Shipping Software in the Real World

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testing @
monitoring @
shipping @
DATA CARE
Who is DataCare?
TESTING IS ABOUT TRUST:
customers trusting you.
you trusting your code.
ACCEPTANCE TESTING
Solve the customer’s problem!

AUTOMATED TESTING
Does my code do what I think it does?
ACCEPTANCE TESTING @ DataCare

HOW WE DO THINGS.
ACCEPTANCE TESTING @ DataCare

HUMANS

DOMAIN EXPERTS
ACCEPTANCE TESTING @ DataCare

HUMANS

DOMAIN EXPERTS

USER CENTRIC
ACCEPTANCE TESTING @ DataCare

HUMANS

DOMAIN EXPERTS

USER CENTRIC

INDEPENDENT
ACCEPTANCE TESTING @ DataCare

HUMANS

DOMAIN EXPERTS

USER CENTRIC

INDEPENDENT

COMPLIANCE
WHAT’S WRONG WITH THIS?
I WOULD RATHER BE SHIPPING.
QUALITY IS NOT MY JOB.
automated testing
work in progress
Software development is hard.
Automated testing makes it easier.
every organization must ask themselves: make somebody else write tests OR do it yourself?
TEST DRIVEN DEVELOPMENT
write test first

refactor code

see test pass

code

watch test fail
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<th>Type</th>
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<th>Date 2</th>
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The table represents financial transactions with specific details such as ID, amount, type, dates, and description. Each row corresponds to an individual transaction.
WHY TDD IS AWESOME:

4 REASONS
WHY TDD IS AWESOME: CONFIDENCE

Refactor as much as you want.

Avoid regressions during development.
WHY TDD IS AWESOME: **SELF-DOCUMENTING**

Tests describe what the code does.

If the code passes, you know the spec is true.
WHY TDD IS AWESOME: DESIGN

Forces you to think about your design before you code.
WHY TDD IS AWESOME: EFFICIENT

Catch bugs early.
Before acceptance testing.
Before a customer complains.
OMG!! TDD IS SO RAD

what could possibly be wrong?
WE ARE

BUSY

AUTOMATED TESTING IS THE FIRST CORNER YOU CUT.
RUN TIME
If the tests take 2 days to run no one will use them.

DISCIPLINE
If test coverage is bad you won’t trust your tests results.
ACCEPTANCE TESTING
SOLVE THE CUSTOMER’S PROBLEM

AUTOMATED TESTING
NO BUG LEFT BEHIND, EVER
questions on testing?
monitoring and telemetry
IS YOUR APPLICATION UP?

RIGHT NOW?

HOW ABOUT NOW?

HOW DO YOU KNOW?
How DataCare Monitors Ahshay
How DataCare Monitors Ahshay

HARDWARE
CPU, HARD DRIVES/RAID, POWER SUPPLY
How DataCare Monitors Ahshay

HARDWARE
CPU, HARD DRIVES/RAID, POWER SUPPLY

SERVICES
APACHE, MYSQL, NFS, POSTFIX
the application is what really matters

login

click • click • click

search • download • upload
Your automated test suite comes in handy here.
No one likes waking up at 3am for a false-positive.
No one likes waking up at 3am for a flapping service.
No one likes waking up at 3am for an unreliable host.
StillAlive  CloudWatch
Nagios     Cacti
Pager Duty  Zenoss
ACCURACY: DON'T BUG ME FOR NO REASON

THE APP: MONITOR WHAT REALLY MATTERS
questions on monitoring?
shipping
web based software
in the real world
BUILDING ENTERPRISE SOFTWARE MEANS...

BUSINESS ANALYSIS

ONE SIZE DOES NOT FIT ALL

CUSTOMIZATION vs. CONFIGURATION
Customers need the same features, but all want them a little different:

Customer A calls it a “case”
Customer B calls it a “claim”
Customer C calls it a “worker”

Standard software is more profitable but more difficult to sell.
business vs. academia

reusability

LIKE BEFORE BUT DIFFERENT
DON’T SPECIALIZE YOUR CODE TOO MUCH
business vs. academia

DATABASE INTENSIVE PROGRAMMING
business vs. academia

recursion

DID YOU KNOW RECURSION IS USEFUL?
data structures
UNSUAL DATA STRUCTURES
test • monitor • reality check
thank you!

Slides available at:
http://speakerdeck.com/u/matmalone/p/ucsc-web-development-talk