The ReDD Workshop: A Template for Supporting People in Regaining Control Over Digital Device Use

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Abstract
Self-control struggles are a key factor in many negative effects of digital device use on well-being, such as problematic use of social media. Students, in particular, often struggle to get the benefits of digital connectivity without comprising their ability to be immersed in academic work or facing negative effects on their well-being. We present an early glimpse at a collaboration with the Counselling Service at the University of Oxford around the 'Reducing Digital Distraction' (ReDD) workshops, which attempts to tackle this challenge. In these workshops, students reflect on their struggles and goals around digital device use, which they match with concrete tools and strategies. Preliminary results suggest the workshops help users, while generating high quality data for understanding the problem.

Author Keywords
Action research; attention; digital wellbeing; distraction; self-control; self-regulation; workshops.

CCS Concepts
•Human-centered computing → Empirical studies in HCI; User studies;

Introduction
Many people struggle to control their use of digital devices such as smartphones and laptops [2, 3]. Beyond loss of

Time	Program
16:00	*Welcome and consent forms*
16:05	INTRODUCTION: *Participants say why they came and what they hope to get*
16:10	PRESENTATION (facilitator): Background and aims
16:25	DISCUSSION (small groups): *- what concerns you about your relationship with the internet / your laptop / your phone? - what external and internal triggers control your use? - have you tried 'taking' charge and doing something different?*
16:45	Catch-up on discussion
16:50	REFLECTION: *Participants take 5 mins to (i) choose a specific thing they'd like to change, (ii) reflect on what drives the problem*
16:55	BREAK
17:00	PRESENTATION (facilitator): Strategies for taking control
17:10	CARD SORTING: *Participants sort cards into categories. They use the website to investigate preferred strategies.*
17:50	COMMITMENT: *Participants state one or two strategies they would like to commit to trying out.*
17:53	WORKSHOP FEEDBACK

Figure 1: Workshop procedure.

productivity, this can have detrimental effects on mental health, with researchers linking, e.g., negative life impact of Facebook use to self-control struggles [4]. In response, a growing amount of HCI research focuses on developing and evaluating design interventions for self-control [1]. This work is beginning to build an understanding of how to support self-regulation of digital device use, through techniques such as visualisations of time spent [5] or goal-setting with social support [2]. While researchers collect this evidence, however, many contexts have an immediate need for guidance on how to reap the benefits of digital technology while minimising downsides.

Universities are one such context. At Oxford University in the UK, the university counselling service works one-to-one with nearly 3,000 students each year. An increasing proportion of these students report strongly conflicting feelings about their digital devices: on the one hand, they see their devices as indispensable tools for managing academic, social and other demands in an unstructured and decentralized environment; but on the other hand, having these devices ever-present and switched on risks compromising their crucial ability to tune out distractions and be wholly and productively immersed in academic work. Many students struggle to find a workable solution.

In this position paper, we present our ongoing collaboration with the University of Oxford's Counselling Service, initiated to help students struggling in this domain. We developed an intervention — dubbed the 'Reducing Digital Distraction' (ReDD) workshops — in which students reflect on their use, struggles, and goals for digital technology use, and are provided concrete tools and strategies. In the process, the workshops generate valuable data for advancing current frontiers of digital wellbeing research.

Methods

The workshop materials are available via the Open Science Framework on https://osf.io/hdvtm/. We are continuously refining the materials as we conduct additional workshops (for example, after the third workshop, we introduced the sorting category "I tried this already and it did/didn't work"). In the following, we describe the workshop in its form at the time of writing (v0.2, Februar 2020).

Materials

Tools and strategies presentation A 10-slide presentation introduce a range of strategies drawn from our previous research in this space [3]. Strategies are grouped into 5 types, with representative examples: (i) *Block or remove distractions* (e.g., blocking distracting websites or removing Facebook's newsfeed), (ii) *Track yourself* (e.g., tracking and visualising laptop use), (iii) *Advance your goals* (e.g. replacing Facebook's newsfeed with a todo-list), (iv) *Reward or punish yourself*(e.g., growing virtual trees that die if one's phone is used during a focus session), (v) *Change your digital environment* (e.g., rearranging smartphone apps so that distracting options are harder to access).

