
A Walk in the Woods: Gear and Infrastructure in the Outdoors

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Abstract

In this position paper, we describe an initial research activity, a short walk in the woods, to position our interest in HCI and the outdoors. We present three preliminary reflections from our hike on relationships with gear and infrastructure that enable meaningful outdoor experiences. These include parallels between packing gear and preparing devices, contrasting notions within bodily comfort and brand allegiance, and safety bubbles enabled by actual or expected infrastructures.

Author Keywords

Outdoors, hiking, nature, gear, infrastructure.

ACM Classification Keywords

H.5.m. Information interfaces and presentation (e.g., HCI): Miscellaneous.

Introduction

Outdoor experiences can encompass a broad range of pursuits, including adventure sports, meditative journeys, or leisurely tours. While some might enjoy an adrenaline thrill in dangerous conditions, others might seek an arduous expedition to challenge endurance, commitment, or faith. Public parks and cultivated gardens can afford relaxation and retreat amid urban environments, while rescue workers ensure safety and return in wild frontiers.

Though diverse in aesthetic intent and physical engagement, many of these outdoor experiences similarly beckon specialized gear and exceptional infrastructures that enable comfort and self-containment in nature. For example, ultralight tents, mini stoves, compact cookware, water purifiers, dehydrated foods, and bear canisters encapsulate a portable kitchen far from home. And in Sweden, where we write this paper, free firewood along well-marked trails in national parks provides ease and warmth through invisible infrastructures of maintenance, labor, and policy. Thus, our forthcoming research is interested in relationships with gear and infrastructure that explicitly and implicitly enable meaningful outdoors experiences, with or without technology. From this research, we aim to not only apply our learnings to further the design of human-computer interactions in the outdoors [2–5], but also to the indoors, hence also contributing to the outdoors as a broader domain for HCI research and design [1,6,7].

Within the possibilities of outdoor activities, we are more specifically interested in hiking, which can also be referred to walking, bushwalking, or backpacking. As hiking is a recreational activity all members of our project enjoy, we recently kick-started our new outdoors research project with a mid-week day hike. In this position paper, we describe the hike and resulting preliminary reflections on gear and infrastructure to further motivate our position on HCI and the outdoors. In addition, we use the reflections to suggest an area of focus we can contribute to in the research area of HCI in outdoor recreation.



Figure 1: The start of our walk through Järvafältet nature reserve near Stockholm, Sweden.

A Walk in the Woods

Our day hike took place on a Wednesday near the end of January in a small nature reserve situated in between two commuter rail stations thirty-minutes outside of Stockholm. Due to limited daylight and a need to return home around regular working hours, the area was chosen for its accessibility and uncomplicated, relatively short twelve-kilometer route. Prioritizing our interest in people's relationship to gear and infrastructure, the proposed agenda encompassed discussions while walking on gear brought and infrastructures encountered, with concluding reflections on potential parallel and conflicting relationships with and for technology.

Packing, Repacking, and Unpacking

While finalizing the meeting point the day before, our first reflection on gear arose as we discussed who should bring what. Not only concerned for optimizing our packs or feeling prepared, thinking about packing prompted thinking about repacking and unpacking –



Figure 2: A sample of our gear laid out while we started to build a fire using wood provided by the nature reserve.

before, during, and after. Perhaps equally as important as what you bring is how you bring it, access it, and configure it for utility, as well as comfort, display, and care. And after the immediate outdoor activity is over, this configuring of gear can extend into other activities, and might encounter appropriation, maintenance, storage, or neglect. For example, leather hiking boots might also be used for everyday winter shoes and necessitate frequent waxing in the dry Swedish climate. In contrast, more specialized equipment such as a camping stove might be stored in a closet, potentially forgotten, and require a tedious relearning for safe operation.

When shifting our lens from hiking gear to everyday technology, we see parallels in how we often configure devices before, during, and after outdoor activities. Often concerned for data and battery limitations, or an intentional desire for limited connectivity, we also 'pack'

our devices with the appropriate settings relative to a desired experience. This might mean disabling notifications for social media while downloading offline maps to reduce roaming charges. During an unexpected encounter with WIFI, we might take advantage of an opportunity to backup photos and replenish storage, reconfiguring our data and device.

