru a single channel. This is, phrases, face, body, voice, verbal content material, and verbal style are considered channels of conversation.

5. Building Plan/Dimensions.

Development teams can fill out the pdf without delay on paper or use excel or google stakeholder communication template. Design metrics specify the idea on which a design is evaluated for a given hassle for the advantage of the designer. Given different design metrics the equal preliminary and aim conditions might also yield completely one-of-a-kind most efficient designs.

- Stakeholder/person
- Title/role
- Communication type
- Communication channel
- Frequency of communication
- Stakeholder goal
- Stakeholder project interest rating (1-10)
- Contact details
- Notes

Task 6

9) Testing Results

9.1 Execute the risk-based test plan and log the test results

9.1.1 UAT Testing

✓ Registration

Test Scenario	Registration
TS001	
Test Cases	Registration in ABC Cars Sales Portal Website
TC001	Validating data that is input into registration form
TC002	After user submitting correct data it should load a thank you page

Tet Scenario ID	Test Case ID	Test Priority	Pre-conditions	Expected Result	Actual Result	Final Result
TS001	TC001	High	ABC Cars Sale Portal Website hosted on server	All field is needed except "about" subject if the user input clean statistics It ought to throw an error	As expected	Pass
Test Data		Firstname = "_____" Lastname = "_____" Phone number = +94742269976 Address = Test2 About = Test2				
Evidence		Fig: TS001 – TC001				

Evidence: Fig: TS001 – TC001

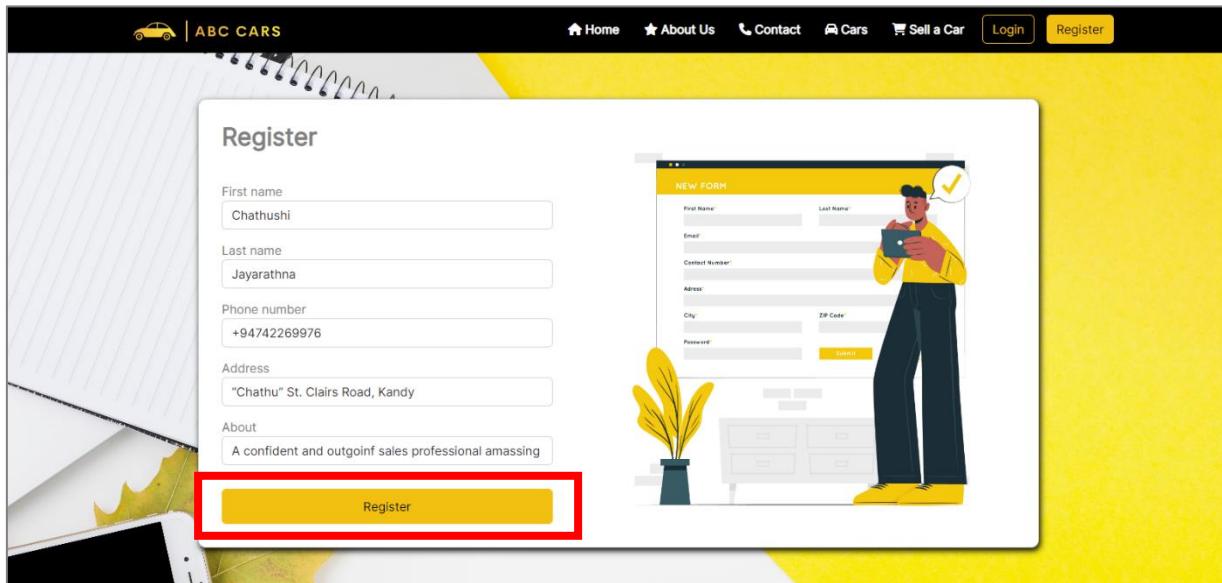
The screenshot shows a 'Register' page on the 'ABC CARS' website. The page has a yellow header with navigation links: Home, About Us, Contact, Cars, Sell a Car, Login, and Register. Below the header is a decorative graphic of a car wheel and a yellow illustration of a person holding a tablet. The main content is a registration form with fields for First name, Last name, Phone number, Address, and About. The 'First name' and 'Last name' fields are highlighted with a red border, and error messages are displayed above them: 'First name must be between 1 and 35 characters long' and 'First name is required'. The other fields ('Phone number', 'Address', 'About') are correctly filled with placeholder text.

Figure 25:Evidence: Fig: TS001 – TC001

Test Scenario ID	Test Case ID	Test Priority	Pre-conditions	Expected Result	Actual Result	Final Result
TS001	TC002	High	ABC Cars Sale Portal Website hosted on a server	Load thank you page after a successful registration	As expected	Pass
Test Data		Username= chathu@77 Password = 12345678 Firstname = Chathushi Lastname = Jayarathna Phone number = +94742269976 Address = "Chathu" St. Clairs Road, Kandy				

	About = A confident and outgoing sales professional amassing over 6 years experience in the automotive industry with a strong track record of meeting and exceeding sales targets
Evidence	Fig: TS001 – TC002 (1) Fig: TS001 – TCOO2 (2)

Evidence: Fig: TS001 – TC002 (1)



The screenshot shows a web browser displaying the 'ABC CARS' website. The top navigation bar includes links for Home, About Us, Contact, Cars, Sell a Car, Login, and Register. Below the navigation is a decorative header featuring a car icon and the text 'ABC CARS'. The main content area is titled 'Register' and contains several input fields: First name (Chathushi), Last name (Jayaratna), Phone number (+94742269976), Address ("Chathu" St. Clairs Road, Kandy), and a text area for 'About' which contains the provided testimonial. A large yellow 'Register' button is at the bottom of the form. To the right of the form, there is an illustration of a person standing next to a desk with a computer monitor, holding a tablet with a checkmark on it. The entire screenshot is framed by a yellow border.

Figure 26:Evidence: Fig: TS001 – TC002 (1)

Evidence: Fig: TS001 – TCOO2 (2)

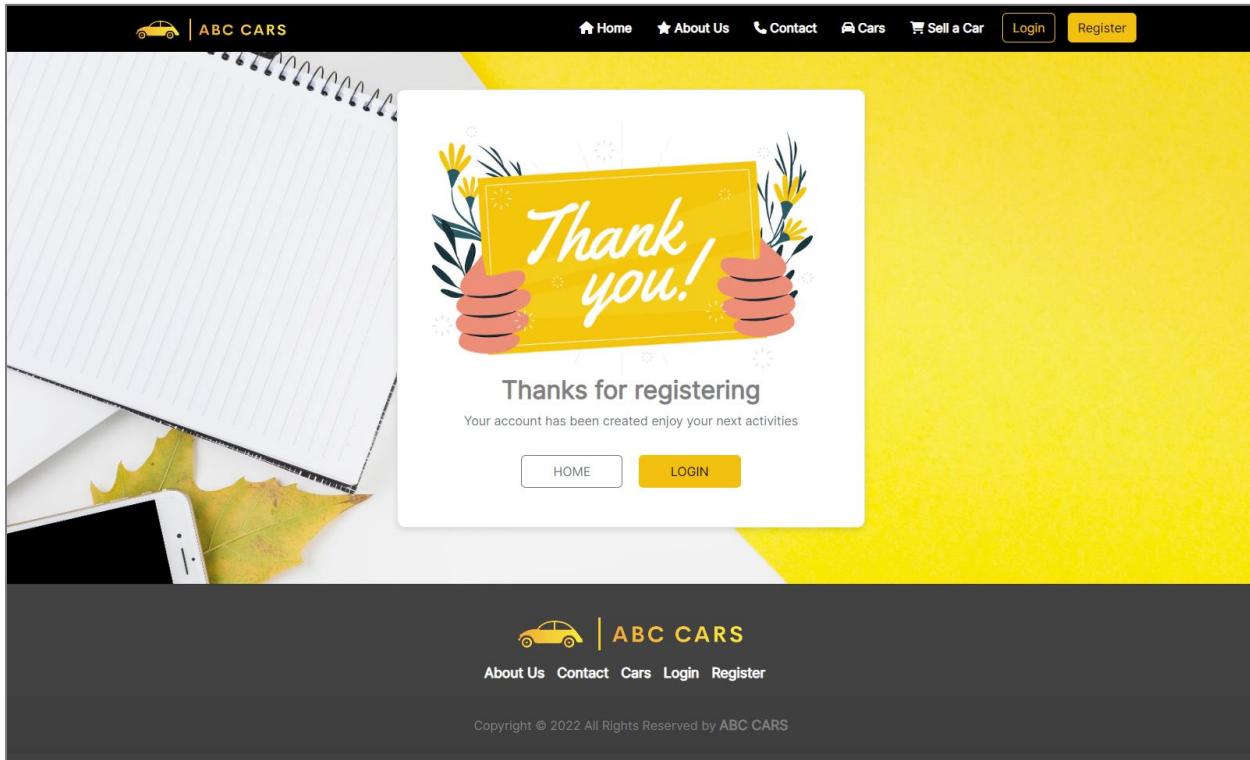


Figure 27:Evidence: Fig: TS001 – TCOO2 (2)

✓ Search

Test Scenario	Search Car
TS002	
Test Cases	Search Car by keyword or price range
TC001	Search car by keyword (Make, Model, or Year)
TC002	Search car by price range (Maximum price & Minimum Price)

Test Scenario ID	Test Case ID	Test Priority	Pre-conditions	Expected Result	Actual Result	Final Result
TS002	TC001	Medium	ABC Cars Sale Portal Website hosted on a server	When the car name is searched among the relevant care registration data, it displays the relavant information og the given car details on the search result page	As expected	Pass
Test Data		Model : Peugeot				
Evidence		Fig: TS002 – TC001 (1) Fig: TS002 – TC001 (2)				

Evidence: Fig: TS002 – TC001 (1)

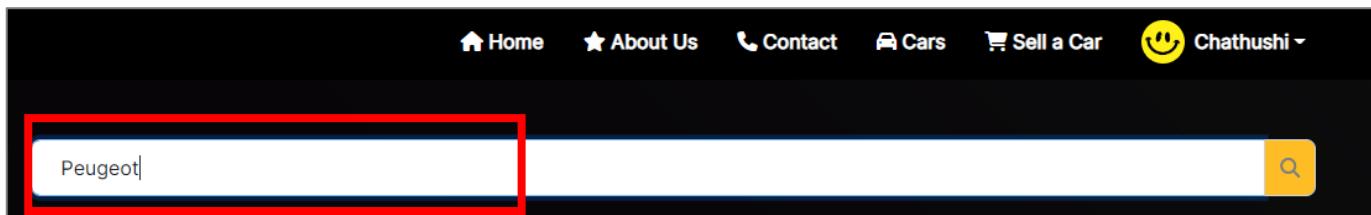


Figure 28:Evidence: Fig: TS002 – TC001 (1)

Evidence: Fig: TS002 – TC001 (2)

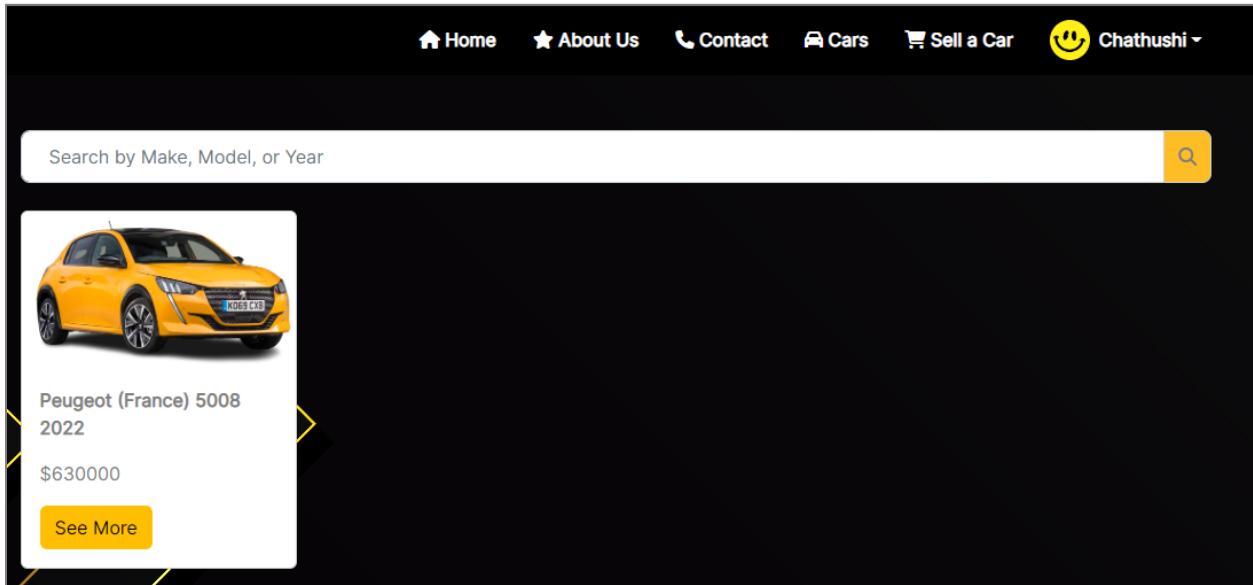


Figure 29:Evidence: Fig: TS002 – TC001 (2)

Test Scenario ID	Test Case ID	Test Priority	Pre-conditions	Expected Result	Actual Result	Final Result
TS002	TC002	Medium	ABC Cars Sale Portal Website hosted on a server	Error message (car not found) will be displayed after submitting details of unregistered vehicles	As expected	Fail
Test Data		Model: Peugeot				
Evidence		Fig: TS002 – TC002 (1) Fig: TS002 – TC002 (2)				

Evidence: Fig: TS002 – TC002 (1)

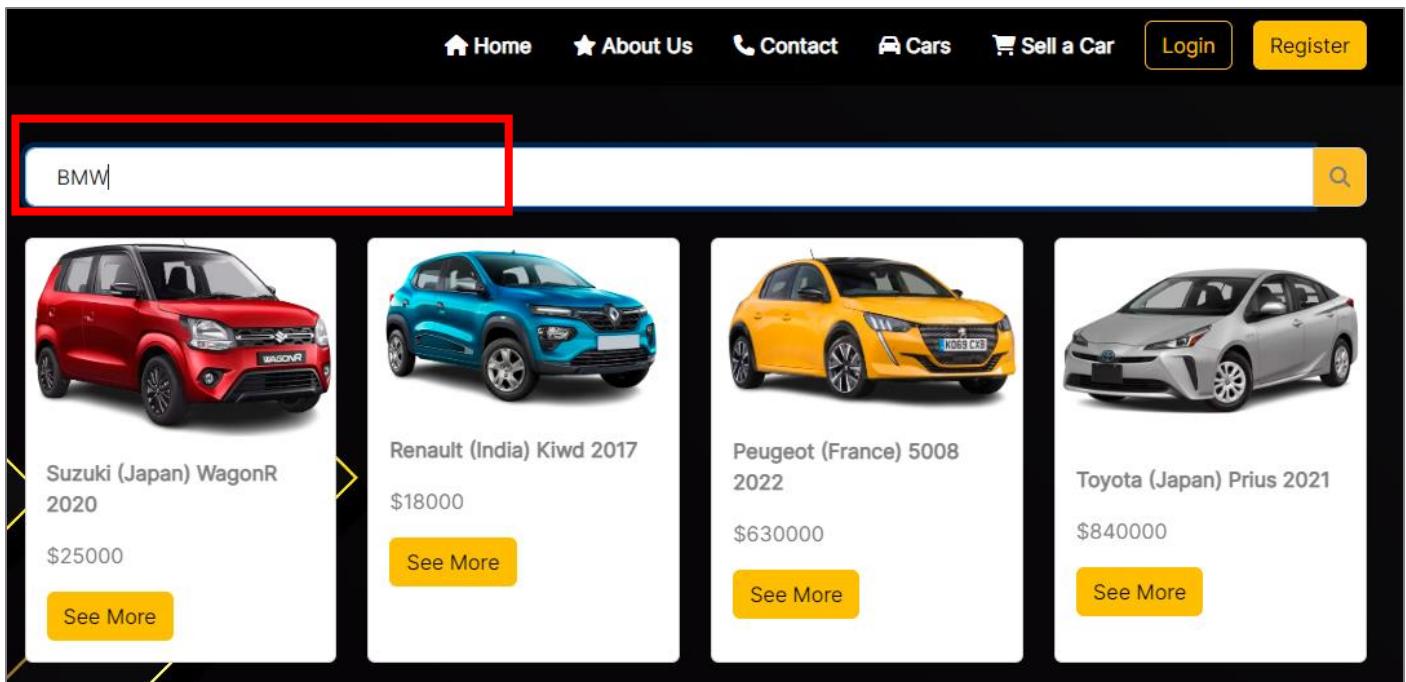


Figure 30:Evidence: Fig: TS002 – TC002 (1)

Evidence: Fig: TS002 – TC002 (2)

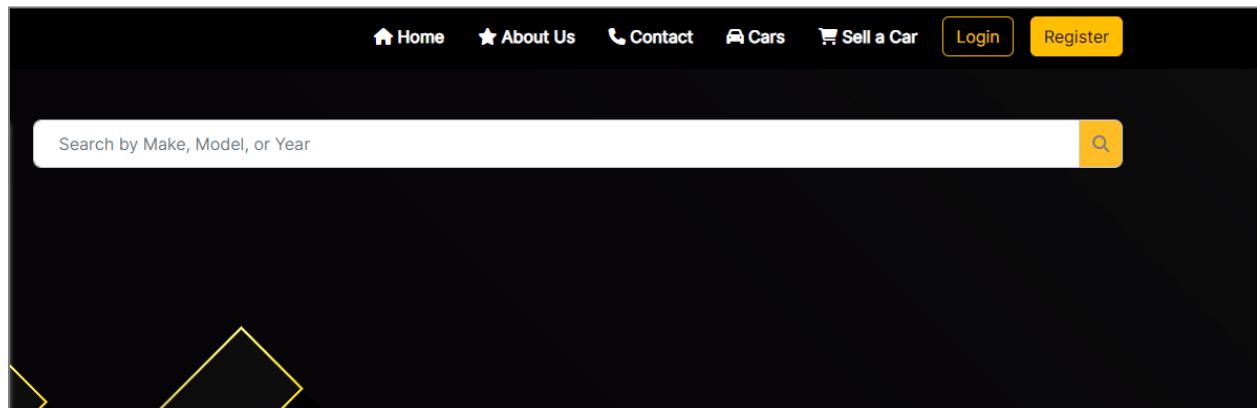


Figure 31:Evidence: Fig: TS002 – TC002 (2)

✓ **Login**

Test Scenario Login	
TS003	
Test Cases	Login to ABC CARS PTE LTD Portal
TC001	Validating data that is input into the login form
TC002	Check that the login button loads the profile page when logged in.
TC003	Check access website from the user with the role "USER" and user with role "ADMIN"

Test Scenario ID	Test Case ID	Test Priority	Pre-conditions	Expected Result	Actual Result	Final Result
TS003	TC001	High	ABC Cars Sale Portal Website hosted on a server	When trying to login in after inputting an incorrect password, an error message is displayed	As expected	Pass
Test Data		Username = chathu@77 Password = "567834565" (correct password = 12345678)				
Evidence		Fig: TS003 – TC001				

Evidence: Fig: TS003 – TC001

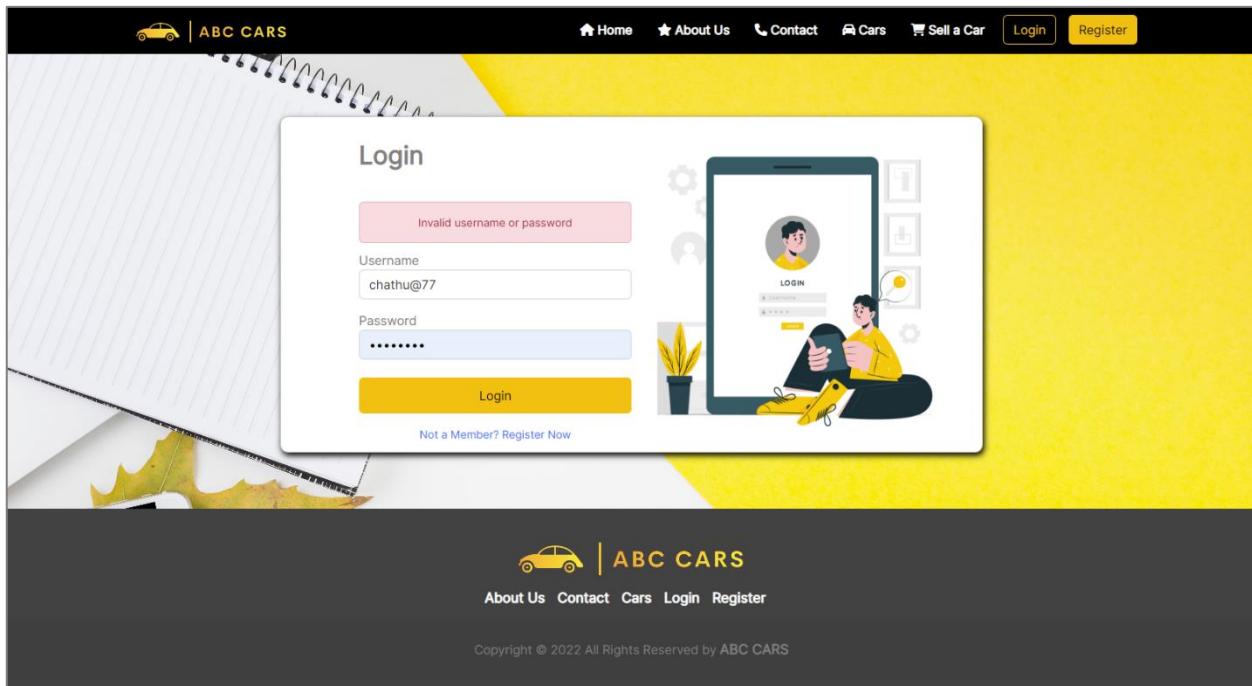


Figure 32: Evidence: Fig: TS003 -TC001

Test Scenario ID	Test Case ID	Test Priority	Pre-conditions	Expected Result	Actual Result	Final Result
TS003	TC002	High	ABC Cars Sale Portal Website hosted on a server	After entering the details correctly and clicking the login button, the user will be logged in to the profile page	As expected	Pass
Test Data		Username = chathu@77 Password = 12345678				
Evidence		Fig: TS003 – TC002 (1) Fig: TS003 – TC002 (2)				

Evidence: Fig: TS003 – TC002 (1)

The image consists of two parts. On the left, there is a screenshot of a web-based login form. The title 'Login' is at the top. Below it, there is a 'Username' field containing 'chathu@77'. Below that is a 'Password' field with several dots indicating the password. A large yellow 'Login' button is centered below the password field. At the bottom, there is a link 'Not a Member? Register Now'. On the right side of the image is a stylized illustration of a person sitting cross-legged on the floor, holding a smartphone and pointing at its screen. The phone displays a simplified version of the login interface. The background features some decorative icons like gears and a lightbulb.

Figure 33:Fig: TS003 – TC002 (1)

Evidence: Fig: TS003 – TC002 (2)

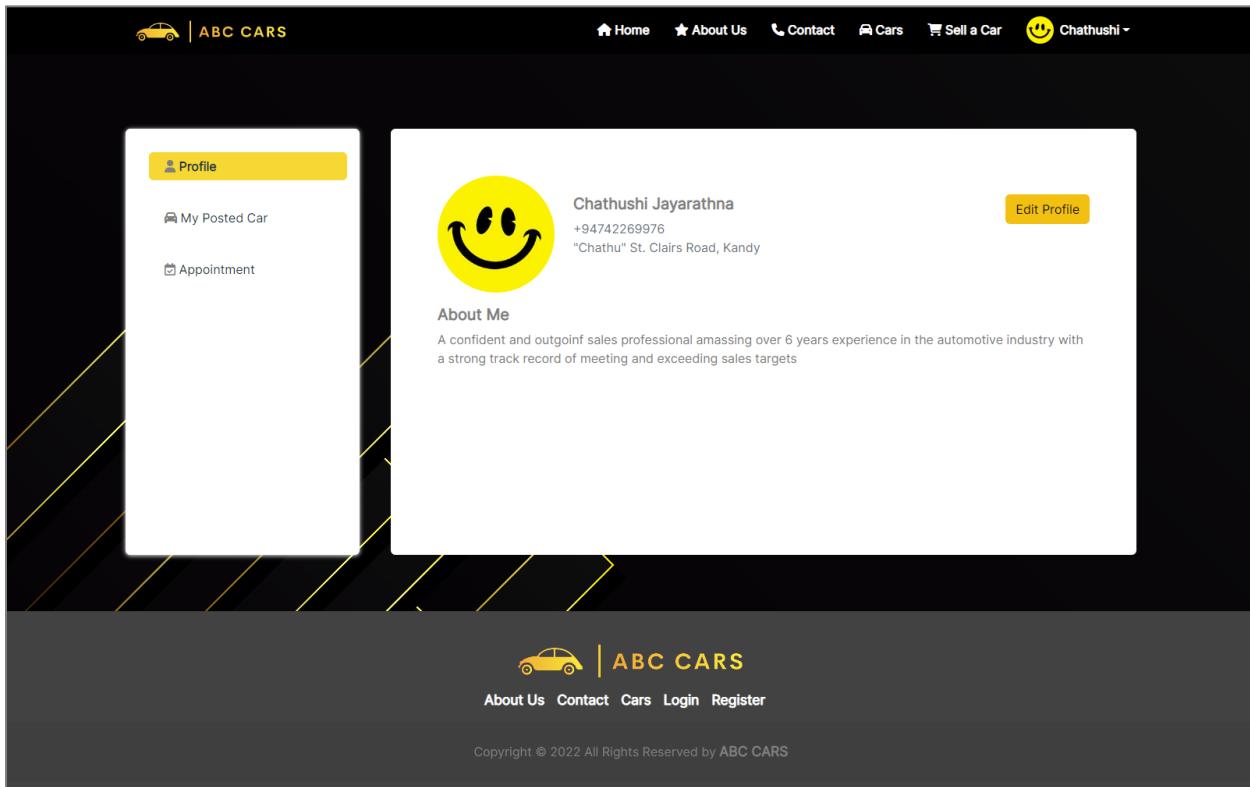


Figure 34:Fig: TS003 – TC002 (2)

Test Scenario ID	Test Case ID	Test Priority	Pre-conditions	Expected Result	Actual Result	Final Result
TS003	TC003	High	ABC Cars Sale Portal Website hosted on a server	<p>"user" role has access to publish car, place vehicle bid, appoint test drive,</p> <p>"ADMIN" role has get right of entry to admin dashboard and website car income control</p>	As expected	Pass

Test Data	Username = admin123 Password = admin123
	Username = user123 Password = user123
Evidence	Fig: TS003 – TC003 (1) – Post car (User) Fig: TS003 – TC003 (2) – Car Bid (User) Fig: TS003 – TC003 (3) – Test Drive Appointments (User) Fig: TS003 – TC003 (4) – Admin Dashboard Fig: TS003 – TC003 (5) – Car Mangement

Evidence: Fig: TS003 – TC003 (1) – Post car (User)

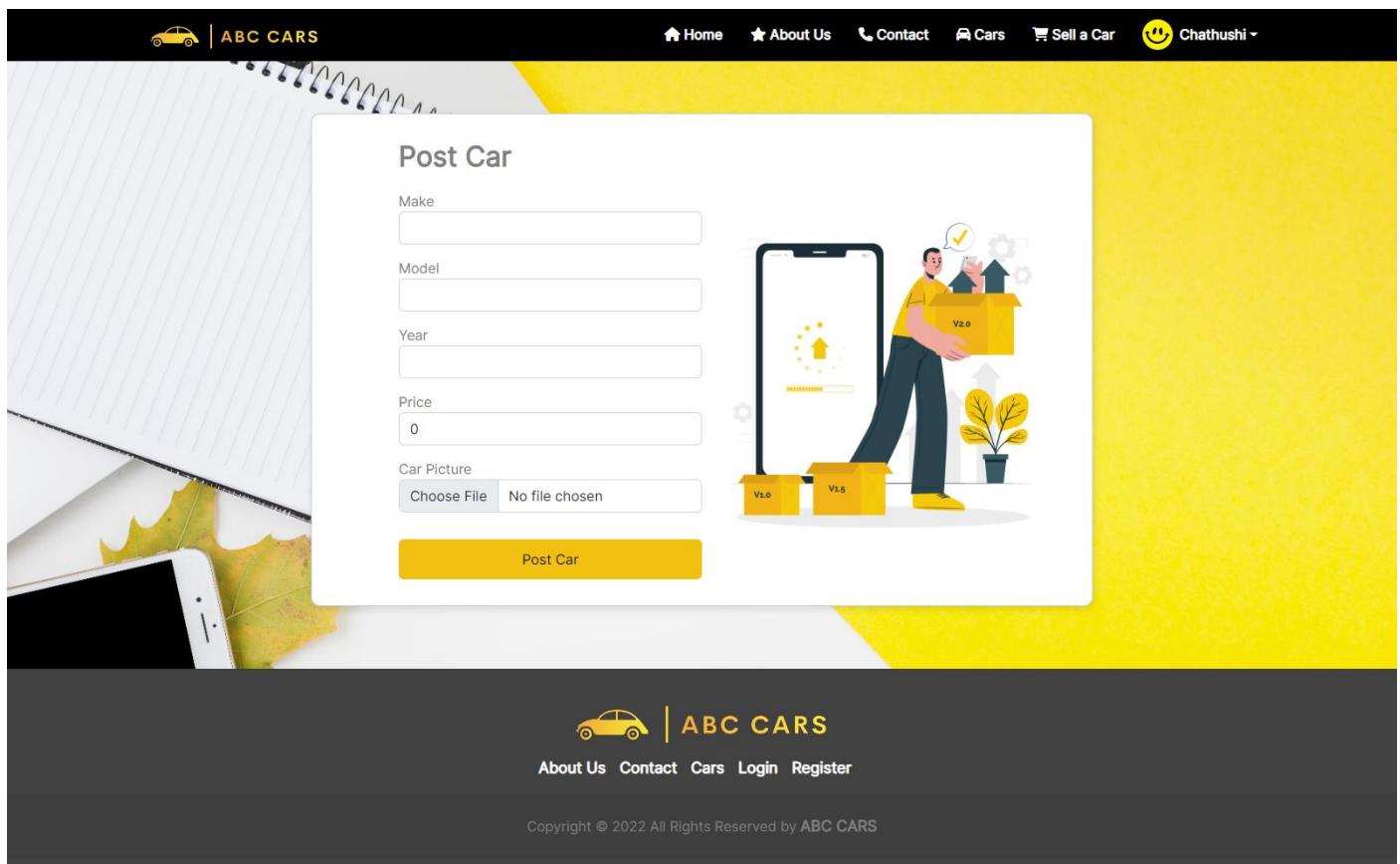


Figure 35:Fig: TS003 – TC003 (1) – Post car (User)

Evidence: Fig: TS003 – TC003 (2) – Car Bid (User)

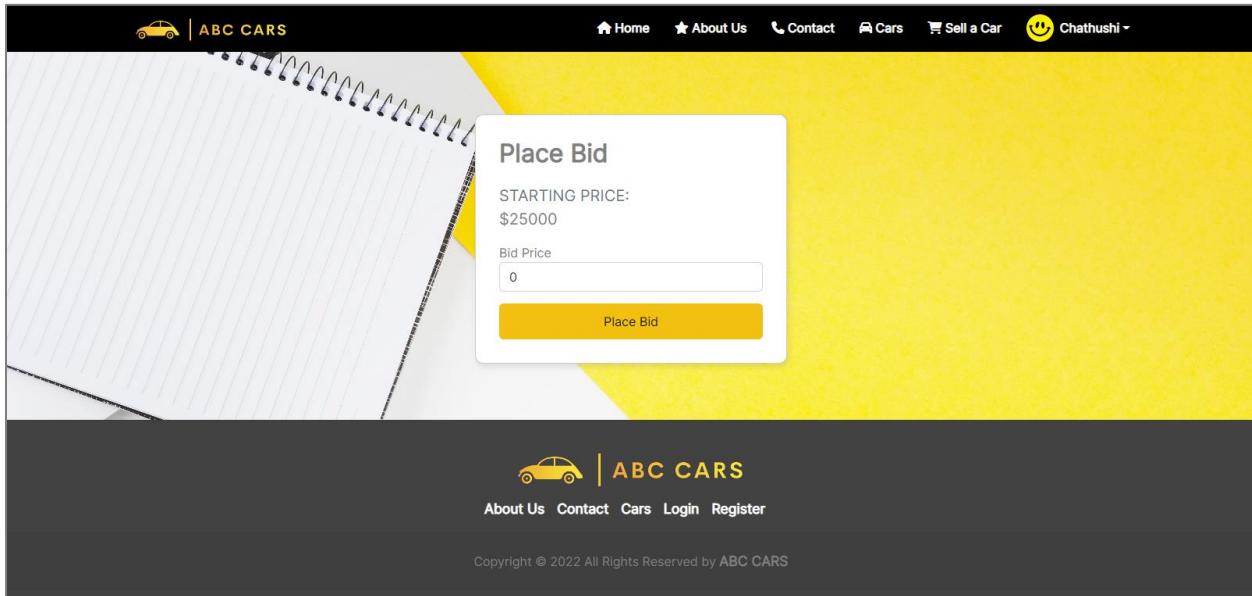


Figure 36:Evidence: Fig: TS003 – TC003 (2) – Car Bid (User)

Fig: TS003 – TC003 (3) – Test Drive Appointments (User)

A screenshot of a web browser displaying the ABC CARS website. The main content area has a white background. At the top, it says "Test Drive" and "Suzuki (Japan) WagonR 2020". Below that is a large image of a red Suzuki WagonR. Underneath the image, there is a "Date" field containing "01/dd/2023" with a calendar icon to its right. At the bottom of the form is a large yellow "Test Drive" button.

Figure 37:Fig: TS003 – TC003 (3) – Test Drive Appointments (User)

Fig: TS003 – TC003 (4) – Admin Dashboard

The screenshot shows the Admin Dashboard of the ABC CARS application. At the top, there is a navigation bar with links for Home, About Us, Contact, Cars, Sell a Car, and Admin. Below the navigation bar, there are two tables: "All Users" and "All Admins".

All Users

ID	First name	Last name	Phone number	Address
1	Chathushi	Jayarathna	+94742269976	"Chathu" St. Clairs Road, Kandy
6	User	1234	+9478564563	09/10, Nitta Road, Riyad
7	Test2	Test2	+94742269976	Test2

All Admins

ID	First name	Last name	Phone number	Address
5	Admin	123	+94712345678	08/B, Universe Road, Malabe

At the bottom of the page, there is a footer with links for About Us, Contact, Cars, Login, Register, and the copyright notice: Copyright © 2022 All Rights Reserved by ABC CARS.

Figure 38: Fig: TS003 – TC003 (4) – Admin Dashboard

Fig: TS003 – TC003 (5) – Car Management

The screenshot shows the Car Management screen of the ABC CARS application. At the top, there is a navigation bar with links for Home, About Us, Contact, Cars, Sell a Car, and Admin. Below the navigation bar, there are two tables: "Car List" and "Car Bid".

Car List

Car Id	Make	Model	Year	Price	Status
1	Suzuki (Japan)	WagonR	2020	25000	ACTIVE
2	Renault (India)	Kiwd	2017	18000	ACTIVE
3	Mini (Netherlands)	Countryman	2016	55000	SOLD
4	Peugeot (France)	5008	2022	630000	ACTIVE
5	Toyota (Japan)	Prius	2021	840000	ACTIVE
6	German	BMW	2022	58450	ACTIVE

Car Bid

Car Id	Make	Model	Year	Bid Price	Status
4	Peugeot (France)	5008	2022	700000	ONGOING
3	Mini (Netherlands)	Countryman	2016	62000	APPROVED

At the bottom of the page, there is a footer with links for About Us, Contact, Cars, Login, Register, and the copyright notice: Copyright © 2022 All Rights Reserved by ABC CARS.

Figure 39: Fig: TS003 – TC003 (5) – Car Management

✓ View and Post Car

Test Scenario		View Car
TS004		
Test Cases		View Car in ABC CARS PTE LTD Portal
TC001		After the user clicking see more button on car details it should load a car details page
TC002		After the car details posted, those details should be added to the database

Test Scenario ID	Test Case ID	Test Priority	Pre-conditions	Expected Result	Actual Result	Final Result
TS004	TC001	High	ABC Cars Sale Portal Website hosted on a server	After the user clicking see more button on car details it should load a car details page	As expected	Pass
Test Data		Click on see more button				
Evidence		Fig: TS004 – TC001 (1) Fig: TS004 – TC001 (2)				

Evidence: Fig: TS004 – TC001 (1)

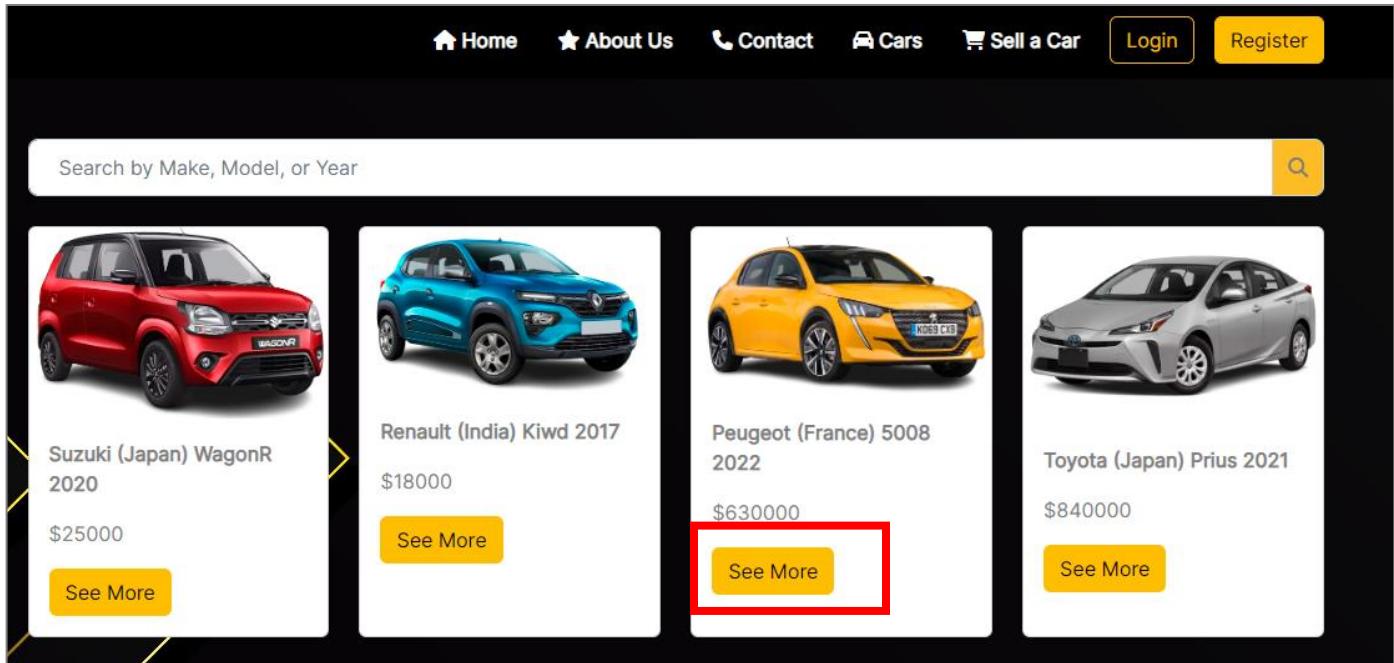


Figure 40:Evidence: Fig: TS004 – TC001

Evidence: Fig: TS004 – TC001 (1)

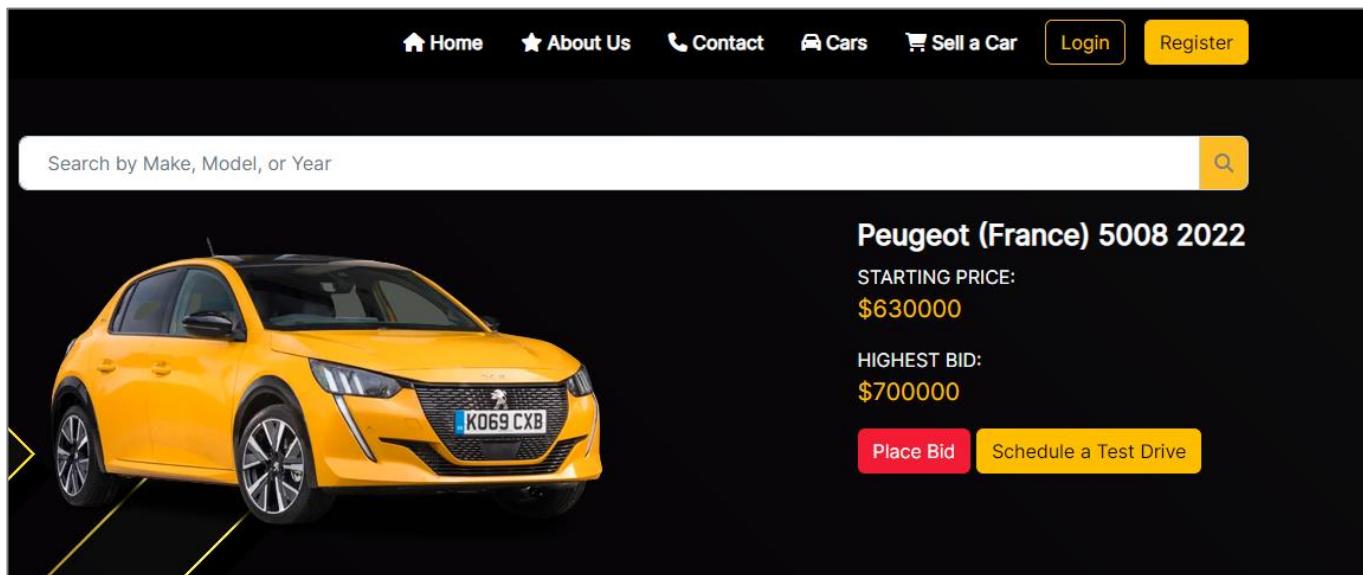


Figure 41:Evidence: Fig: TS004 – TC001 (1)

Test Scenario ID	Test Case ID	Test Priority	Pre-conditions	Expected Result	Actual Result	Final Result
TS004	TC002	Medium	ABC Cars Sale Portal Website hosted on a server	After the car details posted, those details should be added to the database	As expected	Pass
Test Data		Make: German Model: BMW Year: 2022 Price: \$58450 Car picture: BMW.png				
Evidence		Fig: TS004 – TC002 (1) Fig: TS004 – TC002 (2) Fig: TS004 – TC002 (3)				

Evidence: Fig: TS004 – TC002(1) – Car Details post form

Post Car

Make: German

Model: BMW

Year: 2022

Price: \$56850

Car Picture: Choose File: BMW.png

Post Car

ABC CARS

About Us Contact Cars Login Register

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Figure 42:Evidence: Fig: TS004 – TC002(1)

Evidence: Fig: TS004 – TC002(2) – Posted car Details

Id Car	Make	Model	Year	Price	Status	More
6	German	BMW	2022	\$58450	ACTIVE	

Figure 43:Evidence: Fig: TS004 – TC002(2)

Evidence: Fig: TS004 – TC002(3)

	id_car	make	model	price	status	year	id_user
▶	1	Suzuki (Japan)	WagonR	25000	ACTIVE	2020	1
	2	Renault (India)	Kiwd	18000	ACTIVE	2017	1
	3	Mini (Netherlands)	Countryman	55000	SOLD	2016	1
	4	Peugeot (France)	5008	630000	ACTIVE	2022	1
	5	Toyota (Japan)	Prius	840000	ACTIVE	2021	1
	6	German	BMW	58450	ACTIVE	2022	7

Figure 44:Evidence: Fig: TS004 – TC002(3)

9.1.2 Unit Testing

Test Scenario	To ensure registration
TS00	
Test Cases	Unit Testing
UT001	Ensure that registration working correctly
UT002	Ensure that login working correctly
UT003	Ensure that the search car working correctly
UT004	Ensure that the view car working correctly
UT005	Ensure that post-care working correctly

Test Case ID	Test Case	Preconditions	Test Step	Test Data	Expected Results	Actual Results	Pass / Fail
TS005	UT001	The user should have the URL of the website and open the homepage of the abccars	<ul style="list-style-type: none"> ❖ Type URL ❖ Click "Sign up" on the website home page linked to the Landing page ❖ Enter all the fields. ❖ Click submit. 	Username= chathu@77 Password = 12345678 Firstname = Chathushi Lastname = Jayarathna Phone number = +94742269976 Address = "Chathu" St. Clairs Road, Kandy About = A confident and outgoing sales professional amassing over 6 years' experience in the automotive industry with a strong track record of meeting and exceeding sales targets	The entered data should be added to the database and the thank you page should appear to the user after a successful registration	As expected,	Pass
TS005	UT002	The user should have the URL of the website and open the homepage of the abccars	<ul style="list-style-type: none"> ❖ Type URL ❖ Click "Login" on the website home page linked to the Landing page ❖ Enter all the fields. ❖ Click submit. 	Username= chathu@77 Password = 12345678	User Profile should be loaded	As expected,	Pass

TS0 05	UT003	The user should have the URL of the website and open the homepage of the ABC cars	<ul style="list-style-type: none"> ❖ Type URL ❖ Click "Cars" on the website home page linked to the landing Page ❖ Search car by its model, make, or year ❖ Click the search button 	Model: Peugeot Make: France Year: 2022	Search cars details should be appeared	As expected,	Pass
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9.1.3 Functional Testing – Performance Testing

Test Scenario	Ensure that the user or admin can access the home page at the required time.
TS006	
Test Cases	Performance Testing
TC001	Test cases Loading Time/ speed checking out
TC002	Allocate the login web page to the index page at login load time.
TC003	To look how long it takes for the user to come back to the home page and sign up and log in.

Test Scenario ID	Test Case ID	Test Priority	Pre-conditions	Expected Result	Actual Result	Final Result
TS006	TC001	Internet access required	Admin/User successful registration	After users/admins registered, the thank you page will be displayed. They can be returned by clicking the home button when needed	As expected	Pass
Test Data		<p>Register</p> <ul style="list-style-type: none"> • Username= chathu@77 • Password = 12345678 • Firstname = Chathushi • Lastname = Jayarathna • Phone number = +94742269976 • Address = "Chathu" St. Clairs Road, Kandy • About = Hi <p>Click Register button</p> <p>It will appear registration thank u page</p> <p>Click "home" button to return home page</p>				
Evidence		<p>Fig: TS006 – TC001 (1)</p> <p>Fig: TS006– TC001 (2)</p> <p>Fig: Ts006 – TC001 (3)</p>				

Evidence: Fig: TS006 – TC001 (1)

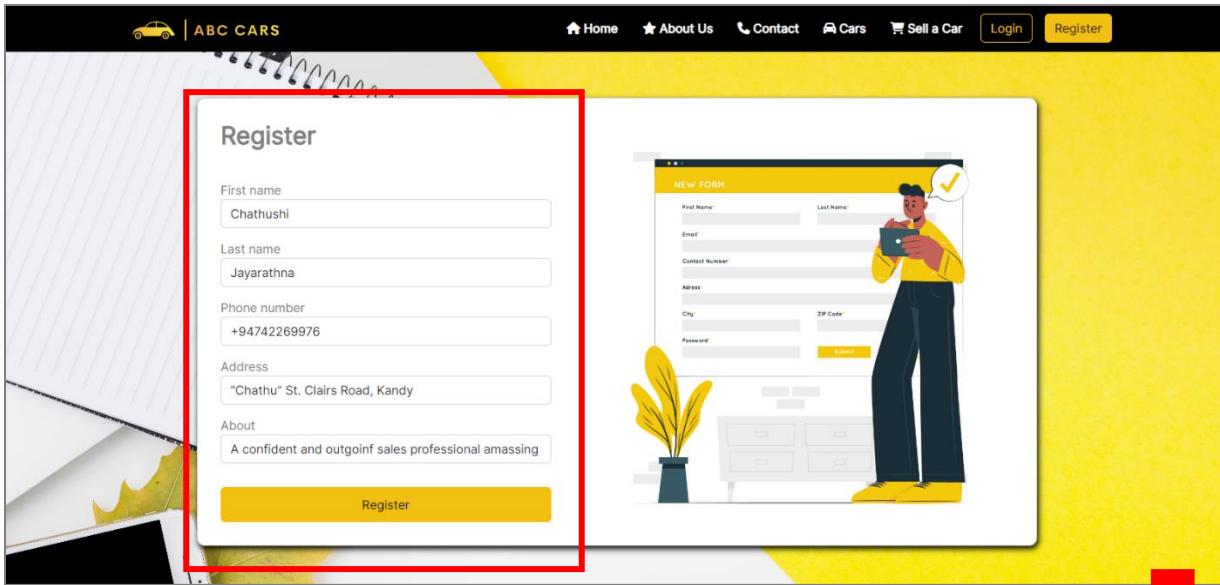
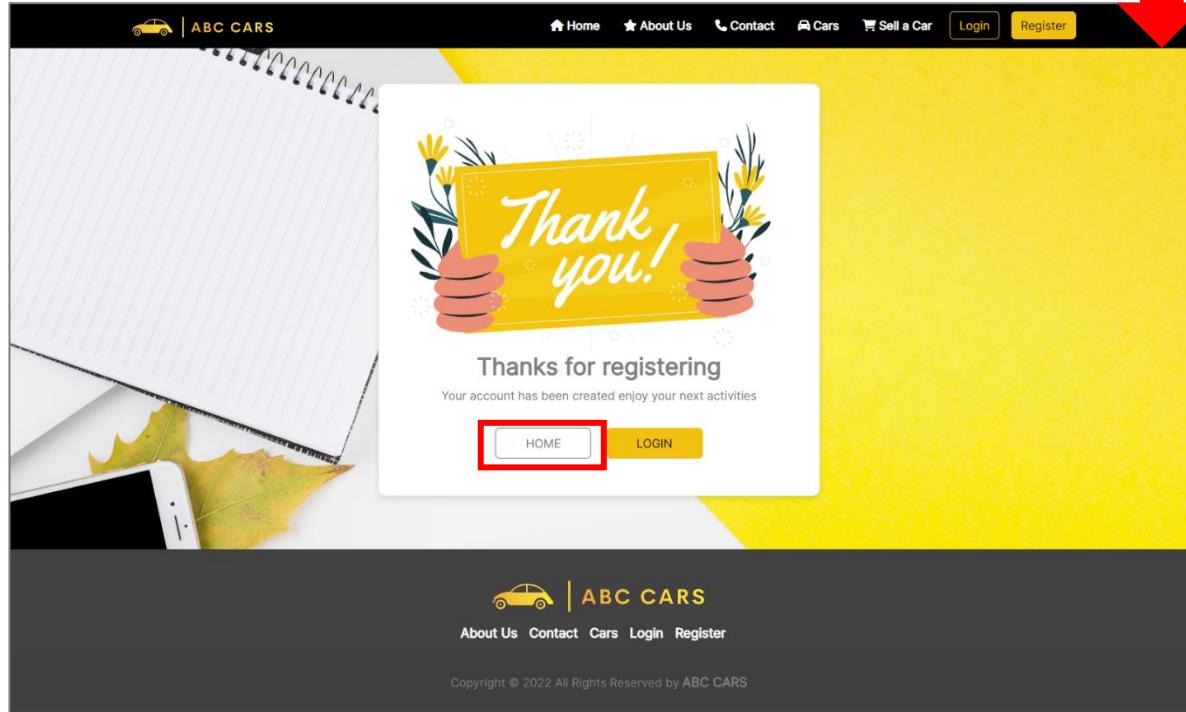


Figure 46:Evidence: Fig: TS006 – TC001 (1)

Evidence: Fig: TS006 – TC001 (2)



Evidence: Fig: TS006 – TC001 (3) – Home Page

(The results show that it took 55sec for the user to go from the login to the home page)

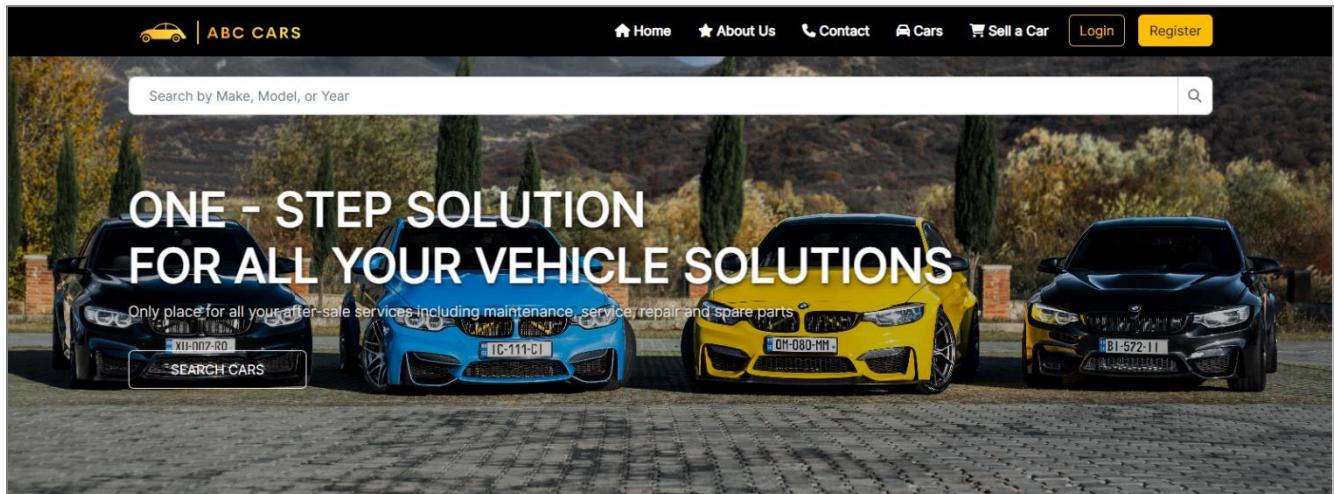
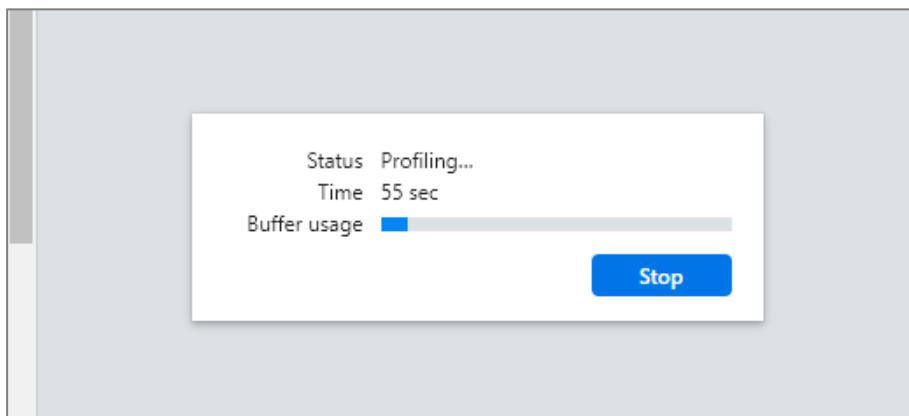


Figure 47:Evidence: Fig: TS006 – TC001 (2)

Figure 48:Evidence: Fig: TS006 – TC001 (3)



9.1.4 Functional Testing - Compatibility Testing

Requirements	Test Scenario ID	Test Scenario	Number of test cases
Compatibility Testing	CBT001	Registration	2
	CBT002	Login	2
	CBT003	Add Car	2
	CBT004	Search car	2

✓ Registration

Scenario ID	Test Case ID	Test Case	Preconditions	Test Step	Test Data	Expected Results	Actual Results	Pass / Fail
CBT S001	CBT01	Check the register user is working correctly.	ABC Cars Portal website has completed and uploaded on server	1. Go to Google chrome type localhost:8080	In Registration Page, input test data Username= chathu@77 Password = 12345678 Firstname = Chathushi Lastname = Jayarathna Phone number = +94742269976 Address = "Chathu" St. Clairs Road, Kandy About = Hi Click Register button	1. Loaded the Thank Page correctly.	As expected ,	Pass

Evidence: Fig: CBTS001 – CBT01

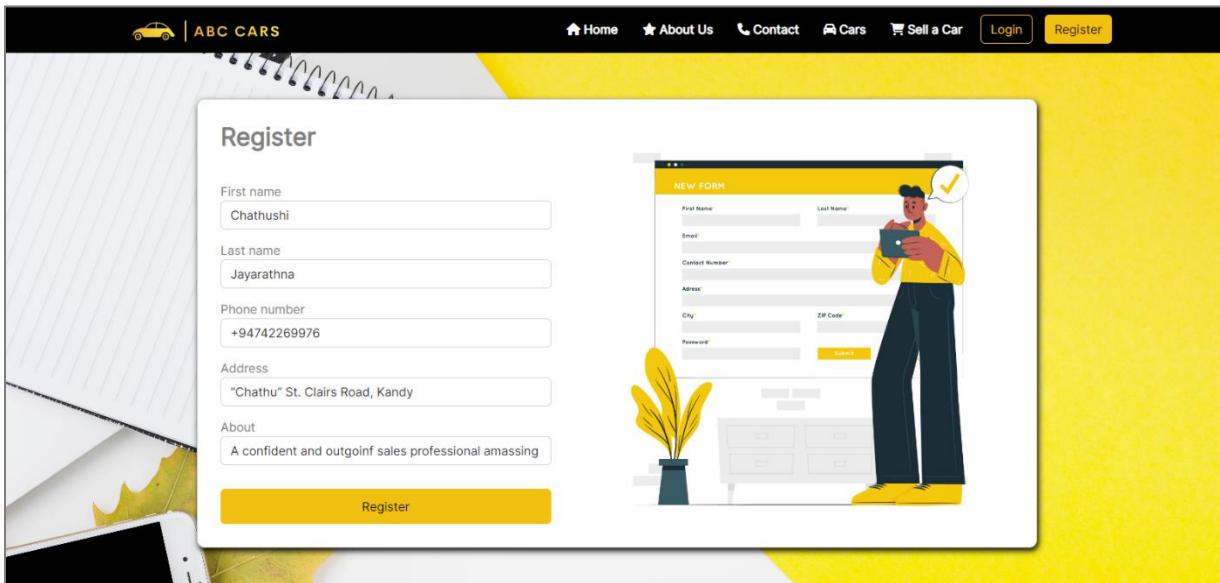


Figure 50:Evidence: Fig: CBTS001 – CBT01 - Google Chrome

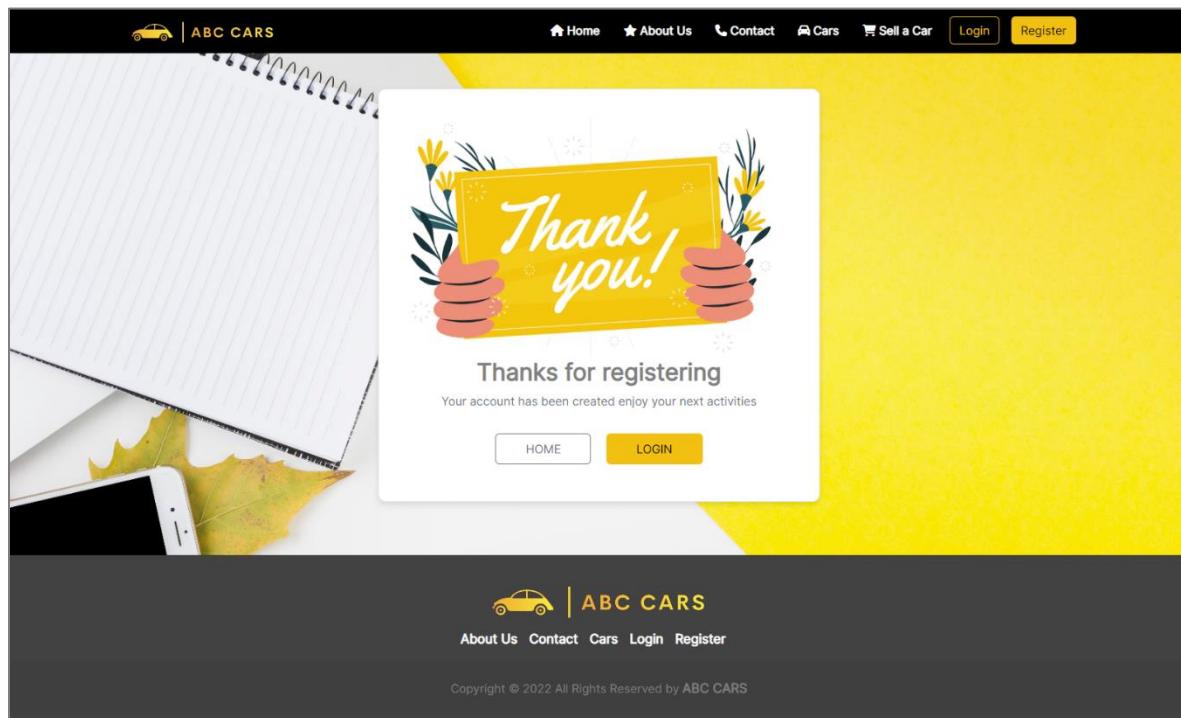


Figure 49:Evidence: Fig: CBTS001 – CBT01 - Google Chrome

Sce nari o ID	Test Case ID	Test Case	Precondi tions	Test Step	Test Data	Expected Results	Actual Results	Pass / Fail
CBT S001	CBT02	Check that registra tion page is working correctly on Mozilla Firefox.	ABC Cars Portal website has complete d and uploaded on server	Go to MS Edge type localhos t:8080	In Registration Page, input test data Username=cbt@11 Password = cbt@11 Firstname = CBT Lastname = CBT Phone number = +94123456789 Address = CBT About = CBT Click Register button	1. Loaded the Thank you correctly.	As expected ,	Pass

Evidence: Fig: CBTS001 – CBT02 – Microsoft Edge

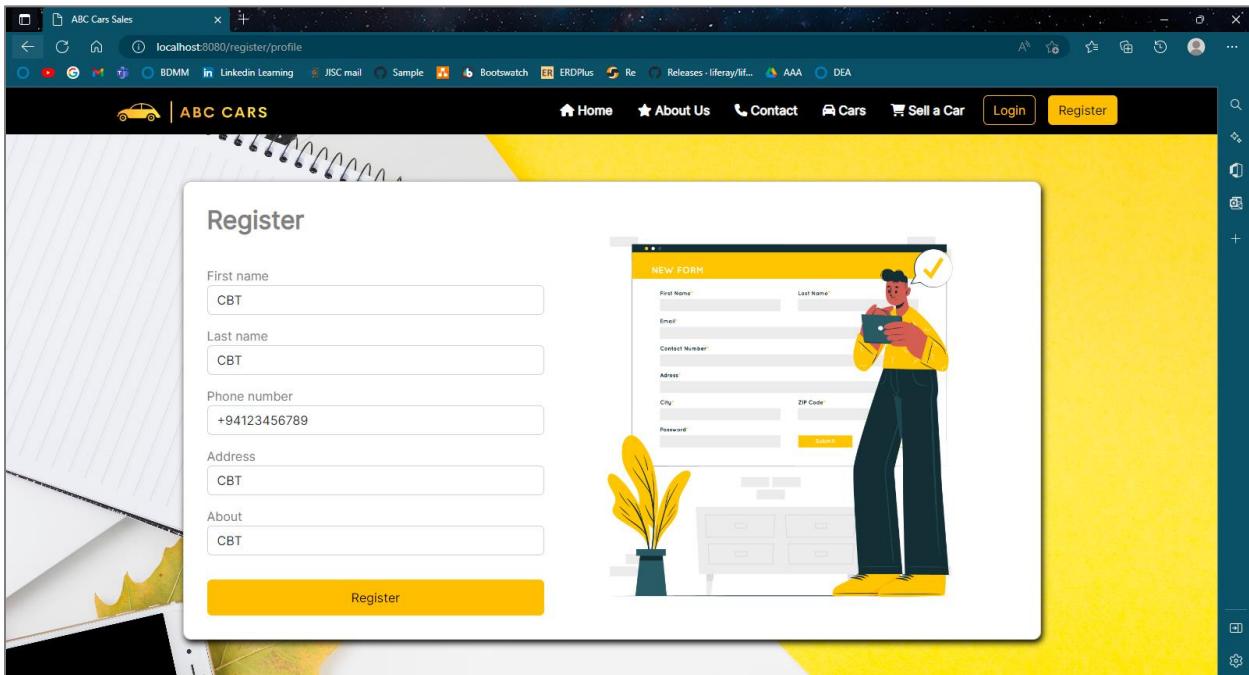


Figure 52:Evidence: Fig: CBTS001 – CBT01 – Microsoft Edge

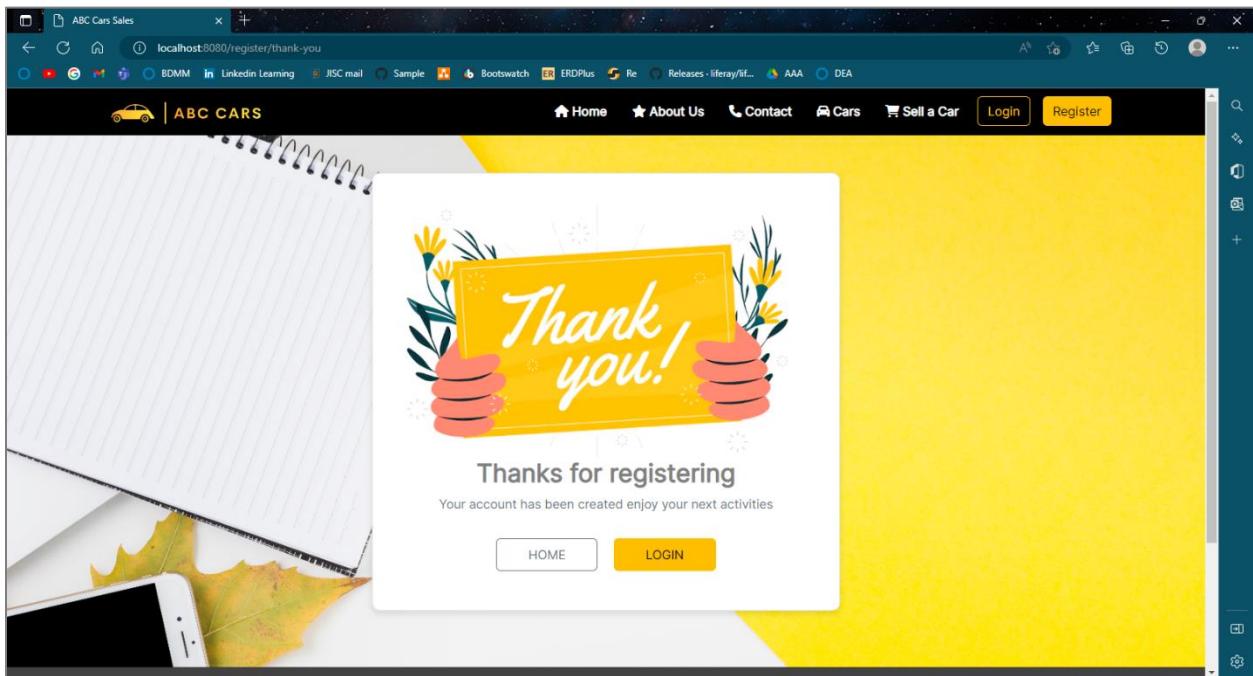


Figure 51:Evidence: Fig: CBTS001 – CBT01 – Microsoft Edge

✓ Login

Scenario ID	Test Case ID	Test Case	Preconditions	Test Step	Test Data	Expected Results	Actual Results	Pass / Fail
CBTS002	CBT01	Check the login user is working correctly on Google Chrome.	ABC Cars Portal website has completed and uploaded on server	1. Go to Google chrome type localhost:9091	In Login page enter sample data Username = chathu@77 Password = 12345678	1. Loaded the Login Page correctly.	As expected,	Pass
CBTS002	CBT02	Check that Login page is working correctly on Microsoft Edge.	ABC Cars Portal website has completed and uploaded on server	1. Go to MS Edge type localhost:9091	In Login page enter sample data Username = chathu@77 Password =12345678	1. Loaded the registration page correctly.	As expected,	Pass

