Intro to automation testing

About me

- My name: Cosmin Ciocan

- Test Lead with over a decade of experience in software testing

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evozon

Today's agenda

Intro to Automation Testing

Demo

Intro to Performance Testing

Demo

AUTOMATION TESTING

In software **testing, test automation** is the use of special software (separate from the software being **tested**) to control the execution of **tests** and the comparison of actual outcomes with predicted outcomes.

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AUTOMATION TESTING - WHY

Automation testing is cheaper

Automation testing is faster

Automation testing is reliable

Automation testing reduces human and technical risks

Quick feedback during development

Reduces the need for manual testing - reduces testing resources

AUTOMATION TESTING - WHEN

Projects with long lifespan

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Start early

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Experienced and technical testers

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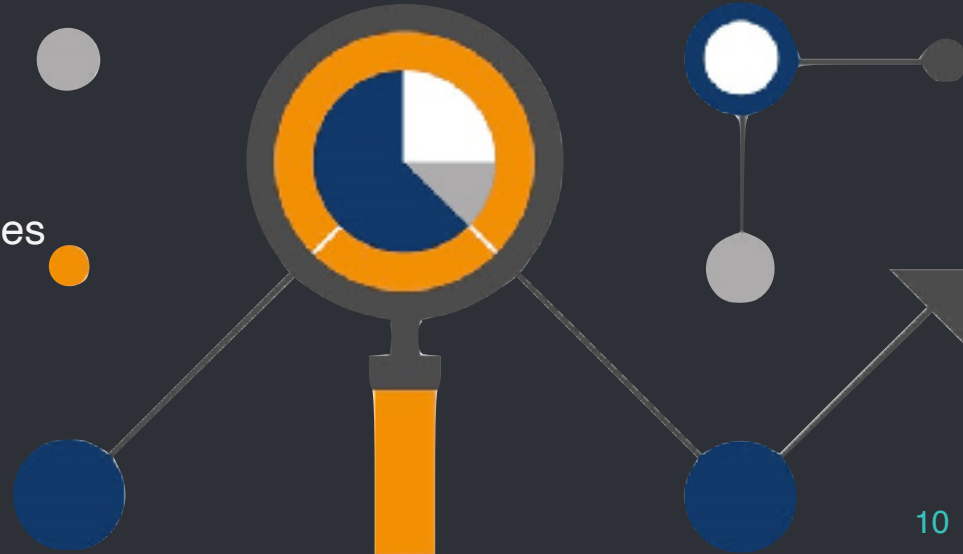Experienced and technical testers

Frequent regression testing

AUTOMATION TESTING - WHAT and HOW

Automation testing is a tool which a tester can use to help him.

Depending on the application, the strategy would be to start with:

