Skateboards as a Mobile Technology

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Abstract

Grounded in investigations of everyday design, this study explores the appropriative, creative, and adaptive practice of skateboarding as a way to reveal a new perspective on mobile technology and their influence on mobility. We describe how skateboarding, a technology seen as an embodied practice, encourages practitioners to engage with the environment and thereby changes their mobility, even though the technology requires extensive practice and is not easy to use. Comparing these aspects to other mobile technologies offers new directions for the design of mobility and the influence of technologies.

Author Keywords

Mobile Technologies; Skateboarding; Subculture; Everyday Design; Environment.

ACM Classification Keywords

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

Introduction

This work-in-progress stems from an ongoing research about everyday design, a theory that looks at how people reuse, transform and adapt objects in their everyday life [7]. Everyday design naturally extends into the appropriation and reuse of environments and places. Among different types of everyday designers, in this paper we specifically focus on how this appropriation of
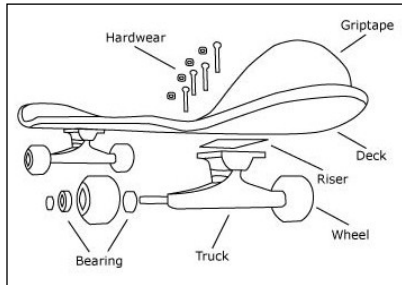
Figure 1: Anatomy of a skateboard

the environment can be enabled or motivated by skateboards as objects of technology. In their practice, skateboarders are constantly engaged in interactions between their bodies, the environment surrounding them, and the technology they are using (the skateboard (see figure 1)). As they ride and perform tricks, they are able to fluidly modify bodily techniques and movements to adjust to their environment. They are also able to modify and adapt the technology itself, adjusting it to better fit their body, their environment, and their skateboarding style. These observations led us to consider skateboards as mobile technology and skateboarding as an everyday practice that integrates and modifies technology. In this paper, we share observations and thoughts about how skateboarding can be viewed as a mobile technology. We present preliminary results of a case study with six skateboarders and present our first reflections about how viewing skateboards as a mobile technology can help interaction designers refine how they design mobile technologies.

Mobile Technology

Mobile technology is at the center of various current and new research in interaction design and HCI. When talking about mobile technologies, we can refer to a communication device, an information device, or often objects with multiple functions such as a swiss-army knife [3]. Mobile technology differentiates itself from traditional HCI through the ever-changing location of the user. This brings new and diverse challenges regarding different contextual aspects for interaction designers. Rodden et al. [6] identified the different contexts of mobile technology that led to the creation of a taxonomy on three levels: mobility, dependence on other devices and cooperative nature.

We use mobile technologies for a wide range of reasons today. For instance, mobile phones are no longer merely used for communication purposes, but also as a source of entertainment and productivity . Users are able to read and send emails and SMS, listen to music, take pictures, share thoughts, pictures and videos, plan, and enable orientation in the city. New technologies that follow us everywhere are changing how we perceive, interact and behave within our urban environment and space by reconstructing and shaping our understanding of our environment. This interconnectivity between technology, the body, and the environment has been discussed by Wilken [8]. "A rapidly changing and multilayered techno-social milieu has emerged, one that is characterized by complex interactions and interconnections between information and telecommunications technologies, the places in which we live, and various forms of social engagement or community" [8, p1].

Skateboarding

Skateboarding originated most likely between the 1930s to 1950s in California as an alternative to surfing [1, 2] and developed into a globally performed practice [1]. Although it is often seen as a playful activity of young people, "for many practitioners [skateboarding] involves nothing less than a complete and alternative way of life" [1, p1]. In that sense, skateboarding is also a subculture with a strong sense of creativity and independence. Moore [5] conducted an ethnographic study of skateboarders, observing skateboarder's behavior and emotions. She describes skateboarding as "an evolving culture that pushes members to try new things, take bigger risks, and progress the sport to new levels" [5, p6]. Thereby, skateboarding as an 'identity-building performance' [4] encourages creativity, self-expression, individuality, and independence [5]. Borden, citing

practitioners, shows how skateboarding is incorporated in practitioners' lives: "One way or another skating relates to just about every part of my life" "I live skateboarding, I think skateboarding" [1, p139].

Skateboarding is performed in specifically designed skate parks and half pipes, but it is also often performed in regular city spaces not designed for skateboarding. With regards to the latter, skateboarding can be described as a practice that is being "appropriative of the city" [1, p137]. Skateboarders "inhabit the urban environment in a unique and creative way" through exploiting "the concrete, asphalt and stone", the essentials of cities [9, p.214]. This appropriation of city spaces empowers practitioners with a different creative perspective on the environment. One of Woolley and John's participants said: "*you see a post and you think, wow, I can ollie over that and then if I ride this way, I can boardslide or do a noseslide over that bench*" [4, p327].

