Subject: Code before Thread.Run() nor executed
Posted by rafiwui on Mon, 14 Aug 2017 11:23:02 GMT
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I have these methods:

```
void StartGeneration()
{
 // Disable buttons
 buttonBar.generate.Enable(false);
 buttonBar.next.Enable(false);
 buttonBar.previous.Enable(false);

 // Switch page
 displayLayouts[buttonBar.pageIndex].Show(false);
 generationProgress.Show(true);

 // Setup main progress bar
 generationProgress.progressMain.Set(0, 3);

 // Start thread
 generationThread.Run(THISBACK(Generate));
 //Thread::Start(THISBACK(Generate));

 return;
}
```

It is called from a button click event.
My problem is that nothing but the Run()-method of the thread is executed or at least there is now visual change in my application but there should be a layout change.
Also it is kinda not started as a thread because the application "freezes" while the thread is running.
Any ideas how I can fix this?

EDIT: Because I was asked for in this thread: Here is an example application to reproduce the problem.

File Attachments

1) Bugtester.7z, downloaded 361 times

Subject: Re: Code before Thread.Run() nor executed
Posted by Oblivion on Tue, 15 Aug 2017 06:05:05 GMT
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Hello Daniel,

Again this information is not really enough. :)
What does Generate() do, and how does it?
If I may presume it is manipulating the UI, then there are rules your thread needs to obey.
It is really hard to say anything based on this code snippet.

Best regards,
Oblivion

Subject: Re: Code before Thread.Run() nor executed
Posted by rafiwui on Tue, 15 Aug 2017 07:07:24 GMT
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Sorry. I thought it would be enough :?
Added an valid example as zipped folder for you ;)

Subject: Re: Code before Thread.Run() nor executed
Posted by Oblivion on Tue, 15 Aug 2017 16:45:56 GMT
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As I suspected, you are calling GUI elements/methods from a worker thread directly. You need to use PostCallback, and make sure the thread terminates.
Here you go:

```
TestLayout::TestLayout()
{
 CtrlLayout(*this);
 button1 << THISBACK(OnCLickButton);
}

void TestLayout::OnCLickButton()
{
 WhenThreadStart();
}


TestLayout2::TestLayout2()
{
 CtrlLayout(*this);
 progress.Set(0, 1);
}

TestWindow::TestWindow()
{
 SetRect(0, 0, Zx(400), Zy(200));
```

```
 Add(testLayout);
 Add(testLayout2);
 testLayout.Show(true);
 testLayout2.Show(false);
 testLayout.button1.WhenAction = THISBACK(StartProgress); // button1's WhenAction callback
was not defined.
}

void TestWindow::StartProgress()
{
 testLayout.Show(false);
 testLayout2.Show(true);
 testLayout2.progress.Set(0, 10);
 Thread().Run(THISBACK(Progress));
}

void TestWindow::Progress()
{
 // This thread code could be written in a much better way, but I'm simply giving you the idea :).
 for(int i = 0; i < 10; i++)
 {
  if(Thread::IsShutdownThreads())
   break;
  Sleep(1000);
  PostCallback([=]{
      // Never directly call GUI elements. If wou want to do fancy GUI stuff with
      // threads, use PostCallback.
   testLayout2.progress++;

  });
 }
 PostCallback([=]{
   // Let us roll-back;
   testLayout2.Hide();
   testLayout.Show();
 });

}

TestWindow::~TestWindow()
{
 // Make sure that running threads terminate.
 if(Thread::GetCount())
  Thread::ShutdownThreads();
}
```

Best regards,

Oblivion

Subject: Re: Code before Thread.Run() nor executed
Posted by rafiwui on Wed, 16 Aug 2017 07:43:36 GMT
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I changed the code to your code but still no layout change. So the main problem persists.
Any idea why?

Subject: Re: Code before Thread.Run() nor executed
Posted by mirek on Sat, 26 Aug 2017 11:16:08 GMT
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Oblivion wrote on Tue, 15 August 2017 18:45As I suspected, you are calling GUI elements/methods from a worker thread directly. You need to use PostCallback, and make sure the thread terminates.

Actually, for some time now many methods can be called in non-main thread, with GuiLock. Exception are window creation and event loop related things (the reason there is still the same: Windows associates event loop to the thread that created the window).

Subject: Re: Code before Thread.Run() nor executed
Posted by mirek on Sat, 26 Aug 2017 11:16:27 GMT
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rafiwui wrote on Wed, 16 August 2017 09:43I changed the code to your code but still no layout change. So the main problem persists.
Any idea why?

Can you post a package here?

Mirek

Subject: Re: Code before Thread.Run() nor executed
Posted by rafiwui on Mon, 28 Aug 2017 06:38:17 GMT
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mirek wrote on Sat, 26 August 2017 13:16
Can you post a package here?

