**METRICS**

Software test metrics is to monitor and control process and product. It helps to drive the project towards our planned goals without deviation.

**Process Metrics:**

Software Test Metrics used in the process of test preparation and test execution phase of stlc

The following are generated during the Test Preparation phase of stlc:

**Test Case Preparation Productivity:**

It is used to calculate the number of Test Cases prepared and the effort spent for the preparation of testcases.

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| Test Case Preparation Productivity = (No of Test Case)/ (Effort spent for Test Case Preparation) |

### ****Test Design Coverage:****

It helps to measure the percentage of test case coverage against the number of requirements

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| Test Design Coverage = ((Total number of requirements mapped to test cases) / (Total number of requirements)\*100 |

### ****Test Execution Productivity:****

It determines the number of Test Cases that can be executed per hour

(No of Test cases executed)/ (Effort spent for execution of test cases)

### ****Test Execution Coverage:****

It is to measure the number of test cases executed against the number of test cases planed.

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| Test Execution Coverage = (Total no. of test cases executed / Total no. of test cases planned to execute)\*100 |

### ****Test Cases Passed:****

It is to measure the percentage no. of test cases passed

Test Cases Pass = (Total no. of test cases passed) / (Total no. of test cases executed) \* 100

### ****Test Cases Failed:****

It is to measure the percentage no. of test cases failed

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| Test Cases Failed = (Total no. of test cases failed) / (Total no. of test cases executed) \* 100 |

### ****Test Cases Blocked:****

It is to measure the percentage no. of test cases blocked

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| Test Cases Blocked = (Total no. of test cases blocked) / (Total no. of test cases executed) \* 100 |

## ****Product metric:****

Software Test Metrics used in the process of defect analysis phase of STLC.

### ****Error Discovery Rate:****

It is to determine the effectiveness of the test cases.

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| Error Discovery Rate = (Total number of defects found /Total no. of test cases executed)\*100 |

### ****Defect Fix Rate:****

It helps to know the quality of a build in terms of defect fixing.

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| Defect Fix Rate = (Total no of Defects reported as fixed - Total no. of defects reopened) / (Total no of Defects reported as fixed + Total no. of new Bugs due to fix)\*100 |

### ****Defect Density:****

It is defined as the ratio of defects to requirements.

Defect density determines the stability of the application.

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| Defect Density = Total no. of defects identified / Actual Size (requirements) |

### ****Defect Leakage:****

It is used to review the efficiency of the testing process before UAT.

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| Defect Leakage = ((Total no. of defects found in UAT)/(Total no. of defects found before UAT)) \* 100 |

### ****Defect Removal Efficiency:****

It allows us to compare the overall (defects found pre and post-delivery) defect removal efficiency

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| Defect Removal Efficiency = ((Total no. of defects found pre-delivery) /( (Total no. of defects found pre-delivery )+ (Total no. of defects found post-delivery)))\* 100 |

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