
Subject: Problem breaking loop (with close button) in main thread

Posted by [awksed](#) on Tue, 18 Oct 2022 15:19:00 GMT

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Windows 7. U++ 16270. Multi-thread app.

I have a `GuiAcquireMutex()` function called from a main thread `Paint()` that calls

`WaitForSingleObject(hMutex, dwShortTimeout)` // `dwShortTimeout = 1 second` (full timeout is 60 seconds)

if the mutex is not acquired I call:

`Ctrl::GuiSleep(1000)` to allow other threads to run and if 60 seconds have not elapsed, jump back to `WaitForSingleObject()`.

I wish to allow the close button to call `Close()` (that sets boolean `g_bQuit`) and allow the user close the app (breaking the mutex acquire loop).

Clicking the close button results in the windows message "... is not responding".

Adding `Ctrl::ProcessEvents()` causes a "WM_PAINT invoked ... while in Paint routine" error.

Is there some way in U++ to allow the close button to call `Close()` while the main thread is looping (like Windows `PumpWaitingMessages()`)?

Code:

```
DWORD GuiAcquireMutex(HANDLE hMutex, DWORD dwTimeout)
{
    if(hMutex == INVALID_HANDLE_VALUE)
        return ERROR_INVALID_HANDLE;

    long long llNow;
    long long llStart    = GetMilliTime();
    long long llEnd      = llStart + (long long) dwTimeout;
    DWORD     dwShortTimeout = 1000;      // 1 second
    DWORD     dwLastError;
    DWORD     dwWaitResult;
```

Again:

```
dwLastError = 0; // Success
dwWaitResult = WaitForSingleObject(hMutex, dwShortTimeout);

switch(dwWaitResult)
{
```

case WAIT_FAILED:

```
llNow = GetMilliTime();
```

```
if(llNow < llEnd)
```

```
{
```

```
    if(g_bQuit)
```

```
    {
```

```
        dwLastError = ERROR_COUNTER_TIMEOUT;
```

```
        SetLastError(dwLastError);
```

```
        return dwLastError;
```

```
    }
```

```
    Ctrl::GuiSleep(1000); // Never sleeps for 1000 ms (always returns immediately)
```

```
    goto Again;
```

```
}
```

```
dwLastError = GetLastError();
```

```
break;
```

case WAIT_TIMEOUT:

```
llNow = GetMilliTime();
```

```
if(llNow < llEnd)
```

```
{
```

```
    if(g_bQuit)
```

```
    {
```

```
        dwLastError = ERROR_COUNTER_TIMEOUT;
```

```
        SetLastError(dwLastError);
```

```
        return dwLastError;
```

```
    }
```

```
    Ctrl::GuiSleep(1000); // Never sleeps for 1000 ms (always returns immediately)
```

```
    goto Again;
```

```
}
```

```
dwLastError = ERROR_COUNTER_TIMEOUT;
```

```
SetLastError(dwLastError);
```

```
}
```

```
return dwLastError;
```

```
}
```

Thanks.