American International University-Bangladesh (AIUB)

Department of Computer Science

Faculty of Science &Technology (FST)

Summer 21 22

Section: B

Software Quality Assurance and Testing

Spare Parts Market ecommerce Site

A Report submitted
By

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Software Test Plan

for

Spare Parts Market

Version 1.0 approved

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7 August,2022

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Date:

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Revision History

Revision	Date	Updated by	Update Comments
0.1	9/08/2022	Safinul Ibrat Sakib	First Draft
0.2	10/08/2022	Tahmid Hassan Ridoy	Second Draft
0.3	11/08/2022	Nafiur Rahman	Third Draft
0.4	12/08/2022	Whole team member	Fourth Draft

1. TEST PLAN IDENTIFIER: SPM-TP2.1

2. REFERENCES

- https://github.com/TahmidhassanHridoy/webtech
- https://www.softwaretestingmaterial.com/test-plan-template/

3. INTRODUCTION

Background to the Problem

- Most of us own a vehicle and at most times those vehicles need repairs and servicing. The issue with repairs is, it is very hard to find a singular place where we can get good parts for our vehicle and have faith in its quality. If there was a unified and easier solution to this problem, vehicle repairs would be less complicated.
- The root cause of this problem is the marketplace and no solid information on where to find the part we need. This problem is very important because the number of vehicles that people own and on the road is increasing at a higher rate than ever, which means that they need more parts to repair.

Solution to the Problem

- The solution to this problem is to have a singular, unified place where all the spare parts for almost all the vehicles are available as well as information on them.
- The software that's developed to solve this problem serves the purpose of being a single page to find the spare parts. The benefits of this software are that we don't have to go to multiple places trying to find the parts we want. Our objective and goal are to alleviate the hassle a customer goes through and the lack of information.
- According to our research there are places to buy parts from but they are also plagued with the same issues. There is no unified place to find all the parts that we may require and the relevant information.

4. REQUEIREMNT SPECIFICATION

4.1 System Features

1. Customer Login

Functional Requirement

- Customer can Login to the system.

- If the username and/or password has been inserted wrong, an error message will show.
- The username and password fields cannot be blank.
- If the password is wrong the page will reload and let you try again.

Priority Level: High
Precondition: user have valid user id and password

2. Admin Login

Functional Requirement

- Admin can Login to the system.
- If the username and/or password has been inserted wrong, an error message will show.
- The username and password fields cannot be blank.
- If the password is wrong the page will reload and let you try again.

Priority Level: High
Precondition: user have valid user id and password

3. Seller Login

Functional Requirement

- Seller can Login to the system.
- If the username and/or password has been inserted wrong, an error message will show.
- The username and password fields cannot be blank.
- If the password is wrong the page will reload and let you try again.

Priority Level: High
Precondition: user have valid user id and password

4. System Registration (Seller and User)

Functional Requirement

- Users can choose to register for a seller or user account.
- The fields cannot be blank.
- There are checks for strong passwords and correct email and phone numbers.
- There are checks for proper and unique usernames.

Priority Level: High
Precondition: None.

5. Cart operation

Functional Requirement

- Users can add items to the cart before checking out.
- There can be multiple items from different sellers in the cart.
- Before checking out the cart cannot be empty
- Users can also remove items from the cart.
- Users can see the addition and removal of items inside the cart in real time.

Priority Level: High
Precondition: Users must be logged in using valid username and password.

6. Payment system

Functional Requirement

- From here the user can select payment options.
- After successful payment the user will get a text on their phone.
- Users must input valid payment and contact information before checking out.

Priority Level: High
Precondition: Users must be logged in using valid username and password.

7. Admin Dashboard

Functional Requirement

- Admins are allowed to add and remove accounts.
- Buyers and sellers are verified by the admin.
- Admins are allowed to block accounts.
- Admins are allowed to edit, delete, view product information.

Priority Level: High
Precondition: Admins must be logged in using valid username and password.

8. Seller Dashboard

Functional Requirement

- Sellers can add products.
- Sellers can modify previously added product details or delete them.
- Sellers are allowed to contact the admin account.

- Sellers can view the products that they have created.

Priority Level: High
Precondition: Sellers must be logged in using valid username and password.

9. Customer Dashboard

Functional Requirement

- Customers can see the product after selecting a specific vehicle brand, model.
- Customers can add the product they require to the cart.

Priority Level: High
Precondition: Customer must be logged in using valid username and password.

4.2 System Quality Attributes

System quality attributes in software solutions improve the ROI (return on investment) from IT systems and also produce a better quality application.

- **Usability:** how the user is utilizing a system effectively and the ease of which users can learn to operate or control the system in different OS system. The well-known principle of usability is KISS (Keep It Simple Stupid). Software applications should be user-friendly.
- **Maintainability:** Our software application is maintained easily and support changes cost-effectively.
- **Performance:** The system will take less time like 5 to 10 sec to show the result to the user. By trained User, user operations will done in less time.
- **Security:** The system will resist or block malicious or unauthorized attempts that destroy the system and at the same time provide access to legitimate users.

4.3 System Interface

- Draw the system interface where the users will interact with the system's functionality.

