**LAB : 1**

**Objective:**

Conduct a test suite for any two websites

1. website should be based on your SRS
2. Random click on any web site and find the error (functional, compatibility, database error etc.)

**Requirements:**

1. Windows PC (Windows 7/8/10) / Mac
2. Eclipse IDE
3. Selenium
4. Driver of Chrome or any other browser to use with selenium

**Procedure:**

1. **SRS of Website**

Here to keep things simple, complete SRS is not considered, but we are considering relevant parts of SRS document, which includes:

* Purpose/background of product,
* features of product,
* External Interface requirements,
* functional and non-functional requirements

Website URL : <https://acr-node.herokuapp.com/login>

|  |
| --- |
| **1.1 Background**  The idea of the project is to develop an Online ACR Portal. As the name specifies it is web portal developed to manage data of ACR Report of faculty members and generate a PDF document with entered data. It caters to all the requirements which can be done with the touch of a button- Specifically the ones that lead to the wastage of piles of papers. In this way, the data can be securely accessed and record-keeping shall be easy. The aim is to provide an easy to use, economically feasible solution that could cater to the problems faced by a faculty member. There have been innumerable problems in the manual system which can be overcome by its digitization. We propose a GUI interface for carrying out tasks which are being done manually. It is an attempt towards digitization and we believe that a small dedicated effort leads to a series of changes, thus creating a ripple effect.  **1.2 Problem Statement and its Necessity**  The major problems that motivated the solution are as follows:   1. Absence of a central portal where faculty of every department can register and fill there ACR. 2. Discrepancies while filing a physical report, lead to print form again and again. Hence, wastage of paper. 3. No option for efficient record maintenance. 4. Time Consumed in the overall process.   **Most importantly a lot of paper can be saved by switching over to this system.**  This wraps up the Problem statement and our aims and objectives. The aim is to provide an easy to use, economically feasible solution that could cater to the problems faced by the faculty.  **1.3 Feasibility- Technical and Non-Technical**  **TECHNICAL: -**  JavaScript supporting Devices as mobiles, tablets, desktops, laptops.  Internet connectivity is required for the system.  **SOCIAL: -**   * No such system exists in NIT Jalandhar. * It will reduce the paper work (and hence paper wastage) i.e. environment friendly. * It will support the digitization movement started by Honorable Prime Minister of India.   **ECONOMICAL: -**   * This project doesn’t require much cost in development. * Only requires cost for database management.   **SCOPE: -**   * The ACR portal is aimed at making ACR filing process in the hands of the faculty. * Since ACR needs to be filed annually and by all the faculties this portal will come to use every year.   **1.4 External Interface Requirements**  **User Interfaces: -**  The website should work and be tested against IE, Firefox and Google Chrome  **Hardware Interfaces**: -  There are no special hardware interface requirements  **Software Interfaces: -**  Software requirements of the system are very nominal and no other special requirement is there hence it is economically feasible. Also, Nodejs is open source and thus easily available free of cost.  **1.4 Requirements of Product**  **Functional Requirements: -**   * Intended user (faculty member) should be able to register with faculty id, email, his/her name and department name. * Intended user should be able to login, provided he/she has registered. * Intended user should be able to fill, delete and modify details. These details are to be designed according to standard format of ACR document. * Intended user should be able to view expected scores. * Intended user should be able to generate PDF out of details entered and generated PDF should be sent to registered email account.   **Non-Functional Requirements**: -   * Response time of website should be satisfactory. * Data in database should be highly available. * It should be accessible on any device with bare minimum requirements including JavaScript enable web browser and internet connection. * It should work on devices with different screen sizes. * Interface should be minimalistic and easy to use. * It should be compatible with any modern browser like IE, Edge, Firefox, Opera and Chrome |

1. **Checking Functional and non-functional requirements**

Functional Requirements:

|  |  |
| --- | --- |
| **Feature** | **Verdict (Pass/Fail)** |
| Register | Pass |
| Login | Pass |
| Fill, modify and edit details in forms | Pass |
| Expected Scores | Pass |
| Generate PDF | Pass |
| Send PDF to registered email | Pass |

Non-functional Requirements:

|  |  |
| --- | --- |
| **Feature** | **Verdict (Pass/Fail)** |
| Response Time | Pass |
| Availability of data | Pass |
| Accessibility of website | Pass |
| Ease of use | Pass |
| Compatibility with different screen sizes | Fail: minor bug in case of extra small screens like mobile phone with 4-inch screen |
| Minimal design | Pass |
| Browser Compatibility | Pass |

**Final Verdict: -**

* All the functional requirements are fulfilled.
* All non-functional requirements except compatibility for all type screen sizes are fulfilled. The issues come with extra small screen size devices, where links of nav bar are not visible. It is minor bug and can be easily with CSS media query.
* We can conclude that website is as per requirements mentioned in SRS document.

1. **Test suite for two websites using Selenium**
   1. Test suite to check login function of ACR portal

|  |
| --- |
| import org.openqa.selenium.By;  import org.openqa.selenium.WebDriver;  import org.openqa.selenium.WebElement;  import org.openqa.selenium.chrome.ChromeDriver;  public class AcrTestSuite {   public static void main(String[] *args*) throws InterruptedException {          System.setProperty("webdriver.chrome.driver", "C:\\Users\\arvindersingh\\Desktop\\Labs\\02.SoftwareTesting\\Resources\\chromedriver.exe");          WebDriver driver = new ChromeDriver();            driver.get("https://acr-node.herokuapp.com/login");          WebElement username=null, password = null, Login=null;            Thread.sleep(2000);          try {              username = driver.findElement(By.name("username"));              password = driver.findElement(By.name("password"));              Login = driver.findElement(  By.cssSelector("button.btn.btn-primary"));            } catch (Exception *e*) {               System.out.println("TEST CASE FAILED...");               System.out.println("Login fields not found on webpage");               driver.close();            }            username.sendKeys(“Uname”)          password.sendKeys(“Pass”);          Login.click();           Thread.sleep(2000);           try {              WebElement navBar =  driver.findElement(By.cssSelector("div.page-container"));              System.out.println("TEST CASE PASS..");              System.out.println("Login function tested Successfully");              driver.close();            } catch (Exception *e*) {                System.out.println("TEST CASE FAILED...");                driver.close();            }      }  } |

**Output:**

|  |
| --- |
|  |

**Verdict:**

Login functionality is working fine on ACR portal.

* 1. Test suite to check clock on nitj.ac.in

|  |
| --- |
| import java.util.List;  import org.openqa.selenium.By;  import org.openqa.selenium.WebDriver;  import org.openqa.selenium.WebElement;  import org.openqa.selenium.chrome.ChromeDriver;  public class NitjTestSuite {   public static void main(String[] *args*) throws InterruptedException {          // TODO Auto-generated method stub          System.setProperty("webdriver.chrome.driver", "C:\\Users\\arvindersingh\\Desktop\\Labs\\02.SoftwareTesting\\Resources\\chromedriver.exe");          WebDriver driver = new ChromeDriver();            driver.get("https://www.nitj.ac.in/");          Thread.sleep(2000);           try {              WebElement clock = driver.findElement(By.id("time"));              System.out.println("RESULT : TEST CASE PASS.. ");  System.out.println("Clock is present and working on website");              driver.close();            } catch (Exception *e*) {              System.out.println("RESULT : TEST CASE FAILED...”)  System.out.println("Clock is not loading on website");              driver.close();            }      }    } |

**Output:**

|  |
| --- |
|  |

**Verdict:**

Clock is loading properly on nitj.ac.in and working properly.