3DVideo−Alive System for Bunshin−Presence in Virtual Environments

S.K. Semwal

Department of Computer Science
University of Colorado
Colorado Springs
CO, USA
E-mail: semwal@redcloud.uccs.edu
Virtual presence is necessary for Bunshin communication.

3D-Video-Alive system to create virtual presence.
Different Parts owned by Different People
- Multiple participants can own portion of a video-image as their own and manipulate owned-objects using a variety of input/output devices.

- A participant should be able to interact, wholly or partially, with other participant’s by changing the other participant’s video images.
Depth enhanced video-stream

- **3Dimensional objects** can also be merged with **3D video-streams** providing a new interaction paradigm.

- **3D objects** could be an avatar of a participant and therefore under their direct control, or could be self-sufficient with their own motion algorithms based upon motion capture, dynamics, or kinematics.

- Therefore, a variety of interaction are possible.
- The depth enhanced video feed could be the surroundings of the participant.

- Synchronization would allow participants to appear to exist at the same place at the same time.
- 3D input device such as PHANToM(TM) Force Feedback Device to be used to create depth enhanced video images.

- 3D Video-Alive system can also be used to extrude 3D objects from multiple cameras images.

- These depth-enhanced videos will be used to create stereo-effect in a virtual reality environment.
Applications of 3D Video−Alive System

- medical,
- game playing
- Digital video 3D interaction
- Extruding surfaces from the depth enhanced videos
- Moving your body part from by someone else
- Physical properties of objects can be owned and changed
- Interactive Digital theater
- digital story telling