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Automating College Website using Selenium Webdriver in Eclipse

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Abstract: Nowadays testing has become most important to ensure better reliability, security and high performance. The subsequent research paper presents an outline regarding Selenium. The main purpose of this research paper is to understand automating of applications in Eclipse tool using Selenium Web driver by writing code to the every fields in an application.

Keywords: Testing, Selenium, Eclipse, Web driver.

I.INTRODUCTION

Software testing is a process of testing an application with the intension of finding defects and also to make sure that the software is not deviating from the requirement document. Software testing is divided into 2 types like manual testing and automation testing. Manual testing is nothing but testing the application without any automation tool. Some of the automation testing tools are Selenium, QTP, Worksoft, Appium and many more. This paper gives an overview of Selenium.

Selenium is a set of jar files where it can perform automation only to web applications on different browsers and platform. Selenium can be used in different programming language like python, java, C#. Selenium is categorized into various tools like Selenium Grid, Selenium RC, Selenium Webdriver, Selenium IDE.

Selenium is popular for the following reason:

- It is open-source automation tool
- Supports various operating systems like Windows, Linux, Solaris and for mobile application like Android, IOS. In various browsers like Google, Chrome, Firefox, Internet Explorer
- For application testing and generating report it uses testing framework like TestNG and for source code compilation it uses build automation tool like Maven

II.TECHNOLOGY USED

Eclipse: Eclipse is a free and open-source IDE (stands for Integrated Development Environment) which is mainly used for Java application development. It comprises workspace (where all projects will be stored) and extensible plug-in system for customizing the environment. The various development environments of eclipse include JDT (java development tool) for Java and Scala, CDT for C and C++, PDT for PHP.

III.METHODOLOGY

In this paper, we automated college website for various scenario (like Launching the Browser, Navigating to URL, Login, taking screenshots, Getting the URL and many more) using Selenium in Eclipse tool by writing code in Java.

```
1  package selenium1;
2
3  import java.io.File;
4  import java.io.IOException;
5  import java.util.concurrent.TimeUnit;
6
7  import org.apache.commons.io.FileUtils;
8  import org.openqa.selenium.By;
9  import org.openqa.selenium.JavascriptExecutor;
10 import org.openqa.selenium.OutputType;
11 import org.openqa.selenium.TakesScreenshot;
12 import org.openqa.selenium.WebDriver;
13 import org.openqa.selenium.firefox.FirefoxDriver;
```

