

# Implementation of Automating Graphics Driver Features

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**ABSTRACT:** Now a days Automation has become an important part of testing. Automation is a process of automating different feature in such a way that, will verify real outputs with predictable outputs. Graphics Driver has different features. Automating graphics Driver Features helps to reduce manual power and also time. The proposal is to define a systematic approach to achieve optimization and efficiency improvement by considering overall validation process. Test content optimization and Test content Automation for Graphics Driver is to achieve better Quality end products.

**KEYWORDS:** Automation, Display Scaling,

## I.INTRODUCTION

Graphics Driver has different components. In that Common User Interface (CUI) is one of the important component. Cui has many Display features like Resolution, Refresh Rate, Colour, Scaling etc. Cui not only supports Display features but also supports Video, Audio, Power features and also gives the information about installed Graphics Driver Version and OS etc. Automating different features of Graphics Driver helps to cover the Scenario and gives accurate results.

This paper is organized into 6 sections including this section. Section-2 presents Literature Survey and Information Regarding Automation Validation in Section-3. Implementation of Automation Process in section-4, while section-5 discusses the results. Finally the conclusion is presented in section-6.

## II.LITERATURE SURVEY

In Manual testing, testing will be done manually. Since test cases will be executed by human resources, So it is time consuming and tedious and huge amount of investment for human resources. Manual Testing is less Reliable because tests may not be performed with precision each time due to human errors. Simultaneously testing on different machines with different flavor of OS is not possible.

Exploring the Use of a Test Automation Framework [1], provides the proof that As technology continues to grow and become more complex, software testers will be faced with tougher challenges to fully test the software product within the time given to them. To keep up with this trend, testers must consistently look for ways to improve their testing practices. A test automation framework is a tool that can help a tester efficiently develop end-to-end automated test solutions. So before any organization decides to commit to develop a test automation framework, it would be wise to first explore its use within testing environment to ensure that it is suitable to your software testing needs[4].

# International Journal of Innovative Research in Science, Engineering and Technology

(An ISO 3297: 2007 Certified Organization)

Vol. 3, Issue 8, August 2014

## III.AUTOMATION VALIDATION

Programming approval is an essential stage in programming life cycle. Quality approval specifically decides the stable operation of programming items. It is well realized that the time it now, prolonged and exhausting much for programming manual acceptance with high work power and effectively presented counterfeit error. Therefore it is basic to the mechanization test now. Computerized acceptance engineering in programming approval is to be further enhanced, as work heap of programming acceptance is exceptionally large(accounting for something like 40-50 rate of general advancement cycle), of which the vast majority of the work applies to computerization, so the test change will bring extremely huge results to cost, quality and cycle of the entire programming activities improvement work. As a rule, it is through the improvement of the mechanization apparatuses and the execution of the approval scripts for computerization acceptance to attain the reason for programming quality assessment[3].

### 3.1 Drawback of Traditional Software System

- Project Development takes more time
- Very tedious job
- The project process is difficult to control
- Difficult to control project risk
- Project development costs exceed budge
- Less reliable due to human error
- 

To overcome these Drawbacks we have move for automated validation to decrease validation engineers manual efforts. Automation validation saves 80 % of efforts of validation engineers which ultimately improves test efficiency, Reduce the cost of the test , Enable to cover more aspects of validation , Gives more reliable results ,It's an easy approach to cover different scenario of validation process[2].

## IV.AUTOMATION PROCESS

Automation process is a process of automating different features of Graphics Driver. It gives the step by step procedure for automation. It has several steps like Tool Selection, Define scope of automation, Planning, Design ,Development ,Execution ,Qualification [5].

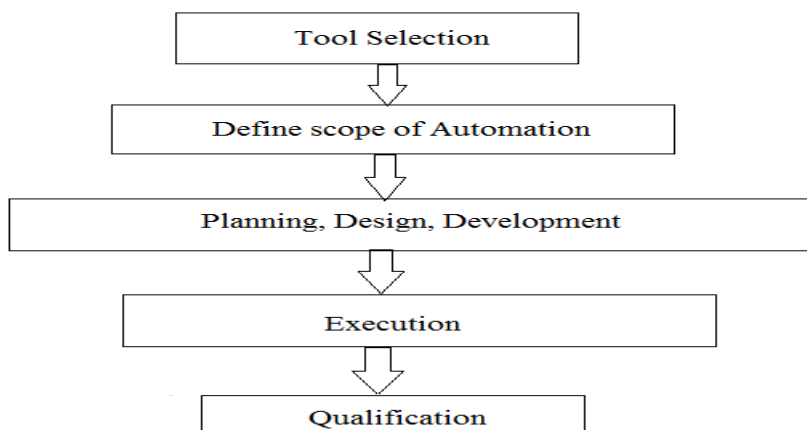


Figure : Automation Process steps

DOI: 10.15680/IJIRSET.2014.0308056

# International Journal of Innovative Research in Science, Engineering and Technology

(An ISO 3297: 2007 Certified Organization)

Vol. 3, Issue 8, August 2014

## Tool Selection :

There are many tools for automation. In that one of the tool is Ranorex .This tool helps to capture different feature of common user Interface.

## Define the scope of Automation

- Features that are essential for the business.
- Scenarios which have extensive measure of information.
- Common functionalities crosswise over requisitions.
- Technical possibility.
- Extent to which business parts are reused.
- Complexity of experiments.
- Ability to utilize the same experiments for cross Platform testing.

