

1. Record Nr.	UNINA9910140900903321
Titolo	2010 International Conference on Cyberworlds
Pubbl/distr/stampa	[Place of publication not identified], : IEEE, 2010
ISBN	9780769542157 0769542158
Descrizione fisica	1 online resource (xiv, 456 pages)
Disciplina	303.48/34
Soggetti	Computers and civilization
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Bibliographic Level Mode of Issuance: Monograph
Sommario/riassunto	Haptic interaction is commonly used with 3D objects defined by their geometric and solid models. Extension of the haptic interaction to 3D Cyber worlds is a challenging task due to the Internet bandwidth constraints and often prohibitive sizes of the models. We study how to replace visual and haptic rendering of shared 3D objects with 2D image visualization and 3D haptic rendering of the forces reconstructed from the images or augmenting them, which will eventually simulate realistic haptic interaction with 3D objects. This approach allows us to redistribute the computing power so that it can concentrate mainly on the tasks of haptic interaction and rendering. We propose how to implement such interaction with small function descriptions of the haptic information augmenting images and video. We illustrate the proposed ideas with the function-based extension of VRML and X3D.