



Robert Haken

software architect, HAVIT, s.r.o.

haken@havit.cz, @RobertHaken

Microsoft MVP: Development, MCT, MCSD

Working Effectively with Legacy Code



Microsoft Partner

Gold Application Development
Silver Cloud Platform

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Legacy Code

OCHUTNÁVKA



Legacy Code?

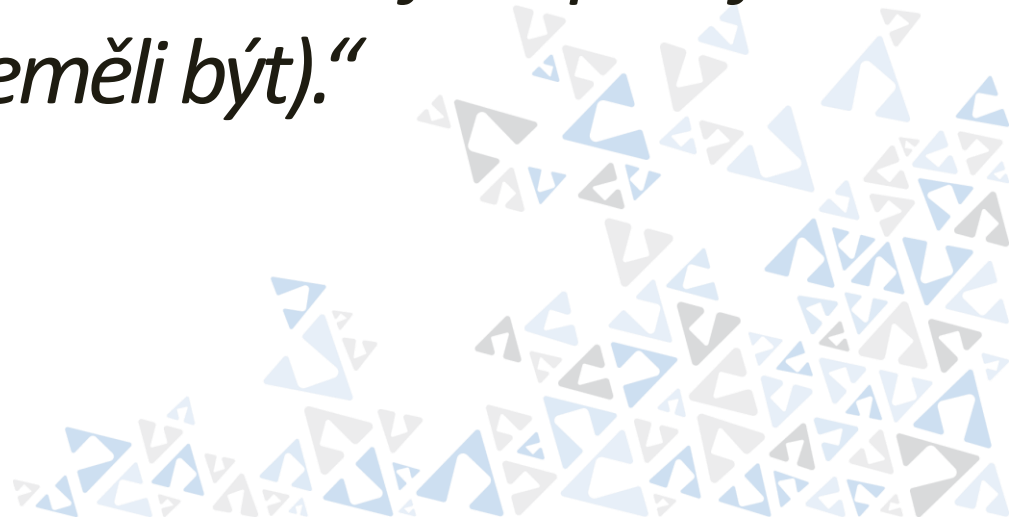
„Code without tests.“ [Michael Feathers]

„Source code inherited from someone else.“

„Source code inherited from an older version of the software.“

„Veškerý kód, s kterým aktuálně nejste spokojeni (nebo byste alespoň neměli být).“

[Robert Haken]



Legacy Code

Non-uniform coding style

Nesrozumitelný

Málo/bez testů

Bad Design

Code Smell

...



Refactoring Mindset

Planned refactoring

„Do not touch working code, unless needed.“

Refactoring as you go.

„Leave the code in better condition than you found it.“ [The Boy Scout Rule]



Předpoklady

Sdílené vlastnictví kódu

Komunikace v týmu

Source Code Management

Continuous Integration builds + runs Tests



Refactoring Justification

Quality

Clean Code

Professionalism

Right Thing

Economics



Roslyn CodeAnalysis + baseline

DEMO



Code Analyzers

Microsoft.AnalyzerPowerPack (Roslyn Team)

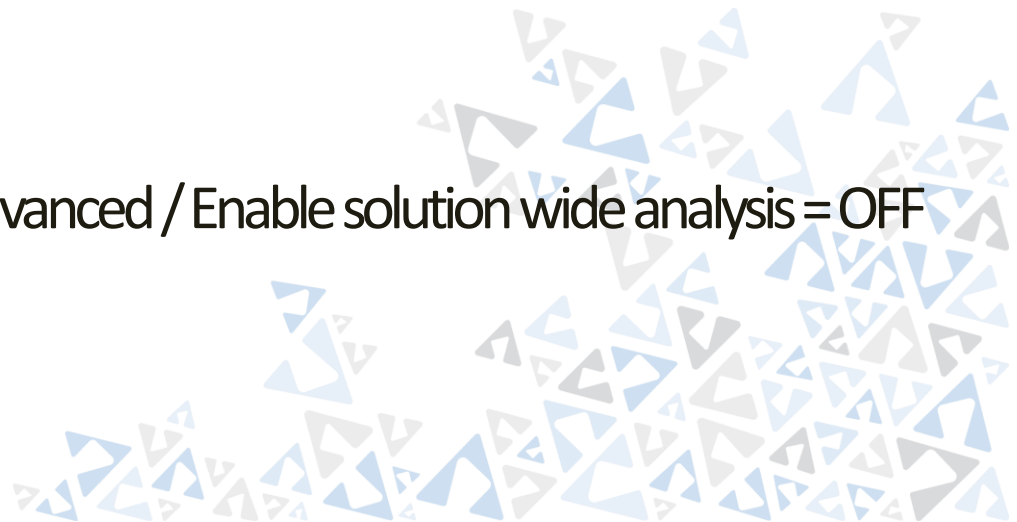
System.Runtime.[CSharp.]Analyzers

StyleCop Analyzers

SonarLint [SonarQube]

VS Perf-tip:

Tools / Options / Text Editor / C# / Advanced / Enable solution wide analysis = OFF



Refactoring

Continuous, As you go

Small steps

IDE/Tooling supported safe steps

Comprehension Refactoring (Rename, Extract, ...)

Podpořeno testy

- Pomáhají porozumět kódu
- Guard Conditions, Contract.Requires
- Debug.Assert, InvalidOperationException, ...
- Unit-Tests
- Integration Tests



"Good" Unit Test

- automated + repeatable
- **fully isolated**
- consistent in its results
- runs quickly
- **full control of the unit under test (all dependencies)**
- relevant tomorrow
- **easy to implement**
- able to run it at the push of a button
- if fails => easy to detect what was expected



Tips & Tricks

[assembly::InternalsVisibleTo(MyTestAssembly)]

[Obsolete]

Treat Warnings as Errors

Ambient Context (ale ne ServiceLocator nebo public container!)

Service Factories

Analyze / Analyze Solution for Code Clones

Test / Analyze Code Coverage



Q & A

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