Evidence: Fig: CBTS002 – CBT01 – Google Chrome

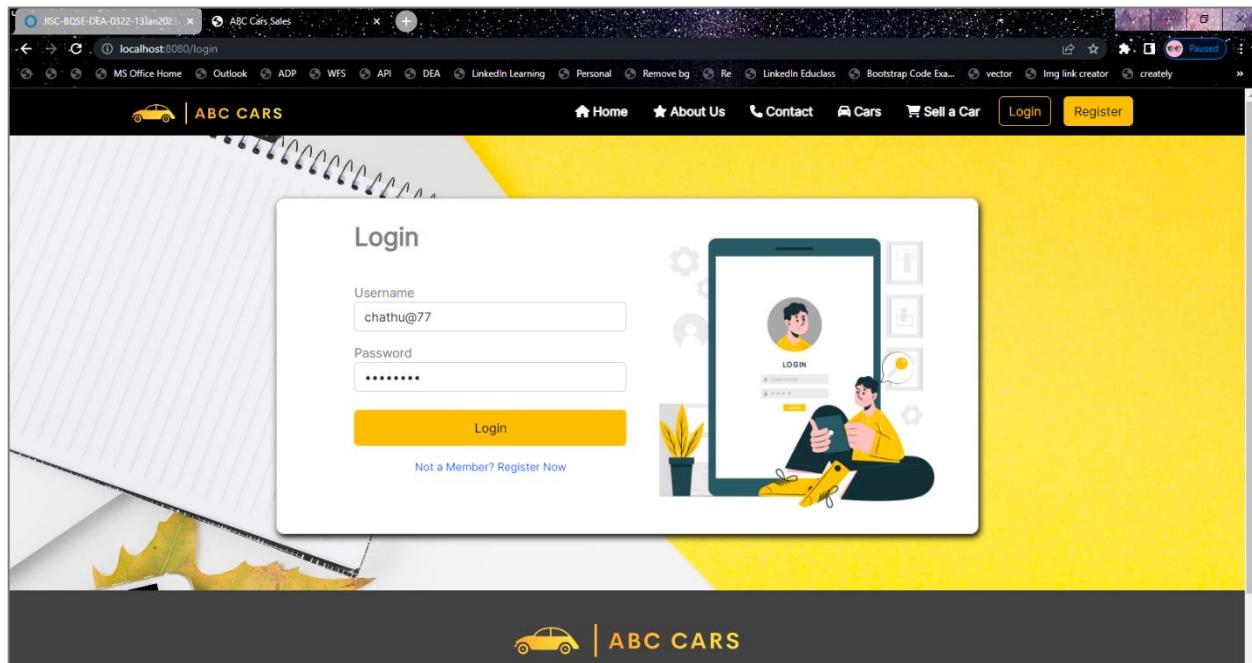


Figure 54:Evidence: Fig: CBTS002 – CBT01 – Google Chrome

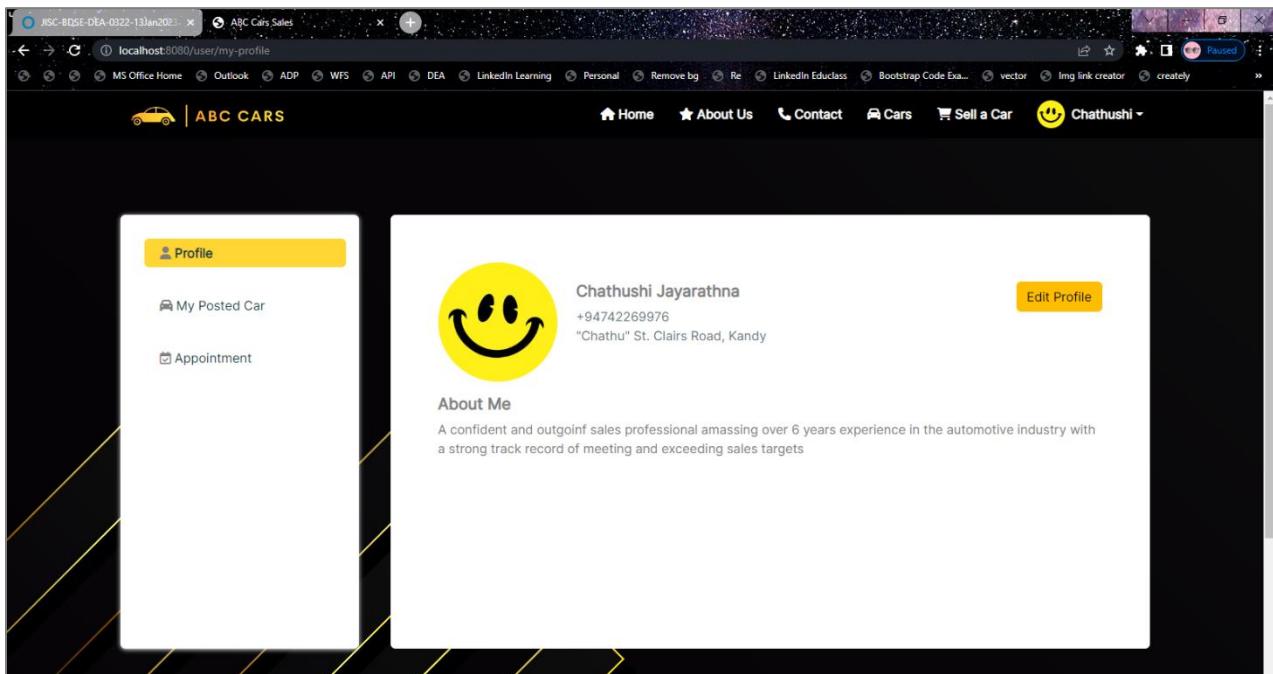


Figure 53:Evidence: Fig: CBTS002 – CBT01 – Google Chrome

Evidence: Fig: CBTS002 – CBT02 – Microsoft Edge

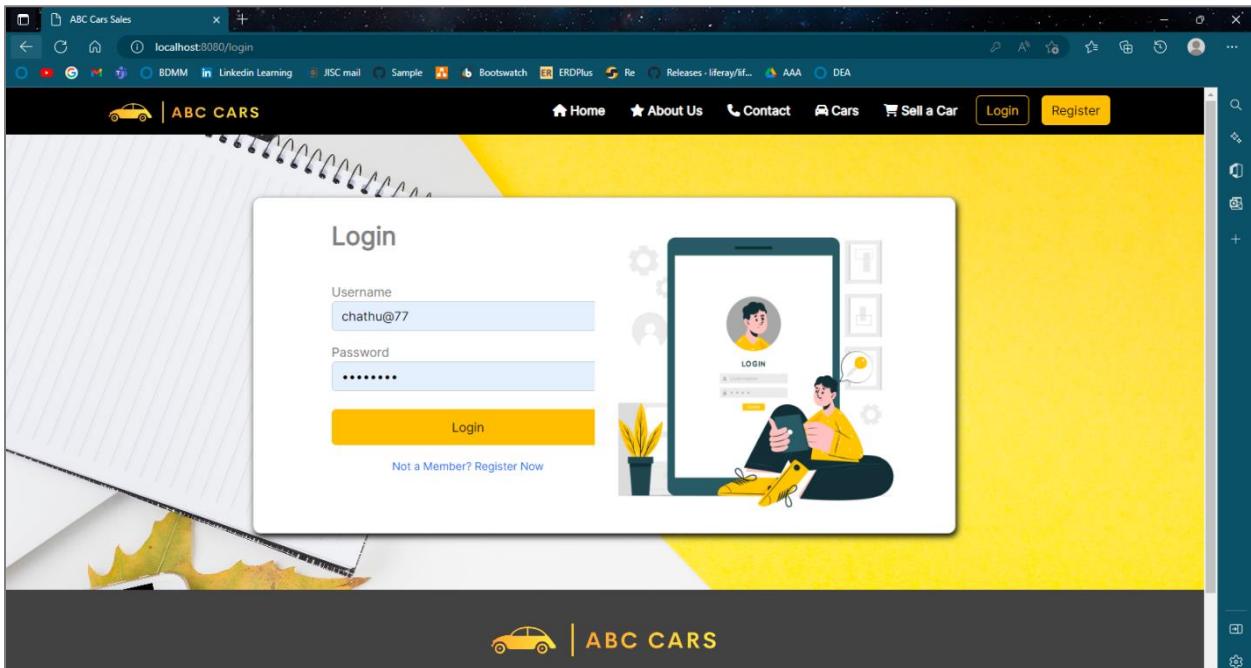


Figure 55:Evidence: Fig: CBTS002 – CBT01 – Microsoft Edge

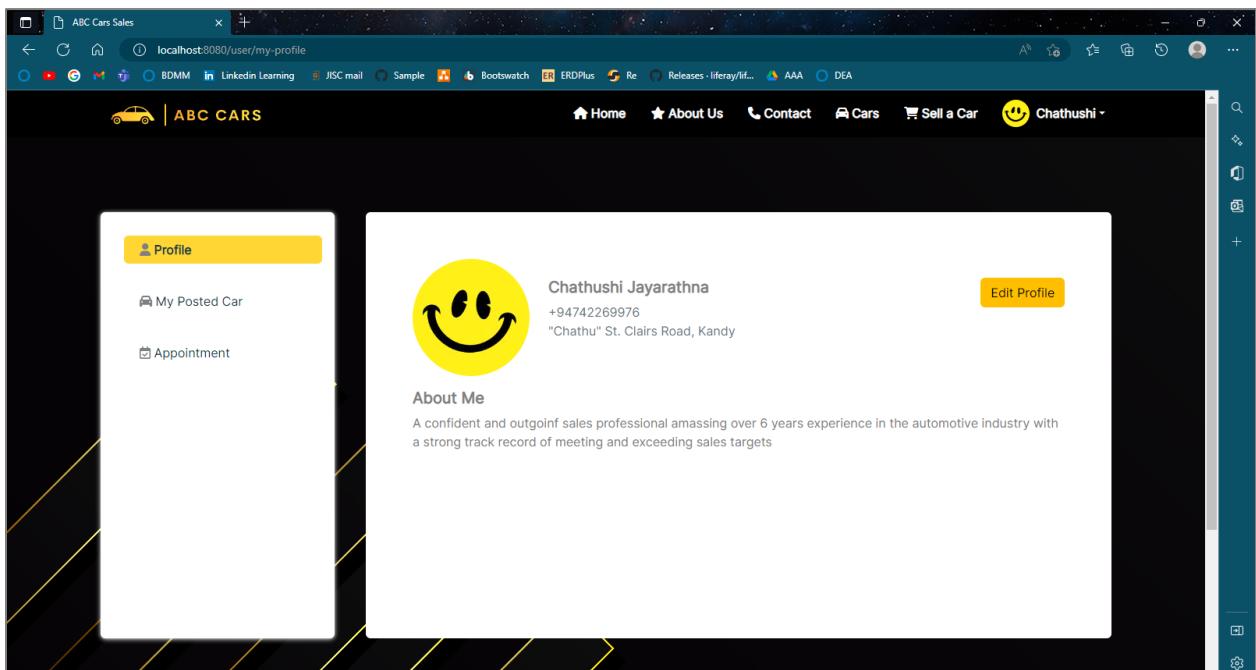


Figure 56:Evidence: Fig: CBTS002 – CBT01 – Microsoft Edge

✓ Post Car

Scenario ID	Test Case ID	Test Case	Preconditions	Test Step	Test Data	Expected Results	Actual Results	Pass / Fail
CBT S003	CBT0 1	Check the Add car is working correctly on Google Chrome.	ABC Cars Portal website has completed and uploaded on server	1. Go to Google chrome type localhost:9091	In the PostCar page enter sample data Make = Suzuki (Japan) Model = WagonR Year = 2020 Price = \$25000	1. Loaded the Add Car correctly.	As expected,	Pass
CBT S003	CBT0 2	Check that Add car is working correctly on Mozilla Firefox.	ABC Cars Portal website has completed and uploaded on server	1. Go to MS Edge type localhost:9091	In Post Car page enter sample data Make = Suzuki (Japan) Model = WagonR Year = 2020 Price = \$25000	1. Loaded the Add Car page correctly.	As expected,	Pass

Evidence: Fig: CBTS003 - CBT01 – Google Chrome

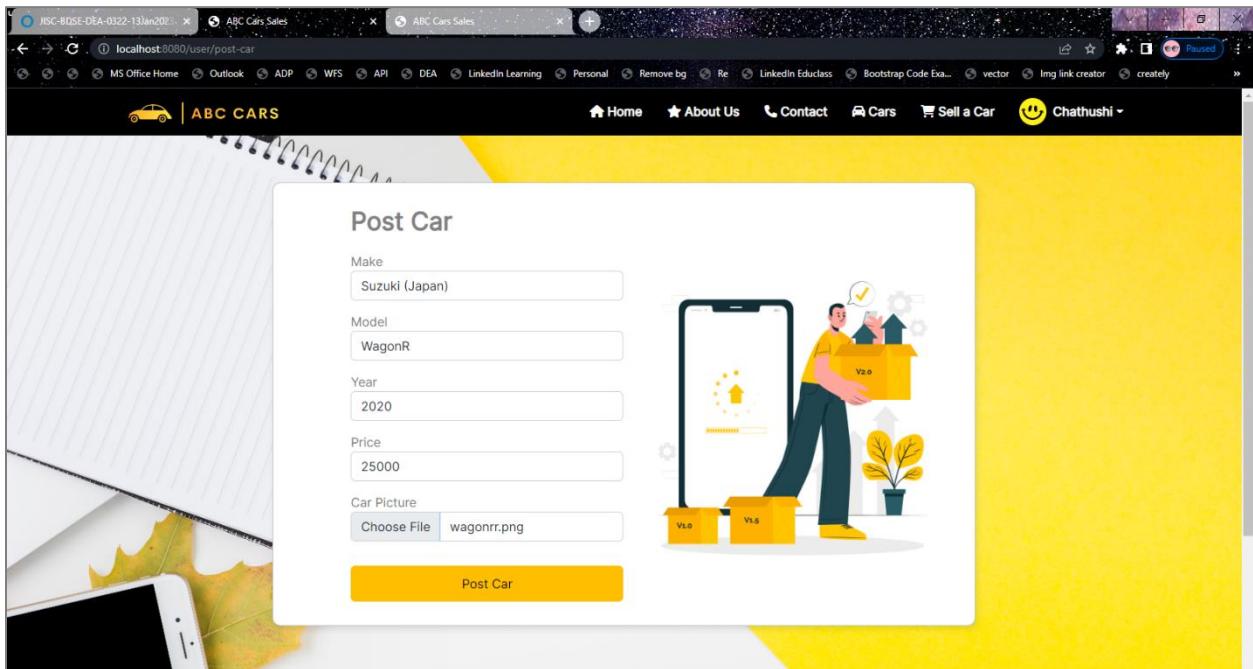


Figure 57:Evidence: Fig: CBTS003 – CBT01 – Google Chrome

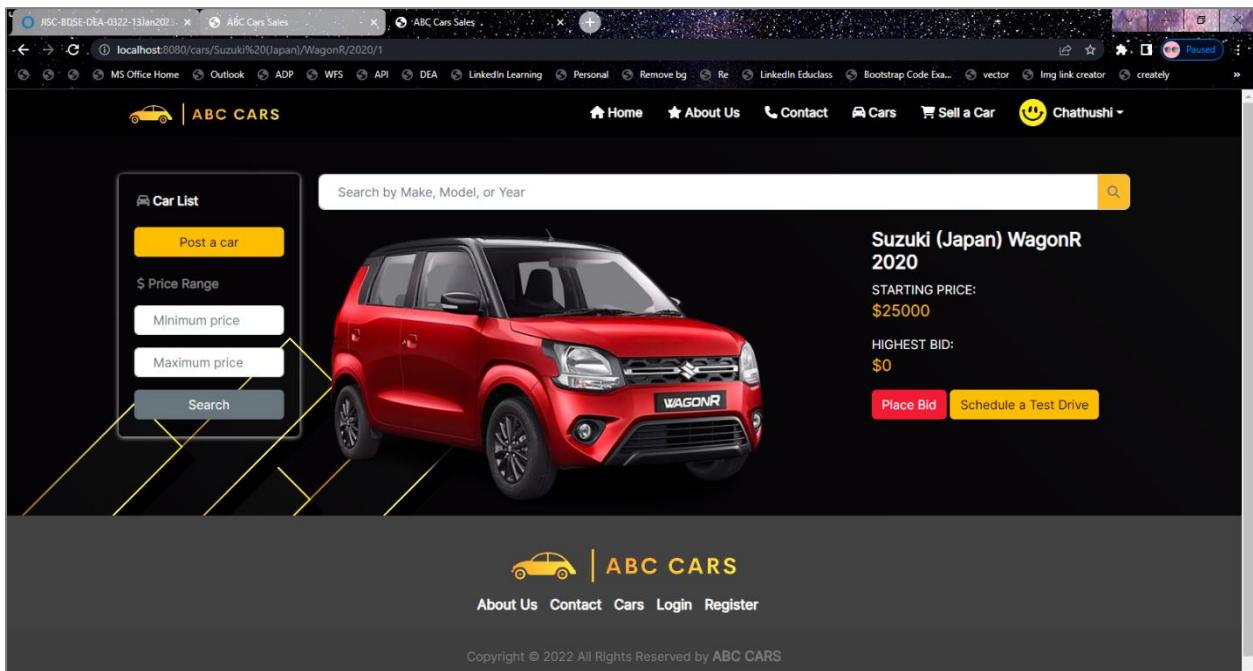


Figure 58:Evidence: Fig: CBTS003 – CBT01 – Google Chrome

Evidence: Fig: CBTS003 - CBT02 – Microsoft Edge

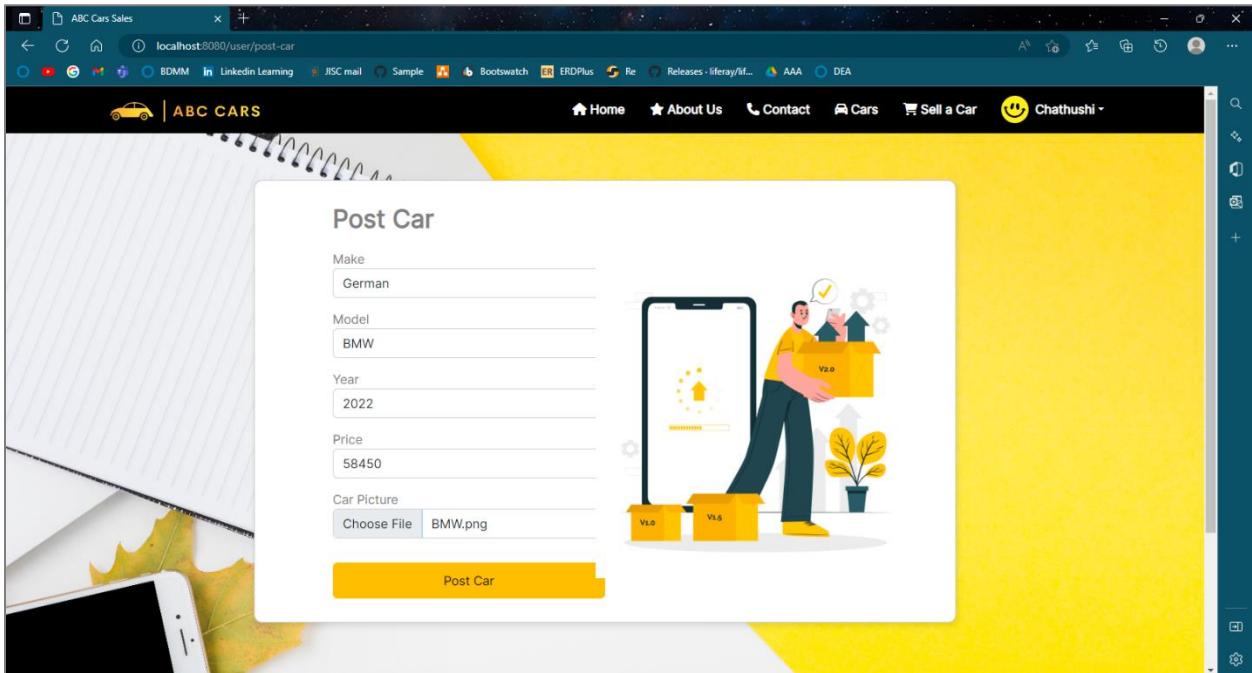


Figure 60:Evidence: Fig: CBTS003 - CBT02 – Microsoft Edge

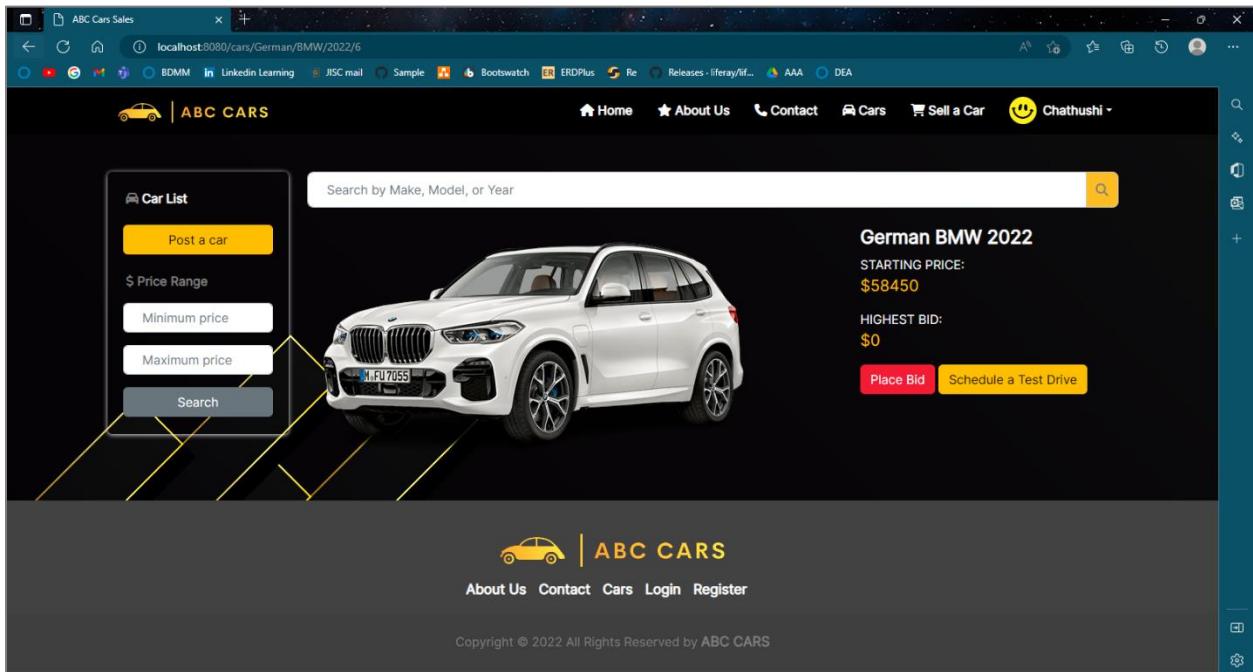


Figure 59:Evidence: Fig: CBTS003 - CBT02 – Microsoft Edge

✓ Search Car

Scenar io ID	Test Cas e ID	Test Case	Precondit ions	Test Step	Test Data	Expected Results	Actua l Resul ts	Pa ss / Fai l
CBT S00 4	CBT 01	Check the View car is working correctly on Google Chrome .	ABC Cars Portal website has been completed and uploaded to the server	1. Go to Google chrome type localhost:8080	In the nav bar Click the cars link to see the car details.	Loaded the View car page correctly.	As expected,	Pass
CBT S00 4	CBT 02	Check that View car is working correctly on Mozilla Firefox.	ABC Cars Portal website has been completed and uploaded on the server	1. Go to MS Edge type localhost:8080	In the nav bar Click the cars link to see the car details.	Loaded the View car page correctly.	As expected,	Pass

