TESTING CODE FROM THE PIT OF DESPAIR

Philip Japikse (@skimedic)
skimedic@outlook.com
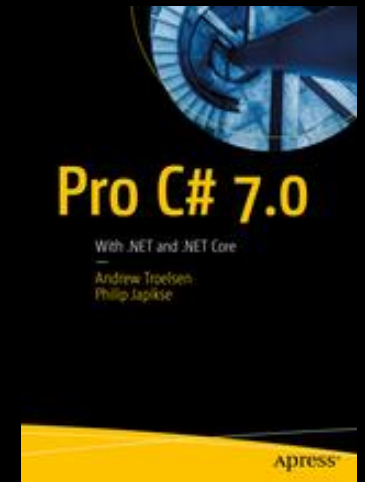www.skimedic.com/blog
Microsoft MVP, ASPInsider, MCSD, MCDBA, CSM, CSP
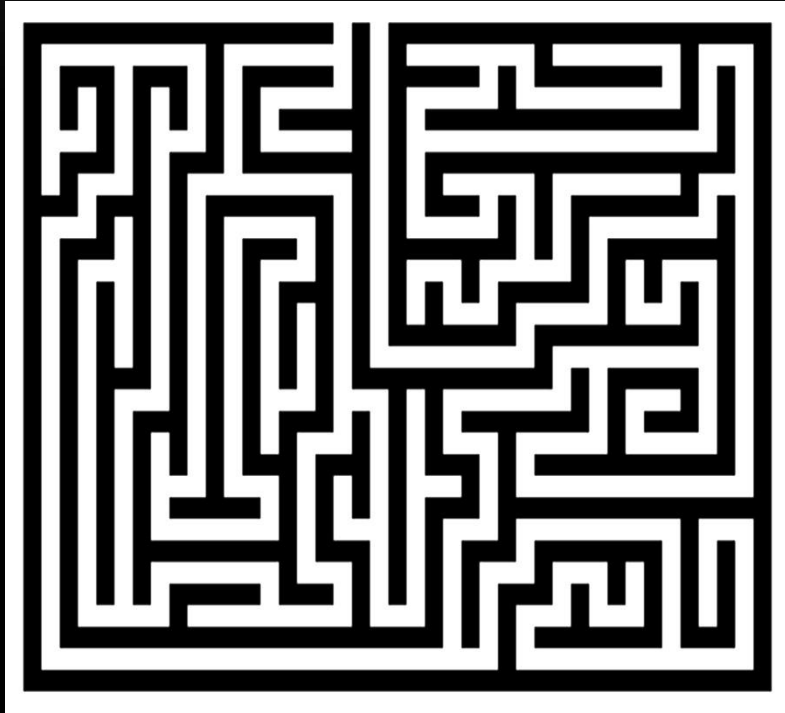Consultant, Teacher, Writer

Phil.About()

➢ Consultant, Coach, Author, Teacher

   ➢ Lynda.com (http://bit.ly/skimediclyndacourses)

   ➢ Apress.com (http://bit.ly/apressbooks)

➢ Microsoft MVP, ASPInsider, MCSD, MCDBA, CSM, CSP

➢ Founder, Agile Conferences, Inc.

   ➢ http://www.dayofagile.org

➢ President, Cincinnati .NET User's Group

LEGACY CODE

- Any Code Not Under Test
  – Michael Feathers
- High Technical Debt
- Icky

WHEN TO CHANGE SOFTWARE

- ➢Killing Bugs
- ➢Adding Features
- ➢Optimizing Resources
- ➢Pay down Technical Debt
- ➢Removing FUD*
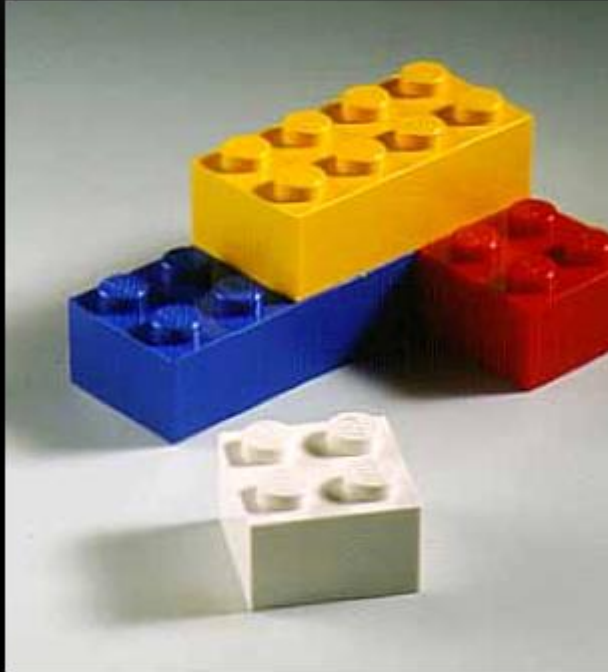
MAKE ONE CHANGE AT A TIME

