Attack of the Clones: Eliminating Duplicate Code in .NET

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About Me

Wirtley Consulting LLC

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C#, WPF, MVC, Web API

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Outline

- Why not duplicate code?

- Tools for Detection

- Patterns
  - Identification
  - Solution

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Why Duplicate Code is Bad

- Increased maintenance cost

- More code = more cost

- Signal to noise ratio

DRY

- Don't Repeat Yourself

Every piece of knowledge must have a single, unambiguous, authoritative representation within a system.

- Tests can be "moist"

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Detection Tools

Product	GUI	Command Line	Cost	Comments
ReSharper Duplicate Finder		✓	Free	• Comparison result is XML • Baked into TeamCity • Some pain to get started
Code Clone Detection	✓	✓	Free*	• Integrated in Visual Studio • Can run with TFS build • Slow
jscpd		✓	Free	• npm package • Supports 150+ formats • Can integrate with CI

* Visual Studio Premium/Ultimate 2012-2015, Enterprise 2017+

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Other Tools

- Simian
- CloneDR

- Your Brain

Patterns

- Same
- Same except for location
- Same except for type

Same

- Method
- Class

Same except for location

- Related to type
  - Encapsulation
    - Method/Property
    - Class hierarchy
  - Extension method

Same except for location

- Before/After
  - Delegate
  - Attribute
  - AOP

Same except for type

- Generics
  - Method
  - Class

Contact Me

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