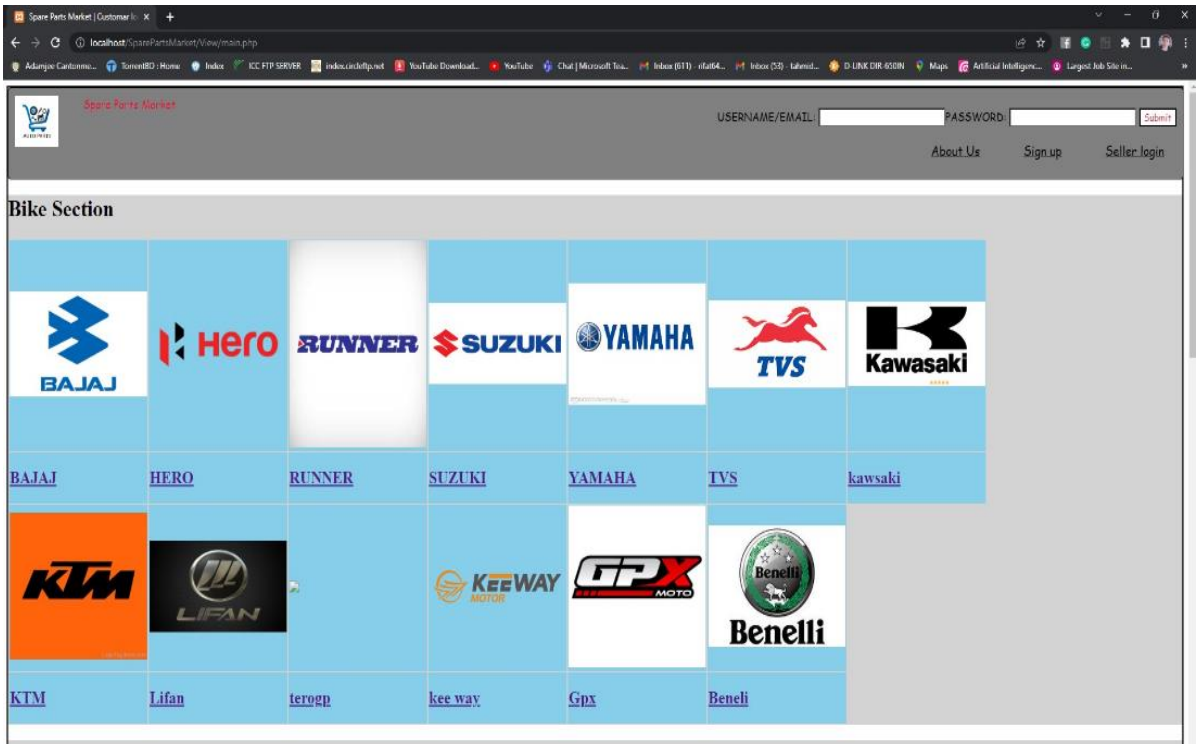

Figure 1 :Customer Login page

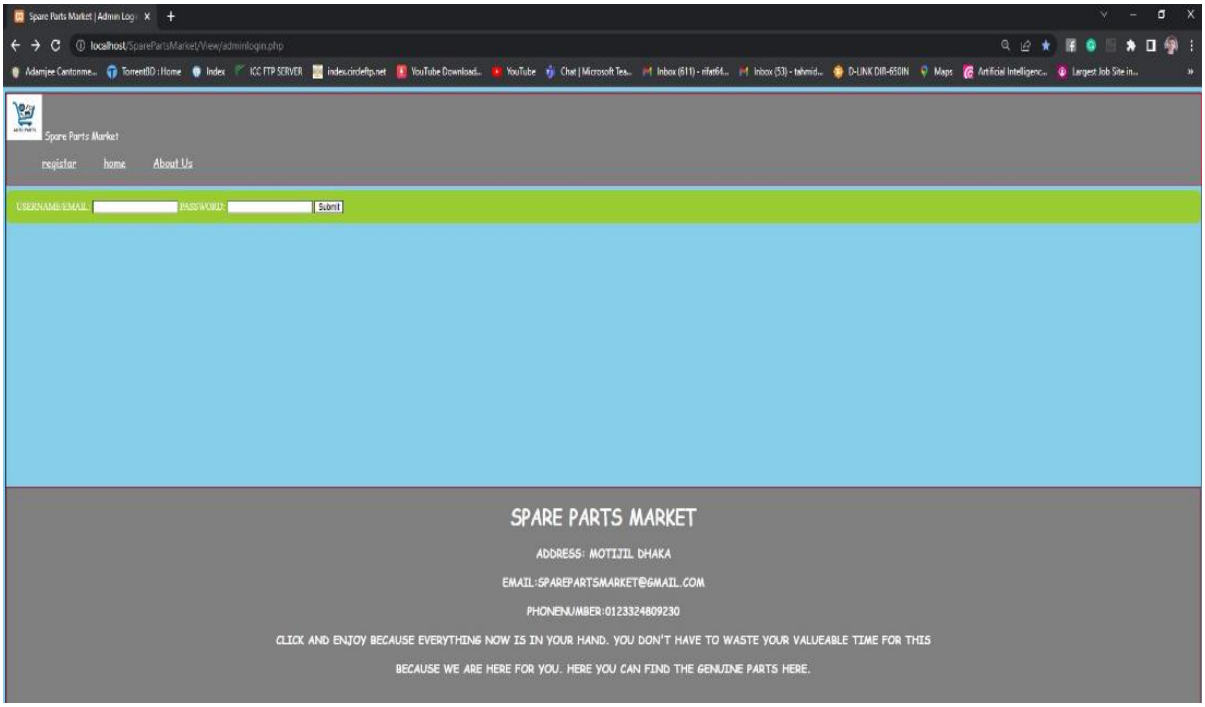

Figure 2: Admin Login

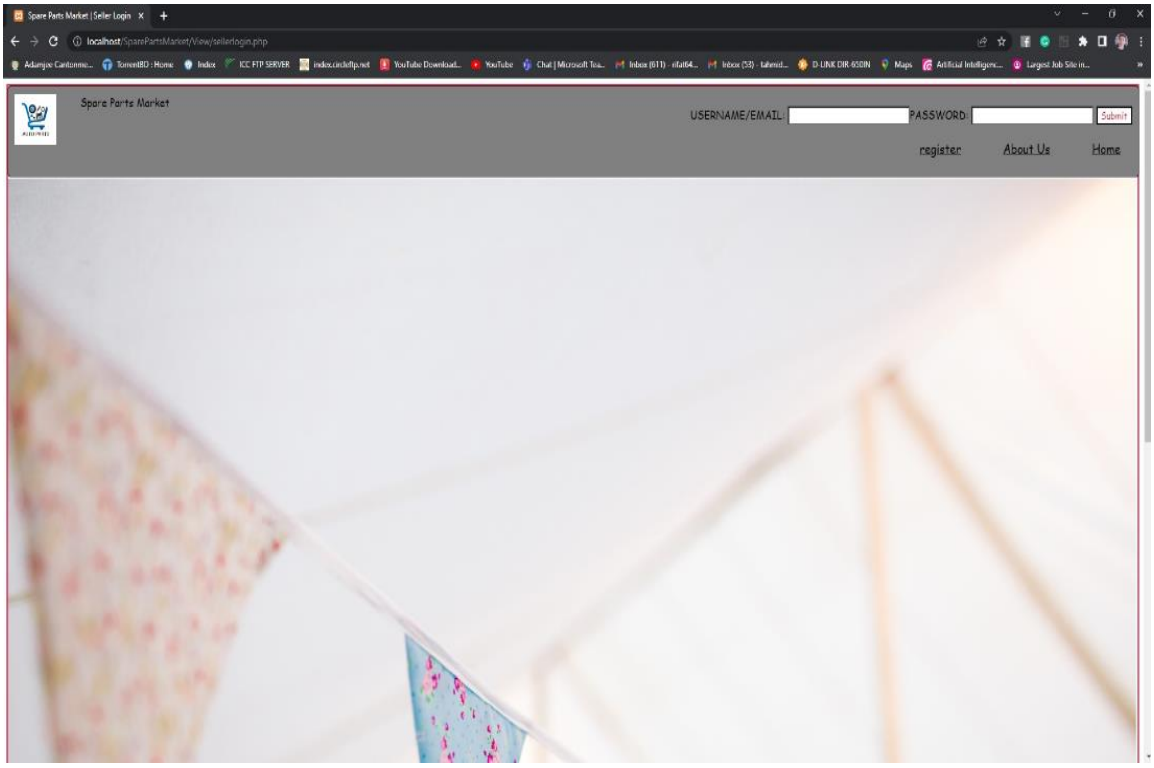

Figure 3: Seller/Vendor Login

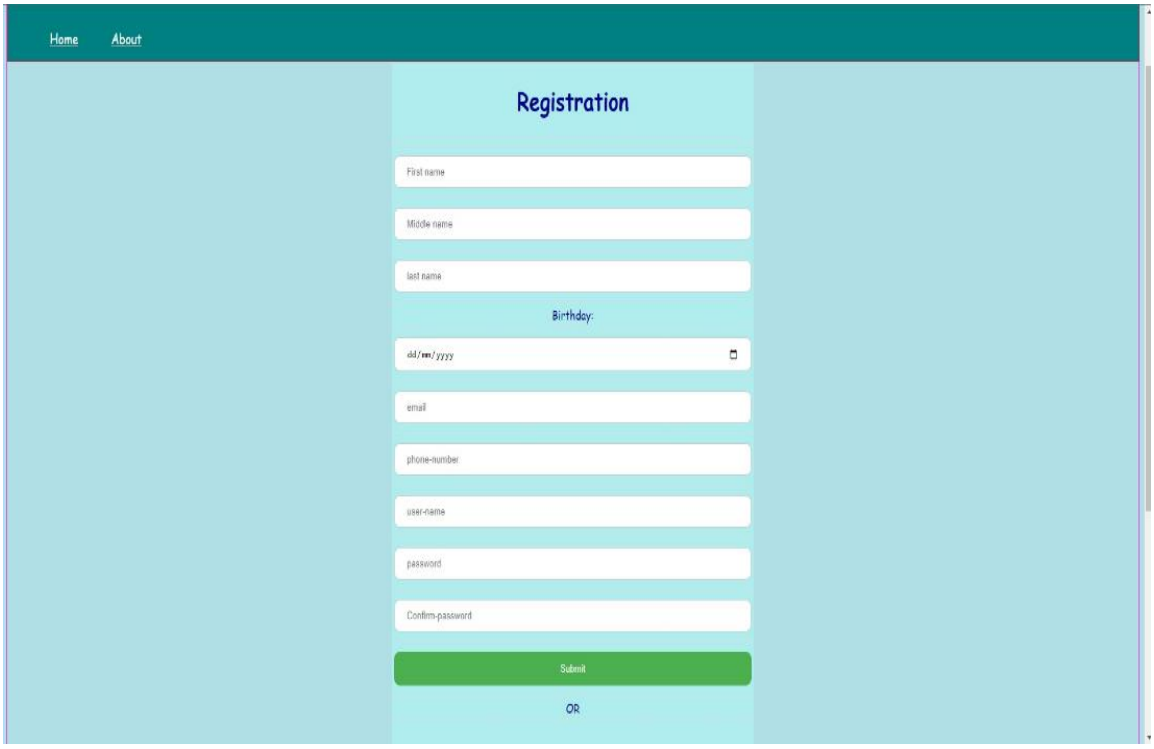

Figure 4: Registration

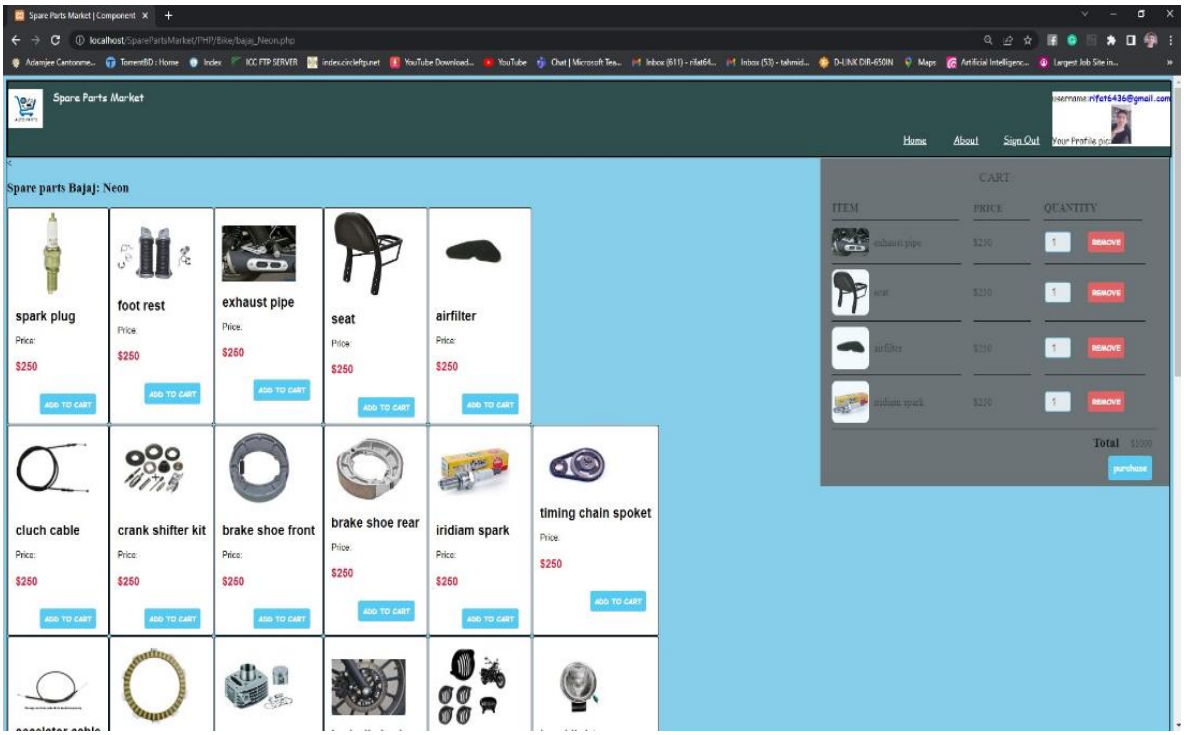

Figure 5: Cart Operation

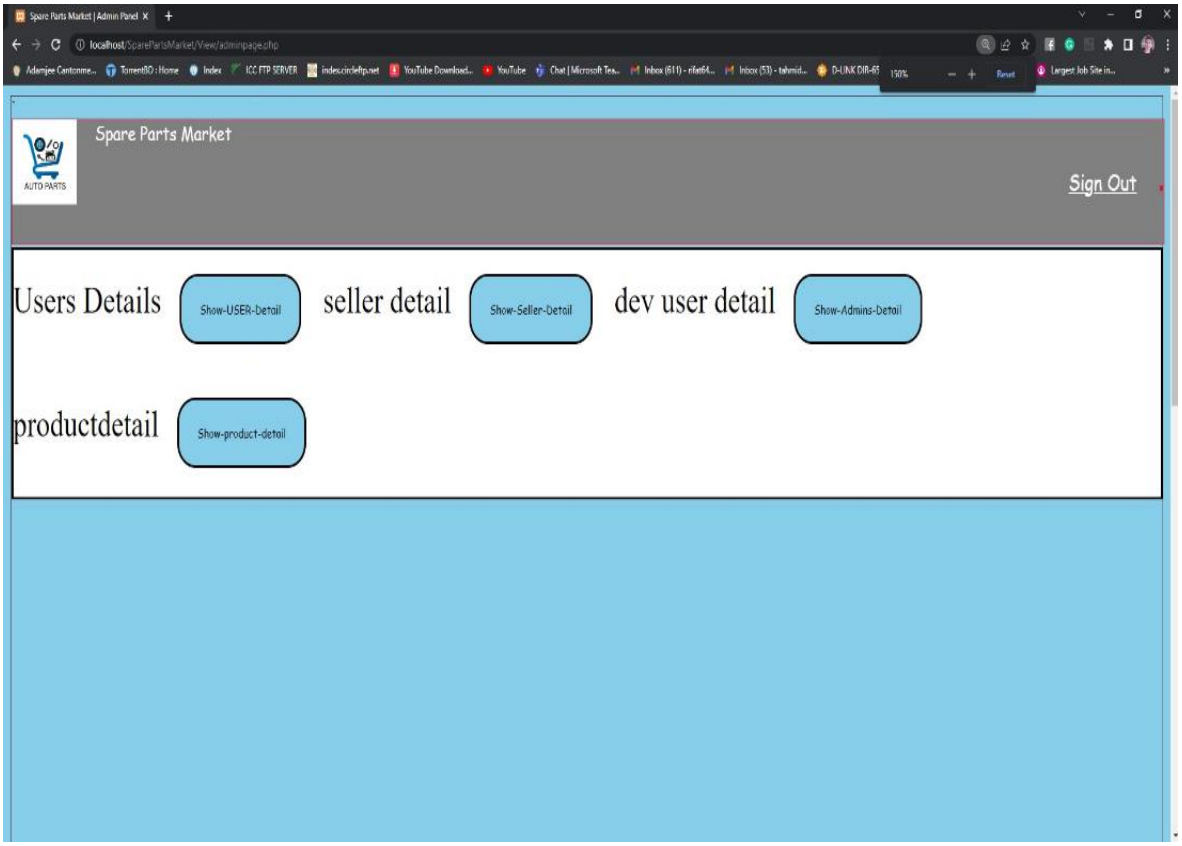

Figure 6: Admin Dashboard

4.4 Project Requirements

Time constraint: It needed maximum 10 month to 1 years for development

Scope constraint: Provide clear documentation of the full project scope at the beginning of the project, including all requirements. Set up a process for managing any changes, so if someone proposes a change, there is a controlled system in place for how that change will be reviewed, approved or rejected, and implemented if applicable. Communicate the scope clearly and frequently with stakeholders.

Cost constraint: it will cost approx. 4, 70,000 BDT. For labor and cost of goods.

5. FEATURES NOT TO BE TESTED

The following is a list of the areas that will not be specifically addressed. All testing in these areas will be Indirect as a result of other testing efforts. For example:

1. As this is an online retail shop we will not test the location feature as it is a Google map open source project.
2. We are counting on customers to use hardware (Cell phones) at least newer then 6 years as any older devices might have serious security flaws
3. The product browser page will have the least security.
4. We will assume our customers will have a stable internet connection.
5. We assume the customer will give all the proper information's.
6. We assume the customer will be technically litterate enough to understand the UI.

6. TESTING APPROACH

6.1 Testing Levels

- The testing of the spare parts market project will fulfil all necessary steps for proper testing.
