Subject: A little proposal on code analysis
Posted by Mindtraveller on Tue, 28 Apr 2009 08:40:41 GMT
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It looks like code analysis (or some kind of processing) is made each time key is pressed in the code editor. This makes TheIDE lagging on slower machines (even on my /rather old/ AMD 2GHz) when I type quickly enough. It looks like this: when I type a number of symbols quickly, they are not shown. They are drawn (all at once) after a period of about 0.5 seconds after last symbol was typed. This makes little discomfort as you can`t immediately observe text typed, and one have to wait for this lag each time he types anything.
I suppose this lag is caused by TheIDE calls code processing every time user changes the text. My proposal is to call code processing after symbols were drawn in the window and also if I type symbols   one by one without stop, the code processing should be called after some timeout to minimize it`s call count.

Subject: Re: A little proposal on code analysis
Posted by Mindtraveller on Sun, 03 May 2009 15:27:30 GMT
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:up:

Latest TheIDE version 902r186 : the same problem with lags.

Subject: Re: A little proposal on code analysis
Posted by Mindtraveller on Sun, 03 May 2009 15:48:33 GMT
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I may create and upload screenshot-video if it`s needed. But I suppose many more people (with CPUs dating < 2003-2005) has the same problem too.

Subject: Re: A little proposal on code analysis
Posted by mirek on Sun, 03 May 2009 16:47:36 GMT
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What OS?

Screenshot might help.

Mirek

Subject: Re: A little proposal on code analysis
Posted by Mindtraveller on Sun, 03 May 2009 16:53:46 GMT

luzr wrote on Sun, 03 May 2009 20:47What OS?

Screenshot might help.

Mirek
Windows XP, SP2.

OK, I`ll make video ASAP. Single screenshot won`t help as it can`t show the lag itself.

Subject: Re: A little proposal on code analysis
Posted by Mindtraveller on Tue, 05 May 2009 07:19:34 GMT

http://www.youtube.com/watch?v=SyIZ8UeybSQ

Subject: Re: A little proposal on code analysis
Posted by cbpporter on Sat, 09 May 2009 06:49:50 GMT

I can confirm that for SVN 1113, TheIDE has serious lag when typing. It does no appear for small projects. Try loading "ide".

Windows XP, MSC8, Core 2 Duo E6550, GeForce 8800 GT, 2GB RAM

Subject: Re: A little proposal on code analysis
Posted by mirek on Sat, 09 May 2009 15:39:22 GMT

OK, looks like having super fast machine is not always an advantage...

Anyway, I believe I have found a culprit. Please check this fix:

```
void Ide::InsertMenu(Bar& bar)
{
 if(bar.IsScanKeys())
  return;
 bar.Add("Insert color..", THISBACK(InsertColor));
 int pi = GetPackageIndex();
 const Workspace& wspc = IdeWorkspace();
 if(pi >= 0 && pi < wspc.GetCount()) {
  String pn = wspc[pi];
```

```
  const Package& p = wspc.GetPackage(pi);
  int n = 0;
 for(int i = 0; i < p.GetCount() && n < 12; i++) {
  String fn = p[i];
  String ext = ToLower(GetFileExt(fn));
  String pp = pn + '/' + fn;
  if(ext == ".lay") {
   bar.Add(fn + " include", THISBACK1(InsertLay, pp));
   n++;
  }
  if(ext == ".iml") {
   String c = GetFileTitle(fn);
   c.Set(0, ToUpper(c[0]));
   bar.Add(fn + " include", THISBACK2(InsertIml, pp, c.EndsWith("Img") ? c : c + "Img"));
   n++;
  }
  if(ext == ".tpp") {
   bar.Add(fn + " include", THISBACK1(InsertTpp, pp));
   n++;
  }
 }
 }
}
```

Mirek

Subject: Re: A little proposal on code analysis
Posted by Mindtraveller on Sat, 09 May 2009 21:42:27 GMT

Regretfully it didn`t help. Code editing still lags with this update.
One of the tests: while in code editor, make new line with Enter, write //, then press '=' key and do not release it. A sequence of '=' symbols will be added, but not displayed (this is TheIDE lag), wait a while, then release the key, then all the symbols are being displayed, all at once. Correct behaviour should be displaying each symbol immediately after it was added.

test config: AMD Athlon 2.1 GHz, WinXP SP2, SVN 1151 + patch, TheIDE compiled with MSC9 (GUI MT).

