Managing online availability from an individual to a societal perspective

Jessica R Cauchard

Stanford University

Gates, 353 Serra Mall

Stanford, CA 94306 USA

cauchard@cs.stanford.edu

Abstract

With the evolution of wireless and mobile technologies, our modes of communication have changed and we have entered a paradigm of being available anytime anywhere. The rapid increase in the number of personal mobile and wearable devices has made this paradigm a technological reality. It has changed our work practice with regards to expectations in quickly replying to emails and instant messages. Yet, Sadler et al. [11] argue that "technology may provide the potential for availability twenty-four hours a day, seven days a week but the people who use these devices are not available in such a straightforward way". While this 'always connected' state presents many advantages such as the ability to work flexible hours from any locations, it also creates negative effects such as: increased working hours, additional workload, and stress. This workshop paper argues that in order to reduce the negative effects of the 'always connected' state, we should explore both technical and organizational solutions to be implemented at both individual and societal levels.

Introduction

Going back in history, about a century ago, work practice would prescribe that a person would have working hours where they would physically be at work. During non-working hours, people may still have been working but they would not necessarily be reachable. In

order to reach someone remotely, one would have had to send a letter or a telegram and would have expected a reply within days or even weeks. With the telephone, people became more reachable, but once again, they had to be physically close to the phone to be reached.

It is only recently with the development and wide adoption of mobile phones and wireless technologies that our work practices have shifted with the ability to reach anyone, anywhere, anytime. This phenomenon is furthermore increased the more technology savvy we become. Indeed, wearable technologies such as smartwatches, glasses, connected clothing and other embedded sensors increase our online presence. We are now more than ever "always connected" with our friends and family, our work, the whole world.

This 'always connected' state has created habits and dependency to users, as well as expectations from co-workers. Mark et al. [8] asked study participants to not check their work emails for several days. Participants reported a sense of being "cut-off" and "expressed that there is a norm or expectation that the email recipient will respond to an email quickly". This effect is even greater with lightweight communication tools such as mobile messages and Instant Messages (IM) that feature indicators of availabilities which create social pressure to respond within minutes [10].

Working hours
As we become increasingly available, the concepts of 'out of hours' and traditional scheduling become irrelevant to most mobile workers. With the pressure of immediacy of instant communication and emails, workers feel forced into replying quickly to any message received. This furthermore increases the

workload as Licoppe and Heurtin [7] show that "the more users make themselves available on the mobile phone, the more their mobile phone traffic increases". Additionally, since many applications possess indicators of availabilities (e.g. last time messages were read, time of inactivity on a mobile device, whether the message was received or not, where a picture was posted from), it is becoming increasingly difficult to control one's online availability. This problem exacerbates when using multiple devices and applications. For instance, while using a video-chat app, the user's busy status may not be reflected by another IM application so that they still appear free to talk. This is a major issue with the "always-on" property of IM applications, which make users always available.

Issues with the 'always connected' state
Part of the issue of being constantly available is the additional mental load and stress added to the workers. Mark et al. [8] show that when receiving emails throughout the day, people increase the amount of multi tasking, diminish their focus on the work and present increased stress compared to when working without emails. Mark et al. also notes that working with emails create a faster work pace [8] without commenting on its positive or negative effect. Also, interruptions due to the 'always connected' state are proven to have a negative effect on the task at hand as they cost high overhead, also called "resumption lags", in both desktop and mobile computing setups [5, 6].

'Unavailable' state
There are typically two cases when a user is unavailable. The first one is when the user is technically unavailable (i.e. cannot get online) and the second is when the user is actively deciding to be unavailable.

Technical unavailability

As technology improves, it is getting more and more unbelievable to others when one is rendered unavailable by technology. This however still happens when for example, mobile phones run out of battery, get out of range or when Wi-Fi network is not available, roaming is too expensive, or when travelling in regions where cell network is unavailable. There is then a need to show that a person is actually technically unavailable and will not be able to reply.

Do not disturb

There are many reasons for which a person may decide they do not want to be disturbed. They can be busy and otherwise engaged, in a location where it is not socially acceptable to use a cell phone, interrupted by someone while in the middle of a reply. In those situations, one may decide to "go offline", which means that there is an active decision to not being online.

Solutions at the individual level

There are numerous research works looking at technology to manage one's online availability. We here focus on technology supporting the "Do not disturb" state rather than informing technical unavailability. One strategy for managing personal and professional life separate is to use different devices [3]. However, users still often use the same applications with the same user account so they are seen as available even when not feeling available. Another strategy is to manipulate time in order to not raise expectations. For example, some people use an app that delays the time at which an email is sent. On the receiver end, Pielot et al. [10] propose the development of a machine learning predictor that informs whether the person will reply to a mobile instant message within the next few minutes.