➤ Fix or Add

➤ Test after every change

➤ Commit after every test

TOOLS OF THE TRADE

- TDD
- BDD
- Mocking
- Dependency Inversion
- UI Testing

TEST DRIVEN DEVELOPMENT

BEHAVIOR DRIVEN DEVELOPMENT

http://www.1000steine.com/brickset/images/10179-1.jpg

FAKES, STUBS, AND MOCKS

- ➢ Fakes have working implementations
  - ➢ Hardcoded, not suitable for production
- ➢ Stubs provide canned answers
- ➢ Mocks pre-programmed with expectations
  - ➢ Create a specification
  - ➢ Record behavior

DEPENDENCY INVERSION

USER INTERFACE TESTING

- ➤ Typically Manual
- ➤ Often tested by customers
- ➤ Tools becoming better
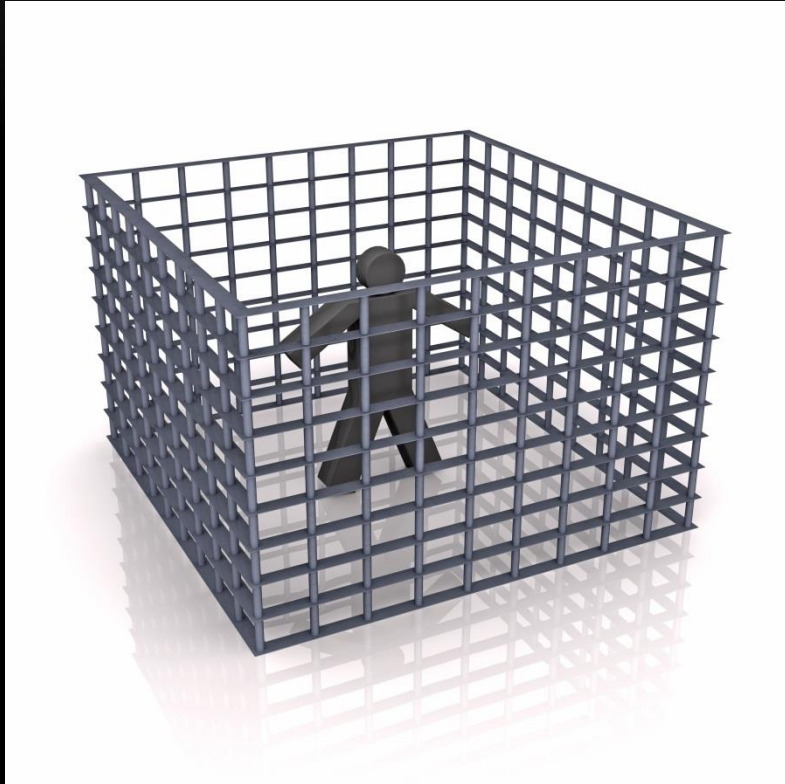
TESTING AND REFACTORING

SAFETY FIRST!

➢Remember:
    Only you can prevent bugs!

"INTEGRATION" TEST

http://icanhascheezburger.com/2008/10/22/funny-pictures-safety-blanket-ai-has-one/

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CODE ISOLATION AND REFACTORING

```
10: FindChangePoint()
20: CreateASeam()
30: AddNewTest()
40: Refactor()
50: If !Isolated GOTO 20
60: FixTargetIssue()
70: HappyHour()
```

FIND A CHANGE POINT

CREATE A SEAM

➢Dependency Injection

➢Commercial Mocking

ADD A TEST

➢ TED Style

REFACTOR

- ➤ Extract Methods
- ➤ Reduce Complexity
- ➤ DRY
- ➤ SOLID

LATHER, RINSE, REPEAT

➢ Continue to drill down

ENTER THE DRAGON

- Code is isolated
- Tests are in place
- Switch to T/BDD

TEST/BEHAVIOR DRIVEN DEVELOPMENT

- ➢ Write a failing test
- ➢ Make the test pass
- ➢ Refactor
  - ➢ Remove magic code
  - ➢ Add use cases

HAPPY HOUR

➤ Wave to your coworkers as they struggle with their legacy code…

DEMO

Me.Contact()

skimedic@outlook.com
www.skimedic.com/blog
www.twitter.com/skimedic

http://bit.ly/skimediclyndacourses
http://bit.ly/apressbooks

www.hallwayconversations.com

Thank You!

Questions?