Subject: How to use CoWork and Progress together?
Posted by Tom1 on Tue, 07 Apr 2020 12:58:14 GMT

Hi,

I've been trying to make CoWork and Progress work nicely together, but I just can't figure out what have I done wrong:

```
Progress pg;
pg.Title("A parallel processing job");
pg.SetText("Working on many items at once...");
pg.Set(0, 100);

Atomic done=0;

CoWork co;

co * [&] {
 for(int i = co.Next(); i < 100 ; i = co.Next()) {
  Sleep(100); // Doing something...

  // OK, now it is done, update progress:

  GuiLock _;
  pg.SetPos(AtomicInc(done));
 }
};

co.Finish();
```

Any suggestions how to make it work as it should? Now it just freezes at or near the end...

Best regards,

Tom

Subject: Re: How to use CoWork and Progress together?
Posted by Tom1 on Tue, 07 Apr 2020 14:39:44 GMT

Hi,

I finally found the solution:

```
Progress pg;
pg.Title("A parallel processing job");
```

```
pg.SetText("Working on many items at once...");
pg.Set(0, 100);

Atomic done=0;
Atomic stop=0;

CoWork co;
for(int t=0;t<co.GetPoolSize();t++){
 co & [&] {
  for(int i = AtomicInc(done); i<100;i = AtomicInc(done)){
   Sleep(1000); // Doing something...
   if(stop) break;
  }
 };
}

while(!co.IsFinished()){
 if(pg.Canceled()){
  AtomicInc(stop);
  break;
 }
 pg.SetPos(done);
 Sleep(100);
}
co.Finish();
```

So, in the end I did have to give up the CoWork::Loop (operator *) and do approximately the same externally to avoid internal co.Finish(); Now the GUI is accessed entirely in the main thread and there are no more issues.

Best regards,

Tom

Subject: Re: How to use CoWork and Progress together?
Posted by mirek on Thu, 09 Apr 2020 08:41:01 GMT
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Well, it obviously breaks rules here:

```
void Progress::Process()
{
 if(!IsOpen()) {
  dword t = msecs();
  if((int)(t - show_time) >= show_delay) {
   Create(); // !!! no top-level window manipulation in non-main thread
```

```
  show_time = t;
  }
 }
 if(IsOpen()) {
  GuiSleep(0); // no message processing in non-main thread
  ProcessEvents();
 }
}
```

Subject: Re: How to use CoWork and Progress together?
Posted by mirek on Thu, 09 Apr 2020 11:13:41 GMT
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This works:

```
GUI_APP_MAIN
{
 Progress pg;
 pg.Title("A parallel processing job");
 pg.SetText("Working on many items at once...");
 pg.Set(0, 100);

 std::atomic<int> ii(0);
 CoDo([&] {
  for(int i = ii++; i < 100 ; i = ii++) {
   Sleep(1000); // Doing something...

   // OK, now it is done, update progress:

   if(IsMainThread())
    pg.SetPos(ii);
  }
 });
}
```

(CoDo is "new and shiny" variant of CoWork::*)

I will try to make this into the CtrlLib.

Mirek

Subject: Re: How to use CoWork and Progress together?

Posted by mirek on Thu, 09 Apr 2020 12:01:55 GMT

So now some Progress methods can be called without restriction in MT.

This is a new reference example:


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

using namespace Upp;

GUI_APP_MAIN
{
 Progress pi("Working on many items at once...", 100);
 std::atomic<int> ii(0);
 CoDo([&] {
  for(int i = ii++; i < 100; i = ii++) {
   for(int q = 0; q < 1000; q++) {
    if(pi.Canceled()) // ideally call Canceled every 1-10ms
     return;
    Sleep(1); // work simulation
   }
   pi.Step();
  }
 });
}
```

Subject: Re: How to use CoWork and Progress together?
Posted by Tom1 on Sat, 11 Apr 2020 09:14:35 GMT

Hi Mirek,

This is a nice and stylish improvement!

However, there is still something to fix as using this through a menu leaves the app frozen at or near the completion of parallel processing. Here's a testcase based on the reference example:

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

using namespace Upp;

class Test: public TopWindow{
public:
 typedef Test CLASSNAME;
```

```
MenuBar menu;

void Worker(){
 Progress pi("Working on many items at once...", 100);
 std::atomic<int> ii(0);
 CoDo([&] {
  for(int i = ii++; i < 100; i = ii++) {
   for(int q = 0; q < 1000; q++) {
    if(pi.Canceled()) // ideally call Canceled every 1-10ms
     return;
    Sleep(1); // work simulation
   }
   pi.Step();
  }
 });
}

void MainMenu(Bar &bar){
 bar.Add("Process...", THISFN(Worker));
}

Test(){
 AddFrame(menu);
 menu.Set([=](Bar& bar) { MainMenu(bar); });
}
};

GUI_APP_MAIN
{
 Test test;
 test.Run();
}
```

Thanks and best regards,

Tom

Subject: Re: How to use CoWork and Progress together?
Posted by mirek on Sat, 11 Apr 2020 21:10:47 GMT
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Nice deadlock :)

Hopefully fixed.

Mirek

Subject: Re: How to use CoWork and Progress together?
Posted by Tom1 on Mon, 13 Apr 2020 07:52:14 GMT

Hi Mirek,

Thanks! It works now correctly. :)

Best regards,

Tom

Subject: Re: How to use CoWork and Progress together?
Posted by deep on Mon, 13 Apr 2020 10:41:38 GMT

Hi

I checked this on my system.
I am using Lubuntu 16.04, gtk3 clang

I get following error

```
File Attachments
1) Selection_017.png, downloaded 676 times
```

Subject: Re: How to use CoWork and Progress together?
Posted by mirek on Mon, 13 Apr 2020 11:26:31 GMT

deep wrote on Mon, 13 April 2020 12:41Hi

I checked this on my system.
I am using Lubuntu 16.04, gtk3 clang

I get following error

I have been trying for about 5 minutes, all seems to be OK.

Are you testing with current trunk?

Mirek

Subject: Re: How to use CoWork and Progress together?
Posted by deep on Mon, 13 Apr 2020 12:05:00 GMT

Hi

I was on 14219

Now with Latest 14297 it is working fine.

Thanks Mirek.