INTRODUCTION TO MSPEC

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A LITTLE ABOUT ME

I'M NOT

BUT SOME CLIENTS ARE

BDD
WHAT IS IT?

TDD with some structure

- Test names should be sentences
- Tests should be focused
- Tracing requirements, executable acceptance criteria

UNIT TESTING BASICS

Arrange

Act

Assert

"Arrange-Act-Assert"
a pattern for arranging and formatting code in UnitTest methods:
http://c2.com/cgi/wiki?ArrangeActAssert

Arrange all necessary preconditions and inputs.

Act on the object or method under test.

Assert that the expected results have occurred.

CODE
BREAK

DEMO ARRANGE ACT ASSERT

STORIES BASED TESTING

User story

Feature: Short & clear
As an actor of the system
I want to perform some action
In order to realize some business value

Acceptance Criteria

Scenario: Some business situation
Given some context
And some other condition
When the actor perform an action
Then the outcome is achieved
And some other outcome is achieved

Scenario: Some other situation related to the same story

USER STORY EXAMPLE

Feature: Account transfer

As a customer

I want to transfer money between accounts online

In order to avoid having to telephone my bank to carry do this

Scenario: Account has required funds

Given the source account is sufficient

And the customer has signed up to online banking

When the customer transfers money between accounts

Then the target account is credited immediately

And the source account is debited immediately

Scenario: Account has insufficient funds

Given the source account is insufficient funds...

CODE
BREAK

Creating a BDD test using SPEC FLOW

ENTER MSPEC

CONTEXT SPECIFICATION FRAMEWORK

CONTEXT == ARRANGE or GIVEN

SPECIFICATION == ASSERT or THEN

DEVELOPER CENTRIC

BETTER FOR UNIT TESTING

INSTALLATION

Using chocolatey:

cinst machine.specifications

run InstallResharperRunner.7.1

Resharper live templates

Resharper settings – see resources

TEST STRUCTURE

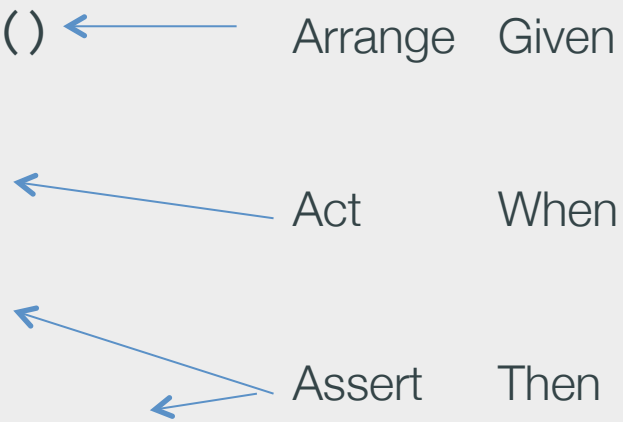
```
when_describe_context {
 Establish context => ()

 Because of = () =>...

 It should_...() =>...

 It should_...() =>...

 Cleanup test_data () =>...
}
```



TESTING BEHAVIOR

Behaves_like<TBehavior>

```
[Behaviors]
public class AccountInCredit
{
  protected static Account account;

It should_have_a_positive_balance = () =>
account.Balance.ShouldBeGreaterThan(0m);
}
```

CODE BREAK

Creating an mspec test

Creating an mspec test using behaviors

MACHINE FAKES

Integrates machine.specifications and mocking

Auto-mocking container

Choose between:

RhinoMocks, Moq, NSubstitue and FakeItEasy

```
Install-Package machine.specifications.moq
```

MACHINE FAKES
WITHFAKES

WithFakes

Base class giving you access to

An<TFake> or Some<TFake> to create fakes

WhenToldTo(x=>x.foo).Return(3) // create an expectation
WasToldTo(x=>x.foo) // verfiy an expectation
Param<T>

CODE
BREAK

Creating a test using WithFakes

MACHINE FAKES
WITHSUBJECT

WithSubject<T>

Automocking container

Creates subject under test for you

The<Tinterface> access existing fakes

CODE
BREAK

Creating a test using WithSubject<T>

MACHINE.FAKES
REUSING CONTEXT

```
OnEstablish context = fake =>
{
    fake
            .The<IFoo>
            .WhenToldTo(x=>x.Bar())
            .Return("Baz");
}

OnCleanup sub
```

CODE BREAK

Creating a test reusing context setup code.

MSPEC ALT

SHARPDEVELOP

TEAM CITY

COMMAND LINE

MSBUILD TASK

LESSONS I LEARNED

Treat test code like production code

Use DI and Factories

Be wary of inheritance

Tests should be simple

Don’t be scared to delete tests

RESOURCES

Machine.Specifications

https://github.com/machine/machine.specifications

Machine.Fakes

https://github.com/machine/machine.fakes

Resharper templates

http://therightstuff.de/2010/03/03/MachineSpecifications-Templates-For-ReSharper.aspx

Resharper settings

http://www.thebooleanfrog.com/post/2011/11/24/ReSharper-StyleCop-and-MSpec-All-Together-Now.aspx

PROJECTS USING MSPEC

Fluent NHibernate

http://www.fluentnhibernate.org/

Should Assertion Library

http://should.codeplex.com

EventStore

https://github.com/joliver/EventStore

Who-Can-Help-Me

https://github.com/jongeorge1/Who-Can-Help-Me

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