American International University-Bangladesh (AIUB)

Department of Computer Science

Faculty of Science &Technology (FST)

Spring 21 22

Section: C

Software Quality Assurance and Testing

Organizational Website Testing

A Report submitted
By

SN	Student Name	Student ID
1	Hoque, Tahsinul	18-37883-2
2	Mahamud-Un-Nabi	18-37013-1

Under the supervision of

Abhijit Bhowmik

Associate Professor and Special Assistant of OSA, AIUB

Software Test Plan

for

<Organization Website>

Version 1.0 approved

Prepared by <Hoque, Tahsinul>

<Mahamud-Un-Nabi>

<American International University-Bangladesh (AIUB)>

<24/04/2022>

Table of Contents

Revision History

Revision	Date	Updated by	Update Comments
0.1	22.04.2022	Hoque, Tahsinul	First Draft
0.2	22.04.2022	Mahamud-Un-Nabi	Second Draft
0.3	23.04.2022	Hoque, Tahsinul	Final Draft

1. TEST PLAN IDENTIFIER: ACC-u-1

2. REFERENCES

- o (Selenium Tutorial - javatpoint, 2022) www.javatpoint.com. 2022. *Selenium Tutorial - javatpoint*. [online] Available at: <https://www.javatpoint.com/selenium-tutorial> [Accessed 19 April 2022].

3. INTRODUCTION

Background to the Problem

Now a days every educational institution has their own website. Almost all universities have different kinds of clubs and its own website. Most importantly the Computer Club, Art Club, Social Well fare club etc. are very active clubs in every university. Among them the computer club of AIUB is one of the most active and well-known clubs for its different events and competition organized by the members. The active web-site of AIUB computer club has many operational stuffs. Through the www.aiubcc.org website students and other club members are able to communicate, deliver event notices, gather information and show their event works and uphold the other activities of AIUB computer club.

Solution to the Problem

Since the importance of the computer club and its website is very high therefore it needs to be able to function properly and deliver the performance and must be able to handle the user engagements properly. To make sure of all the important check boxes are ensured, it needs to be tested properly. So here the system and its software testing method have been discussed as a solution of how the website will be able to perform accordingly.

4. REQUEIREMNT SPECIFICATION

4.1 SYSTEM FEATURES:

The system's functional requirements are the system's requirements that describes the system's basic functionalities.

1. Homepage: From the Home Page user can get access to all contents of the site

2. Events: User can check for recent or former events from events section.

    2.1 CS Fest

    2.2 Cyber Gaming Fest

    2.3 JARVIS –Intra Acc Carnival

3. Community: User can directly get in contact with the executive committee members

4. Links: From the bottom of the site user can get access to the ACC's Facebook, YouTube and LinkedIn page to get connected over there for more information and contents.

5. Teams: From this section user can more information about ACC Development Team, Media Team, Design Team, Event Organizer Team, Public Relation Team, ECPP Crew.

6. **People:** Here user can get information about committee members, advisors, OSA, executive members.

7. **About:** The main motto and achievements are shown.

8. **Contacts:** User can send their feedback via sending messages through website's feedback option.

4.2 System Quality Attributes

Some of the quality attributes of the website have been shown here:

Performance efficiency: time behavior, resource utilization, capacity;

Reliability: maturity, availability, fault tolerance, recoverability;

Usability: appropriateness, recognizability, learnability, operability, user error protection, user interface aesthetics, accessibility;

Security: confidentiality, integrity, non-repudiation, accountability, authenticity;

Compatibility: co-existence, interoperability;

Maintainability: modularity, reusability, analyzability, modifiability, testability;

Portability: adaptability, install ability, replace ability.

4.3 Project Requirements

Resource: There will be multiple resources needed. Front end programmer, Back-end programmer, Tester, Computers, Software etc.

Time: Total time will be required approximately 1 month.

COST : Total cost for the testing project is $79000

Software Requirements:

- o Microsoft Word
- o Microsoft Visual Studio
- o Microsoft Project 2020
- o Selenium

. Hardware Requirements:

- o Desktop with minimum core i5-3.4 GHz
- o   8GB of RAM
- o SSD

Estimated costing:

	A	B	C
1	Resource Name		Cost
2	Tester 1		$10,000
3	Tester 2		$15,000
4	Project manager		$15,000
5	Frontend Developer		$12,000
6	Backend Developer		$15,000
7	Sodftware		$7,000
8	Hardware		$20,000
9			
10	Net :		$79,000
11			

5. FEATURES NOT TO BE TESTED

Item not to be tested is defined as which of the features of the system or sub-system will NOT be testing. This is necessary so as to avoid later confusion when stakeholders thought something would be tested, but was not. There are some features that are in my project which does not need to be tested.

Design: This is not a permanent pattern of our system. If we need to change the design of the system, it can be done easily.

Not to be included in this release of the Software: We do not need to test these types of features and functionalities

Out of scope features: This is functions which are planned to be done, but they are not required on the first stages. Usually, these auxiliary functions are written for specialists to understand how the customer sees the system (application) in the future. What has not yet been created is not yet possible to test.

Low- risk features: Each feature has some type of risk. But testing every risk is not time consuming for us. That's why we need to be test the riskiest features first.

6. TESTING APPROACH

6.1 Testing Levels

A level of software testing is a process where every unit or component of a software or system is tested. In Software Engineering, four main levels of testing are Unit Testing, Integration Testing, System Testing and Acceptance Testing.

Unit Testing: Tests a small software unit at a time, which is typically performed by the individual programmer who implemented the unit prior to Integration testing checks if software components are fulfilling functionalities or not.

Integration Testing: System integration testing (SIT) is a systematic technique for assembling a software system while conducting tests to uncover errors associated with interfacing the modules. Checks the data flow from one module to other modules.

