Testing WordPress Using Selenium Tool

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Abstract— When we say test case it brings up the picture of a script/program/algorithm that tests a system for its excellence. In software companies the test cases are mostly written in natural language. These are mostly rules that a Quality analyst follows while testing a given scenario. Since we have to test the whole system again and again for its quality and perfection. Therefore we need automation testing more than the manual testing clearly to save our time and efforts. We usually define a technique to create automation test. The input for the technique is the steps written in any language and the output is the results after program calls without any interference of human. This paper includes an introduction of testing, testing types and automation test of wordpress using selenium automation test tool.

Keywords: Testing, Automation Testing, Wordpress, Selenium

Research Questions:- During working on thesis many questions were formulated on which the whole research was based.

- What is testing? What is need, importance of testing?
- What are the basic types of testing?
- Why automation testing is performed?
- Can automation testing be used for saving time if used to create a content writing tool?

All of the questions were understood and answered in the thesis. Glimpse of which is given in this research paper.

I. INTRODUCTION

A. Software testing:-

Software testing can be defined as a process of evaluating any kind of softwares to check whether they work as expected or not. If they contain any bugs making reports and then correcting the errors in order to make software 100% working. Testing ensures the quality of product. Software testing is done during software development life cycle. Otherwise there will be more cost associated in maintenance of software.

B. Basics of Software Testing:-

There are basically two main types of software testing. Black Box Testing and White Box Testing.

C. Black box Testing:-

Black box Testing can be described as that type of testing in which the structure, mechanism of system is ignored and the main focus is on the output related to the inputs provided to the system. Black box testing is also known as functional testing.

D. White Box Testing:-

White Box Testing can be described as that type of testing in which the structure, mechanism of system taken into account and considered well. White Box testing is also known as structural testing and glass box testing.

E. Types of testing

There are various types of testing. Some common types are

1. Unit Testing
2. Integration Testing
3. Functional Testing
4. System Testing
5. Stress Testing
6. Performance Testing
7. Usability Testing
8. Acceptance Testing
9. Regression Testing
10. Beta Testing

1) Unit Testing:-

Unit testing is the testing of smallest units that build up the modules/functions. These have existence under the class of white box testing. Unit testing is usually performed by the developer to check whether the implemented code is working properly or not. If the desired output is achieved then the purpose of unit testing is solved and the code is much qualitative. Unit testing is the most essential and necessary step of software testing process.

2) Integration Testing:-

Integration testing is testing in which smaller units/components are combined/integrated in order to produce larger unit and then testing it.

Software and hardware both components are tested to have a relation in this types of testing.

3) Functional Testing:-

Functional testing is that type of testing which is used to ensure that the functionality of the system is accurate and produces accurate results. Functional testing comes under the category of block box testing.

4) System Testing:-

System testing is the testing used to ensure that the system is working in every environment given different types of system configurations and platforms. It falls under the black box testing category.

F. Stress Testing:-

Stress Testing is used to check how our system is behaving under critical conditions. Testing is done neglecting all the limits that have been set for the system. Stress testing comes under Black Box Testing.

G. Performance Testing:-

Performance testing as the name defines is used to check the overall performance of the system and to check that the results have been achieved within time while meeting all the requirements. Performance testing is under Black Box Testing.

H. Usability Testing:-

Usability testing is done from the viewpoint of client, for e.g. to check if system is user friendly, UI is easy to understand as well as learn and it does not provide wrong impact , Design is agreeable or not.

I. Acceptance Testing:-

Acceptance testing is usually done by the customer to make sure that the software meets all the requirements and works as likely. It comes under black box testing category.

J. Regression Testing:-

Regression testing is done after any changes in the system, module or any other units to make sure that the system is working fine after the modifications and is not affection other modules. It comes under black box category.