Fig.1. Importing the libraries for coding

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```java
public class A {
    public static void main(String[] args) throws InterruptedException, IOException {
        System.setProperty("webdriver.gecko.driver", "C:\\geckodriver-v0.21.0-win64\\geckodriver.exe");
        WebDriver d = new FirefoxDriver();                                  // Launching a Firefox browser
        d.manage().timeouts().implicitlyWait(10, TimeUnit.SECONDS);         //synchronization using implicit wait
        d.get("http://webcampus.bmsce.in");                                 // Navigate to the page
        String title = d.getTitle();                                        // Reading the current title
        System.out.println(title);
        d.findElement(By.xpath("/html/body/div/div/div/div[2]/div/a[1]")).click();
        d.findElement(By.id("usn")).sendKeys("1BM19CN05");                  //writing a text in textbox
        d.findElement(By.id("password")).sendKeys("BMSCE6683*");            //writing a password in textbox
        d.findElement(By.xpath("/html/body/div/div/div/form/div/div/button")).click();  // code to click on button
        String url = d.getCurrentUrl();                                     // Reading the current URL
        System.out.println(url);
        // Screenshot code
        File srcfile = ((TakesScreenshot) d).getScreenshotAs(OutputType.FILE);
        File destfile = new File("D://Selenium.png");
        FileUtils.copyFile(srcfile, destfile);
        Thread.sleep(1000);
        d.findElement(By.xpath("/html/body/header/div[2]/ul/li[5]/a")).click();
        d.navigate().back();                                                //Automating a back button
        d.navigate().forward();                                             //Automating a forward button
        d.navigate().refresh();                                             //Automating a refresh button
        d.navigate().back();
        d.findElement(By.xpath("/html/body/header/div[2]/ul/li[3]/a")).click();
        JavascriptExecutor js = (JavascriptExecutor) d;                     // Scrolling a web page
        js.executeScript("scroll(0,100)");
        d.close();                                                          //closing the browser
    }
}
```

Fig.2. Java code for implementation

IV.**RESULTS**

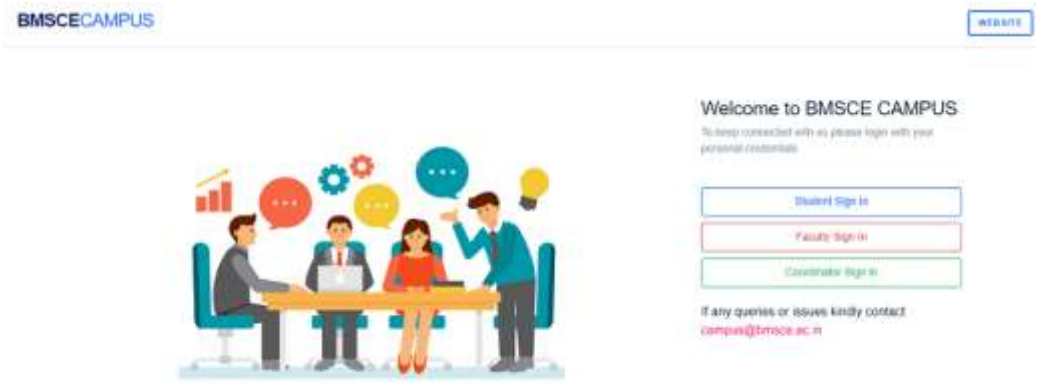

Fig.3. Selecting the Student Login

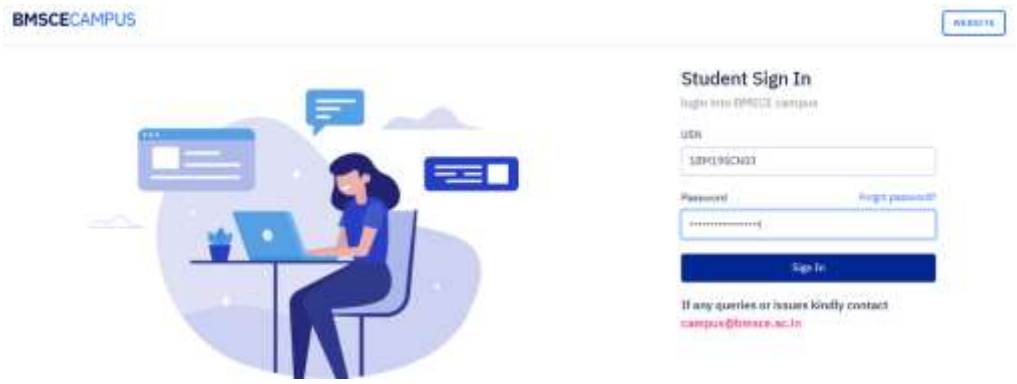

Fig.4. Student Login Page

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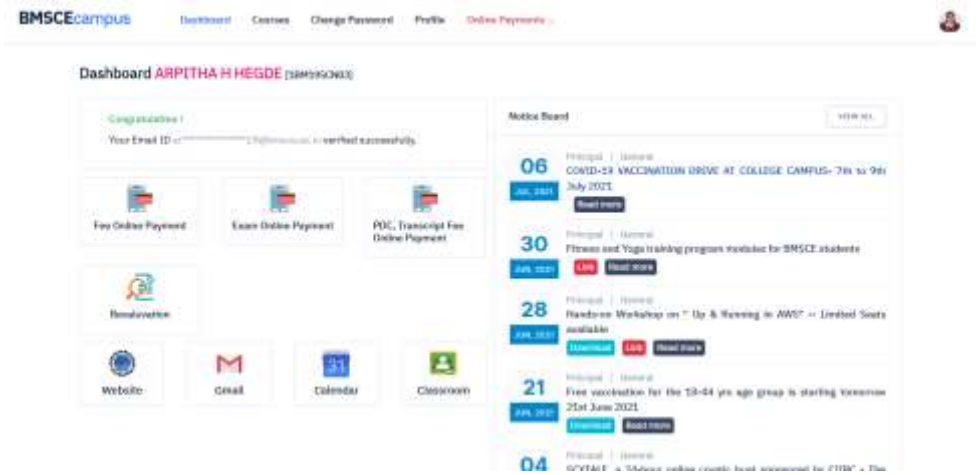

Fig.5. Dashboard Screenshot

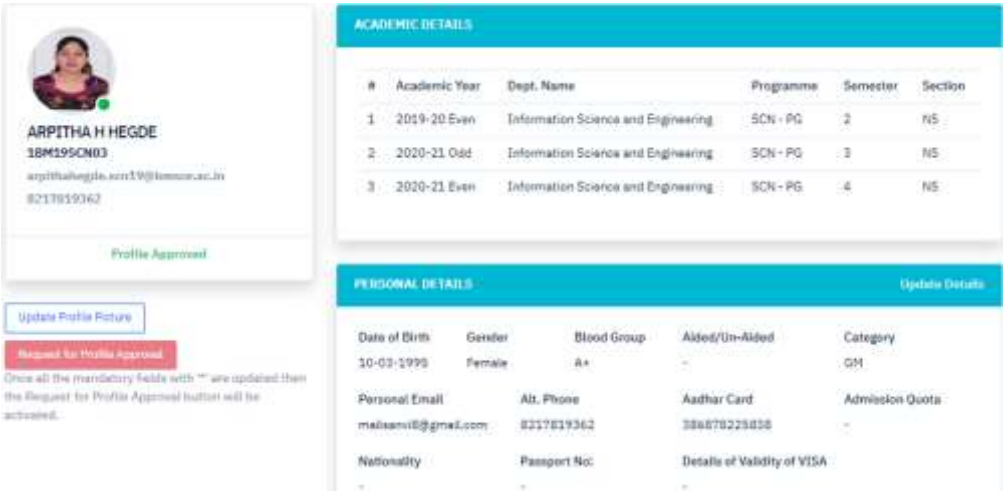

Fig.6. Profile of the student

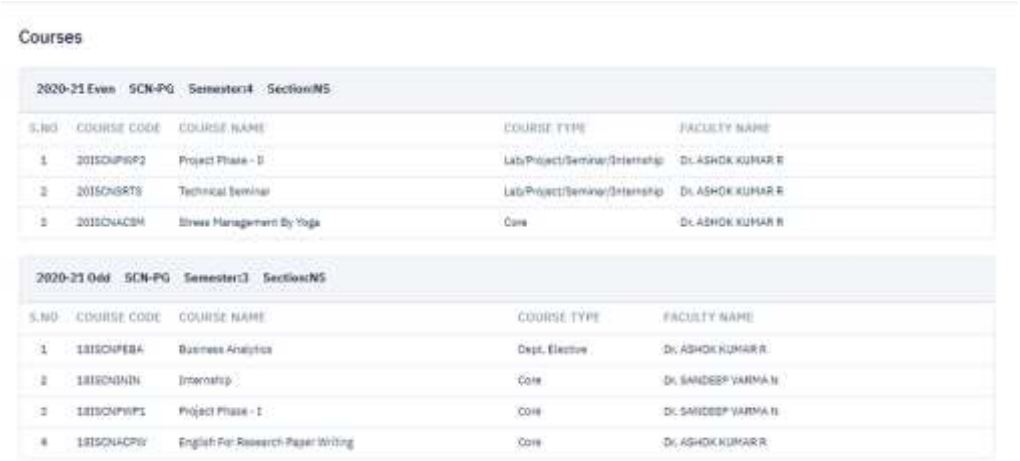

Fig.7. Courses taken by the student

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V.CONCLUSION

In this paper we initially discussed about software testing, its types. Then we explore various base papers and their implementation. Next, we analysed about Selenium, its advantages and discuss about the methodology of automating the application using eclipse tool. Finally, we discussed about the result.

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