Evidence: Fig: CBTS004 – CBT01 – Google Chrome

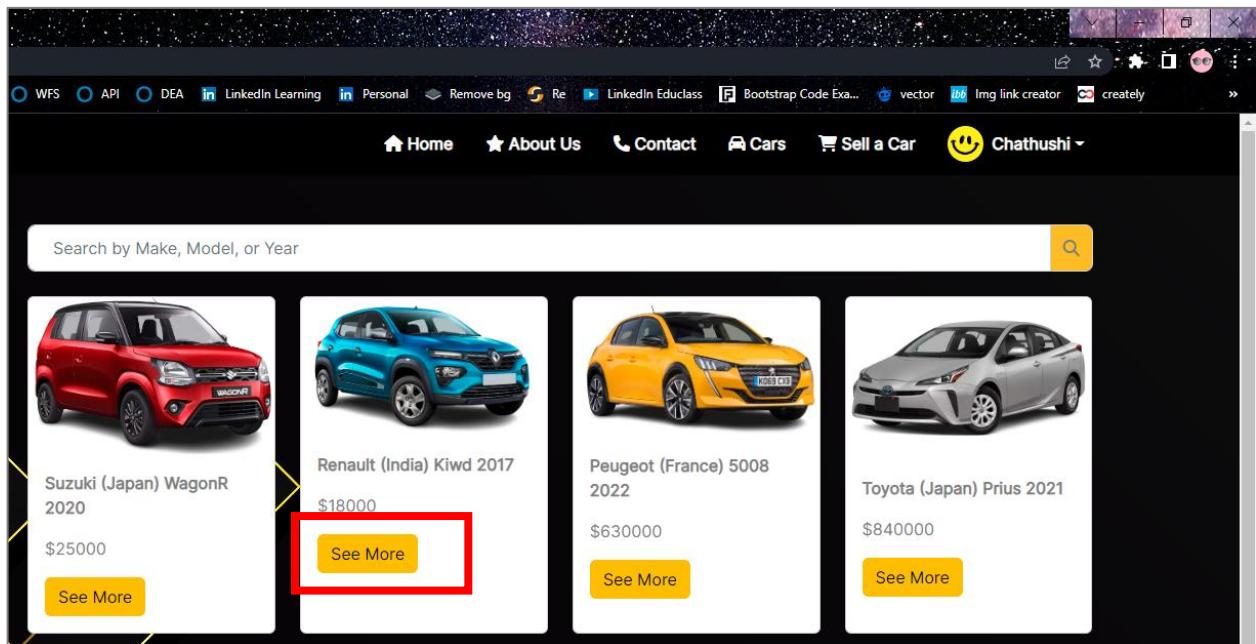


Figure 61:Evidence: Fig: CBTS004 – CBT01 – Google Chrome

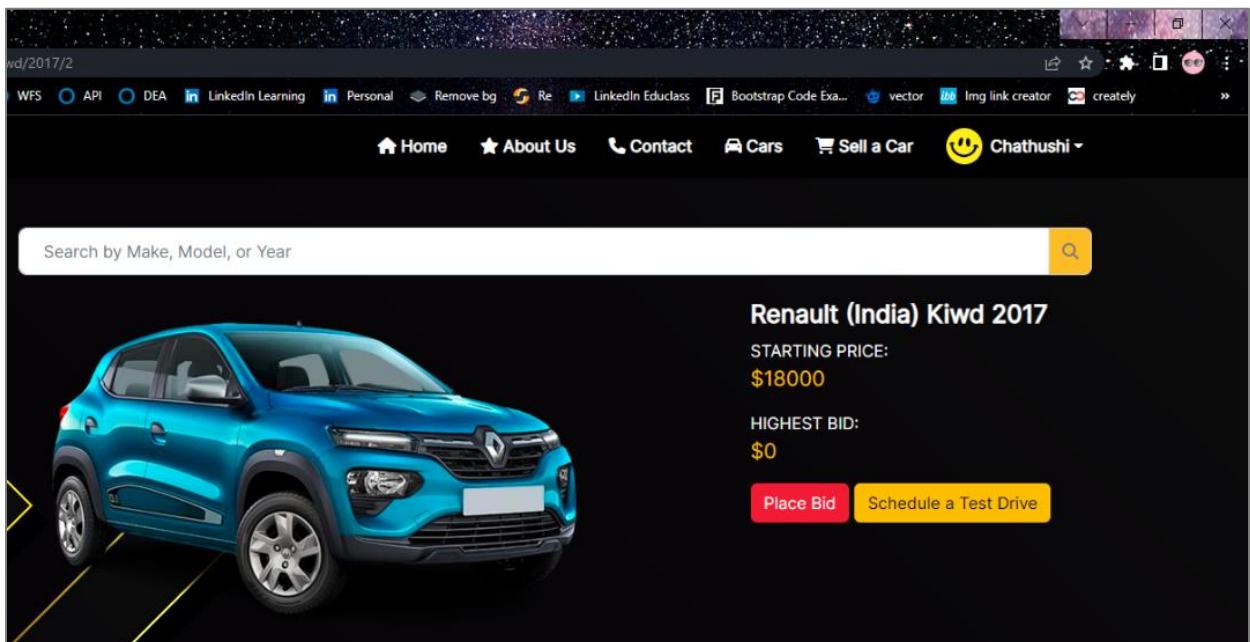


Figure 62:Evidence: Fig: CBTS004 – CBT01 – Google Chrome

Evidence: Fig: CBTS004 – CBT02 – Microsoft Edge

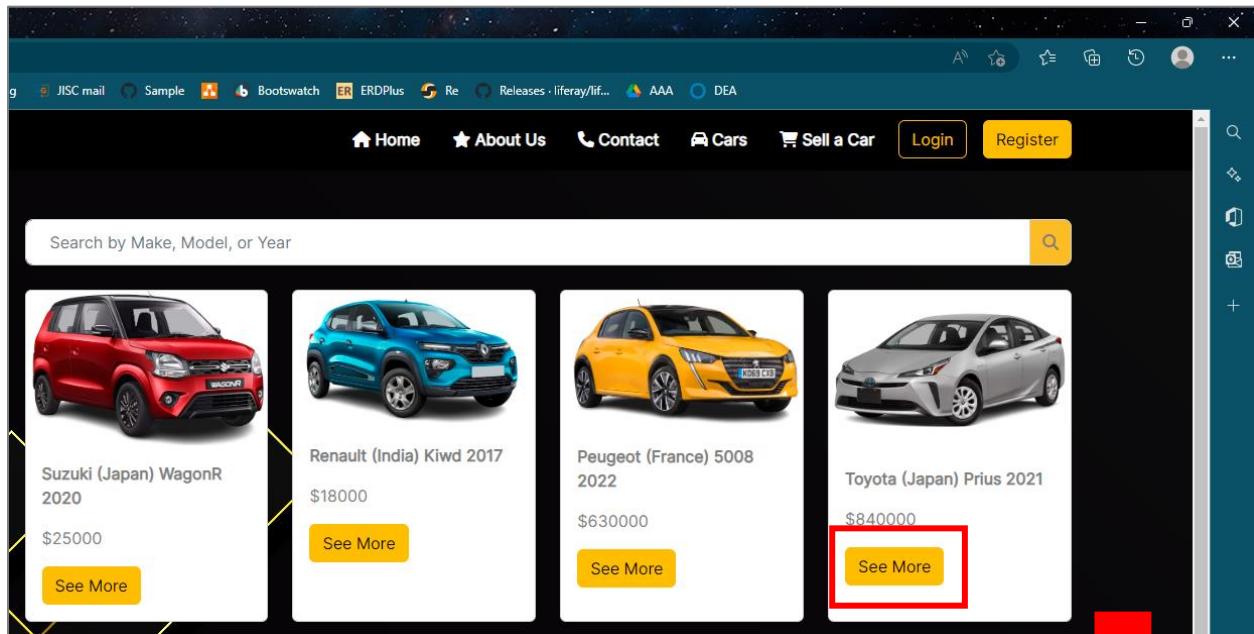


Figure 63:Evidence: Fig: CBTS004 – CBT02 – Microsoft Edge

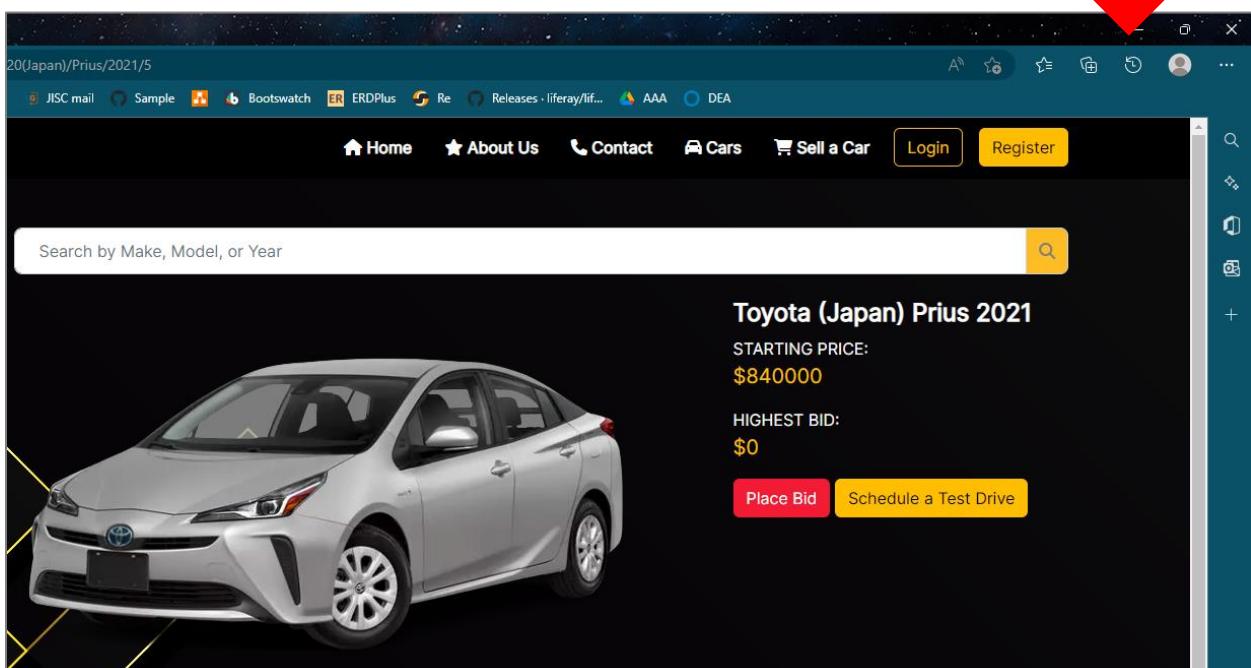


Figure 64:Evidence: Fig: CBTS004 – CBT02 – Microsoft Edge

9.1.5 Usability Testing

✓ Registration Page

Test Scenario	Registration Page.
TS007	
Test Cases	Registration Page in ABC CARS PTE LTD Portal
TC001	The ABC Car portal meet with GUI and User-friendly interface design.

Test Scenario ID	Test Case ID	Test Priority	Pre-condition	Expected Result	Actual Result	Pass/Fail
TS007	TC001	Low	ABC Cars Portal website has been completed and uploaded on the server	The ABC Car portal meet with GUI and User-friendly interface design.	as expected,	Pass
Test Step & Test data		Navigation – Logo, Navigation, Register button, Login Button Body – Register Form, Register Background, Register Form Image				
Evidence		Fig: TS007 – TC001				

Evidence: Fig: TS008 – TC001

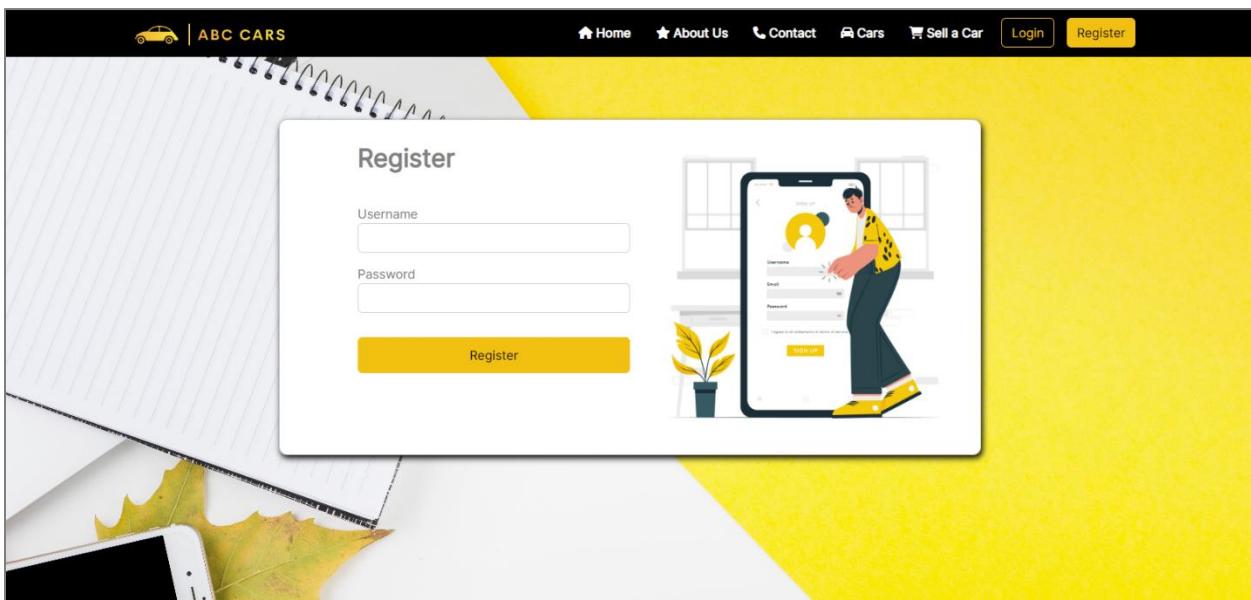


Figure 66:Evidence: Fig: TS008 – TC001

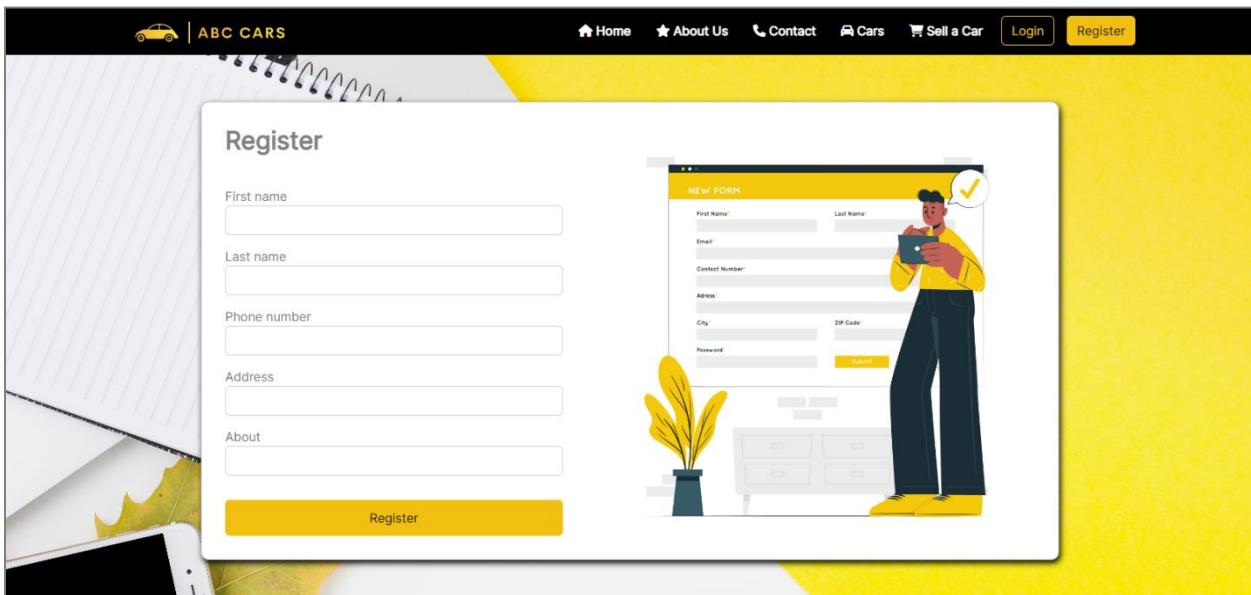


Figure 65:Evidence: Fig: TS008 – TC001

✓ **Login Page**

Test Scenario	Login Page.
TS008	
Test Cases	Login Page in ABC CARS PTE LTD Portal
TC001	The ABC Car portal meet with GUI and User-friendly interface design.

Test Scenario ID	Test Case ID	Test Priority	Pre-condition	Expected Result	Actual Result	Pass/Fail
TS008	TC001	Low	ABC Cars Portal website has been completed and uploaded to the server	The ABC Car portal meets with GUI and aUser-friendly interface design.	As expected,	Pass
Test Step & Test data		Navigation – Logo, Navigation, Register button, Login Button Body – Login Form, Image, Background Image Footer – Logo, Page links & Copyright				
Evidence		Fig: TS007 – TC001				

Evidence: Fig: TS008 – TC001

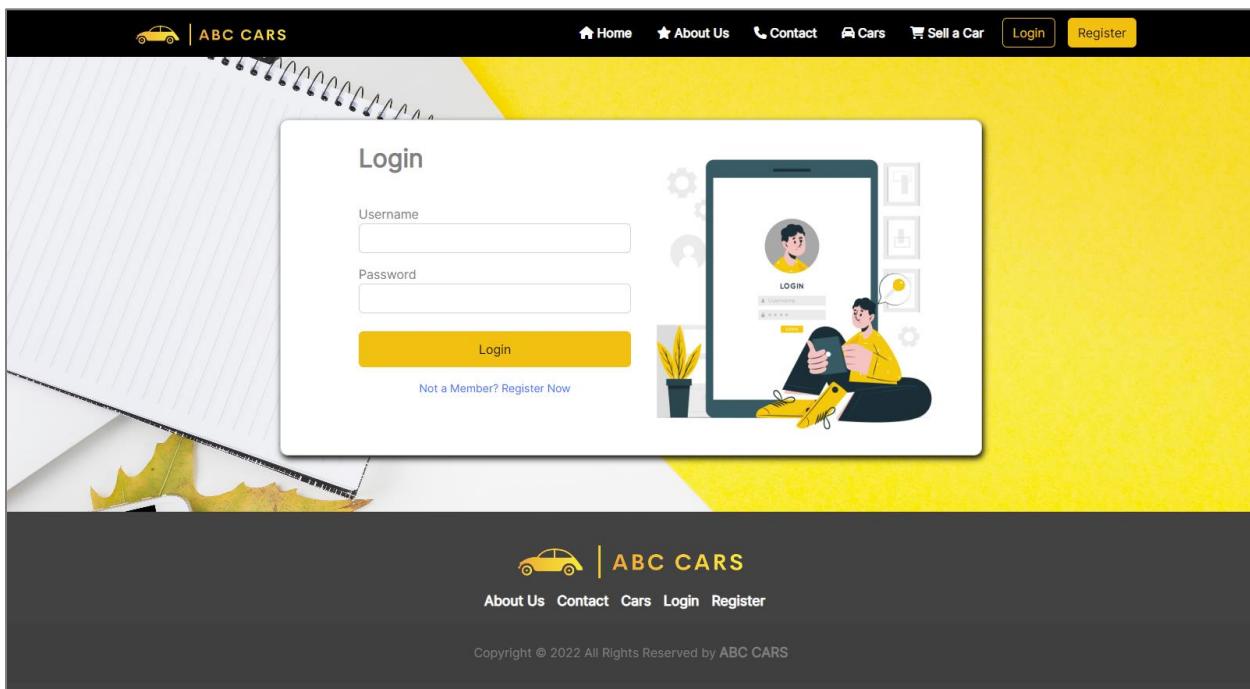


Figure 67:Evidence: Fig: TS008 – TC001

✓ **Car List Page**

Test Scenario	List Car Page.
TS009	
Test Cases	List Car Page in ABC CARS PTE LTD Portal
TC001	The ABC Car portal meets with GUI and User-friendly interface design.

Test Scenario ID	Test Case ID	Test Priority	Pre-condition	Expected Result	Actual Result	Pass/Fail
TS009	TC001	Low	ABC Cars Portal website has been completed and uploaded to server	The ABC Car portal meets with GUI and a User-friendly interface design.	As expected,	Pass
Test Step & Test data		Navigation – Logo, Navigation, Brand name Body – Header, Search bar, Car list Footer – Logo, Page links & Copyright				
Evidence		Fig: TS009 – TC001				

Evidence: Fig: TS009 – TC001

The screenshot shows the 'ABC CARS' website interface. At the top, there is a navigation bar with links for Home, About Us, Contact, Cars, Sell a Car, and a user profile icon labeled 'Chathushi'. Below the navigation bar, a sidebar on the left contains 'Profile' and 'My Posted Car' (which is highlighted in yellow). The main content area is titled 'My Posted Cars' and displays a table of five posted cars. The table columns are Id, Car, Make, Model, Year, Price, and Status. The data is as follows:

Id	Car	Make	Model	Year	Price	Status
1	Suzuki (Japan)		WagonR	2020	\$25000	ACTIVE
2	Renault (India)		Kiwd	2017	\$18000	ACTIVE
3	Mini (Netherlands)		Countryman	2016	\$55000	SOLD
4	Peugeot (France)		5008	2022	\$630000	ACTIVE
5	Toyota (Japan)		Prius	2021	\$840000	ACTIVE

At the bottom of the page, there is a footer with links for About Us, Contact, Cars, Login, and Register, along with a copyright notice: 'Copyright © 2022 All Rights Reserved by ABC CARS'.

Figure 68:Evidence: Fig: TS009-TC001

✓ **View Car Page**

Test Scenario	View Car Page.
TS010	
Test Cases	View Car Page in ABC CARS PTE LTD Portal
TC001	The ABC Car portal meet with GUI and User-friendly interface design.

Test Scenario ID	Test Case ID	Test Priority	Pre-condition	Expected Result	Actual Result	Pass/Fail
TS010	TC001	Low	ABC Cars Portal website has been completed and uploaded on server	The ABC Car portal meet with GUI and meets-friendly interface design.	As Expected,	Pass
Test Step & Test data	Navigation – Logo, Navigation, Brand name Body – Header, Car Information, Car bidding option, Bidding details Footer – Logo, Page links & Copyright					
Evidence	Fig: TS010 – TC001					

Evidence: Fig: TS010 – TC001

The figure consists of three vertically stacked screenshots of the ABC CARS website, showing the progression of a car search.

Screenshot 1: The top screenshot shows the homepage. A red arrow points down to the "Cars" button in the top navigation bar. The navigation bar also includes Home, About Us, Contact, Sell a Car, Login, and Register.

Screenshot 2: The middle screenshot shows the results of a search. A yellow box highlights the "Car List" section on the left, which contains a "Post a car" button and a "Price Range" input field with "Minimum price" and "Maximum price" dropdowns, followed by a "Search" button. Another yellow box highlights the "See More" button next to the Toyota Prius listing. The search results show four cars: Suzuki WagonR, Renault Kwid, Peugeot 5008, and Toyota Prius. Each listing includes the car's name, origin, model year, price, and a "See More" button.

Screenshot 3: The bottom screenshot shows the detailed view of the Toyota Prius listing. A yellow box highlights the "Search" button in the "Car List" sidebar. The main content area displays the Toyota (Japan) Prius 2021, showing a large image of the car, its starting price (\$840000), and the fact that the highest bid is \$0. It also features "Place Bid" and "Schedule a Test Drive" buttons. The navigation bar at the top remains the same as in the previous screens.

Figure 69:Evidence: Fig: TS010 – TC001

✓ Post Car

Test Scenario		Post Car Page.
TS011		
Test Cases		Post Car Page in ABC CARS PTE LTD Portal
TC001		The ABC Car portal meet with GUI and User-friendly interface design.

