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ROCK YOUR CODE TOUR 2017 | CHICAGO

Professional Software Testing Using Visual Studio 2017

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About Me

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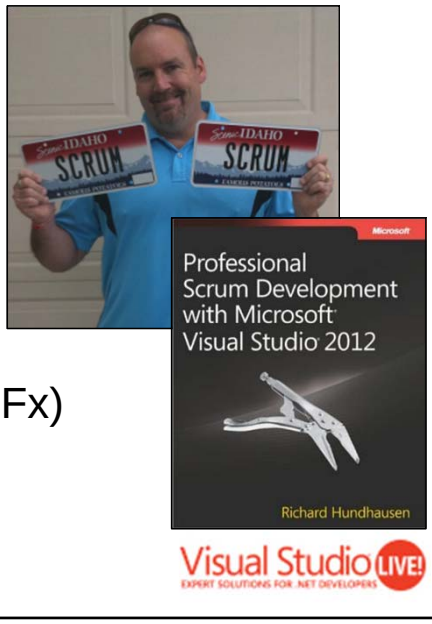

Session Backlog

- Development Tests
- Acceptance Tests
- Exploratory Tests

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There are Three Types of Tests …

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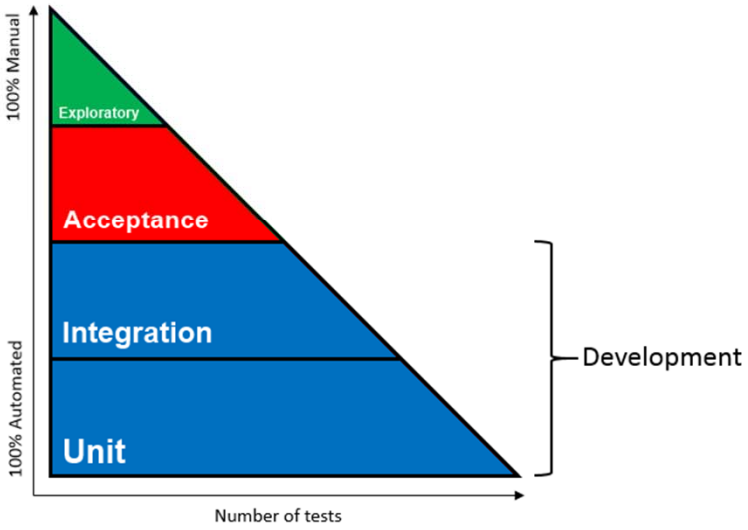
Development Tests Ensure the "How"



Acceptance Tests Ensure the "What"

- Verify that the team is building the right thing
- Created and run by anyone on the team
  - Traditionally a responsibility of QA or the users
- Can be automated or manual
- There are many types of acceptance tests
  - Functional, performance, load, stress, …

Acceptance Testing Myths

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Myth #1 – Acceptance Tests Are Run by Users

Anyone on the team can run acceptance tests.

It is risky to depend upon a user, or anyone outside of the team, in order to be “done”.

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Myth #2 – Acceptance Tests Are Manual Tests

Most acceptance tests can
(and should) be automated.

Some tests will never be automatable.

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Myth #3 – Acceptance Tests Are Created Last

Acceptance tests should be
created before coding begins.

This is the foundation of
Acceptance Test Driven Development.

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Myth #4 – Acceptance Tests == Acceptance

Just because your acceptance tests pass, doesn't mean you are "done".

Your definition of "done" hopefully includes other quality gates as well.

Myth #5 – Acceptance Tests Are Created By Users

Acceptance criteria are provided by (or distilled down from) the stakeholders.

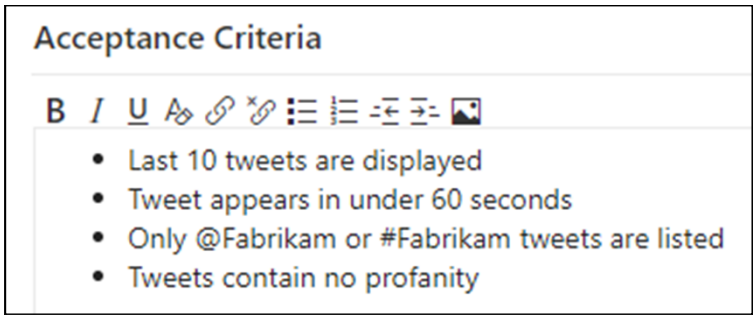
The team creates the tests based on the acceptance criteria.

