Is there a Place in Cyberspace: The Uses and Users of Public Internet Terminals[1]

Jeffrey Boase, Wenhong Chen, Barry Wellman, and Monica Prijatelj
NetLab, Centre for Urban & Community Studies, University of Toronto

This paper uses data from the National Geographic Survey 2000 to examine the users and uses of public Internet terminals. We contrast these users to those who access the Internet from home, work and school. Our findings show that public terminal users are disproportionately young, single, less educated, and have only recently started using the Internet. The uses of the Internet vary less by place than the users. However, public terminals stand out for their higher recreational use and lower use for contacting friends and relatives. Yet, these places are not solely used by gamers, for public terminals are the scenes of relatively high instrumental use.

The Possible Importance of Place

The Internet presents a paradox of place. On the one hand, it is the principal means by which "global villagers" communicate – to use Marshall McLuhan's evocative phrase (1962). Its ability to connect people at the speed of light reduces the importance of spatial distance. As long as people and organizations are on the Internet and as long as the Internet is not clogged with too much traffic, place may no longer matter as much for contact. What matters is the interconnection, not the place (Wellman, 2001).

On the other hand, people do not exist as ethereal creatures. They have to connect to the Internet – and each other – from some*where.* In the great majority of situations, they are physically tethered by wires connecting their personal computer to the Internet. Even when their connection is wireless – a small but a growing minority – at any given moment, they are communicating from a place. They may be sipping a café latté at a Starbucks coffee shop or they be walking through a wireless friendly university campus. Yet, they are somewhere.

Does the place where one communicates matter? It undoubtedly does for many users, as it is a quite different matter to be on the Internet at work than it is at home. Whereas organizations generally want their employees to use the Internet for productive purposes, family members may resent the Internet's alienation of affections away from domestic communication and bliss (Nie, Hillygus and Erbring 2002). It is quite possible that how one uses the Internet varies with where one uses it from.

The place where people use the Internet also affects who will be online and with what sorts of facilities. For one thing, high-speed (broadband) Internet connections are differentially distributed. Developed countries have more high-speed connections, as do affluent, technology-intensive organizations. Even residential use is differentially distributed. Rich and urban localities are more apt to have broadband access available

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than are poor and rural localities. Moreover, pubic access points are apt to be differentially distributed: in richer schools, at universities, in cybercafes clustered near transient points, in small stores with a few computers (Fernandez-Maldonado, 2002), and in non-governmental organizations reaching out to get the poor online (Keeble and Loader, 2001). Nor are these marginal operations: an estimated 75% of Peruvian Internet users access the Internet from *cabinas publicas de Internet*.[2]

We concentrate on public users here. Such users usually do not have their own computer available to them when they need to communicate. Hence, we suspect that they are more apt than other users to be poor or transient. At the start of our research, this was just a supposition. Fortunately, we have data available from a large international survey of Internet users that allows us to compare those who access the Internet from public terminals and those who access it from work, school and home.

We use data from the National Geographic Survey 2000 to examine the users and uses of such public terminals (see also Chen, Boase and Wellman, 2002; Quan-Haase and Wellman, 2002; Witte, Amoroso and Howard, 2000). The diverse range of information available in this survey allows us to consider many characteristics of public terminal users, including demographic characteristics, national groupings, types of Internet use, and different kinds of social contact. We also investigate the ways that survey respondents use the Internet instrumentally and recreationally. Our concern with the social implications of these terminals also extends our analysis to include ways in which survey respondents use public computing for social purposes. We also examine ways that Internet use fosters an online and offline sense of community.

When using the term "public terminals" we include Internet terminals that are located in community centers, public libraries, cyber café and other places. Although the term "public terminal" does not specify whether users are accessing at a free public terminal or a cyber café, the category does allow for some equivalence among users. People using free public terminals are similar to those who pay to use cyber cafés, insofar as they are not accessing the Internet from a location that is as fixed and as stable as the home or the workplace. To make it simple and clear, we primarily focus on the comparison of public terminal users between users at home, workplace, and school. Analysis will tease out how they differ from those accessing the net from home, work and school.

Who Uses Public Terminals?

Public terminal users come from diverse backgrounds, in terms of gender, age, and educational achievement. Public terminals are most popular with students, those traveling on business, tourists, and low-income earners (Rao, 2002). Given this information, some key questions are:

- To what extent are particular kinds of people using public terminals and for what purposes?

