

SANAE BEER.EX 2021

Gjore Zaharchev

Seavus. Skopje, Macedonia

Effective Test Automation using a Pattern Object Model

Gjore Zaharchev

- ✓ Quality Assurance Line Manager at Seavus Group
- ✓ Software Testing Consultant
- ✓ 14+ Years hands on experience
- ✓ Teach Software Testing
- ✓ Conference and Testing Meetup's Speaker
- ✓ Test Automation and Agile Testing Evangelist



Agenda

- ☑ Challenges!
- ☑ Known Design Patterns!
- ☑ Pattern Object Model!
- ☑ Similar Solutions, Summary And Recommendations!

CHALLENGES!



You are fired!!

PEOPLE CHALLENGES

- ☑ People don't know programming!
- ☑ People don't have time to learn programming!
- ☑ People don't have technical skills!
- ☑ Clients do not allow less experienced people to work on automation.

TOOLS CHALLENGES

- ✓ Human Readable Tests
- ✓ Easy Knowledge Transfer
- ✓ Troubleshooting Easiness
- ✓ Boost Test Reliability
- ✓ Accelerate Test Execution
- ✓ Extend the Framework to Fit Your Needs

DESIGN PATTERNS!

COMMON DESIGN PATTERNS!

- ☑ Page Object Model
- ☑ Page Factory

PAGE OBJECT MODEL

- ✓ Code Reuse
- ✓ Maintainability
- ✓ Readability

Page Factory

- ✓ Improved Code
- ✓ Shorter Code

Case 1

```
public void page_object_click() {  
    driver.findElement(By.xpath("//xpath")).click();  
}
```

Case 2

```
public void page_object() {  
    WebElement element;  
    element = driver.findElement(By.xpath("//xpath"));  
    element.click();  
}
```

Case 3

```
WebElement element;  
WebElement element2;  
public void page_object() {  
    element = driver.findElement(By.xpath("//xpath"));  
    element.click();  
}  
public void page_object2() {  
    element2.findElement(By.xpath("//xpath")).click();  
}
```

Case 4

```
public void page_object() {  
    WebDriverWait wait = new WebDriverWait(driver, timeOutInSeconds: 20);  
    wait.until(ExpectedConditions.visibilityOfElementLocated(By.xpath("//xpath/element"))).click();  
}
```

Case 5

```
public void page_object() {
    WebElement element;
    WebDriverWait wait = new WebDriverWait(driver, timeoutInSeconds: 20);
    element = wait.until(ExpectedConditions.visibilityOfElementLocated(By.xpath("//xpath/element")));
    element.click();
}

public void page_object2() {
    WebElement element;
    WebDriverWait wait = new WebDriverWait(driver, timeoutInSeconds: 20);
    wait.until(ExpectedConditions.visibilityOfElementLocated(By.xpath("//xpath/element")));
    element = driver.findElement(By.xpath("//xpath"));
    element.click();
}
```


Case 6

```
public void login(){
    WebDriverWait wait = new WebDriverWait(driver, timeoutInSeconds: 20);
    wait.until(ExpectedConditions.visibilityOfElementLocated(By.id("username"))) .sendKeys (...charSequences: "test.user");
    driver.findElement(By.id("password")) .sendKeys (...charSequences: "P@$$w0rd");
}
```

Case 7

```
WebDriverWait wait = new WebDriverWait(driver, timeoutInSeconds: 20);
public void register() {
    try {
        Thread.sleep( millis: 5000 );
    } catch (Exception e) {
        System.out.println(e);
    }
    wait.until(ExpectedConditions.visibilityOfElementLocated(By.id("email"))).
        sendKeys( ...charSequences: "test.user@gmail.com" );
    try {
        Thread.sleep( millis: 2000 );
    } catch (Exception e) {
        System.out.println(e);
    }
    driver.findElement(By.id("password")).sendKeys( ...charSequences: "P@$$w0rd" );
    try {
        Thread.sleep( millis: 1000 );
    } catch (Exception e) {
        System.out.println(e);
    }
}
```

PATTERN OBJECT MODEL!























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ELEMENTS AND ACTIONS

- ✓ Driver/Browsers - Initialize
- ✓ Buttons & Links – Click
- ✓ Input Fields – Type Text
- ✓ Alerts – Do something with alerts
- ✓ Dropdowns/Combobox – Select
- ✓ Texts – Retrieve Text/Attribute Value
- ✓ Property files, Excel files, System variables – Read

- ▼  elements
 -  Alerts
 -  Button
 -  Dropdown
 -  Files
 -  Gestures
 -  Input
 -  Key
 -  Misc
 -   package-info.java

- ▼  actions
 -  Database
 -  DataSources
 -  Extract
 -  Navigate
 -  Validate
 -  Wait

```
/**...*/
```

```
public WebElement getElement(final By by) {  
    try {  
        return waitElement.until(ExpectedConditions.visibilityOfElementLocated(by));  
    } catch (NoSuchElementException e) {  
        e.printStackTrace();  
        return null;  
    }  
}
```

```
/**...*/
```

```
public List<WebElement> getAllElements(final By by) {  
    try {  
        return waitElement.until(ExpectedConditions.visibilityOfAllElementsLocatedBy((by)));  
    } catch (NoSuchElementException e) {  
        e.printStackTrace();  
        return null;  
    }  
}
```



```

public class TestCon extends Elements {

    By username = By.id("username");
    By password = By.id("password");
    By loginBtn = By.id("loginBtn");
    By loginMsg = By.id("loginMsg");

    @BeforeMethod
    public void setup() {
        navigate.to($ { environmentVariableName: "URL" });
        browser.maximize();
    }

    @Test
    private void seetest() {
        input.type(username, value: "gjore");
        input.type(password, value: "MyP@$$w0rd");
        button.click(loginBtn);
        assertThat(extract.elementValue(loginMsg)).isEqualTo("Login Successfull!");
    }

    @AfterMethod
    public void tear_down() { browser.close(); }

}

```

SIMILAR SOLUTIONS, SUMMARY AND RECOMMENDATIONS!

Contact Me

- ✓ Gjore.Zaharchev@Seavus.com
- ✓ <https://gjorezaharchev.blogspot.com/>
- ✓ <https://github.com/gjorezaharchev>