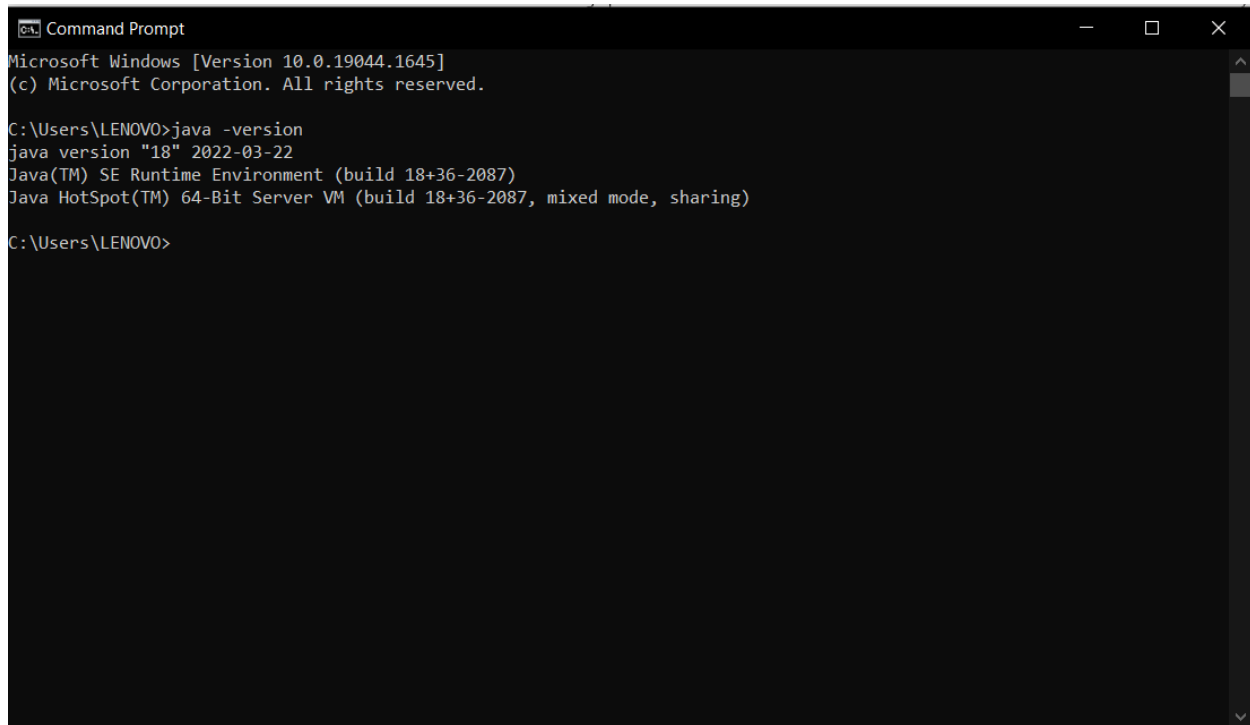**System Testing:** evaluates both functional and non-functional needs for the testing.

Acceptance Testing: checks the requirements of a specification or contract are met as per its delivery.

Dataflow Testing: Data Flow Testing is a specific strategy of software testing that focuses on data variables and their values. It makes use of the control flow graph.

6.2 Test Tools

For Project Management, Microsoft Excel, Trello and Microsoft Word were used. For automated testing, we used Selenium, Eclipse IDE.

Step 1: firstly, we gave JAVA setup.

Fig: 1

Step 2: Then we installed Eclipse
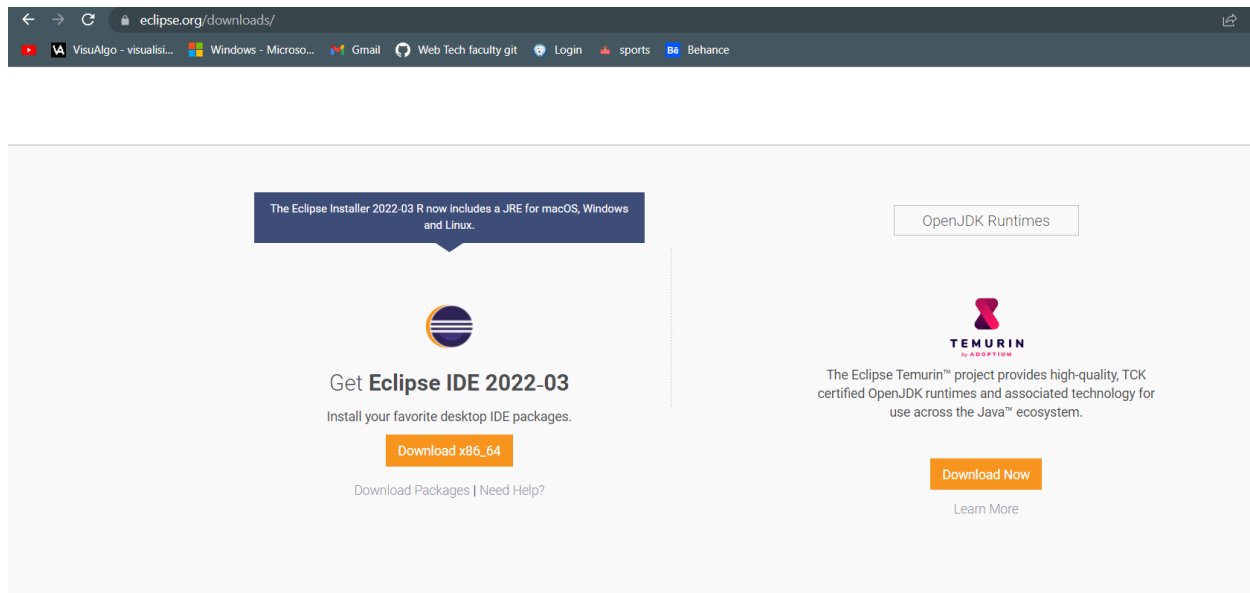

Fig: 2

Step 3: Setting up selenium for JAVA
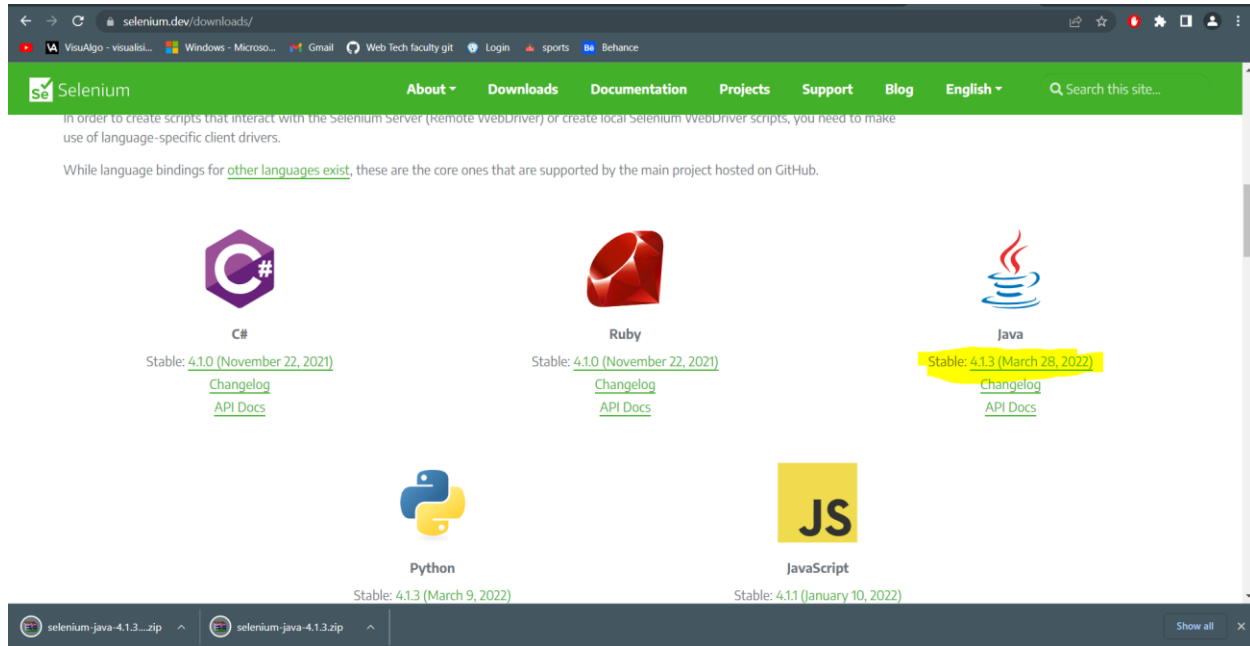
Fig: 3

