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## AGENDA

- Who is your selenium instructor?
- Set Up?
- What is instructor's expectation from the class?
- What are Common Automation Tools?
- What is Selenium?
- Why Selenium?
- Advantages and disadvantages of Selenium?
- Creating First Selenium Project, Package, Class.

## What is instructor's expectation from the class?

- Engagement is everything!!!
- Positivism! Negativity kills creativity.
- Communication!
- Motivation!
- Peer learning!
- Research your questions first! Don't be lazy!
- Google will be your best friend at work! So get used to it!

## What are your expectation from selenium class?

Experience from work environment

To know how to test every single page.

Be nice when we ask question, even easy one.

# What is Software Testing?

- It is a process of checking if **EXPECTED RESULT** equals **ACTUAL RESULT**.
  - If Expected result = Actual result, then PASS
  - If Expected result !=Actual result, then FAIL.
- Be Positive and **Negative(negativity works in testing!)**
- Testing is done to meet the customer/business/client needs.
- To test an application,there will be certain **user stories** or **acceptance criterias**.

## Why testing is important?

- We need testing to have BUG/DEFECT FREE applications.
- Whenever software is being created, testing is a must.
- Testing results in reputations/reliability etc. of company.
- Simply testing saves money and lives(Think of Boeing crash and Boeing stock chart)

# What is manual(functional) testing?

- Manual testing is to test the application manually without any automation tool.
- Manual testers uses limited technology(exel,etc.) for documentation, but not automation tools or language.
- In manual testing, human error can happen.
- All Automation testers must first do manual testing to understand the application before doing any automation.
- A good automation tester is also a good manual tester.

## What is Test Automation?

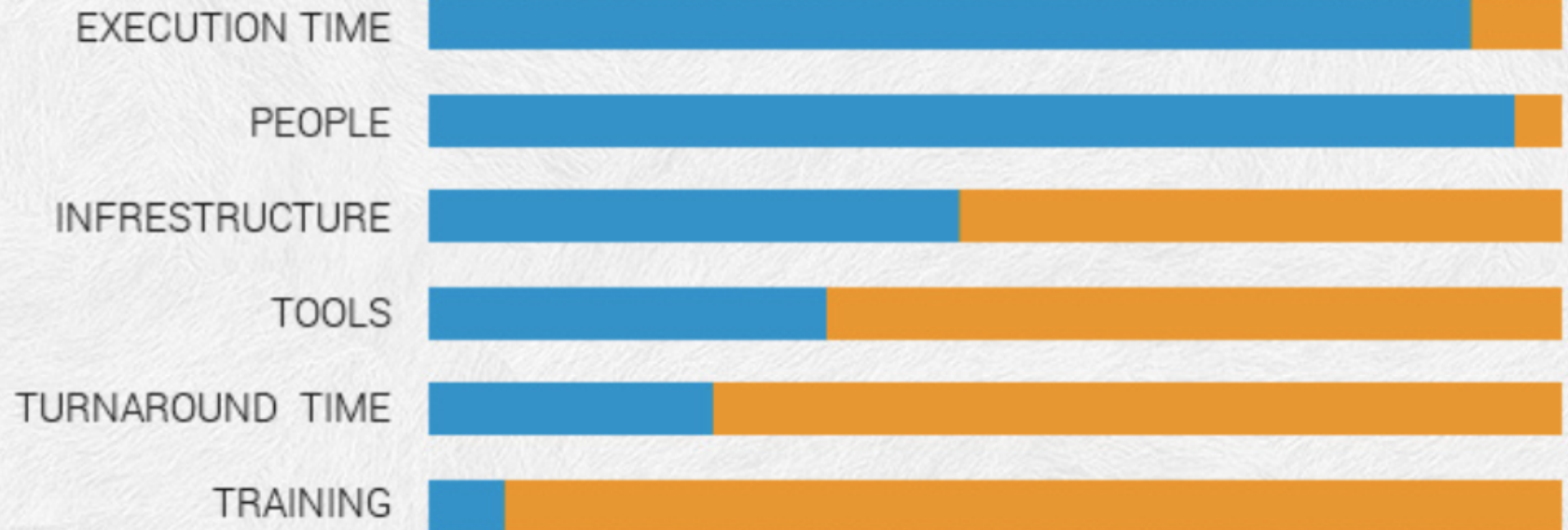
- Testing a system with the help of automation tool is called automation testing.
- It is getting more and more popular.



