Overview

This chapter looks at text i/o. We also look at device contexts. A device context is a structure that defines a set of graphic objects and their associated attributes, and the graphic modes that affect output. The graphic objects include:

- A pen for line drawing.
- A brush for painting and filling.
- A bitmap for copying or scrolling parts of the screen.
- A palette for defining the set of available colours.
- A region for clipping and other operations.
- A path for painting and drawing operations.

Text i/o using device contexts

All but one of the examples so far have looked at user interaction using the following:

- Menus.
- Dialog boxes.
- Radio buttons.
- Edit boxes.
- List boxes.
It was only in the chapter on message passing we looked at the client window. In this chapter we will look at text handling and the client window in a little more depth.

Overview

Microsoft provide a very extensive set of functions to control text output. We will only look at a small subset of the functionality available. The key class is the CDC class. This class defines a class of device-context objects. A device context is a Windows data structure containing information about the drawing attributes of a device such as a display or a printer. All drawing calls are made through a device-context object, which encapsulates the windows APIs for drawing lines, shapes, and text. Device contexts allow device-independent drawing in windows. Device contexts can be used to draw to the screen, to the printer, or to a metafile. The graphic objects include:

- A pen for line drawing.
- A brush for painting and filling.
- A bitmap for copying or scrolling parts of the screen.
- A palette for defining the set of available colours.
- A region for clipping and other operations.
- A path for painting and drawing operations.

The CDC object provides member functions for working with a device context, such as a display or printer, as well as members for working with a display context associated with the client area of a window.

We do all drawing through the member functions of a CDC object. The class provides member functions for:

- Device-context operations.
- Working with drawing tools.
- Type-safe graphics device interface (GDI) object selection.
- Colours and palettes.

It also provides member functions for:

- Getting and setting drawing attributes.
- Mapping.
- Working with the viewport.
- Working with the window extent, converting coordinates.
- working with regions;
- clipping;
- drawing lines;
- drawing simple shapes, ellipses, and polygons.

Member functions are also provided for: