

OpenGL Programming with MFC

Human-Centered CAD Lab.

Today's plan.

- ▶ What is MFC & Why using MFC?
- ▶ Characters of Windows programming
- ▶ OpenGL using MFC
- ▶ 4 Lessons follow-up for homework.

What is MFC?

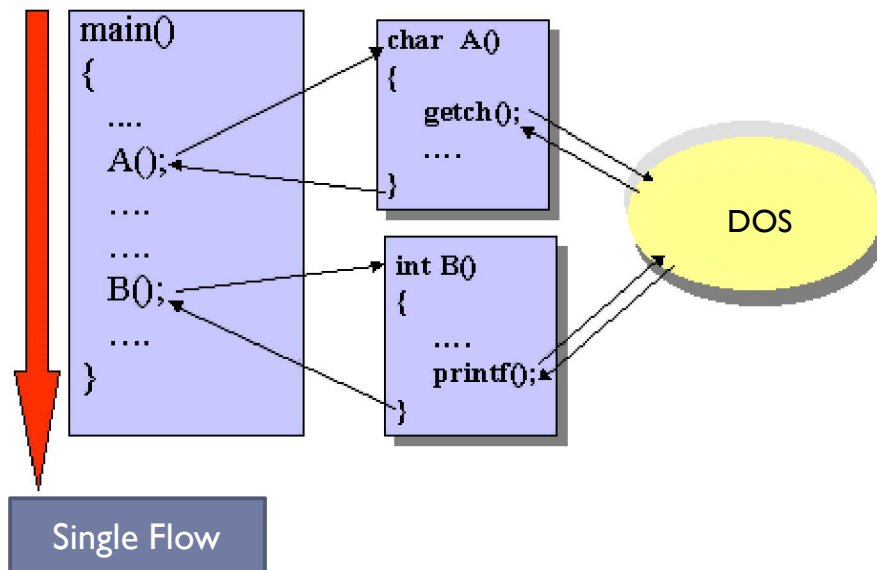
- ▶ **MFC (Microsoft Foundation Class)**
 - ▶ Library for Windows programming from Microsoft
 - ▶ Standard library contained in Visual C++ compiler
 - ▶ A set of classes
 - ▶ Most commonly used Windows programming library

Why using MFC?

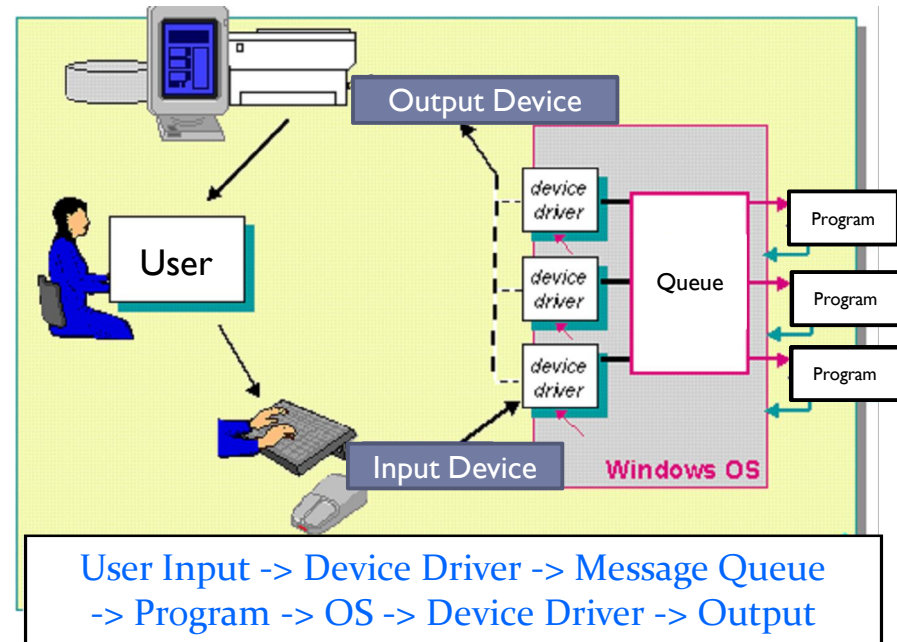
- ▶ To program more effectively and easier under Microsoft Windows environment
 - ▶ SDK (Software Development Kit)
 - ▶ OOP (Object-Oriented Programming)
- ▶ Based on C++
- ▶ Common structure and functions generated by compiler

