## Subject: Re: How to keep two objects synchronized?
Posted by David Fanning on Thu, 03 Oct 2013 13:20:47 GMT

Matthew Argall writes:

> Say I have a colorbar object and an image object and I want to keep their color table and color range the same whenever either of the objects are changed. Also, the colorbar is also positioned relative to the image, so if the image's position changes, the colorbar's should be updated as well.
>
> My idea is to store the colorbar as a property in the image. Internally, the image would then add itself the colorbar. When either are updated, trigger updates to the other (would need a flag to prevent infinite loops).
>
> With this, the ability to add images to colorbars would have to be a hidden feature in order to maintain the one-way work flow of adding colorbars to images.

In the Catalyst Library, one object registers its "interest" in another object. Basically, it tells the object what kind of "message" it would like to receive and adds its reference to the object's "send a message to" container. So, for example, an image would register its interest in a colorbar's Change Colors message. When the colors of the colorbar are changed, the colorbar object looks in its message container to see if anyone is interested. If so, the object calls the interested object's MessageFrom method with the relevant information.

It works great. One advantage of this kind of communication is that several images can register interest with, say, a colorbar object, and they will all get updated when the colors change. This kind of messaging infrastructure is built into the CatAtom object, which all objects inherit in the Catalyst Library system. This way all objects can communicate with other objects, even if you can't currently think of anything for them to say. ;-)

Cheers,

David


--
David Fanning, Ph.D.
Fanning Software Consulting, Inc.
Coyote's Guide to IDL Programming: http://www.idlcoyote.com/
Sepore ma de ni thue. ("Perhaps thou speakest truth.")