Carry-on for Consciousness: An Embodied Travel Writer Trainer

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Abstract

The Carry-on for Consciousness is a hard shell wheeled carry-on luggage bag with embedded electronics to allow for embodied travel writing during the most mundane aspects of a flying vacation. A traveler can wheel the carry-on around the airport and look down at the luggage to see eight motorized faders moving left and right toggling through each letter of the alphabet. The faders' movements are powered by sensors mounted on the glasses, chin, wrist, and ankle of the traveler. As the traveler blinks, chews gum, swings their arm by their belt in a natural motion, or walks and moves their ankle past their opposite ankle the accompanying faders will move. The traveler can type an up to eight letter word as an intentionality or goal statement to help them remain centered at the airport and reflect on their journey once they return from their destination.

CCS Concepts

• **Human-centered computing**; • **Interaction design**; • **Interaction design theory, concepts and paradigms**;

Keywords

Embodied Interaction, Embedded Computing, Tangible Computing, Consciousness, Mindfulness, Text-input, Travel Writing

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1 Introduction

Travel in the modern world is an overwhelming experience. If we are not worrying about whether we packed enough or secured our residences correctly, then we are waiting in excruciatingly long security or boarding lines. This is also true when leaving a destination, wondering if we checked all the drawers, under the hotel bed, and behind the bathroom door. Worrying and waiting consume much of the beginning and ending experiences of travel. This is concerning as many people travel to get away from the anxieties of their everyday lives. That we start our journeys to rest and relaxation in such an anxious state may impact the experience of our trip. 30% of vacationers reported they do not feel truly relaxed until the second day of vacation or later [9]. This problem presented an opportunity to design something to accompany a traveler in their carry-on that can help make these manic and mundane moments more mindful, leading to a more centered traveler when they reach their destination and arrive back home after a trip.

The Carry-on for Consciousness (CC) is a piece of carry-on luggage with embedded electronics to allow for embodied travel writing during the most mundane aspects of a flying vacation (Figure 1). When a traveler is wheeling their carry-on through the airport, they can input text through their body by blinking, chewing, swinging their free arm, and walking. The act of walking around the airport as exercise can help travelers relax and reduce stress [7]. The traveler can see what they are typing by watching motorized faders embedded in the front of the carryon move (Figures 2 and 3). The eight faders each toggle through every letter of the alphabet, 13 going up and 13 going back. The traveler selects the letter they want to type by pressing the corresponding button mounted to the handle of the carry-on after coordinating with their body to stop that fader from moving. The traveler can type out an up to eight letter word related to their current travel experience, a version of slowly live travel blogging. When the traveler is done inputting their word, they print out a Dymo label of the word they typed through coordinating their body using the corresponding button mounted to the handle of the carry-on. Once the Dymo label is printed, the traveler can stick it on their luggage tag, passport, notebook, or postcard keeping short reminders of experiences to reflect upon later in a travel journal. The traveler can then reset all faders and begin the process of embodied text input again as they wait for their flight.

2 What it Means to be a Travel Writer

Travel writers use various methods and tools for documenting their travels. Some of these tools involve writing in notebooks, typing or voice recording notes on smartphones, documenting areas through photography, and typing notes on a laptop [5]. One of the recommended methods of travel writing is to jot down short details of an experience to remember them later [12]. For example, travel writer Paul Theroux wrote down the notes "Boy. Uniform. Murugam." to remember his interactions with a young boy named Murugam on his travels through Asia [10]. Theroux then would expand and unpack the interaction later that night using the brief notes he made to recreate the scene.

A traveler can use the Carry-on for Consciousness to make the same short notes to expand upon later. The CC traveler's notes are focused on the more mundane aspects of travel. They are not about exotic interactions with locals like Theroux's above, but about your experiences with yourself in the leadup to travel. The CC traveler's

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Figure 1: The Carry-on for Consciousness.

Figure 2: The Carry-on for Consciousness connected to wearable sensors and traveler.

notes may be intentionality or goal statements in the form of single words to help ease the anxiety of traveling and give the traveler something to reflect on after their travels are over. Intentionality statements typed to yourself using the CC about travel may be "calm", "open", "peace", "balance". Goal statements typed to yourself using the CC about travel may be "explore", "growth", "discover",

Figure 3: Traveler's POV of motorized faders and alphabet key.

and "wander". Then like Theroux and many other travel writers, the CC traveler can use the words to reflect on their travel and link their goals of "growth" to the entirety of their journey.