Windows programming: message programming

▶ MS-DOS Programming



▶ Windows Programming

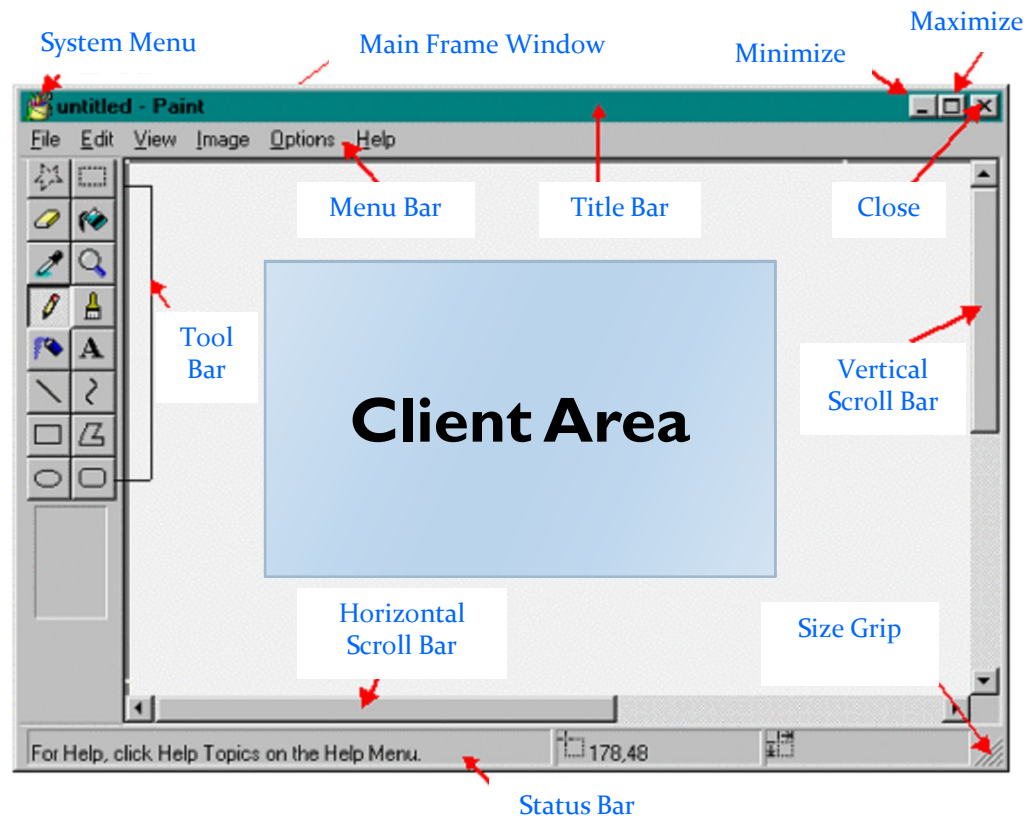


- ▶ Example of events: key stroking on keyboard, clicking mouse button, exiting program

Windows programming:

Resource based programming

- ▶ Resource: Static database composing user interface such as bitmaps, icons, dialog, menu, etc.



Windows programming:

Graphics Device Interface (GDI)

