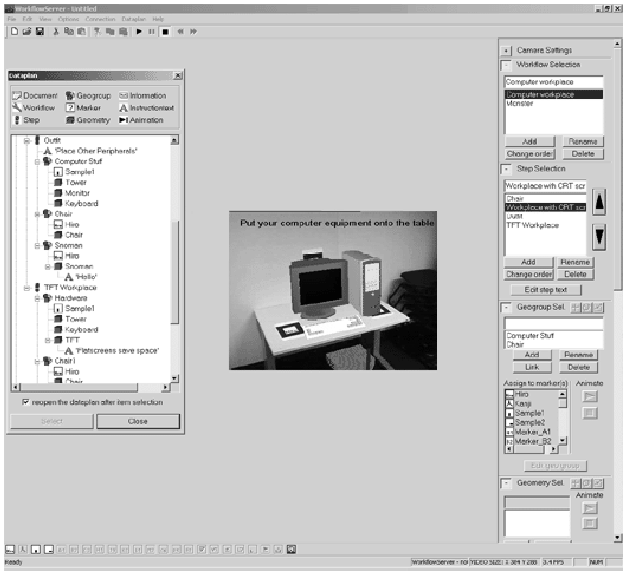
SIEMENS

CT PP 6
Virtual Engineering
Artur Raczynski, Pablo Gussmann, Alan Grow

The Workflow Designer Project



Together, the WorkflowEditor, WorkflowServer, and CEWorkflowViewer bring the power of augmented reality to a distributed industrial setting. Experts define and create Workflows with the WorkflowEditor. Workers in need of assistance then receive step-by-step instructions from a remote expert running the WorkflowServer, which delivers the augmented video to the worker's Pocket PC PDA over a wireless network.

Features:

- User-friendly interface for designing Workflows
- Pattern recognition of special markers (hiros) makes augmentation possible
- Allows user to adjust recognition sensitivity, provides waggle-damping
- Can augment .avi, .mpg, .wmv, .asf, .bmp, image/video sources from file, compatible camera, or JPEG image stream
- Augments with 3D VRML objects and text
- Uses standard TCP/IP to transmit compressed video
- Client/Server chat interface, voice transmission
- Native-code optimized JPEG library delivers fast compression on the Pocket PC
- Serializes Workflows to and from an extensible XML format

Builds on:

- ARToolkit v2.52
- OpenVRML
- OpenGL/Glut
- DirectX 8.0
- Microsoft MSXML Parser v3.0
- Microsoft VisSDK v1.2
- JpegLib from the Independent JPEG Group
- Intel's Integrated Processing Primitives for StrongArm Processors