
Persuasive Design of Outdoors Walking Meetings: Supporting Different Mindsets

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Abstract

Walking meetings during working days are a way to improve people's wellbeing and creativity. We have conducted a series of studies of Brainwolk, a walking meeting concept for knowledge workers mediated by technology. While the restorative effects of nature are well known, we are proposing to persuade people via technology to walking meetings outdoors during work by *supporting appropriate mindsets*. The mindsets of *Liberty* and *Recovery* can be initiated and supported by discreet and direct persuasion, respectively. We discuss how technology and different features could support these mindsets in the context of outdoors walking meeting experiences.

Author Keywords

Walking meeting; knowledge work; user experience; persuasive design; outdoors; nature; mindset.

ACM Classification Keywords

H.1.2 User/Machine Systems: Human factors. H.5.2 User Interfaces: User-centered design.

Introduction

The positive effects of nature on mood and cognitive tasks as well as mental recovery are well known [5],

[6], [8]. Spending time in nature does good for human beings, who nowadays often suffer from stress and mental overload due to hectic work conditions. Positive mood changes occur already after spending a short time, even five minutes, in nature [5]. In many work places, the nearby nature places, such as parks and pathways in the woods, could be easily utilized as temporary work environments.

People's sedentary lifestyles cause serious health problems, while active lifestyles have known physiological and mental health benefits. This applies to both leisure and working time. Contemporary knowledge workers spend a majority of their day sitting or with limited need for mobility [12]. The workers whose work is very sedentary and stressful would benefit from work habits and possibilities that would give a mental permission to leave their office and encourage them to work in physically active ways, for example in restorative nature spaces. Workers wish for the opportunities to work that way [4], [13]. Fortunately, the impacts of sedentary lifestyles on health have been discussed recently in the media. Solutions to encourage physically active ways of work have emerged, and technologies, e.g. technology-mediated walking meetings [2] and timely prompts on computer to take a break from sitting [14] have been harnessed and studied to overcome the sedentary challenge in workplaces.

Brainwalk Walking Meeting Concept and Its User Study Findings

In our previous work, we have developed the concept of Brainwalk, a walking meeting concept supported by a mobile application [2; 3]. The aim of developing Brainwalk is to support knowledge workers' non-

sedentary activity during the workdays and thus, increase the well-being [7], creativity [11] and sociability [15] at work (see Figure 1). Brainwalk walking meetings primarily take place outdoors, utilizing the near distant nature spaces. The main idea of the current version of Brainwalk is to provide users with 1) persuasive instructions and hints how to conduct and walking meeting, 2) route guidance and checkpoints along the routes and 3) rewards based on the walking activity [3]. The design research process of the concept is still under progress and we will develop it towards a more holistic service in the future.

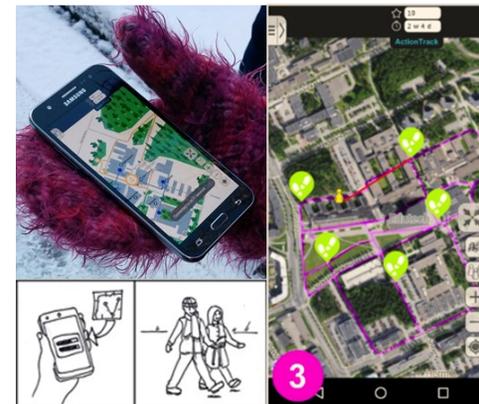


Figure 1: Brainwalk concept for encouraging sedentary knowledge workers to conduct walking meetings outdoors and thus, work in physically active ways.

We have conducted a series of user studies to evaluate and further develop the concept and app [2; 3]. The main findings of the user studies reveal that the Brainwalk walking meeting is a pleasurable concept for its users – users were willing to work in outdoor settings and found out many work tasks where they

could utilize walking meeting. The current mobile application prototype, however, did not yet fully support the workers' needs towards a walking meeting app. The findings indicate that the app was too disturbing during the work tasks and there would be a need for different type or level of persuasion during different work tasks. From this we concluded that discreet (i.e. subtle) persuasion and interaction could be utilized on the systems that are supposed to be used during the work tasks, and direct (i.e. visible) persuasion could be designed to the tasks that are not direct work tasks, e.g. breaks. Our findings have similarities with the Embedded Design approach [9].

