Sumeet Haldipur2019130018
Batch A
TE COMPS

EXPERIMENT 10

Aim:

To test the web application using open-source testing tools like Selenium, Test runner and Junit.

Requirements:

Python, Django, Web Browser(Chrome), Selenium Web Driver

Problem Statement:

Olympic management system is an app which targets to provide various sports event organizers a platform to promote their events and also to give the general users/participants information about the sports events in which they're interested

Theory:

1) **Web Testing:**
   Web Testing, or website testing is checking your web application or website for potential bugs before its made live and is accessible to general public. Web Testing checks for functionality, usability, security, compatibility, performance of the web application or website. During this stage issues such as that of web application security, the functioning of the site, its access to handicapped as well as regular users and its ability to handle traffic is checked.

2) **Selenium:**
   Selenium is a free (open-source) automated testing framework used to validate web applications across different browsers and platforms. You can use multiple programming languages like Java, C#, Python etc to create Selenium Test Scripts. Testing done using the Selenium testing tool is usually referred to as Selenium Testing. Selenium Software is not just a single tool but a suite of software, each piece catering to different Selenium QA testing needs of an organization. Here is the list of tools:
   - Selenium Integrated Development Environment (IDE)
   - Selenium Remote Control (RC)
   - WebDriver
   - Selenium Grid

3) **Selenium WebDriver:**
The WebDriver proves itself to be better than both Selenium IDE and Selenium RC in many aspects. It implements a more modern and stable approach in automating the browser's actions. WebDriver, unlike Selenium RC, does not rely on JavaScript for Selenium Automation Testing. It controls the browser by directly communicating with it. The supported languages are the same as those in Selenium RC.

- Java
- C#
- PHP
- Python
- Perl
- Ruby

Function to Test Amazon Links:

```
class LoginFormTest(LiveServerTestCase):

  def testform(self):
    driver = webdriver.Chrome('C:/Users/Abhishek/Documents/ITLab/Exp10/chromedriver')
    #Choose your url to visit
    driver.get('http://127.0.0.1:8000/events/events')
    driver.find_element_by_link_text("Login").click()
    username = driver.find_element_by_id("id_username")
    password = driver.find_element_by_id("id_password")
    username.send_keys("abhishekc7")
    password.send_keys("password")
    driver.find_element_by_xpath('//input[@type="submit" and @value="Login" and @class=
    assert 'Logout' in driver.page_source
```

Function to Test Gallery Images:

```
class SearchTest(LiveServerTestCase):

  def testsearchevent(self):
    driver = webdriver.Chrome('C:/Users/Abhishek/Documents/ITLab/Exp10/chromedriver')

    driver.get('http://127.0.0.1:8000/events/events')
    searchbar = driver.find_element_by_name("search")
    searchbar.send_keys("Hockey")
    driver.find_element_by_xpath('//button[@type="submit"]').click()

    assert 'Hockey' in driver.page_source
    # assert 'Footabll' in driver.page_source
```

Function to Test YouTube Links:

```
class CommentTest(LiveServerTestCase):

  def testcomment(self):
    driver = webdriver.Chrome('C:/Users/Abhishek/Documents/ITLab/Exp10/chromedriver')

    driver.get('http://127.0.0.1:8000/events/events')
    driver.find_element_by_link_text("Football").click()

    assert 'Football' in driver.page_source
    assert 'santagio' in driver.page_source
    assert 'Athlete List' in driver.page_source
    assert 'Comments' in driver.page_source

    driver.find_element_by_link_text("All events").click()
```

Output:

```
C:\Users\Abhishek\Documents\dj4e\Project\DBMS\olympics>python manage.py test
Creating test database for alias 'default'...
System check identified no issues (0 silenced).

DevTools listening on ws://127.0.0.1:62421/devtools/browser/0e3be3e2-9430-401c-9291-69d445f6c3b3
.
DevTools listening on ws://127.0.0.1:62453/devtools/browser/d8b53af9-7221-4564-af12-d3e3999b0ee7
[14976:20840:1207/224421.111:ERROR:device_event_log_impl.cc(214)] [22:44:21.111] USB: usb_device_handle_win.cc:1048 Failed to read descriptor from node connection: A device
 attached to the system is not functioning. (0x1F)
[14976:20840:1207/224421.133:ERROR:device_event_log_impl.cc(214)] [22:44:21.133] USB: usb_device_handle_win.cc:1048 Failed to read descriptor from node connection: A device
 attached to the system is not functioning. (0x1F)
[14976:20840:1207/224421.136:ERROR:device_event_log_impl.cc(214)] [22:44:21.136] USB: usb_device_handle_win.cc:1048 Failed to read descriptor from node connection: A device
 attached to the system is not functioning. (0x1F)
[14976:20536:1207/224421.158:ERROR:chrome_browser_main_extra_parts_metrics.cc(226)] crbug.com/1216328: Checking Bluetooth availability started. Please report if there is no
 report that this ends.
[14976:20536:1207/224421.161:ERROR:chrome_browser_main_extra_parts_metrics.cc(229)] crbug.com/1216328: Checking Bluetooth availability ended.
[14976:20536:1207/224421.174:ERROR:chrome_browser_main_extra_parts_metrics.cc(232)] crbug.com/1216328: Checking default browser status started. Please report if there is no
 report that this ends.
[14976:20536:1207/224421.415:ERROR:chrome_browser_main_extra_parts_metrics.cc(236)] crbug.com/1216328: Checking default browser status ended.
.
DevTools listening on ws://127.0.0.1:62491/devtools/browser/fc10aa88-669c-4cc1-8598-eee1582526c6
.
----------------------------------------------------------------------
Ran 3 tests in 21.360s

OK
Destroying test database for alias 'default'...

C:\Users\Abhishek\Documents\dj4e\Project\DBMS\olympics>
```

Conclusion:

From the above experiment, I have learned the following:

- What is Testing in Web Applications.
- Using Selenium WebDriver to test the given problem statement.

References:

1. https://www.guru99.com/introduction-to-selenium.html
2. https://www.guru99.com/web-application-testing.html
3. https://www.selenium.dev/documentation/webdriver/