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Multimodal Communication with Networked Information Systems

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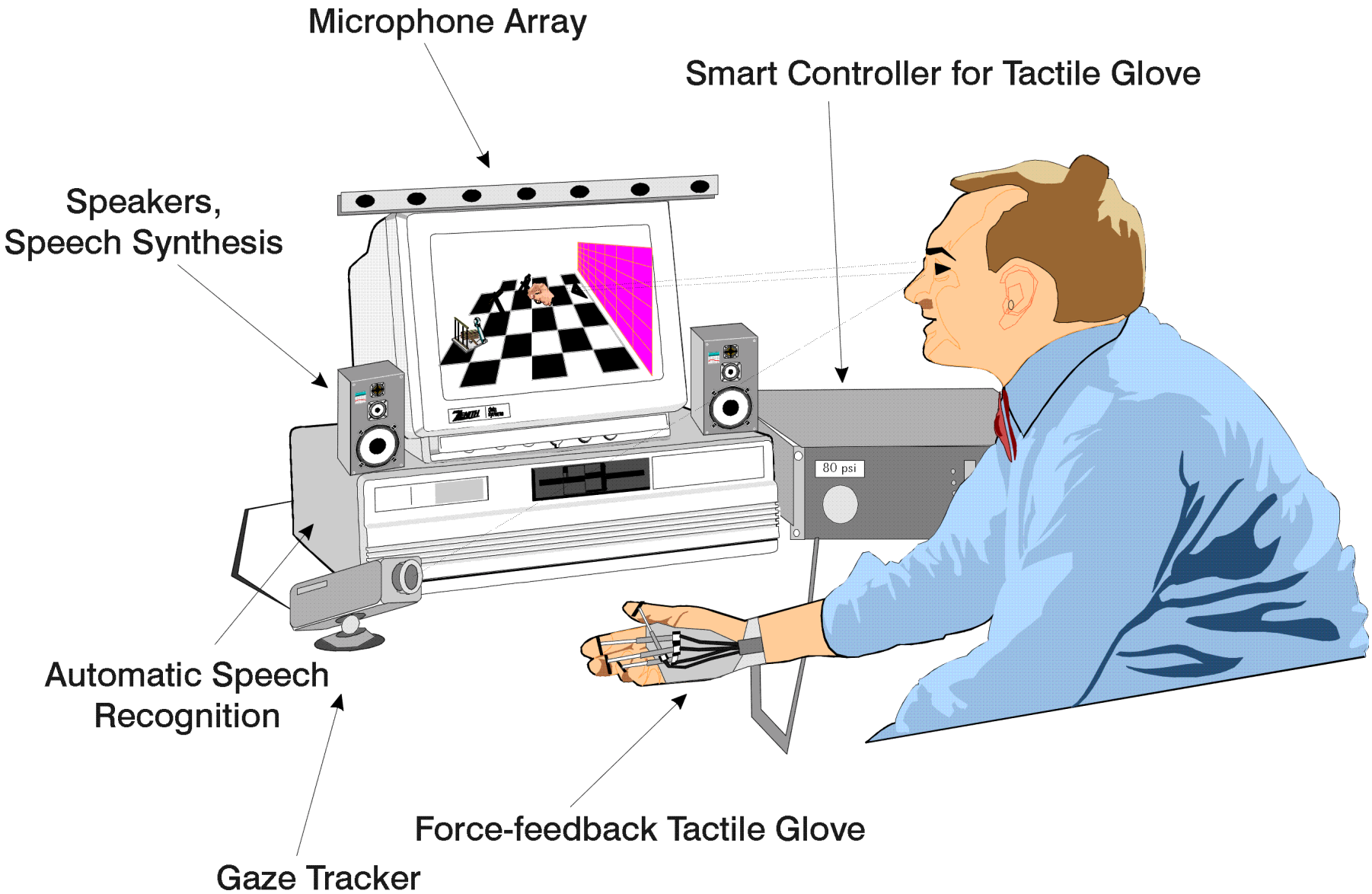
Figure 1: On-going research [1,2] is implementing user interfaces that transcend the capabilities of mouse and keyboard and provide enhanced flexibility, functionality and naturalness. The sensory dimensions of sight, sound and touch are employed simultaneously and in combination to expand human/machine communication. The client stations are networked on a system designed for collaboration over wire and wireless transport [3]. Dynamic control and allocation of resources (bandwidth, computing, storage) for heterogeneous user platforms are features of the network. Application areas under study include: (a) crisis management/disaster relief, (b) remote telemedicine/telerehabilitation; and, (c) mobile offices/wearable computers.