## Planning, Design and Development:

- Automation apparatuses selected.
- Framework configuration and its characteristics.
- In-Scope and Out-of-extension things of computerization.
- Automation proving ground readiness.
- Schedule and Timeline of scripting and execution.
- Complexity of experiments.
- 

## Test Execution :

Automation Scripts are executed throughout this stage. The scripts need information test information before they are situated to run. Once executed they giveitemized test reports.

## Qualification :

As new functionalities are added to the System Under Test with progressive cycles, Automation Scripts need to be included, surveyed and kept up for each onedischarge cycle. Qualification has been done on different flavor of Operating System and on Different Displays.

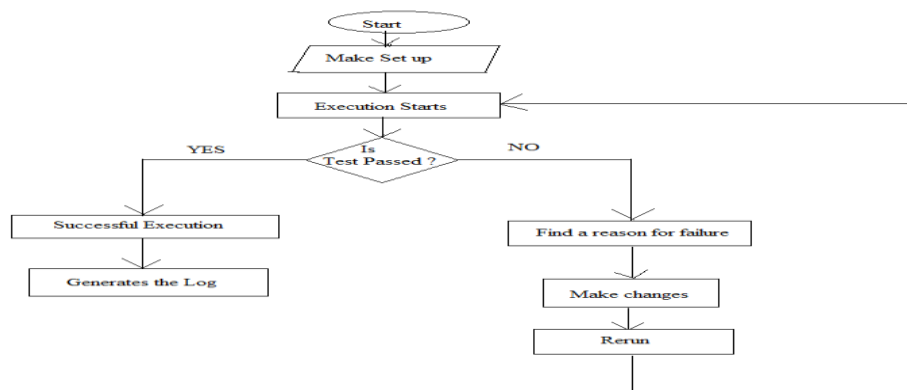


Figure : Flowchart for Automation Process.

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(An ISO 3297: 2007 Certified Organization)

Vol. 3, Issue 8, August 2014

## V. RESULTS

Automation framework has improved reliability

Reliability can be majored by MTBF ,

$$MTBF = MTTF + MTTR [5]$$

Where ,

MTBF = Mean time between failure

MTTF = Mean time to failure

MTTR = Mean time to repair

Use of automation framework has highlighted bugs which are fixed quickly and reduced MTTF and improved reliability

Automation framework has improved validation coverage

Adding new feature to current version of software , needs to write new test cases.

$$\text{Count of new test cases} = (N/R) * T .$$

Where ,

N = probability of occurrence of new operations for new release of the software,

R = probability of occurrence of used operations in the current release

T = number of all previously used test cases for graphics driver new release ,

$$R = 0.9$$

$$N = 0.2$$

$$T(\text{Manual}) = 20$$

$$T(\text{Automated framework}) = 200$$

$$\text{Count}(\text{Manual}) = (0.9 / 0.2) * 20 = 90$$

$$\text{Count (with automation framework)} = (0.9 / 0.2) * 200 = 900$$

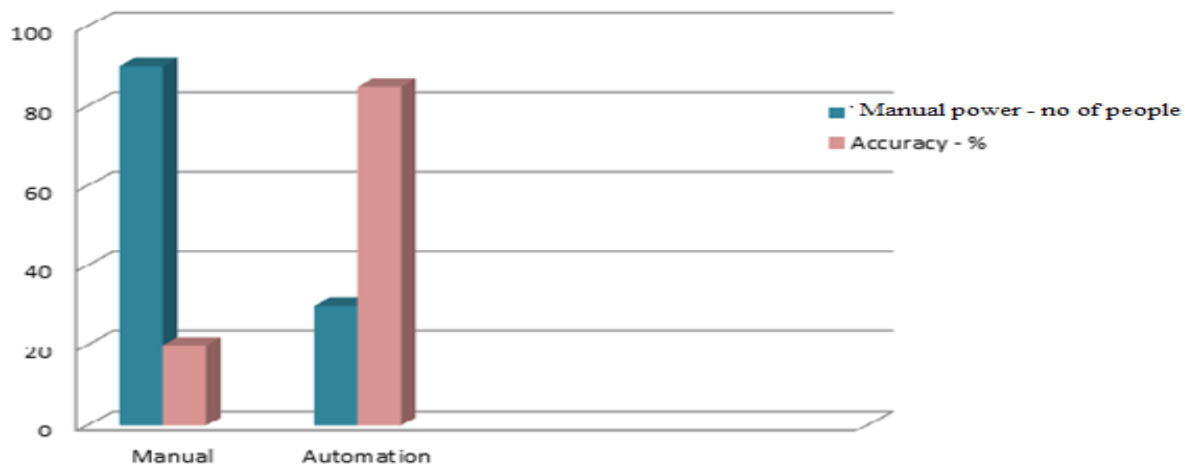


Figure: Manual Testing & Automation Results

# International Journal of Innovative Research in Science, Engineering and Technology

(An ISO 3297: 2007 Certified Organization)

Vol. 3, Issue 8, August 2014

## VI.CONCLUSION

Automating Different features of Graphics Driver reduces 80 % of manual power and also it saves time. Automation Framework makes easy to automate different feature of Graphics Driver. Automation helps to cover all the Scenario of Graphics Driver and gives accurate results.

## ACKNOWLEDGMENT

The author wish to Thank ISE Department of SJCE – Mysore and INTEL Corporation -Bangalore, Karnataka, India for supporting this work.

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