Creating a Walking Skeleton

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- Aviva Team Meeting April 2012
- Norwich Developers Community April 2012
- ACCU Conference April 2012
- ACCU London September 2012
- Agile Cambridge (TBC) September 2012

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About Me

- Husband & Father
- Independant Software Engineering Consultant
  - Robust software development
  - Automated testing
  - Java, C# & C++
- Published Author
  - Book on the way
- Agile Evangelist
- Agile East Anglia Organiser (On The Code City)
  - BDD 7th June 2012
- Heavy metal, Sci-fi & Formula 1 Fan

Like having a baby
Salesman meets Techie

Agenda

- What is a Walking Skeleton?
- Why do you want a Walking Skeleton?
- How do you create a Walking Skeleton?

Creating a Walking Skeleton

Session Objectives

- **You to understand what a Walking Skeleton is.**
- **You to understand why you need a Walking Skeleton.**
- **You to see how easy it is to create a Walking Skeleton.**
  - Approximately 25 steps

Creating a Walking Skeleton

Danger Will Robinson

There Will Be Code

Creating a Walking Skeleton

Ask Questions!

Creating a Walking Skeleton

What is a Walking Skeleton?

What is a Walking Skeleton?

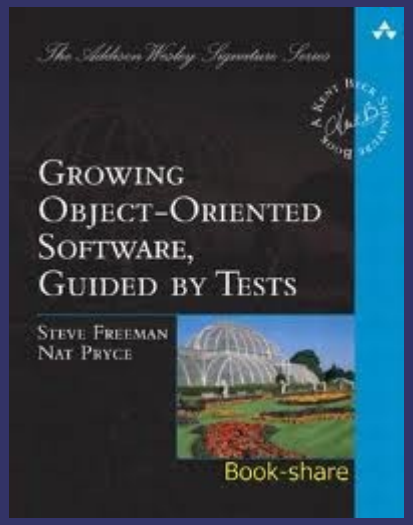
A Walking Skeleton is a tiny implementation of the system that performs a small end-to-end function.

- Cockburn 1994, 1997, 2004

What is a Walking Skeleton?

A Walking Skeleton is an implementation of the thinnest possible slice of real functionality that we can **automatically build, deploy and test end-to-end**.

- Freeman & Pryce GOOS



What is a Walking Skeleton?

Automated:

- Build
- Unit & Integration Tests
- Deploy
- Acceptance Tests
- Static Analysis
- Code Coverage

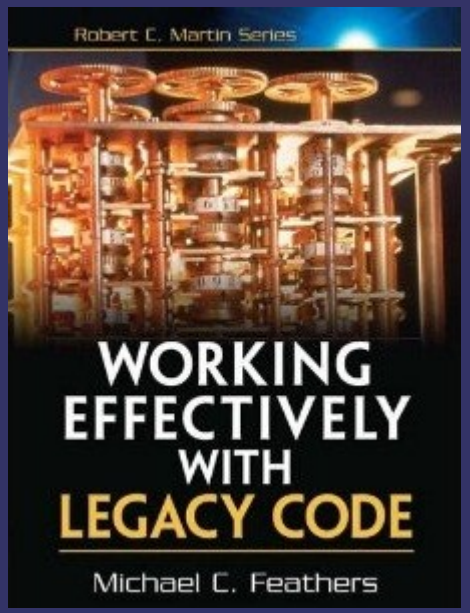
Creating a Walking Skeleton

Why do you want a Walking Skeleton?

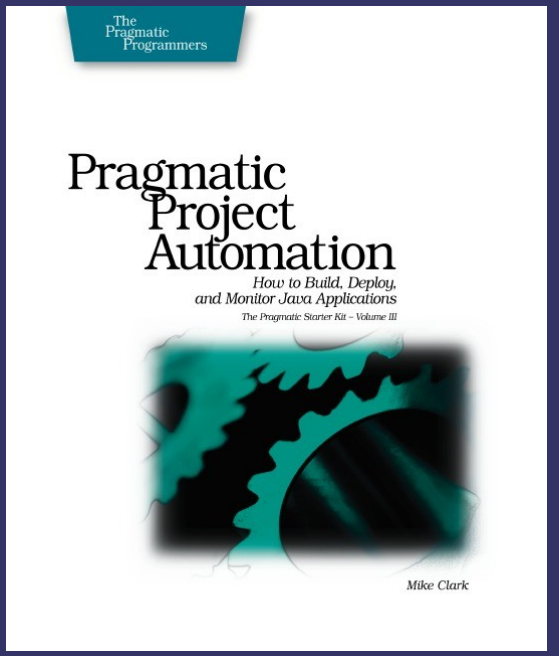
Why do you want a Walking Skeleton?

Code without tests is bad code. It doesn't matter how well written it is; how pretty or object orientated or well encapsulated it is. With tests we can change the behaviour of our code quickly and verifiably. Without them, we really don't know if our code is getting better or worse.

- Michael Feathers, Working Effectively with Legacy Code



Why do you want a Walking Skeleton?



- Automated Build
- Automated Deploy
  - Solve deployment process issues early
  - Automate deployment
- Automated Acceptance Tests for Features.
  - **Test Driven Development (TDD) at the system level (GOOS)**
- Automated Unit and Integration Tests
- Automated Coverage
- Automated Static Analysis
- **Continuous Integration**

Creating a Walking Skeleton

How do you create a walking skeleton?

How do you create a Walking Skeleton?

- Review User Stories
- Write and Automate First Acceptance Test (which will **FAIL!**)
- Automate Build and Package
- Automate Deploy
- Implement Feature
- Automate Static Analysis
- Automate Code Coverage & Integration Test

How do you create a Walking Skeleton?