Figure 2: Advanced command center featuring networked collaboration, conferencing, and multimodal interfaces for participants. 2D and 3D displays permit object placement and manipulation by eye cursor, speech recognition, and virtual grasp.

References:

1. NSF Contract No. IRI-96-18854 (STIMULATE)
2. NSF Contract No. IIS-98-72995 (KDI)
3. DARPA Contract No. N6601-96-C-8510 (DISCIPLE)



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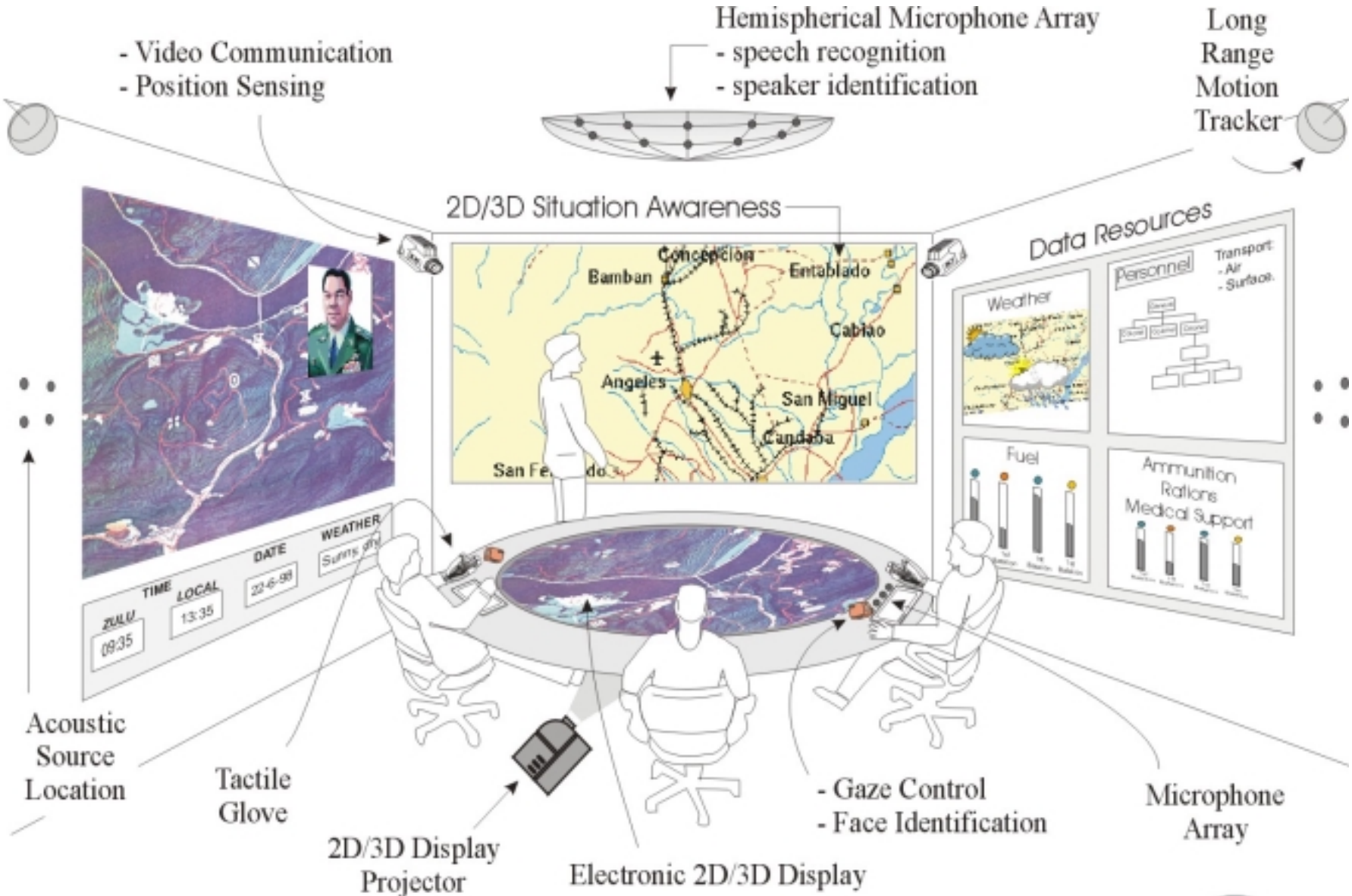

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