Risk Based Testing Approach by Milind Shroff

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Where do I start? What do I test? How much do I test? These are question many testers have in mind before embarking on testing of multi-functional complex systems. At times such as these the rational way to test would be to take a risk-based approach to test the system. Risk-Based software testing is about pre-identifying the risks involved in testing for the project and/ or product under complex circumstances.

Take a real time situation where an e-commerce website is working fine and we have gone through its workflow, where its GUI, Navigation Flow, Usability or Reliability is all OK, but customer's account detail is not secure. There is a big functionality risk in such cases as there would be no meaning of how the GUI or Usability or Reliability of the software product is in this case. In a situation like this the website must be tested by following a risk-based approach first. In Risk Based Testing crucial part is to analyze each requirement and each test to ensure that the most important areas of the system are covered and at the same time it remains very smooth for test manager to allocate testing resources on a project.

Project Risk and Product Risk are the main two types of risks in software products.

Project Risk:

There are primarily three categories of Project Risks.

1. Organizational Issue

- Shortage of skilled resources

- Political Issues â€“ Issues that are found by testers during review are not considered or Testers are not appreciated for their good testing skills or testers may fail to communicate their requirements.

2. Technical Issues

- Environments are not properly set.

- Testers are not given a proper training specific to testing objectives.

3. Third party Issues.

- Issues involving an external entity and dependency for the delivery

Product Risk:

This risk is related to the functionality of the product. Existence of a major functionality failure or a missing critical functionality in the software is called as a Product Risk. These also include Performance Issues, Security Issues, Crash Scenarios, etc.

Risk Based Testing is one of the type of Software Testing that prioritizes the tests of functions and features based upon the risk of failure. In Risk Based Testing (RBT) the major concern is state transition testing and boundary value analysis by which we can find the area most susceptible to a defect. Moreover an analytical risk-based testing matches the orders of each levels of risk. Risk-

Based Testing helps to find the right quality level that can be delivered in definite schedule and resources. The main focus of risk based testing strategy is to identify the most critical and strategic features.

Risk Based Testing approach follows certain steps as mentioned:

1. Identify potential risks that may occur if particular modules/functions of the application are not tested completely.

2. Determine the likely impact of each risk as well as the probability of its occurrence.

3. Take up testing activities that would eliminate risks with the highest numeric values.

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