K. Beta Testing:-

Beta testing also done by end users but these end users are basically a team excluding the development team. It is done mostly to release a premature version of software known as beta version. Main goal of beta testing is to check if there is any kind of unexpected errors. It also comes under black box category.
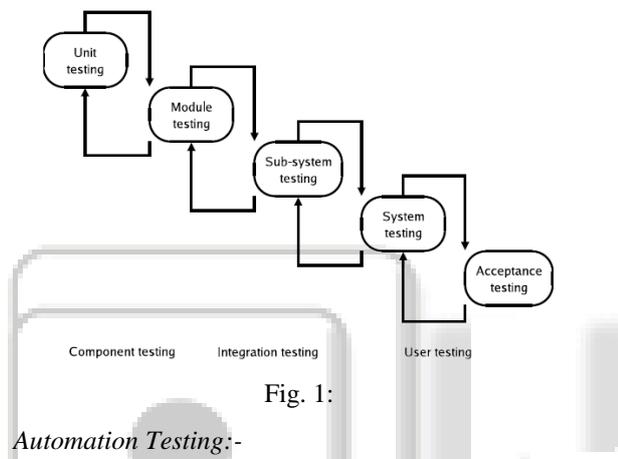

Fig. 1:

L. Automation Testing:-

Automation testing is done with the objective of finding errors in the code. In this process a software or software component is verified by automating it using code snippets. After completion of automation process the differences are found out between the expected and manual results.

M. Introduction to Selenium:-

Selenium is built of different software tools each with a unique and different approach to support automation testing. Quality analysts use Selenium while focusing on one or more tools to meet project's requirements. If you learn well then you can use it in different types of enhancements like to efficiently test the system as well as use automation to create a content writing tool which can save a large amount of time. Selenium operations are highly flexible. Selenium's best key feature is that one can execute the test on any browser platforms using it as it supports all of them.
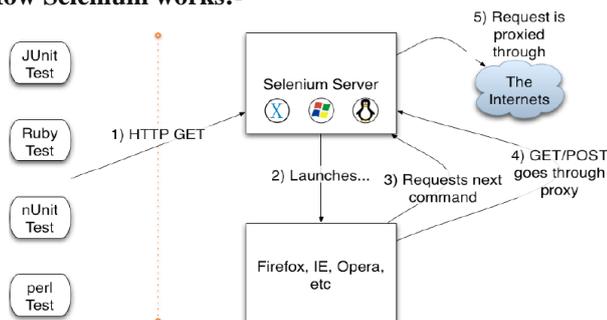
How Selenium works:-

Fig. 2:

N. Introduction about work:-

I have used selenium tool for creating test cases. I have tested and automated wordpress backend. This can be useful when we want to test something again and again and we can use this code to automate the content management. Content management using selenium can be very fast, accurate and error free within very less time. Thus studying and implementing this test case is very useful for future.