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[2] Ana Maria Fernandez-Maldonado: private communication, October 2002.

- Do disadvantaged people such as the elderly, those with low education, low income, and those from developing countries use the quick and relatively inexpensive services offered by public terminals?
- Do public terminals help people stay in contact with family and friends and maintain a sense of community?

Before we address these questions using our own data, we briefly summarize the findings of previous research.

Gender: During September 2001 the U.S. Census Bureau surveyed 137,000 respondents and found almost identical amounts of Internet use among both men and women (Evans, 2002). Although Internet access is fairly even in United States and in Canada, women tend to be light Internet users while men tend to spend more time online (Kraut, 1996; Reddick, Boucher & Groseillers, 2000; Witte, et al., 2000). Men and women may also experience the Internet in different ways. An American survey of 630 undergraduate students found that women report more computer anxiety, less computer efficacy and less favorable attitudes towards computers (Jackson, 2001).

Unequal access to the Internet is far more prevalent outside of Canada and the United States. An international comparison using findings from the National Geographic Survey 2000 (the same data set used here) indicates that 34% of women in OECD countries other than the United States and Canada and 37% of women in Non-OECD countries have access to the Internet (Chen, Boase and Wellman, 2002).

Age and Life Cycle: Americans are least likely to access the Internet if they are either old or young (NTIA, 2000). Children 3 to 8 years of age have an access rate of only 15%, and adults older than 50 have an access rate of 30%. These are the only two groups below the national average. Adolescents are much more likely than younger children to use the Internet; indeed they are among its heaviest users. This heavy adolescent use means that a majority of American children between the ages of 5 and 17 are regularly using computers (Williams and Alkalimat, 2002).

The elderly are less likely to use computers than adolescents or younger adults. A survey of 1,900 individuals by the Consumer Federation of America shows that the elderly are the least likely to have Internet access at home (Cooper, 2000).

There are international differences in the age of use. Survey 2000 shows that those from Canada and the United States are about 5 years older than those from other countries (Chen, Boase and Wellman, 2002). The mean age of such North American respondents is 38 years old, while the mean age in Other OECD countries and in Non-OECD countries is 33.

Employment: Although people with high income are more likely to have Internet access, the number of low-income earners with Internet access is increasing. In the U.S., the number of low-income earners with Internet at home grew by 25% between December 1998 and September 2001 (Evans, 2002). By contrast, the number of high-income earners that accessed the Internet from home grew by only 11% during that time.

Another American survey found a steady increase in access rates among low-income earners (Smolenski, 2000).

People of different incomes tend to access the Internet from different places. There is some evidence that few high-income earners use public terminals that are located in libraries, although such terminals are used by middle-income earners. A 1999 study of California libraries found that a majority of users were local small business people and local government employees. The most actively used library terminals were located in low-income communities (Bertot, McClure, Ryan, 1999).

Income also affects the amount of time that people spend online at home. Low income earners are less likely to have Internet access both at home and at work (Grenier, 2000).

Is It All Just Fun and Games? Instrumental and Recreational Activities on Public Access Terminals

Are public terminals really the next generation of video arcades? Or, are they important places where people access important resources and carry out activities that can improve their position in society?

Instrumental Internet Use: There are at least two reasons that people might use public terminals primarily for instrumental purposes. First, because patrons are required to travel to public terminal sites, and often must pay to use them, they may be more likely to make goal-oriented use of their time. At least one case study supports this: Telecenters in Sweden are used in instrumental ways, including job hunting, calculating taxes, contacting authorities via email, and downloading forms (Projekt Medborgarterminal, 2002). By contrast, those who have easy access to the Internet at home may be more likely to surf the Internet for fun, since they can log on and play a quick game while dinner is cooking.

Second, “road warriors” may be using public terminals mostly for instrumental purposes, connecting with work associates and taking care of unfinished business. Such road warriors need ubiquitous and instantaneous contact to stay connected with work and family during their many days away from their home bases (Dholakia, et al., 2001).