Here you go ;)

File Attachments
1) Bugtester.7z, downloaded 363 times

Subject: Re: Code before Thread.Run() nor executed
Posted by mirek on Mon, 28 Aug 2017 07:27:55 GMT
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There is only a small typo: You have assigned StartProgress to TestLayout instead of button1:

```
TestWindow::TestWindow()
{
 SetRect(0, 0, Zx(400), Zy(200));
 Add(testLayout);
 Add(testLayout2);
 testLayout.Show(true);
 testLayout2.Show(false);
 testLayout.button1.WhenAction = THISBACK(StartProgress);
}
```

Here are some further hints:

```
TestWindow::TestWindow()
{
 SetRect(0, 0, Zx(400), Zy(200));
 Add(testLayout);
 Add(testLayout2);
 testLayout.Show(true);
 testLayout2.Show(false);
 testLayout.button1 << [=] {
  testLayout.Show(false);
  testLayout2.Show(true);
  testLayout2.progress.Set(0, 100);
  Thread::Start([=] {
   for(int i = 0; i < 100; i++) {
    if(Thread::IsShutdownThreads())
     break;
    Sleep(100);
    GuiLock __;
    testLayout2.progress++;
   }
   GuiLock __;
   testLayout.Show(true);
   testLayout2.Show(false);
  });
```

```
 };
}
```

Subject: Re: Code before Thread.Run() nor executed
Posted by rafiwui on Mon, 28 Aug 2017 07:39:35 GMT
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Quote:There is only a small typo: You have assigned StartProgress to TestLayout instead of button1:
... :|
Thanks for finding that stupid mistake :lol:

Subject: Re: Code before Thread.Run() nor executed
Posted by rafiwui on Mon, 28 Aug 2017 08:51:09 GMT
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How exactly does GuiLock work? Because when I tried to implement it in my application it doesn't work. Is there a documentation?
EDIT:
This is part of the code I use:

```
void MainWindow::Generate()
{
 // Generate
 GuiLock __;
 progress.progressMainLabel.SetText(t_("(0/3) Generating first..."));
 if(!GenerateFirst())
 {
  AbortGeneration(1);
  return;
 }
 progress.progressMain++;
 progress.progressMainLabel.SetText(t_("(1/3) Generating second..."));
 if(!Second())
 {
  AbortGeneration(2);
  return;
 }
 progress.progressMain++;
 progress.progressMainLabel.SetText(t_("(2/3) Generating third..."));
 if(!GenerateThird())
 {
  AbortGeneration(3);
  return;
```

```
 }
 progress.progressMain++;
 progress.progressMainLabel.SetText(t_("(3/3) Done"));
}
```

Instead of showinf every step it just generates all three and at the end updates the gui. So what do I have to change that every step it is updated?

Subject: Re: Code before Thread.Run() nor executed
Posted by mirek on Tue, 29 Aug 2017 15:20:14 GMT
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rafiwui wrote on Mon, 28 August 2017 10:51How exactly does GuiLock work? Because when I tried to implement it in my application it doesn't work. Is there a documentation?
EDIT:
This is part of the code I use:

```
void MainWindow::Generate()
{
 // Generate
 GuiLock __;
 progress.progressMainLabel.SetText(t_("(0/3) Generating first..."));
 if(!GenerateFirst())
 {
  AbortGeneration(1);
  return;
 }
 progress.progressMain++;
 progress.progressMainLabel.SetText(t_("(1/3) Generating second..."));
 if(!Second())
 {
  AbortGeneration(2);
  return;
 }
 progress.progressMain++;
 progress.progressMainLabel.SetText(t_("(2/3) Generating third..."));
 if(!GenerateThird())
 {
  AbortGeneration(3);
  return;
 }
 progress.progressMain++;
 progress.progressMainLabel.SetText(t_("(3/3) Done"));
}
```

Instead of showinf every step it just generates all three and at the end updates the gui. So what do I have to change that every step it is updated?

That is because is GUI is blocked while GuiLock is active...

GuiLock is "guard class" - it locks GUI mutex in constructor and releases it in destructor. While that mutex is locked, GUI is stopped and you can meddle with variables that GUI accesses (without using PostCallback).

In above function, you lock GUI at the start of function and unlock it at the end. That is why the GUI is only updated when Generate ends...

Subject: Re: Code before Thread.Run() nor executed
Posted by rafiwui on Tue, 29 Aug 2017 16:21:38 GMT
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And how can I unlock it inside the function?

Subject: Re: Code before Thread.Run() nor executed
Posted by mirek on Tue, 29 Aug 2017 18:26:46 GMT
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rafiwui wrote on Tue, 29 August 2017 18:21And how can I unlock it inside the function?

Put it into the block.

```
{
   GuiLock __;
   do something
} // destructor unlocks
```

Alternatively, GuiLock is really simple:

```
struct GuiLock {
 GuiLock()  { EnterGuiMutex(); }
 ~GuiLock() { LeaveGuiMutex(); }
};
```

You can call EnterGuiMutex() / LeaveGuiMutex() directly too...

BTW, note that "__" is my way of saying "name does not matter".

Mirek

Subject: Re: Code before Thread.Run() nor executed
Posted by rafiwui on Tue, 29 Aug 2017 18:30:23 GMT
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mirek wrote on Tue, 29 August 2017 20:26
You can call EnterGuiMutex() / LeaveGuiMutex() directly too...

Ok thanks.

mirek wrote on Tue, 29 August 2017 20:26
BTW, note that "__" is my way of saying "name does not matter".

Yeah I thought so :d