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14. ABSTRACT

This final report presents an overview of research and advanced development in image understanding and automated cartography, from April 1995 to February 2000, to support the efficient representation and rapid construction of virtual world databases. Topics discussed include photogrammetric support for cartographic feature extraction, automatic feature extraction, hyperspectral image analysis, data fusion, and simulation database construction.

The organizing theme for this program of research was to support the construction, intensification and generalization of geospatial databases to support synthetic environments and real-world simulation. As a component of an overall investment in the DARPA Synthetic Theater of War (STOW) demonstrations, this Synthetic Environments (SE) program provided a fundamental investment in the technology infrastructure necessary to more effectively automate the generation of source geospatial data required for rapid construction of virtual worlds.

15. SUBJECT TERMS

digital photogrammetry, automated building extraction, stereo analysis, road network extraction, multispectral image analysis, data fusion, performance evaluation metrics, triangulated irregular network, virtual world database construction, modeling and simulation

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