Our study of skateboarders
As mentioned before, the exploration presented in this paper stems from our ongoing study about people who reuse and appropriate skateboards. Some of the first findings of that study were striking and led us to a new way of thinking about mobile technologies. In our study, we looked at what skateboarders make out of old skateboards, aiming to understand the relationship between the practice of skateboarding and materials. More specifically we looked at how materials are altered and appropriated. We conducted a pilot study beginning with six participants (2 female) that appropriated or reused (upcycled) old or broken skateboards for making objects with new functions. Participants ages ranged from 25 to 35 years of age and their professions were diverse including a landscape architect, a skate shop owner, a

jewelry business owner and an industrial designer. We executed a semi-structured interview between 45 to 90 minutes with each participant and observed creative and unique re-utilization of skateboards including jewelry pieces, birdhouses, a surfboard, and a shelf.

Some of the first findings highlighted the experiences of participants as skateboarders, pointing us to how they understand, rethink and change their perspective of the environment and how they interact with it. For example, a parking lot might not just be a parking lot: "*When I started skateboarding I feel like it helped my brain to understand or to just get a better appreciation for my environment. Some usual space like a parking lot gets all of a sudden to be a new favorite place. Skateboarding changes your perspective. It's like a new paradigm of thinking.*" This demonstrates how a simple tool like a skateboard is part of a whole practice that is able to transform perspectives and environments. Other researchers have talked about how skateboarders see their environments with a specific lens (see previous section on skateboarding). With this in mind, we started to see potential in looking at the skateboard as a form of mobile technology.

Observations
In this section, we present how skateboarding fosters experimentation, creativity, connectedness to places, and embodiment and how these themes can inform our understanding of mobile technologies.

Connection to the environment and embodiment
As a practice, skateboarding "requires a tool (the skateboard), but absorbs that tool into the body" [1]. We see the skateboard as a technology enabling an embodied practice, letting practitioners often forget

Participant's Quotes

Embodiment

[The body and the skateboard are like] *friends and enemies. If things are going well and you are landing tricks it's the best feeling ever. If not it can be very frustrating.* (Q1)

Experimentation

First you think: 'I wanna try this. I wanna try this. I don't wanna get hurt!' There is a lot of talking to yourself. Then you just have to try it. For a hundred times. It is a lot the mental power. (Q2)

You first have to be mentally committed or it will never happen. (Q3)

It's a matter of tweaking the angle of your body, where your feet are located and how your feeling/flicking the board. When it doesn't work you tweak how you did it hopefully to the point where you get the trick. (Q4)

about the tool and making them focus on the body movement and its relationship to the environment. A participant, skateboarder and skate park designer, describes the relationship between the body and the skateboard as a dual relationship that can work very well or become constraining (see Q1).

The relationship to the city and the environment is also important in the practice of skateboarding. Participants mentioned being aware of everything around them and feeling like they are part of the environment. While riding in the city, skateboarders make decisions based on the type of experience they prefer, choosing certain streets because they are smoother or based on the location of different obstacles that can be used to do tricks. While riding streets and urban furniture, the focus is mostly on the environment, on seeing what offers potential for new tricks, but also potential danger. On the other hand, in skate parks, skateboarders work with the same landscape and the goal is to create unique and personal interpretation of that common space. In both cases, interpretation of the environment triggers creativity and new ideas for how to use the space with the technology.

Familiarity by Extensive Experimentation
In skateboarding, practitioners learn by experimenting with the technology and by repeatedly trying tricks until they master them. Participants also reported on a very intense and active mental process while preparing to try a trick (see Q2 and Q3). Skateboarders exploit the technology, explore with it, they push it to its edge and literally find ways to adapt to it. Experimentation happens through a lot of small and subtle changes in the body position, for instance, by repositioning the feet. Through this learning process and iterative experimentation, practitioners develop a connection to

the places where they practice, but also to the skateboard itself. The constant work of trying to perform tricks supports the relationship between the user and the technology. The familiarity with the skateboard also dictates how skateboarders transform and adjust their skateboards (see figure 1). After practicing for a while, they might prefer to install smaller or bigger wheels, have more space in the trucks, or even change for a smaller, thinner, or larger deck.

Creativity
Skateboarders ride around, practice and perform tricks, and are constantly aware of places such as streets, pathways, ramps, stairs and other artefacts for jumps and slides. Creativity is also observed in how skateboarders modify and adapt their skateboards. For example, a participant explains how he modifies his grip tape to add extra information on his board (see Q6). In that sense, skateboarders are empowered to be creative, they manipulate, adjust, adapt, and transform their technology to suit their needs, they do not just use it. In addition, skateboarding is often experienced as more than a sport, and the cultural aspects of skateboarding like its music, art, video editing and graphic design are also part of the practice of skateboarding and encourage in self-expression, individuality, and independence (see Q5). This shows that skateboarding triggers creativity not only while practicing it, but also through the subcultural aspects of the practice.