Step 4: setting up selenium web driver
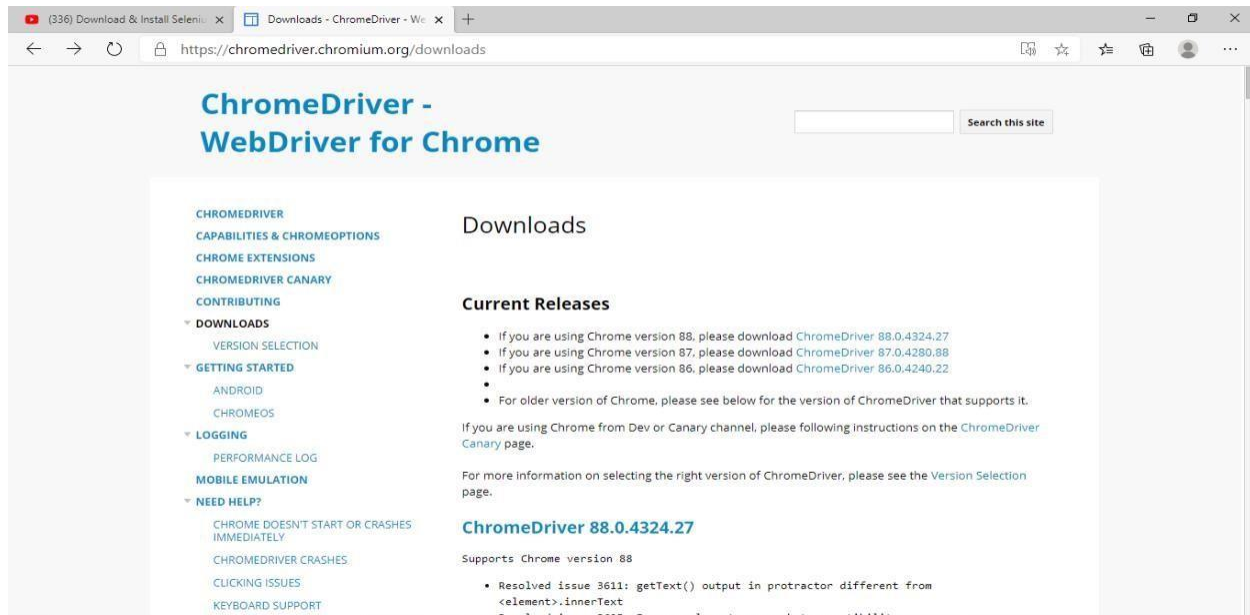
Fig: 4

