

# Comparison between manual and automated testing

## Members:

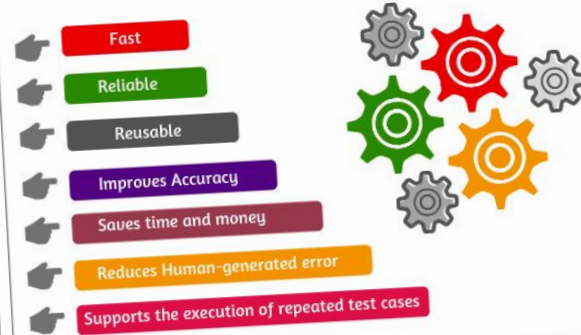
37 Mikil Lalwani

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## Automation Testing



# About the paper

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# Introduction

## **Purpose:**

Defect Detection, Quality Assurance, Risk Mitigation

## **Approaches:**

Manual Testing (Human Execution,) Automated Testing (Scripted Testing)

## **Need :**

Improve User Experience , Save cost

# Manual testing



## Definition

Most basic and rigorous type of software testing.

Software testers writes the test cases

No use of any special software.



## Advantages

### Detect Defects

Identify, report defects by executing test cases

### Test Coverage

Test various aspects of the software

### Retesting

Provide manual testing on fixed defects.



## Disadvantages

### Time consuming

Meticulous design, execute and document tests.

### Human errors

Unintentionally overlook, misinterpretation, monotonous process.

### Less scalability

Challenging to scale for large, complex projects.

# Test case - structure

A test which checks the functionality of specific module

☐

## Test case id

Unique identification no.

☐

## Test case description

Explanation and narrative of test case

☐

## Test case steps

Detailed set of instructions

☐

## Test case data

Input values, parameters, or data sets

☐

## Expected result

Behavior of the software under specific condition

☐

## Actual result

Actual outcomes observed

☐

## Status

Passed/Failed/  
Blocked/cancel

☐

## Test case -by/date

Name of the tester ,  
date of test execution

# Test case - Execution

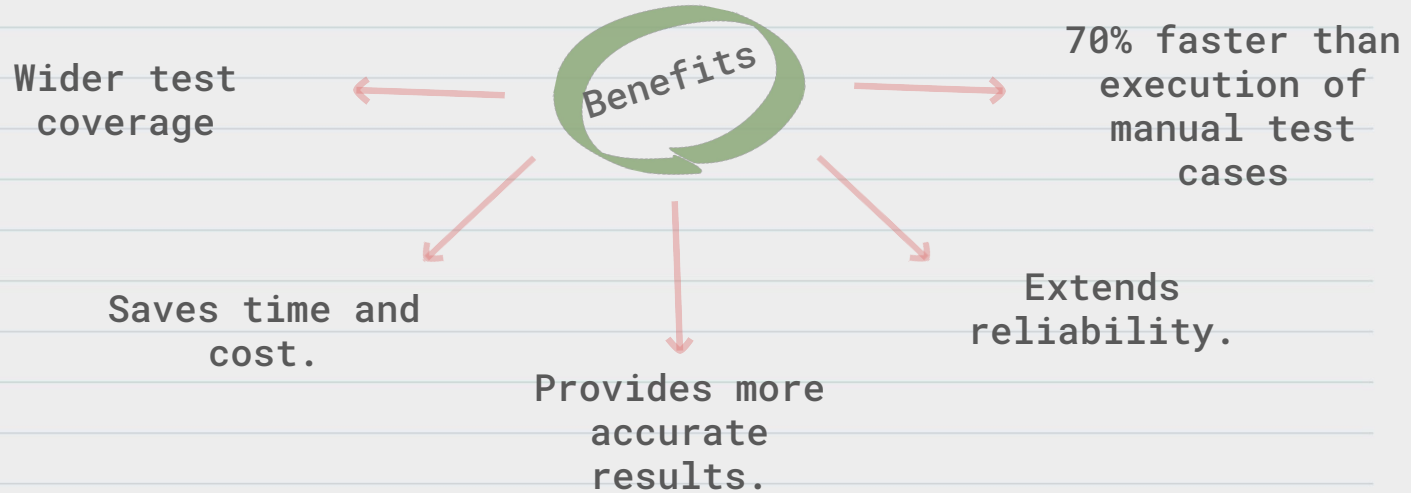


- Total no. of test cases executed.
- No. of defects found in the testing process.
- Record of success and failure execution of test cases in document.
- Record of time taken to execute the testsuite

# Automated testing

The tester writes scripts with use of suitable software to test the application.

Automated Testing is a simplified process of manual testing.





# Automated testing process

- 1 ←→ The selection of automation tool
- 2 ←→ Determination of scope of automation
- 3 ←→ creation of automation strategy

- 4 ←→ Design framework and its features.
- 5 ←→ Automation scripts execution
- 6 ←→ Automation scripts are added ,reviewed and maintained

# Selenium [Automation Tool]

Open source web-based automation tool, designed to automate web browser interactions



## Selenium IDE

The simplest framework in the selenium suite. It is a prototype tool. This firefox extension helps in automation of the browser through a record-and-playback feature.



## Selenium RC

The first automated web testing tool that allowed the users to use multiple programming languages like java , c# , PHP , Python , Perl , Ruby



## WebDriver

Interaction with browser take place in a more realistic manner with the help of webdriver



## Selenium grid

Multiple tests can be run at the same time with the help of this tool.

A diagram of a notepad with a red border and ten black binder rings at the top. The notepad contains the title 'Selenium Testing Process' in bold red text and a bulleted list of seven steps in a monospaced font. The background is a solid green color.

## **Selenium Testing Process**

- Create a webdriver instance.
- Navigate to a webpage.
- find an HTML element on the web page.
- Perform an action on an HTML element.
- Predict the browser response to the action.
- Run and record test results using a test framework.


# Results

Comparisons		
Parameters	M	A
Time consuming	✓	✗
Human observation	✓	✗
Tools Availability	✗	✓
Programming Knowledge	✗	✓

M- Manual Testing  
A- Automated Testing

Comoarisons		
Parameters	M	A
Automated test scripts	✗	✓
Easy parallel Execution	✗	✓
More accuracy	✗	✓
Reliability	✗	✓

# Conclusion

- Referred paper has performed experimental work on web applications.
  - Manual testing and automation testing was implemented on web applications using software testing tool like selenium
- 
- It is concluded that automated testing has its own importance , benefits over manual testing



**Thankyou**

