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Subject: How to use Thread()

Posted by [forlano](#) on Fri, 12 Dec 2014 21:21:52 GMT

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Hello,

So far I have never used Threads... and to tell the truth I am rather confused about them. My GUI app freeze while some operation last 2 or 3 seconds (perform calculation and writing on a sqlite database). This is rather annoying because it seems the app is going to crash. So I thought to run a Thread for this operation and let the GUI to be free to use for other task. I hope this make sense.

The problem is that the compiler is complaining about Upp::callback, see below, that I do not understand (I used the GUI MT flag).

The function I would like to run in a thread ( SavePairing(num1, num2) ) is a member function of an external class called 'vegadb' and 'DB' is just an instance of vegadb. I tried without success:

```
Thread().Run( DB.SavePairing(num1, num2) );
```

```
Thread().Run( callback2( DB.SavePairing, num1, num2 ) );
```

```
Thread().Run( callback2( vegadb::SavePairing, num1, num2 ) );
```

I tried even callback3. Does anybody have a suggestion?

Thanks,

Luigi

PS: typical error message:

```
C:\MyApps\VegaTeam6\SemiManualPairing.cpp(1218) : error C3867: 'vegadb::SavePairing':  
function call missing argument list; use '&vegadb::SavePairing'  
to create a pointer to member
```

```
C:\MyApps\VegaTeam6\SemiManualPairing.cpp(1218) : error C2780: 'Upp::Gate4<P1,P2,P3,P4>  
Upp::callback2(const O *,bool (__thiscall M::* )(P  
1,P2,P3,P4,Q1,Q2) const,T1,T2)' : expects 4 arguments - 3 provided  
c:\upp\uppsrc\core\Callback2.h(572) : see declaration of 'Upp::callback2'
```

```
C:\MyApps\VegaTeam6\SemiManualPairing.cpp(1218) : error C2780: 'Upp::Gate4<P1,P2,P3,P4>  
Upp::callback2(O *,bool (__thiscall M::* )(P1,P2,P  
3,P4,Q1,Q2),T1,T2)' : expects 4 arguments - 3 provided  
c:\upp\uppsrc\core\Callback2.h(566) : see declaration of 'Upp::callback2'
```

```
C:\MyApps\VegaTeam6\SemiManualPairing.cpp(1218) : error C2780: 'Upp::Gate3<P1,P2,P3>  
Upp::callback2(const O *,bool (__thiscall M::* )(P1,P  
2,P3,Q1,Q2) const,T1,T2)' : expects 4 arguments - 3 provided  
c:\upp\uppsrc\core\Callback2.h(523) : see declaration of 'Upp::callback2'
```

```
C:\MyApps\VegaTeam6\SemiManualPairing.cpp(1218) : error C2780: 'Upp::Gate3<P1,P2,P3>  
Upp::callback2(O *,bool (__thiscall M::* )(P1,P2,P3,Q  
1,Q2),T1,T2)' : expects 4 arguments - 3 provided
```