Subject: Re: A little proposal on code analysis
Posted by mirek on Sun, 10 May 2009 06:39:36 GMT

Mindtraveller wrote on Sat, 09 May 2009 17:42Regretfully it didn`t help. Code editing still lags with this update.
One of the tests: while in code editor, make new line with Enter, write //, then press '=' key and do not release it. A sequence of '=' symbols will be added, but not displayed (this is TheIDE lag), wait a while, then release the key, then all the symbols are being displayed, all at once. Correct behaviour should be displaying each symbol immediately after it was added.

test config: AMD Athlon 2.1 GHz, WinXP SP2, SVN 1151 + patch, TheIDE compiled with MSC9 (GUI MT).

Well, for record, displaying is not necessarry wrong behaviour, U++ (and most othre GUIs) are designed this way since first MacOS.

The idea is that screen repainting is as lazy as possible - it is done only is no other input event is in the queue for processing. Better lag repainting than miss keystroke, right?

Anyway, if you still observe lag, I will have to dig deeper I guess. There definitely should not be any lag in this case.

Mirek

Subject: Re: A little proposal on code analysis
Posted by Mindtraveller on Sun, 10 May 2009 06:59:41 GMT
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luzr wrote on Sun, 10 May 2009 10:39Well, for record, displaying is not necessarry wrong behaviour, U++ (and most othre GUIs) are designed this way since first MacOS.I agree with this approach in general but in this case it is important as U++ is positioned as agile and very effective development platform. Any new members will test U++ by using TheIDE. And making it lag is not the best thing for U++ reputation. We already do have Qt which (since version 4) became monstrouse and lagging. U++ could fit into the market of more effective frameworks but this presumes i.e. effectiveness of TheIDE (if development IDE breaks, how could I possible wite effective programs with this framework - one will ask himself).

IMO the most lazy thing should be could analysis.
Less lazy is GUI changing (I mean status bar, menu, etc.).
But keyboard/mouse respond is to be immediate - it is vital consumer appeal and a "face" of U++, especially for newcomers.

P.S. Even latest M$ Studio 2009` code editor doesn`t lag on my (and even older) PC`s. Good for Balmer.)

Subject: Re: A little proposal on code analysis
Posted by cbpporter on Sun, 10 May 2009 07:29:41 GMT
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Yes, no change here either.

luzr wrote on Sat, 09 May 2009 18:39OK, looks like having super fast machine is not always an advantage...

I consider my machine specs quite good for a desktop development machine. It is not an airplane or anything, but it was high end when I bought it and relatively expensive. I wouldn't consider compiling C++ on anything less. Yet I still have this delay which makes editing almost impossible.

What are you're hardware specs Mirek?

And could some people with high end machines check it out? This issue is hard to observe because I suspect only a handful of people keep their sources synced with latest SVN all the times.

Subject: Re: A little proposal on code analysis
Posted by mirek on Sun, 10 May 2009 08:20:08 GMT
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Well, cool down, there is no fundamental reason for this to be slow.

If it (still) lags, there is some problem, most likely in theide code, that has to be fixed.

I am now sitting at 2Ghz/2GB Core 2 notebook, so no speedster at all, although probably bit faster than 2.1 Ghz Athlon. (My desktop is 3.2Ghz Core 2 Quad, which is not the i7, but it is pretty to notice any lag...)

Well, on this notebook, I have noticed faint lag when autorepeat. Above patch fixed it completely. (Makes me even wonder if you have applied patch correctly.. which is more than likely, I know).

I guess I will have to finally setup my "slow machine" (I have some nice old Celeron 400 ready for such occasions....

Mirek

Subject: Re: A little proposal on code analysis
Posted by mirek on Sun, 10 May 2009 17:24:31 GMT
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OK, performed tests on Sempron 1.6Ghz, 512MB RAM, XP, HD 5200rpm (quite slow machine IMO).

Without the patch, lag was quite noticeable.

Anyway, after patching, there still is some lag if I type really really fast (much faster than "default" autorepeat), but it is definitely better.

So I wanted to ask - did it got any better for you with patch?

Mirek

Subject: Re: A little proposal on code analysis
Posted by mirek on Sun, 10 May 2009 18:14:07 GMT
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After a bit of thinking, I suggest that you would test plain LineEdit and then CodeEditor (yes, it can be used as normal widget without theide).