Recreational Internet Use: There are also reasons to believe that public terminals may be used more for recreational Internet use. Some evidence and media reports suggest that public terminal patrons may actually be using the Internet more for playing online multi-user games (for example see USA Today, 2002; Laegran, 2002). This gaming culture might even be thought of as a new kind of youth counter culture where the public terminal becomes the next evolution of the video arcade. As with past gaming centers, public terminals may be conducive to adolescent males who have less active lifestyles. In Hong Kong and Korea, the lifestyle of younger adolescents affects whether or not they use the Internet for recreation or instrumental purposes. Those boys with a sedentary lifestyle are more likely to play games, while more active boys will do instrumental jobs

such as doing homework or communicating with others (Ho and Lee, 2001; French, 2002).

Do Public Access Terminals Enhance Community Life? Connecting with others is an important kind of use that is not easily captured in the simple dichotomy of recreational vs. instrumental. The extent to which public terminals are actually used to connect with friends and family is not well known. Although public terminal sites do provide an environment for people to meet both online and offline, they may do little to enhance social interaction.

It is possible that public terminal sites provide environments where friends can meet face-to-face or online. People who do not own computers have an environment in which they may meet with familiar habitués face-to-face, and at the same time maintain contact with others through email, chat rooms and instant messaging (Laegran, 2002). This might resemble an environment that revitalizes the kind of public sphere that occurred in eighteenth century European coffeehouses (Habermas, 1962; Roche, 1981; Nunes, 1999). This kind of contact might foster a sense of community and increase the total amount of emotional and instrumental support available to users.

The administrators of some public terminals bridge a number of different individuals and groups in their special locale (Liff, 2000). These bridges inform the administrators about the needs of their users, which help them tailor their services to foster social inclusion and community building.

Survey 2000

The *National Geographic* magazine and society publicized Survey 2000 worldwide and featured it on their popular website, September to November 1998. Visitors to the site were encouraged to answer the survey on the spot. The survey collected data from Internet users in 178 countries about activities they carried out both online and off-line.[3] Twenty thousand (20,282) adults (18+ years) completed all the questions that are of interest to us. The web-based data collection method for Survey 2000 was innovative, convenient, cost-effective, wide ranging, and produced a large sample. However, as the survey was not based on random sampling, it constrains our ability to generalize reliably about the characteristics of Internet users around the world. Indeed, as 85% of the respondents who mainly use public terminals are Americans and Canadians, our overall

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[3] Details of Survey 2000 are at http://survey2000.nationalgeographic.com. Witte, Amoroso & Howard (2000) discuss the development and administration of the survey. The findings reported here are discussed in more detail in "Is there a Place in Cyberspace: The Uses and Users of Public Internet Terminals [Extended English Version]" http://www.chass.utoronto.ca/~wellman/publications/cybercafe/cafeprogress16-BW-merged.PDF. See Quan-Haase and Wellman (2002) for more detailed analyses of the North American data obtained from this survey. Also see Chen, Boase and Wellman (2002) for an international comparison using the same data. Although the magazine itself is published in many languages, Survey 2000 was only available in English. Data from the newer, multilingual Survey 2001 are not yet available, although Survey 2001 itself is available at http://survey2001.nationalgeographic.com/ngm/servlet/Page1.

findings essentially reflect the situations of these North Americans. Moreover, as the *National Geographic* appeals to a literate, family-oriented readership, it is probable that the survey over-sampled well educated and financially comfortable respondents.

Respondents to Survey 2000 were asked to indicate the location from which they completed their online questionnaire. As they spent a mean of 40 minutes completing the online questionnaire, we consider the place where they completed the survey to be their primary location for accessing the Internet: home (63%), workplace (29%), school (5%), and public terminals (3%). Despite the low percentage of public-place users, the large sample size of Survey 2000 means that 622 respondents were using public terminals.

Based on their relation to the Internet centrality and levels of economic development, we group countries into the three categories that we have earlier used in our ongoing research program: North America, Other OECD countries, and Non-OECD countries (Chen, Boase & Wellman, 2002). We limit our operationalization of "North America" to the United States and Canada because of Mexico's lower Internet involvement and economic development. To explore the importance of economic development on Internet use and access, membership in the Organization for Economic Cooperation and Development (OECD) is a useful indicator to distinguish developed countries from developing ones. The economically developed countries that are members of the OECD are classified into one group, excluding the U.S and Canada. All other countries are categorized as Non-OECD.

