

Effective SOFTWARE DEVELOPMENT SERIES

Scott Meyers, Consulting Editor



Effective C#

Third Edition

COVERS C# 6.0

50 Specific Ways to Improve Your C#



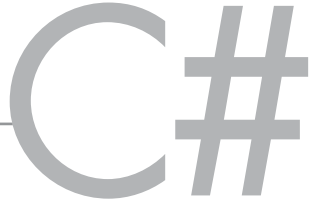
Content Update
Program

FREE...See Details Inside

Bill Wagner

Effective

Third Edition



This book is part of InformIT's exciting new Content Update Program, which provides automatic content updates for major technology improvements!

- ▶ As significant updates are made to C#, this book will be updated or new sections will be added to match the updates to the technologies.
- ▶ The updates will be delivered to you via a free Web Edition of this book, which can be accessed with any Internet connection.
- ▶ This means your purchase is protected from immediately outdated information!

For more information on InformIT's Content Update program, see the inside back cover or go to **informit.com/cup**



*If you have additional questions, please email our Customer Service department at **informit@custhelp.com**.*

Effective C# (Covers C# 6.0),: 50 Specific Ways to Improve Your C#

Table of Contents

Cover

Title Page

Copyright Page

Contents

Introduction

Chapter 1 C# Language Idioms

Item 1: Prefer Implicitly Typed Local Variables

Item 2: Prefer readonly to const

Item 3: Prefer the is or as Operators to Casts

Item 4: Replace string.Format() with Interpolated Strings

Item 5: Prefer FormattableString for Culture-Specific Strings

Item 6: Avoid String-ly Typed APIs

Item 7: Express Callbacks with Delegates

Item 8: Use the Null Conditional Operator for Event Invocations

Item 9: Minimize Boxing and Unboxing

Item 10: Use the new Modifier Only to React to Base Class
Updates

Chapter 2 .NET Resource Management

Item 11: Understand .NET Resource Management

Item 12: Prefer Member Initializers to Assignment Statements

Item 13: Use Proper Initialization for Static Class Members

Table of Contents

Item 14: Minimize Duplicate Initialization Logic

Item 15: Avoid Creating Unnecessary Objects

Item 16: Never Call Virtual Functions in Constructors

Item 17: Implement the Standard Dispose Pattern

Chapter 3 Working with Generics

Item 18: Always Define Constraints That Are Minimal and Sufficient

Item 19: Specialize Generic Algorithms Using Runtime Type Checking

Item 20: Implement Ordering Relations with `IComparable<T>` and `IComparer<T>`

Item 21: Always Create Generic Classes That Support Disposable Type Parameters

Item 22: Support Generic Covariance and Contravariance

Item 23: Use Delegates to Define Method Constraints on Type Parameters

Item 24: Do Not Create Generic Specialization on Base Classes or Interfaces

Item 25: Prefer Generic Methods Unless Type Parameters Are Instance Fields

Item 26: Implement Classic Interfaces in Addition to Generic Interfaces

Item 27: Augment Minimal Interface Contracts with Extension Methods

Item 28: Consider Enhancing Constructed Types with Extension Methods

Chapter 4 Working with LINQ

Item 29: Prefer Iterator Methods to Returning Collections

Table of Contents

Item 30: Prefer Query Syntax to Loops

Item 31: Create Composable APIs for Sequences

Item 32: Decouple Iterations from Actions, Predicates, and Functions

Item 33: Generate Sequence Items as Requested

Item 34: Loosen Coupling by Using Function Parameters

Item 35: Never Overload Extension Methods

Item 36: Understand How Query Expressions Map to Method Calls

Item 37: Prefer Lazy Evaluation to Eager Evaluation in Queries

Item 38: Prefer Lambda Expressions to Methods

Item 39: Avoid Throwing Exceptions in Functions and Actions

Item 40: Distinguish Early from Deferred Execution

Item 41: Avoid Capturing Expensive Resources

Item 42: Distinguish between IEnumerable and IQueryable Data Sources

Item 43: Use Single() and First() to Enforce Semantic Expectations on Queries

Item 44: Avoid Modifying Bound Variables

Chapter 5 Exception Practices

Item 45: Use Exceptions to Report Method Contract Failures

Item 46: Utilize using and try/finally for Resource Cleanup

Item 47: Create Complete Application-Specific Exception Classes

Item 48: Prefer the Strong Exception Guarantee

Item 49: Prefer Exception Filters to catch and re-throw

Item 50: Leverage Side Effects in Exception Filters

Table of Contents

Index