Subject: Re: Google Static Maps in IDL
Posted by natha on Fri, 13 Jul 2012 02:05:50 GMT
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On Wednesday, July 11, 2012 11:38:42 AM UTC-4, David Fanning wrote:
> Folks,
>
> As long as I am talking about updating your Coyote Library
> distribution this morning, let me give you another reason
> to do so.
>
> I have built a pretty nifty MABEL lidar browser recently
> that you can download from an SVN repository if you are
> interested in this new photon counting lidar data.
> Complete directions are available in the Wiki you will
> find on the MABEL project page.
>
> http://sourceforge.net/projects/mabelidl/
>
> In addition to the zooming/panning capability that I
> built into cgZPlot, I wanted the user to be able to
> see the lidar track on a map. If the map showed the
> topography of the location that would be a HUGE plus
> for me. And, of course, I wanted to be able to annotate
> the map with features that were pertinent to the lidar
> flight.
>
> To this end, I built a small object that exposes quite
> a bit of the Google Static Map API:
>
> https://developers.google.com/maps/documentation/staticmaps/
>
> Static maps are actually images that come back from Google.
> You can't interact with them in the same way you can with
> a Google map in a web browser. There are definite limitations.
> For example the image that returns can be no larger than
> 640x640 pixels. But, you can set the zoom level and the
> type of map you want: terrain, satellite, roadmap, or hybrid.
> You can also add Google markers to the map.
>
> Displaying the image is straightforward, of course. The tricky
> part was figuring out how to set up the map coordinates to be
> able to navigate the map and annotate it myself. (The images
> are returned in GIF, JPEG, or PNG formats, but NOT in the
> more useful GeoTiff format. That can't really be an oversight!)
>
> All this to say that is built a compound widget/object
> named cgGoogleMapWidget to retrieve and work with these static

> Google map images. I have added this to the most recent version
> of the library.
>
> I have put a picture of the MabelBrowser here so you can see
> how the map can be used:
>
> http://www.idlcoyote.com/misc/mabelbrowser.png
>
> The window at the top allows me to zoom into and pan to
> the relevant lidar location. The window at the bottom is
> the cgGoogleMapWidget compound widget, shown here as a terrain
> map. As you can see, buttons allow you to choose different
> map and marker types to display on the map, and I have annotated
> the map with box axes and grid lines. (I am displaying
> user-defined markers, rather than Google markers on this map.)
> Both the zoom/pan plot and the map can be saved as high-quality
> raster and PostScript output should you want to make slides
> of them, etc.
>
> There is a delay when the map is updated, comparable to the
> delay you would experience with function graphics, while I
> go out to the Internet and get a new map from Google,
> but it is not bad, and it allows me to center the map at
> a location where I click, etc. If I click near a map marker,
> it will update the zoom/pan plot to that marker location.
>
> If you are just interested in the cgGoogleMapWidget program itself,
> you can run the program to see where Coyote lives. If it is not
> passed the identifier of a parent widget, it will create it's
> own top-level base.
>
> IDL> object = cgGoogleMapWidget()
>
> You can find all the necessary programs in the latest version
> of the Coyote Library:
>
> http://www.idlcoyote.com/programs/zip_files/coyoteprograms.z ip
>
> Cheers,
>
> David
> --
> David Fanning, Ph.D.
> Fanning Software Consulting, Inc.
> Coyote's Guide to IDL Programming: http://www.idlcoyote.com/
> Sepore ma de ni thui. ("Perhaps thou speakest truth.")