THE MITRE INTERACTIVE TELEVISION EXPERIMENT

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The MITRE Corporation has announced plans for a demonstration of interactive television in Stockton, California, in cooperation with Educational Testing Service and Big Valley Cablevision of Stockton. The intent of this paper is to report the status and progress of the planned project to the cable television community.

The project will experiment only with public service aspects of interactive television, and will include no commercial services. The major emphasis is on education service provided by a computerized education and information system. An essential feature of the system is the use of a time-shared computer system which can provide completely individual service to about 100 users at any time. The unmodified home TV receiver is used as the computer display. The computer generates full color, still frames of alphanumeric and graphic information, under control of the home user. The user enters information requests on a small keyboard which channels to the computer via the reverse path of the bidirectional cable system. Any user is free to choose from the complete data base, which includes over 100 hours of material, at any time, independently from any other user. If more than 100 users request service at the same time, the overload users get a busy signal and are entered into a que.

The particular implementation chosen for use in Stockton is based on providing the maximum experimental flexibility, with least investment in hardware, in order to concentrate resources on content development and social evaluation. The Big Valley system is divided into six separate service hubs, each trunked to a central headend. Approximately 16 channels will be made available (of the 60 channel dual cable system) for the interactive experiment. The 16 channels will be used independently in each service area, allowing 96 users. This approach allows a dedicated channel for each active user, eliminating the need for a home located refresh device, and allowing the delivery of moving video and audio.

About 1000 homes will participate in the project, sharing the available computer ports. Each participant will be provided a keyboard and non-standard channel converter.

A computer system will be located at the headend. The computer offers access to 200,000 stored frames, 12,000 graphics images, 5 hours of random access audio, plus video tape and picture files. All services are in color.

The particular system chosen is more ambitious than most systems presently under commercial development. Our research indicates that it can be practical over a wide variety of usage and service assumptions. To further develop the system, however, we must have a much clearer idea of how people will use it, and what types of service are attractive and effective. There is no way to accurately determine these usage characteristics except to try out a variety of approaches and evaluate the results. The content approaches will be developed by a number of subcontractors and partners with demonstrated expertise in authoring and education. Educational Testing Service will provide assistance in evaluation and social experiment design. Thus, the primary mission in Stockton is to gather data about how people will actually use interactive television. In addition, Stockton will provide a major demonstration of the future services which cable may provide.

The proposed schedule calls for material authoring on the computer system installed at MITRE during 1975. The system will be moved to Stockton by 1976, and will deliver services for two years.

It must be emphasized that the project is presently in the proposal stage, and has not received full funding. The project is the result of our previous research in the interactive television field, which has been funded by the National Science Foundation since 1971. A formal proposal to support the complete project in Stockton has been submitted to the National Science Foundation in April, and a decision on it is expected in 6-9 months. A public announcement before funding approval is required because of the need to seek the support and cooperation of the Stockton community. In addition, we have discussed the project with a number of cable systems during our search for the most suitable experiment site, so that awareness of our plans are widespread.