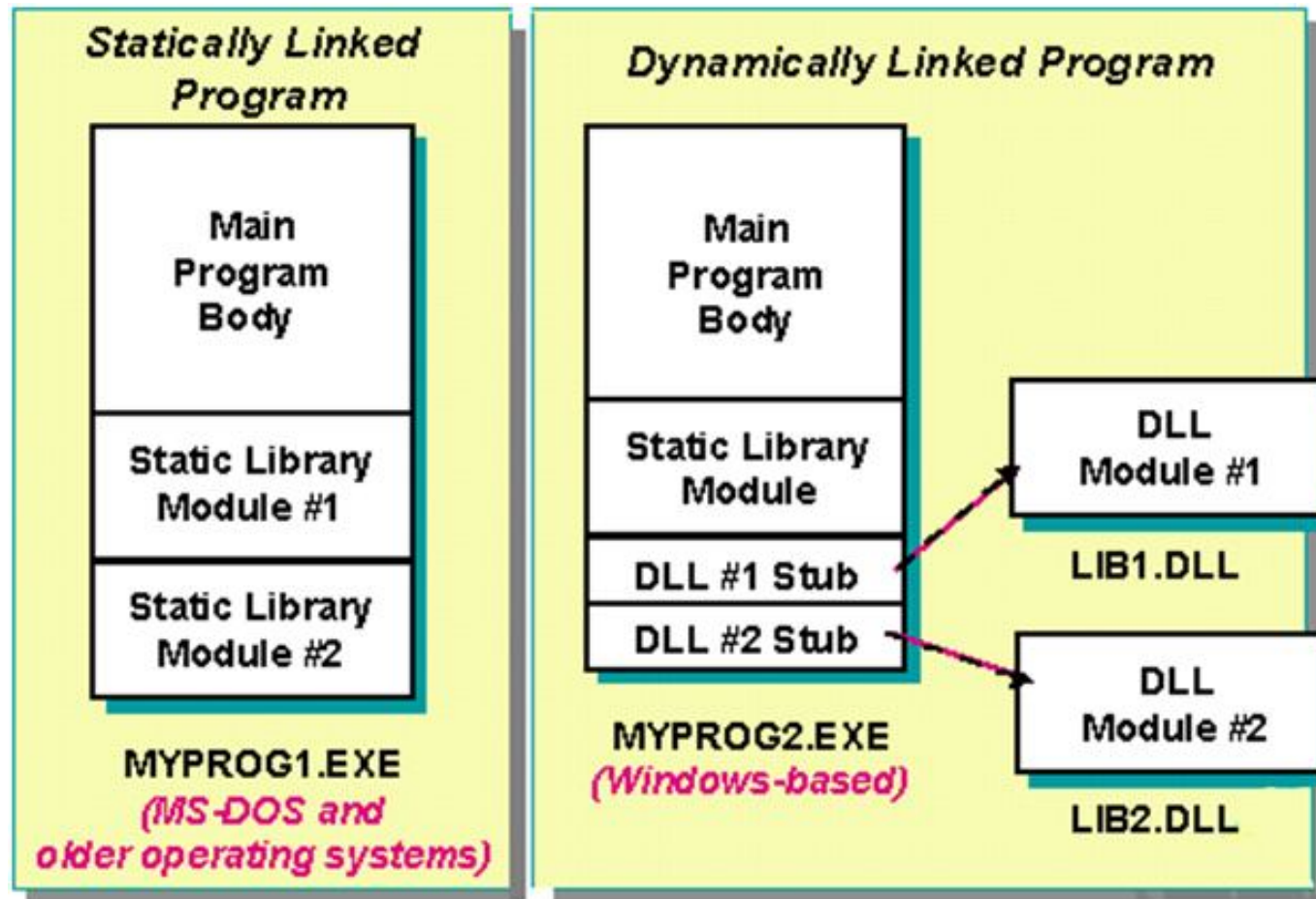
▶ MS-DOS

- ▶ Program itself controls devices directly
- ▶ Hardware dependent program
- ▶ Program should support variable graphic device drivers

▶ Windows

- ▶ OS contains device drivers
- ▶ No need to consider controlling devices
- ▶ Hardware independent program
- ▶ Graphic is expressed by calling GDI

Windows programming: Dynamic Link Libraries (DLL)



OpenGL using MFC

- ▶ **wlg(wiggle) function**
 - ▶ 32bit function to deal with the interface between Windows and OpenGL
 - ▶ Prefix: wgl (wgl: Window GL)
- ▶ **Device Context (DC)**
 - ▶ A space to store variables to use GDI
 - ▶ Drawing using GDI
- ▶ **Rendering Context (RC)**
 - ▶ A Space to store status variables of OpenGL
 - ▶ Rendering using OpenGL