Persuasive Design to Support Different Mindsets in Outdoors Walking Meetings

In our earlier research we have identified five different mindsets for knowledge work: Liberty, Fellowship, Determination, Retreat and Recovery [4]. Different mindsets need to be supported for different types of work tasks of knowledge work. Out of the identified mindsets, we propose *Liberty* and *Recovery* as the most prominent target mindsets for outdoor walking activity or Brainwalks at work settings. Liberty is the mindset of *creativity*. It is intended for creative, and inspirational, most often collective work. It is about innovation and exploration, freedom and getting energized. Recovery is, on the other hand, a mindset for *recreation* during the break, either individually or collectively. Also, recovery is about restoration, escape and captivation. These aspects match well with the experienced effects of the walking meetings [2].

In the following, we discuss how these two mindsets can be designed for in the context of walking meetings at work, encouraging workers to work and walk

outdoors. Our ideas are based on our own research studies [2; 3], previous knowledge on persuasive techniques [10] and design research of motivational wellness apps [1]. On the background of our discussion we have the assumption that different types (levels) of persuasion are needed for different work tasks and target mindsets (see Figure 2). Even though the ultimate target is the same, i.e. *to encourage outdoors walking during the workday*, the persuasion need to be different when designing for these different mindsets.

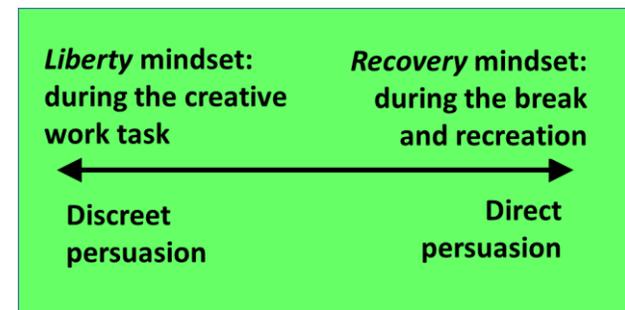


Figure 2: Even though the target is the same for both walking meeting mindsets – Liberty and Recovery, we need to design different types of persuasion for optimal support. Persuasion during work tasks needs to be discreet (i.e. subtle) while during the breaks, persuasion can be more direct or explicit.

Liberty

Liberty is a knowledge work mindset that is optimal when doing creative work tasks, such as initial ideation, brainstorming and reflection of one's thoughts [4]. Liberty mindset fits to walking, because Liberty usually requires freedom from being stuck in front of the computer. Walking provides freedom and nature settings offer stimulation for senses and different perspectives to feed creativity. However, as Liberty mindset relates to work tasks rather than non-working

tasks, the technology needs to stay on the background and persuade discreetly rather than disturb working. To persuade walking and encourage Liberty, the technology could allow workers to:

- plan one's own creativity walk in near distant nature, where certain creativity boosting tasks/topics would appear on the defined checkpoints (interesting location, nice view, small wonder of nature etc.)
- share own walks with others, and view others' walks for inspiration
- easily capture keywords of the discussion, e.g. by recording and speech-to-text functionality, and mark the keywords to the route map to be viewed later
- glance the information on a smartwatch during the walk with minimal disruption
- measure walking and wellbeing data about the workday that can be viewed and reflected on, e.g. the locations where innovation occurred or stress was released
- interact with the technology mostly before and after the actual walk, and during the walk only if needed

Recovery

Recovery is a non-working mindset, which targets to relaxation, restoration and escape from the usual work context [4]. Walking in nature has proven effects on mood and restoration. In non-working tasks that take place during the breaks, the persuasion can be more direct than during the actual work tasks. Thus, the technology can take a more active role during the walk. To boost Recovery by walking, the technology could:

- suggest a short journey to near distant nature with an interactive story and exploration of checkpoints
- offer hints and tips to search for the checkpoints, or route guidance
- suggest peaceful locations with a nice view or interesting detail in nature to have a quiet and focused moment
- provide evidence about recovering effects by measuring and showing the data, e.g. automatically taken picture of the location where the heart beat decreased during the walk
- allow the capturing of the restorative moment of nature during the walk in a digital format (image, 3D video, soundscape) and reliving the moment, e.g. with the head worn display, after the walk for prolonged restorative purposes
- interact with the technology during the recovery by suggesting recreational content and activities

Conclusions

We suggest that Brainwalks, walking meetings at work, could be supported by persuasive technology solutions for different mindsets, i.e. Liberty and Recovery. Technology should stay on the background and act discreetly during working tasks that support Liberty, while persuasion and interaction can be more direct in non-working tasks such as breaks, i.e. Recovery. Walking outdoors while working can improve wellbeing and creativity. Work situations and mindsets are very personal and thus we would like to run studies on how well they can be supported by persuasive techniques and design ideas we have suggested in this paper.

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