Testing Metrics and Measurement

Performance Measurement

Steven Bucksbaum, March 24, 2011

Metrics to Measure Performance

$$\text{Test Effort Performance} = \frac{\text{Bugs Fixed}}{\text{Total Bugs Found}} \times 100$$

Defect Removal Efficiency (DRE)

$$\text{DRE} = \frac{\text{Number of Bugs Found in Testing}}{\text{Number of Bugs Found in Testing + Number Not Found}}$$

A more powerful metric for test effectiveness (and the one that we recommend) can be created using both of the defect metrics discussed above: defects found during testing and defects found during production. What we really want to know is, "How many bugs did we find out of the set of bugs that we could have found?" This measure is called Defect Removal Efficiency (DRE). The later we discover a bug, the greater harm it does and the more it costs to fix

Test Effectiveness- How Good Were the Tests?

$$\text{Effectiveness} = \frac{\text{Bugs Found in Test}}{\text{Total Bugs Found}} \times 100$$

where Total Bugs Found = bugs found during test + new bugs found by users

Test Coverage -- How Much of It Was Tested?

$$\text{Test Coverage (Absolute)} = \frac{\text{Test Conducted}}{\text{Total Tests}} \times 100$$

The Number of Bugs Found -- For this metric, there are two main genres:

1. Bugs found before the product ships or goes live and
2. Bugs found after-or, alternately, those bugs found by testers and those bugs found by customers. As it was already said, this is a very weak measure until you bring it into perspective using other measures, such as the severity of the bugs found.