VektorTool2.tiff ¬ Basics about Paths

This chapter contains a short introduction about paths. Without regarding mathematical definitions, it explains parts and characteristics of paths, how they are named and how they are handled in OneVision-Art.

Each OneVision-Art element is or contains exactly one path. Paths are defined by points. Points determine the course of the paths or, in other words, paths are anchored onto points. That's why these points are called *anchor points*. Each paths consists of at least one anchor point, i.e., one point forms the shortest path.

Paths that contain more than one anchor point are connected by lines. Each line is confined by two anchor points. Lines can be *straight lines* or *curves*. Paths may consist of both straight lines and curves.

Straight lines are the shortest connection between two anchor points.
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Figure: A path consisting of straight lines

Curves that connect two anchor points are called *BÝzier curves*. The course of a BÝzier curve is calculated according to special mathematical definitions. This definition requires one additional control point at each of the anchor points. These control points control the shape of the curve. They are always tangent to the curve with the anchor point serving as tangent point. In most cases, an anchor point connects two lines. If both lines are curves, two control points are found along with the anchor point. Note that each of these control points belongs to a different curve. They are not parts of the anchor point.

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Figure: A path consisting of curves, with control points and tangents.

Each path has a direction and therefore a starting point and an end point. If paths are closed, the starting point and the end point are on top of each other. The starting point of a path is defined by setting the first point in a OneVision-Art element. The path then runs from the first point to the second, third, etc. (The direction of a path is important for filling rules, placing pathtexts, etc.)

Teilpfade;¬Each path in OneVision-Art elements consists of one or more *subpaths*. A subpath is a path segment whose connection line to the rest of the path isn't visible, i.e., the line from the last point of one subpath to the first point of the next subpath isn't displayed. To distinguish the first point of a path or subpath from the others, it is displayed reduced in size.
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Figure: A path consisting of three subpaths

Similar to the preselection of elements, you can preselect points in the edit mode of OneVision-Art. If you move the mouse cursor within the snap radius of a point, the point becomes preselected.
Moreover, the following parts are highlighted:
- the line, leading to the preselected point
- the control points and tangents of the line (if it is a curve)

Highlighting the line leading to a point, enables you to easily determine the direction of a path. If the preselected point is the first point of a subpath, the connection to the last point of the previous subpath is highlighted.