Maiden **Voyage**

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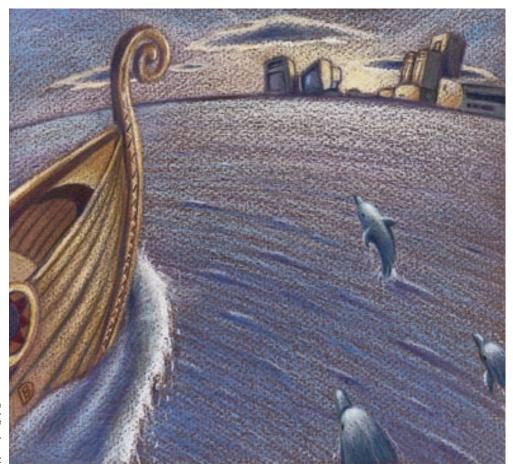
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Welcome to the first install-ment of Digital Village. This new column will be a reli-able source of information on modern digital network technolo-gies, particularly from the client side, and the use of those tech-nologies for the betterment of society. In an attempt to provide information on cyberspace and its tools, we hope to be useful to readers in maintaining currency and perspective.

A New Digital Era

We are at the dawn of a new digital era—the age of cyberspace and cybermedia. We may think of cyberspace as an infinitely dimen-sioned, invisible, digital information substrate made possible by mod-ern packet-switched, networking technology.

As with other com-puting venues, the physical aspects of cyberspace are relatively uninteresting and unimportant from the point of view of their information content, and content is every-thing. Cyberspace is infinitely and arbitrarily extended in a sort of information space-time continuum. On this analysis, a Web anima-tion is seen as a two-dimensional space-time phenomenon embedded within the broader structure. An interactive, participatory virtual-real-ity experience would be an embed-ded phenomena in four (albeit virtual) dimensions. Finally, cyber-media is the digital multimedia material that resides in cyberspace.

We could just as well express

these same concepts in terms of clients, servers and files, but that would diminish the uniqueness of the cyberspace experience and underestimate the importance of the computer revolution that it ushers in. Even more than the earlier mainframe and microcomputer revolutions, this revolution promises to invade every aspect of our lives.

It is the social dimension of the cyberspace revolution that will make it unique. Previous advances in computing technology, even the most significant ones, tended to be oriented toward classes of problems. They were even passive in their approach: if one didn't want to take advantage of a computer technology, one could ignore it—at least outside the workplace. Digital photography could be avoided if one preferred negative images on celluloid. Email could be dispensed with if one was willing to accept the delays in post. Dishwashers without microcomputer controllers exist, and there remain unautomated offices.

But cyberspace is fundamentally different. It draws us to its digital resources. It is a unifying technology bringing together digitizable media and providing a common social framework in which these materials may be enjoyed and used. It has already begun to influence the nature of our interpersonal communication, our consumption of entertainment, the way in which we view the educational process, and the way we perform our office work. It is entering our homes and offices through our cable boxes, our phone lines, via microwave and infrared transmissions, and through conventional magnetic and optical media. It is leaving no aspect of our lives unaffected. It is both pervasive and invasive.

One consequence of this experience is a new sense of community—the digital village.

The Digital Village Landscape

A digital village is a community brought about by the real-time, interactive and participatory capabilities of cyberspace. In some ways digital villages are similar to their material counterparts, but in many ways they are not. The most important similarity is that both involve connecting individuals with shared interests and objectives. The most important dissimilarity is that digital villages have no location.

We may now join digital villages just as earlier generations became members of professional societies, lodges, and civic and social groups. It is the '90s thing to do. It is where we find and exchange information, gossip, learn, espouse, preach, display, and so on. In fact, digital villages offer a similar range of experiences as other social organizations except that the interpersonal aspect is not in-person. In this sense digital villages are different from terrestrial communities and groups. One of our great challenges next century will be to harness the advantages these new digital institutions provide without losing the ability to function well in the more mundane, off-line and analog world.

Part of that challenge is to understand these digital villages and learn how they may be used toward full and positive effect. The utility to society will be a function of how well digital villages are understood. This is a nontrivial and intriguing challenge because they will function with a different set of operational metaphors than traditional, in-person forums. We can see this taking place with email as society learns to exchange information in the absence of such customary response cues as gestures, voice pattern, eye movement, and so forth. Email has actually become the proving ground for developing skills for interpersonal but not in-person communication. Digital villages provide us with even greater challenges and opportunities.

