

CS1632 Lecture 6

Smoke, Exploratory, and Acceptance Testing

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Exploratory Testing

The tests we've executed so far have been very rigid and formally defined.

- Develop requirements
- Write test plan
- Create and check traceability matrix
- Execute tests

While these types of tests are important, we can't depend solely on them.

- Limits creativity
- Doesn't find all the issues

Exploratory Testing

An informal style of testing, where the goal is often both to learn about the system by testing it as well as find defects.

“Simultaneous test design, test execution, and learning” -Cem Kaner & James Bach,
Testing Computer Software

In some ways, exploratory testing is the opposite of scripted testing.

How to do it

- Have a 'plan'.
- Time-box
- Follow 'smells'.
- Take notes.
- Record output
 - Bugs
 - Test cases

When to do it

It depends...

- Culture
- Feature under test
- Automation

It's not ad hoc testing

Exploratory testing is not sitting down at a keyboard and typing away.

Benefits of exploratory testing

- Fast
- Flexible
- Improves testers' knowledge of the SUT
- Easy to update
- Fun!

Drawbacks to exploratory testing

- Takes skill
- Unregulated
- Possibly unrepeatable
- Hard to define test coverage
- Difficult to automate

Smoke testing



Smoke testing

Do some minimal testing to ensure that the system is ready for more extensive testing to be executed.

Smoke tests are a gateway to full functional tests.

Why?

- Save resources by determining that a system is not ready for testing.
- Configuring modern software systems can be a non-trivial task.

Types of smoke tests

Smoke tests may be formally defined, scripted tests that are stored in a test repository just like other types of tests.

Smoke tests may be exploratory in nature as well.

Smoke tests may be executed manually or smoke tests may be automated.

Acceptance testing

Testing by an end user, customer, or other independent personnel to verify that the system can be accepted for use.

- Operational testing
- User acceptance testing (UAT)
- Alpha & beta testing
- Dogfooding