Test Scenario ID	Test Case ID	Test Priority	Pre-condition	Expected Result	Actual Result	Pass/Fail
TS011	TC001	Low	ABC Cars Portal website has been completed and uploaded to the server	The ABC Car portal meets with GUI and a User-friendly interface design.	As expected,	Pass
Test Step & Test data		Navigation – Logo, Navigation, Brand name Body – Header, Add car form Footer – Copyright name.				
Evidence		Fig:TS011 – TC001				

Evidence: Fig:TS011 – TC001

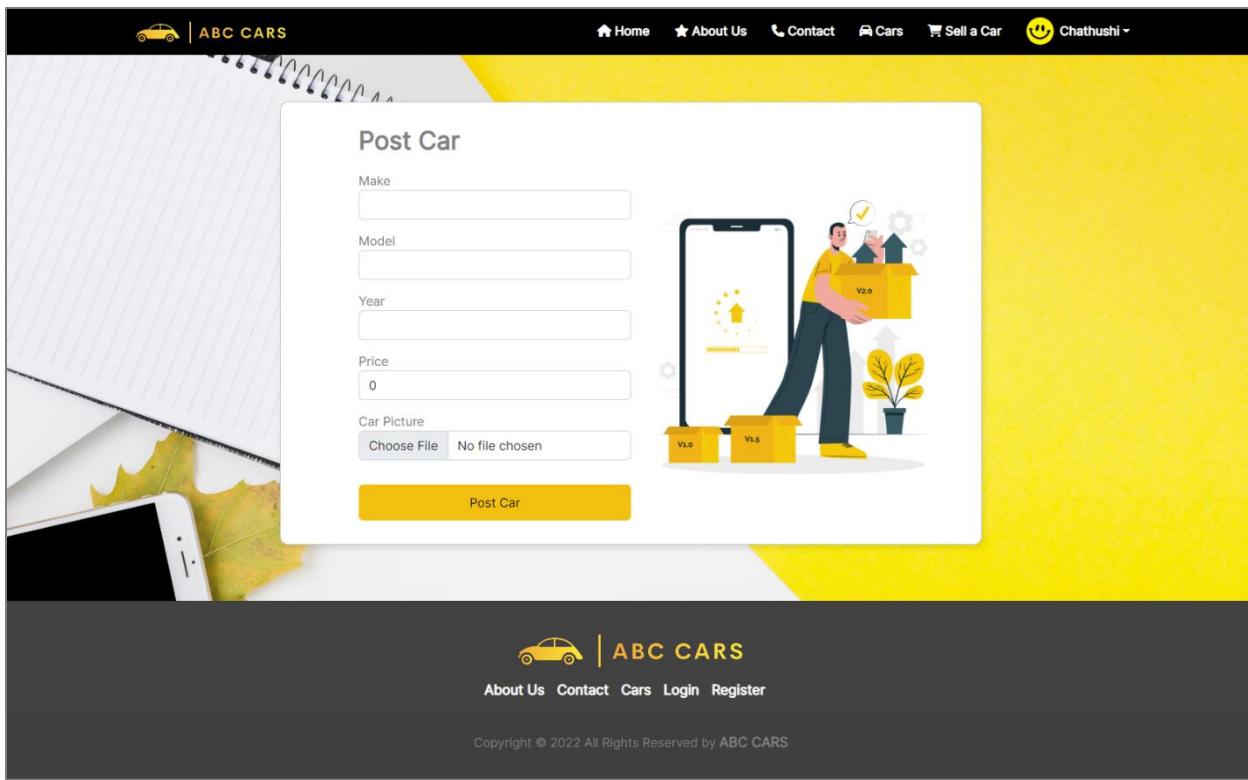


Figure 70:Evidence: Fig:TS011 – TC001

9.1.6 Portability Testing

✓ Home Page – Phone Mode

Test Scenario	Home Page.
TS012	
Test Cases	Post Car Page in ABC CARS PTE LTD Portal
TC001	Check ABC Car portal is working on Phone

Test Scenario ID	Test Case ID	Test Priority	Pre-condition	Expected Result	Actual Result	Pass/Fail
TS012	TC001	Low	ABC Cars Portal website has completed and uploaded on server	The ABC Car portal is working on phone correctly.	Result is come out as expected,	Pass
Test Step & Test data	Load ABC Car Portal on browser and go to inspect option and change the device into phone mode.					
Evidence	Fig:TS012 – TC001					

Evidence: Fig:TS012 – TC001 – Phone Mode

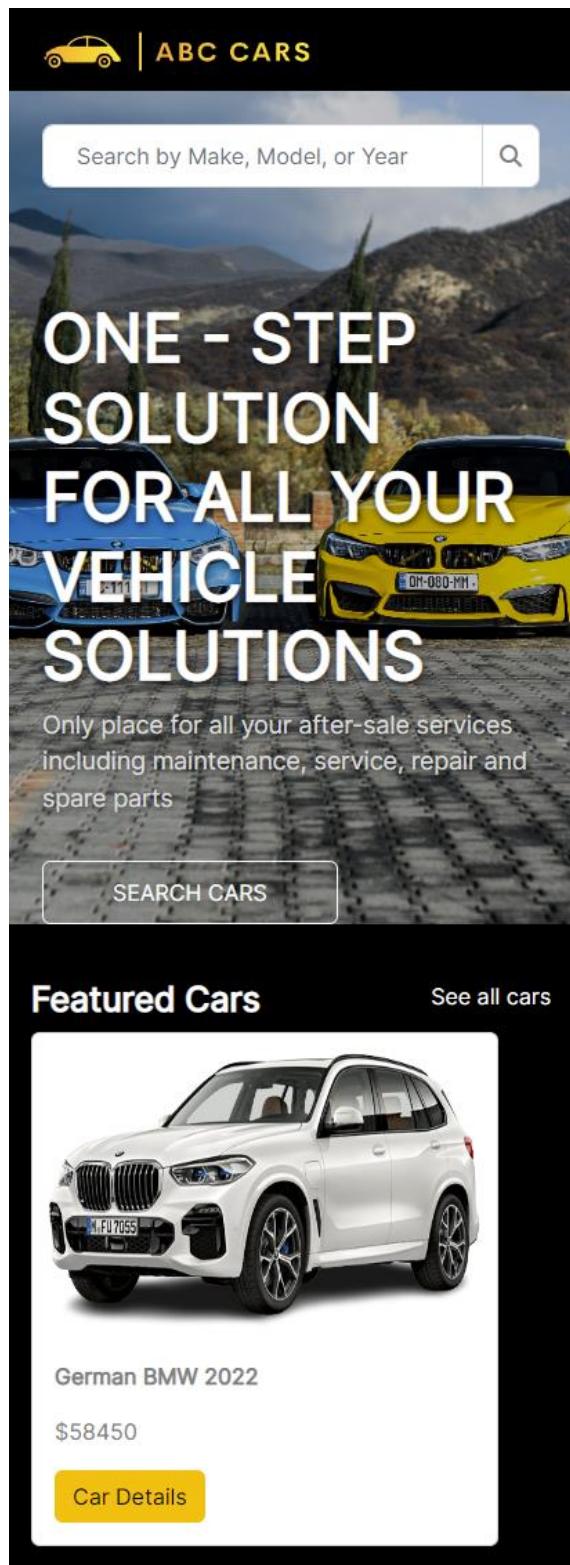


Figure 71:Evidence: Fig:TS012 – TC001 – Phone Mode

✓ **Home page – Tablet Mode**

Test Scenario	Home Page.
TS013	
Test Cases	Post Car Page in ABC CARS PTE LTD Portal
TC001	Check ABC Car portal is working on Tablet

Test Scenario ID	Test Case ID	Test Priority	Pre-condition	Expected Result	Actual Result	Pass/Fail
TS013	TC001	Low	ABC Cars Portal website has been completed and uploaded to the server	The ABC Car portal is working on the tablet correctly.	As expected,	Pass
Test Step & Test data	Load ABC Car Portal on the browser and go to inspect option and change the device into tablet mode.					
Evidence	Fig:TS013– TC001					

Evidence: Fig: TS013 – TC001 – Tablet Mode

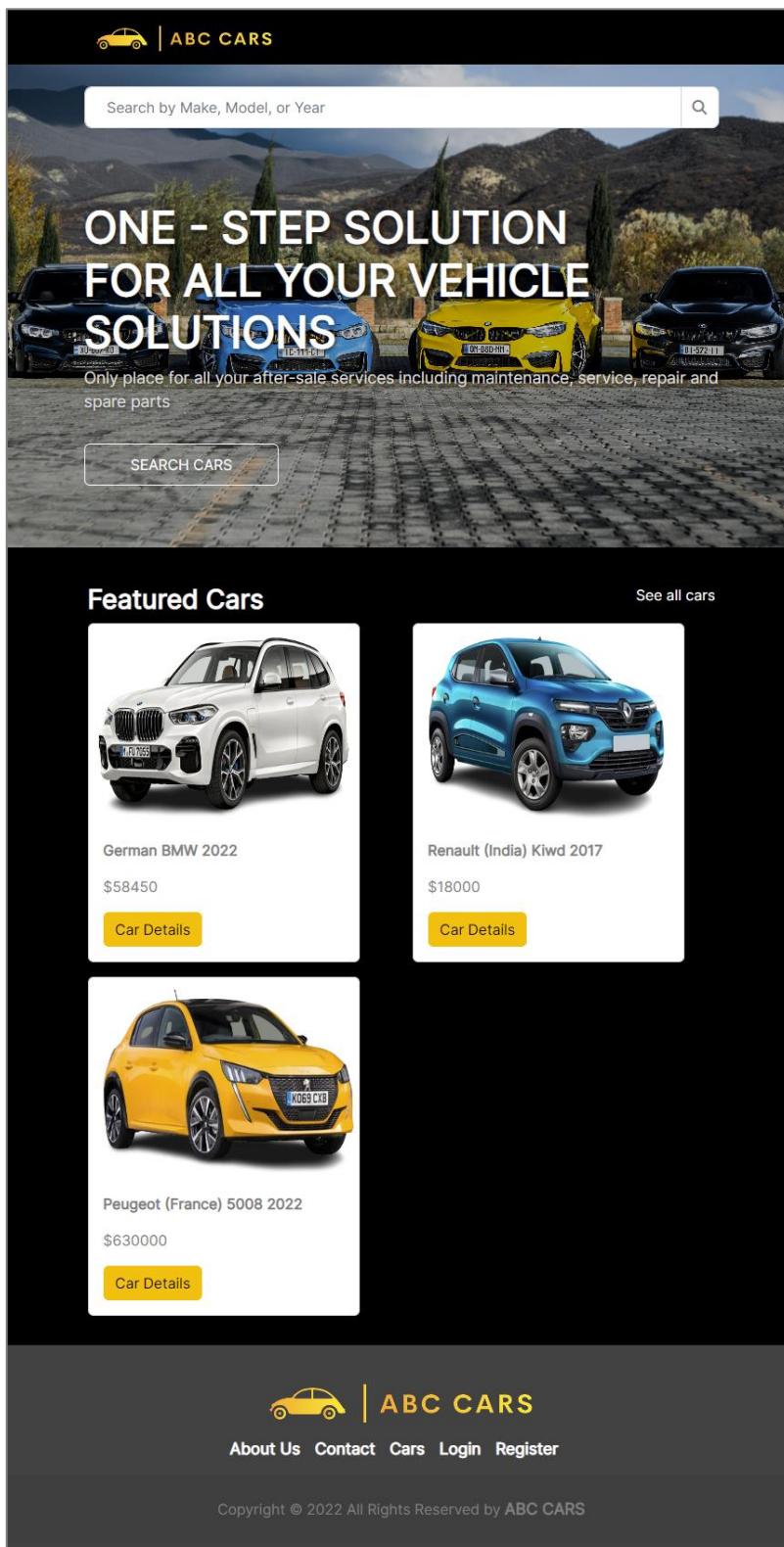


Figure 72:Evidence: Fig: TS013 – TC001 – Tablet Mode

✓ **Home page – Laptop Mode**

Test Scenario	Home Page.
TS014	
Test Cases	Post Car Page in ABC CARS PTE LTD Portal
TC001	Check ABC Car portal is working on Laptop

Test Scenario ID	Test Case ID	Test Priority	Pre-condition	Expected Result	Actual Result	Pass/Fail
TS014	TC001	Low	ABC Cars Portal website has been completed and uploaded to the server	The ABC Car portal is working on the laptop correctly.	As expected,	Pass
Test Step & Test data						
Load ABC Car Portal on the browser and go to inspect option and change the device into laptop mode.						
Evidence						
Fig:TS014 – TC001						

Evidence: Fig: TS014 – TC001 – Laptop Mode

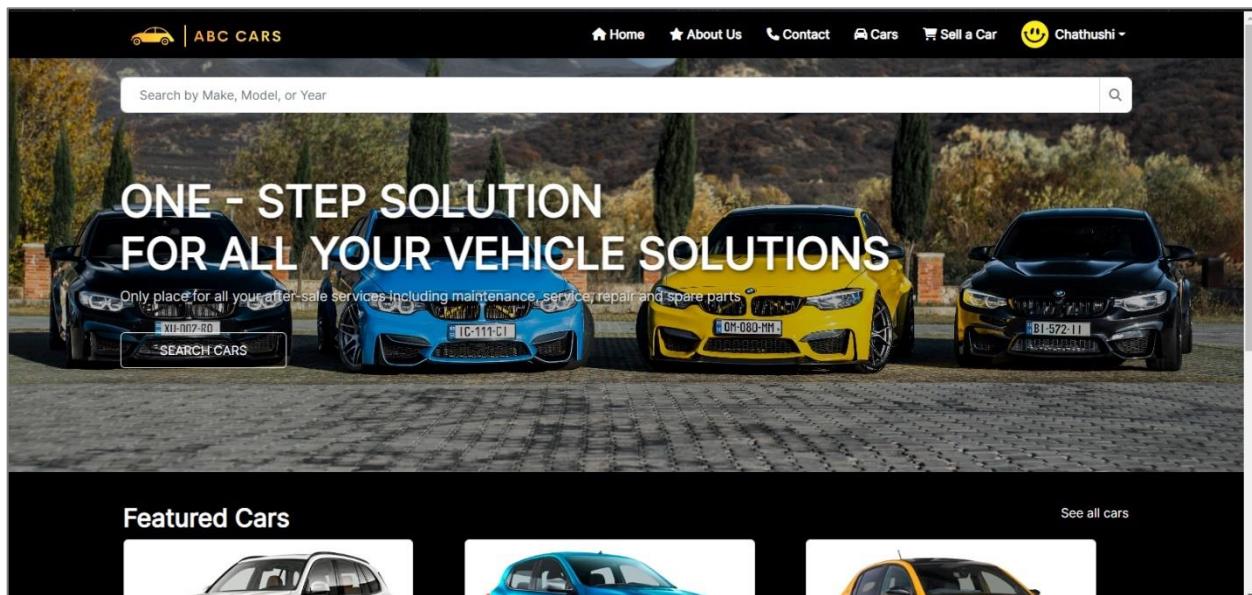


Figure 73:Evidence: Fig: TS014 – TC001 – Laptop Mode

9.1.7 Security Testing

Test Scenario	Authentication.
TS015	
Test Cases	Check login in ABC CARS PTE LTD Portal
TC001	Check login with correct login information.
TC002	Check login with wrong login information.

Test Scenario ID	Test Case ID	Test Priority	Pre-condition	Expected Result	Actual Result	Pass/Fail
TS015	TC001	Medium	ABC Cars Portal website has been completed and uploaded on the server	After entering the correct password and username user will redirect to a User profile page	As expected ,	Pass
Test Step & Test data	In Login Page, input test data <ul style="list-style-type: none"> • Username- chathu@77 • Password: 12345678 Click Login button					
Evidence	Fig: TS015 – TC001					
Test Scenario ID	Test Case ID	Test Priority	Pre-condition	Expected Result	Actual Result	Pass/Fail
TS015	TC002	Medium	ABC Cars Portal website has been completed and uploaded on the server	After entering the wrong password user can see the error message to enter the correct password or username.	As expected ,	Pass

Test Step & Test data	<p>In Login Page, input test data</p> <ul style="list-style-type: none"> • Username- chathu@77 • Password: 1234 (correct password = 12345678) <p>3. Click Login button</p>
Evidence	Fig: TS015 – TC002

Evidence: Fig: TS015 – TC001

The figure consists of two screenshots illustrating the user login and profile viewing process.

Top Screenshot (Login Page): Shows the 'Login' page with fields for 'Username' (chathu@77) and 'Password' (redacted). A yellow 'Login' button is at the bottom. Below the form is a link 'Not a Member? Register Now'. To the right is a decorative illustration of a person sitting at a desk with a laptop, surrounded by icons like a gear, a key, and a lightbulb. A large red arrow points downwards from this screen towards the second screenshot.

Bottom Screenshot (User Profile View): Shows the user's profile page after login. The top navigation bar includes 'ABC CARS' logo, 'Home', 'About Us', 'Contact', 'Cars', 'Sell a Car', and a 'Chathushi' dropdown menu. The main content area shows a large yellow smiley face icon. Below it, the user's details are listed: 'Chathushi Jayarathna', phone number '+94742269976', address '"Chathu" St. Clairs Road, Kandy', and a 'Edit Profile' button. On the left, there's a sidebar with 'Profile' (selected), 'My Posted Car', and 'Appointment' options. At the bottom, the 'ABC CARS' logo is repeated along with links for 'About Us', 'Contact', 'Cars', 'Login', and 'Register'.

Figure 74:Evidence: Fig: TS015 – TC002

Evidence: Fig: TS015 – TC002

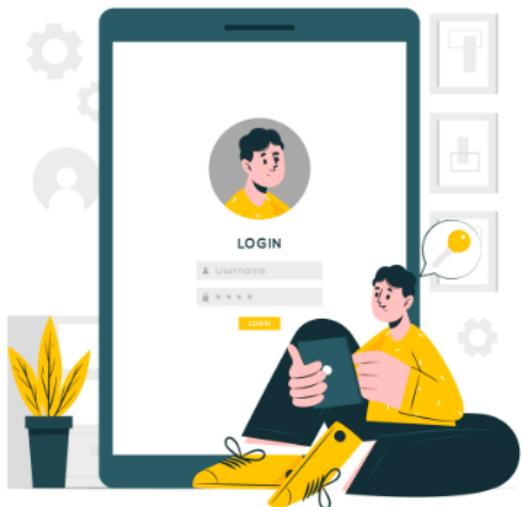
Login

Username

Password

Login

[Not a Member? Register Now](#)



Login

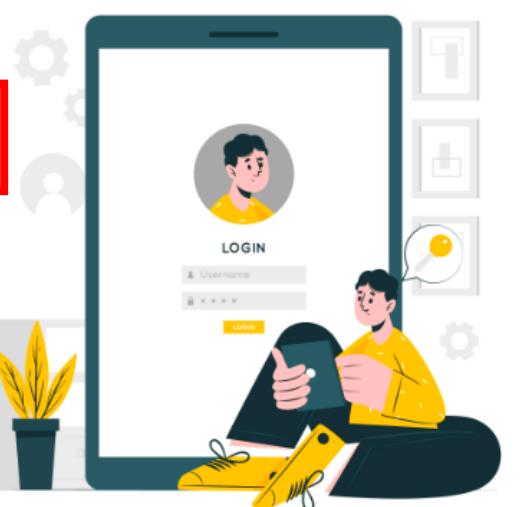
Invalid username or password

Username

Password

Login

[Not a Member? Register Now](#)



9.2 Provide a detailed log of test results

Reported By:

Chathushi Jayarathna

Report Date:	19/01/2023
Tested By:	Chathushi Jayarathna
Tested Date:	12/01/2023
Testing Name/ Test Scenario ID	Functional testing: UAT Testing (TS001 / TS002 / TS003 / TS004)
Total Number of Test Cases	11
No. of Pass:	10
No. of Failures:	1
Elapsed Time:	1 Hour 30min
Tested By:	Chathushi Jayarathna
Tested Date:	12/01/2023
Testing Name/ Test Scenario ID	Functional testing: Unit Testing (TS006)
Total Number of Test Cases	5
No. of Pass:	5
No. of Failures:	0
Elapsed Time:	2 hours 45 min

Tested By:	Chathushi Jayarathna
Tested Date:	12/01/2023
Testing Name/ Test Scenario ID	Performance Testing (TS006)
Total Number of Test Cases	3
No. of Pass:	3
No. of Failures:	0
Elapsed Time:	30 min
Tested By:	Chathushi Jayarathna
Tested Date:	12/01/2022
Testing Name/ Test Scenario ID	Compatibility Testing (CBTS001, CBTS002, CBTS003, CBTS004)
Total Number of Test Cases	8
No. of Pass:	8
No. of Failures:	0
Elapsed Time:	1 hours 30min
Tested By:	Chathushi Jayarathna
Tested Date:	12/01/2023
Testing Name/ Test Scenario ID	Usability Testing (TS009, TS010, TS011, TS012)

Total Number of Test Cases	4
No. of Pass:	4
No. of Failures:	0
Elapsed Time:	45min
Tested By:	Chathushi Jayarathna
Tested Date:	13/01/2023
Testing Name/ Test Scenario ID	Security Testing/ TS012
Total Number of Test Cases	2
No. of Pass:	2
No. of Failures:	0
Elapsed Time:	1 hour
Tested By:	Chathushi Jayarathna
Tested Date:	28/7/2022
Testing Name/ Test Scenario ID	Portability Testing (TS013, TS014, TS015)
Total Number of Test Cases	3
No. of Pass:	3
No. of Failures:	0
Elapsed Time:	30 Min

SUMMARY LOG STATUS

Total Number of Test Cases	36
Total Number of Pass	35
Total Number of Failures	1
Pass %	97.2%
Total Elapsed Time	7 hours 10min

9.3 Modify the risk-based test procedure with the reasons

- Identify Risk upon Log Fail Result
- Identify Impacts upon it.
- Modify RBT test plan along with Prioritization
- Create RBT test plan with test scenario, test cases, and prioritization
- Modify if the code is needed
- Execute test cases
- Create a test log report again (like above)

Including no longer found car while searching vehicle with keyword or price range

Before

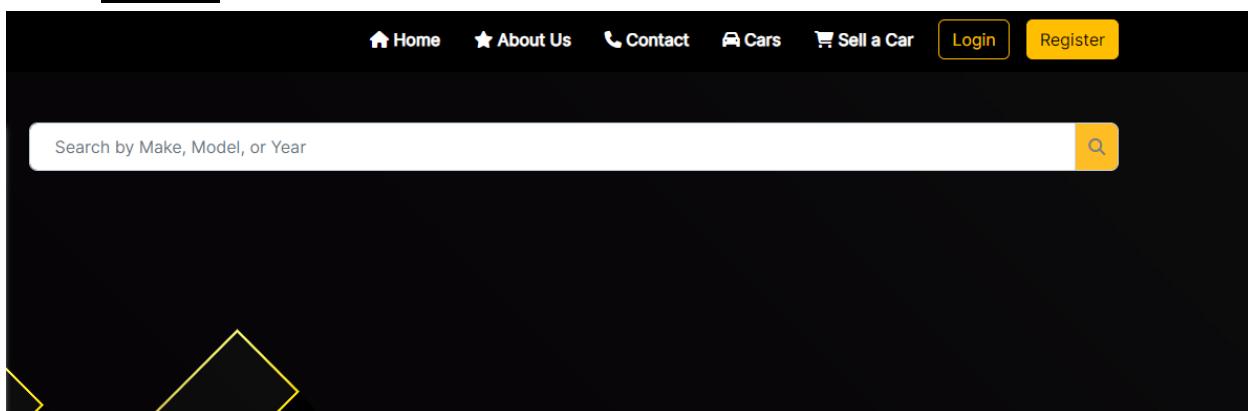


Figure 75: Before Fix - Interface

```

<div class="mt-4 row">
    <c:if test="${!listCar.isEmpty()}">
        <c:forEach items="${listCar}" var="car">
            <c:if test="${car.status.equals('ACTIVE')}">
                <div class="col-12 col-md-6 col-md-4 col-lg-3 mb-3">
                    <div class="card">
                        
                        <div class="card-body">
                            <p class="car-details fw-bold" >${car.make} ${car.model} ${car.year}</p>
</p>
                            <p class="car-price" >${car.price}</p>
                            <a href="<% request.getContextPath()
%>/cars/${car.make}/${car.model}/${car.year}/${car.idCar}">
                                <button class="btn btn-warning">See More</button>
                            </a>
                        </div>
                    </div>
                </c:if>
            </c:forEach>
        </c:if>

```

Figure 76:Before Fix - Source Code

After

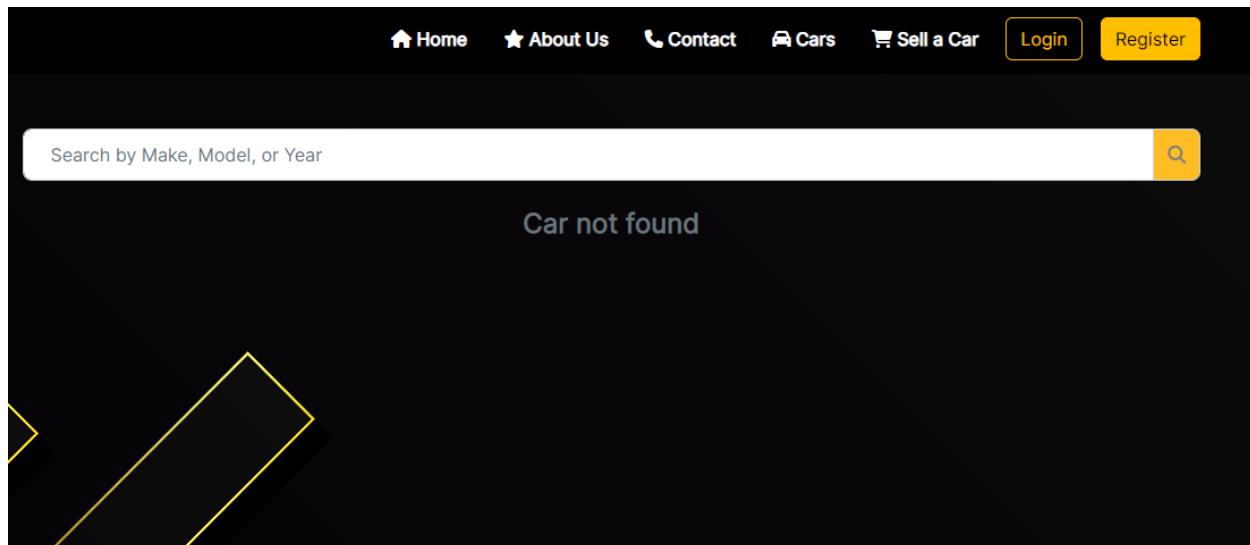


Figure 77:After Fixed - Interface

```

<div class="mt-4 row">
    <c:if test="${!listCar.isEmpty()}">
        <c:forEach items="${listCar}" var="car">
            <c:if test="${car.status.equals('ACTIVE')}">
                <div class="col-12 col-md-6 col-md-4 col-lg-3 mb-3">
                    <div class="card">
                        
                        <div class="card-body">
                            <p class="car-details fw-bold" >${car.make} ${car.model} ${car.year}</p>
                            <p class="car-price" >${car.price}</p>
                            <a href="<% request.getContextPath()
%>/cars/${car.make}/${car.model}/${car.year}/${car.idCar}">
                                <button class="btn btn-warning">See More</button>
                            </a>
                        </div>
                    </div>
                </c:if>
            </c:forEach>
        </c:if>
        <c:if test="${listCar.isEmpty()}">
            <h4 class="fw-bold text-secondary text-center">Car not found</h4>
        </c:if>
    </div>
</div>

```

Figure 78:After Fixed - Source Code

Log result After Modification

Project ID/ Project Name:	Used Car Sale Portal Project
Reported By:	Chathushi Jayarathna
Report Date:	19/01/2023
Tested By:	Chathushi Jayarathna
Tested Date:	19/01/2023

Testing Name/ Test Scenario ID	UAT Testing
Total Number of Test Cases	1
No. of Pass:	1
No. of Failures:	0
Elapsed Time:	00:15:00

Task 7

10) Evaluation of Testing strategy

10.1 Evaluate the effectiveness of the RBT strategy and assess the security testing cycles.

Evaluating the effectiveness of the RBT method and evaluating security testing cycles is considered a characteristic of importance and possibility or impact of failure. A testing technique that prioritizes exams of functions and functions based on the chance of failure and importance to the commercial enterprise. Evaluate the effectiveness of the approach and don't forget Spring Boot security. Here too every person can get admission to anybody's websites whilst protection isn't always blanketed. They may be hacked. There comes the need for a method. Threat-based total testing applies the ideas of chance management to testing sports. The grant pursuits to create and gift a framework that enables a clear dialogue of risks between testers, builders, and other stakeholders. Hazard-based checking out is important for car portals. That's wherein Spring Boot security comes in accessible. In trendy, Spring security objectives to offer an extraordinarily customizable way of imposing authentication, authorization, and protection in opposition to commonplace assaults. It's far vital for car portals to be like this. An instance of non-purposeful testing within the SDLC is safety testing. Authentication, authorization, and square

injection are crucial in protection testing. As well as heading off safety issues in packages. It encompasses the complete software lifestyles cycle from requirements analysis, design, implementation, and verification in addition to renovation. Safety is a nonfunctional testing method. Spring security is the number one choice for imposing utility-degree safety in spring packages. Unit testing within the design segment is carried out for white containers, integration testing uses black field testing, and machine testing is all implemented by using the safety device, the auto portal venture will join all code elements thru comfy config. From there the functionality of all pages is determined. Admin's tasks and person's obligations are indexed one after the other.

