Details of the RevWorks Icon Project

RevWorks is a digitizer plug-in to SOLIDWORKS CAD software. It is used to create geometry from raw data collected with a 3D digitizer. It’s current, simple toolbar icons reflect raw points and the geometries created for each option available. There is also a small set of state icons (indicators) and icons for a few activities that are not directly associated with data capture, such as the options button.

For this project we want to freshen the icons for the Windows 10 environment. This includes an update to the images, colors, and icon sizes. We want to develop a set of icons that span the full range of sizes suggested by Microsoft standards. These include 32-bit color (8-bit transparency) of the following dimensions:

16x16\*  
20x20  
24x24\*  
30x30  
32x32\*  
36x36  
40x40  
48x48\*  
60x60  
64x64  
72x72  
80x80  
96x96  
256x256\*

Those sizes indicated by “\*” are the minimum required for assessing the work presented, though all sizes must be completed for the finished project.

The character of the artwork should complement the SOLIDWORKS icon samples provided in accompanying example files. You are not limited to that exact color pallet as long as color choices convey useful meaning and are in visual harmony with SOLIDOWORKS. In general, the RevWorks icons are very simple in their design and we want them to continue to be so. The winning design chosen will present clean, elegant, complimentary treatments of the icon samples provided.

If you want more information about the RevWorks product, the MicorScribe digitizer, or any related technical terms, please review materials at our web site: www.revware.net.

The following is a list of the toolbar button icons present in “RevWorks Toolbar Icons.jpg” and an intent description of each. The images in the example jpg files are framed by grey boxes for presentation purposes only. The desired icons will not have border lines. They are ordered by elements in each column from left to right:

**Line Features:**

Sketch Line from Points (Line between two points)  
Sketch Line from 2 Planes (Line drawn at intersection of 2 planes)  
3D Line from Points (Line between two points with small 3D cluster)  
3D Line form 2 Planes (Line drawn at intersection of 2 planes with small 3D cluster)

**Arc Features:**

Sketch Arc from Points (Arc drawn between 3 points)

**Circle Features:**

Sketch Circle from Points (Circle drawn between 3 points)

**Ellipse Features:**

Sketch Ellipse from Points (Ellipse drawn between 5 points)

**Profile Features:**

Sketch Arc Line Profile from Points (Short arc & line segments drawn between multiple points)

**Spline Features:**

Open Sketch Spline from Points (Open spline drawn between 4 points)  
Closed Sketch Spline from Points (Closed spline drawn between 3 points)  
Open 3D Spline from Points (Open spline drawn between 4 points with small 3D cluster)  
Closed 3D Spline from Points (Closed spline drawn between 3 points with small 3D cluster)  
Open Curve from Points (3D-looking open curve drawn between three points)  
Closed Curve from Points (3D-looking closed curve drawn between three points)

**Rectangle Features:**

Sketch Rectangle from Points (Rectangle with 3 points on one side and 1 on remaining 3 sides)  
Sketch Rectangle from 2 Corner Points (Rectangle with points on two opposing corners)

**Point Features:**

Sketch Point (An emphasized point)  
Sketch Point at Center of Circle (An emphasized point shown at the center of a circle)  
Sketch Point at intersection of 2 Lines (An emphasized point shown at the intersection of two lines)  
Sketch Point at intersection of 3 Planes (An emphasized point shown at the intersection of 3 planes)  
Sketch Point at Center of Sphere (An emphasized point shown at the center of a sphere)  
3D Point (An emphasized point with small 3D cluster)  
3D Point from intersection of 3 Planes (An emphasized point shown at the intersection of 3 planes  
 with small 3D cluster)  
3D Point at Center of Sphere (An emphasized point shown at the center of a sphere with a  
 small 3D cluster)

**Plane Features:**

Plane from Points (Plane with points at 3 corners)  
Plane Parallel Plane at a Point (Plane above a plane outline with one point)  
Plane Parallel to View at a Point (Plane within a screen view with one point)  
Plane Parallel to Front Plane at a Point (Plane in a wire frame box facing front with one point)  
Plane Parallel to Top Plane at a Point (Plane in a wire frame box facing up with one point)

Plane Parallel to Right Plane at a Point (Plane in a wire frame box facing right with one point)  
Perpendicular Plane at a Point (Plane perpendicular to an arc with one point)  
Radial Plane through Line at a Point (Plane with an offset vertical line and one point)

**Measure Actions:**

Measure Depth from Sketch (Calipers with point above line)  
Measure Angle Between 2 Planes (Calipers with 2 planes at large relative angle)  
Measure Draft Angle Between 2 Planes (Calipers with 2 planes at small relative angle)  
Measure 2 Point X Distance (Calipers with 3D cluster emphasizing X direction)  
Measure 2 Point Y Distance (Calipers with 3D cluster emphasizing Y direction)  
Measure 2 Point Z Distance (Calipers with 3D cluster emphasizing Z direction)  
Measure 2 Point 3D Distance (Calipers with line between 2 points)  
Measure Circle Diameter (Calipers with circle diameter emphasized)  
Measure Circle Radius (Calipers with circle radius emphasized)

**Surface Features:**

Axis Aligned Surface (Squared surface with XY axis emphasized)  
Point Aligned Surface (Angled surface with 2 points emphasized)  
Spline Bound Surface (Surface with curved boundary)

**Calculate Feature from Collected Data** (A stylized checkmark)

**Delete Current Feature Data and Continue** (A stylized X)

**Cancel Data Collection**  (A stylized “No” symbol)

**CADpad Options: (Not shown in jpg)**

Align CADpad Grid (A small grid, with colored tiles and a probe) **Not shown in jpg**  
Align CADpad Mouse (A small computer screen and a probe) **Not shown in jpg**

**Toggle Display of Alignment Manager** (A folder icon with an alignment cluster)

**Toggle Display of Probe Manager** (A folder icon with a probe)

**Point Collection Mode:**

Single Point Collection Mode (A single point with a probe)  
Scan Point Collection Mode (A grid of multiple points and a probe)

**Mouse Points Collection Mode:**

Mouse Points Collection Mode Off (A mouse pointer icon with no highlight and a point)  
Mouse Points Collection Mode On (A highlighted mouse pointer icon and a point)

**Feature Type Mode:**

Create Active Features (A solid drawn line and circle feature)  
Create Construction Features (A dashed drawn line and circle feature)

**Display Option Dialog** (A stylized settings page)

**Help Options:**

Context Help (A question mark with a mouse pointer icon)  
Help Topics (A stylized question mark)

As noted above, we do not have icons for the two CADpad options and therefore are looking for a design suggestion. CADpad Grid is a workspace template that allows the user to select from the full range of RevWorks activities using the digitizer probe instead of keyboard and mouse. The icon needs to convey that. One thought is to show a small probe above a recognizable grid in which one or more cells have been drawn solid with a color, representing selectable item(s). CADpad Mouse allows the user to use the digitizer as a system mouse when they move the digitizer probe over a representation of the computer screen. One suggestion of how to depict this in an icon is to show a small probe hovering above a stylized application screen, perhaps like what was used for the “Plane Parallel to View at a Point” option in the Plane Features section described above.

The following is a list of the toolbar indicator icons present in “RevWorks Indicator Icons.jpg”. Indicators give the user status feedback on current system states. They ordered from left to right as listed in the image:

**Location Display:**

Device Coordinates (A probe image)  
Part Coordinates (A bolt image)  
Sketch Coordinates (A pencil image)

**Datum Status:**

No Datum Defined (Grey sphere on deemphasized coordinate cluster)  
Datum Defined and Active (Green sphere on emphasized coordinate cluster)  
Datum Defined, but Inactive (Yellow sphere on emphasized coordinate cluster)

**Collection Mode:**

Single Point Collection Mode (A single stylized point)  
Scan Point Collection Mode (A diagonal section line with multiple points adjacent)

**Compensation Mode:**

Feature Compensation Off (A line behind a red sphere)  
Feature Compensation On (A green sphere with arrow towards a line feature)

**Communication Status:**

No Communication Established (Greyed indicator light)  
Communication Active (Green indicator light)  
Communication Active, but Data Collection on Hold (Yellow indicator light)  
Communication Inactive/Stopped (Red indicator light)

Lastly, the file “RevWorks Toolbar.jpg” contains an example of the existing RevWorks toolbar is it floating state. The files “SolidWorks 1.jpg” and SolidWorks 2.jpg” contain a couple screen shots of the SOLIDWORKS application for reference.