

Test-Driven Development (TDD) - an overview



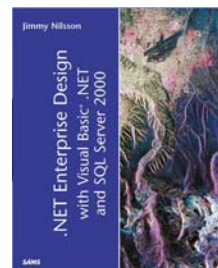
Erik Dörnenburg & Jimmy Nilsson

Prerequisites for the presentation:
We assume you know: 1) C# (or VB.NET or Java)

Level: Intermediate

About Jimmy Nilsson

- Primarily a developer, but also a trainer and author
- Blogs at www.jnsk.se/weblog/
- Author of ".NET Enterprise Design"
- Work in progress, "Applying DDD and Patterns"



About Erik Dörnenburg

- A technologist at ThoughtWorks in the UK
- He writes code *and* does architecture
- ThoughtWorks delivers complex projects using agile methods
- ThoughtWorks has about 600 people in the US, Australia, Canada, India and the UK
- More at erik.doernenburg.com

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Why TDD?

TDD isn't about testing...
...it's about programming!

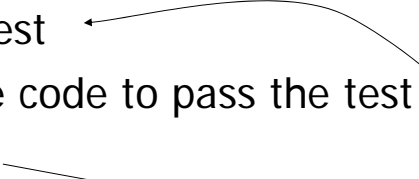
Writing simpler, clearer and more robust and
more maintainable code!

What is TDD?

Red - Green - Refactor

Red - Green - Refactor

...

1. Write a test
 2. Write the code to pass the test
 3. Refactor
- 

Iteration 1

1

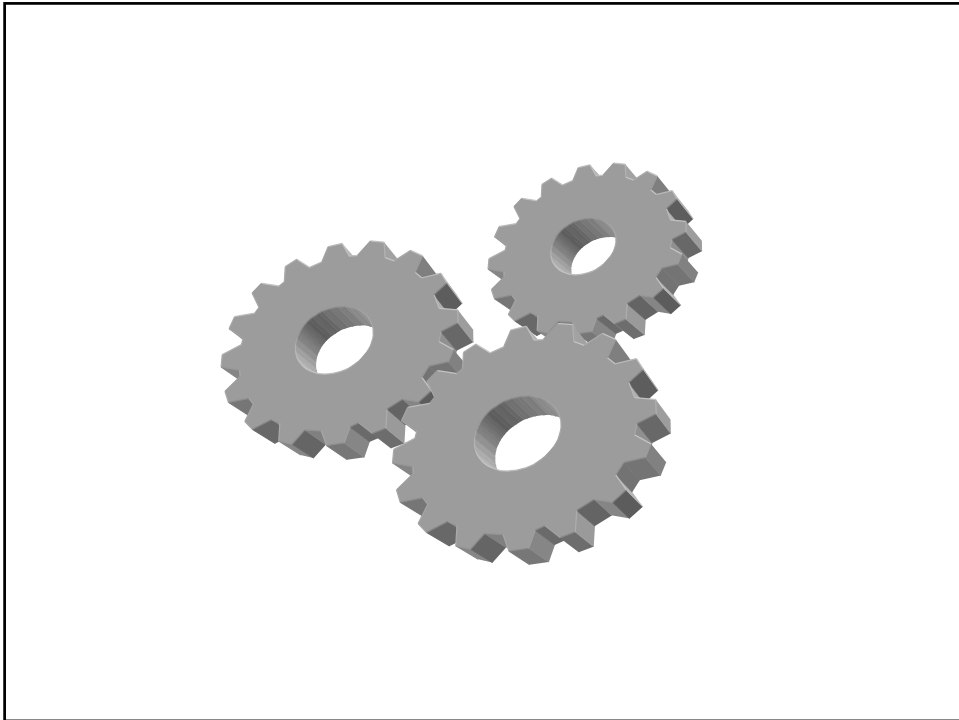
As a wallet owner I would like to be able to put money into my wallet so that I can take it out later.

2

As a wallet owner I would like to be able to see how much money is in my wallet.

3

As a wallet owner I would like to be able to take a specified amount of money out of the wallet.



State-based testing...

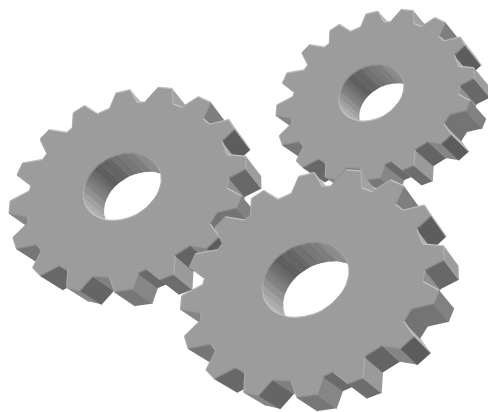
1. Set up object and related objects
2. Invoke new functionality
3. Assert that state has changed

Best written in reverse order

Iteration 2

4

account
As a ~~wallet~~ owner I would like to be able to take out more money than I have, so that I can buy things I can't afford.



Iteration 3

5

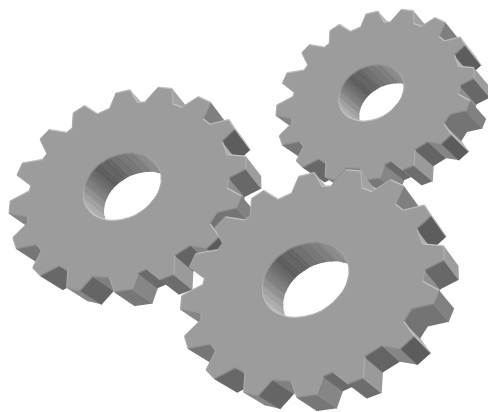
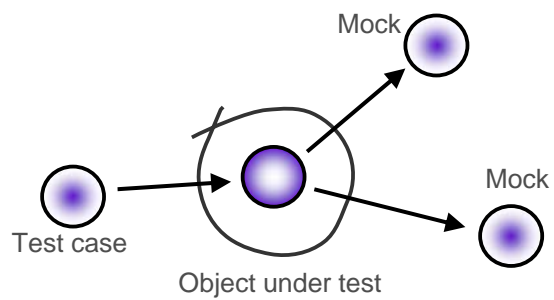
As an account owner I would like to be notified by email when I overdraw my account.

6

As an auditor I would like to be notified whenever any account is overdrawn.

Interaction-based testing...

- Replace neighbours with mocks
- Specify and verify interaction patterns



Any Questions?

We'd really appreciate your filling in the evaluation form

Thanks for listening!

References

- Accompanying material (www.jnsk.se/nordev2005)
- [Beck TDD] Kent Beck: Test Driven Development
- [Astels TDD] David R. Astels: Test Driven Development
- [Fowler R] Martin Fowler: Refactoring
- www.mockobjects.com/MockObjectTestingPatterns.html

- [TestDriven.NET] www.testdriven.net
- [NMock] nmock.truemesh.com
- [Resharper] www.jetbrains.com/resharper
- [NUnit] nunit.sourceforge.net
- [NAnt] nant.sourceforge.net
- [CruiseControl.NET] ccnet.thoughtworks.com