10.2 Evaluate the testing strategies and compare it's pro and cons

Using RBT	
Pro	Cons
Saving cost	More time required
Increases focus on customers.	Unidentified risks may be involved.
Improves software quality.	Risks can be assessed as very low.
Tests are more structured.	Risk assessment is based on highly subjective criteria.
Analyse risks and establish a priority hierarchy of software modules.	
Plan, design and execute priority test modules.	

10.3 Assess the importance and environment suitability and examine the test heuristics are identified with proper justification

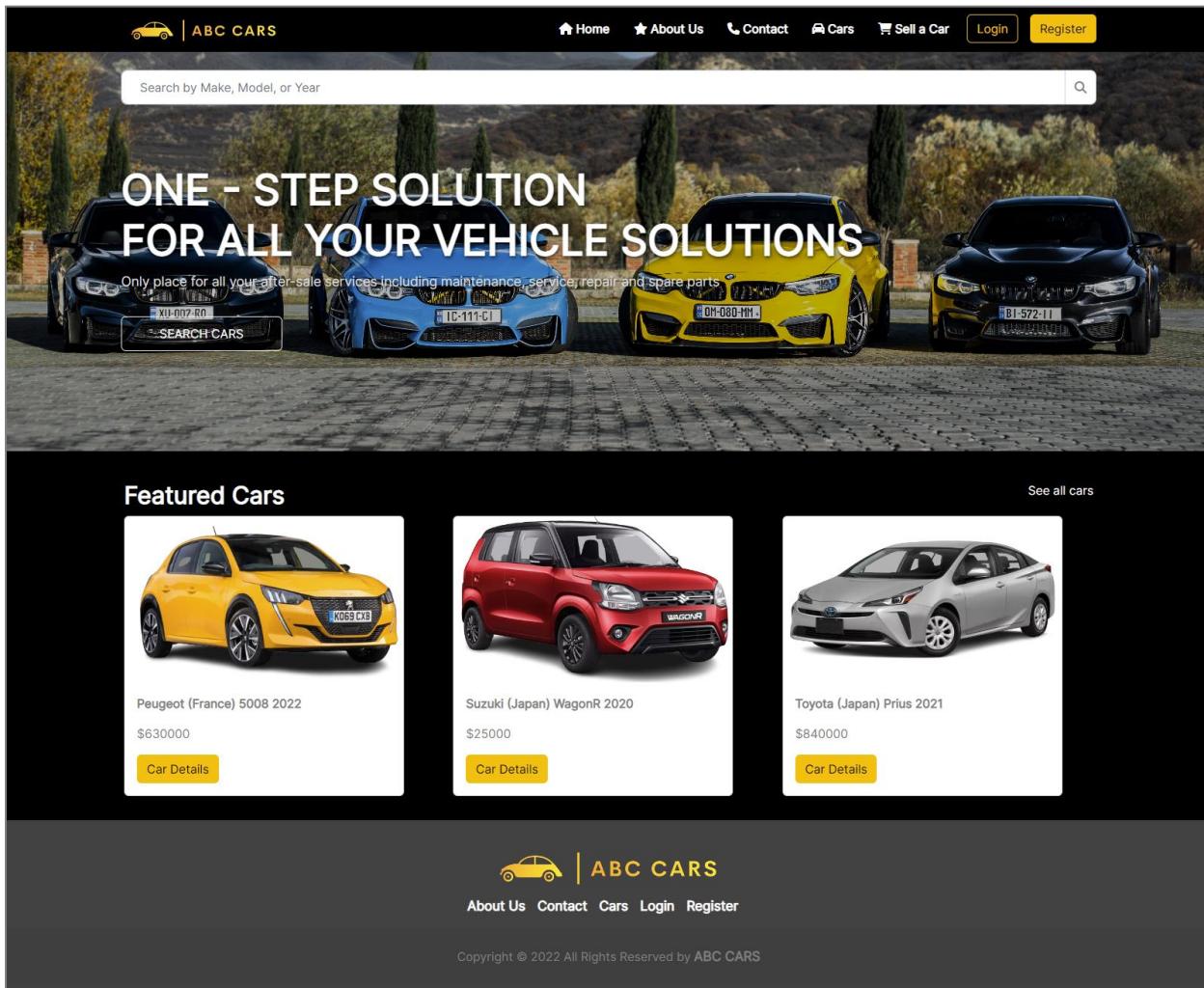
Environment	The Importance of Environment Suitability and How It Supports RBT Test Strategy
STS IDE	All applications use to develop and use. taken into consideration whole regression assessments. suitable insurance makes use of causal scenarios and examines diverse relevant user roles overlaying give up-to-end paths.
MySQL Database	SQL is used to manage and share data in a relational database management system and users can perform operations inclusive of inserting, deleting, pick on the database. SQL programming is broadly used to create, save and manage records within the database.
Window 11	there may be a windows operating device. Windows 11 is an acquainted, easy-to-use bundle with stronger capabilities available. Presents continuous security protections and remains connected across devices to convey preferred apps and documents anytime, everywhere.
Java Version 11	JDK is a development environment for constructing programs and additives the usage of the Java programming language. The JDK is beneficial for growing and trying out applications written inside the Java programming language and running on the Java platform.
ABC Cars Portal	Need to have ready software. This is my car portal application. It needs to coding and running a test plan.
Test Plan	The test plan is used for all tests. risk-primarily based testing emphasizes thorough testing of capabilities that without delay have an effect on customers, directly improve business performance, reduce the probability of negative evaluations, and usually decrease the impact of each recognized risk.
Documentation	Documentation is essential for quality control and process control

Devices	A device is a unit of physical hardware or equipment that gives one or greater computing functions inside a computer system. A pc can offer input, be given output, or each. A device can be any electronic component with a few computing functionalities that helps the installation of firmware or third-party software program.
Browsers	The main web browser used is Google Chrome. Microsoft Edge

Task 8

11) Screen capture of developed pages.

✓ Home Page



The screenshot shows the homepage of ABC CARS. At the top, there's a navigation bar with links for Home, About Us, Contact, Cars, Sell a Car, Login, and Register. Below the navigation is a search bar with the placeholder "Search by Make, Model, or Year". A large banner features four cars (a dark blue sedan, a light blue hatchback, a bright yellow hatchback, and a black SUV) parked in a row, with the text "ONE - STEP SOLUTION FOR ALL YOUR VEHICLE SOLUTIONS" overlaid. Below the banner is a section titled "Featured Cars" with three cards. Each card displays a car image, its name, price, and a "Car Details" button. The first card is for a Peugeot 5008 (France) from 2022 at \$63000. The second is for a Suzuki WagonR (Japan) from 2020 at \$25000. The third is for a Toyota Prius (Japan) from 2021 at \$84000. At the bottom, there's a footer with links for About Us, Contact, Cars, Login, and Register, along with a copyright notice: "Copyright © 2022 All Rights Reserved by ABC CARS".

Figure 79: Screenshot of Home Page

✓ **About Us Page**

The screenshot shows the 'ABOUT US' page of the ABC CARS website. At the top, there's a navigation bar with links for Home, About Us, Contact, Cars, Sell a Car, Login, and Register. Below the navigation is a large yellow header section featuring a close-up image of a car's front end. The word 'ABOUT US' is prominently displayed in the center of this section. A paragraph of text below the title describes ABC CARS as the first automobile e-magazine in Sri Lanka, focusing on the motoring market. It highlights its popularity and household name status. The main content area has a black background. On the left, there's an illustration of a yellow car with two people inside. To the right of the illustration, the heading 'Who we are' is followed by a paragraph about the company's 20+ years of experience, trusted guide status, and various services like reviews and calculators. Below that, the heading 'We're the car experts' is followed by a paragraph about their annual Top Rated Awards and test cars. At the bottom of the page, there's a dark footer bar with the ABC CARS logo, links for About Us, Contact, Cars, Login, and Register, and a copyright notice: 'Copyright © 2022 All Rights Reserved by ABC CARS'.

