Microsoft Foundation Classes

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MFC

- v1.0 Introduced in 1992 as a thin C++ wrapper around the Windows C API

- v9.0 provided with Visual Studio 2008 (not in Express)

- Provides a class library for developing desktop applications on the Windows platform
  - > 200 classes

- Provides an application framework called Document/View

MFC

- Highly integrated with Visual Studio to speed development

- Showing its age
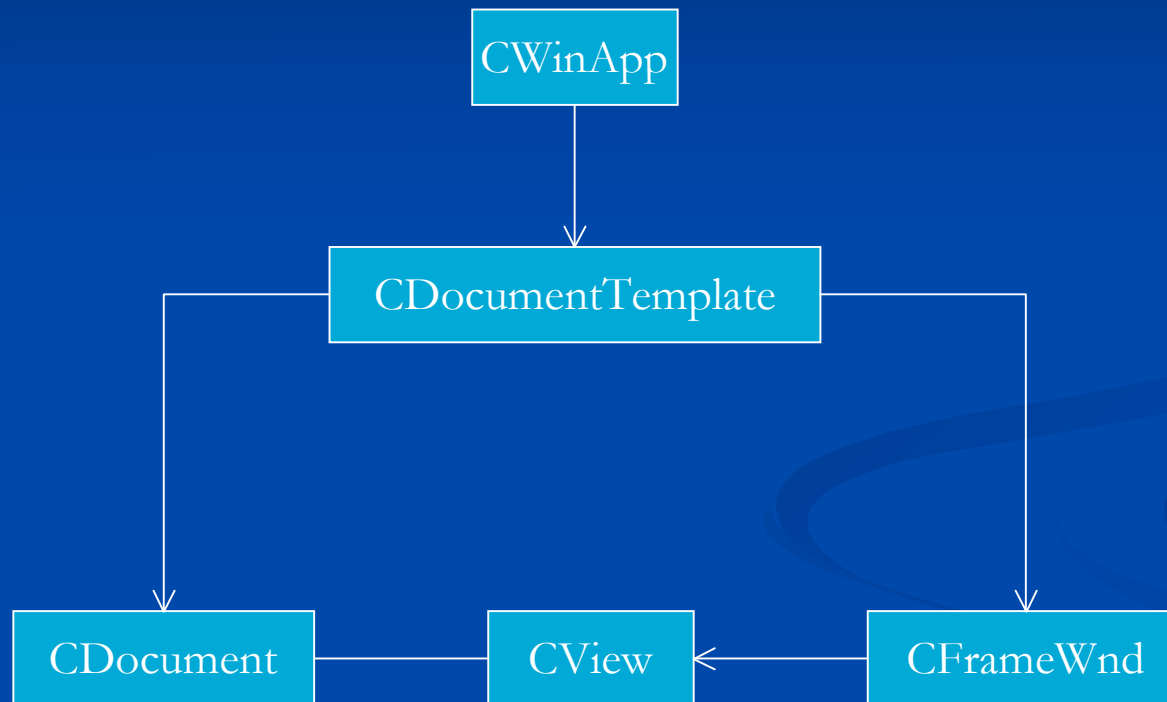   - .NET is a much cleaner, easier framework to live with

Document/View Framework

- Microsoft's version of model-view-controller
  - Notice however that there is no controller sounding element in the framework name

- A standardized way of organizing and separating application data and the visual representation of that data

Doc/View Services

- Many available View classes:
    - Tree
    - Text Edit
    - List
    - Form

- Serialization of application data to a file

- Generic notification system for updating views in response to changing application data

Doc/View Participants (SDI)

CWinApp

- Where your initialization stuff goes

- Every MFC application must have a single, global instance of a class derived from CWinApp

- The instance must be named "theApp"

- In order for theApp to do anything useful, the developer must override the CWinApp::InitInstance method

CFrameWnd

- Where your toolbars, menus, and status bars go

- The outermost window of the application

- Provides a resizeable border, titlebar

- Contains and sizes a CView object

CDocument
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- Where your data goes

- The central location for application data (the "Model" part of MVC)

- Provides notification mechanism for updating attached CView objects (Observer pattern)

- Provides Serialization (Writing/Reading data to/from file)

- The Developer must subclass CDocument and provide methods for accessing data

CView
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- Where you display your data

- The "View" part of MVC

- Fills the client area of a CFrameWnd object

- Responsible for displaying data contained in a CDocument object

- A subclass must override the CView::OnDraw method

CDocTemplate
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- The thing that creates all the other stuff

- The "Controller" part of MVC?

- Creates the frame and document, and view objects and connects them together when the user requests a new document or that an existing document be loaded

- There are 2 commonly used subclasses of CDocTemplate:
  - CSingleDocTemplate (for SDI apps like notepad)
  - CMultiDocTemplate (for MDI apps like Visual Studio)