  We will ensure the software fulfils all the acceptance tests for a proper evaluation of the system.
  There will be an independent test team for system integration testing.
  As the time and budget constraints are established, we can create better software.

- **UNIT Testing** will be done by the developer and will be approved by the development team leader. Proof of unit testing (test case list, sample output, data printouts, and defect information) must be provided by the programmer to the team leader before unit testing will be accepted and passed on to the test person. All unit test information will also be provided to the test person.

- **SYSTEM/INTEGRATION Testing** will be performed by the test manager and development team leader with assistance from the individual developers as required. No specific test tools are available for this project. Programs will enter into System/Integration test after all critical defects have been corrected. A program may have up to two Major defects as long as they do not impede testing of the program (I.E. there is a work around for the error).
- Black box testing, scalability test, reliability test, robustness test, document test, regulatory test, security testing, safety testing, performance testing.

- **ACCEPTANCE Testing** will be performed by the actual end users with the assistance of the test manager and development team leader. The acceptance test will be done in parallel with the existing manual ZIP/FAX process for a period of one month after completion of the System/Integration test process.

- User acceptance testing (UAT), Business acceptance testing(BAT).

6.2 Test Tools

We used Jira, selenium to test the software efficiently

- We used Jira to keep track of all tasks using serum board.
- The initial prototype was tested using selenium.
- Microsoft visual studio IDE was used if selenium was unable to fix the module
- Intelij Idea IDE is used for java coding for Selenium.

