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Digital Trust Hike

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ABSTRACT Digital Trust Hike is the title of a performance piece conducted in 2012. Walking the length of Taylor Street in San Francisco without looking up from my smartphone, I donned a foam cube that acted as a safety helmet, making me highly visible to others while limiting my field of view to the phone in my hand. I navigated via Google Maps, recorded various data with a GPS tracker, listened to music to drown out sound, and, using Twitter, I live-tweeted my progress I had collaborators stationed at every intersection. When they saw me coming, they called me and talked me safely across the street. While I was immersed in digital experience, I outsourced the act of paying attention to physical reality—vehicles, other pedestrians, buildings—to my social network.

Digital Trust Hike was extensively documented. I encouraged my collaborators to shoot photos and video with their phones during the hike, resulting in hundreds of still images and a roughly three minute edited video with sound. I also have data gathered from a GPS tracking app, including my speed and elevation over time as well as a route line (IMAGE 01).

IMPETUS

The Digital Trust Hike was prompted by my recent move to San Francisco. Upon arrival, I purchased an Apple iPhone 4, my first smartphone, to aid in navigating an unfamiliar city. I relied heavily on my phone for finding my way and became interested in the effect this was having on my perceptual experience during city travel.

IMAGE 1

Aside from my own drift toward digital navigation, I noticed a trend on my walks through the city: large numbers of pedestrians interfacing with their smartphones while walking, barely looking up to cross the street. To my horror, I found myself becoming one of those people. Pushing my fear of becoming overwhelmed by a digital world to the point of absurdity, I conceived of the Digital Trust Hike.

QUESTIONS

Although the Digital Trust Hike falls within the boundaries of contemporary art, my process of inquiry shares some similarity to the scientific method, in that I had questions I hoped to answer through an experimental process:

> How is the experience of walking through the city altered when analog senses are replaced with a human-smartphone interface?
>
> How are sensory data, spatial perception, time, and memory affected?
>
> Aside from my own subjective experience, how do others perceive the hike?

PRE-HIKE

I planned my route online as much as possible using Google Maps, settling on Taylor Street because of its correspondence to my last name. Using Facebook and email, I reached out to potential collaborators. I set up a public map with every intersection along the route (twenty-nine in total) tagged and assigned a time window, allowing myself two minutes to get from one corner to the next. By allocating collaborators to intersections, members of my social network were mapped onto the city grid to create an entirely different type of network—one responsible for my safety during the hike. I gave collaborators minimal instruction, requesting that they stand on the west side of the street to avoid the possibility I would perceive them directly, and telling them to call me when I approached the intersection. I wanted to avoid over-prescribing these interactions, leaving things open to possibility and individual variation. I prepared my gear for the hike with the goal of being as visible as possible while narrowing my senses toward the screen of my phone. To these ends, I wore an orange jumpsuit and reflective vest, as well as a foam helmet I built that limited my view to my phone and to a small radius directly in front of my feet. I brought backup batteries for my iPhone 4, earbud-style headphones with an integrated microphone, and comfortable walking shoes (IMAGE 2).

IMAGE 2

HIKE

To describe the Digital Trust Hike, I will focus on the tasks involved in walking through the city, with particular attention to the senses involved in carrying out those tasks and my attempt to replace those sensory inputs with applications running on my phone. In TABLE 1, I list the tasks involved in a walk from lowest- to highest-order. In other words, movement is the most basic task involved in taking a walk, followed by maintaining safety, navigating, and finally, acquiring peripheral awareness of the environment.

With respect to the first order task of movement, the senses of touch as well as bodily awareness (kinesthetic sense, sense of equilibrium) were somewhat diminished as I attempted to focus on the graphic interface of my phone using vision while managing apps using the touchscreen. I experienced minor disorientation as my

TASK	SENSES INVOLVED	APPLICATIONS
1st order - ***Movement***	touch, kinisthetic, equilibrium	all apps affect movement - limited sensory data leads to disorientation
2nd order - ***Safety***	vision, hearing, touch, smell - used to monitor environment for threats	**phone** - auditory input and output modalities as collaborators act as safety sensors
3rd order - ***Navigation***	primarily vision - determine position and course via landmarks, street names etc.	**map** - vision modality aids navigation by GPS **Twitter** - vision modality allows communication with collaborators with respect to my progress
4th order - ***Peripheral Awareness***	all senses - goals are enjoyment of and interaction with the environment, processing for memory creation	**camera** - collaborators document hike **GPS tracker** - speed, elevation and route line **music** - enhances enjoyment, drowns out environmental sound

TABLE 1: *Senses replaced by phone applications with respect to tasks in an urban walk*

frame of reference was quite limited.