Skateboards and Mobile Technologies
We present how aspects of skateboarding are present or absent in current mobile technologies. For this explorative study in its preliminary stage, we only undertake a comparison with smart phones and do not address other mobile technologies such as tablets or

Participant's Quotes

Creativity

I think creative people are often drawn to skateboarding because of its freeness and openness. It is about having a good time and being yourself with the board and creating your own rides and tricks. (Q5)

I like cutting a little design out of my grip tape to let me know which is front and back of my board without having to look at the bottom of it. (Q6)

music players. With our work we aim to highlight how skateboarding can provide a different perspective for how we conceive mobile technologies. Smart phones have been changing the ways people behave and interact in their environment. Starting off as devices for communication only, cellular phones today enable us to read and write messages, take pictures, read information, play games and use applications while we are on the move. The phone, in this case, is used as a tool so that the user can reach directly to these other functions, becoming an extension of the body, similarly to the skateboard. However, smart phones provide opportunities to both forget about the environment or possibilities to observe it and experience it differently (e.g. through photography). Moreover, augmented reality applications (e.g. maps) connect users to their environment, but they entail a transformation of the perception of the environment, focusing on an additional layer to the reality of an environment.

Everyday people rarely push the boundaries of what their smart phone devices can do. Instead of performing experimentations or trial and error processes with their smart phones, they mainly use them in the way they are intended to be used. Usually, only small groups of researchers, professionals, amateur programmers or hackers are able to experiment with such technologies. Similarly, creativity is not so much empowered in using smart phones as in skateboarding. Photography applications on smart phones can encourage creative performances. This seems to be due to the different purposes of use. Skateboarding is an activity to have fun and a subculture to be part of, whereas mobile phones serve mainly to do several things on the go, save time or get distracted (e.g. playing a game while waiting).

Discussion

A new perspective on mobility
Skateboarding and skateboards change how practitioners move and how they understand the city and interact with it. Skateboarding highlights new aspects of the physical environment and orients decisions made about traveling around the city. That being said, skateboards are a mobile technology that transforms its user's mobility, their understanding of their environment and the way they interact with it. Through these transformations and the strong aspect of interconnectivity between the skateboard, the user's body and the environment, skateboarders are not just users and consumers, but they are also intensively involved practitioners. Although mobility in the field of mobile technology is often understood to empower us to communicate anywhere and anytime, our explorative analysis study shows that mobility can also be a trigger for a different engagement with the environment.

Practicing the technology
Skateboards are not user-friendly and they are not created as such. Succeeding at skateboarding involves a lot of practice, repetition, and failures, building up a deep connection between the body and the board, subsequently providing a feeling of high reward when succeeding. This opens up a new way of thinking about technology design. Even though skateboards are not designed to be user-friendly, users are encouraged to build up a connection through practicing. It might seem odd at first to think about designing technologies that are not user-friendly, but we think this opens up new interesting ways of thinking, worthwhile pursuing more closely.

Creativity and adaptivity with the technology
Creativity is fostered through the freedom of skateboarding and also subcultural aspects. As a practice and as a technology, skateboarding encourages practitioners to be free and explore the technology in any way possible. Practitioners are enabled to be creative and adaptive with the technology and their interaction with it. In return, this can support exploiting the two previous points of creating a new understanding of mobility and user-friendliness or practicing the technology. Since the skateboard can be altered to fit different terrains and further the skateboard-body connection and movements can constantly be modified, we see freedom and creativity as an enabler for further discoveries of possibilities in the city. By being creative and adaptive, skateboarders can fluidly find new ways to persevere and practice as much as needed to master a trick or artfully riding in the city, making the technology transform in a way that it can better respond to unique environments or spaces and the practitioners itself. Adaptivity, and how skateboarders are creative with their technology supports more explorations of what mobility is and how mobile technology can influence it.

Conclusion and Future Work

In this paper, we presented how skateboards can be seen as a mobile technology and how it further broadens our understanding of what mobility is. We described how skateboarding is an embodied practice that fully engages with the environment, how it requires extensive experimentation, and how it triggers creativity. As we argue that current mobile technologies do not share the same characteristics, we see skateboarding as a model on which future technologies and views on technologies can be developed. This is a work-in-progress and we reiterate that these are preliminary reflections meant to orient future research. We see how a comparison with other mobile technologies can be interesting and additionally, other studies of athletic activities such as running, skiing, or biking could also reconfigure our understanding of mobility.

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