Abstract: Research into shape grammar implementation has been largely concerned with rectilinear shapes and there has been limited research into implementation on shapes composed of curves. This reflects developments of the shape grammar formalism which has been defined largely according to straight lines, planes, and associated volumes. In this paper, implementation of shape grammars on curved shapes is examined using algorithms for shape operations on shapes composed of parametric curves. These algorithms have been implemented in a shape grammar interpreter for shapes composed of quadratic Bezier curves, which is illustrated via application of a shape grammar that generates Celtic knotwork patterns. Implementing shape grammars on shapes composed of Bezier curves highlights difficulties that arise when the shape grammar formalism is applied to curved shapes, and the paper concludes with a discussion that explores these difficulties and indicates potential implications for the shape grammar formalism.
Occurences:

· Einrichtungen > Fakultäten > Fakultät für Maschinenwesen > Institut für Mechatronik > Lehrstuhl für Produktentwicklung (Prof. Volk komm.) > Zeitschriftenartikel

· Einrichtungen > Fakultäten > Fakultät für Maschinenwesen > Institut für Mechatronik > Lehrstuhl für Produktentwicklung, Konstruktionssystematik und Leichtbau (Prof. Zimmermann) > Journalartikel

entries: