

CSS 355 WINDOWS AND .NET PROGRAMMING

WEEK 1

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1. MONDAY

We talked about the Nature of Windows and .NET programming, and the genesis and the history of the .NET platform.

Important concepts: The nature and function of operating systems; the role of operating systems in providing an API for programs that run on that operating system; Access of programs to operating system and hardware resources through standard programming language libraries and operating system calls.

We discussed the problems of interfacing code written in different programming languages caused by

- (1) different programming language data types
- (2) different parameter passing methods: in, out, in-out, reference, and value parameters
- (3) different procedure/function calling conventions:
 - (a) C calling convention
 - (b) Pascal calling convention

2. WEDNESDAY

We touched on the evolution of GUI application programming on Windows Systems:

- (1) Win 16 and Win 32 API programming (C-based Programming)
- (2) Microsoft Foundation Classes (MFC) (Object-oriented C++ framework)
- (3) Windows Forms
- (4) Windows Presentation Foundation (WPF)

We discussed the notions of .NET namespaces (and using namespace declaratons) and .NET assemblies; and the need to include references to assemblies in a project. The concept of a .NET property and how to define properties in C#, and how to use the `System.Console` class to do various types of input and output.

3. FRIDAY

Fundamentals of GUI applications, Apartments, Single-Threaded Apartments and Multi-Threaded Apartments; the `DispatcherObject` class.

Use of the WPF `Application`, `Window`, and `TextBlock` classes. How to align a UI Element within its container.