
Online behavior from desktop and mobile devices are connected

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Abstract

Cell phones and other mobile devices are used to access the Internet even at home and at work where computers are easily available. They are no longer a mere backup to the computer. This means that it makes little sense to study Internet access from mobile devices separate from other Internet access. We need new methods that encompass online behavior from desktop computers and mobile devices as well as stationary and mobile online behavior.

Keywords

Cell phones, mobile devices, mobile services, Internet access from cell phones.

ACM Classification Keywords

H5.m. Information interfaces and presentation (e.g., HCI): Miscellaneous.

Introduction

The online world is increasingly important in our lives and it is used for purposes such as work, practical stuff, social relations and fun. The use of for example social networking sites has exploded the past two or three years and has been well researched ([2, 5] are only two examples). The mobile use of social networking sites has been less investigated though.

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Today, we are no longer tied to the computer to participate in the online world since there is a myriad of handheld devices that offers online access. This not only means that the online world is accessible in situations where there previously were no computer access, but that mobile devices are used to get online also in situations where computers are available [8]. The mobile world overlaps the desktop world.

The boundary between mobile and stationary is blurred when it comes to the services used too. The majority of the services used on the mobile devices are also used on the computer [9]. This means that it makes less and less sense to study online behavior on desktop computers separate from online behavior on mobile devices and vice versa. However, it does not mean that online behavior on a desktop computer looks the same as on a mobile device.

My Previous Work

The ideas presented here builds generally on a long history of work with mobile services [6] but more specifically on a diary study of Internet use from cell phones [9] and an ongoing log study of the mobile use of a Swedish online community for teenagers (www.playahead.com).

The diary study had 19 participants that kept a diary of their Internet access from cell phones during one week. After the diary week a telephone interview was made. A brief summary of the results: The most common place for Internet access was at home, though all participants had access to a networked computer at home. Overall, in 50% of the occasions where participants used their phone for Internet access, they had access to a computer. The main motivations for accessing the

Internet from the phone were passing time, checking email, or reading news. Only in 15% of the occasions, the purpose had something to do with where the participant was or what they were doing. Finally, almost all of the Internet services that were used from the cell phone were also used from the computer.

The log study is not yet finished but some trends can be seen in the material. The daily rhythm of the mobile use shows that phone access to the community is used both in times during the day where it can be assumed that teenagers have little computer access for private matters, such as during the school day, and in times when they can be expected to be at home and close to a computer, such as after 10pm on weekdays. A short survey was distributed to complement the log data. A frequent comment in the survey was that participants wanted more functionality from the regular web page in the mobile version, in particular the photo albums.

Both studies show that mobile access is used in many situations that are not traditionally considered as "mobile". Cell phones are used to access the Internet in the TV couch and at the kitchen table as well as in streets and public transportation.

The sessions are short in both studies. No conclusions about the reason for that can be drawn from the log data, but in the diary study some information was given. Participants could check a box in their diary if they were in a hurry, but only 20% of the occasions were marked as "in a hurry". This in combination with the most common purpose, passing time, led us to conclude that the phone lends itself easily to short sessions when users have a few minutes to kill since it is always close and always on.

One common conclusion from the two studies described above is that mobile devices are more than a complement to computers that are used in situations where computers are not available. The use from mobile devices not only complements the computer use but overlaps with it in many situations. It is not only the case that the main use of online services takes place on computers, and mobile devices are used for “emergencies”.

We can also see that the phone Internet use is not as mobile as was expected in the early years of cell phones and mobile devices. Users of mobile devices are not always on the move, occupied with something else, or frequently interrupted as was often outlined in design discussions on mobile services (for example [1, 4]). Many times the mobile use is the main occupation in a very calm environment.

Desktop Use vs Mobile Use

Even though online services are used from both desktop and mobile devices, and the situations in which the devices are chosen overlap more and more, there are of course differences as well as similarities.

The differences are most obvious when it comes to the actual hardware. Even though both design and capabilities of mobile devices have made enormous progress the last decade, mobile devices still have small screen, small keyboard, and offer more restricted interaction than a desktop or laptop computer. However, a laptop computer offers less mobility even though the arrival of mobile broadband through 3G gives them network connection in many situations. Another significant difference is that often services only offer a subset of their functionality to mobile devices.

The technical conditions might be different when using a service from a computer or a mobile device, but the purpose is often the same. Social services are used to connect with others regardless of device, information services are used to find information, and news services are used to stay updated with the world.

Many times other users perceive you the same way regardless if you are online from a computer or a cell phone. The simplest example is email, email sent from the phone looks the same as email sent from a computer. However, since most phones offer limited input, email sent from a phone often is shorter and contain less of the “polite glue”. In the same way, not all communities make it visible when users are logged in from a mobile device, thus making it more difficult to interpret their behavior.

The above discussion shows that online behavior from desktop computers and mobile devices certainly are not exactly the same, and that the need for device adapted design still stands. However, online behavior from different devices is tightly intertwined and should be studied in parallel.

Methodological Thoughts

Clearly, we need new methods to study online behavior since it has become so much richer and more important in our lives than it was just a few years ago. The Internet now is a major part of our information sources, our social lives, our leisure activities, and our work. The online behavior almost spans the whole range of our lives, which is no easy task to study. The fact that online behavior is carried out through different devices is only a small part of the diversity. On the mobile side other factors are that interaction takes place in many

short sessions spread out during the day, and also in various places and situations. This makes it difficult to follow and also hard for the users themselves to report on their actions. For example, in the diary study two participants reported that they never used their phone for Internet access at home, while their diary showed that they had done so during the study.

However, it is not obvious that we need different methods for studying online behavior from computers and online behavior from mobile devices. Rather, merging the traditions from both areas can be helpful for studying both types of behavior. Now when the mobile online behavior is becoming more than limited use in specific situations, studying it can benefit from the tradition of longitudinal study for example in the CSCW community. Likewise, since laptops are getting increasingly mobile and getting used in situations we would never have imagined a computer a few years ago [7], studying the computer online behavior could benefit from the experiences of studying and interpreting context in the mobile domain.

Studying online behavior from computers and mobile devices in parallel is a new domain, and methodological development is certainly needed, but some efforts have been done, for example Kane et al. [3].

Conclusion

Internet access from mobile devices is an integrated part of our online behavior both when it comes to the services accessed and the situations in which the access takes place. Thus, it is important to study users'

online behavior over the whole range of devices they are using, and not study certain device types in isolation. Methods for studying online behavior need to be designed to handle use from various devices in different situations.

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