Good Acceptance Tests Start With Good Acceptance Criteria

Acceptance Criteria

- Each item in the product backlog should clearly define when it is “done”
- Acceptance criteria does this by …
  - Describing a user story’s behavior
  - Being objectively verifiable
  - Forming the basis for acceptance tests

Acceptance Criteria: Example



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Acceptance Testing in Visual Studio 2017

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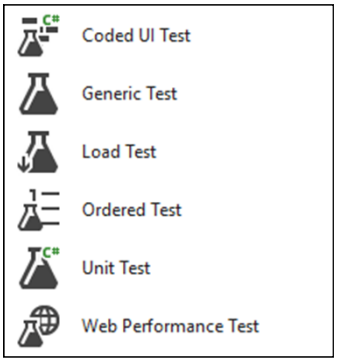
Acceptance Testing in Visual Studio

- Any Visual Studio test type can be used for acceptance testing
  - Some are better suited for certain types of acceptance (e.g. load tests)
  - Some are only available in the Enterprise edition



Coded UI Tests

- Coded UI tests are automated UI tests
- They are like other Visual Studio tests
  - They can be placed in test lists, given test categories, run automatically during a build
- Requires Enterprise edition

Important: Going forward, Microsoft is recommending Selenium for web-apps and Appium for Windows apps instead of Coded UI tests.

Generic Tests

- A generic test is a wrapper around an existing program or test executable
  - Uses stdin, stdout, and stderr to control the underlying application and determine pass/fail
- Using generic tests is a means of taking advantage of existing test infrastructure
- Requires Enterprise edition

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Load Tests

- Load tests simulate many users accessing a service simultaneously
  - A load test can be configured to simulate various conditions such as user load and network types
- Load tests provide access to application stress and performance data
- Requires Enterprise edition

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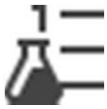
Ordered Tests



- An ordered test is just a container that holds other tests
  - Those tests will be executed in that specific order
- An ordered test appears as a single test
- Available in Professional edition

Unit Tests

- Unit tests are the “Swiss army knife” of tests
  - They execute raw code and have numerous ways to assert success
  - Although primarily used for development tests, unit tests can be used as acceptance tests
- Available in all editions

Web Performance Tests

- A series of HTTP requests executed against a web server
  - Assertions can range from simply verifying a 200 status code to custom validation rules
- Microsoft calls it a “performance” test, but it works just fine as a functional test
- Requires Enterprise edition

Exploratory Testing

Exploratory Tests

- Exploratory testing is a style of software testing that does not require scripted steps
- The developer interacts with the application in any way he or she desires in order to …
  - Gain an understanding of how the application works
  - Get a sense of how the user interface looks and feels
  - Identify the functionality that the application offers
  - Find bugs
  - Determine acceptance

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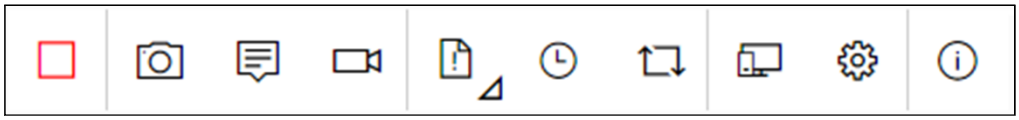
Browser-Based Exploratory Testing

- Test & Feedback extension
  - Available for Google Chrome and Mozilla Firefox
- Take notes, capture screenshots, annotate screenshots, create tasks, create test cases, create bugs, and track a timeline of the exploratory session



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Retrospective …

- Professional software testing includes planning and verifying the quality of the *how* and the *what*
- Development tests == user tests
- Acceptance test is about proving “done”
  - Ideally, in an automated way
- Acceptance tests are created and executed by the team
  - Not by testers or users (User Acceptance Testing ”UAT” == risk)
- Visual Studio offers many automated testing tools

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Remember …

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Done();

(thank you)

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