## MANUAL TESTING

VS

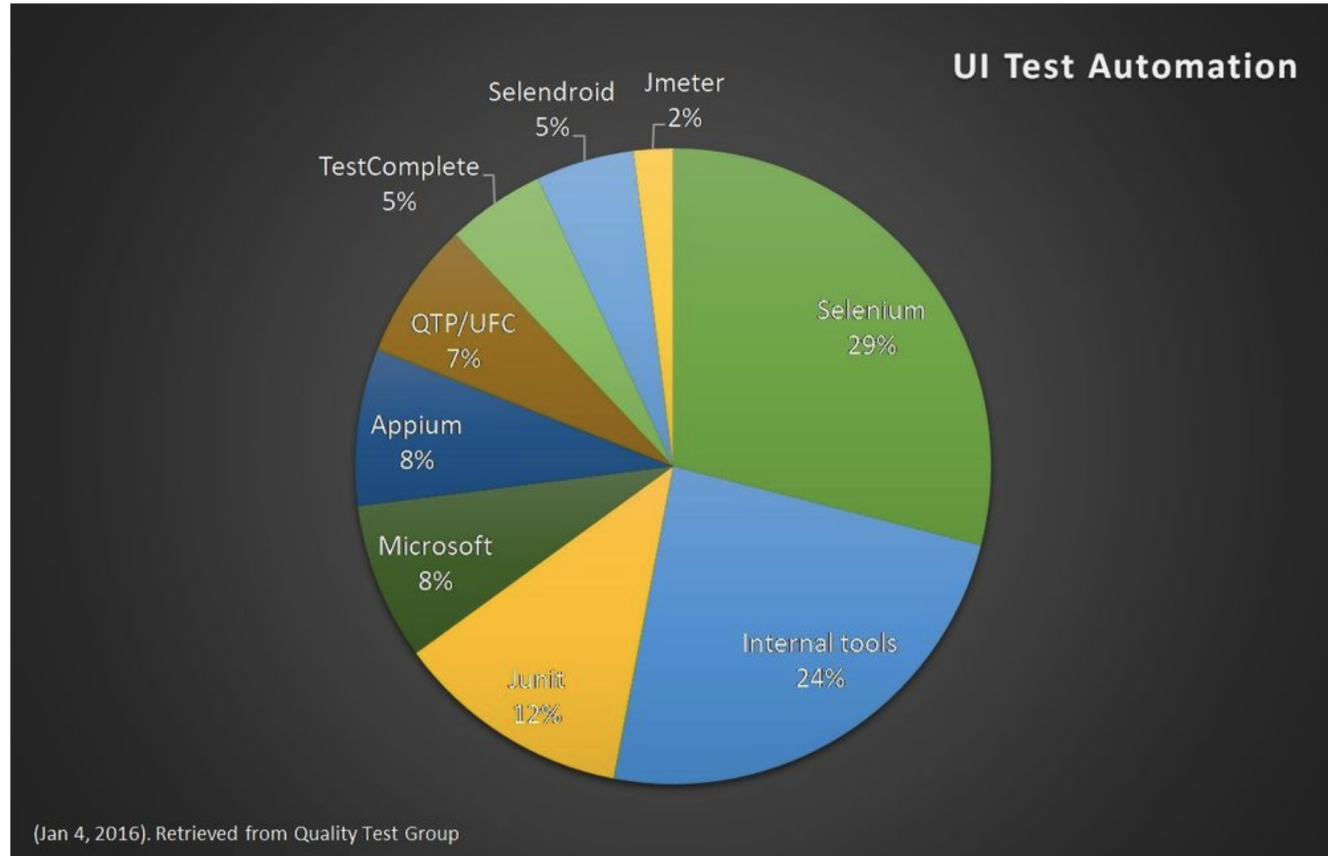
## AUTOMATION TESTING



# Type of automation testing?

- Functional Testing
  - Smoke Test
  - Regression Test
  - UAT ( User Acceptance Testing)
  - Integration Test-harder to automate since we are testing how different application works together
- Non-functional testing with selenium(we can't do with selenium)
  - Performance(Jmeter, LoadRunner(paid version))
    - Load
    - Volume

- Common Automation Tools?



