Software Testing Mentor

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ISTQB Foundation Level and Software Testing Training

Module 2
Testing throughout the software life cycle

Session 4 – Maintenance Testing

Maintenance Testing

After system is deployed in production environment it is often in service for years or decades

During the service period, software is corrected if defects are found, changed or extended to add support to new feature or technology.

Any testing that is done during this service period is know as Maintenance testing

Impact analysis and regression testing

Usually maintenance testing consists of two parts

- Testing any changes
- Regression testing to show that any changes done in software does not affect the rest of the software

Impact analysis is the main activity in maintenance testing

- Impact analysis is done together with stakeholders to decide what parts of software might be unintentionally affected and need careful regression
- Risk analysis helps to decide where to focus regression testing

Triggers for Maintenance Testing

Maintenance testing is triggered by modifications, migration, or retirement of the system. Some of the triggers for maintenance testing are:

- Planned enhancement changes (Release based)
- Changes of environment (OS or Database upgrades)
- Corrective and emergency changes (Defects found in production fixed)
- Patches to newly exposed or discovered vulnerabilities of the operating system

Maintenance Testing for Migration and Retirement

Maintenance testing for migration (i.e. from one platform to other) should include operational testing of new environment as well as the changed software

Maintenance testing for the retirement of a system may include the testing of data migration or archiving, if long data retention periods are required

Planned modifications

As modifications are the main trigger point for maintenance testing let us see different types of planned modifications in detail

- Perfective modifications (By implementing new functionality as per user requirement, enhancing performance)
- Adaptive modifications (Adapting the software to environmental changes like new hardware, new OS etc.)
- Corrective planned modifications (Deferrable correction of defects)

Ad-hoc corrective modifications

If the defect requires an immediate solution then ad-hoc corrective modification is required

In this kind of situation it is always not necessary to take structured test approach. Initially, in this type of maintenance testing patch up work is done and at later stages more structured testing is done

For Example:

- System not able to handle required number of users and goes down

- eCommerce application system crashes when user does a checkout

Conclusion

To conclude in this session we learned

1. What is maintenance testing?
2. Impact analysis for maintenance testing
3. Triggers for maintenance testing like
   - Planned enhancement changes (Release based)
   - Changes of environment (OS or Database upgrades)
   - Corrective and emergency changes (Defects found in production fixed)
   - Patches to newly exposed or discovered vulnerabilities of the operating system

Thank You!!!