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Adding semantic information to geometric models

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Both 3D software and hardware have matured. Nowadays it is possible to create precise 3D models of complex objects, edit them and print real objects from these 3D models. But for many applications this is not enough. For instance, to manage 3D models of Cultural heritage artefacts we need also to associate non-geometric information linked to the model. For industrial applications, this has been addressed using Building information modeling (BIM), that have evolved from Computer Aided Design. Nevertheless, BIM are not a good approach to link data to 3D meshes, as those created using laser scanner of structure from motion. Special methods have been proposed to associate data to the surface of 3D meshes. One successful approach is to apply the same techniques used by the Geographic Science community. The usefulness of GIS comes from the relation they implement between data and locations, which allows the user to perform spatial queries. In fact, all the data is structured in a set of layers or maps, and every layer point has a known geographic coordinate. These ideas are also useful for any 3D model if we have data associated to its surface.

Biography

Juan Carlos Torres is a Full Professor of Computer Graphics at the University of Granada (Spain). He is Director of the Virtual Reality Laboratory at the University of Granada. He has been Project Leader of the "Cultural Heritage Information System" project developed with the Alhambra monument that has developed a 3D information system for cultural heritage that aim to add semantic information to the surface of 3D objects. He has participated in several digitizing projects of cultural heritage sites including the Alhambra Palace and the Roman city of Italica. He also is a Member of the Eurographics Association. He has been the Chairman of the Eurographics Spanish Chapter and Elected Member of Eurographics Executive Board. He has been Co-Chair of the Eurographics Annual Conference held in Granada, EUROGRAPHICS 2003, and Chair of SIACG'04 held in Santiago de Compostela.

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