Something like:

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

using namespace Upp;

GUI_APP_MAIN {
 TopWindow win;
 LineEdit edit;
// CodeEditor edit; //2nd test
// edit.Highlight(CodeEditor::HIGHLIGHT_CPP);
 win.Add(edit.SizePos());
 win.Run();
}
```

(Add CodeEditor package...)

Try and report the lag....

Mirek

Subject: Re: A little proposal on code analysis
Posted by Mindtraveller on Sun, 10 May 2009 19:28:52 GMT
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Tried this test. Everything is OK for both LineEdit and CodeEditor widgets: no lags (even for rather big files), even DnD duplication worked correctly all the time.

Subject: Re: A little proposal on code analysis
Posted by mirek on Sun, 10 May 2009 20:52:20 GMT

Mindtraveller wrote on Sun, 10 May 2009 15:28Tried this test. Everything is OK for both LineEdit and CodeEditor widgets: no lags (even for rather big files), even DnD duplication worked correctly all the time.

Thank, that means we have to dig in theide

Has the patch improved situation? (It did for me). Or there is no noticeable difference?

(Now I am thinking, and I am really sorry to ask this question: Have you rebuild theide? OK, ok, just needed to check

Mirek

Subject: Re: A little proposal on code analysis
Posted by Mindtraveller on Sun, 10 May 2009 21:18:18 GMT

1. Yes, patch decreased the lags. I just need some time to test it in a more careful way. But at first glance, yes, there is difference.
Writing program text seems much better while autorepeat is still drawn only after I release the key (but as I told - it`s need to be tested better).

2. I`ve just re-checked: yes, TheIDE is from SVN, patched and recompiled and is certainly executed (not the old one).

UPDATE: No, sorry, the lag is still there even w/o autorepeat. Maybe a little smaller, but yet annoying.

And again, thank you for quick responses and great support!

Subject: Re: A little proposal on code analysis
Posted by mirek on Sun, 10 May 2009 22:05:11 GMT

Mindtraveller wrote on Sun, 10 May 2009 17:18
And again, thank you for quick responses and great support!

I am afraid my support lags... I usually have just enough time and energy to scan "library" forums..

Anyway, these two bugs (this one and DnD) are bitch to resolve. Well, DnD is even worse as I see no signs of it on my machines. Maybe you could test some LOGs in CtrlCore?

Mirek

Subject: Re: A little proposal on code analysis
Posted by Mindtraveller on Sun, 10 May 2009 23:43:28 GMT
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Mirek, I will help with anything I can - so testing LOGs is not a problem. I am only bound by amount of free time as I`m currently releasing big project for industrial automation.
BUT. I`ll try to do all debugging you ask within "rest" time breaks.

Subject: Re: A little proposal on code analysis
Posted by mirek on Mon, 11 May 2009 08:19:06 GMT
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Another possibile reason of lag:

In ide/idewin.cpp, GUI_APP_MAIN comment out

    ActivateUsrLog();

Mirek

Subject: Re: A little proposal on code analysis
Posted by unodgs on Tue, 12 May 2009 05:59:14 GMT
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Yesterday I compiled TheIde and I must say I also experience lags during typing. Maybe not so huge but still. My configuration is: AthlonX2 2Ghz 2GB Vista

---

Subject: Re: A little proposal on code analysis
Posted by mirek on Tue, 12 May 2009 06:08:41 GMT
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unodgs wrote on Tue, 12 May 2009 01:59Yesterday I compiled TheIde and I must say I also experience lags during typing. Maybe not so huge but still. My configuration is: AthlonX2 2Ghz 2GB Vista

Even with all patches? Sad...

Mirek

Subject: Re: A little proposal on code analysis
Posted by Mindtraveller on Tue, 12 May 2009 06:28:07 GMT

luzr wrote on Mon, 11 May 2009 12:19Another possibile reason of lag:

In ide/idewin.cpp, GUI_APP_MAIN comment out

    ActivateUsrLog();

Mirek
Sorry, but bug is still there. But IMO it (lag) became smaller.
I also noticed that lag heavily depends on overall size and size of dependencies for ALL included and opened files, especially for the current one.
Turning off any applications and opening only one small .h file with only one CtrlLib.h/CtrlLib.h included, made bug almost disappear.

Subject: Re: A little proposal on code analysis
Posted by mirek on Tue, 12 May 2009 06:46:33 GMT

Mindtraveller wrote on Tue, 12 May 2009 02:28luzr wrote on Mon, 11 May 2009 12:19Another possibile reason of lag:

In ide/idewin.cpp, GUI_APP_MAIN comment out

    ActivateUsrLog();

Mirek
Sorry, but bug is still there. But IMO it (lag) became smaller.
I also noticed that lag heavily depends on overall size and size of dependencies for ALL included and opened files, especially for the current one.
Turning off any applications and opening only one small .h file with only one CtrlLib.h/CtrlLib.h included, made bug almost disappear.

OK.

First, one more possibility (but given what you wrote above, unlikely):


