

# Attack of the Clones: Eliminating Duplicate Code in .NET

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# About Me

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C#, WPF, MVC, Web API

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# Outline

- Why not duplicate code?
- Tools for Detection
- Patterns
  - Identification
  - Solution

# 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.

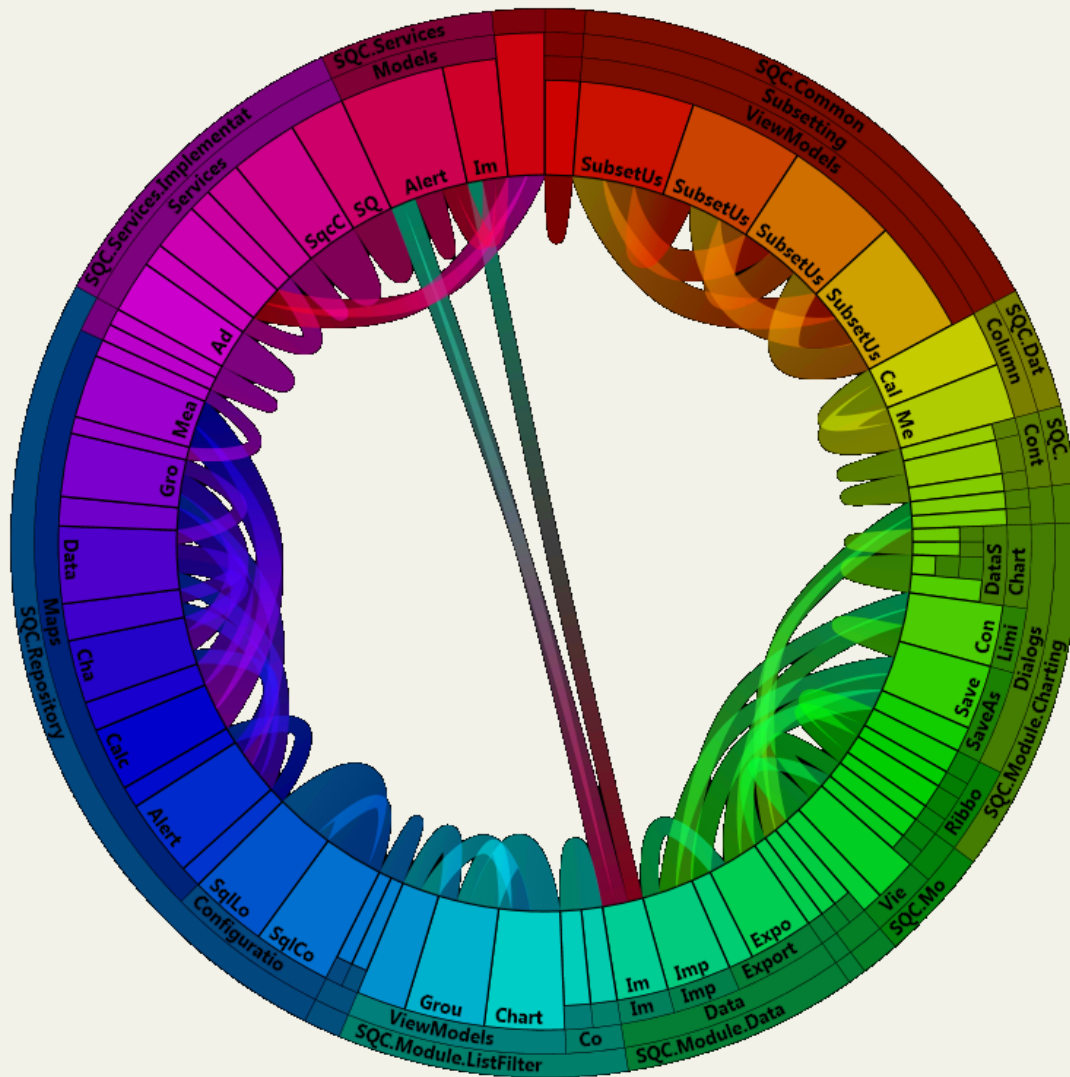
- Tests can be “moist”

# Detection Tools

| Product                    | GUI | Command Line | Cost  | Inexact Matches | Comments  |
|----------------------------|-----|--------------|-------|-----------------|---|
| AtomiQ                     | ✓   | ✓            | Free  |                 | <ul style="list-style-type: none"><li>• Easy</li><li>• Highly interactive</li></ul>   |
| ReSharper Duplicate Finder |     | ✓            | Free  | ✓               | <ul style="list-style-type: none"><li>• Comparison result is XML</li><li>• Baked into TeamCity</li><li>• Some pain to get started</li></ul> |
| Code Clone Detection       | ✓   | ✓            | Free* | ✓               | <ul style="list-style-type: none"><li>• Integrated in Visual Studio</li><li>• Can run with TFS build</li><li>• Slow</li></ul>               |

\* Visual Studio Premium/Ultimate since 2012

# AtomiQ



# Other Tools

- ConQAT
  - 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

GitHub: <https://bit.ly/EliminatingDuplicateCode>

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