Step 5: Necessary installation
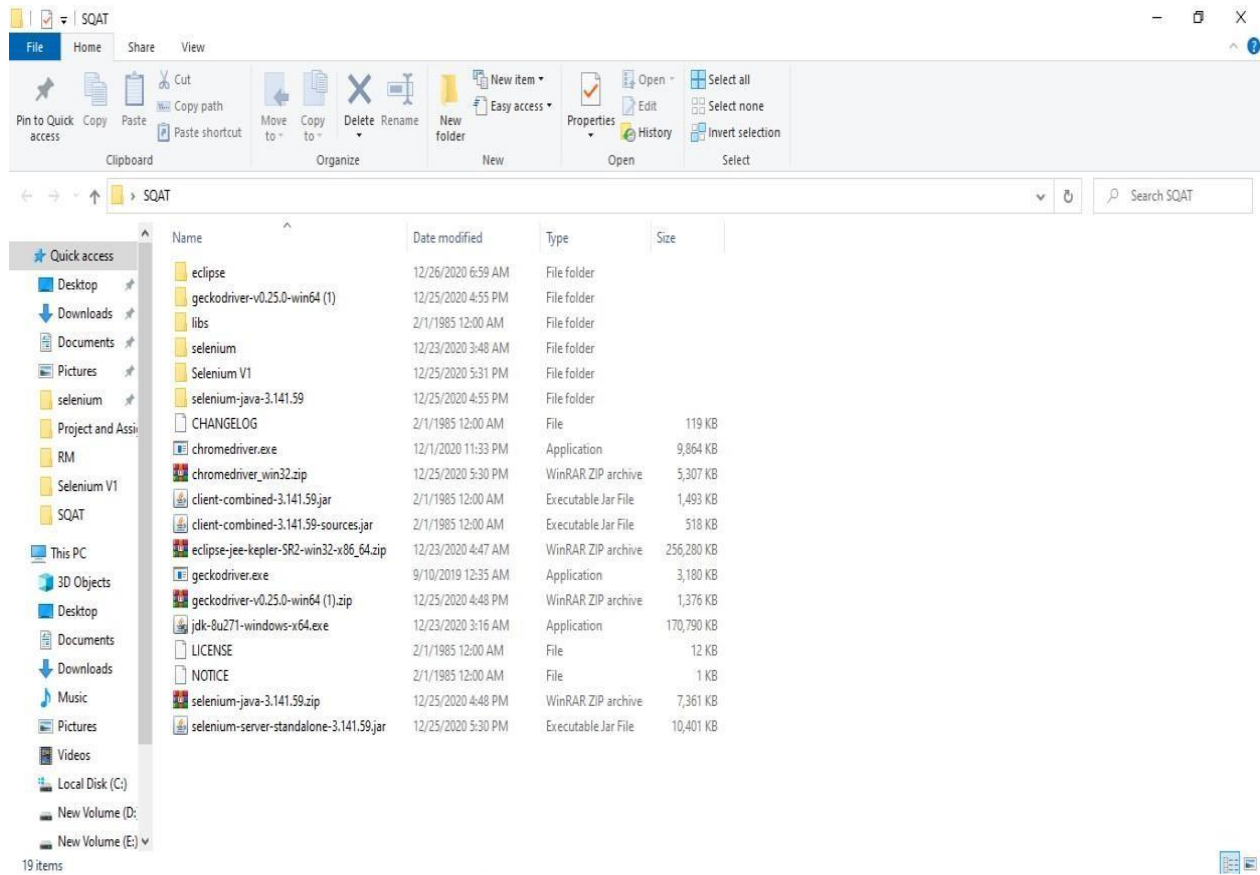
Fig: 5

Step 6: starting project

Step 6.1: creating project
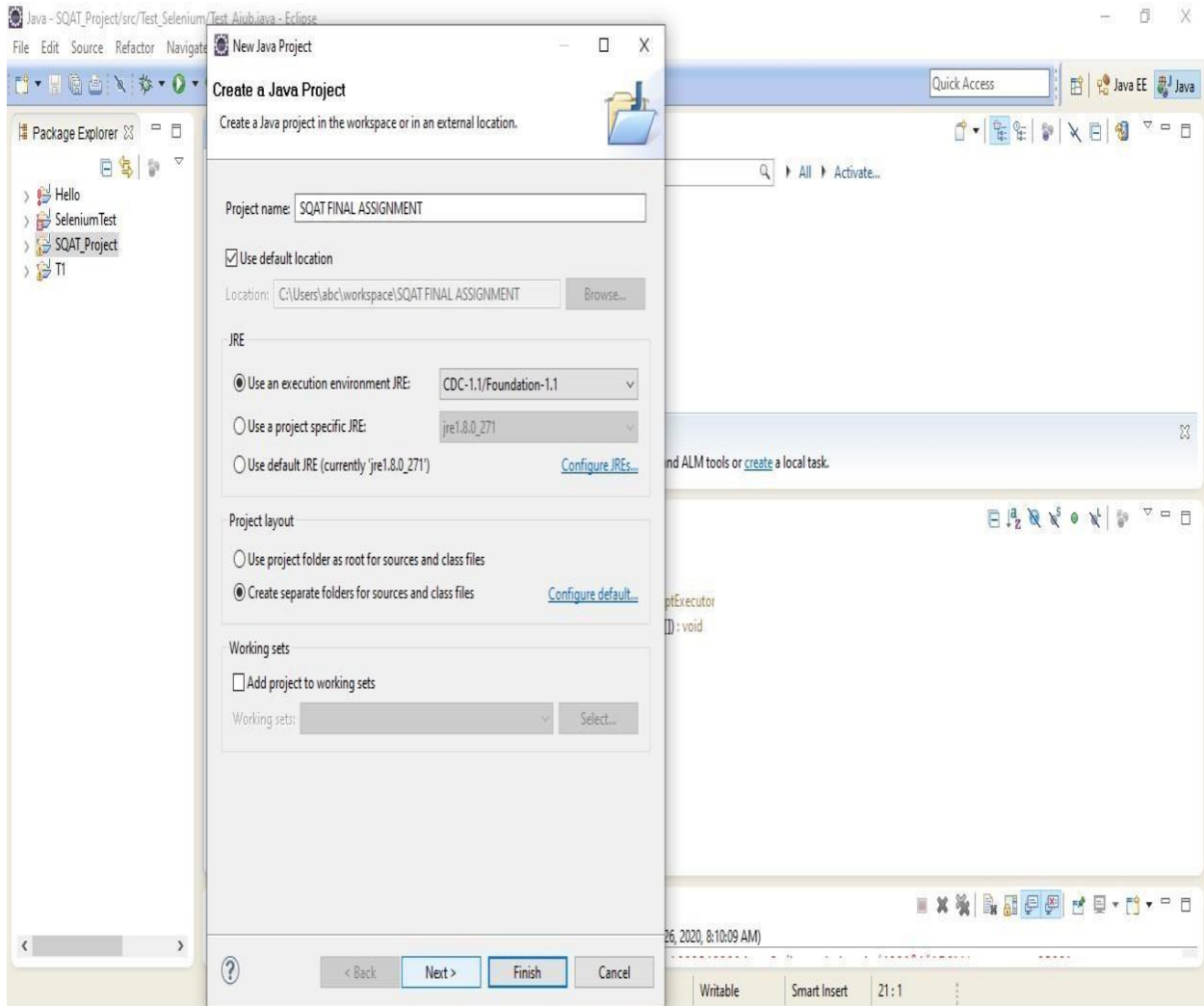
Fig: 6

Step 6.2: Adding JARs to library in Eclipse
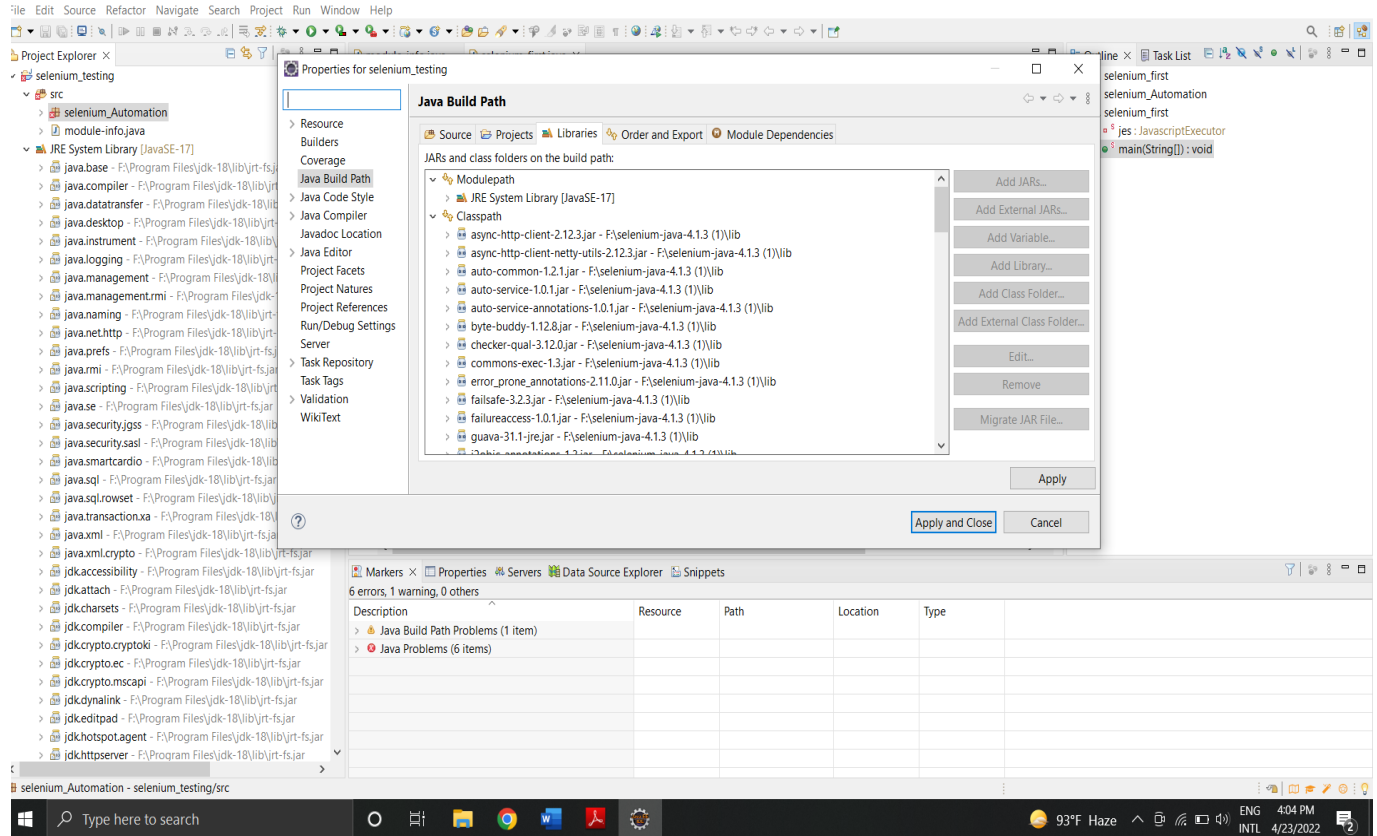
Fig: 7

