School of Computing

SRM IST, Kattankulathur – 603 203

Course Code: 18CSC206J

Course Name: Software Engineering and Project Management

Experiment No	10
Title	Road Rescue
Name of the candidate	CHIRAG THAKUR
Team Members	CHIRAG THAKUR (RA2111003010071) S.RAHUL(RA2111003010099)
Register Number	RA2111003010071
Date of Experiment	

Mark Split Up

S. No	Description	Maximum Mark	Mark Obtained
1	Exercise	5	
2	Viva	5	
	Total	**10**	

Staff Signature with date

<u>**Aim:**</u>

To develop the testing framework and/or user interface framework for the Road Rescue

<u>**Team Members:**</u>

S No	Register No	Name	Role
1	RA2111003010099	S.RAHUL	Rep/Member
2	RA2111003010071	CHIRAG THAKUR	Member

<u>**Testing Framework:**</u>

<u>**Introduction:**</u>

The Road Rescue website is an online platform that provides roadside assistance services to users. As part of the development process, a comprehensive testing framework has been designed to ensure the quality and reliability of the website. The testing framework consists of several types of testing, including unit testing, integration testing, system testing, acceptance testing, performance testing, security testing, and regression testing.

<u>**Scope of testing:**</u>

The scope of testing for the Road Rescue website includes all the features and functions that have been implemented, including user registration, login, service request, service provider search, service provider selection, service provider response, service completion, payment processing, and customer support.

<u>**Types of testing:**</u>

The following types of testing will be performed as part of the testing framework:
- **Unit testing:** This will involve testing individual units of code to ensure that they are working as expected.
- **Integration testing:** This will involve testing the integration of different components of the website to ensure that they are working together correctly.
- **System testing:** This will involve testing the entire system to ensure that it meets the functional and non-functional requirements.
- **Acceptance testing:** This will involve testing the website from the perspective of the end-users to ensure that it meets their requirements.
- **Performance testing:** This will involve testing the website's performance under different load conditions to ensure that it can handle the expected traffic.

- **Security testing:** This will involve testing the website's security features to ensure that it is protected against common security threats.
- **Regression testing:** This will involve testing the website after changes or updates have been made to ensure that existing functionality has not been affected.

Methodology :

The testing framework will follow an iterative and incremental approach, with testing performed at each stage of the development process. The testing process will be carried out by a dedicated testing team, with support from the development team. The testing methodology will involve the following steps:

- **Test planning:** This will involve defining the scope of testing, identifying test cases, and developing a test plan.
- **Test design:** This will involve creating test scenarios and test cases based on the functional and non-functional requirements.
- **Test execution:** This will involve running the tests and recording the results.
- **Test reporting:** This will involve documenting the test results and communicating them to the development team.
- **Test closure:** This will involve reviewing the testing process and identifying areas for improvement.

Test deliverables:

The following test deliverables will be produced as part of the testing framework:
- **Test plan:** This will document the scope of testing, the types of testing to be performed, and the testing methodology to be followed.
- **Test scenarios:** This will document the various scenarios that will be tested.
- **Test cases:** This will document the specific test cases that will be run.
- **Test scripts:** This will document the scripts that will be used to automate the testing process.
- **Test results:** This will document the results of the tests, including any defects or issues that were identified.

Tools Required:

To implement the testing framework for the Road Rescue project, the following tools may be useful:
- **Selenium WebDriver:** A popular automation testing tool used for web applications.
- **Apache JMeter:** A performance testing tool used for load testing, stress testing, and functional testing.
- **Jenkins:** A continuous integration and continuous delivery (CI/CD) tool used for automating software development processes.
- **Word Template:** A Word template is a pre-designed document format that can be used to create consistent and professional-looking test plans and other project documentation.

Category	Methodology	Tools Required
Functional Requirements	Manual	Word Template
Integration testing	Manual	Selenium WebDriver
Acceptance testing	Manual	User acceptance testing checklist
Performance testing	Automatic	Apache JMeter
Security testing	Manual	OWASP ZAP
Regression testing	Automatic	Jenkins CI/CD pipeline

Conclusion:

In conclusion, the Road Rescue project is a roadside assistance website that serves as an interface between the user and mechanic. The project involves several components such as a web application, a database, and a payment gateway system. To ensure the success of the project, a testing framework is needed to ensure that the system functions as intended and meets all the requirements. The testing framework includes both manual and automated testing methodologies and requires tools such as Word templates, Excel sheets, bug tracking tools, Selenium WebDriver, JUnit or TestNG, Postman, Apache JMeter, SonarQube, Jenkins, and Docker. By using these tools, the team can identify and address any issues early on in the development process, ensuring a high-quality product that meets the needs of the users.

User Interface:

1. **Home Page:**
- This will be the main entry point for users, providing them with all the necessary information about the service.
- The page will have a clear and concise messaging that conveys the purpose of the service and what it offers to users.
- There will be a prominent call-to-action button to book a service, making it easy for users to get started with the service.
- The page will be optimized for different devices and screen sizes, ensuring a seamless experience for users on desktop and mobile devices.

2. **Blog Page:**
- This page will contain all the latest news and updates about the service, as well as additional information about the company and its offerings.
- The page will be designed to be visually appealing and easy to navigate, with clear and concise messaging about each blog post.
- Users will be able to easily find and access the blog posts they are interested in, with options to sort or filter the posts by topic or date.

3. **Contact Page:**

- This page will provide users with a way to contact the company directly, whether it's through email, phone, or a contact form.
- The page will be designed with clear and concise messaging that conveys the purpose of the page and how users can get in touch with the company.
- The contact form will be easy to use and understand, with fields for users to enter their name, email address, and message.

4. **Login Page:**
- This page will allow users to log in to their account and access any features or information that requires authentication.
- The page will have clear and concise messaging that conveys the purpose of the page and how users can log in to their account.
- The login form will be easy to use and understand, with fields for users to enter their username and password.
- The page will be designed to be secure and protect user data, with options for users to reset their password if necessary.

Overall, the user interface will be designed with the user in mind, providing a seamless and intuitive experience for users to access the service and its features.

Conclusion:

For the UI, the project includes a home page that displays all the essential information about the service and allows users to book services. The blog page is also included, which provides users with helpful information and news related to road assistance. Additionally, the website includes a contact page where users can reach out for any queries or concerns, as well as a login page for registered users to access their account information. The UI is designed to be simple and user-friendly, providing a seamless experience for users to access and utilize the road assistance service.

Result:

Thus, the testing framework/user interface framework has been created for the Road Rescue.