Comfort and Display

Notions of comfort and display aligned with further reflections beyond utility regarding the gear we buy versus the gear we use, and what gear we keep versus what gear we let go. While brand preference was often discussed as a decision-making factor in aspired performance and identity, what we actually brought and wore represented a much wider array of labels due to sentimental attachment, lack of enforced brand cohesion, and the benefits wear-and-tear. For example, one of us was wearing nine different brands, with

articles of clothing acquired from less than a month to over fifteen years ago. Furthermore, in addition to research, this day hike was also seen as an opportunity to “wear-in” new boots for an upcoming, much longer personal excursion. This highlighted the desired adaptation of gear intimately worn against our bodies, which might also change during the course of prolonged outdoor recreational activity.

We reflected upon how these themes clashed with many of our contemporary conceptions of and practices with technological devices. We often claim to identify with or be labeled by our operating system preference, furthered by a seamlessness of switching between personal devices dependent on software and hardware compatibility. In addition, while data collection can enable personalized digital services, in contrast, we in turn explicitly and implicitly accommodated the physical form-factor of our devices through how we carried, used, and protected them.

Safety Bubbles

Only an hour, or a few kilometers, into our walk we stopped by a lake for a break. Expecting to take only a short fika, or Swedish coffee and sweet, our break turned into a three-hour endeavor during which we began to exchange stories on difficult and dangerous outdoor experiences as we shivered and struggled to make a fire. Two such stories that emerged involved potential helicopter evacuations. The first took place in Ciudad Perdida in Colombia during which a fellow hiker came down with an unknown virus but was without the option to be immediately evacuated due to the topography of the surrounding landscape. This resulted in a much more arduous, unpleasant, and lengthy donkey ride to a medical center. The second story took

place on the Kungsleden in Sweden during which staff at a mountain cabin declined to call a helicopter for a hiker with an upset stomach on the premise that if the person was in a city, an ambulance would not be summoned.

Both of these stories raised a reflection on the actual or expected infrastructures that enable a dipping in, and eventual dipping out, of comfort zones through perceived safety bubbles. Even within the simplicity and close proximity of our own walk to Stockholm, we had a sense of security amid freezing temperatures due to a well maintained and marked trail, abundant and frequent supply of dry firewood despite a recent snowfall, a strong network connection, and most likely many additional services and infrastructures that contributed to our brief outdoor experience.

Contribution to the Workshop

Although our outdoor research project is at a very early stage, I hope to contribute to the workshop by sharing our preliminary research reflections on gear and infrastructure, and upcoming research plans to motivate our interest in building a community for HCI in the outdoors.

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References

1. Kristina Höök. 2010. Transferring qualities from horseback riding to design. *Proceedings of the 6th Nordic Conference on Human-Computer Interaction Extending Boundaries - NordiCHI '10*: 226. <https://doi.org/10.1145/1868914.1868943>
2. M. Jones, F. Daiber, Z. Anderson, and K. Seppi. 2017. SIG on interactive computing in outdoor recreation. *Conference on Human Factors in Computing Systems - Proceedings Part F1276*. <https://doi.org/10.1145/3027063.3049289>
3. Florian Mueller, Joe Marshall, Rohit Ashok Khot, Stina Nylander, and Jakob Tholander. 2014. Jogging with Technology. *Proceedings of the extended abstracts of the 32nd annual ACM conference on Human factors in computing systems - CHI EA '14*: 1131–1134. <https://doi.org/10.1145/2559206.2559209>
4. S. Nylander and J. Tholander. 2017. Community-Based Innovation among Elite Orienteers. *Proceedings of the 8th International Conference on Communities and Technologies - C&T '17*: 87–95. <https://doi.org/10.1145/3083671.3083696>
5. Maaret Posti, Johannes Schöning, and Jonna Häkkinen. 2014. Unexpected journeys with the HOBbit. *Proceedings of the 2014 conference on Designing interactive systems - DIS '14*: 637–646. <https://doi.org/10.1145/2598510.2598592>
6. Anna Ståhl, Jakob Tholander, and Elsa Kosmick-väara. 2017. Being , Bringing and Bridging – Three Aspects of Sketching with Nature. *DIS '17 Proceedings of the 2017 Conference on Designing Interactive Systems*: 1309–1320. <https://doi.org/10.1145/3064663.3064764>
7. Jakob Tholander and Carolina Johansson. 2010. Design qualities for whole body interaction. *Proceedings of the 6th Nordic Conference on Human-Computer Interaction Extending Boundaries - NordiCHI '10*: 493. <https://doi.org/10.1145/1868914.1868970>