- Core application features

- Smoke tests

- Regression tests

- Tests you need to run multiple times

AUTOMATION TESTING - WHEN NOT

Projects with short lifespan

Inexperienced testers

Unstable design

Insufficient time/resources

ONE DOES NOT SIMPLY

AUTOMATE ALL OF THE APPLICATION

AUTOMATION TESTING - WHAT NOT
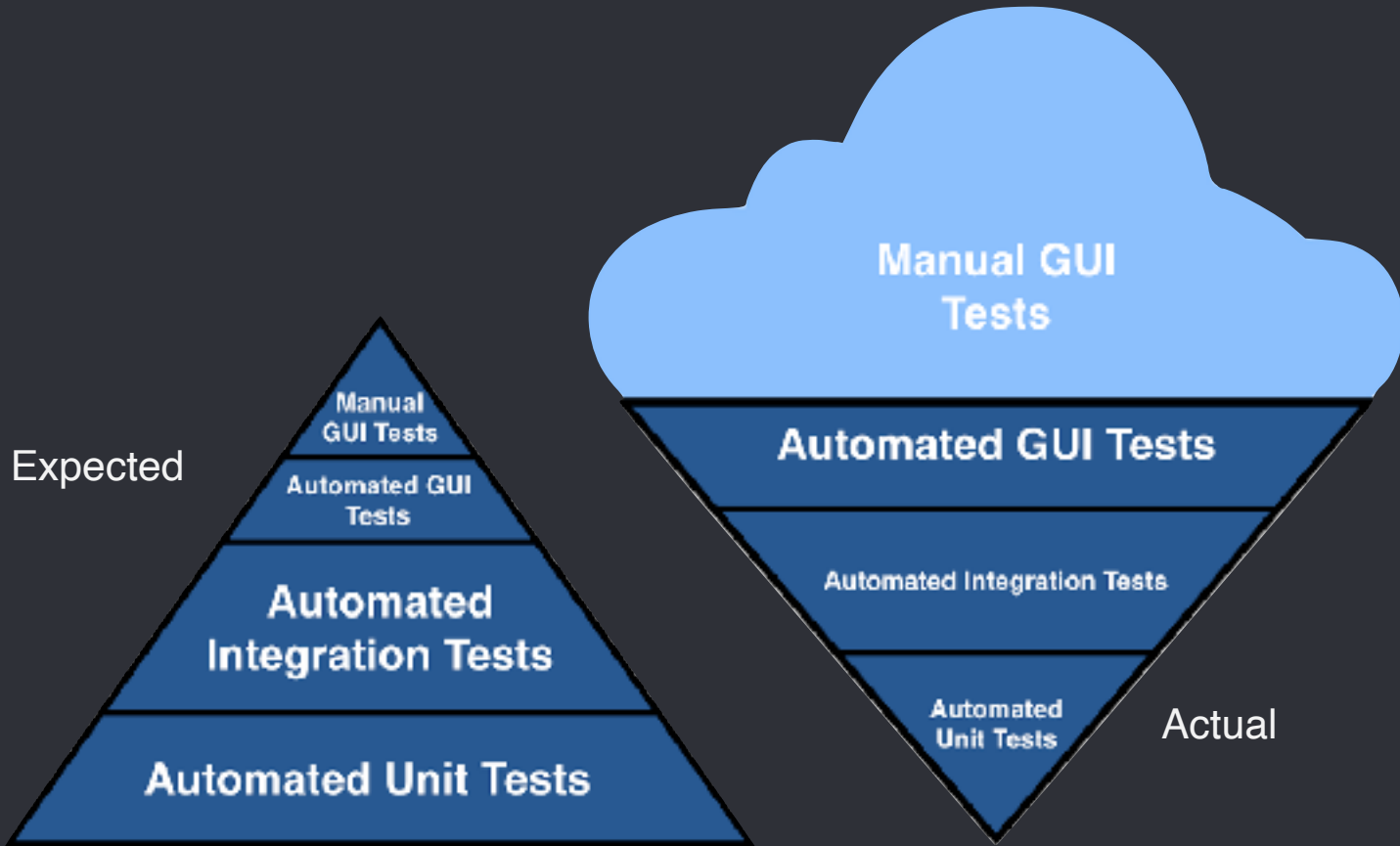
Don't automate everything

Don't automate tests that are easier to do manually

Don't automate areas that will change

Don't automate design

AUTOMATION TESTING - THE PYRAMID OF TESTING

Expected

Manual GUI Tests

Automated GUI Tests

Automated Integration Tests

Automated Unit Tests

Manual GUI Tests

Automated GUI Tests

Automated Integration Tests

Automated Unit Tests

Actual

AUTOMATION TESTING - HOW

Automation is more than a record and play tool

- Automation needs a framework

- Good automation needs code review and refactoring

- Automation needs maintenance

- Automation is more than test execution

AUTOMATION TESTING - WHAT TO USE

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In order to start writing tests, we need:

- Programming language

- Selenum WebDriver

- Browser

AUTOMATION TESTING - Selenium WebDriver

WebDriver is a tool for automating web application testing, and in particular to verify that they work as expected.

Creating a WebDriver object - opening a browser:

```
System.setProperty("webdriver.chrome.driver","C:/drivers/chromedriver.exe");
WebDriver driver = new ChromeDriver();
```

```
System.setProperty("webdriver.firefox.driver","C:/drivers/geckodriver.exe");
WebDriver driver = new FirefoxDriver();
```

```
System.setProperty("webdriver.ie.driver","C:/drivers/
internetexplorerdriver.exe");
WebDriver driver = new IeDriver();
```

AUTOMATION TESTING - WebDriver methods

Manipulating the **WebDriver** object:

```
WebDriver driver = new ChromeDriver();
```

```
driver.get(String url)
```
   - Navigates to URL

```
driver.findElement(By Selector)
```
   - Returns element

```
driver.findElements(By Selector)
```
   - Returns a list of elements

```
driver.getTitle()
```
   - Returns the title of the page as String

```
driver.manage().window().maximize()
```
   - Maximizes the window

```
driver.close()
```
   - Closes browser window

AUTOMATION TESTING - WebDriver methods

Manipulating the **WebElement** object:

```
WebElement element = driver.findElement(By Selector)
```

`element.click()` - Clicks on the element

`element.sendKeys(String text)` - Sends text to element

`element.clear()` - Clears text from element

`element.getText()` - Returns the text from the element

`element.isDisplayed()` - Returns TRUE or FALSE if element is displayed

Demo project on GitHiub

https://github.com/cosminevo/TrelloDemoApp

- Read the README.md file
- In order to run the tests you need to have an account, and generate the KEY and TOKEN for that user

Thank you!