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Report on the 127th SMPTE Technical Conference and Equipment Exhibit

Preview of 20th Annual Television Conference Chicago

frequency, etc. Examples of this programming will be discussed.

The presence of a personal computer in the system allows the use of other software for more general purpose tasks such as word processing and spreadsheet functions. The data from measurements may be passed to these programs, enabling the user to easily insert test data into reports.

10. Auricle: A Proposed Solution to the Man-Machine Interface Complexity Problem *By Richard Benjamin Grant and Ron Grant*, Auricle Control Systems, Sherman Oaks, Calif.

Computer systems have evolved to a point where they can seemingly manipulate and present more information in far more complex ways than can be effectively managed communicated to human beings. To some, this bodes ill: "Computers make thinking, analysis, and decision making more creative, but they also make these activities more complex. This is why computers are currently difficult to use and will continue to be so"[Lipton, *Business Computing*, p. 98 (1984)]. Others, however, believe the answer lies in a search for "artificial intelligence" (AI). According to *Time* (April 15, 1984): "If machines can be made more like people, then people will not have to obey so rigidly the dictates of machines. To reach a truly mass audience, [therefore, we need] to achieve major breakthroughs."

Unfortunately, despite early optimism, meaningful progress in AI (at least insofar as its proponents will accept nothing less than Kubrick's "HAL") has been so absent that many now lament: "The issue is not whether the computer can be made to think like a human, but whether humans can and will take on the quality of computers"! [J. David Bolter. *Turing's Man* (1984)]. There must be a middle ground, however; a "mean-time" before 2010.

Computers do not have to be "intelligent" in order to behave intelligently, and do not have to "understand" in order to be understood. In 1966, Joseph Weitzenbaum fabricated an essentially simple program called ELIZA. Briefly, ELIZA emulated a psychotherapist/patient setting. A "subject" sat at a terminal entering English sentences, whereupon ELIZA responded in a manner appropriate to the psychiatric context. Weitzenbaum was shocked, some say even embittered, by the results: "ELIZA created the most remarkable illusion of having understood in the minds of the many people who conversed with it. "....after a time, [they would] insist, in spite of my [Weitzenbaum's] explanations, that the machine really understood them." [Weitzenbaum, *Computer Power and Human Reason* (1976)].

No doubt, the "natural language" feel of the ELIZA interface contributed to what Weitzenbaum describes as "remarkable" but dismisses as curious. On deeper reflection, though, what really generated the "ELIZA-effect" was an apparent ability to track the topical movement of its human "patients"; that is, to conceptually remain with or follow its operators as and whenever they diverged, changed subject, or chose to alter direction. This suggests that, though essential, it is not so much the linguistics of machine control as it is the ability of a system to conform to the native discontinuities of human cognition. And there is good reason to seek a singular method or process which unifies these elements so as to capture the "ELIZA effect" for more utilitarian enterprises: If found, such a process would, by hypothesis, engender a non- modal or level-less task organization whereby "movement" through the resulting environment becomes natural, direct and fluid. And, when "computers and users interact at a pace that ensures that neither waits upon the other, productivity soars, the cost of the work done tumbles, there's more satisfaction and so quality improves" [IBM Study, *The Economic Value of Rapid Response Time]*.

Although many techniques have been proposed (with mixed reviews, e.g., SMALLTALK which only scratches the surface of the modality issue), no general solution has yet surfaced as a truly viable nominee [Sime and Coombs, *Designing for Human-Computer Communication* (1983)], also report a lack of progress due to: "(1) the abstract nature of the general purpose machine underlying information handling: [and] (2) fundamental differences in the way computers and humans process information." We disagree. There has been progress: The AURICLE (patent pending) *An Integrated Environment Computer System Control Structure With Natural Language Interface.*

Initially encountered in 1981 as a potentially unique but experimental computer control process, AURICLE found its first practical application in 1984 in an entertainment industry system entitled *The Film Composer's Time Processor* (Emmy, September 1985). Though it can be said that it relies in large part on 3-space planar techniques to create multiple non-preemptive, non-displacing meta-lingual surfaces or communication channels, the best way to describe AURICLE is not by decomposition into its technical components. In fact, according to a new non-reductionist wisdom, one learns nothing by an autopsy of this, or any well-crafted computer interface: "This means that there are aspects of a user-interface that you can't touch, can't see, can't measure nor describe well. To use a trendy term, the user-interface is "...the computer's *gestalt* [John Shore, *The Sachertorte Algorithm* (1985)].

Thus, AURICLE is best appreciated and understood *in vivo* - live and in the experience. In its current embodiment. thus shall be by demonstration and discussion before the 127th SMPTE Technical Conference in the form of the first auricular application, The Film Composers Time Processor.

11. Microcomputer Graphics Applications in 3-D Video Animation. *By Stephen R. Crane*, Cubicomp Corp., Berkeley, Calif.

As a result of recent advances in three-dimensional (3-D) computer graphics and microcomputer technology, it is now possible to synthesize broadcast-quality 3-D animation using inexpensive microcomputer graphics systems.

Three-dimensional computer animation has become extremely popular in recent years for television commercials, introductory sequences, and promotional and training materials. More common are block characters and 3-D logos moving along a three-dimensional path, but [illegible] solids [illegible] automobiles, robots, etc. [illegible] be represented. Until very recently, [illegible] was performed [illegible] by specialized [illegible]