# Do's for Successful Automation Testing

- Choose the right automation tools-Mostly companies pick the tools. Some companies may ask you to choose the tools and set up the test automation team.
- Have a good knowledge of your application.
- Write and choose the test cases wisely that will be automated.
- Keep your test cases short. Keep them independent.
- Prioritize your test automations.High priorities first.
- Prepare test data(id,url,environment,etc) prior to automation.
- Manage and maintain your test cases if needed.Your new test cases should not break old automation scripts.
- Be aware of FALSE FAILURE(test scripts fails, when actually automation works).Cross check your failed test cases.
- Communicate with your team, especially leads, at all time.

# Don'ts for Successful Automation Testing

- Don't try to automate everything. Your team may say 100% automation is required. But 100% automation for the entire application is not possible.
- Don't automate from day 1. Get **knowledge transfer(KT)** sessions first to get to know the application.
- Don't ONLY rely on automation tools. Manual interventions may be needed time to time.
- Don't be shy asking your questions from day 1. Eventually, you are responsible for defect free product.

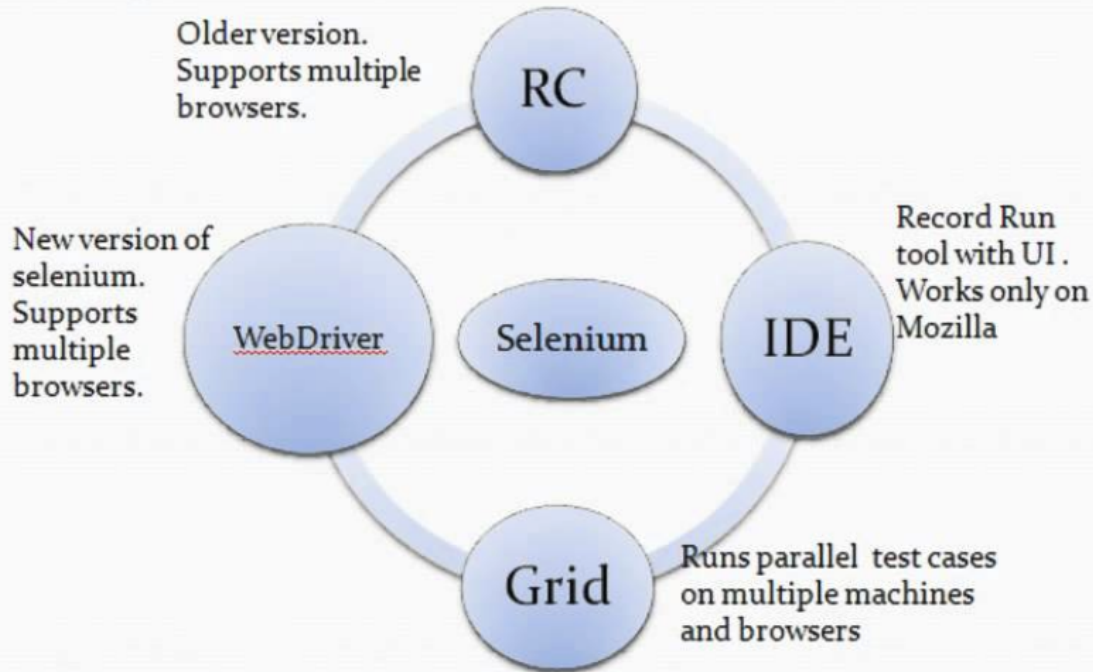
# What is Selenium?

