Software development

Testing

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Software development - Testing

Software systems

- ❏ Everyone aware of software systems
- ❏ In our homes, at work, while shopping
- ❏ Day-to-day business applications, e.g. Banking, cars, washing machines
- ❏ Software did not work as expected: an error on a bill, website did not load correctly
- ❏ Different levels of issues: spelling mistages vs. system is down
- ❏ Mistakes during the design and build
- ❏ Called as defects or sometimes bugs or faults
- ❏ Software code ready -> executed -> failure
- ❏ Sometimes failures are not never noticed

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Testing and quality

❏ Testing helps us to measure the quality
❏ Numbers of defects found, the test run, the system coverage
❏ Poor test may uncover few defects
❏ A well-designed test will uncover defects if they are present

❏ Project aim to deliver software to specification
❏ Project to deliver what the customer needs requires
❏ Delivered system must meet the specification
❏ Customer wants the project to be within budject and timescale
❏ Should arrive when they need it and not cost too much
❏ Need to understant customer expectations
❏ If customer need to spent more money than they want -> they won't be impressed
❏ Cheap to fix defects during development process

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Testing process

- ❏ Design testcases based on requirements
- ❏ TestSet design -> collecting testcases per new application version
- ❏ Running testSet (manual or automatic)
- ❏ Tester to detect defects
- ❏ Test & defects reporting
- ❏ Testing & defects review
- ❏ Defects fixing -> assigning to developers
- ❏ Retest fixed defects

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Fixing process

- ❏ Developer starts to work with assigned defect -> debugging

- ❏ Repair the code and check that the code now executes as expected

- ❏ Developer tries to fix&test in own environment(pc)

- ❏ Sometimes simulators or real devices need to be used

- ❏ The fix is often tested separately (tester) to confirm the fix

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Test environment

- ❏ Continues Integration(CI), Development, Acceptance and Production

- ❏ System testing requires controlled test environment

- ❏ Control of the software versions (e.g. SVN)

- ❏ Test environment should correspond to the final target or production environment

- ❏ Minimize the risk of environment specific failures not being found by testing

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Quality Center - Req

Software development - Testing

Quality Center
- Test Coverage

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Quality Center
- Design steps

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Quality Center
- Test Lab

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**Quality Center
- Defects**