Step 6.3: test codings
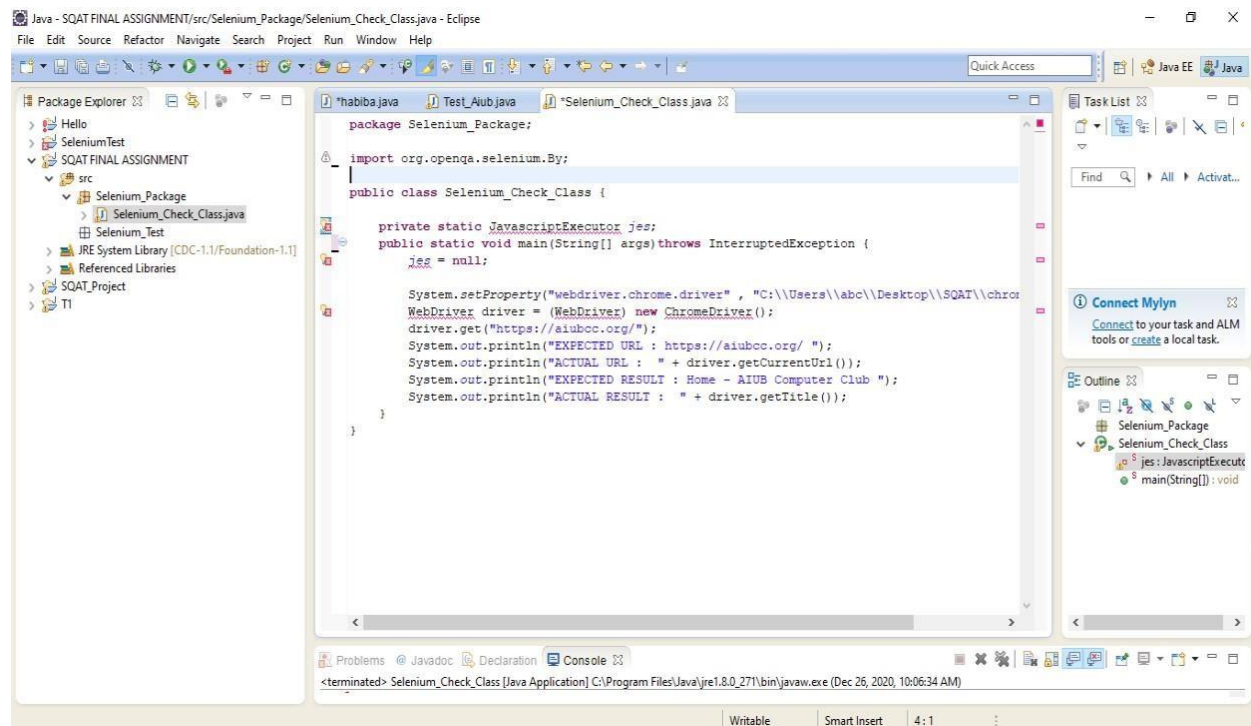
Fig: 8
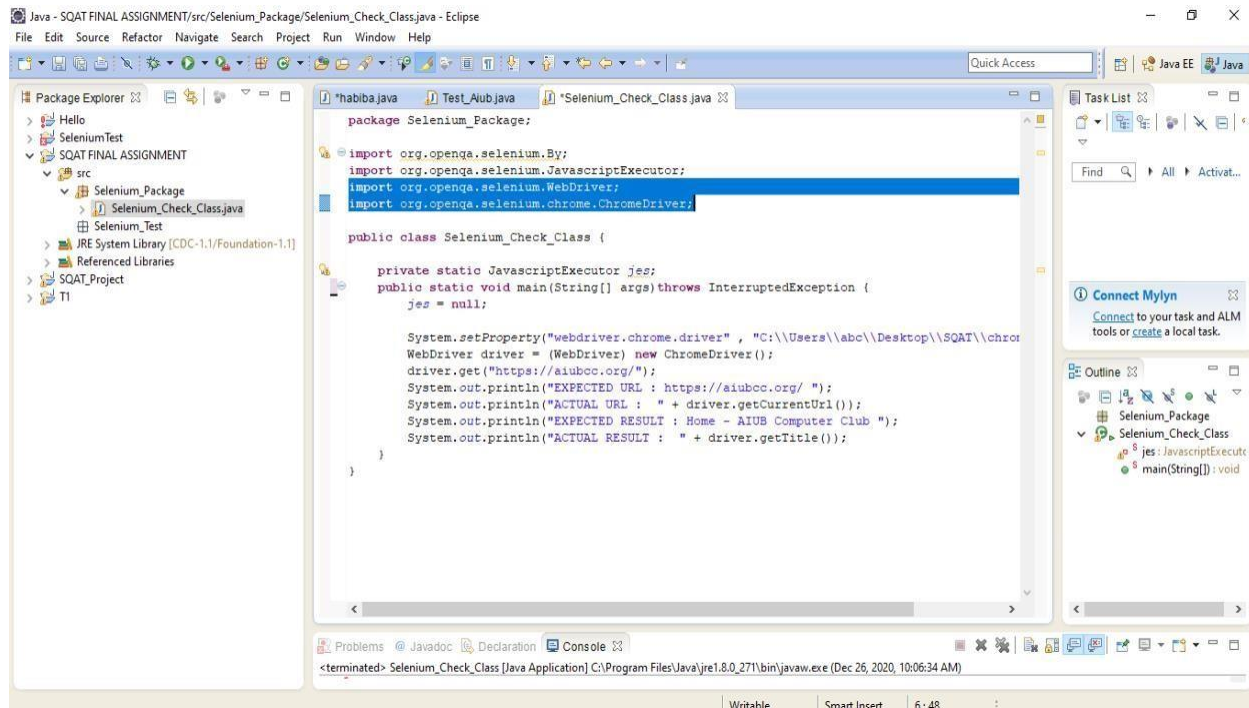
Fig: 9