Figure 80: Screenshot of About Us Page

✓ Contact Us Page

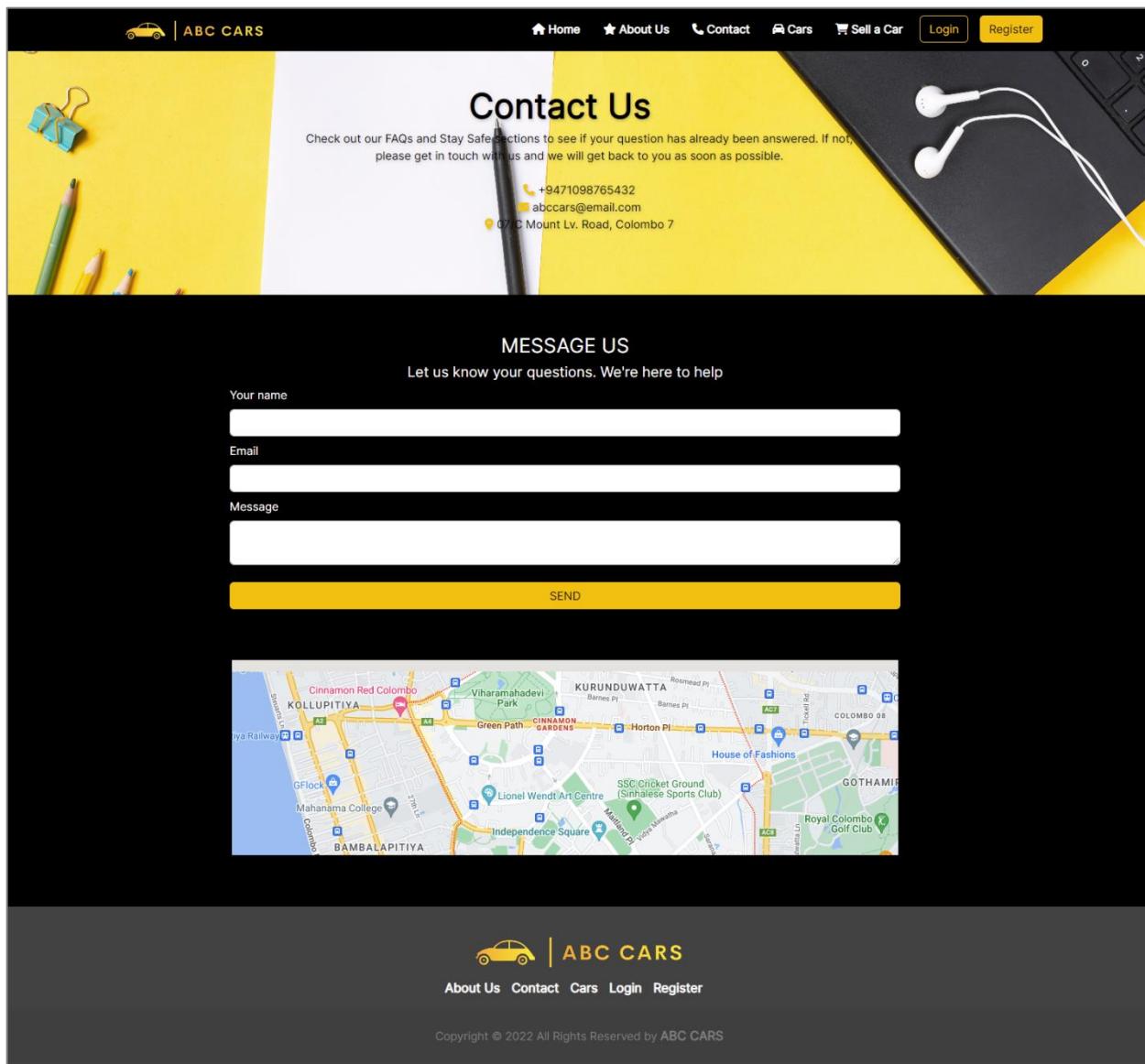


Figure 81: Screenshot of Contact Us Page

✓ Login Page

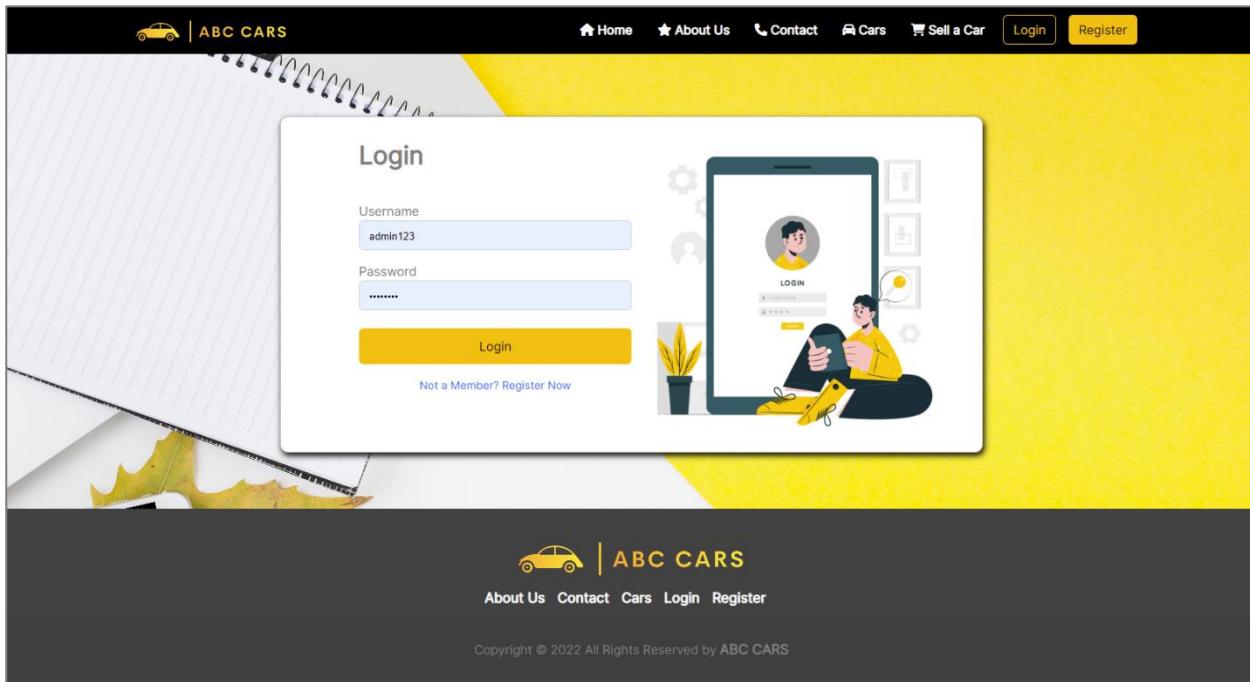


Figure 82: Screenshot of Login Page

✓ Registration Page

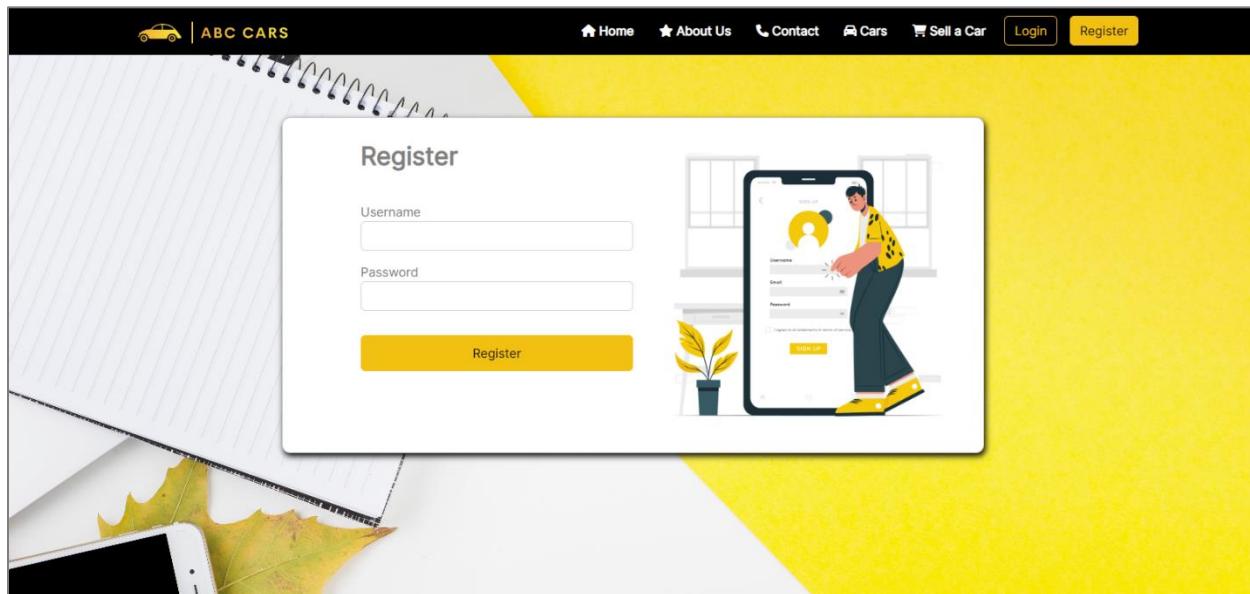


Figure 83: Screenshot of Register Account Page

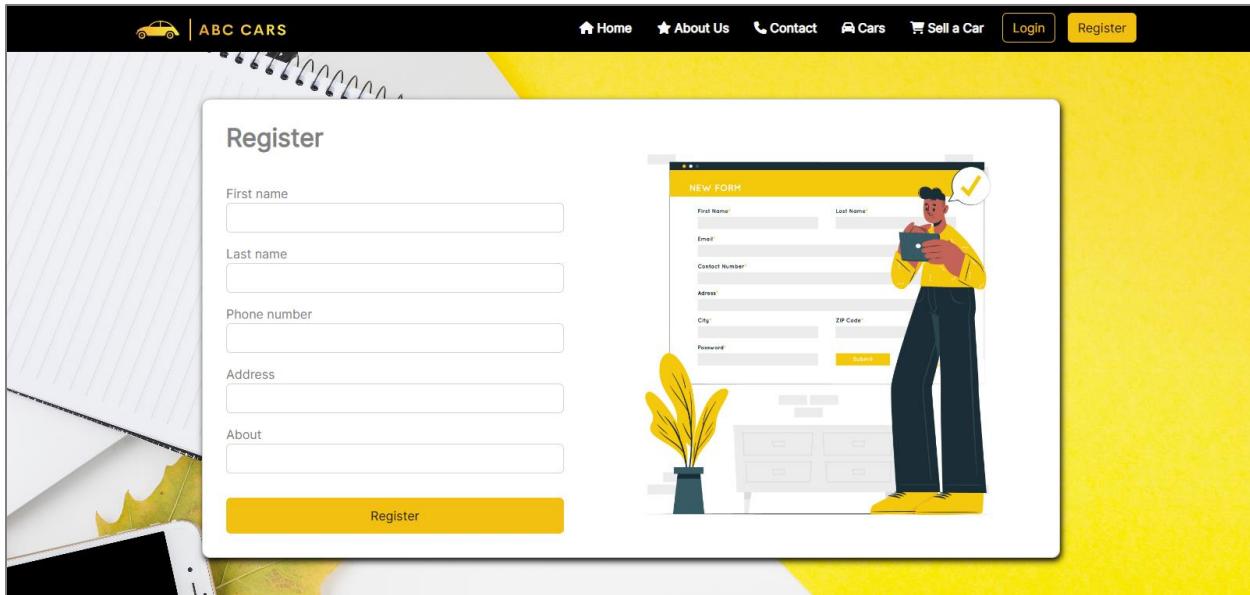


Figure 84: Screenshot of register Profile Page

✓ Car List View Page

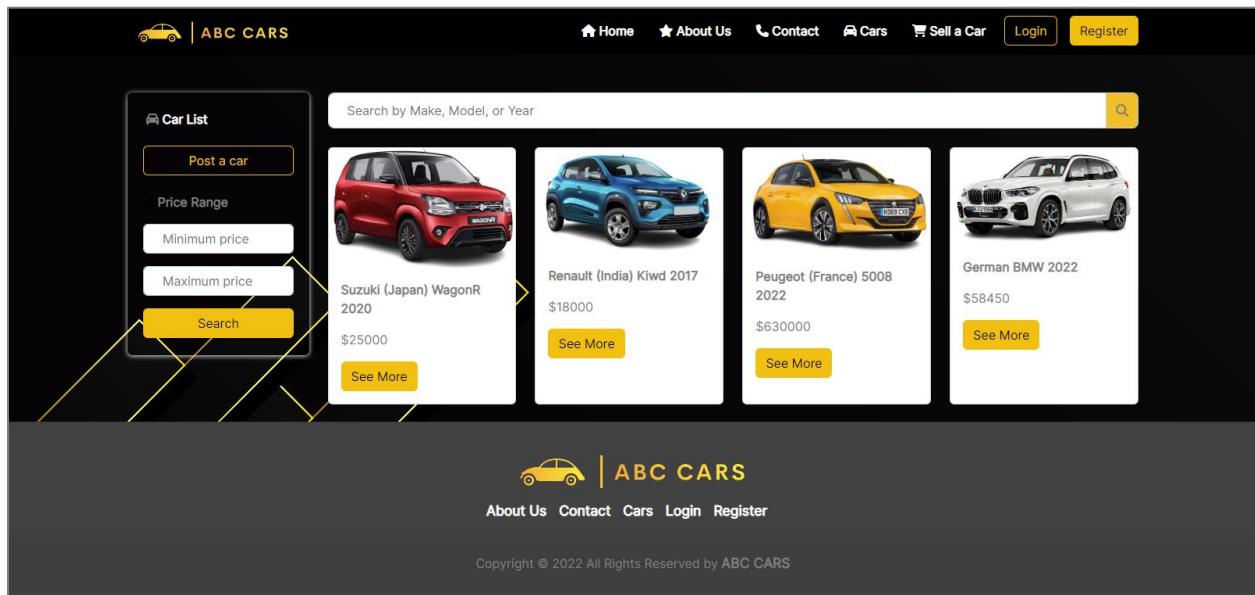


Figure 85: Screenshot of Car View Page

✓ Car Details View Page

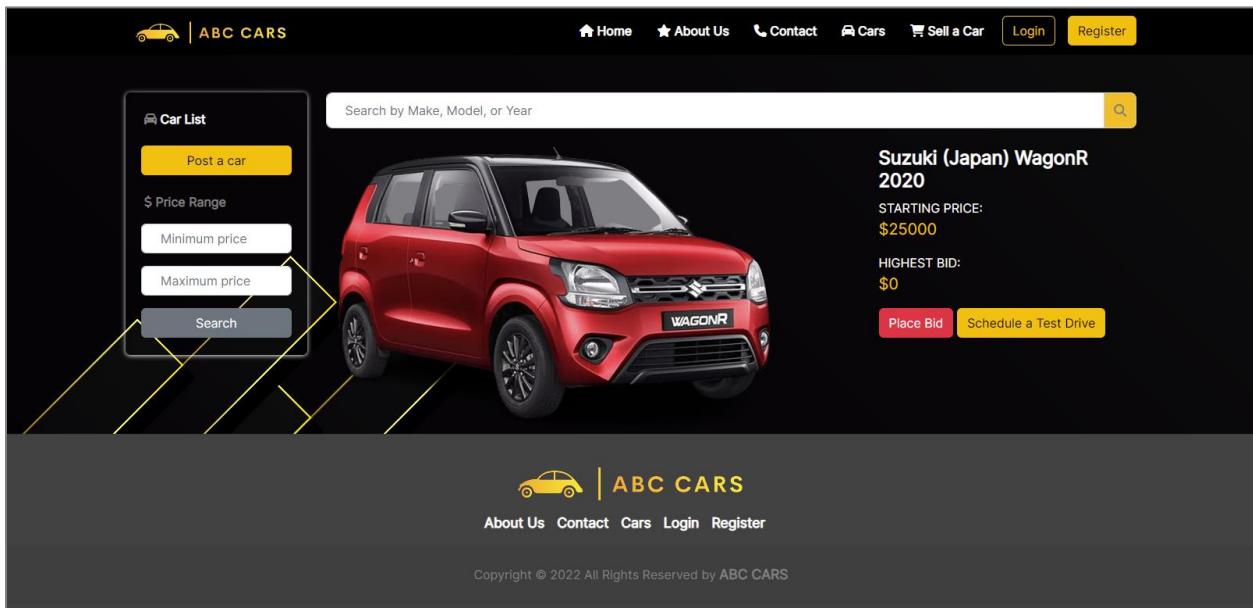


Figure 86: Screenshot of car details view page

USER

✓ User Profile

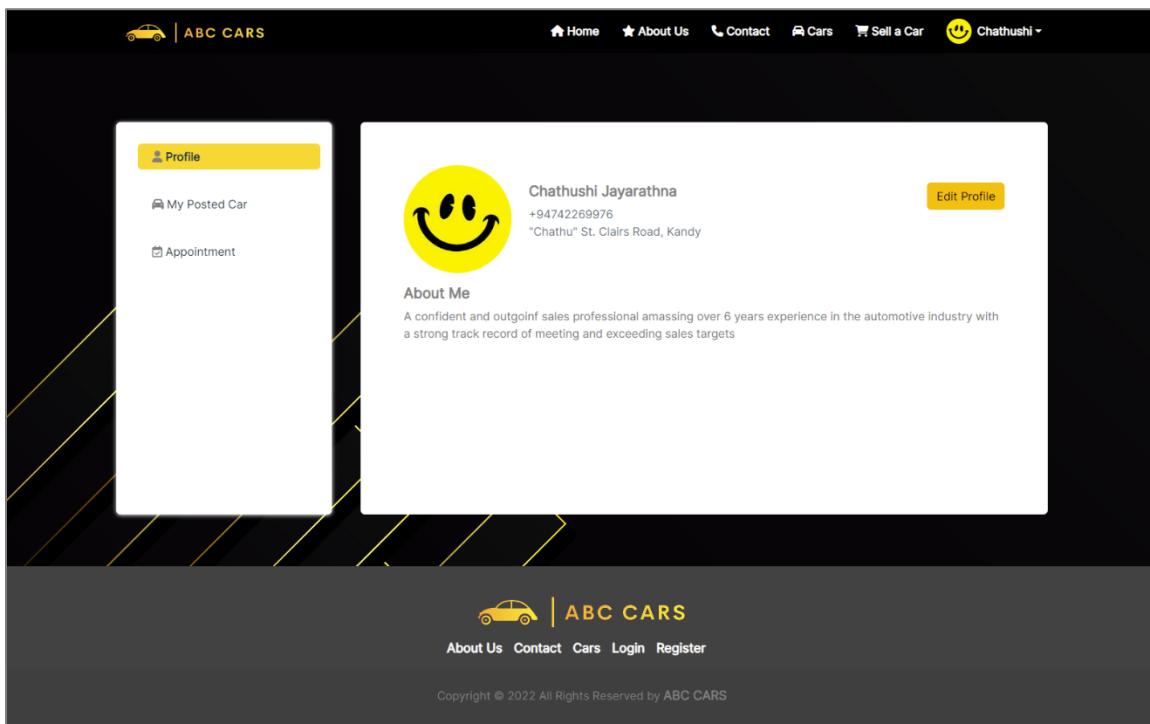


Figure 87: Screenshot of User Profile

✓ User Edit Profile

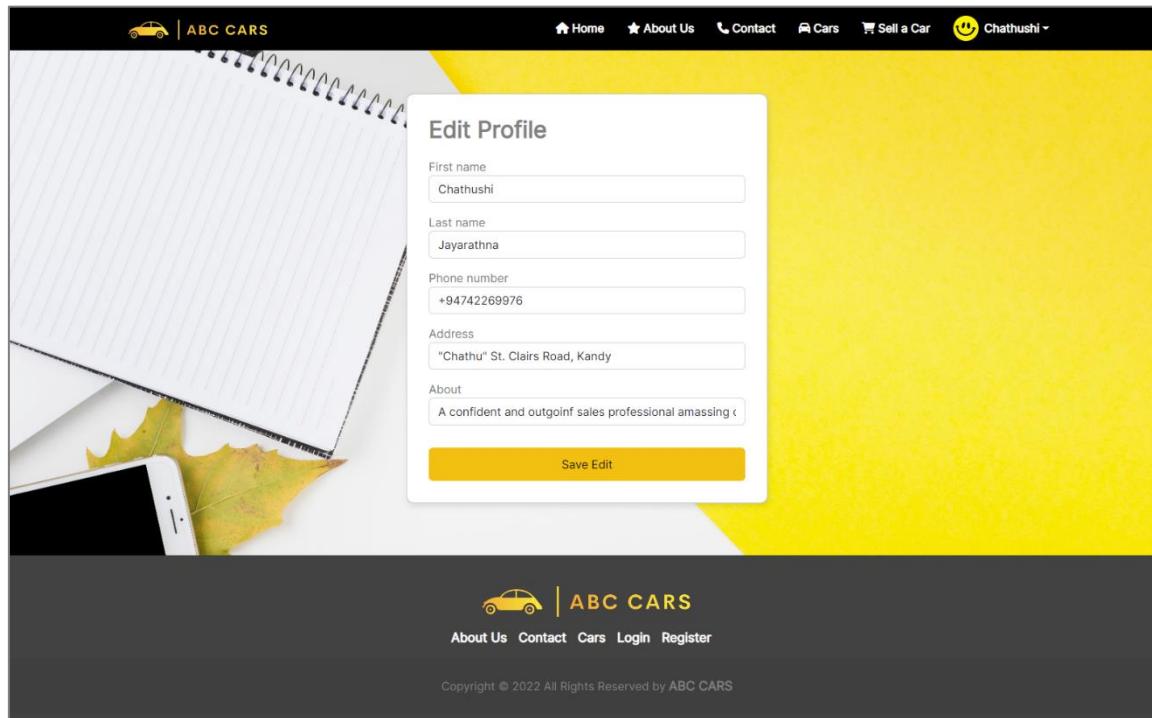


Figure 89: Screenshot of User Edit Profile

✓ User Post Car Page

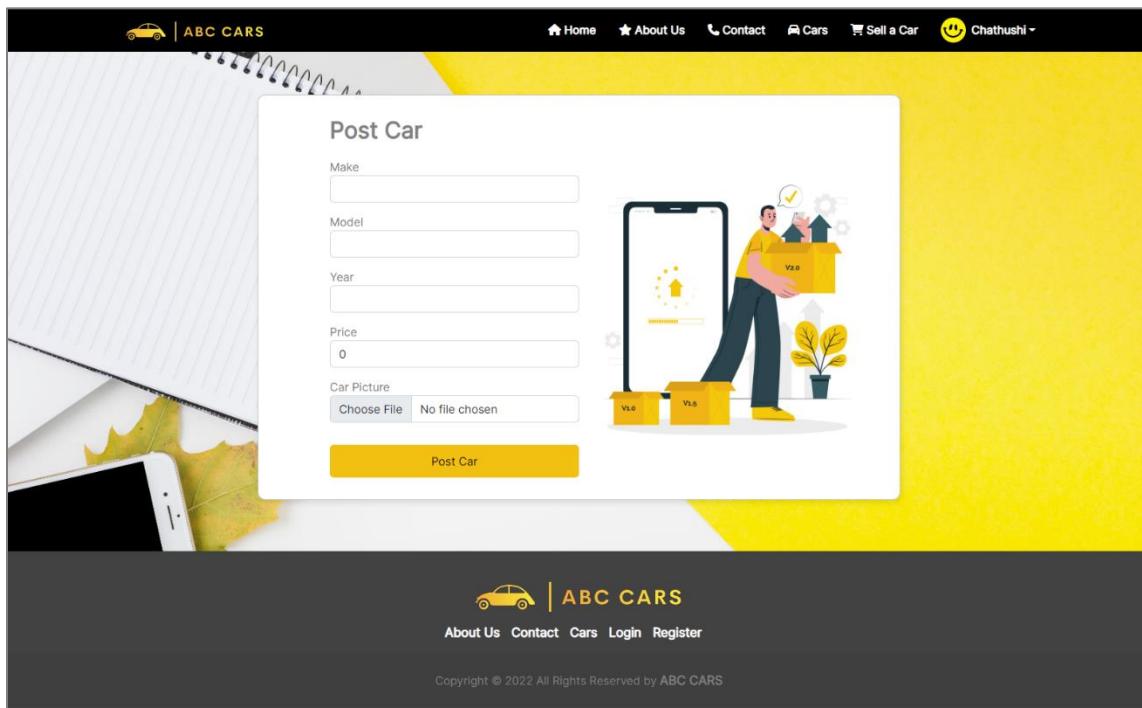


Figure 88: Screenshot of Post Car Page

✓ User Posted Car List Page

ID	Car	Make	Model	Year	Price	Status	Action
1	Suzuki (Japan)		WagonR	2020	\$25000	ACTIVE	
2	Renault (India)		Kiwd	2017	\$18000	ACTIVE	
3	Mini (Netherlands)		Countryman	2016	\$55000	SOLD	
4	Peugeot (France)		5008	2022	\$630000	ACTIVE	
5	Toyota (Japan)		Prius	2021	\$840000	DEACTIVE	

Figure 90:User Posted Car List Page

✓ User List Test Drive Car Page

ID	Car	Make	Model	Year	Client	Date	Action
4	Peugeot (France)		5008	2022	Chathushi	2023-01-16	

Figure 91:Screenshot of User Test Drive Car Page

✓ Car Bidding Page

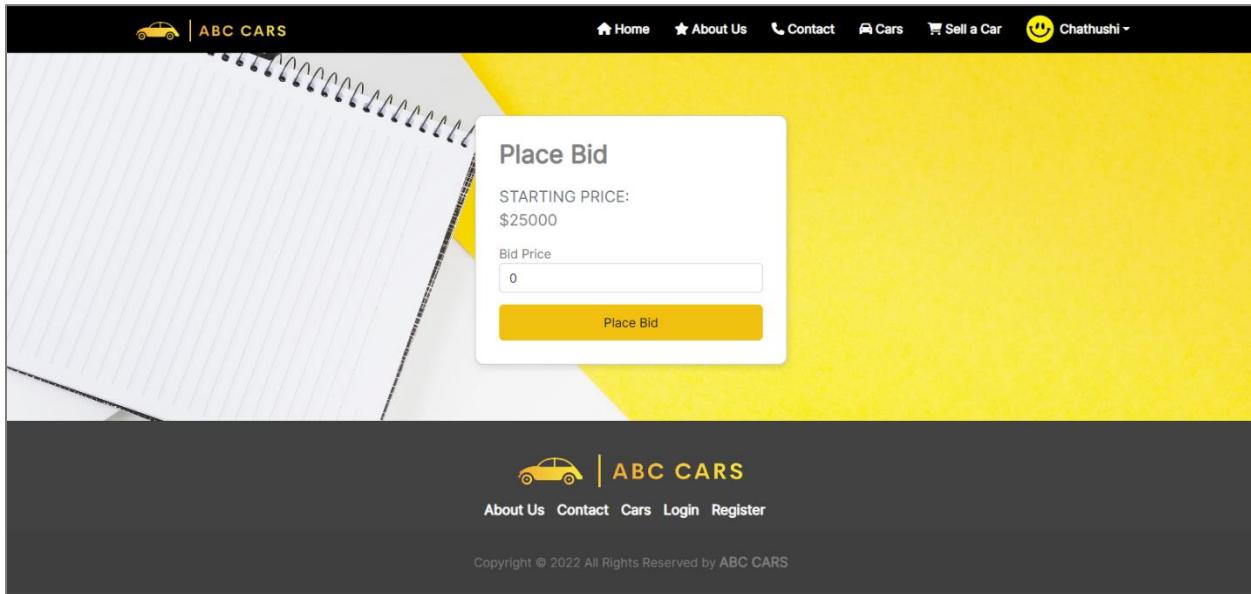


Figure 92: Screenshot of Car Bidding Page

✓ Edit Posted Car Details

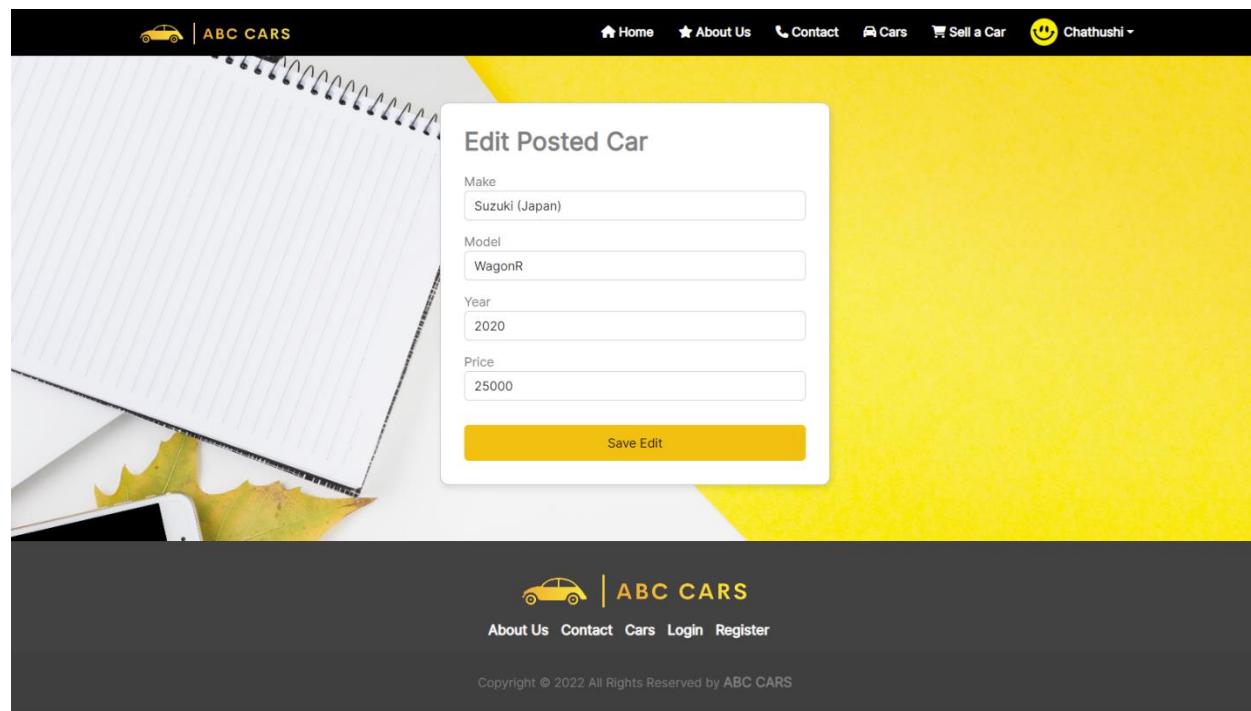


Figure 93: Screenshot of Edit Posted Car Details

ADMIN

✓ Admin Dashboard

The screenshot shows the Admin Dashboard interface. At the top, there's a navigation bar with links for Home, About Us, Contact, Cars, Sell a Car, and Admin. Below the navigation is a sidebar with a dashboard icon and a car management icon. The main content area is divided into two sections: 'All Users' and 'All Admins', each displaying a table with columns for Id, First name, Last name, Phone number, and Address. Each row in the tables includes a yellow edit icon.

Id	First name	Last name	Phone number	Address
1	Chathushi	Jayarathna	+94742269976	"Chathu" St. Clairs Road, Kandy
6	User	1234	+9478564563	09/10, Nitta Road, Riyad
7	Test2	Test2	+94742269976	Test2
8	Per	Test	+94123456789	pstest

Id	First name	Last name	Phone number	Address
5	Admin	123	+94712345678	08/B, Universe Road, Malabe

Figure 95:Screenshot of Admin Dashboard

✓ Admin Car Management Page

The screenshot shows the Admin Car Management Page. At the top, there's a navigation bar with links for Home, About Us, Contact, Cars, Sell a Car, and Admin. Below the navigation is a sidebar with a dashboard icon and a car management icon. The main content area is divided into two sections: 'Car List' and 'Car Bid'. The 'Car List' section displays a table with columns for Car Id, Make, Model, Year, Price, and Status. The 'Car Bid' section displays a table with columns for Car Id, Make, Model, Year, Bid Price, and Status. Each table row includes a yellow edit icon.

Car Id	Make	Model	Year	Price	Status
1	Suzuki (Japan)	WagonR	2020	25000	ACTIVE
2	Renault (India)	Kiwd	2017	18000	ACTIVE
3	Mini (Netherlands)	Countryman	2016	55000	SOLD
4	Peugeot (France)	5008	2022	630000	ACTIVE
5	Toyota (Japan)	Prius	2021	840000	DEACTIVE
6	German	BMW	2022	58450	ACTIVE

Car Id	Make	Model	Year	Bid Price	Status
4	Peugeot (France)	5008	2022	700000	ONGOING
3	Mini (Netherlands)	Countryman	2016	62000	APPROVED

Figure 96:Screenshot of Car Mangement Page

✓ Registration Thank You Page

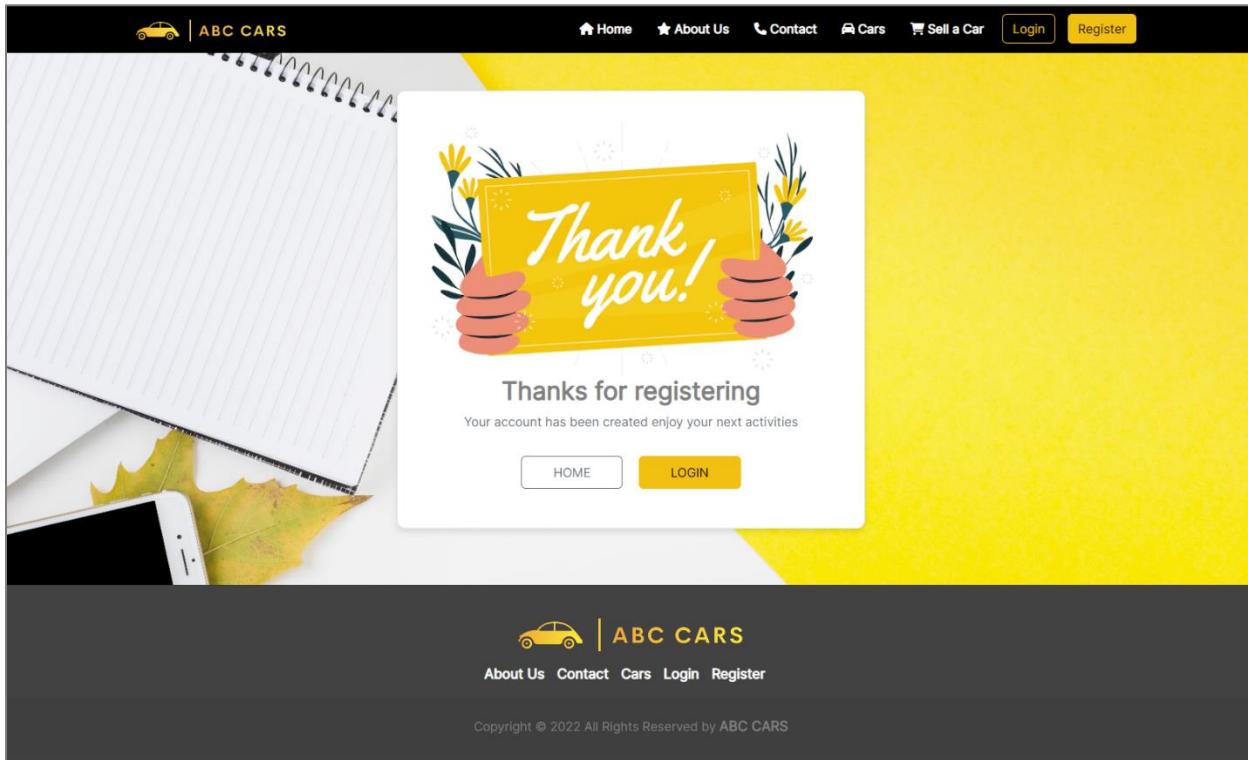


Figure 97: Screenshot of Registration Thank You Page

References

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- www.google.com
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- www.stackoverflow.com
- www.guru99.com
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