Characteristics of Digital Villages

The essence of digital villages include the following characteristics.

Real-time membership. Unlike social organizations built upon in-person contact, digital villages require little or no infrastructure and are frequently ephemeral. Joining or resigning membership is based on impulse, and the digital villages predicated on such dynamic membership has the best chance of producing something of enduring value. The operational metaphor comes from the field of networking rather than organizational behavior. It may be very difficult for an outsider to determine the make-up of the actual constituency.

Self organized and self administered. Membership changes constantly as interests wane and attentions shift. The criteria for the administration of digital villages also change through time. They appear anarchic, when in fact they are really quite democratic, even though the rules of governance appear as a moving target to outsiders. Individuals won't organize digital villages so much as they initiate them and impart momentum to them.

Dynamic. Focus changes constantly as both the membership and the members' interest changes. This gives digital villages their vitality. A corollary to this is that initiators of digital villages are unable to control them as they do conventional organizations. Those who recognize this fact will be able to make use of them; those who do not face frustration. Outsiders may not always see the point of convergence that defines digital villages.

Focused. This focus is a moving target, changing as the members and their interests change. It is at the same time coalescing and diffusive—coalescing for some members, diffusive for others. It means different things to different people at different times. The essence of the digital village is the con-

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stancy and externality of change, as if we compressed a decade's worth of group interactivity into a few minutes. From the point of view of a digital village, the transformation of conventional organizations appears as if done in geological time.

Interactive. The appropriate model of this interactivity may be seen in network gaming: Dooming and Mudding come to mind. This interactivity draws the member to the community and provides his or her reinforcement. It is in the interactivity that the sense of community resides. It is in this that the social experience may be found.

Global. Digital villages cannot be thought of in geographical terms because digital networks are dimensionless with respect to information transfer. Connectivity, not location, is the key. At this moment everyone who has access to the Internet is a potential full and equal partner in each digital village. Over time we may even be forced to embrace the concept of digital demographics.

Participatory. The participatory nature of the community is an outgrowth of its inherent interactivity. Instead of interacting with a computer system or program, future users will participate at the level of community activity in ways that are currently unimaginable. We are beginning to see some of this realistic, participatory interactivity in modern virtual reality technology.

The ultimate achievement of cyberspace will be digital villages that are intrinsically indistinguishable from their veridical counterparts. We might think of this as the 21st century equivalent of the Turing Test for cyberspace. It will be a confirmation of effectiveness, much as the willing suspension of disbelief is for virtual reality.

The Look and Feel of Digital Villages

Like many in-person activities, digital villages typically form around members with common interests, programs members wish to participate in, and services offered to some constituency. The most noticeable difference is the highly accelerated process of evolution in which this takes place.

Being digital, the offerings are information-rich and focus on engaging digital activities on the networks. Standard modes of information exchange include: text, graphics, sound, animations, 3D, virtual reality, and so forth. As previously mentioned, these are done in real time. Not all ranges of services are useful to all members. As with in-person activities, individual members have interest in only a subset of programs and offerings.

Whatever cohesiveness found in a digital village is a product of the perceived value of the topics, programs, and services found therein. The original interest and enthusiasm may be found in the glitz and glamour of new technology, but this soon wanes.

The community memory tends to be recorded in some ongoing, self-documenting process. Conventional techniques, such as newsletters, bulletin boards, and talk channels eventually give way to automated techniques that record, edit, and make available sub-parts of the digital activities for later recall.

The practical aspects of digital villages are directly related to their success, practical, meaning something of direct, personal or professional benefit or value, ranging from entertainment to employment services. As with all other aspects of interpersonal communication, a wide variety of motives attract participants.

The most difficult aspect to predict is the nature of governance. Traditional "cast in stone" codification is impossible. In an environment of ever-changing members and foci, a parsimonious approach to governance is a necessity, and allowances have to be made for dissonance in real time.

Conclusion

This column is intended to be a companion for those who wish to participate in the settlement of these digital villages. We'll attempt to track new technologies as they emerge and predict their likely impact in the hope you will join us in this excursion.

My next column will eschew cyber-philosophy and discuss the quintessential digital village, the World-Wide Web, and deal with the thorny issues of HTML compliance and client-server compatibility.

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