```
void Ide::Periodic()
{
// CheckFileUpdate();
 SetIcon();
 if(debugger && debugger->IsFinished() && !IdeIsDebugLock())
  IdeEndDebug();
}
```

EDIT: Before bothering, try the patch below...

Second, we should decide if it is size of file or size of project or both.

Analyzing the code, I see no reason of influence of size of project (in fact, I believe that one was there and was fixed in the very first patch...).

Maybe you could try again plain CodeEditor and paste some very long file into it?

Thanks.

Mirek

Subject: Re: A little proposal on code analysis
Posted by mirek on Tue, 12 May 2009 07:07:31 GMT
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OK, what about this:

Quote:
```
void WorkspaceWork::TouchFile(const String& path)
{
 if(!showtime)
  return;
 Time tm = GetSysTime();
 String n = GetFileName(path);
 for(int i = 0; i < filelist.GetCount(); i++) {
  FileList::File f = filelist[i];
  if(f.name == n && path == SourcePath(GetActivePackage(), f.name))
   filelist.Set(i, f.name, f.icon, f.font, f.ink, false, 0,
          Null, SColorMark, Null, Null, Null, SColorMark);
 }
}
```

(problem fixed here would cause lag if you are in package with a lot of files...)

Mirek

Subject: Re: A little proposal on code analysis
Posted by Mindtraveller on Tue, 12 May 2009 07:23:19 GMT
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Tried both patches (one w/o another) - and no success eliminating lag.

For now, I do always have a lag (it seems like OS restart is needed). But when I succeeded in decreasing the lag, it was a strong dependency on amount of opened files and their size. One opened small file could possibly make lag smaller. It needs more thorough testing which I can make only in short periods (sorry, detached duty in 2 days - have to finish many things for now).

Subject: Re: A little proposal on code analysis
Posted by mirek on Tue, 12 May 2009 07:53:43 GMT
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Mindtraveller wrote on Tue, 12 May 2009 03:23Tried both patches (one w/o another) - and no success eliminating lag.

For now, I do always have a lag (it seems like OS restart is needed). But when I succeeded in decreasing the lag, it was a strong dependency on amount of opened files and their size. One opened small file could possibly make lag smaller. It needs more thorough testing which I can make only in short periods (sorry, detached duty in 2 days - have to finish many things for now).

OK, let me know if you have any new results...

Maybe Daniel can test meanwhile?

I have to say, I do not see any lag on my slow testing machine now...

Mirek

Subject: Re: A little proposal on code analysis
Posted by mirek on Tue, 12 May 2009 08:09:11 GMT
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OK, another attempt, this time more complex, so it is svn revision 1161. Fingers crossed...

I hope this is finally "it"

Mirek

Subject: Re: A little proposal on code analysis
Posted by Mindtraveller on Tue, 12 May 2009 13:06:19 GMT
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You did it. Lag is fixed. Thanks a lot!

Subject: Re: A little proposal on code analysis
Posted by mirek on Tue, 12 May 2009 13:09:42 GMT
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Mindtraveller wrote on Tue, 12 May 2009 09:06You did it. Lag is fixed. Thanks a lot!

Uffffffffffffffffffffff..........

Mirek

Subject: Re: A little proposal on code analysis
Posted by mr_ped on Tue, 12 May 2009 13:53:36 GMT
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Any summary what went wrong?
I'm curious and would love to learn more about it, although I don't want to check the code.

Subject: Re: A little proposal on code analysis
Posted by Mindtraveller on Tue, 12 May 2009 13:53:39 GMT
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Great job! TheIDE looks like even works faster (I mean, even quicker responsive to any actions).
That is really cool!

Subject: Re: A little proposal on code analysis
Posted by mirek on Tue, 12 May 2009 14:56:45 GMT
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mr_ped wrote on Tue, 12 May 2009 09:53Any summary what went wrong?
I'm curious and would love to learn more about it, although I don't want to check the code.

Well, it turned out that problem was that many things were checking package files each for each
Key event.

The bottleneck what the code to get the path of package - that involves scanning filesystem
(PackagePath function). I have fixed the problem by adding a cache there.

Mirek

Subject: Re: A little proposal on code analysis
Posted by unodgs on Tue, 12 May 2009 17:23:48 GMT
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luzr wrote on Tue, 12 May 2009 09:09Mindtraveller wrote on Tue, 12 May 2009 09:06You did it. Lag is fixed. Thanks a lot!

Uffffffffffffffffffffffff..........

Mirek
The patch works perfect for me too! Thanks!

Subject: Re: A little proposal on code analysis
Posted by cbpporter on Wed, 13 May 2009 02:34:24 GMT
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Yes, problem solved!

Thank You!

Subject: Re: A little proposal on code analysis
Posted by Mindtraveller on Fri, 28 May 2010 13:52:13 GMT
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Mirek, I have bad news. The bug is again there.

PC: Pentium 4 CPU 2.8 GHz, 512 MB RAM
OS: WinXP SP2
PROJECT: 17 packages

The same project under home PC (Intel 2.5 GHz) is edited flawlessly, without TheIDE lags.