Abstract

This work makes the contribution of developing a parametric modeler for designing Islamic star patterns. The intention here is to innovate with new interpretations of star patterns for latticed screens, which are reminiscent of the Indo-Mughal era. With a motivation for providing traditional appearance to the buildings like resorts and hotels, traditional latticed screens with Islamic star patterns are used as a fundamental resource to archive decorative effects. Such latticed screens have been generated by using computer aided geometric modeling and manufacturing for commercial applications in the domain of architectural as well as interior decoration. Star patterns are realized as periodic and repeated arrangement of a type of motifs/compound-motifs. Further, motif/compound-motif is viewed as polar array of a primitive which is an atomic geometric object required for the representation of motif/compound-motif. Geometry of the primitives for motifs is defined in the form a planar map having a set of points.
The positions of points are devised in terms of the modeling parameters and pairs of points are connected to generate a set of edges. By controlling the modeling parameters through a User Interface, patterns are rendered and further submitted to computer controlled laser cutting machine for fabrication.

Reference

- Jali Screen, http://www.metamuseum.org

Index Terms

Computer Science

Computer Graphics

Key words

Islamic star pattern  latticed screen  motif

CAD