Card sorting Examples of the 5 types of strategies are given to the participants in the form of 17 physical cards (Figure 3). Participants sort these cards into the categories "Won't work for me", "I don't understand this", "Useful for some, but not me", "Might work for me", "I want to try this", and "I tried this already and it did/didn't work".

Workshop website An accompanying website (https://ulyngs.github.io/reducing-digital-distraction/ provides details and implementation instructions for each strategy listed on the cards. Each card contains a QR code pointing to the corresponding section of the website.

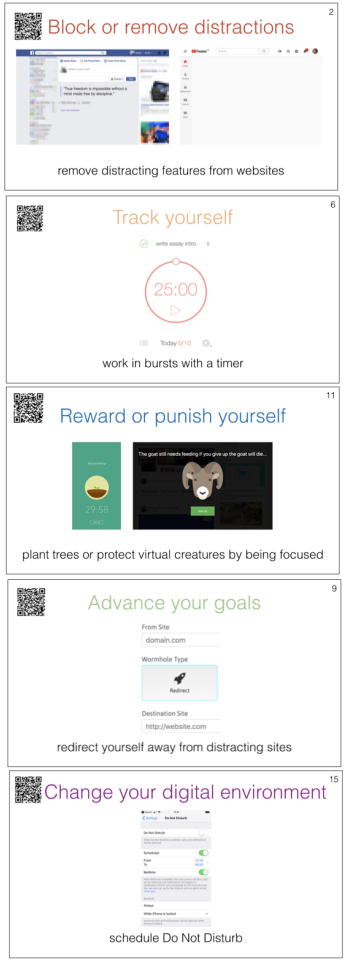

Figure 2: Examples of the strategy cards used in the sorting task.

Procedure

A workshop has 5-25 participants and lasts 2 hours (see Figure 1). It is divided into two parts: In the first, participants in small groups discuss their struggles, strategies, and usage goals in relation to digital technology. In the second, participants are introduced to a range of tools and strategies for digital self-control. They are each given a deck of 17 cards with icons representing those strategies, which they sort into categories according to how useful they expect that strategy to be for them. With guidance from the workshop website and the facilitators, the participants then investigate their preferred strategies, before committing to trying out one or two strategies. We record audio of discussions in the workshop, and photo/video of how strategy cards are sorted.

One week after the workshop, participants are sent an email reminding them of the strategy/s they committed to trying out. Two months after, they are sent a survey assessing how useful the workshop, and the strategies they committed to, turned out to be.

Preliminary results

To date, we have run 4 workshops, with a total of 37 participants. We have not yet transcribed or analysed audio recordings, but facilitator notes from the workshops suggest that participants' reflections on use, as well as their comments on the card sorting task, generate rich qualitative data on their experiences with digital distraction, personal strategies, and solution preferences.

At this point, the data collected in the card sorting task suggests *substantial individual variation* combined with trends for some strategies to judged as potentially useful by most. Thus, no strategy has been liked (i.e. sorted into the category "Might work for me", "I want to try this", or "I already tried this and it worked") by more than 80% of participants;

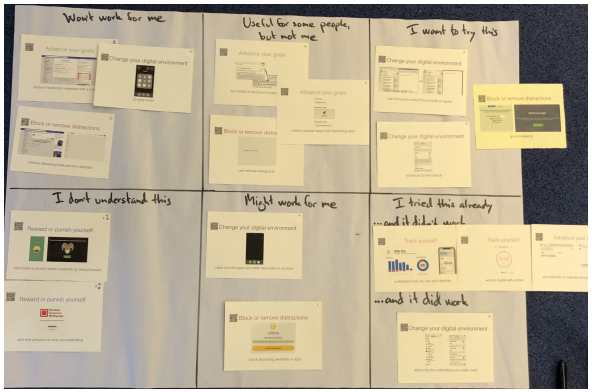

Figure 3: Example of the strategy cards sorted into categories.