c:\upp\uppsrc\core\Callback2.h(517) : see declaration of 'Upp::callback2'  
C:\MyApps\VegaTeam6\SemiManualPairing.cpp(1218) : error C2780: 'Upp::Gate2<P1,P2> Upp::callback2(const O \*,bool (\_\_thiscall M::\* )(P1,P2,Q1,Q2) const,T1,T2)' : expects 4 arguments - 3 provided  
c:\upp\uppsrc\core\Callback2.h(469) : see declaration of 'Upp::callback2'  
C:\MyApps\VegaTeam6\SemiManualPairing.cpp(1218) : error C2780: 'Upp::Gate2<P1,P2> Upp::callback2(O \*,bool (\_\_thiscall M::\* )(P1,P2,Q1,Q2),T1,T2)' : expects 4 arguments - 3 provided  
c:\upp\uppsrc\core\Callback2.h(463) : see declaration of 'Upp::callback2'  
C:\MyApps\VegaTeam6\SemiManualPairing.cpp(1218) : error C2780: 'Upp::Gate1<P1> Upp::callback2(const O \*,bool (\_\_thiscall M::\* )(P1,Q1,Q2) const,T1,T2)' : expects 4 arguments - 3 provided  
c:\upp\uppsrc\core\Callback2.h(415) : see declaration of 'Upp::callback2'  
C:\MyApps\VegaTeam6\SemiManualPairing.cpp(1218) : error C2780: 'Upp::Gate1<P1> Upp::callback2(O \*,bool (\_\_thiscall M::\* )(P1,Q1,Q2),T1,T2)' : expects 4 arguments - 3 provided  
c:\upp\uppsrc\core\Callback2.h(409) : see declaration of 'Upp::callback2'  
C:\MyApps\VegaTeam6\SemiManualPairing.cpp(1218) : error C2780: 'Upp::Gate Upp::callback2(const O \*,bool (\_\_thiscall M::\* )(Q1,Q2) const,T1,T2)' : expects 4 arguments - 3 provided  
c:\upp\uppsrc\core\Callback2.h(361) : see declaration of 'Upp::callback2'  
C:\MyApps\VegaTeam6\SemiManualPairing.cpp(1218) : error C2780: 'Upp::Gate Upp::callback2(O \*,bool (\_\_thiscall M::\* )(Q1,Q2),T1,T2)' : expects 4 arguments - 3 provided  
c:\upp\uppsrc\core\Callback2.h(355) : see declaration of 'Upp::callback2'  
C:\MyApps\VegaTeam6\SemiManualPairing.cpp(1218) : error C2780: 'Upp::Callback4<P1,P2,P3,P4> Upp::callback2(const O \*,void (\_\_thiscall M::\* )(P1,P2,P3,P4,Q1,Q2) const,T1,T2)' : expects 4 arguments - 3 provided  
c:\upp\uppsrc\core\Callback2.h(269) : see declaration of 'Upp::callback2'  
C:\MyApps\VegaTeam6\SemiManualPairing.cpp(1218) : error C2780: 'Upp::Callback4<P1,P2,P3,P4> Upp::callback2(O \*,void (\_\_thiscall M::\* )(P1,P2,P3,P4,Q1,Q2),T1,T2)' : expects 4 arguments - 3 provided  
c:\upp\uppsrc\core\Callback2.h(263) : see declaration of 'Upp::callback2'  
C:\MyApps\VegaTeam6\SemiManualPairing.cpp(1218) : error C2780: 'Upp::Callback3<P1,P2,P3> Upp::callback2(const O \*,void (\_\_thiscall M::\* )(P1,P2,P3,Q1,Q2) const,T1,T2)' : expects 4 arguments - 3 provided  
c:\upp\uppsrc\core\Callback2.h(221) : see declaration of 'Upp::callback2'  
C:\MyApps\VegaTeam6\SemiManualPairing.cpp(1218) : error C2780: 'Upp::Callback3<P1,P2,P3> Upp::callback2(O \*,void (\_\_thiscall M::\* )(P1,P2,P3,Q1,Q2),T1,T2)' : expects 4 arguments - 3 provided  
c:\upp\uppsrc\core\Callback2.h(215) : see declaration of 'Upp::callback2'  
C:\MyApps\VegaTeam6\SemiManualPairing.cpp(1218) : error C2780: 'Upp::Callback2<P1,P2> Upp::callback2(const O \*,void (\_\_thiscall M::\* )(P1,P2,Q1,Q2) const,T1,T2)' : expects 4 arguments - 3 provided  
c:\upp\uppsrc\core\Callback2.h(168) : see declaration of 'Upp::callback2'  
C:\MyApps\VegaTeam6\SemiManualPairing.cpp(1218) : error C2780: 'Upp::Callback2<P1,P2> Upp::callback2(O \*,void (\_\_thiscall M::\* )(P1,P2,Q1,Q2),T1,T2)' : expects 4 arguments - 3 provided

c:\upp\uppsrc\core\Callback2.h(162) : see declaration of 'Upp::callback2'  
C:\MyApps\VegaTeam6\SemiManualPairing.cpp(1218) : error C2780: 'Upp::Callback1<P1>  
Upp::callback2(const O \*,void (\_\_thiscall M::\* )(P1,Q1,  
Q2) const,T1,T2)' : expects 4 arguments - 3 provided  
c:\upp\uppsrc\core\Callback2.h(115) : see declaration of 'Upp::callback2'  
C:\MyApps\VegaTeam6\SemiManualPairing.cpp(1218) : error C2780: 'Upp::Callback1<P1>  
Upp::callback2(O \*,void (\_\_thiscall M::\* )(P1,Q1,Q2),T1  
,T2)' : expects 4 arguments - 3 provided  
c:\upp\uppsrc\core\Callback2.h(109) : see declaration of 'Upp::callback2'  
C:\MyApps\VegaTeam6\SemiManualPairing.cpp(1218) : error C2780: 'Upp::Callback  
Upp::callback2(const O \*,void (\_\_thiscall M::\* )(Q1,Q2) cons  
t,T1,T2)' : expects 4 arguments - 3 provided  
c:\upp\uppsrc\core\Callback2.h(62) : see declaration of 'Upp::callback2'  
C:\MyApps\VegaTeam6\SemiManualPairing.cpp(1218) : error C2780: 'Upp::Callback  
Upp::callback2(O \*,void (\_\_thiscall M::\* )(Q1,Q2),T1,T2)' :  
expects 4 arguments - 3 provided  
c:\upp\uppsrc\core\Callback2.h(56) : see declaration of 'Upp::callback2'

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Subject: Re: How to use Thread()  
Posted by [Mindtraveller](#) on Fri, 12 Dec 2014 23:02:08 GMT  
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Hi Luigi,

First of all, the syntax.

The callback is constructed using the form:

```
callbackN(pointerToObject, pointerToObjectRoutine{,N_arguments})
```

In your case it will be something like

```
Thread().Run( callback2( &vega, &vegadb::SavePairing, num1, num2 ) );
```

The second thing is I won't recommend using Thread::Run routine because

- 1) Each call creates a new thread which is expensive system operation (especially in Windows). So if you call it frequently, you create unnecessary heavy pressure on OS kernel.
- 2) You can't detect the moment your routine is finished. This is very bad because you should wait for thread and delete it correctly if user wants to quit your app. This is also bad because you must know when some internal variable was changed by parallel routine.

There are different approaches and I recommend designing your inter-threading interactions first. What will be changed? How is main thread is affected on this change? How this data will be safely delivered to calling thread?

If you answer this questions, you may choose the best implementation.

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Subject: Re: How to use Thread()  
Posted by [forlano](#) on Sat, 13 Dec 2014 14:03:54 GMT

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Hi Pavel,

thanks for the answer.  
You are right. I'll think better about it.

Luigi

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