However this becomes trickier when people are away for a longer amount of time. One option is to use an "out-of-office" auto-reply email that informs the sender to expect a delay in the response. This difficulty in managing one's availability results in people lying and deceiving about their availability [2, 4], keeping their phone number private [7], or even switching off their mobile phone [7].

Solutions at the societal level

The problem of constant availability is wider than just being a personal problem. As detailed earlier, work practices have changed and the concept of "working hours" is already outdated. We now expect email replies anytime and co-workers available for very early morning or very late night Skype meetings when working across different time zones.

While each individual can take measures to achieve some work-life balance, there is a building peer-pressure in being always available that individual solutions will not help with. Indeed, as a society, do we want to keep raising expectations so that people who will not work as hard, or as long hours, or who work several jobs and cannot dedicate 100% of their time to one position are being penalized? We may then need to rethink whether there are solutions at a societal level instead. Mark et al. [8] for instance suggest that "organizations could consider experimenting with establishing practices of exchanging email at certain intervals" and that "organization should consider the immaterial benefits for workers in restricting, filtering, or actively managing the delivery of email". On that point, in 2011 Volkwagen (Germany) turns off messaging for non-managerial workers at the end of the working day and switches it back on at the

beginning of the next working day [9]. A similar initiative was put in place at Atos (France) who proposed a "zero email initiative" looking at banning internal company emails within 3 years [1]. This was highly successful and fostered collaboration, which won the company the 2014 Forrester Groundswell Award for Excellence in Social Collaboration.

As companies rethink the problem of the 'always connected' workers and the impact on their work, countries are starting to rethink their legislation. Germany's labor ministry has now asked managers to not contact staff after work hours as employees "should not be penalised for switching off their mobiles or failing to pick up messages out of hours" [12]. French labor unions and corporate representatives have agreed that autonomous employees in the technology sector would be allowed an 11-hour rest period after a full day of work. The agreement proposes that the companies would be free to enforce this by shutting email servers down or to give it as a company guideline. The French government also introduces the notion of measuring "digital working time" in order to ensure that employees rights are being respected.

Conclusion
Now that we have reached an 'always connected' digital state, we have to rethink our work practices both at individual as societal level. While some of the current solutions proposed by companies and governments may seem trivial and not adapted to the current working practice, they may well be the first step towards re-understanding the online/offline boundaries. The question still remains to what boundaries we have to put in place now that the technical boundaries do not exist anymore.

References
[1]   ATOS. Zero email™. http://atos.net/en-us/home/we-are/zero-email.html.

[2]   Birnholtz, J., Guillory, J., Hancock, J. and Bazarova, N. "on my way": deceptive texting and interpersonal awareness narratives. In Proc. CSCW ACM, 2010, 1-4.

[3]   Dearman, D. and Pierce, J.S. It's on my other computer!: computing with multiple devices. In Proc. of CHI'08 ACM, (2008), 767-776.

[4]   Hancock, J., Birnholtz, J., Bazarova, N., Guillory, J., Perlin, J. and Amos, B. Butler lies: awareness, deception and design. In Proc. CHI'09, ACM, 517-526.

[5]   Iqbal, S.T. and Horvitz, E. Disruption and recovery of computing tasks: field study, analysis, and directions. In Proc. of CHI'07, ACM, 677-686.

[6]   Leiva, L., Böhmer, M., Gehring, S., and Krüger, A. Back to the app: the costs of mobile application interruptions. In Proc. of MobileHCI'12, ACM, 291-294.

[7]   Licoppe, C. Heurtin, J.P. 2001. Managing one's availability to telephone communication through mobile phones: A French case study of the development dynamics of Mobile Phone Use. PUC. 5, 99-108.

[8]   Mark, G., Voida, S. and Cardello, A. "A pace not dictated by electrons": an empirical study of work without email. In Proc. CHI'12 ACM, (2012), 555-564.

[9]   McMillan, R. Wired. Volkswagen Blocks BlackBerry Use When Most People Use BlackBerries. http://www.wired.com/2011/12/vwemail/.

[10] Pielot, M., Oliveira, R, Kwak, H. and Oliver, N. Didn't you see my message? predicting attentiveness to mobile instant messages. In Proc. CHI'14, 3319-3328.

[11] Sadler, K., Robertson, T. and Kan, M. "It's always there, it's always on": Australian freelancer's management of availability using mobile technologies. In Proc. of MobileHCI'06 ACM, (2006), 49-52.

[12] Vasagar, J. Telegraph. Out of hours working banned by German ministry. http://fw.to/i5oJumL