

Re: Using a callback function name as an argument in a function

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- *From:* "Giovanni Dicanio" <giovanni.dicanio@xxxxxxxxxxxxx>
 - *Date:* Thu, 17 Jan 2008 12:25:43 +0100
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To add to what others correctly wrote, have you considered the option of changing your design, making it more C++ and less C? What IMHO could be good is to define an **interface** (C++), which a "worker" object must implement, instead of C-style callbacks.

e.g.

```
// Instead of having a call-back, use a C++ interface
class ILineProcessor
{
public:
virtual ~ILineProcessor(); // virtual dtor for proper cleanup

// The job that the callback did in the previous design
virtual void DoWork( ...parameters... ) = 0;

// ... other interface methods, if needed...
};
```

Then you derive a concrete class which implements the above interface, and this concrete class does the real job.

Having defined a class (and not just a C-function callback), you can store lots of useful information, like additional status information (via private data members), etc. The resulting code will be more robust, extensible, just more quality.

I think that the call-backs are an old design, considering that the Win32 API is a kind of "C" framework. So, in C, call-backs are useful. But IMHO in C++ we can use **interfaces** to get better quality code.

In fact, there are also some new APIs in Vista (about common dialogs, IIRC), that works with COM **interfaces** (because the concept of interfaces is more robust and more quality than C-style call-backs).

Just my 2 cents.

Giovanni

Re: Using a callback function name as an argument in a function

"Dan Gistenson" <d.gistenson@xxxxxxxxxxxxxx> ha scritto nel messaggio
news:WDbjj.51\$Rg1.38@xxxxxxxxxxxxxxxxxxxxxxxxxxxx

Hi.

Can someone tell me where I'm going wrong with this problem in my vc6 mfc sdi project, and tell me how to fix it? I understand the general meaning of the compiler's 2664 error message, but I don't understand what's wrong with my approach and how to fix it. The problem lies with argument 3 of lineInitializeEx() and/or the prototype and definition of lineCallbackFunc().

I used Class wizard to add the member function lineCallbackFunc() to my doc class. The function will be used as a callback function, by using it as the third argument in a call to lineInitializeEx() which I have placed in the OnNewDocument member function of my doc class.

The compiler error message, the prototype and definition of the callback function, and the call to lineInitializeEx() are below, in that order.

What am I doing wrong, and how do I fix it?

The compiler error message is:

```
error C2664: 'lineInitializeExA' : cannot convert parameter 3 from 'void (unsigned long,unsigned long,unsigned long,unsigned long,unsigned long,unsigned long)' to 'void (__stdcall *)(unsigned long,unsigned long,unsigned long,unsigned long,unsigned long)'
None of the functions with this name in scope match the target type
```

The callback function's prototype is:

```
void lineCallbackFunc(DWORD hDevice, DWORD dwMsg, DWORD dwCallbackInstance, DWORD dwParam1, DWORD dwParam2, DWORD dwParam3);
```

The callback function's definition is:

```
void CFoneIODoc::lineCallbackFunc (DWORD hDevice, DWORD dwMsg, DWORD dwCallbackInstance, DWORD dwParam1, DWORD dwParam2, DWORD dwParam3)
{
// My code will go here.
}
```

Finally, the call to lineInitializeEx() is: (Argument 3 is the issue.)

```
lResult = lineInitializeEx( &hLineApp, NULL, lineCallbackFunc, "TAPI App!", &dwNumDevs, &dwHighApiVersion, &lineInit );
```

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Please help.
Thanks,
Dan