

Quadratic and cubic Bézier-Splines in .svg (scalable vector graphics)

The .svg specification provides - among many other interesting things - the possibility to draw quadratic and cubic Bézier splines in the <path> element.

Paths

These are simple or compound shape outlines drawn with curved or straight lines, can be filled in or outlined (or used as a clipping path) and are expressed in a highly compact coding in which, for example, M (from 'move to') precedes the initial numeric X and Y coordinates and L (line to) will precede a subsequent point to which a line should be drawn. Special lines are horizontal lines (H) or vertical ones (V). Further command letters (C, S, Q, T and A) precede data that is used to draw various Bézier and elliptical curves. Z is used to close a path. In all cases, absolute coordinates follow capital letter commands and relative coordinates are used after the equivalent lower-case letters.

See <http://www.w3.org/TR/SVG11/paths.html> for the official reference.

The cubic Bézier commands

Command: C (absolute) or c (relative)

Parameters: (x1 y1 x2 y2 x y)+

Description:

Draws a cubic Bézier curve from the current point to (x,y) using (x1,y1) as the control point at the beginning of the curve and (x2,y2) as the control point at the end of the curve. C (uppercase) indicates that absolute coordinates will follow; c (lowercase) indicates that relative coordinates will follow. Multiple sets of coordinates may be specified to draw a polybézier. At the end of the command, the new current point becomes the final (x,y) coordinate pair used in the polybézier.

Command: S (absolute) or s (relative)

Parameters: (x2 y2 x y)+

Description:

Draws a cubic Bézier curve from the current point to (x,y). The first control point is assumed to be the reflection of the second control point on the previous command relative to the current point. (If there is no previous command or if the previous command was not an C, c, S or s, assume the first control point is coincident with the current point.) (x2,y2) is the second control point (i.e., the control point at the end of the curve). S (uppercase) indicates that absolute coordinates will follow; s (lowercase) indicates that relative coordinates will follow. Multiple sets of coordinates may be specified to draw a polybézier. At the end of the command, the new current point becomes the final (x,y) coordinate pair used in the polybézier.