3 What it Means to be a Slow and Mindful Traveler

Travel writers gradually build up a store of knowledge about the place they are visiting. Travel writers look more closely, listen more clearly, and taste more carefully as they reflect on and document what they are experiencing [5]. Travel writers take the time to explore many aspects of the city outside of traditional tourist destinations and allow themselves to wander. The slow travel philosophy advocates for deceleration and reframing your travel as journey. Slow travel presents the opportunity to have something we don't have enough of in our everyday lives, more time [11]. While traveling, the everyday demands we face from our jobs and responsibilities are placed on hold, and we have an opening for expanded consciousness that isn't normally available to us. Slow travel helps us see the world with fresh eyes [2]. Most travelers allow the hustle and bustle mentality of their daily lives to accompany them to the airport, then to their destination, then back home again. Even though the traveler went on vacation, what did they really get away from?

The CC allows the traveler to prepare for this change in mindset before beginning the journey. Instead of the traveler allowing their thoughts to ricochet from worry to planning and back again while at the airport, the CC can be wheeled around and used as a tool to focus on the self in a slow way. The CC traveler is not able to quickly jot down a positive word or intention but instead must hold

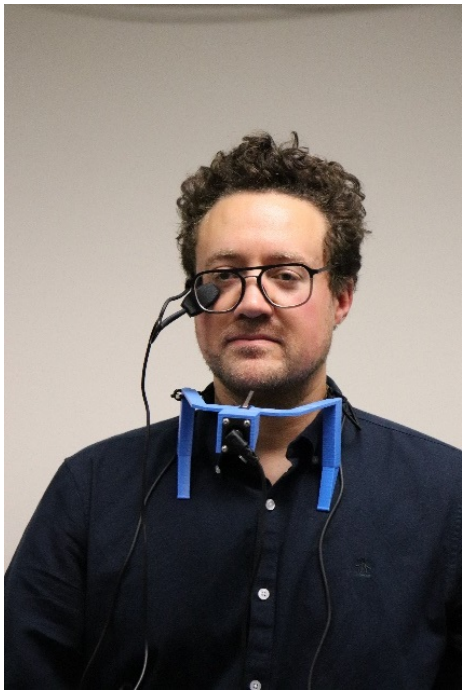

Figure 4: Eye Blink Switch mounted to glasses. Chin Interface worn around neck is activated by the traveler chewing gum.

it in their head longer than they usually would as they wait for the faders to align with the right letters. Likewise, the traveler must use their whole body to coordinate the typing of the word rather than quickly operate a pen or computer keyboard. This break in our habitual efficient form of text input is related to slow technology. Just as a doorbell programmed to play back a few notes of a long melody with each ring would be held in our heads and reflected on over a long time, typing an intentionality or goal statement using the CC would be held in the traveler's head and experienced for longer [6]. Mental exercises like the focus involved in typing on the CC can also reduce stress in the traveler leading to a more positive journey [7].

4 Carry-on for Consciousness

The Carry-on for Consciousness consists of a 20" hardshell carryon luggage bag with a 5" x 9" rectangular section cut from the front, a Behringer X-Touch Compact for the eight motorized faders, an Arduino micro, ten microswitches in a 3D printed frame attached to the carryon handle, a Windows laptop running Max for Live, Ableton Live 12, Bome Midi Translator Pro, and the Dymo Label software, a USB Dymo machine, three 100 watt portable batteries to power the X-Touch, laptop, and Dymo, and two Roland TM-1s to receive the signals from the sensors. The keystrokes and mouse movement within Max are controlled by the external Max objects 11strokes and 11clicks respectively [13]. The sensor signals run through the TM-1s into Bome Midi Translator Pro, then into

Figure 5: Fanny Pack holds magnetic reed switch. Magnet attached to Apple Watch band activates switch in fanny pack with each arm swing.

Figure 6: Step sensors. Magnetic reed switch zip-tied to right leg. Magnets worn on inside and outside of left sock activate switch each step.

Ableton Live 12, then into a custom patch in Max for Live which controls the movements of the faders.

The sensors attached to the body trigger the movement of the motorized faders to allow for letter selection. Mounted on the glasses is an Eye Blink Switch from Enabling Devices (Figure 4). Worn around the neck is a 3D printed one-button chin interface designed to harness the up and down movement of a jaw chewing food or gum to turn them into signals to interact with a computer [1]. On the left wrist and left ankle are 60 x 10 x 5 mm magnets to activate magnetic reed switches acting as proximity sensors. For the wrist sensor, a magnet is attached to the metal band of my Apple Watch to trigger the reed switch mounted in a fanny pack (Figure 5). For the ankle sensor, two magnets are attached to my left sock, one on the inside and one on the outside, to trigger the reed switch mounted above my right ankle (Figure 6).

The motorized faders are arranged from top to bottom, the same as their sensors are positioned on the body (Figure 3). Since there are four sensors and eight faders, the sequence of faders one-four is repeated for faders five-eight. Each fader toggles through each letter of the alphabet, A-M when moving to the right and N-Z while moving back to the starting position towards the left. This requires the traveler to perform a body scan as they move their attention from their eyes, chin, wrist, and ankles as they go about typing out the letters of a word. Body scans are a classic mindfulness technique meant to center the body and bring a state of presence to the practitioner [4]. The faders are color coded to match the sensor they are paired with to help the user navigate the fader display more easily.

The traveler selects their intended letter when the fader is in position by clicking on the appropriate button attached to the handle of the carryon. There are ten microswitches that act as buttons in a 3D printed frame attached to the handle of the carryon. Each of the four sensors has its own button. Each sensor's button controls the two faders associated with that sensor, for example the Eye Blink Sensor controls faders one and five (green), the chin interface controls faders two and six (orange), the left wrist sensor controls faders three and seven (pink), and the right ankle sensor controls sensors four and eight (yellow). Each sensor's button is pressed four times per fader, eight times in total to complete a cycle. The first press starts the fader moving, the second press selects the number assigned to the letter, the third press appends 2 to the end of the letter's number to indicate to the external object 11strokes that the key is to be pressed and released, and the fourth press sends that letter to be typed through the 11strokes object into the Dymo Label Writer software text box. The next four presses do the same for the second fader assigned to that sensor. The other four buttons on the handle move the cursor to the Dymo print button, click select on the Dymo print button, move the cursor back to the Dymo label text window to begin entering text again, and restart all faders.

5 Future Work

Conventional word processing programs were originally designed to separate the process of composing text from that of typing, as a secretary would sit and type what was dictated to them from their boss [8]. The boss may have been engaged in some embodied activity while the composition was occurring, like pacing around the room, rocking back and forth in a chair, or even twiddling their thumbs while their feet were up on the desk. As a result of these conventional word processing programs still being in use, many people sit at their computer keyboards to both compose and type text and lose out on the advantage of composing through their bodies. The artifacts we use every day are embedded with ethics that shape and constrain our human experiences [3]. The CC allows for embodied text input, where the traveler can both compose and type by moving, opening new possibilities for thinking and creating. In the future, I hope to develop more embodied text entry methods that incorporate our bodies in both the process of thinking and transcribing thoughts.

References

[1] Brandon Ables. 2024. Chin Interfaces for Peripheral Interaction. ACM SIGGRAPH 2024 Labs, 1–2. https://doi.org/10.1145/3641236.3664426

[2] Emma Block. 2022. Slow Travel: The Small Delights of Going Away. RP Studio, New York, NY.

[3] Amy Bruckman. 2014. Research Ethics and HCI. In J. S. Olson & W. A. Kellogg (Eds.), Ways of Knowing in HCI (pp. 449–468). Springer, New York, NY. https://doi.org/10.1007/978-1-4939-0378-8_18

[4] Cleveland Clinic. 2023. Body Scan Meditation for Beginners: How to Make the Mind/Body Connection. Retrieved from: https://health.clevelandclinic.org/body-scan-meditation?form$=$MG0AV3

[5] Don George and Janine Eberle. 2017. How to be a Travel Writer. Lonely Planet, Oakland, CA.

[6] Lars Hallnäs and Johan Redström. 2001. Slow Technology – Designing for Reflection. Personal and Ubiquitous Computing, 5(3), 201–212. https://doi.org/10.1007/PL00000019

[7] Harvard Health Publishing. 2020. How does exercise reduce stress? Surprising answers to this question and more. Retrieved from: https://www.health.harvard.edu/staying-healthy/exercising-to-relax

[8] Jeanette Hofmann. 1999. Writers, texts, and writing acts: Gendered user images in word processing software. In D. MacKenzie & J. Wajcman (Eds.), The social shaping of technology. Open University Press, New York, NY.

[9] PR Newswire. 2017. U.S. Travelers Need Time Off More Than Ever: Survey+ Finds Half are More Stressed Than a Year Ago. Retrieved from https://www.prnewswire.com/news-releases/us-travelers-need-time-off-more-than-ever-survey-finds-half-are-more-stressed-than-a-year-ago-300459250.html?form$=$MG0AV3.

[10] Paul Theroux. 2009. Ghost Train to the Eastern Star: 28,000 Miles in Search of the Railway Bazaar. Mariner Books, Boston, MA.

[11] Jo Tinsley. 2023. The Slow Traveller: An Intentional Path to Mindful Adventures. Leaping Hare Press, London, UK.

[12] Travel Writing World. 2024. Note-Taking for Travel Writers, Travel Journalists, and Travel Bloggers. Retrieved from: https://www.travelwritingworld.com/note-taking-for-travel-writers/?form$=$MG0AV3.

[13] Oliver Uhlig. 2024. Max/Msp Externals. Retrieved from https://www.11olsen.de/max-msp-externals.