The second order task of maintaining safety, which during analog experience is accomplished through vision, hearing, and to a limited degree touch and smell, was outsourced to my collaborators who acted as safety sensors at each intersection. My interactions with my collaborators were vital to my experience and to the success of the experiment. Instead of relying primarily on vision and hearing to avoid danger, I received information from my collaborators using the telephone through my earbud speakers. These interactions proved to be quite varied—some collaborators would give me a large amount of information, telling me when to step down from the curb, exactly how long to wait for a light to change, and alerting me to even minor obstacles in my path. Other collaborators were much more brief, limiting their information to simple commands such as "stop, wait" and "OK, you can go." In most instances I felt entirely comfortable ceding my personal safety to my collaborators. There were a few interactions where I felt the need to prompt my collaborators if they seemed tentative, giving them the opportunity to present more precise feedback:

IMAGE 3

"OK, I am going to cross the intersection now."

"Yes, go for it." (IMAGE 3)

There were only two episodes where my safety felt somewhat compromised. The first was due to a vehicle taking a quick right-hand turn directly in front of me, just as I had begun to cross the street. In this instance, I was able to stop because the vehicle entered the limited visual radius (two to three feet directly in front of my feet) allowed by

IMAGE 4

my helmet. This occurrence was largely unavoidable.

The second instance was due to collaborator error. I was told to cross an intersection, but the traffic light changed shortly after I left the curb.

"Wait, stop. The light just turned red."

"OK. Should I back up?"

"Uhhh, yeah, back up!" I did so, narrowly avoiding a car that had zipped behind me.

On a few occasions, I relied upon my sense of touch to avoid obstacles. I bumped into objects or people and had to redirect my path to avoid them. Sometimes, my collaborators would clue me in to obstacles coming up along the sidewalk:

"There is a crowd of people twenty feet ahead."

"Watch out. There are some safety cones in the middle of the sidewalk." (IMAGE 4)

Overall, my interactions with my collaborators went smoothly. It was fascinating to be given verbal instructions in lieu of direct visual perception and to be negotiating intersections through the eyes of others. Instead of seeing for myself, I was free to imagine the scene unfolding before me by filling in vast gaps of sensory data.

Navigation represented the third order task of my walk. In an analog experience, I would navigate primarily through vision, using street signs, landmarks and so on to position myself in a mental map corresponding to the real world. During the hike, vision was replaced by a vision modality of text and graphics on my phone's screen and Google Maps became my means of way-finding. I followed my position as represented by a flashing blue dot on a somewhat abstracted digital map. Navigating accordingly was quite simple—there was no need to look for visual cues within my environment and to translate those to a mental map as the map and my position in it were in the palm of my hand. The only instance where I went somewhat astray occurred at the three-way intersection of Taylor and Chestnut Streets and Columbus Avenue. My collaborator mistakenly steered me East on Chestnut Street for a short time, but by tracking my position on Google Maps I was alerted to the error. I made use of Twit-

ter as well, tweeting my position after most intersections to inform my collaborators of my progress as well as updating anyone that may have been following along online. By so doing, I created a digital record of my location in real-time. I was also running a GPS tracking application[1] which I will discuss in the Data Analysis section.

I have made no mention of the senses of smell and taste up to this point. The sense of taste was not applicable to the hike, but it was interesting to note that my experience of smell was affected. Due to the limited amount of sensory data I was collecting, my sense of smell seemed enhanced, perhaps in compensation. I vividly remember smelling rather unpleasant odors in the Tenderloin and the salty ocean air as I approached the bay.

The fourth order task of my hike I will characterize as peripheral awareness for the purposes of enjoyment and the creation of memory of the environment, both for pleasure and for future navigation. This task, or set of tasks, is accomplished using a blend of all senses in an analog experience. In my modified interface during the hike, these higher-order tasks were severely curtailed. I was able to get information about changes in elevation through kinesthetic/equilibrium sense. Hearing and vision were limited, smell slightly enhanced. My sense of touch, however, was the input modality for interfacing with my phone. Switching between applications as I went about outsourcing the various tasks of the walk was accomplished via my touchscreen. Perhaps because of the narrowing of focus of touch in conjunction with the diminishing of other senses (hearing, vision), the sensation of my physical being was reduced, an experience which was both mildly disorienting and also somewhat pleasurable, as if I was floating or gliding through virtual space rather than walking through the real world.

My sense of hearing was dominated by music through my headphones, interrupted only by phone conversations with my collaborators. While pleasurable, the music[2] I listened to had no direct correspondence to my location and contributed to my sense of physical detachment[3].