- Selenium is a free (**open source**) tool to test the **web applications** across different browsers and platforms.
- Selenium focuses on automating **web-based applications** only. Plug ins can be added selenium to do mobile, and windows testing(they are limited)
- Testing done using Selenium tool is usually referred as **Selenium Testing**.
- Selenium is just a jar file. You saw the jar files when you set up.
- Selenium is a library that has its own classes and methods to help automate.
- We will be learning Selenium 3 that was released in 2016
- With Selenium 3, we can use APPIUM-mobile testing- as an extension of existing framework then it uses Selenium WebDriver to drive the test with any programming language.

**Selenium has four components.**

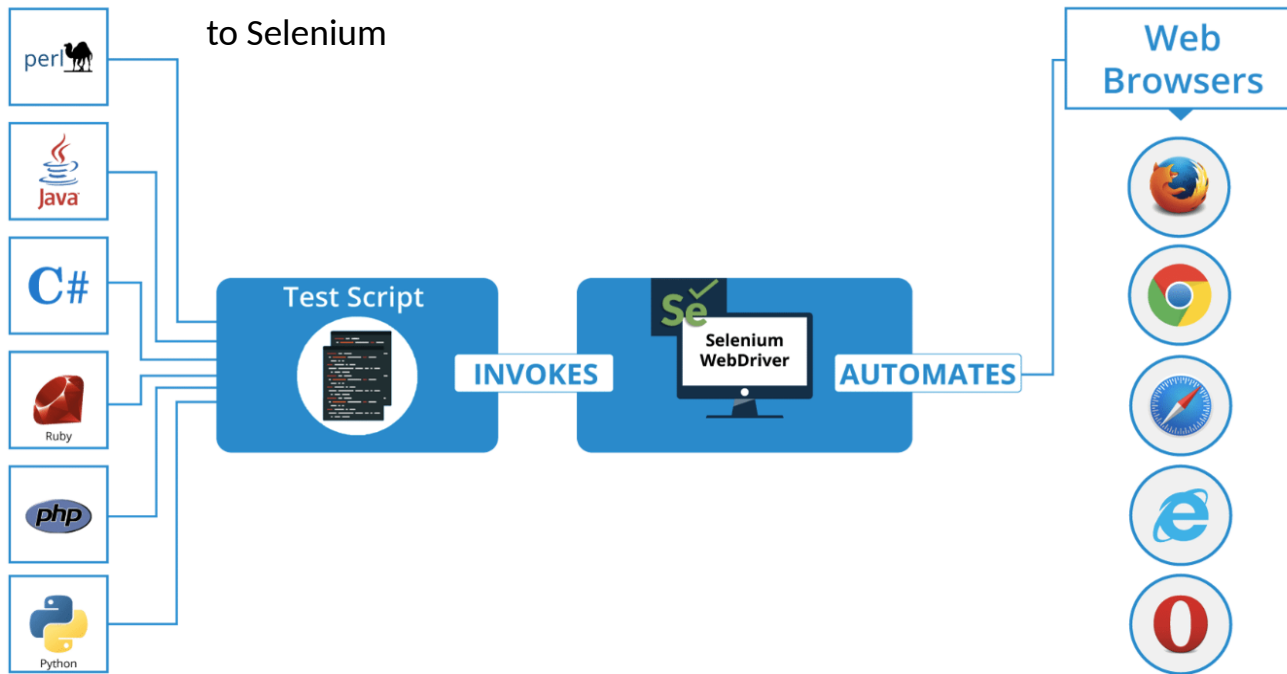
- Selenium Integrated Development Environment (IDE)
- Selenium Remote Control (RC)
- **WebDriver// This is what we will be using**
- **Selenium Grid// is being used for remote testing**

# Components Of Selenium



## How selenium works?

- Drivers listen the commands from selenium
- And covert these commands into browser's native API
- The drivers take the results of the native commands and sends back to Selenium





# Selenium Advantages?

- Free. Selenium is an **Open source**
- Works with Multiple programming languages like **Java**, C#, Python, Ruby, JavaScript etc.
- Works with **Multiple operating systems**
- Works with **Multiple browsers**

# Selenium Disadvantages?

- Requires knowledge of programming
- Only tests web browsers
- Not have professional support
- Cannot do
  - o performance testing
  - o handle captcha(like all almost all other automation tools)