User Characteristics: Findings from Survey 2000 suggests that users accessing the Internet from public terminals have a somewhat different profile from users at home, work, and schools (see Table 1). Public terminal users are somewhat more likely to be women, in their earlier thirties, single, newbies (those with less than one year of Internet experience) and university educated. Only half are employed full time. Public terminal users tend to be young and single, possibly because older and married people are less mobile and have stronger economic motivation to invest in home Internet access. Although the different percentages are not large, to some extent public terminals give disadvantaged groups a place to be[4]. Multivariate regression analysis confirms these findings.

Employment status is most strongly associated with the use of public terminals: The unemployed are most likely to use public terminals. This suggests that public terminal users are not disproportionately high-income road warriors or young gamers. However, there is no indication that those with lower education are more likely to use public terminals, as compared to those with higher levels of education.

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[4] At the request of the editors, we have not included our detailed regression analysis. See http://www.chass.utoronto.ca/~wellman/publications/cybercafe/cafeprogress16-BW-merged.PDF for a longer and English version of this paper which includes regression tables.

Table 1: Social Profile of Internet Users by the Place of Internet Access (%)

	All	Public Place	Home	Workplace	School
Women	46.2	50.5	46.6	44.6	48.6
Age (Mean)	37.2	34.5	39.1	35.5	24.4
Single	39.3	58.4	34.1	41.1	82.2
English Not Spoken at Home	25.5	25.7	22.9	29.8	34.4
Education					
High School or Less	11.2	14.0	12.8	4.6	27.8
Some College	30.9	27.5	34.4	21.9	41.3
Undergraduate	31.9	32.2	30.2	37.9	17.2
Graduate School	26.0	26.4	22.6	35.6	13.7
Employment					
Full-Time	59.8	51.1	53.2	85.1	4.2
Part-Time	6.2	6.4	8.2	2.6	1.2
Unemployment	7.6	14.0	11.2	0.1	0.8
Retired	4.7	3.2	7.2	0.0	0.1
Student	21.8	25.2	20.2	12.2	93.8
Traditional Media Use					
Frequent Print Media User (newspaper, magazine)	87.6	87.1	88.1	87.3	83.3
Frequent TV Watcher	67.0	60.6	66.9	68.4	63.6
Newbies (< 1 year Internet Experience)	19.0	21.1	22.7	11.6	13.9
Internet Activity					
Number of Internet Activities (Mean)	5.9	5.1	5.9	6.0	5.8
Instrumental Internet Use Scale (Mean)	15.7	12.6	15.4	17.1	14.7
Recreational Internet Use Scale (Mean)	1.6	1.4	1.7	1.3	1.9
Sense of Online Community	22.2	20.1	22.7	21.7	20.9
Sense of Online Kinship	8.0	7.1	8.3	7.7	7.6
Weekly+ Contact with Kin Within 50 Km					
Personal Visit	33.2	30.7	34.6	31.8	24.9
Telephone	43.2	38.4	44.3	43.0	32.9
Email	15.5	9.0	16.0	15.7	11.3
Weekly+ Contact with Friends Within 50 Km					
Personal Visit	60.6	67.0	59.4	60.4	72.2
Telephone	69.8	74.3	68.6	71.4	72.8

Email	47.8	39.1	45.0	53.5	56.4
Weekly+ Contact with Kin Beyond 50 Km					
Personal Visit	3.6	3.1	3.7	3.2	5.1
Telephone	44.3	40.5	43.7	46.3	42.6
Email	36.9	29.7	38.1	35.3	35.2
Weekly+ Contact with Friends Beyond 50 Km					
Personal Visit	3.8	3.7	3.8	3.7	6.1
Telephone	17.1	18.8	16.5	17.2	23.1
Email	39.1	36.5	37.9	40.0	51.1
National Groups					
U.S. & Canada	76.9	75.9	79.8	71.7	71.3
Other OECD Countries	15.2	15.9	12.8	19.1	21.4
Non-OECD Countries	7.9	8.2	7.4	9.2	7.3
Number of Survey Respondents	20282	622	12801	5832	1027

Keeping in Touch: Does Place of Access Matter?

To understand the relationship of place of access to online social practices, we examine the amount of contact with friends and family by three kinds of media: personal visits, the telephone, and email. We use reported contact within and beyond 50 kilometers, as rough measures of "nearby" and "far-away".

Contact with Kin Within 50 Kilometers: A lower percentage of public terminal users tend to communicate with nearby kin through email (9%), than do home (16%), workplace (16%), or school users (11%). Except for school Internet users (33%), public terminals users also have the lowest percentage of phone conversation with nearby kin at least weekly (39%). Similar to the use of telephone, the percentage of public terminal users who visit nearby relatives weekly (31%) is slightly lower than those who use the Internet from their homes (35%) and workplaces (32%), while only 25% of school Internet users visit nearby kin weekly.