As a user I want to be able to log into the application so that it knows who I am.

1. When I first access the application I am presented with the login screen.

2. If I enter incorrect credentials I receive the message "Bad credentials". Combinations include:
    - bad username
    - bad password

3. If I enter the correct credentials I am taken to the applications home page.

How do you create a Walking Skeleton?

As a user I want to be able to log into the application so that it knows who I am.

Test That:

- Login Page Is Displayed When Accessing The Application For The First Time.
- Bad Username Results In Error Message
- Bad Password Results In Error Message
- Correct Credentials Display Home Page

How do you create a Walking Skeleton?

- Java Web Application
- Spring Security
- JUnit & HtmlUnit
- Ant
- PMD
- Cobertura
- Tomcat

How do you create a Walking Skeleton?

- Write and Automate First Acceptance Test
- Automate Build and Package
- Automate Deploy
- Implement Feature
- Automate Static Analysis
- Automate Code Coverage & Integration Test

How do you create a Walking Skeleton?

Integration Tests:

- Integration tests are automated tests that test the interaction between at least two different parts of a system. For example a test which checks that a data access layer correctly loads data from a database is an integration test.

Acceptance Tests:

- Rachel Davies describes acceptance tests as “...scripts - manual or automated - that detail specific steps to test a feature.“ [Davies]
- Generally acceptance tests are run against a deployed system to check that it behaves in a way that will be accepted as a complete or partially complete feature.

How do you create a Walking Skeleton?

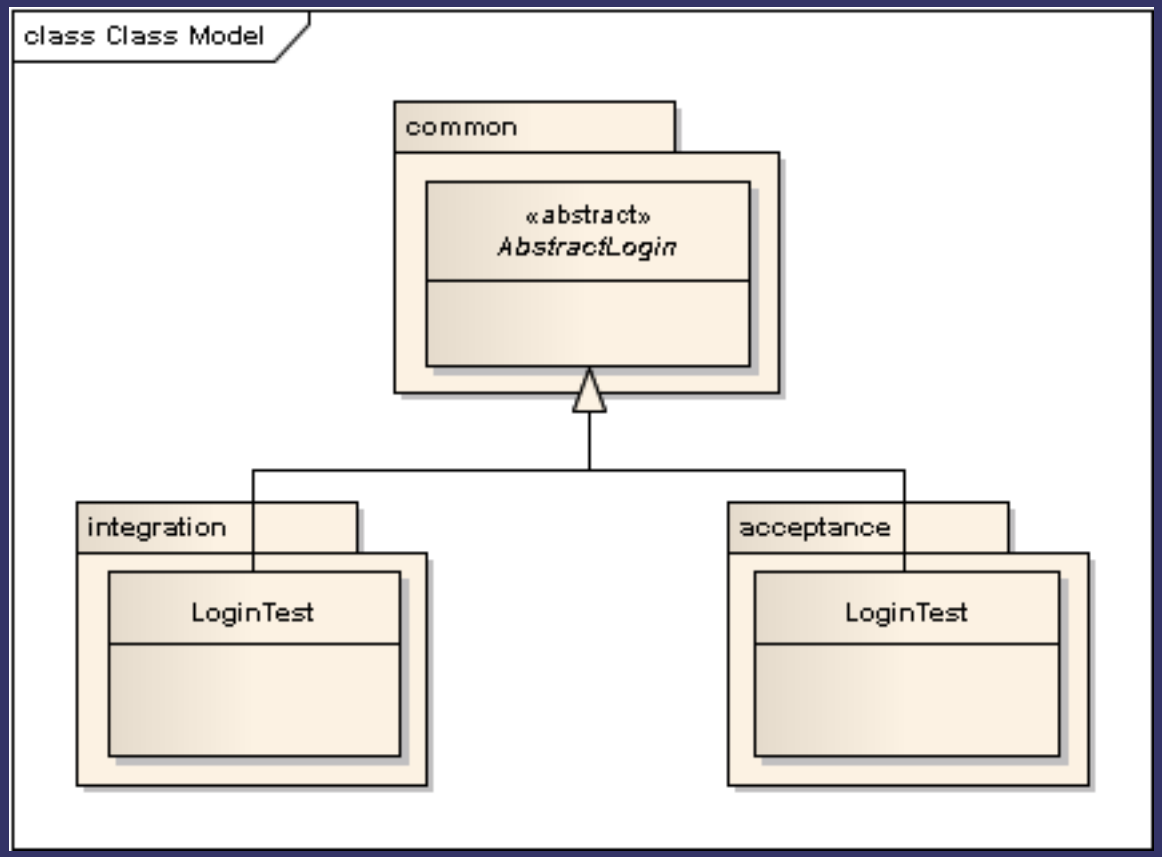
Unit Tests

Unit tests are automated tests that test a single unit, such as a class or method. Usually the class under test is instantiated with any dependent colaborators mocked out and then tests are run against it. In some ways it is easier to describe what a unit test is not and Michael Feathers has done this very well:

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 your environment (such as editing config files) to run it.

How do you create a Walking Skeleton?



How do you create a Walking Skeleton?

Stop! Code Time!

How do you create a Walking Skeleton?

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How do you create a Walking Skeleton?

- Automated First Acceptance Test
- Automated Build and Package
- Automated Deploy
- Implemented a Feature
- Automated Static Analysis
- Automated Code Coverage & Integration Tests

Creating a Walking Skeleton

Session Objectives

- Do you to understand what a Walking Skeleton is?
- Do you to understand why you need a Walking Skeleton?
- Did you to see how easy it is to create a Walking Skeleton?

Creating a Walking Skeleton

Any questions?

See you in the bar....

Don't forget: BDD 7th June.

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