

Last week (7/9/99), Chris and I had some fruitful discussion concerning the Artificial Technical Center and the Digital Library. My subsequent input is a summary of our discussion, with some elaboration by myself:

#### GENERAL QUESTIONS AND COMMENTS:

More details are needed in the purpose section of the web site. Perhaps we should have a Mission Statement? The purpose section should eventually summarize the features of the Digital Library.

Would this addition help?

The Digital Library can be seen as the integration of the Internet to one's personal environment. The environment is that of a Library. This is a particularly apt metaphor because a library, seen as a physical container of knowledge, has the same function as the Internet - today's most successful and powerful container of knowledge.

The integration is specific and has two functions: a) it allows you to use one's physical actions to work with the Internet and b) it allows you to use the Internet to control one's physical environment. The integration is accomplished by innovative hardware and software I/O devices that make one's physical environment a powerful tool for accessing and manipulating the multitude of information streams present on the Internet: such as HDTV video, surround audio, hypertext search engines, and 3D datasets. Conversely, Internet tools are offered that allow one to control one's physical environment in such a way as to facilitate one's control of the Internet information sources.

a) Allows you to use one's physical actions to work with the Internet

Mouse

TrackBall

Laser Pointer (You point and a spotlight appears at the area you are pointing to. Not necessarily a real laser pointer, but done via a Reality-Fusion video analysis of the Users hand direction, coupled with a slewable spotlight).

Portal Display Device - For the QuickTimeVR library image and VRML models

Voice recognition

3D LCD Book that you can turn pages on (Dimension makes one that does not need glassed)

b) Allows you to use the Internet to control one's physical environment

Home control of environment (lights windows AC etc)

Spotlight cursor control of mouse focus

Mouse focus pre-feeds movies to TV screen and audio to stereo system with 3D surround sound when appropriate

We need transparent access to portal information. This means that for the current Digital Library, the portals to e.g. movie.com need to be seamlessly 'put in' the physical model in some fashion. The obvious one is that movie information be feed to both the real and the web TV screens in the library. However to do this successfully, the User should not need to input any further information to the web sites. We need a way to work our way through any pages, such an initial welcome page, instead of the Library User.

The information streams need to be fast by default. This is under our control for some sites. But for all? The User of the library should be able to, just as he currently can, access any web site he wants. Can we guarantee that the connection to the user from any particular site will be fast enough for the applications? We should keep in mind patents. Just as its suppose to, the development of the demo is resulting in a lot of interesting ideas. Some of these may be patentable in their own right. We should be ready as to how to proceed (I certainly do not know).

## PROFIT:

Commercial OEM product. We should start thinking about how the Digital Library can be a profitable product.

The Library appears to be too expensive for a general market. One possibility is petrochemical companies. This is one of Muse Technologies market place. They charge a license fee of between 40 and 200K with a yearly of about 40K. They are profitable.

Do we need a BBNC type system for the Digital Library? As for the demonstration, the important thing is the speed and delay of the multimedia delivery by the portal sites.

How do we promote BBNC for High-Speed Internet bandwidth? One suggestion is by blatant advertisement. We try to actually use a BBNC system for our demo, and place a blurb about its use in the demo and for the presentation.

## MATERIAL AND FACILITIES:

Equipment needs:

Display System for observers:

To allow a group of people to observe the User interacting with the Digital Library. For example a large screen TV or a rear-projection system. The best would be a large screen HDTV monitor.

Digital Video Cameras

Computer controlled robotic controllers: these can be bought ready built with supplied support libraries

Programming Utilities:

For Dan. Visual C++, a good Java IDE, Visual Basic

Complete configuration for one BBNC System:

Including Sun Net Software. Could it be possible to ask them to include a pre-configured Sun Computer system? They are certainly the most capable of doing this fast and accurately.

Chris and I suggest standardizing on one set of tools for project members:

WS Office 2000

Outlook

PaintShop Pro

Front Page (for Web design)

Reality-Fusion

What is this project's relationship with AI Inc. Can we use it as a resource?

The facilities should be in downtown Santa Cruz for speed. Chris has pointed that to get fast speeds we have to stay close to CruzNet, which is downtown.