The use of different communication modes to contact nearby kin belies fears that high levels of email contact will replace face-to-face and telephone contact. In fact, the frequency of email contact is positively correlated with the frequency of both face-to-face contact (r=.31) and telephone contact (r=.38).

Public terminal and school users are less likely than home and workplace users to have weekly contact (or more) with nearby kin. This pattern is consistent, regardless of whether people are using email, the telephone, or face-to-face encounters. This suggests that relatively low contact with kin is a function of the kinds of the young and single people who access the Internet from public and school terminals rather than a function of the public and school context itself.

Contact with Friends Within 50 Kilometers: As is the case for nearby relatives, public terminal users are the least likely to email nearby friends (39%). Weekly telephone contact with friends is slightly more common than email contact among public terminal users (74%) and school users (73%) than it is among workplace (71%) and home users (69%). The percentage of people in at least weekly face-to-face contact with their friends is highest for school users (72%) and public terminal users (67%), and somewhat lower for workplace (60%) and home Internet users (60%). Although public terminal users have relatively less frequent email contact with nearby friends, their relatively high frequency of face-to-face encounters means that they have about the same overall rate of contact with nearby friends as those who access the Internet from home, work, or school.

Contact with Kin Beyond 50 Kilometers: Similar to the pattern for email contact with nearby kin, public terminal users have the lowest percentage of emailing far-away kin at least weekly (30%). Public terminal users also have the lowest percentage using telephone to communicate with far-away kin (41%). By contrast, only a small percentage of respondents anywhere (3-5%) have weekly face-to-face visits with far-away kin.

Contact with Friends Beyond 50 Kilometers: Compared with users at other places, public terminal users are somewhat less likely to use email to contact far-away friends weekly. However, the percentages of public terminal users who contact faraway friends by telephone or personal visits are similar to those of home and workplace Internet users.

In summary, public terminal users have the lowest amount of email contact with kin and friends, near and far. This does not mean that public terminal users are cut off from their social networks because they balance this with a greater amount of telephone contact.

Instrumental and Recreational Use of the Internet in Different Places

Factor analysis shows that Survey 2000 respondents engage in two distinct sets of online activities. The first (seven-item) set forms a scale ranging from 0 to 35 points, indicating the extent to which respondents carry out different *instrumental activities* on the Internet to obtain information, goods and services. The second (three-item) set forms a scale ranging from 0 to 15 points, indicating the extent of different *recreational activities* on the Internet.[5]

Instrumental Use: Public terminal users make the least instrumental use of the Internet. Their mean score for instrumental purposes (13) is lower than those using the Internet at workplaces (17), home (15), and school (15).

Regression analysis suggests that in all places of access, higher levels of instrumental use are positively related to higher levels of recreational use, length of experience using

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[5] See Chen, Boase & Wellman (2002) and Boase, Chen, Wellman and Prijatelj (2003) for a detailed account of how these scales were constructed.

the Internet, and the regional groups. Age and educational attainment are significantly related to instrumental use for all but people who access the Internet from public terminals. Men and those with relatively high education are more prone to carry out instrumental activities while using public terminals.

The levels of instrumental use of the Internet reflect a center-periphery order. North American users have the highest amount of instrumental use, while users from Other OECD countries take second place, and Non-OECD users come last. North American users also have the highest levels of recreational use among all three regional groups. This center-periphery order is true regardless of whether people access the net from home, work, school, or a public terminal. However, users from Non-OECD countries use the Internet less instrumentally and more recreationally when using public terminals.

Recreational Use: By contrast to the public terminal users' lower instrumental use, they are more involved in recreational activities on the Internet than are work and school users. Controlling for socio-demographic characteristics via regression analysis, we find that public terminal users are like home users in having more recreational Internet activities than users at the workplace and school.

Instrumental use of the Internet and educational attainment are the two phenomena persistently associated with using the Internet recreationally. Instrumental activity is the most strongly related variable to high recreational use. This again reveals the mutual reinforcement of recreational and instrumental use. Moreover, the better educated the respondents, the less likely they are to use the Internet recreationally. For example, respondents with postgraduate degrees are the lowest recreational users of the Internet, scoring 1 point lower on the recreational use scale than those who have high school or less education. Thus, recreational use increases with the instrumental use but decreases with educational attainment.