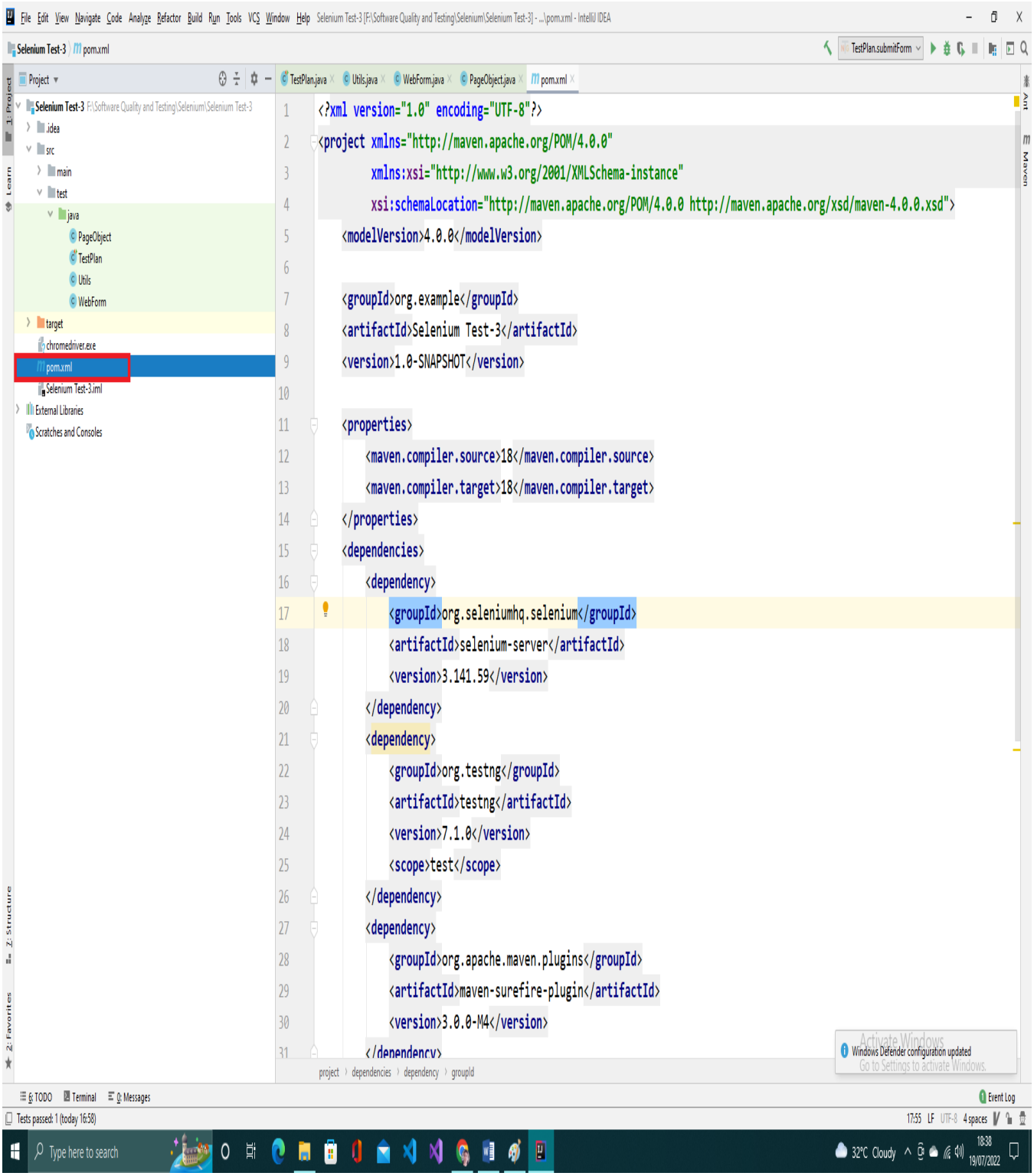

Figure 7: java (Selenium) code for testing

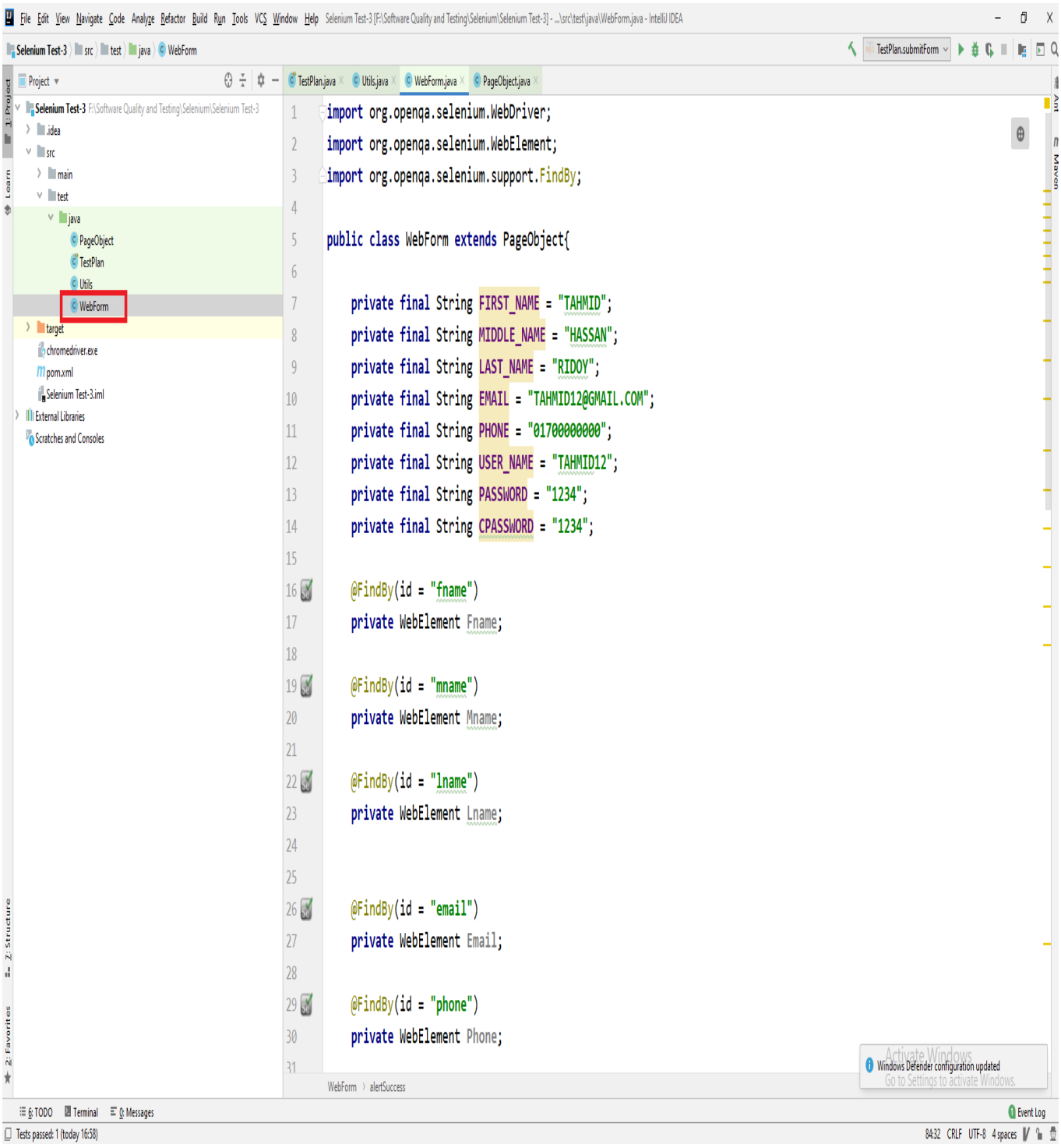

Figure 8: java (Selenium) code for testing

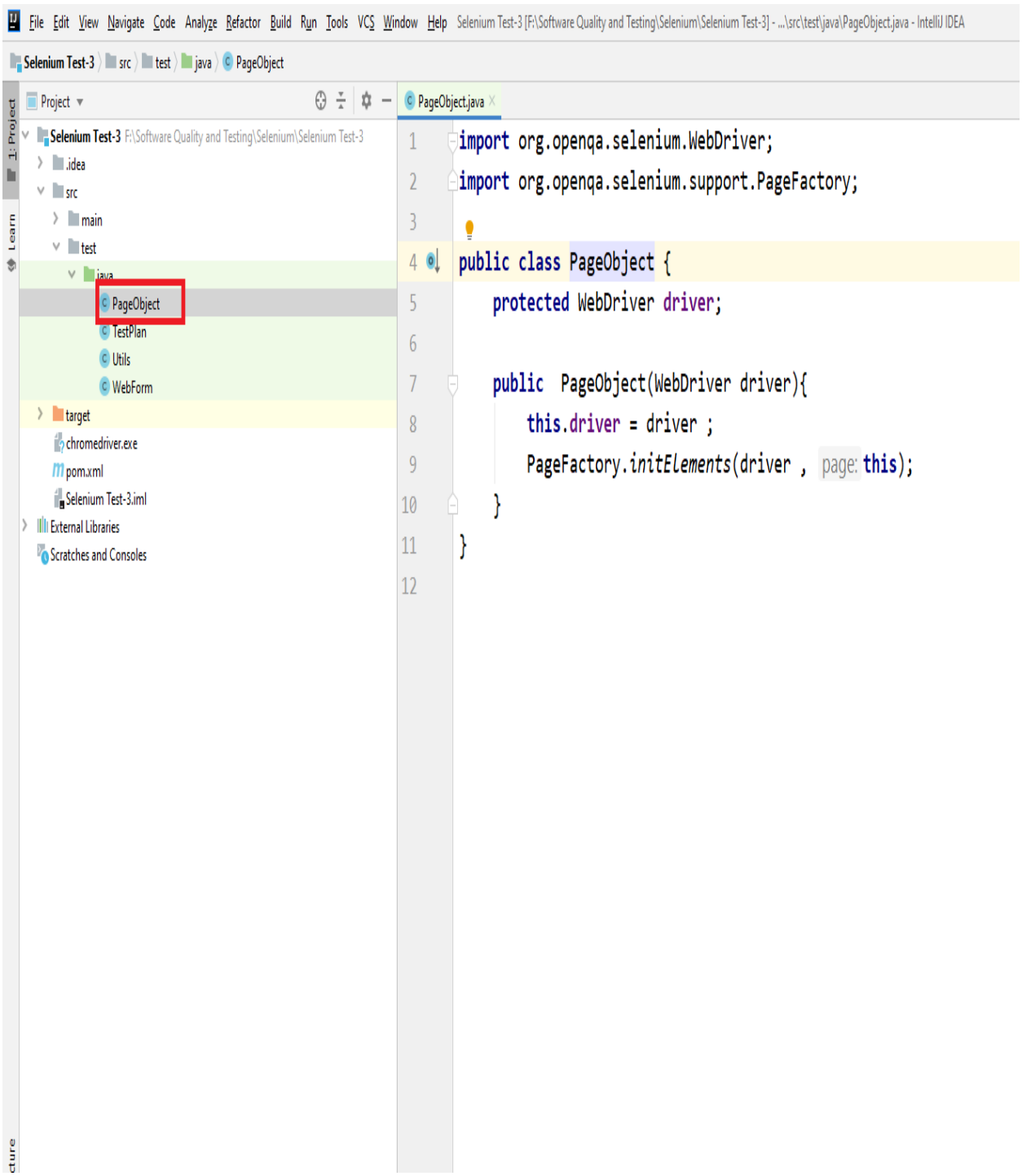

Figure 9: java (Selenium) code for testing

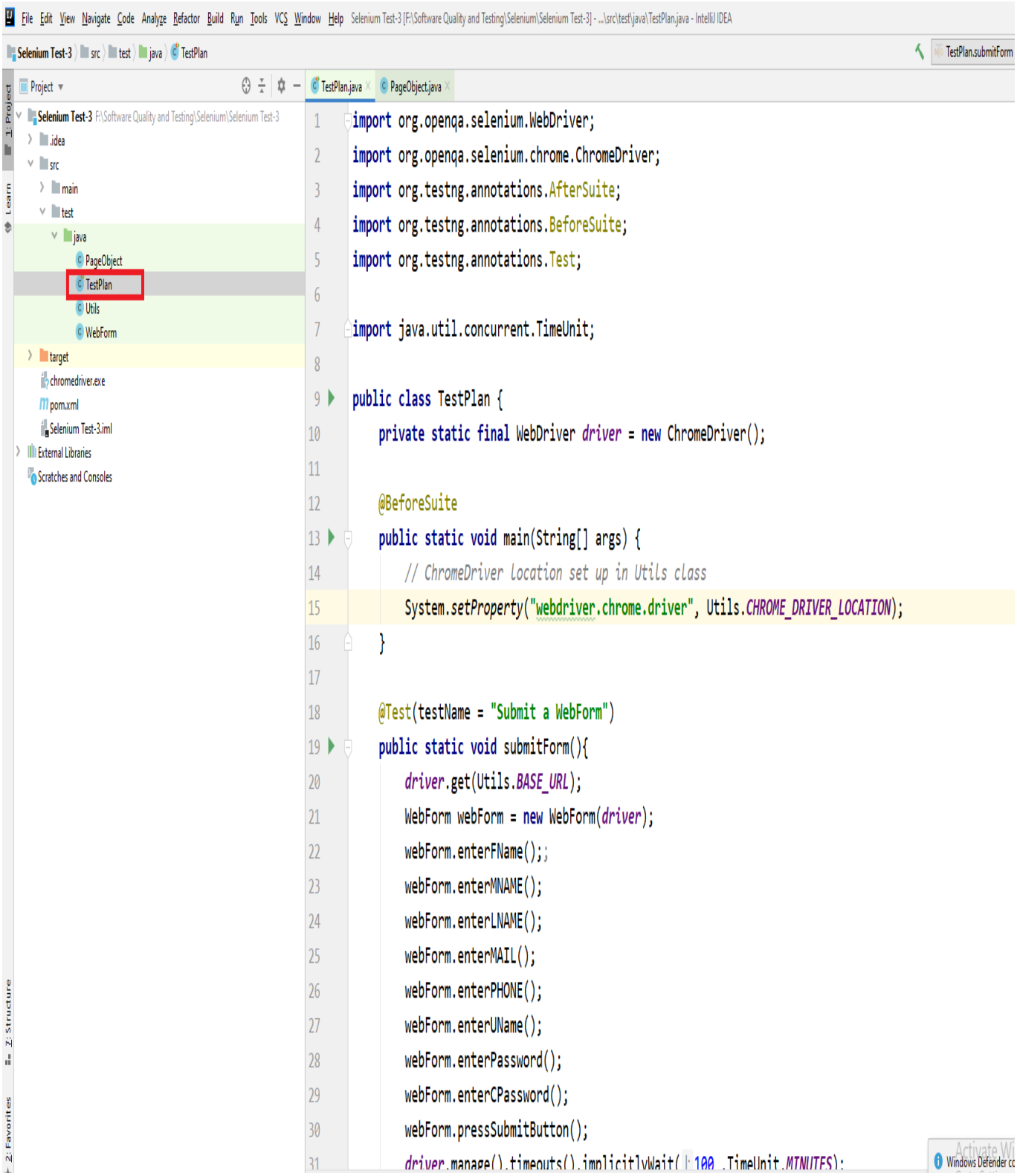

Figure 10 : java (Selenium) code for testing

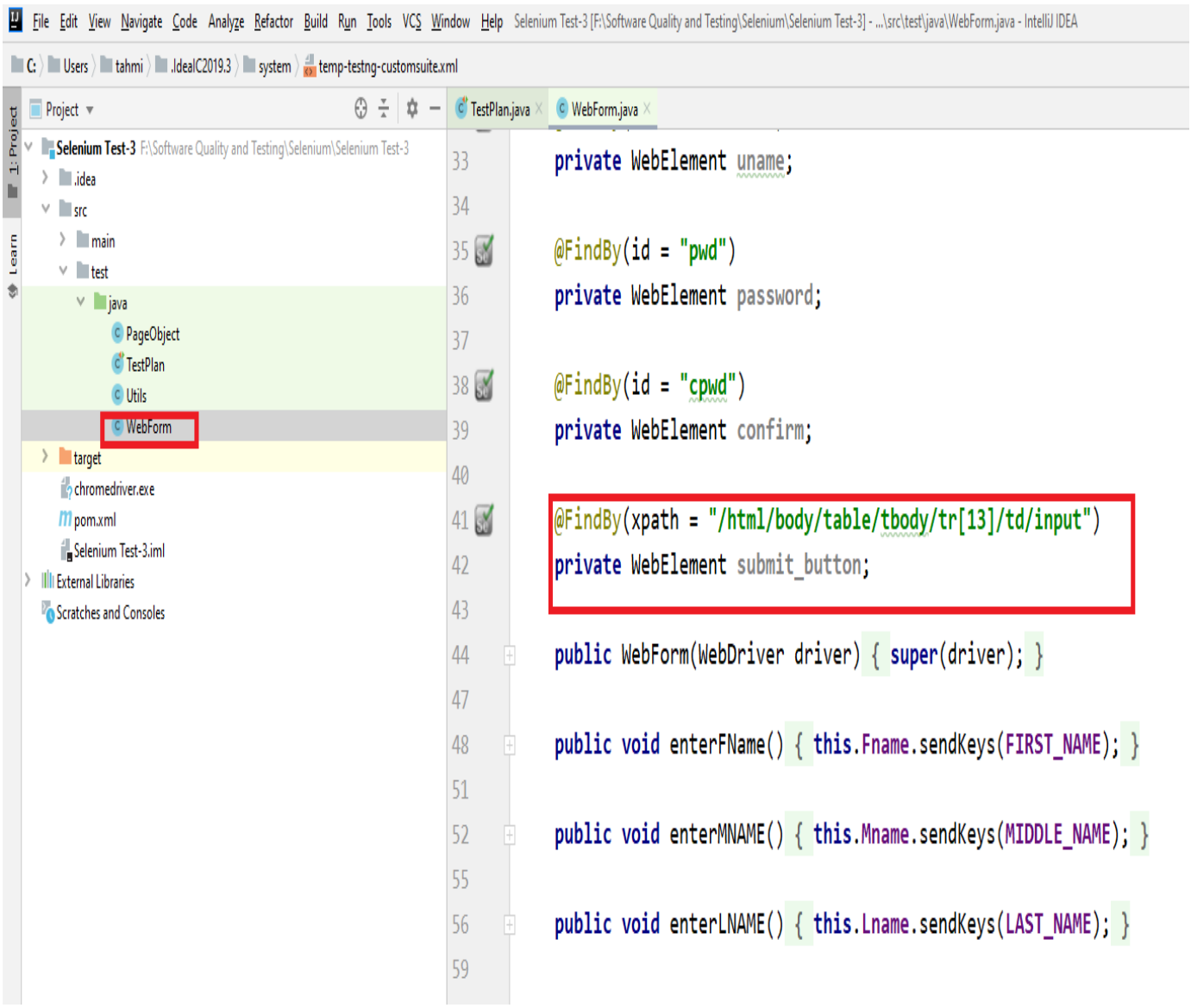

Figure 11 : java (Selenium) code for testing

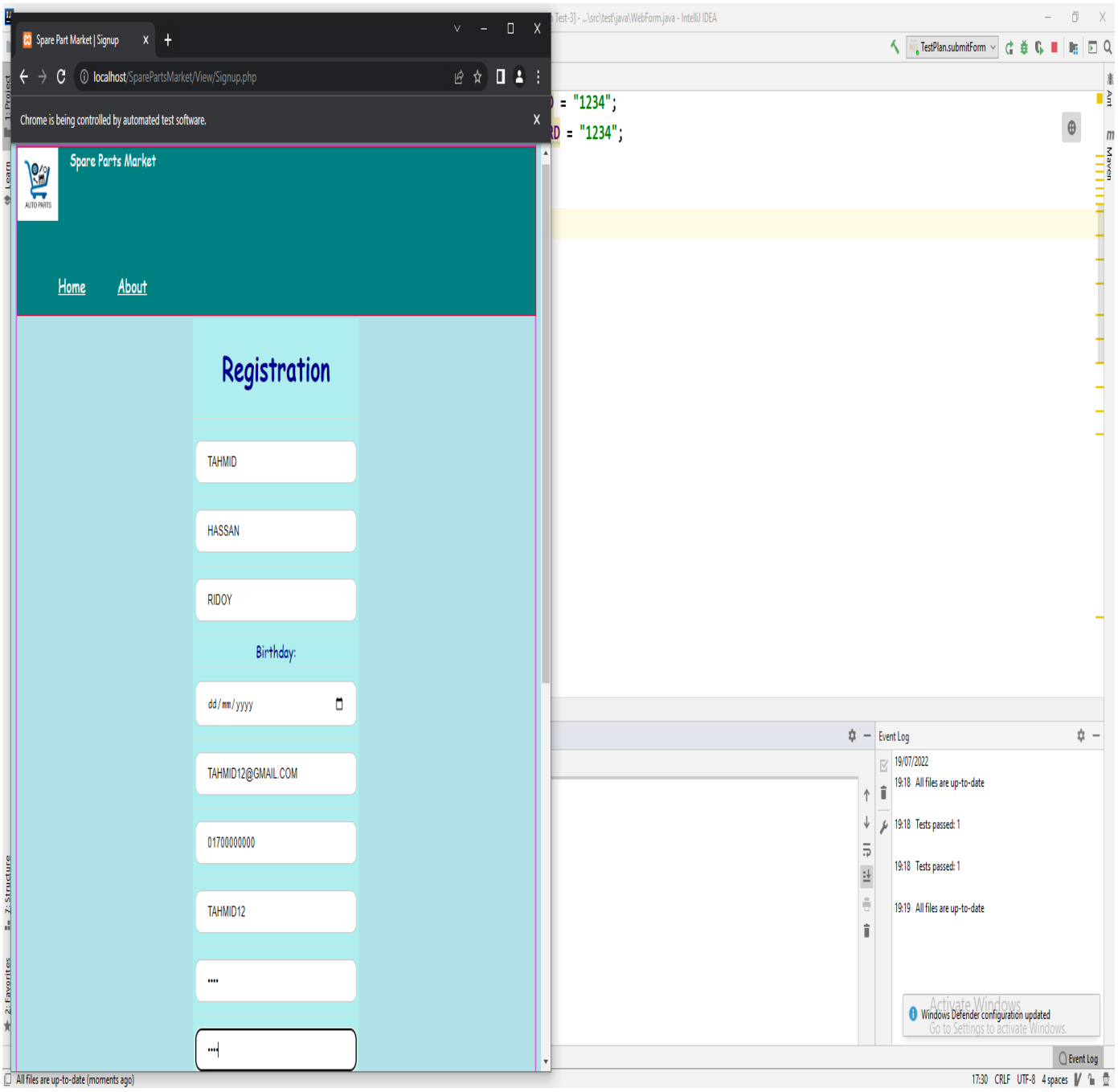

Figure 12 : While Testing using selenium

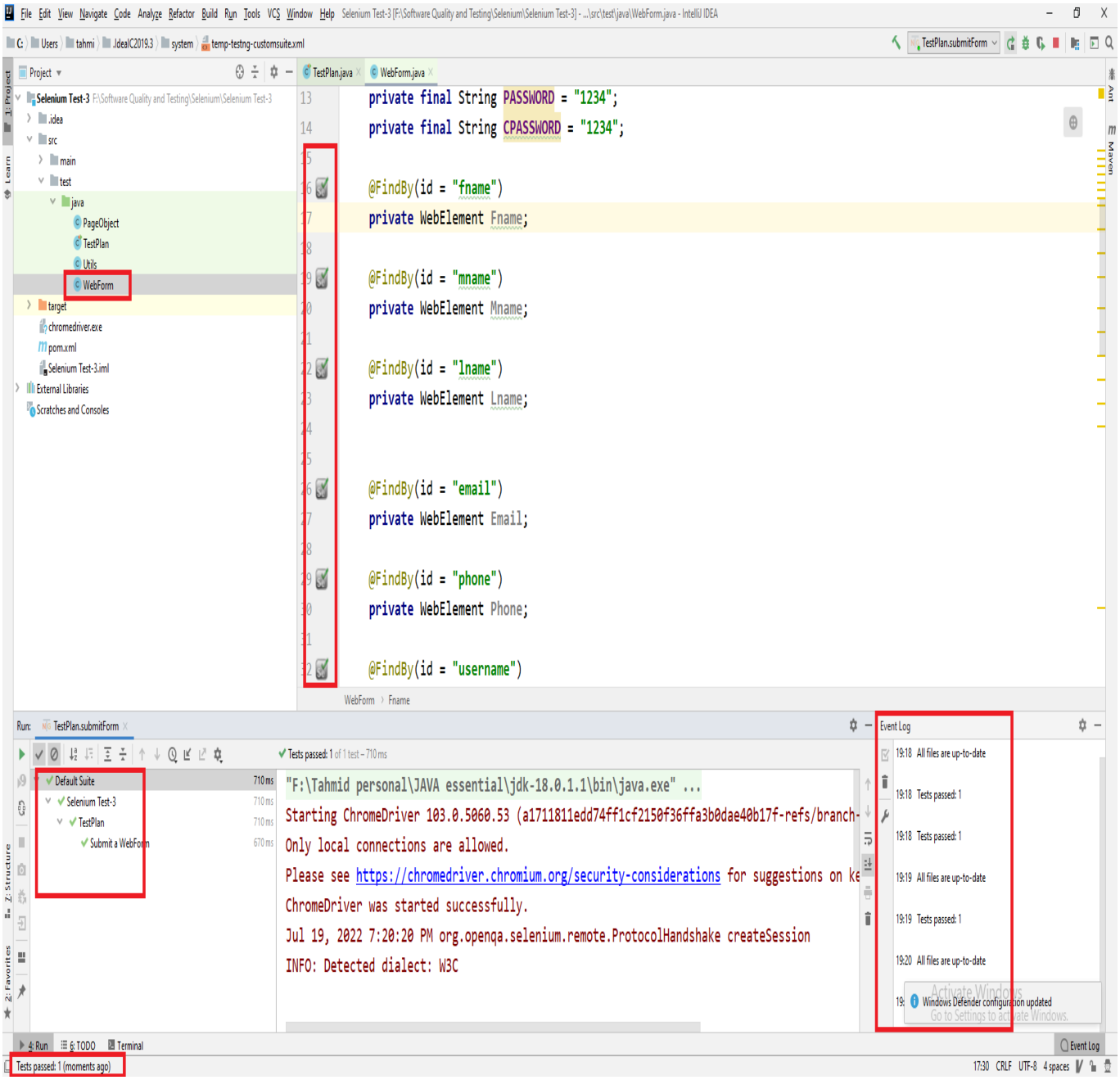

Figure 13 : Test Result

6.3 Meetings

When all the modules and tests have been properly completed, the project is considered successful. Every week's team meetings are required for this positive outcome. The scrum board must be used by every member to maintain adequate accountability and effective progress. Each team, along with the management, testing, and development teams .Team members should be present when the meeting starts.

7. TEST CASES/TEST ITEMS

Project Name: Spare parts market			Test Designed by: Tahmid	
Test Case ID: SPM_1			Test Designed date: 5/08/2022	
Test Priority (Low, Medium, High): High			Test Executed by: Tahmid	
Module Name: Customer Login			Test Execution date: 06/08/2022	
Test Title: verify login with valid username and password				
Description: Test customer login page				
Precondition (If any): User must have valid username and password				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1. Go to the website 2. Enter username 3. Enter password 4. Click submit	Username: User1 Password: 123	Customer should login into the application	As expected,	Pass
Post Condition: User is validated with database and successfully login to account. The account session details are logged in the database.				

Project Name: Spare parts market			Test Designed by: Tahmid	
Test Case ID: SPM_2			Test Designed date: 5/08/2022	
Test Priority (Low, Medium, High): High			Test Executed by: Tahmid	
Module Name: Admin Login			Test Execution date: 06/08/2022	
Test Title: verify login with valid username and password				
Description: Test admin login page				
Precondition (If any): User must have valid username and password				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