A demo code:

```
package Selenium_Package;


import org.openqa.selenium.By;

import org.openqa.selenium.JavascriptExecutor; import

org.openqa.selenium.WebDriver;

import org.openqa.selenium.chrome.ChromeDriver;
public class Selenium_Check_Class {


        private static JavascriptExecutor jes;

        public static void main(String[] args)throws InterruptedException {


                jes = null; System.setProperty("webdriver.chrome.driver" ,
```

```java
"C:\\Users\\abc\\Desktop\\SQAT\\chromedriver.exe"); WebDriver driver =
(WebDriver)new ChromeDriver();
driver.get("https://aiubcc.org/");

        System.out.println("EXPECTED URL : https://aiubcc.org/ ");

        System.out.println("ACTUAL URL :                    " + driver.getCurrentUrl());
        System.out.println("EXPECTED RESULT : Home - AIUB Computer Club ");
        System.out.println("ACTUAL RESULT :                   " + driver.getTitle());

    }

}
```
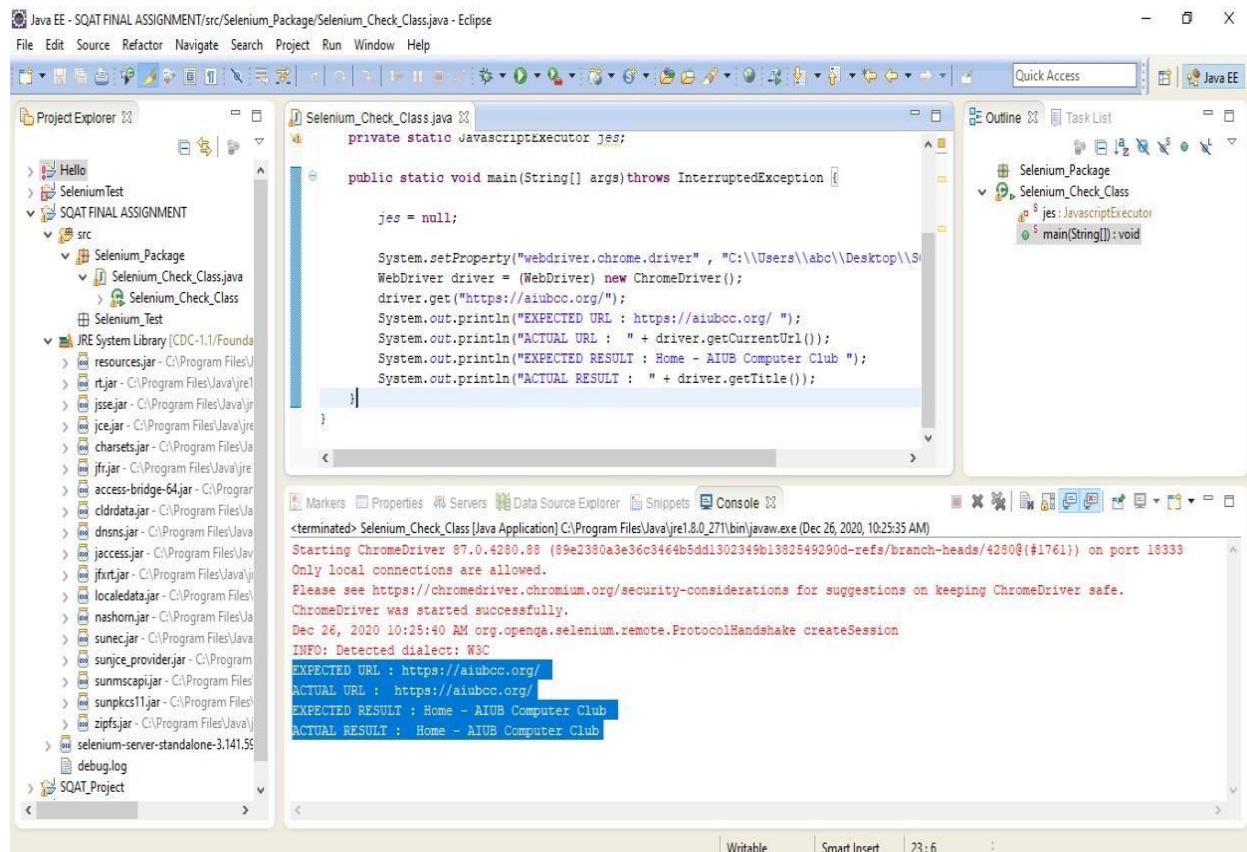

