

Davis Community Network Project Briefing - CNI Fall 1995

The Information Technology Division of University of California, Davis (UCD) is working under a three-year (7/93 - 6/96), \$500,000 research contract with the California State Department of Transportation (Caltrans) in a project investigating telecommuting, and the use of data networking, community computer networks, multimedia and video teleconferencing as new forms of mobility and transportation. Caltrans is providing 80% of the funding, with a 20% match by UCD, and the project has the following three components:

Telecommuting - Davis Community Network

Information Technology developed a testbed community network in Davis which can support telework, telelearning, teleshopping, telemedicine, telebanking, and electronic democracy to provide an environment for research by a UC Davis faculty member, Dr. Patricia Mokhtarian, on telecommunications as transportation, and the effect of such resources on trip demand. The testbed also serves as a research environment for analyzing wide area networking technologies, and the attributes of "smart communities." Organizers of the community network included representatives from the local business community, the City of Davis, the University, the Chamber of Commerce, the Davis school district (K-12), the local newspaper, the county library, the Davis community television station, and PBS television station KVIE-TV 6. This testbed has formed the basis for ongoing community network services for Davis, through a not-for-profit organization which is now operating and maintaining the network services (DCN). Public information providers (e.g., directory of City Services) and commercial services (e.g., telebanking, teleshopping) must be supported in order to satisfy the research requirements.

UCD provided staffing and technical support for data communications planning; technical assistance with initial set-up and installation of the equipment and software associated with the network; and connections, operation and user support of the network for the first eighteen months of the research contract. User support, administrative support of the not-for-profit, and coordination of user training is now being performed jointly by the DCN non-profit and Davis Community Television (a public access cable television organization and a partner to the Davis Community Network effort).

The project also includes feasibility analysis of several networking technologies for support of the community network, including ISDN, wireless and cable television, with pilot projects using each type of technology where possible. Finally, the project required the identification and packaging of software and documentation for support of these telecommuting activities and the community network, and initial training of the testbed participants (both information providers

and information consumers). Five hundred testbed participants were recruited in order to provide a sufficient research population; since March of 1995, the DCN has been recruiting the "Davis First 1000" (participants with paid subscriptions), and is almost half way to its goal.

Telecommuting - Neighborhood Office Centers

UCD is also working with Caltrans to research wide area networking amenities and support for residential-area based offices (telecommuting centers or telecenters). Instead of driving to work, people walk, bike, or are shuttled to a neighborhood office facility which might provide phones with voice mail, computers, copiers, faxes, as well as support for electronic mail and video teleconferencing.

Distance Education

Working with the California Community College Chancellor's Office (which represents all California community colleges), UCD is evaluating and testing new technologies which can support telecollaboration and distance learning, including video teleconferencing, multimedia, and instructional television as well as other forms of electronic communication. The University project team has also been assisting in the development of a Telecommunications Strategic Plan for the California Community Colleges.

For more information about this joint University-State-City-Community Colleges-K12 partnership project, please contact Vicki Suter at 916-752-0311 (electronic mail address is vnsuter@ucdavis.edu). Information can be found about this and related projects on the World Wide Web at the following URLs:

Davis Community Network
<http://www.dcn.davis.ca.us> Caltrans Research Contract
<http://www.dcn.davis.ca.us/DCN/Research> Transportation
Research <http://www.engr.ucdavis.edu/~its/telecom/>

Smart Communities

Out of the Davis Community Network project and other related Caltrans projects, the notion of a "smart community" has formed. A working definition of a smart community is:

A smart community is a community that has made a conscious effort to employ information technology to transform a major portion of their region. This transformation increases choice, convenience and control for people and the community, and is supported by local participation and cooperation among all major sectors of the community - government, industry, education and the general public.

A Model for Transformative Technology Projects

By the nature of these projects, technology is applied as a transformative tool across a broad cross-section of human activity (work, live, play, learn, govern, and travel), rather than in a series of stand-alone pilots. Based on experience with such broad-based projects, the UCD Project Team has developed a model for planning, implementing and evaluating projects which are intended to bring about fundamental, systemic changes. This model is represented in the "Integrative Technology" graphic below.

Most technology projects focus on two aspects - Tools Development (Applications) and Individuals/Users (Tasks and Projects). While projects do need to focus such attention on the needs of individuals to accomplish their work, and the development of a suite of software tools to carry out that work, it is our contention that in order to diffuse the benefits of such software development and pilot projects throughout a system, projects need to be designed from the beginning with a broader perspective. All four aspects of technology diffusion drivers - tools, individuals, technical infrastructures, and institutional infrastructures - and most importantly, the linkages between them, need to be addressed in the project design and implementation.

Integrative Technology Model *(Thresholds for System Transformation)*