5. Go to the website 6. Enter username 7. Enter password 8. Click submit	Username: Admin Password: 123	Admin should login into the application	As expected,	Pass
Post Condition: User is validated with database and successfully login to account. The account session details are logged in the database.				

Project Name: Spare parts market			Test Designed by: Riaz	
Test Case ID: SPM_3			Test Designed date: 5/08/2022	
Test Priority (Low, Medium, High): High			Test Executed by: Riaz	
Module Name: seller Login			Test Execution date: 06/08/2022	
Test Title: verify login with valid username and password				
Description: Test seller login page				
Precondition (If any): User must have valid username and password				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
9. Go to the website 10. Enter username 11. Enter password 12. Click submit	Username: seller Password: 456	Seller should login into the application	As expected,	Pass
Post Condition: User is validated with database and successfully login to account. The account session details are logged in the database.				

Project Name: Spare parts market			Test Designed by: Nafi	
Test Case ID: SPM_4			Test Designed date: 5/08/2022	
Test Priority (Low, Medium, High): High			Test Executed by: Nafi	
Module Name: System registration			Test Execution date: 06/08/2022	
Test Title: verify login with the required information				
Description: Test registration page				
Precondition (If any): User must have valid username and password				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
13. Go to the website 14. Enter name 15. Birthday 16. Email 17. Phone number 18. username 19. Enter password 20. Confirm password 21. Click submit	First name: Jhonny Middle name: Billy Last name: Bravo Birthday: 20/4/2000 Email: xyz@gmail.com Username: test user Password: 321	User should register successfully and redirect to the login page	As expected,	Pass
Post Condition: User data stored in database and show successfully registered account.				

Project Name: Spare parts market	Test Designed by: Sakib
Test Case ID: SPM_5	Test Designed date: 5/08/2022
Test Priority (Low, Medium, High): High	Test Executed by: Sakib
Module Name: Cart operation	Test Execution date: 06/08/2022
Test Title: verify the cart operations	
Description: Test the functionality of the cart	

Precondition (If any): must be logged in with valid username and password. Product must be stored in database.

Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
22. Go to the website 23. Select a brand, mode. 24. Select part and add to cart 25. Add more parts to cart 26. Remove items from cart	Input quantity	User should be able to add, remove and update the items in cart	As expected,	Pass

Post Condition: User order id and ordered Item with date and payment information should be stored n database. User can see the confirmed order from Database.

Project Name: Spare parts market	Test Designed by: Tahmid
Test Case ID: SPM_6	Test Designed date: 5/08/2022
Test Priority (Low, Medium, High): High	Test Executed by: Tahmid
Module Name: Payment System	Test Execution date: 06/08/2022
Test Title: Verify that the all the payment methods work	
Description: Test website payment page	

Precondition (If any): must be logged in with valid username and password.

Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
27. Select checkout from cart 28. Select payment option 29. Enter valid information 30. Click submit	Card / bkash number: 01234567891 Address: road 15, dhanmondi. Contact information: 01234567891	User should fill in the relevant information and proceed with a payment and get a confirmation text on their mobile phone.	Some data like payment Id is't updating on database ,	failed

Post Condition: payment information , user id , date must be stored in database .

Project Name: Spare parts market	Test Designed by: Riaz
Test Case ID: SPM_7	Test Designed date: 5/08/2022
Test Priority (Low, Medium, High): High	Test Executed by: Riaz
Module Name: Admin dashboard	Test Execution date: 06/08/2022
Test Title: Verify that admin the dashboard functionality work	
Description: Test admin dashboard page	

Precondition (If any): must be logged in with valid admin username and password. Must have some user in the Database .

Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
