

Template-Based Traditional Building Component Modeling

Jae Woo Kim*, Kyung-Kyu Kang*, Ji Hyung Lee*

**Electronics and Telecommunications Research Institute, Korea*

jae_kim@etri.re.kr, kangk2@etri.re.kr, ijihyung@etri.re.kr

Abstract— Creating 3D object models is a crucial in many areas such as computer graphics, virtual reality, animations, and computer aided design(CAD). In this paper, we discuss our on-going research on creating traditional building component modelling using component templates. We developed a prototype system that can create building component templates by editing fundamental 3D object primitives using the open source CAD software FreeCAD. Once a building component template is created, it will be segmented and analyzed to select the unit shapes that are commonly and frequently used for a variety of component templates, and they will be registered back into the primitive database so that they can be used in creating other templates in the future. Our system provides easy-to-use editing tool that a user can create the shape of the building component and then the system automatically generate a set of parameters necessary to describe the shape. Our experience showed that users can easily create the component templates they desire to make in a few minutes.

(P19)Keyword—About four key words or phrases in alphabetical order, separated by commas. For a list of suggested keywords, send a blank e-mail to keywords@ieee.org or visit http://www.ieee.org/organizations/pubs/ani_prod/keywrd98.txt



Jae Woo Kim is a senior researcher at Computer Graphics Research Section, Visual Content Research Department, Creative Content Research Laboratory, Electronics and Telecommunications Research Institute (ETRI), Daejeon, Korea. He received his D.Sc. in Computer Science from the George Washington University and MS. in Computer Science and Bs. in Physics from Hankuk University of Foreign Studies. His research interest includes geometric modeling, computer animation, and visualization.



Kyung-Kyu Kang is a researcher at Computer Graphics Research Section, Visual Content Research Department, Creative Content Research Laboratory, Electronics and Telecommunications Research Institute (ETRI), Daejeon, Korea. He received his Ph.D, MS, and BS in Media Engineering at Soongsil University in 2013, 2006, 2004. His interests include real-time rendering algorithms and physically-based simulation.



Ji Hyung Lee is a principal researcher at Computer Graphics Research Section, Visual Content Research Department, Creative Content Research Laboratory, Electronics and Telecommunications Research Institute (ETRI), Daejeon, Korea. He received his Ph.D in Computer Engineering at Chungnam National University and MS in Computer Science at Korea University in 2011, 1996. His interest includes computer graphics and digital imaging.