Fig: 10

EXPECTED URL : https://aiubcc.org/ ACTUAL
URL :   https://aiubcc.org/

EXPECTED RESULT : Home - AIUB Computer Club ACTUAL
RESULT :   Home - AIUB Computer Club
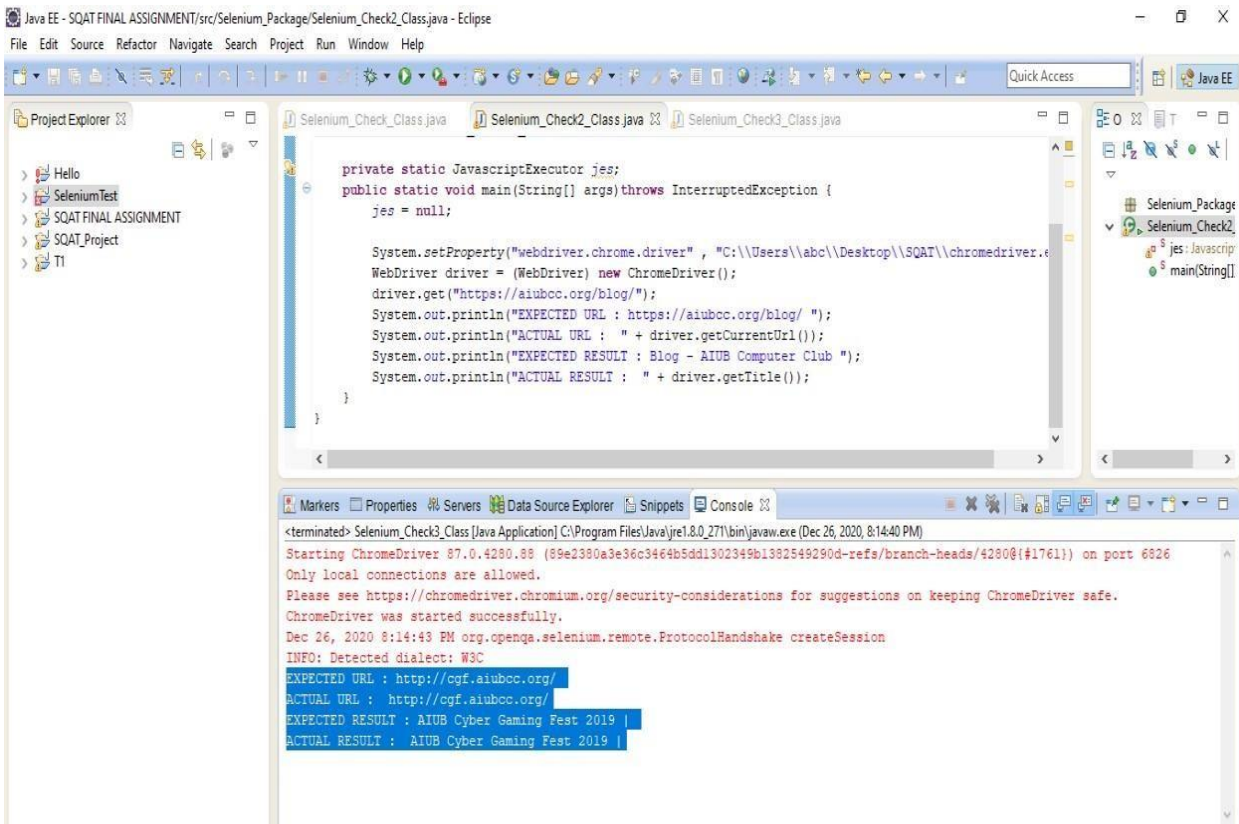
Fig: 11

<mark>EXPECTED URL :http://cgf.aiubcc.org/ ACTUAL</mark>
<mark>URL :   http://cgf.aiubcc.org/</mark>

<mark>EXPECTED RESULT : AIUB Cyber Gaming Fest 2019 | ACTUAL</mark>
<mark>RESULT :   AIUB Cyber Gaming Fest 2019 |</mark>

6.3 Meetings

The test team will meet once every two weeks to evaluate progress to date and to identify error trends and problems as early as possible. The test team leader will meet with development and the project manager once every two weeks as well. These two meetings will be scheduled on different weeks. Additional meetings can be called as required for emergency situations.

7. TEST CASES

7.1: Test Case 01

Project Name: Organization website			Test Designed by: Tahsinul Hoque	
Test Case ID: O-1			Test Designed date: 20/4/2022	
Test Priority (Low, Medium, High): High			Test Executed by: TBA (Two types : 1. Manual 2.Automated)	
Module Name: org homepage			Test Execution date: 20/4/2022	
Test Title: loading homepage				
Description: To test , whether user will get to the right homepage while clicking the url by searching from google				
Precondition: Have to search in google writing the full name of the organization				
Dependencies: None				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
# Go to Google search-bar # Search for the AIUB Computer Club # Click on the first link found withing the matched name	URL: https://aiubcc.org/	# Two Types 1.After clicking it will take to AIUB Computer Clubs homepage. 2. It will show error: page not found	URL: https://aiubcc.org/	Pass
Post Condition: The loading time should be minimum.				

7.2: Test Case 02

Project Name: Organization website	Test Designed by: Tahsinul Hoque
Test Case ID: O-2	Test Designed date: 20/4/2022
Test Priority (Low, Medium, High): High	Test Executed by: TBA (Two types : 1. Manual 2.Automated)
Module Name: contacts	Test Execution date: 20/4/2022
Test Title: executive contacts	
Description: To test, whether user can easily executives of the organization through website.	
Precondition: Have to go to organization's website then found the list of executives under people tab.	
Dependencies: None	

Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
# Go to AIUB Computer Clubs website # Under people tab go to 'Executive Committee' # Click on the photo of the executive you want to contact.	After clicking URL: https://www.linkedin.com/in/abrar-rafid-4a618a175	# Two Types 1.After clicking on the photo it will take to the executive's LinkedIn account 2. It will show error: page not found	URL: https://www.linkedin.com/in/abrar-rafid-4a618a175/	Pass
Post Condition: Updated LinkedIn profile should be linked of every executive.				

7.3: Test Case 03

Project Name: Organization website			Test Designed by: Tahsinul Hoque	
Test Case ID: O-3			Test Designed date: 20/4/2022	
Test Priority (Low, Medium, High): Medium			Test Executed by: TBA (Two types : 1. Manual 2.Automated)	
Module Name: org links			Test Execution date: 20/4/2022	
Test Title: linking Facebook page				
Description: To test, whether user can land on official Facebook page from website.				
Precondition: to go to organization's website and find the Facebook logo				
Dependencies: None				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
# Go to AIUB Computer Club's website # Scroll down to bottom # Click on the Facebook logo to land on ACC's official Facebook page.	URL: https://www.facebook.com/aiubcomputerclub	# Two Types 1.After clicking it will take to AIUB Computer Club's official Facebook page. 2. It will show error: site can't be reach	URL: https://www.facebook.com/aiubcomputerclub	Pass
Post Condition: The loading time should be minimum.				

7.4: Test Case 04

Project Name: Organization website			Test Designed by: Tahsinul Hoque	
Test Case ID: O-4			Test Designed date: 20/4/2022	
Test Priority (Low, Medium, High): Medium			Test Executed by: TBA (Two types : 1. Manual 2.Automated)	
Module Name: org links			Test Execution date: 20/4/2022	
Test Title: linking LinkedIn				
Description: To test, whether user can land on official LinkedIn page from website.				
Precondition: to go to organization's website and find the LinkedIn logo from bottom				
Dependencies: None				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
# Go to AIUB Computer Club's website # Scroll down to bottom # Click on the LinkedIn logo to land on ACC's official Facebook page.	URL: https://www.linkedin.com/company/13248569/admin/	# Two Types 1.After clicking it will take to AIUB Computer Club's official LinkedIn page. 2. It will show error: site can't be reach	URL: https://www.linkedin.com/company/13248569/admin/	Pass
Post Condition: The loading time should be minimum.				

7.5: Test Case 05

Project Name: Organization website	Test Designed by: Tahsinul Hoque
Test Case ID: O-5	Test Designed date: 20/4/2022
Test Priority (Low, Medium, High): Medium	Test Executed by: TBA (Two types : 1. Manual 2.Automated)
Module Name: org links	Test Execution date: 20/4/2022
Test Title: linking YouTube	
Description: To test, whether user can land on official YouTube channel from website.	

