

Cyberspatial Media: 3D Computer Graphics & Audio

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Spatial media explore both our real world (of 3 dimensions and 6 degrees of freedom) and also artificial spaces of information. The synergetic convergence of telephones, computers, televisions, high fidelity stereos, robotics, and visual displays enables a citizen-level participation in multimedia and its cousin "virtual reality." New idioms of computer-human interaction encourage different styles of communication, and new technologies offer opportunities for innovative design and advanced applications, both creative and "re-creative," simulating virtual and real spaces. Some examples of spatial media at the University of Aizu— targeted for distribution traditional (print, etc.) or electronic (internet-delivered)— are presented, including panoramic photography, stereoscopy, SQTVR (stereoscopic panoramic photography), 3D-printing, typography, and dynamic arts such as virtual concerts with spatial sound. This seminar traces the development of some emerging media and interaction modalities, including games and amusements, simulators, movies and karaoke, and teleconferencing, especially involving stereography, spatial sound, mixed/augmented reality, image-based rendering, motion platforms, mobile computing, and virtual reality, including live demonstrations of several projects. Examples will be presented, drawn from public attractions, other scientists' projects, the speaker's own research, popular culture, and philosophy. The feedback between co-potentiating hardware manufacturers and software content providers— driven by "after-market" sales of applications and services, the composition of infrastructure and applications— will continue to blur the distinction between designers & engineers, art & science, and invention & discovery.