The dialog manager, part 7: More subtleties in message loops

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Last time, we solved the problem with the `EndManualModalDialog` function by posting a harmless message. Today, we're going to solve the problem in an entirely different way.

The idea here is to make sure the modal message loop regains control, even if all that happened were incoming sent messages, so that it can detect that the `fEnded` flag is set and break out of the modal loop.

Instead of changing the `EndManualModalDialog` function, we will change the modal message loop.

```
int DoModal(HWND hwnd)
{
 DIALOGSTATE ds = { 0 };
 HWND hdlg = CreateDialogParam(g_hinst, MAKEINTRESOURCE(1),
             hwnd, DlgProc, reinterpret_cast<LPARAM>(&ds));
 if (!hdlg) {
  return -1;
 }
 EnableWindow(hwnd, FALSE);
 MSG msg;
 msg.message = WM_NULL; // anything that isn't WM_QUIT
 while (!ds.fEnded) {
  if (PeekMessage(&msg, NULL, 0, 0, PM_REMOVE)) {
   if (msg.message == WM_QUIT) { /*  fixed 8am */
    break;
   } else if (!IsDialogMessage(hdlg, &msg)) {
    TranslateMessage(&msg);
    DispatchMessage(&msg);
   } /* fixed 10am */
  } else if (!ds.fEnded) {
   WaitMessage();
  }
 }
 if (msg.message == WM_QUIT) {
  PostQuitMessage((int)msg.wParam);
 }
 EnableWindow(hwnd, TRUE);
 DestroyWindow(hdlg);
 return ds.iResult;
}
```

We changed the call to `GetMessage` into a call to the `PeekMessage` function, asking to remove the peeked message if any. Like `GetMessage`, this delivers any incoming sent messages, then checks if there are any posted messages in the queue. The difference is that whereas `GetMessage` keeps waiting if there are no posted message, `PeekMessage` returns and tells you that there were no posted messages.

That's the control we want. If `PeekMessage` says that it couldn't find a posted message, we check our `fEnded` flag once again, in case an incoming sent message set the `fEnded` flag. If not, then we call the `WaitMessage` function to wait until there is something to do (either an incoming sent message or a posted message).

Exercise: If the whole point was to regain control after sent messages are delivered, why isn't there a test of the `fEnded` flag immediately after `DispatchMessage` returns?

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