O. Code:-

```
import org.openqa.selenium.By;
import org.openqa.selenium.Keys;
import org.openqa.selenium.WebDriver;
import org.openqa.selenium.chrome.ChromeDriver;
import org.openqa.selenium.firefox.FirefoxDriver;
import org.openqa.selenium.ie.InternetExplorerDriver;
public class Wordpress_backend {
/**
* @param args
* @throws InterruptedException
*/
public static void main(String[] args) throws
InterruptedException {
Xls_Reader          xr=new          Xls_Reader
("F:\\Selenium\\Wordpress\\TestData\\TC.xlsx");
WebDriver driver=null;
 String wptcname,vRun,vexpected,a = null;
for(int i=2;i<=xr.getRowCount("Sheet1");i++)
{
  vRun=xr.getCellData("Sheet1", "RUN", i);
  if (vRun.equalsIgnoreCase("ON"))
 {
   wptcname=xr.getCellData("Sheet1", "TCName", i);
//        System.out.println(wptcname);
vexpected=xr.getCellData("Sheet1", "Expected", i).trim();
//        System.out.println(vexpected);
if (xr.getCellData("Sheet1", "Browser", i).equals("FF"))
{
  driver=new FirefoxDriver();
  driver.get("http://harrywalia4u.com/wp/wp-admin/");
  driver.manage().window().maximize();
}
else if(xr.getCellData("Sheet1", "Browser", i).equals("IE"))
{
  System.setProperty("webdriver.ie.driver",
  "C:\\Browser_Driver\\IEDriverServer.exe");      //this we
  can get from selenium.org
  driver=new InternetExplorerDriver();
  driver.get("http://harrywalia4u.com/wp/wp-admin/");
 driver.manage().window().maximize();
}
else          if(xr.getCellData("Sheet1",          "Browser",
i).equals("Chrome"))
{
System.setProperty("webdriver.chrome.driver","C:\\Browse
r_Driver\\chromedriver.exe");
 driver=new ChromeDriver();
 driver.get("http://harrywalia4u.com/wp/wp-admin/");
driver.manage().window().maximize();
}
switch(wptcname)                  {
case "WP_launchApp_TC001":
```

```
        driver.findElement(By.id("user_login")).sendKeys(
"admin");
        driver.findElement(By.id("user_pass")).sendKeys("
wazabe123");    driver.findElement(By.id("wp-
submit")).click();
        Thread.sleep(5000L);
      String wptitle;
      wptitle=driver.getTitle().trim();
      if (wptitle.equalsIgnoreCase(vexpected))
      {
       xr.setCellData("Sheet1",        "Actual",        i,
driver.getTitle());
      xr.setCellData("Sheet1", "Status", i, "Pass");
      }
      else
      {
      xr.setCellData("Sheet1",    "Actual",    i,    "Not
matched"+" "+driver.getTitle());
      xr.setCellData("Sheet1", "Status", i, "Fail");
      }
      break;
      case "WP_ADD_Category_TC002":
      driver.findElement(By.linkText("Pots")).click();
      Thread.sleep(2000L);
      river.findElement(By.linkText("Categories")).click
();
      driver.findElement(By.id("tag-
name")).sendKeys("Type of testing");
      driver.findElement(By.id("parent")).sendKeys("No
ne");
      driver.findElement(By.id("parent")).sendKeys(Key
s.PAGE_UP);
      Thread.sleep(5000L);
      driver.findElement(By.id("submit")).click();
      Thread.sleep(5000L);
      if
(driver.findElement(By.xpath("//td[contains(text(),'type-of-
testing')]")).isDisplayed())
      {
      xr.setCellData("Sheet1","Actual",i,driver.findElem
ent(By.xpath("//td[contains(text(),'type-of-
testing')]")).getText());
      xr.setCellData("Sheet1", "Status", i, "Pass");
      }
      else
      {
          xr.setCellData("Sheet1",    "Status",    i,
"Fail");
      }
      break;
      case "WP_ADD_Post_TC003":
      driver.findElement(By.linkText("Posts")).click();
      Thread.sleep(2000L);
      driver.findElement(By.linkText("All
Posts")).click();
      driver.findElement(By.linkText("Add
New")).click();
      driver.findElement(By.id("title")).sendKeys("What
is testing ?");
      driver.findElement(By.id("content-html")).click();
      driver.findElement(By.id("content")).sendKeys("S
      oftware testing is an important part of the software
```

```
development    process.    In    normal    software
