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2i -- Procedural Geometry for Real-time Terrain Visualisation in Blueberry3D -- A Quasi-Four Dimensional Database for the Built Environment -- Interactive Generation of Digital Terrain Models Using Multiple Data Sources -- The Shuttle Radar Topography Mission -- Corner, End, and Overlap “Extrusion Junctures”: Parameters for Geometric Control -- Corner, End, and Overlap “Extrusion Junctures”: Parameters for Geometric Control -- Contour Lines and DEM: Generation and Extraction -- Contour Lines and DEM: Generation and Extraction -- Modeling of Ecosystems as a Data Source for Real-Time Terrain Rendering -- Modeling of Ecosystems as a Data Source for Real-Time Terrain Rendering -- Seamless Integration of New Control Technologies -- Seamless Integration of New Control Technologies.

Sommario/riassunto

Digital manipulation of landform is revolutionizing how our built environment is designed and constructed. On a technical level, three dimensional geometric modeling of topography has its origins at the interface of geographic information systems (GIS) and computer aided geometric modeling (CAD): the former with its representations of spatial attribute information with digital terrain in several representations (Triangulated Irregular Networks, contour lines, etc.); the latter focusing primarily on the parameterization and combination of geometric primitives. The broadening of these two disciplines to embrace new surveying and navigation advances, e. g. global positioning systems (GPS), together with developments in engineering on the application side, are leading to powerful new suites of functionality. There has been a pronounced need for a forum where these traditionally separate parties can interact. These proceedings contain the technical papers selected and formally presented as part of the scientific program of the First International Symposium on Digital Earth Moving, 2001 (DEM 2001) held September 5 7, 2001 at the CIM Institute for Computing Science and Industrial Technologies of the University of Applied Science of Southern Switzerland (SUPSI iCIMSI) in Manno (Lugano), Switzerland. It is the first volume published on this explicit theme. Thirty six submissions were received, from fifteen countries, with thirteen select papers and posters presented in the official program and in this publication.