

Finger

The finger command was an early computer network application that allowed people to see whom else was using any specific computer system as well as providing basic information on that person. It provided three basic pieces of information (Zimmerman, 1991). The first piece of information listed all the users of the specific computer network. Second, the finger command could be used to determine if a specific person was currently using the computer network. Finally, the finger command could retrieve information about a particular person, such as their telephone number. For example, in response to the command `finger atstarr@unix.amherst.edu` a computer running the finger program would respond with the following information:

Login name: atstarr In real life: Andrew Starr

Office: Kansas City Home phone:

Last login Mon Nov 8 13:22 on ttyre from sdn-ar-001mokcit

Plan:

To come so far one must be brave.

ATStarr@Amherst.Edu

<http://www.amherst.edu/~atstarr/menu.html>

The information that the finger command returns is customizable by the site. Here the finger commands returns a login name, real life name, office, and home phone. The finger command also reveals the last time the person has used the computer system and the actual computer they last used. The information below the Plan line (Plan:) is totally

customizable by the user. Here the person is providing another email address and a web site address.

The finger command has a long history, which is often intertwined with concerns over privacy. One compelling incident was how the finger command became the source of one of the Internet's first flame wars (Hafner & Lyon, 1996). Although this debate over online privacy occurred over twenty years ago it is still very relevant today. This debate began when privacy bits were added to the finger command at Carnegie Mellon University (CMU).

A short time ago, the CMU Finger program was endowed with the ability to reveal when a user last logged in and when that user last read his/her mail with our RDMAIL program. To respect the privacy of the individual I arranged for two user profile bits to be added to our existing profile facility (which determines whether a user automatically sees a bulletin board, or gets a message when mail arrives etc.) The two new bits determine whether Finger may reveal the date/time a user last logged in and the date/time that the MAIL.MSG file was last changed. The default setting for the profile bits inhibits Finger from revealing this information. (Ivor Durham, email, February 22, 1979)

To recapitulate, Ivor Durham added some privacy bits to allow a user to turn off information about their behavior. This information was (1) whether the user is currently logged on, (2) when the user had logged off, (3) whether there was any mail in the mailbox, (4) when the user has last read mail, and (5) if there is mail, the most recent sender. The privacy bits were an option that allowed people to decide if they want this information revealed. Moreover, the privacy bits had a default setting to prevent this

information from being released. Thus, to enable others to find out when you last logged on, a person had to proactively turn their privacy bit "on" to reveal this information. At CMU the other information revealed in the Finger command such as your office location and office number was left to the discretion of the user. Thus with the addition of the privacy bits, a user could now ensure that no information about them was revealed if someone "Fingered" them.

The resulting controversy pitted the rights of the individual against that of the community. For example, Ivor Dunham (the person who that ensured the privacy bits were added) discussed this conflict between the rights of the individual and the community. He said, "the social implications here are not that the decision violates any 'right' of a close knit community, but the rights of the individual. We opted for siding with the individual. Simple as that, I think. Individual" (Ivor Dunham, email, January 31, 1979).

Other people such as Wulf also valued the rights of individuals over communities: I realize that we are a "friendly", "cooperative", ..., community, and I expect that most people won't mind this information being released. But you must recognize that the information can act [to] coerce people into a particular lifestyle. A major attraction, to me, of netmail is that I read it when I want to -- not when the sender wants me to. Last week I chose not to read my mail for 4 days. As soon as it becomes public that I did that, however, there can/will be both external and internal pressure to read it everyday. Now, maybe that's good too, the goodness/badness is not the issue. The point is that simply because we are a friendly community does not give everyone the right to know certain things about

me -- and only I can determine what the things I want known are. Thus, even though information about when I last logged in may seem trivial, its not up to us to decide whether that is something that a particular individual wants known.

Again, I think Ivor made exactly the right choices. (Bill Wulf, email, January 31, 1979)

A few people felt that in this case the community's right was of more importance than the individual's right. According to Brian Reid, the privacy tradeoffs are worthwhile.

In the 5 years that I have been at CMU, I have watched a decline of direct person-to-person talking and an increase of computer-based conferencing of all kinds. I have seen people send computer mail to someone ten feet away to avoid having to get out of a chair and actually use his vocal cords. I have seen an increasing number of design discussions take place entirely within the confines of the computer. And I have watched the "sense of community" that is so valuable to research institutions become weaker and weaker" [. . .] Personal privacy in the face of computer systems and data bases is a very sticky problem, but it is not the problem that I was trying to address with my complaints about closedness. I was worried, and still am worried for that matter, about the decay of our lab as a place in which to do research and creative thinking. I certainly don't want some credit bureau to know when I last logged out of the machine, but I certainly do want my co-workers to know when I did. The question of "who is asking" is to me very important. (Brian Reid, email, February 24, 1979).

Much of the controversy over the privacy bits was focused on the default settings. The defaults could be set to protect privacy or to reveal the information. The setting of

the default was contested by both advocates of individual rights and community rights. Each side wished to have the defaults set to support their values. The underlying premise of these arguments was that the default is setting is too important. People should have to take some action to forsake this default value. Another relevant part of this discussion concerned the reasons that people often defer to the default, and thus confer the default its importance. These issues are analyzed in Chapter 6, which uses this case study as a starting point for analyzing the role of defaults in code.

References:

- Hafner, K., & Lyon, M. (1996). *Where Wizards Stay Up Late: The Origins of the Internet*. New York: Touchstone.
- Zimmerman, D. (1991, December). *The Finger User Information Protocol*. Retrieved June 3, 1999, from <http://info.internet.isi.edu:80/in-notes/rfc/files/rfc1288.txt>