My interactions with passers-by were also quite limited during the course of my experiment. In a typical walk, I might exchange a few words with other pedestrians, pause to yell at a bad driver, and so on. Because of my intentionally extreme focus on my phone during the course of the hike, my contact with other people faded away for the most part, other than an instance when a group of girls stopped and took a photograph with me. I protested weakly, "But I'm not supposed to be interacting with the analog world," but it was too late. Besides this lone incident, connection with other humans was limited to phone conversations with my collaborators. (IMAGE 5)

I encouraged my collaborators to take photos and shoot video with their phones, as a way to document my performance and compile data, which I could review after the fact. In a way, the task of creating memories of a walk was another undertaking outsourced to my collaborators.

DATA ANALYSIS

The photos and video recorded by collaborators represent the bulk of data collected from the hike. It was enjoyable, and also somewhat strange, to view myself after the fact, moving through a physical environment of which I had very little memory. I received documentation from collaborators out of chronological order via Facebook, email, and online file-sharing services. A series of visual (and auditory, in the case of video) impressions of the hike, received in such a manner, was another case in which I experienced feelings of displacement. It was also an opportunity to experience the hike through the eyes of others.

During examination of collaborator documenta-

IMAGE 5

IMAGE 6 & 7

tion of the hike, I was able to gain some insight into the response of passers-by. While many bystanders paid me no attention whatsoever (perhaps they were engaged with their own mobile devices or, this being San Francisco, they were numbed to spectacle), there were certainly those that seemed curious or actively participated in the case of the photo-bombing girls. I am taken by the contrast of my own experience of digital immersion with that of collaborators and other spectators who were confronted by a decidedly real person dressed garishly and moving along the sidewalk. (IMAGE 6 & 7)

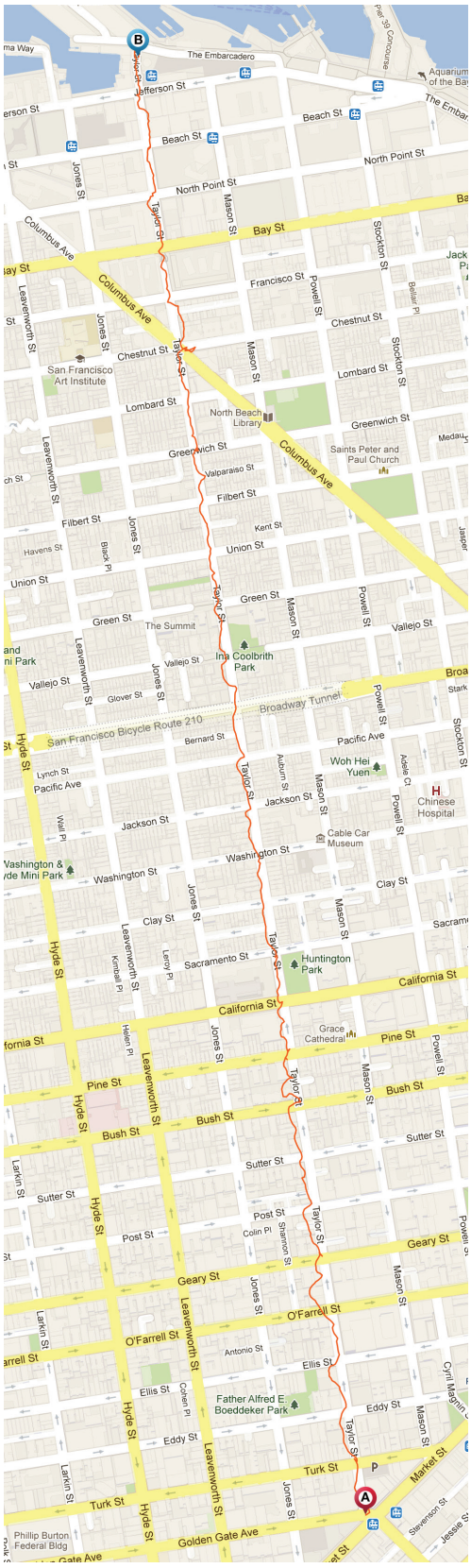
Another source of data from the hike was the GPS tracking app that ran on my phone during the entirety of my walk. Its graphs of speed and elevation were unsurprising. My speed over time was a jagged line, reflecting my frequent stops at intersections. Elevation rose, then fell, corresponding to the climb up Taylor Street towards the Nob Hill neighborhood and then the descent to the bay. The route line recorded by the GPS tracker, however, was surprisingly jagged, as seen in FIGURE 01. I had traveled in a relatively straight line, walking up the east side of Taylor Street, while the route line had me crossing and re-crossing the street from east to west. I suspect that this variability has to do with GPS signal inaccuracy and interference.[4]

