TOOL DEVELOPMENT

C-SHARP-DOT-NET

.NET FRAMEWORK

BRIEF INTRODUCTION

.net framework

.NET - OVERVIEW

.NET Framework

The .NET framework helps you create mobile, desktop, and web applications that run on Windows PCs, devices and servers.

.NET Core

.NET Core gives you a blazing fast and modular platform for creating server applications that run on Windows, Linux and Mac.

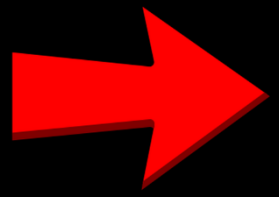
Xamarin

Xamarin brings the power and productivity of .NET to iOS and Android, reusing skills and code while getting access to the native APIs and performance.

.net framework

MULTIPLE APPLICATIONS & PLATFORMS

.NET PROGRAMMING LANGUAGES



C# — Syntax very similar to C, C++, Java & JavaScript

F# — Functional progr. Language, cross-platform, open source

VB — Approachable English-like language for OOP

.net framework

TOOL DEVELOPMENT – ‘PART C#’

“The creation of tools that will assist in the production process of a certain game, using C# and the .NET framework.”

C# intro → WPF & XAML → C# continued → consume webservices → MVVM

ONE TOOL TO

RULE THEM ALL

C++ vs C#

COMPARISON

c++

- **low level** language
  - closest to machine code
  - harder to read/write

c#.net

- **high level** language
  - CLR
  - closer to human language
  - easier to read/write

c++

c#.net

- ✓ easier to read/write
- ✓ higher accessibility
- ✓ cross-platform
- ✓ automatic garbage collection

- ➢ about 5x faster to produce code
- ➢ targets more than one platform at once

DEVELOPMENT SPEED

c++

- ✓ closer to machine code
- ✓ no automatic ‘garbage collection’

- ➢ runs faster than c#!
  - ➢ **if** you know what you’re doing…
  - ➢ *and then again, assembler is also faster than c++…*

c#.net

SPEED OF EXECUTION

c++

- ✓ destroy objects manually
- ➢ great danger of memory leaks

VS

c#.net

- ✓ managed heap
- ✓ automatic deallocation
- ➢ eliminates *almost* all memory leaks
- ➢ less effective

GARBAGE COLLECTION

c++

- ✓ closer machine code
- ✓ harder to decompile

- ➢ safer to protect your code

c#.net

- ✓ obfuscating techniques

PROTECTING YOUR CODE