
Subject: About storing references and pointers to callbacks.

Posted by [Oblivion](#) on Sun, 25 Jun 2017 19:13:38 GMT

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Hello,

I'd like to ask you a question. Here is the problem I need to solve:

I need to store pointers of complex objects, say, Streams, to callbacks (e.g. for deferred/async file reads and writes) so that I can access them only when I need them.

The culprit is that I don't want the caller function (or callback) to own those objects. Knowing their current state -whether they are destroyed or existing- to proceed or to halt is sufficient.

I know that simply passing pointers is dangerous, since the life time of objects can vary and not be strictly determined especially on complex applications.

Now, I know C++11 and above versions of C++ standard have `std::shared_ptr` and `std::weak_ptr` suitable for this purpose.

Also U++ has something similar: `Ptr` and `Pte`.

What would be the U++ way to handle these situations?

```
MyClass::MyAsyncReadMethod(Stream& s)
{
    Stream *p = &s; // This is a bad, very bad practice!

    vector_containing_callbacks.Add() << [=] {
        p->GetLine() // !! might eat cats!

        ?? // How should I proceed?
        // Should I use shared_ptr && weak_ptr?
        // Or A Stream derivative with Ptr && Pte?
        // or another alternative?
    };
}
```

Any suggestions or ideas will be much appreciated. Thanks.

Bestt regards,
Oblivion
