

FREE FORM FEATURES FOR AESTHETIC DESIGN

AUTHORS: Marzia Fontana, Franca Giannini, Maria Meirana
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ABSTRACT

This paper presents an analysis of the concept of free form features in the context of aesthetic design. Features are well known in mechanical environment as high level entities, which associate functional information to pure geometry, suitable for modelling parts by means of few meaningful. Thus, modelling with features allowing a faster creation of the geometric model and a possible re-use of information. Feature types are here formally described in terms of surface local modifications through deformation and elimination laws. In particular, the paper suggests a possible classification of free form features that can be generated and recognised over the surface, through a formal definition of shape classes according to topological and geometric criteria. Such classification is also aimed at considering a suitable set of parameters possibly having an aesthetic meaning, and conditions, which can be hard coded, for the direct manipulation of the free form surfaces at a high level.