Subject: Time callbacks when ticks overlap Posted by Zbych on Fri, 23 Jul 2010 09:03:38 GMT

View Forum Message <> Reply to Message

Hi,

I have a problem with time callbacks. They use GetTickCount which overlaps every ~50 days and do all calculations on 32-bit variables. Unfortunately Ctrl::TimerProc doesn't work correctly when (GetTickCount + delay) overlaps.

For example when GetTickCount returns 0xFFFF0000 and I want to set time callback to 2 minutes (0x1D4C0 ms), TimeEvent.time is set to 0x0000D4C0 and Ctrl::TimerProc executes callback every time (because this statement "list->GetNext()->time < time" is true).

This situation is more likely to happen on posix, because GetTickCount returns ticks since the Epoch, not system power on.

My proposition is to change time comparison:

```
old:
while(list->GetNext() != list && list->GetNext()->time < time) {

new:
while(list->GetNext() != list && ((int)(time - list->GetNext()->time)) > 0) {

Casting to a signed number is a must.

and to remove this (I think it is unnecessary):
if(e->time > 0x80000000)
e->time = 0;
```

Subject: Re: Time callbacks when ticks overlap Posted by mirek on Fri, 23 Jul 2010 09:11:56 GMT

View Forum Message <> Reply to Message

Zbych wrote on Fri, 23 July 2010 05:03Hi,

I have a problem with time callbacks. They use GetTickCount which overlaps every ~50 days and do all calculations on 32-bit variables. Unfortunately Ctrl::TimerProc doesn't work correctly when (GetTickCount + delay) overlaps.

For example when GetTickCount returns 0xFFFF0000 and I want to set time callback to 2 minutes (0x1D4C0 ms), TimeEvent.time is set to 0x0000D4C0 and Ctrl::TimerProc executes callback every time (because this statement "list->GetNext()->time < time" is true).

This situation is more likely to happen on posix, because GetTickCount returns ticks since the

```
Epoch, not system power on.
My proposition is to change time comparison:
old:
while(list->GetNext() != list && list->GetNext()->time < time) {</pre>
new:
while(list->GetNext() != list && ((int)(time - list->GetNext()->time)) > 0) {
Casting to a signed number is a must.
and to remove this (I think it is unnecessary):
if(e->time > 0x80000000)
 e->time = 0;
Thank you. You are right, the code was flawed, yours is correct.
Just to be sure:
void Ctrl::TimerProc(dword time)
if(IsPanicMode())
 return;
sTimerLock.Enter();
TimeEvent *list = tevents();
sTClick = time:
sTimerLock.Leave();
Ctrl::CheckMouseCtrl();
Ctrl::SyncCaret();
sTimerLock.Enter();
while(list->GetNext() != list && ((int)(time - list->GetNext()->time)) > 0) {
 TimeEvent *e = list->GetNext();
 e->Unlink();
 if(e->delay < 0)
 sTimeCallback(time - e->delay, e->delay, e->cb, e->id);
 eventid++;
 sTimerLock.Leave();
 e->cb():
 sTimerLock.Enter();
 delete e:
sTimerLock.Leave();
}
```

Subject: Re: Time callbacks when ticks overlap Posted by Zbych on Fri, 23 Jul 2010 12:01:57 GMT

View Forum Message <> Reply to Message

```
luzr wrote on Fri, 23 July 2010 11:11 Just to be sure: [cut]
```

That is ok. But there is one more place where time is compared:

```
static void sTimeCallback(dword time, int delay, Callback cb, void *id) {
[...]
for(e = list->GetNext(); e != list && ((int)(time - e->time) >= 0); e = e->GetNext());
[...]
```

Subject: Re: Time callbacks when ticks overlap Posted by mirek on Sun, 25 Jul 2010 07:31:49 GMT

View Forum Message <> Reply to Message

Zbych wrote on Fri, 23 July 2010 08:01luzr wrote on Fri, 23 July 2010 11:11 Just to be sure: [cut]

That is ok. But there is one more place where time is compared:

```
static void sTimeCallback(dword time, int delay, Callback cb, void *id) {
[...]
for(e = list->GetNext(); e != list && ((int)(time - e->time) >= 0); e = e->GetNext());
[...]
```

Ops, thanks, missed that one...

That is why I prefer full zipped files posted as patch

Mirek