Sense of Online Community

Is the place of using the Internet associated with a person's sense of online community? To answer this question we asked respondents to report if they agreed or disagreed with ten statements about the impact of the Internet on their social life (for details see Quan-Haase & Wellman, 2002). The sense of online community scale contains items such as "we feel a sense of community with the people we've met on the Internet" (see Chen, Boase and Wellman, 2002). Scores range from 6 to 42, with a mean of 22 indicating a moderate sense of online community. People who access the Internet at different places tend to have somewhat different sense of online community. Public terminal users have the lowest sense of online community (mean score =20), while home users report the highest sense of online community (23), followed by users who access the Internet at the workplace (22) and at school (21).

It is largely the kinds of people who access the Internet at different places – and not the nature of the place itself -- that is associated with different senses of community: When control variables are added via multiple regression, differences in the sense of

online community among workplace, school and public terminal users are removed. Fittingly enough, only home Internet users report a significantly higher sense of community – more than 0.6 points higher on the scale than users at other places.

Unlike other findings in this paper, the variables that are associated with a sense of online community in the overall sample vary according to the places where people access the Internet. This is the case for gender, age, education, and regional groups. Age and education are not significant associated with a sense of online community for public terminal users. However, the gender gap and the socioeconomic development level of the country are reinforced among public terminal users. For example, male public terminal users report a sense of community that is 2 points higher on the scale than their female counterparts

The amount of Internet use is the only variable appreciably associated with having a sense of online community that does not vary according to place of access. Whether it is at home, work, school, or public, more Internet use is associated with a stronger sense of community online, although the association is somewhat weaker among public terminal users.

Sense of Online Connection with Kin

As kinship ties are more apt to survive physical separation (Wellman, 1990; Wellman & Tindall, 1993), the Internet has a special potential for linking kin wherever they live. Our index of the Internet's effect on a sense of online kinship connection consists of two items, each using a 1-7 point Likert scale. The online kinship scale ranges from a minimum of 2 to a maximum of 14 points, with a mean of 8 (see Quan-Haase & Wellman, 2002).

A sense of online connection with kin only varies slightly by place of access. Public terminal users have the lowest sense of online connection with kin (mean = 7 on the scale), while home users have the strongest sense of connection with kin (8), followed by workplace (8) and school users (7). Compared with public terminal users, those accessing the Internet from home score 0.6 points higher in the online kinship connectivity index, and school Internet users 0.5 points higher. Regardless of place of access:

Somewhat different dynamics operate at each place of Internet access. Regression analysis shows that instrumental use of the Internet, regional location, and gender are significantly associated at all places of access with a sense of online connection to kin. However, age is associated with a sense of kinship connectivity only for home users, and educational attainment only for home and workplace users. Put another way, age and educational attainment have no significant association with a sense of online kinship connectivity among public terminal users and school Internet users.

Is There a Place in Cyberspace?

The physical side of cyberplace – where people use the Internet – varies considerably. Some of the differences are obvious: workers predominate in workplace access; students predominate in school access. But, there is also a clear difference for the users of public terminals. They are disproportionately young, single, less educated, and newbies. Although this fits the picture of young adults crowding into cybercafes, we caution that this is a statistical difference. Most users of public terminals are *not* young and single, and half are women.

The *uses* of the Internet vary less by place than the *users*. However, public terminals stand out for their higher recreational use and lower use for contacting friends and relatives. Yet, these are not solely party places, for public terminals are the scenes of relatively high instrumental use.

In short, there *is* a place for place in cyberspace, both as available Internet bases and as contexts for Internet use. Different places have different kinds of users, and these users vary somewhat in how they use the Internet. Public terminals stand out as where newbies often start: As they gain resources and jobs, they may well move on to use the Internet from home, school and work.

Context matters, as does differential attraction. There may be different *zeitgeists* happening among public terminal users as compared with those using the Internet at school, the workplace or home. This, in turn, can increase the differential attraction (or repulsion) of public terminals for Internet use. A room filled with gamers and transients is not an inviting place to calculate income tax or write complex love letters. Nevertheless, where there is a will, there can be a way, and the data suggest that the users of public terminals will find a way to accomplish their instrumental, recreational and sociable needs.

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