

Re: Memory not freed when unloading forms

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From: Ralph (nt_consulting32_at_hotmail.com)

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Date: Fri, 20 Feb 2004 16:01:33 -0600

"Leonardo Bosi" <unreal@address.com> wrote in message
news:ey%23wTQ%239DHA.2644@TK2MSFTNGP11.phx.gbl...
> Hello,
>
> I have a VB6 application with several forms. The main form acts as a
> "dispatcher", it has various command buttons placed on it, each one to
> invoke a particular form in the application.
> The code behind these buttons launches the particular form in a 'modeless'
> fashion, referring to the form by its name (for instance if the form's
name
> is Form1, the code will be Form1.Show) This causes the form effect: if the
> form is not loaded at that time, it loads and then displays as the
> foreground window. If the form is already loaded at that time, that
instance
> of the form is displayed as the foreground window. This is fine, because
> it's exactly the intended form behavior for the application.
> What's not fine is the severe problem we are experiencing: memory doesn't
> seem to be freed when a Form is unloaded. All forms have a Cancel command
> button which issues the 'Unload Me' statement and causes the form to
unload.
> Since we've been experiencing problems which seemed to be 'random' with
our
> application, we did this test: put our application to run and opened a
> program to monitor the global amount of free memory. When we opened a form
> in our application, free memory decreased a little, let's say 7%. But when
> we closed that form, free memory didn't increased by 7% but only a small
> amount of the original decrease, let's say 2%. Opening the form again
would
> result in another 7% decrease, and closing it would yield a 2% increase.
> After several iterations of the experiment, free memory eventually reached
> 0% and the application began to experience the errors we had perceived as
> random at first.
> Finally we closed our application and suddenly all the memory it had been
> using incrementally was freed at once, this way restoring the free memory
> level as it was before running our app. Our application 'exit' command
loops
> through the forms collection unloading every form which is loaded at that

> *time, except for the current one (the main form). After the loop, it unloads*
> *the main form. This seems to be a well-behaved code which results in memory*
> *being correctly freed when the application shuts down.*
> *As you can see, the problem we have is that we are unable to free memory*
> *correctly after unloading a form. We searched the MSDN library and*
> *Microsoft's Knowledge Base for information on how to do this, but didn't*
> *found anything useful yet. We tried alternatives in code such as Set Form1*
=
> *Nothing after unloading it, but didn't work either.*
>
> *Has anyone ever experienced this kind of problem?*
> *Any ideas about how to solve it, or things to try?*
>
> *Any help would be greatly appreciated.*
>
> *Thanks in advance,*
>
>
> --
> *Leonardo Bosi*
> *Buenos Aires, Argentina*
>

Leonardo,

There are two interesting 'features' about Forms that I believe may be part of the problem.

1) Unloading a form using 'Unload' only unloads the GUI portion of a form. The code portion is not unloaded. So not only are 'globals' in these forms still set to any values (perhaps still referencing another resource or another form [see 2 below]), but the form is still partially in memory.

So you should not only ...

```
Unload Form1  
' to unload the form and  
Set Form1 = Nothing  
' to unload the rest and de-initialize any references.
```

To be really paranoid (and safer) use the

```
Dim frm1 As Form1  
Set frm1 = New Form1
```

this makes it a little easier (imho) to keep all your references herded together...e.g.

once you have set frm1 to Nothing any attempt to use frm1 will create an error – not so if using the name "Form1".

2) Referencing a form that is not loaded causes that form to be loaded automatically.

microsoft.public.vb.general.discussion: Re: Memory not freed when unloading forms

Also, how are you checking your virtual memory use? You may have to stress test your application under a load to see real results. Win98 virtual memory is a little 'lazier' than say Win2k/XP. It is not uncommon for many pieces to stick around in memory until that space is needed. That is why you will see an app take say 30% of available memory when running alone, but only take around 15% when other apps are loaded.

But I really think your basic problem is not completely unloading forms in the first place and leaving references open.

HTH
-ralph