Test Your Own Stuff!

Dealing With Dependencies Between (and on) Agile Teams

Alex Kell
@wiggly
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Dependencies Kill Agility
Dependencies

Blockers  Yaks  Ourselves
Troy Aikman recollected that Deion considered tackling a “business decision.”

Sanders responds: “Hey, these shoulders are made for suits, not Brandon Jacobs.”
(SBNation - 11/23/2009)
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Dependencies as Yaks

You’ve been on a call for two hours trying to upgrade the server infrastructure for the entire company...why?

• Well it all began because their tests aren’t working because our system is down
• So you check the logs and determine that the system downstream of yours is down
• So you try to contact their lead, but you remember he’s on west coast time and isn’t in yet
• So you decide to turn on the mocks you wrote last sprint
• But when you turn them on they don’t work on the shared servers because they all have .Net 3.5 on them
• So you decide to upgrade the server to 4.0, but you can’t because they belong to the Enterprise Infrastructure department and you don’t have access rights.
• So you call up the help desk and try to open a ticket to get the servers upgraded...
Dependencies of our Own Making

• **Debt** – We’ll build it now even though we can’t test it

• **Rules** – Let’s agree or conform to a rule that says we have to wait to test until software has been installed on the “Test” server

• **Process** –

![Diagram](image.png)
Dependencies of our Own Making

• **Debt** – We’ll build it now even though we can’t test it

• **Rules** – Let’s agree or conform to a rule that says we have to wait to test until software has been installed on the “Test” server

• **Process** –

![Process Diagram]

- Ready
- Dev
- QA
- Done
Discussion

Take a few minutes and write down some dependencies you have – maybe from what you’ve already written – see if you can classify them based on the model:

<table>
<thead>
<tr>
<th></th>
<th>BLOCKER</th>
<th>YAK</th>
<th>US</th>
</tr>
</thead>
<tbody>
<tr>
<td>What</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>How to Fix</td>
<td>Avoid/Mitigate</td>
<td>Examine -&gt; stop!</td>
<td>Identify -&gt; change</td>
</tr>
</tbody>
</table>
We can’t test until the other team finishes their:

• Service
• UI
• Database
• API
• …
Checking vs. Testing

From Michael Bolton – Developsense.com

Checks are confirmatory. They tell us that things are or are not working based on some explicit expectation.

Tests are active explorations, discoveries, investigations and learnings.
Types of Automated Checks

- Unit
- Integration
- Performance
- Component
- Functional
- UI
- Load
- Smoke
- Acceptance
- System
A Test is NOT a unit test if

• It talks to the database
• It communicates across the network
• It touches the file system
• It can’t run at the same time as any of your other unit tests
• You have to do special things to the environment (like editing config files) to run it

Michael Feathers
http://www.artima.com/weblogs/viewpost.jsp?thread=126923
Why Unit Checks?  
Or  
Integration Tests are a Scam!

Functional

10 States  
5 interactions  
10 States  
5 interactions  
10 States  
5 interactions

Grenning

http://www.renaissancesoftware.net/blog/archives/514#more-514
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http://www.renaissancesoftware.net/blog/archives/514#more-514
Calculator Example
Functional

• Check the interactions of one or more component within the system
• Do make use of configurations, networks, databases, and file systems
• Sometimes check performance
Acceptance

• Ideally written during “refinement”
• Given/When/Then format
• Like Functional tests, but not as comprehensive
• Meant as a:
  – Guide for the team
  – Progress checker for the Feature team
  – Documentation for internal and external people
• Automated!
ATDD

The Acceptance Test Driven Development (ATDD) Cycle

(ACTDD cycle model developed by James Shore with changes suggested by Grigori Melnick, Brian Marick, and Elisabeth Hendrickson.)
Acceptance

Functional

Unit

Manual/Exploratory
TESTING
I FIND YOUR LACK OF TESTS DISTURBING.
How do we decide what tests we need?
A Note on Continuous Integration

• You should do it
• Gated check-ins? Yes or No

<table>
<thead>
<tr>
<th>Build Type</th>
<th>Unit</th>
<th>Functional</th>
<th>Acceptance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Check-in/On-Demand</td>
<td>X</td>
<td>?</td>
<td></td>
</tr>
<tr>
<td>“Nightly”</td>
<td>X</td>
<td>X</td>
<td>?</td>
</tr>
<tr>
<td>Deployments</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>
This Agreement contain the entire agreement of the parties with respect of this Agreement. All parties shall act to complete the work described within the scope of the liability or potential liability of the contractor agrees to indemnify and hold harmless the contractor against any claim or action.
Wait, but...You can’t go to Prod like this!!
Wait, but...You can’t go to Prod like this!!

Yes, um...you can, and we have several times!
Payment Service

Promote to Production

Payment Service

ASTEROID
Debit Card Network

SIMULATOR/MOCKS
References

- **XUnit Patterns** – Gerald Meszaros
- **Developsense blog** – Michael Bolton
- **Dependencies Break Agile** – Michael Cottmeyer
- **I’ve got Integration and System Tests, Why do I Need Unit Tests?** – James Grenning
- **Integration Tests are a Scam!** – J.B. Rainsberger
- **Managing Requirements Dependencies Between Agile Teams** – Scott Ambler
- **Driving Development With Tests: ATDD and TDD** – Elisabeth Hendrickson