The Sirikata virtual world architecture and applications

Stanford Virtual Worlds

CompSci: Daniel Horn(danielrh@stanford.edu), Ewen, Pat Hanrahan, Phil Levis

**Stanford Humanities Lab:** Henrik Bennetsen(bennetsen@gmail.com), Jeffrey Schnapp

Sirikata Virtual World: www.sirikata.com

Abstract

Virtual worlds are networked, multi-user, simulated environments. They simulate physical interaction in three-dimensional spaces, decouple such interaction from geographic constraints and allow users to manipulate virtual objects in the world and communicate with others. Virtual worlds have applications in telepresence, education, collaborative design and entertainment. Existing virtual world platforms suffer from fundamental scalability, security, and content limitations that render them unsuitable for the applications we imagine. There is not a robust, powerful, publicly available virtual world platform. We're building an open-source virtual world platform that will be widely available and serves the needs of the science and engineering community, as well as the general public. Specifically, we are investigating architectures which enable the growth of virtual world systems to millions of concurrent participants.

Architecture

Programming Model

## Sirikata Applications
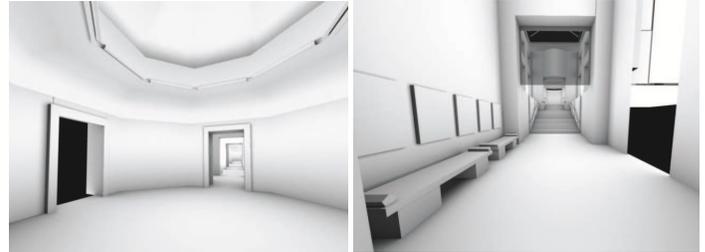
SPEEDlimits

SPEED limits is a mixed reality exhibition project that will pioneer a participatory approach to museum-based learning with the aim of transforming infrequent museum-goers into active content producers; and inaugurate a new virtual world platform that can provide the basis for future initiatives in the domain of museum-based education.
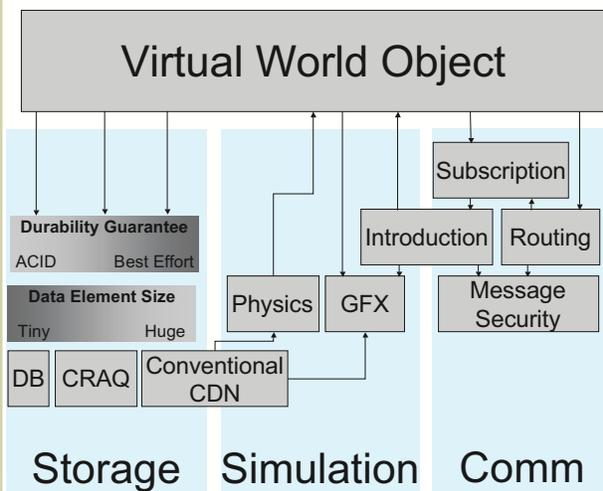
The Augmented Museum Project will allow museums:

1.to radically extend their contours and outreach beyond local communities,
2.to develop new mixed reality and natively digital models of programming,
3.to reach out to younger audiences typically underrepresented in the visitor population
4.to create a perpetually visitable archive of their real world programming that complements such traditional supports as catalogues and site photographs,
5.and promote more active models of education programming, participatory bottom-up counterparts to the more traditional top-down approach
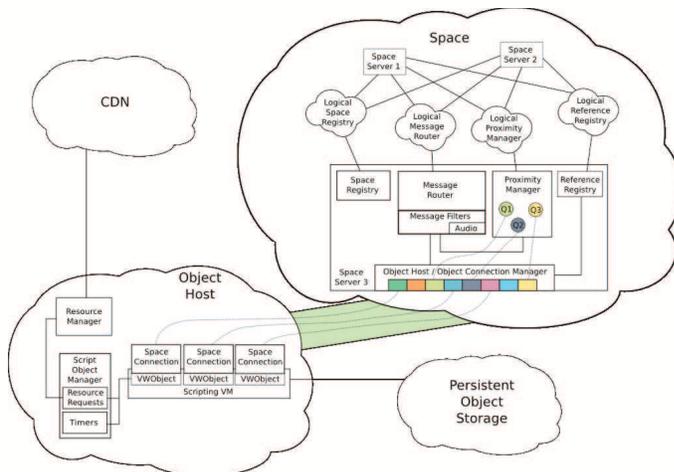
Music and Acoustics at CCRMA

Massively Multiuser Environments

Sirikata is a platform on which the 3d web can be built. Ranging from massively multiplayer games to collaborative programmable environments, Sirikata is liberally licensed under the BSD license so enterprises as well as academics can use it to build the 3d web.