Acceptance Test Driven Development Applied

An Intro to ATDD using Jasmine and SpecFlow
Goals

- Acceptance Test Driven Development
  - What is it? How does it differ from BDD/Automated Specs/etc?
  - Why would you want to use it?
- Acceptance Criteria
  - What does this look like for different team styles
  - What does good acceptance criteria look like
    - What is this Gherkin thing anyway?
  - Some ideas for “refactoring” acceptance criteria
- Tools
  - SpecFlow
  - Jasmine
Our Timeline

- You go to a conference and learn all about ATDD - 10 minutes
- You decide you love ATDD and get your team to agree to try it - .5 seconds
- The team grooms the backlog - 5 minutes
- The Sprint (SpecFlow/Jasmine) - 90 minutes
- The team does an ATDD retrospective - 10 minutes
The Conference...
What is ATDD?

- Create automated acceptance tests before coding
- Many names
  - Behavior Driven Development (BDD)
  - Specification by Example or Automated Specs
  - Or ... in some cases ... E2E Tests, BVTs ... results may vary
  - In reality...it doesn’t matter

- Super rough approximations
  - Specification by Example = Automated Specs - unit tests
  - ATDD ~ TDD
  - BDD ~ TDD + Intentional Programming
Why ATDD?

- A way to know you’re done
- It’s about the conversation
  - Really a planning activity
  - Everyone in the room
  - PM/PO involvement
ATDD Anti-Patterns

- Test writes the acceptance criteria/tests alone
- Acceptance tests are written early
- Anything that means there’s no conversation
Acceptance Criteria

- Different names for different processes/teams
  - Specs
  - Acceptance Criteria
  - User Acceptance Tests (UATs)

- Usually not ATDD focused at first
  - “First name must be less than 50 characters”
  - “The screen should show a list of all books for a category”
  - “The service should return product names and prices”

- Need a team test “language”
Introducing Gherkin

- *Given...When...Then*
- *Can think of Arrange...Act...Assert*
- *Gherkin Syntax*
  - *Feature* - A user story
  - *Scenario* - A test
  - *Given, And, But*
  - *When, And, But*
  - *Then, And, But*
  - Also some other stuff....
Introducing Gherkin - an Example

Feature: Product list
  As a salesman
  I want a list of our products and prices
  So that I can give customers accurate price information

Scenario: All products and their prices are listed
  Given 20 products are available
  When I request a list of products
  Then all products and their prices should be listed

Scenario: No products exist
  Given 0 products are available
  When I request a list of products
  Then no products should be returned
  And I should get a message telling me there are no products
Tools

- Lots and lots of choices
  - Jasmine - [https://github.com/pivotal/jasmine/wiki](https://github.com/pivotal/jasmine/wiki)
  - Cucumber - [http://cukes.info/](http://cukes.info/)
  - CucumberJs - [https://github.com/cucumber/cucumber-js](https://github.com/cucumber/cucumber-js)
  - Fit - [http://fit.c2.com/](http://fit.c2.com/)
  - FitNesse - [http://fitnesse.org/](http://fitnesse.org/)
  - And on and on...
We Love It...
Introducing SpecFlow

- ATDD/BDD for .Net
- Can drive anything you can put in .Net
- Tooling is integrated in Visual Studio
- Test can be run in VSTest, NUnit, xUnit, MSTest
Introducing Jasmine

- Framework for testing JS
- Test code written in JS
- BDD vocabulary
Backlog Grooming...
The Sprint...
Setting up a SpecFlow project

- Extension Manager for context menu integration
- Start with an empty unit test project so you have Asserts
- Nuget is your friend
  - Other additions to SpecFlow
Setting up a Jasmine project

- SpecRunner
- `spec/` folder
- Any tools and libraries
- Many Jasmine add ins available
The Shell...
More Tests...
Writing The Code...
DONE!
Wrap Up

- Our sample code
  - Other SpecFlow stuff...
    - State management
    - Code reuse with shared bindings
    - Attributes
    - Setup/Teardown

- With Jasmine
  - RequireJS
    - Allows specifications to declare code to test
    - Gets fresh modules every test
    - Easy to inject mocks

- Using Gherkin syntax with JavaScript
  - Jasmine-species
  - Cucumber JS
Links

- **Gherkin Language**
- **Elisabeth Hendrickson on ATDD**
- **Dan North - Introducing BDD**
- **Our demo code** - [https://atddexample.codeplex.com/](https://atddexample.codeplex.com/)
  - **Sublime** - [http://www.sublimetext.com/](http://www.sublimetext.com/)
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