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Subject: how to communicate between windows?

Posted by [bonami](#) on Tue, 02 Nov 2010 09:18:55 GMT

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I have two classes inherited from TopWindow.  
class 1 need to tell class 2 to go back or forward in processing.  
they OpenMain() then I use Ctrl::EventLoop().

Solution 1,

class 1 envoke a member of class 2. class 2 needs a private lock. I would rather not use this solution.

Solution 2,

From MS' view, class 1 can SendMessage() or send an event to class 2. How to achieve this in U++? How to change class 2 (TopWindow)'s processing?

Thank you.

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Subject: Re: how to communicate between windows?

Posted by [mrjt](#) on Tue, 02 Nov 2010 10:29:37 GMT

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Is this a threading problem?

How about a simple event interface:

```
class EventHandler
{
private:
    static Vector<EventHandler *> clients;
public:
    typedef enum { SOME_EVENT, ANOTHER_EVENT } EventType;
public:
    EventHandler() {
        clients.Add(this);
    }

    virtual ~EventHandler() {
        for (int i = 0; i < clients.Getcount(); i++)
            if (clients[i] == this) {
                clients[i].Remove(i);
                return;
            }
    }

    static void SendEvent(EventType event, int param1)
```

```
{
  for (int i = 0; i < clients.GetCount(); i++)
    clients[i]->HandleEvent(event, param1);
}

virtual void HandleEvent(EventType event, int param1) { }
};
```

Any class that inherits from EventHandler would be able to receive global events.

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Subject: Re: how to communicate between windows?  
Posted by [bonami](#) on Wed, 03 Nov 2010 01:45:02 GMT  
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My question is exactly how to implement this HandleEvent for a TopWindow derived class.

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Subject: Re: how to communicate between windows?  
Posted by [mrjt](#) on Wed, 03 Nov 2010 10:22:44 GMT  
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Then I don't understand the question. 'How to change class 2 (TopWindow)'s processing?' is too vague a question.

And you haven't answered whether this is a threading problem or not.

You will need to provide substantially more information to get any sort of useful help.

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Subject: Re: how to communicate between windows?  
Posted by [bonami](#) on Thu, 04 Nov 2010 03:29:22 GMT  
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sorry i did not make it clear, since i thought it is simple.  
here's my case, i have two TopWindows A & B. If user click a button in A, B shows something. If user click the other button in A, B shows something else. I need TopWindow::OpenMain(), then I donno whether it is multi-threaded. Anyway, my real case is more complicated and it IS multi-threaded and I want the code below is multi-thread compatible, too.

```
class B : public TopWindow
...

class A : public TopWindow
{
  B b;
  void shown() { b.OpenMain(); }
```

```
Button ButA;
Button ButB;
void Button_A();
void Button_B();
...
```

```
GUI_APP_MAIN
{
  A a;
  a.OpenMain();
  a.shown();
  Ctrl::EventLoop();
}
```

in Button\_A() or \_B(), A can tell B about which button is clicked, such as setting a flag. But how can B notice this? If I derive A & B from your EventHandler, how can I implement B's HandleEvent? This IS a threading problem. Maybe in a word, it is how to add my own procedure in TopWindow's main thread processing.

Thank you.

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Subject: Re: how to communicate between windows?  
Posted by [andrei\\_natanael](#) on Thu, 04 Nov 2010 07:33:36 GMT  
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Hello Bonami,

Here is your example, modified to notify other window about a event. I've used PostCallback to do that, no MT

```
#include <CtrlLib/CtrlLib.h>

using namespace Upp;

class B : public TopWindow
{
public:
  B()
  {
    SetRect(220, 10, 200, 200);
    Add(I.VCenterPos(30).HCenterPos(180));
    I.SetText("Test");
  }
  Label I;
  void ShowMessage(const String& msg)
  {
    I.SetText(msg);
  }
}
```

```

};

class A : public TopWindow
{
    typedef A CLASSNAME;
public:
    A()
    {
        SetRect(10, 10, 200, 200);
        ButA.SetLabel("Button A");
        ButB.SetLabel("Button B");
        Add(ButA.LeftPos(5, 80).TopPos(5, 25));
        Add(ButB.LeftPos(5, 80).TopPos(35, 25));
        ButA <<= THISBACK(Button_A);
        ButB <<= THISBACK(Button_B);
    }
    B b;
    void shown() { b.OpenMain(); }
    Button ButA;
    Button ButB;
    void Button_A()
    {
        b.PostCallback(callback1(&b, &B::ShowMessage, "Button A pressed"));
    }
    void Button_B()
    {
        b.PostCallback(callback1(&b, &B::ShowMessage, "Button B pressed"));
    }
};

```

```

GUI_APP_MAIN
{
    A a;
    a.OpenMain();
    a.shown();
    Ctrl::EventLoop();
}

```

Andrei

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Subject: Re: how to communicate between windows?  
 Posted by [bonami](#) on Thu, 04 Nov 2010 09:27:02 GMT  
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It looks like the thing I wanted. This callback will be executed in class b's thread/execution, right?  
 my code generates error LNK2019: unresolved external symbol "public: void \_\_thiscall

```
B::set(enum B::tp)"
```

```
class B: public TopWindow {  
public:  
    enum tp  
    {  
        TPA,  
        TPB  
    };  
    void set(enum tp);  
    ...  
}  
class A: public TopWindow {  
    ...  
private:  
    B *b;  
    void Button_A()  
    {  
b->PostCallback(callback1(b, &B::set, B::TPA));  
    }  
    ...  
}
```

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Subject: Re: how to communicate between windows?  
Posted by [andrei\\_natanael](#) on Thu, 04 Nov 2010 20:47:48 GMT  
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In class B set function signature should be:  
void set(tp x) // note, no enum before tp

Quote:This callback will be executed in class b's thread/execution, right?  
Yes.

Andrei

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Subject: Re: how to communicate between windows?  
Posted by [bonami](#) on Fri, 05 Nov 2010 02:05:35 GMT  
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all right. with or without enum have no differences. it compiles right. i just did not provide set()'s implementation. can i be more stupid?  
I think b->PostCallback() and ::PostCallback() are same. right?  
thank you very much.

Subject: Re: how to communicate between windows?  
Posted by [andrei\\_natanael](#) on Fri, 05 Nov 2010 05:16:58 GMT  
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They are same. Only difference is that `::PostCallback` get executed 1 ms later than `b->PostCallback` (that's what code say)

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