31. Add an account from admin panel 32. Remove account from admin panel 33. Verify buyer account 34. Verify seller account 35. Block buyer, seller account 36. Update product information 37. Delete product information	**********	Admin should be able to add remove update and verify accounts. Admin should be able to block accounts Admin should be able to add, modify, delete product information	As expected,	Pass

Post Condition: Blocking , removing user & posting update notice should work properly and Stored in database. Show the user information from Database.

Project Name: Spare parts market			Test Designed by: Nafi	
Test Case ID: SPM_8			Test Designed date: 5/08/2022	
Test Priority (Low, Medium, High): High			Test Executed by: Nafi	
Module Name: seller dashboard			Test Execution date: 06/08/2022	
Test Title: Verify that the seller dashboard works				
Description: Test website seller dashboard page				
Precondition (If any): must be logged in with valid username and password.				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
38. View the products 39. Add product information 40. Update product information 41. Contact the admin account 42. Delete product information	Input a product detail	Seller should be able to view the products it has posted. Seller should also be able to add remove and edit products.	As expected,	Pass
Post Condition: All the UI functions should work properly after clicking.				

Project Name: Spare parts market			Test Designed by: Sakib	
Test Case ID: SPM_9			Test Designed date: 5/08/2022	
Test Priority (Low, Medium, High): High			Test Executed by: Sakib	
Module Name: customer dashboard			Test Execution date: 06/08/2022	
Test Title: Verify that the customer dashboard works				
Description: Test website seller dashboard page				
Precondition (If any): must be logged in with valid username and password.				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1.View the products Select brand, model. 2.Add product to cart Add multiple products to cart 3.Remove from cart Proceed to payment	**********	Customer should be able to view all the products and select the required ones to add to cart. Seller should also be able to remove from cart. Seller should be able to proceed to payment.	As expected,	Pass
Post Condition: All the UI functions should work properly after clicking.				

Project Name: Spare parts market			Test Designed by: Tahmid	
Test Case ID: SPM_10			Test Designed date: 5/08/2022	
Test Priority (Low, Medium, High): High			Test Executed by: Tahmid	
Module Name: Database Connection			Test Execution date: 06/08/2022	
Test Title: verify whether the shown data in the dash board are uniform throughout different devices				
Description: Test website in different devices with different OS				
Precondition (If any): The user should have a stable internet connection and a working browser				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1. Go to the website 2. Enter username 3. Enter password 4. Click submit 5. Inspect dashboard 6.same check for Admin , seller , Customer Also Cart operation, Product operation, Admin operation, Payment operation.	Username: Tahmid Password: 123456	User should be able to see all the information in the dashboard	As expected,	Pass
Post Condition: The test proves that the database connection is working properly on every devices Regardless of the operating system.				

8. ITEM PASS/FAIL CRITERIA

The test was completed successfully. All the ten tests ware done properly without any problems. There Were some issues in test #5 as of writing this report the project manager is notified and necessary Action are being taken to fix the issues. Overall the system is ready for our respective customer as all the Major requirements were fulfilled. The system will work properly in any circumstances.

9. TEST DELIVERABLES

- **Acceptance test plan:** All the user acceptance test were completed successfully. The User Interface were easy but effective to understand. As a result the UAT was completed without any problem.
- **System/Integration test plan:** Like we saw in Test case 10 all the system integration were done correctly. As a result the database was working properly and all the functionality were working smoothly.
- **Unit test plans/turnover documentation:** The unit testing were done and all were working order.
- **Screen prototypes:** In total three prototypes were made and the last system (3rd) one was the one we used in this project as this was the least issued one. For this reason this will be our final product which we are submitting.
- **Report mock-ups :** The report we are reading is the project report so there were no mock-ups of this report all are originals
- **Defect/Incident reports and summaries:** Like we saw in module 10 all but 1 test were not acceptable. As a result all the resource are focused on this 8 main modules at the moment. But the modules are not that bad to derail the project. As a result we are able to deliver the project in time and on budget. The above mentioned failed modules will be fixed in the release day patch.
- **Test logs and turnover reports :** The test logs of module 10 were all shown. The mentioned module shows all the test logs and turnover report. All the test were done properly and none were serious issues.

10. STAFFING AND TRAINING NEEDS

In order to provide complete and proper testing the following areas need to be addressed in terms of training.

Staffing

- Recognize software efforts as sub-projects of the project
- Integrate computing professionals as part of the project team, over the life of the project or collaboration.
- Integrate software professionals with scientist developers to insure software meets both the technical and scientific needs of the project.

Training

- Use certification to document expertise and encourage learning new skills
- Encourage training in software and computing as a continuing physics activity
- Use mentors to spread scientific software development standards
- Involve computing professionals in the training of scientific domain experts
- Use online media to share training
- Use workbooks and wikis as evolving, interactive software documentation
- Provide young scientists with opportunities to learn computing and software skills that are Marketable for non-academic jobs

11. RESPONSIBILITIES

	TM	PM	Dev. Team	Test Team	Client
Acceptance test documentation & Execution	X	X		X	X
System/Integration test Documentation & Execution	X		X	X	
System Design reviews	X		X	X	
Detail Design Reviews	X	X	X	X	X
Test Procedures and Rules	X	X	X	X	
Screen & Report prototype reviews	X		X	X	X
Change control and regression testing	X	X	X	X	X

12. TESTING SCHEDULE

Time has been allocated within the project plan for the following testing activities. The specific dates and times for each activity are defined in the project plan timeline. The persons required for each process are detailed in the project timeline and plan as well. Coordination of the personnel required for each task, test team, development team, management and customer will be handled by the project manager in conjunction with the development and test team leaders. Schedule must be done using any PM tool.

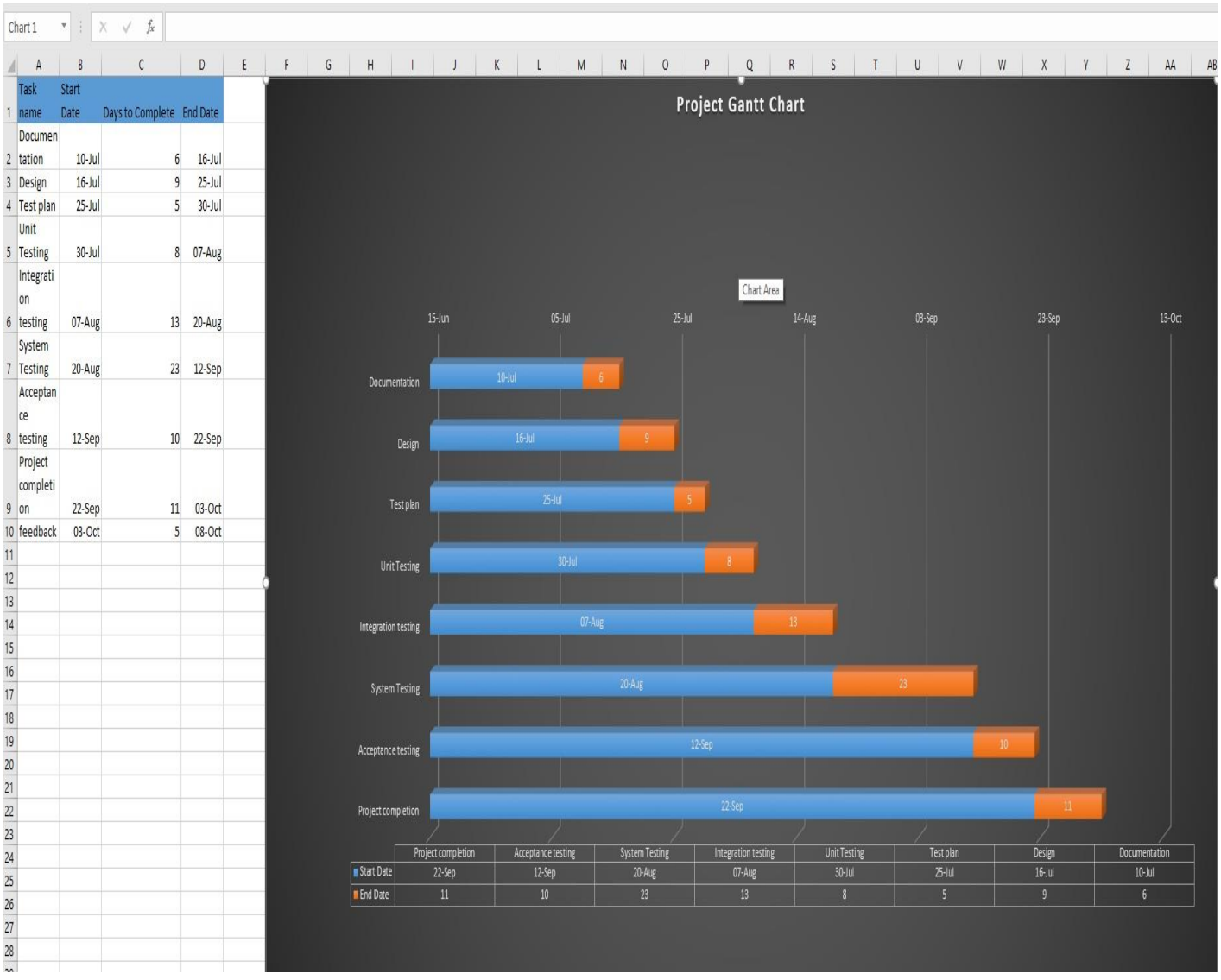

Figure 14 : Project Testing Grant Chart.

13. PLANNING RISKS AND CONTINGENCIES

- The time interval should be followed strictly.
- The module dependency should be resolved before the delivery date.
- The client operator should be adequately trained.
- All the prototype of the software should be destroyed after delivery of the product.
- Team should scrum board to keep accountability in the task.
- "Customer is always right" should be the mentality for everyone involved in the project.
- The worst problem for any software project is the budget. The budget should be approved and Task should be approved before the project is started

14. APROVALS

Project Sponsor	PASS
Development Management	PASS
EDI Project Manager	PASS
RS Test Manager	PASS
RS Development Team Manager	PASS
Reassigned Sales	PASS
Order Entry EDI Test manager	PASS