Precondition: to go to organization's website and find the YouTube logo from bottom				
Dependencies: None				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
# Go to AIUB Computer Club's website # Scroll down to bottom # Click on the YouTube logo to land on ACC's official YouTube channel.	URL: https://www.youtube.com/channel/UCBIfm4pC8AakHRjeFzV60EA	# Two Types 1.After clicking it will take to AIUB Computer Club's official LinkedIn page. 2. It will show error: site can't be reach	URL: https://www.youtube.com/channel/UCBIfm4pC8AakHRjeFzV60EA/	Pass
Post Condition: The loading time should be minimum.				

7.6: Test Case 06

Project Name: Organization website			Test Designed by: Tahsinul Hoque	
Test Case ID: O-6			Test Designed date: 21/4/2022	
Test Priority (Low, Medium, High): high			Test Executed by: TBA (Two types : 1. Manual 2.Automated)	
Module Name: event page			Test Execution date: 21/4/2022	
Test Title: events page landing				
Description: To test, whether user can land on other sub websites for different events.				
Precondition: to go to organization's website and go to events section.				
Dependencies: None				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
# Go to AIUB Computer Club's website # Scroll down and find 'Our Events' section in the home page # Click on the Event you want to go, in	URL: https://www.csfest.aiubcc.org/	# Two Types 1.After clicking it will take to AIUB Computer Club's official CS Fest webpage. 2. It will show error: site can't be reach	URL: https://www.csfest.aiubcc.org/	Pass

this case AIUB CS Fest				

Post Condition: The loading time should be minimum.

7.7: Test Case 07

Project Name: Organization website	Test Designed by: Tahsinul Hoque
Test Case ID: O-7	Test Designed date: 21/4/2022
Test Priority (Low, Medium, High): high	Test Executed by: TBA (Two types : 1. Manual 2.Automated)
Module Name: event page	Test Execution date: 21/4/2022
Test Title: events page landing	
Description: To test, whether user can land on other sub websites for different events.	
Precondition: to go to organization's website and go to events section.	
Dependencies: None	

Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
# Go to AIUB Computer Club's website # Scroll down and find 'Our Events' section in the home page # Click on the Event you want to go, in this case AIUB Cyber Gaming Fest	URL: https://cgf.aiubcc.org /	# Two Types 1.After clicking it will take to AIUB Computer Club's official Cyber Gaming Fest page. 2. It will show error: site can't be reach	URL: https://cgf.aiubcc.org/	Pass

Post Condition: The loading time should be minimum.

7.8: Test Case 08

Project Name: Organization website			Test Designed by: Tahsinul Hoque	
Test Case ID: O-7			Test Designed date: 21/4/2022	
Test Priority (Low, Medium, High): high			Test Executed by: TBA (Two types : 1. Manual 2.Automated)	
Module Name: event page			Test Execution date: 21/4/2022	
Test Title: events page landing				
Description: To test, whether user can land on other sub websites for different events.				
Precondition: to go to organization's website and go to events section.				
Dependencies: None				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
# Go to AIUB Computer Club's website # Scroll down and find 'Our Events' section in the home page # Click on the Event you want to go, in this case JARVIS	URL: https://jarvis.aiubcc.org/	# Two Types 1.After clicking it will take to AIUB Computer Club's official JARVIS's webpage. 2. It will show error: site can't be reach	URL: https://jarvis.aiubcc.org/	Pass
Post Condition: The loading time should be minimum.				

8. ITEM PASS/FAIL CRITERIA

The test process is executed in an organization website where different actions are tested. For example, one test was to if there is way to contact authorities from website, Now if the user can successfully find a way to contact the test can be taken as passed. Like this if the test action matches our expected action the test is taken as passed otherwise fail.

9. TEST DELIVERABLES

Test Deliverables are the artefacts which are given to the stakeholders of software project during the software development lifecycle. There are different test deliverables at every phase of the software development lifecycle.

- Acceptance test plan
- System/Integration test plan
- Unit test plans/turnover documentation
- Screen prototypes
- Report mock-ups
- Defect/Incident reports and summaries
- Test logs and turnover reports
- Test Environment (Hardware and Database are required)
- Test Cases
- Test Data Sets
- Test Strategy
- Test Defect Reports
- Test Results

10. STAFFING AND TRAINING NEEDS

In order to test our system feature and functionality and to make this system perfect we   need to assign a testing team. Then we will arrange a training session. In this training session we will give some instruction to testing team. We will train them about following:

- We will ask them to analyze about our system
- We will describe our system feature and functionality
- Our testing criteria
- Test item pass fail criteria according to our system future and functionality
- Acceptance criteria from user point of view
- All Stakeholder's expectations from our system
- What feature to test and what not
- Testing tool to use
- Training about automated testing

We have to train the testing team about all mentioned above to make a better understanding among them about our system.

11. RESPONSIBILITIES

	TM	PM	Dev Team	Test Team	Client
Acceptance test Documentation & Execution	X	X		X	X
System/Integration test Documentation & Exec.	X		X	X	
Unit test documentation & execution	X		X	X	
System Design Reviews	X	X	X	X	X
Detail Design Reviews	X	X	X	X	
Test procedures and rules	X	X	X	X	
Screen & Report prototype reviews			X	X	X
Change Control and regression testing	X	X	X	X	X

12. TESTING SCHEDULE

Time has been designated inside the venture arrange for the taking after testing exercises. The particular dates and times for each action are characterized within the extended arrange timeline. The people required for each process are detailed within the venture timeline and arrange as well.

Task Name	Duration	Start	Finish
Requirements Gathering	3 days	Mon 3/28/22	Wed 3/30/22
Test Plan	3 days	Thu 3/31/22	Mon 4/4/22
Manual Testing	2 days	Tue 4/5/22	Wed 4/6/22
Automated Testing	6 days	Thu 4/7/22	Thu 4/14/22
Integration	2 days	Fri 4/15/22	Mon 4/18/22
ReTest	2 days	Tue 4/19/22	Wed 4/20/22
Documentation	3 days	Thu 4/21/22	Mon 4/25/22

13. PLANNING RISKS AND CONTINGENCIES

If the test staffs are not available at the specified time frame, then the progression of the project might slow down and delay the launch date of the system. Should there be a shortage of test staff, the team lead may take that role with a representative from the stakeholder's side to perform the acceptance testing. Also, the testing software can unexpectedly crash or there could have been a problem or mistakes in set-up. The product will not be ready for delivery until all the objectives are met.

14. **APROVALS**

Project sponsor	
Development management	
EDI Project manager	
RS Test manager	
RS dev. Team management	
Reassigned sales	
Order Entry EDI Team manager	