Virtual Viewpoint Reality:

Real-time distributed intersection of Silhouettes

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Approach: Acquire Synchronized Images
Compute Silhouettes in Parallel
Compress Silhouetts and collect
Intersect Sil. To construct 3D Model
Texture Map 3D model
Render 3D model

Advantages: Inexpensive
Computation is distributed
Reliable

Disadvantages: Shape representation is limited

Progress: Camera installation
Calibration software
Distributed processing software
Real-time silhouette calculation
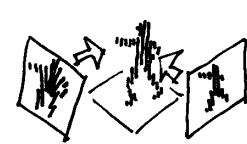Silhouette integration
Rendering

Next Steps: Better calibration
Better silhouettes
Better rendering

Pre-computation: Reconstruction is along parallel lines in the world. Compute the projection of these lines into the Cameras.
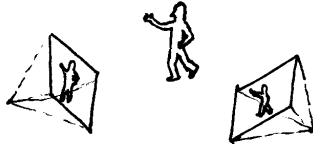
Silhouettes: Object boundary is detected

Compression and Intersection: Boundaries of silhouettes are encoded along world lines and intersected.