

That CAD Girl

Another Twist for World

May 6, 2009

I'd like to offer a few other arguments for the use of the DVIEW TWIST routines discussed in [North Rotation: Using Twist Screen](#). The four Carlson DVIEW routines cited:

1. **Standard** – *This option allows you to select a rotation angle using the mouse.*
2. **Line, Polyline or Text** – *This option allow you to select an object to set as a view baseline. It is the most useful when trying to match views to objects such as property lines or road centerlines.*
3. **Surveyor** – *This option prompts for the manual entry of a bearing or azimuth for the rotation angle.*
4. **Restore Due North** – *This option returns the screen to the orientation where North is straight up.*

fall right in line with remarks made by [ESRI's Brent Jones at the 2009 Carlson User Conference](#) who said:

"GIS changes the whole domain for surveyors," Jones added, "And surveyors need to be ready for what's coming next –

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high accuracy GIS. The key is geo-referencing," he said. "We can use our data to communicate to our world with greater precision over greater areas."

In my opinion, a **User Coordinate System** (UCS, by its very definition), takes the data one step further away from being geo-referenced. There are those that would probably argue that having data in a World Coordinate System (WCS) and at assumed coordinates of something like 5000,5000,100 is no better than using a UCS to shift this same data to a proper geo-referenced coordinate system. From a holistic stand-point, I'd tend to agree. However, what sets the WCS vs. UCS argument apart is this simple statement:

All drawings must have a WCS yet not all drawings have a UCS.

When one considers the longevity of information represented in drawings created to this point in time and then reflects on how this information might also be used in the future, I feel it is important to model that information (and subsequently allow that information to be easily extracted) in a consistent and reliable fashion. A **User Coordinate System** is typically only understood and used by its creator

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which in turn, limits its use and subsequently increases the risk of liability when the **User Coordinate System** isn't known or understood by a "downstream" recipient of the drawing (survey stake-out, machine control excavation, etc).

Side note observation... Is it me or are there some parallels between UCS and custom ARX objects used in other products? When I look at how long the DVIEW vs. UCS arguments have been made, I can only surmise the length of time that will be involved to bring the non-proprietary vs. proprietary data argument to a close. I suspect it's going to be a long, tough road.

In any event, it is my opinion that standardizing on a single WCS should provide more consistent deliverables when the drawings/projects span multiple people, offices and/or disciplines. When properly adopted, using a "twisted view" of geo-referenced data in a World Coordinate System should provide more feature-rich information now and into the future when our data is mapped onto the Earth.

Originally posted on **Carlson Connection** by Ladd Nelson