Real Life Testing
CS310 Guest Lecture
(why testing can be both hellish and satisfying)

Andrew Eisenberg

Tasktop Technologies

@werdnagreb (twitter)

Automated tests of some form are really,

really, REALLY

important

(and fun)

Tasktop

About me

- Rice University 94-98
- Morgan Stanley 00-02
- UBC Grad School 02-08
- SpringSource/VMware/Pivotal 08-13
- Tasktop 13-now

My grad school days
(it was very stressful)

Tasktop®

Why should we test?

Make sure the thing we built is really the thing we thought we built

Tasktop®

No, really…why should we test?

- Correctness
  - over time
- Confidence to change
- Documentation
  - Capture design decisions
  - Communicate to new team members
  - Communicate to future you
- Make sure you are building the right thing

Tasktop

How to test?

- Just try it out
- Hire someone else to try it out
- Write more code that does this automatically

What are the problems
with each of these?

Tasktop

What kinds of tests are there?

- Unit   Single components
- Integration   Multi-components
- System   Everything together

Note: oversimplification, and not correct.
But: useful (and roughly Tasktop strategy)

Tasktop

Unit Testing

- Single components
  - Class, module, file, etc
- Mock/stub dependencies
- Code coverage important
  - (but don't rely on coverage alone)
- Must be fast!
- Run before committing

Tasktop

Unit testing frameworks I use daily

JUnit (Java)

Jasmine (JavaScript)

SHOW ME SOME ?*#! CODE ALREADY

Tasktop

Integration Testing

- Multiple components
  - package, folder, project
  - interactions between components
- No mocking/stubbing
- Speed less important
- (Usually) run before committing

Tasktop

Integration testing frameworks I use daily

Protractor (JavaScript)

JUnit (Java)

Tasktop

SHOW ME SOME ?*#! CODE ALREADY

System tests

- Entire system
  - multiple scenarios
- A complex beast
  - There are no frameworks for this
  - Specific to each product
- Slow
- Stability is an issue
- Run sometimes

Tasktop

SHOW ME SOME ?*#! CODE ALREADY

Tasktop

Testing is...

- ...really, really important.
- ...hard to do right.
- ...something that requires effort.
- ...different things to different people.
- ...about more than *just* correctness.
- ...unit, integration, system.
- ...a joy and a curse.

Tasktop

ASK HARD QUESTIONS

Andrew Eisenberg

@werdnagreb (twitter)

Tasktop®