development there are four important steps, also
referred to, in short, as the PDCA (Planning,
Development (do), Testing (Check), Analyze
(Act)) cycle.");
      Thread.sleep(5000L);
      driver.findElement(By.id("publish")).click();
      Thread.sleep(3000L);
      if        (driver.findElement(By.linkText("View
post")).isDisplayed())
      {
      //System.out.println("pass2");
      xr.setCellData("Sheet1",        "Actual",        i,
driver.getTitle());
      xr.setCellData("Sheet1", "Status", i, "Pass");
      }
      else
      {
      xr.setCellData("Sheet1", "Status", i, "Fail");
      }
      break;
      case "WP_View_Post_TC004":
      Thread.sleep(2000L);
      driver.findElement(By.linkText("View
post")).click();
      if
(driver.findElement(By.linkText("Website")).isDisplayed())
      {
      xr.setCellData("Sheet1", "Status", i, "Pass");
      xr.setCellData("Sheet1",        "Actual",        i,
driver.getTitle());
      Thread.sleep(7000L);
      driver.navigate().back();
      }
      else
      {
      xr.setCellData("Sheet1", "Status", i, "Fail");
      Thread.sleep(7000L);
      driver.navigate().back();
      }
      break;
      case "WP_ADD_Page_TC005":
      driver.findElement(By.linkText("Pages")).click();
      Thread.sleep(2000L);
      //driver.findElement(By.linkText("Add
New")).click();
      driver.findElement(By.xpath("//*[@id='wpbody-
content']/div[3]/h2/a")).click();
      driver.findElement(By.id("title-prompt-
text")).sendKeys("About Us");
      driver.findElement(By.id("content")).sendKeys("L
      orem Ipsum is simply dummy text of the printing
      and typesetting industry. Lorem Ipsum has been the
      industry's standard dummy text ever since the
      1500s, when an unknown printer took a galley of
      type and scrambled it to make a type specimen
      book.");
      Thread.sleep(2000L);
      driver.findElement(By.id("publish")).click();
      if        (driver.findElement(By.linkText("View
page")).isDisplayed())
      {
```

```
                xr.setCellData("Sheet1",    "Status",    i,
"Pass");
                xr.setCellData("Sheet1",    "Actual",    i,
driver.getTitle());
        }
        else
        {
                xr.setCellData("Sheet1",    "Status",    i,
"Fail");
        }
        break;
        case "WP_View_Page_TC006":
        Thread.sleep(4000L);
        if(driver.findElement(By.linkText("View
page")).isDisplayed())
        {
                xr.setCellData("Sheet1",    "Status",    i,
"Pass");
                xr.setCellData("Sheet1",    "Actual",    i,
driver.getTitle());
                Thread.sleep(7000L);
                driver.navigate().back();
                Thread.sleep(2000L);
driver.findElement(By.linkText("Dashboard")).click();
        }
        else
        {
                xr.setCellData("Sheet1",    "Status",    i,
"Fail");
                Thread.sleep(7000L);
                driver.navigate().back();
                Thread.sleep(2000L);
        driver.findElement(By.linkText("Dashboard")).clic
k()
        }
        break;
        } } }
        driver.quit();
                }
        }
```
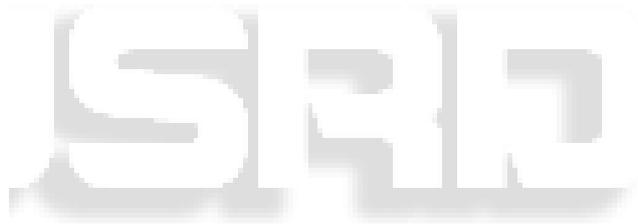
P. Sheet beore result:-

	A	B	C	D	E	F
1	RUN	TCName	Status	Expected	Actual	Browser
2	ON	WP_launchApp_TC001	Pass	Dashboard ‹ Website — WordPress	Dashboard ‹ Website — WordPress	FF
3	ON	WP_ADD_Category_TC002	Pass	type-of-testing	type-of-testing	
4	ON	WP_ADD_Post_TC003	Pass	Edit Post ‹ Website — WordPress	Edit Post ‹ Website — WordPress	
5	ON	WP_View_Post_TC004	Pass	What is testing ?	Website	What is testing ?	Website	
6	ON	WP_ADD_Page_TC005	Pass	Edit Page ‹ Website — WordPress	Edit Page ‹ Website — WordPress	
7	ON	WP_View_Page_TC006	Pass	About Us	Website	About Us	Website	
8						
9						
10						
11						
12						
13						
14						

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