7 out of 17 strategies are liked by 70-80%; and participants are roughly evenly split on the rest.

In the limited number of two-month follow-up surveys collected so far (n = 7), 7/7 respondents said the workshop has changed the way the managed digital distractions; 6/7 followed through on the strategies they committed to; and 6/6 found that those strategies turned out to be useful in their daily life.

Workshop relevance

In research on 'Problematic Facebook Use', which has reported correlations between patterns of Facebook use and indicators of poor mental health, including anxiety, depression, and low self-esteem, difficulties with self-regulating use is a defining feature [4]. More broadly, links between distress or impaired functioning in important life domains and technology use have for more than two decades been linked to difficulties at exerting self-control, by researchers applying the concept of 'addiction' to such instances [6].

While we do not find 'addiction' a particularly useful term in relation to technology use, we do believe that supporting users' ability to effectively exercise self-control over digital device use should be a fundamental concern in relation to mental health in a connected world.

Preliminary results from our *Reducing Digital Distraction* workshop collaboration with the Counselling Service at the University of Oxford suggest that this format has potential to help users struggling with self-control, while generating valuable data for advancing our understanding of how to support users in managing their digital ecosystems.

We hope our continued work on these workshops will lead to a refined template that can be expanded to other locations, and hope to discuss ideas in this regard in the workshop.

REFERENCES

[1] Jaejeung Kim, Hayoung Jung, Minsam Ko, and Uichin Lee. 2019. GoalKeeper: Exploring Interaction Lockout Mechanisms for Regulating Smartphone Use. *Proc. ACM Interact. Mob. Wearable Ubiquitous Technol.* 3, 1 (March 2019), 16:1–16:29. DOI: http://dx.doi.org/10.1145/3314403

[2] Minsam Ko, Kyong-Mee Chung, Subin Yang, Joonwon Lee, Christian Heizmann, Jinyoung Jeong, Uichin Lee, Daehee Shin, Koji Yatani, and Junehwa Song. 2015. NUGU: A Group-Based Intervention App for Improving Self-Regulation of Limiting Smartphone Use. *Proceedings of the 18th ACM Conference on Computer Supported Cooperative Work & Social Computing - CSCW '15* (2015), 1235–1245. DOI: http://dx.doi.org/10.1145/2675133.2675244

[3] Ulrik Lyngs, Kai Lukoff, Petr Slovak, Reuben Binns, Adam Slack, Michael Inzlicht, Max Van Kleek, and Nigel Shadbolt. 2019. Self-Control in Cyberspace: Applying Dual Systems Theory to a Review of Digital Self-Control Tools. In *CHIConference on Human Factors in Computing Systems Proceedings (CHI 2019)*. ACM, New York, NY, USA. DOI: http://dx.doi.org/10.1145/3290605.3300361

[4] Claudia Marino, Gianluca Gini, Alessio Vieno, and Marcantonio M. Spada. 2018. The Associations between Problematic Facebook Use, Psychological Distress and Well-Being among Adolescents and Young Adults: A Systematic Review and Meta-Analysis. *Journal of Affective Disorders* 226, September 2017 (2018), 274–281. DOI: http://dx.doi.org/10.1016/j.jad.2017.10.007

[5] Steve Whittaker, Vaiva Kalnikaite, Victoria Hollis, and Andrew Guydish. 2016. 'Don' t Waste My Time': Use of Time Information Improves Focus. In *Proceedings of the 2016 CHI Conference on Human Factors in Computing Systems*. ACM, New York, 1729–1738.

[6] Kimberly S Young. 1999. Internet Addiction: Symptoms, Evaluation, and Treatment. In *Innovations in Clinical Practice (Volume 17)*, L. VandeCreek and T. L. Jackson (Eds.). 19–31. DOI: http://dx.doi.org/10.1007/s10879-009-9120-x