SUBJECTIVE RESPONSE

The experience of walking through the city guided by my interface with my phone was disorienting. As sensory data were replaced by applications and my links to physical reality were thus diminished, I experienced a feeling of disembodiment. My spatial awareness was also reduced. By relying on a digital map for real-time navigation, I had no need to pay attention to landmarks and other environmental cues that could correspond to my mental map of the area.[5]

Instead of forming memories of the experience through direct sensation, I viewed images and video shot by collaborators after the fact. This affected my sense of time as I viewed documentation out of order. I have memories of interacting with individual collaborators, but these interactions are not tied to a physical sense of location, rather to a more abstract sense of position on a digital map.

However, the overall impression of the experiment, both during the hike and in further reflection, was one of pure joy. I was not prepared for the euphoria I felt as the trust I put in my collaborators to keep me safe was repaid. This is a highly subjective feeling, of course, and also difficult to verbalize. However, it affected me pro-



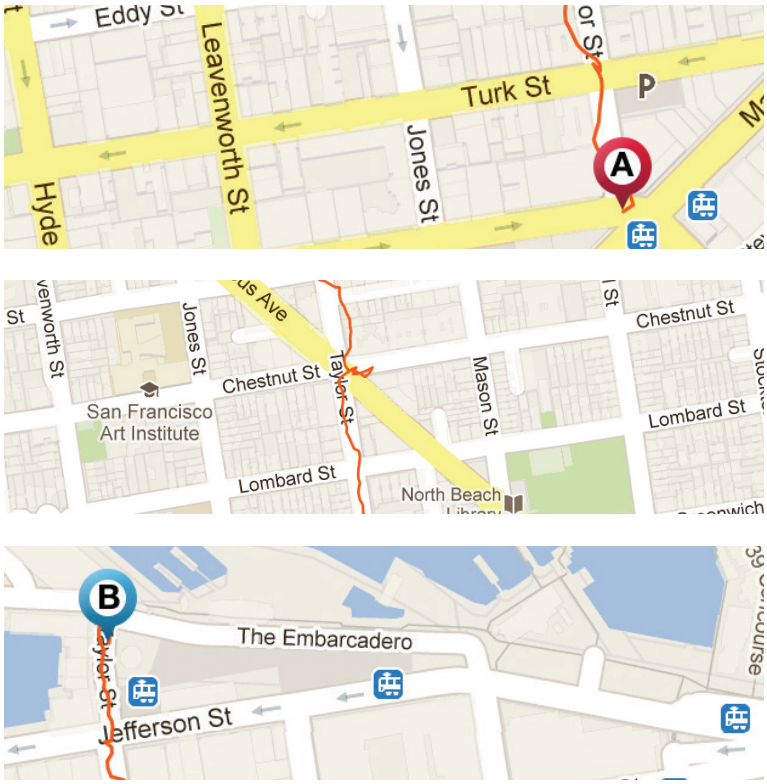


FIGURE 1: *Screen shot of Location Tracking GPS Kit Pro application showing route line for the Digital Trust Hike*

foundly. It was a beautiful thing to be shepherded through the city and kept safe by the words of others. Even though my visual experience of the hike was abstracted and digitized, the medium of verbal communication connected me to a basic, human experience.

COLLABORATORS

Sholeh Asgary
Christy Chan
Jen Cohen
Kyle Dunn
Rachelle Dunn
Evan DeSpelder
Julie Johnson
Jay Meindertsma
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Alon Rohter
Adam Sharron
Victor Stevko

BIOGRAPHY

Paul Taylor is a multimedia artist based in the San Francisco Bay area. His work explores the effects of increased digital immersion on our perceptions of and interactions with our surroundings and each other, and has been included in group exhibitions and screenings throughout the United States and abroad.

NOTES

1 Ubermedia. (2012). Location Tracking GPS Kit Pro (version 3.7) [Mobile application software]. Retrieved from http://itunes.apple.com

2 El-P. Cancer for Cure Instrumentals. Fat Possum Records FP 1270-4, 2012, MP3 Album.

3 I chose to listen to this album during the hike as El-P's music deals with themes of technology and alienation. I also really enjoy it.

4 The route line does reflect my brief deviation from my course at the intersection of Taylor and Chestnut Streets and Columbus Avenue.

5 Outside of the experience of the hike, I have found that my ability to create a mental map of a space becomes more compromised the more I rely on mapping applications to navigate.