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Geographical information ranges: conceptualising holistic information landscapes

Kaitlin E. Montague

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Abstract

Introduction. As unsheltered homelessness is growing in the United States (US), the habitation of vehicles as an affordable housing option is increasing. Policies continue to criminalise and marginalise vehicle residents, pushing them farther away from essential information resources. This study investigates vehicle residency from an information access perspective.

Method. Based on six months of ethnographic fieldwork using various methods, this study explores vehicle residents' information practices, seeking to understand the relationship among vehicle residents, their most utilised resources and the ways that their environments impact their information access.

Analysis. Fieldnotes and interview transcripts were analysed using abductive analysis to identify themes and quotations. Visual analysis was used to examine photographs and information horizon maps.

Results. Analysis of information horizon maps offer preliminary findings about the ways vehicle residents incorporate their immediate environments and geographical location in their conceptualisations of information and barriers to information access by illustrating natural elements in their information horizon mapping exercises.

Conclusion. Geographical location and immediate information environments impact how vehicle residents conceptualise barriers to information access. Gaining a deeper understanding of these understandings and information practices provides theoretical implications for information behaviour research and practical implications for resource development.

Introduction

As living costs have surged in the US (Mueller et al., 2022), unsheltered homelessness has steadily increased (Giamarino et al., 2022) and habitation of vehicles as an affordable housing option has become more appealing. However, local governments continue to rely on punitive measures to control vehicle residency's burgeoning growth (Pruss and Cheng, 2020). Policies criminalise and marginalise this population, pushing them farther away from important social service and information resources (Montague, 2023). While vehicle residents are often dependent on availability and accuracy of information to maintain their daily lives, they experience barriers to access. Therefore, exploring vehicle residency from an information access perspective is critical. Building from theories of information horizons (Sonnenwald, 1999) and information landscapes (Lloyd, 2006), this study highlights the importance both of social aspects of information needs, seeking and use, and of understanding how environments impact information practices. Information horizon interview (IHI) map analyses (Sonnenwald et al., 2001) indicate that vehicle residents consider their immediate environments when contemplating their information horizons. Understanding vehicle residents' conceptualisations of information horizons can offer both theoretical implications for the library and information science (LIS) field and practical implications for the betterment and development of information resources and services.

Background

Physical space, or geography, has been considered as the context or setting for information practices research (Agarwal, 2017). It has been seen as constraints or limitations, for instance, such the impact of distance on information access (Gibson and Kaplan, 2017). However, a recent turn has highlighted alternative perspectives that recognise how meanings attached to particular spaces, when they are experienced as places, are actively constructed within social practices including the information behaviours that are woven through those practices (Cox and Fulton, 2021). Some strands of thought do exist, suggesting that characteristics and features of a places as context can shape information behaviours. Sonnenwald (1999) posits that places and information are both influenced by and influence human behaviour. Therefore, places and human behaviour have a mutual relationship through human impact on a place. Meaning is shaped by the ways we attribute sentimental significance to specific places through meaning making (for example, being in nature with loved ones).

The following LIS frameworks: Sonnenwald (1999), Savolanien and Kari (2004), and Gibson and Kaplan (2017) redirect current perspectives about the environment's impact on information practices. Sonnenwald (1999) conceptualised information horizons, which are indicative of all potential resources and available information in a given context, to understand which resources a person utilises and why. Participants' information horizons are representative of their information landscapes (Lloyd, 2006), which is the space that reflects socially and communally agreed upon modalities and information sources. Woven together, the concepts are positioned at the forefront of this study, placing emphasis on vehicle residents' conceptualisations of information.

Research questions

The succeeding research questions guided my study:

RQ1. How are vehicle residents' information practices (in)formed by societal constrains?
RQ2. How does place and mobility impact vehicle residents' information access?

Methods

Field sites

Fieldwork took place in two rounds: 1) June-October 2024 in Santa Cruz, California and 2) January 2024-February 2024 along the Arizona/California border. For the duration of round two, I lived in my vehicle and attended four free events open to the vehicle resident community: the Women's

Rubber Tramp Rendezvous (WRTR), the Rubber Tramp Rendezvous (RTR), Skooliepalooza and Van Aid. While attending the events, I worked as a volunteer with the National Vehicle Residency Collective (NVRC), a human rights advocacy organisation that centres the needs of people living in vehicles and works to advocate and decriminalise vehicle residency.

Data collection

This multi-method ethnographic study utilised participant observation, IHIs (Sonnenwald et al., 2001), guided tours of participants' vehicles (Thomson, 2018) and photographs of participants' immediate information spaces and environments (Hartel and Thomson, 2011). IHIs were conducted with the goal of encouraging participants to describe their information seeking processes, their information resources and the utility of those resources. Interview questions were followed by a drawing element where participants hand-drew a map of themselves surrounded by their most frequently used information sources, while justifying their information source preferences aloud. During the guided tour, participants led me through their vehicle while describing and explaining its features, thinking aloud (e.g., how they built different parts of the interior, which areas felt like home). All interviews and guided tours were audio recorded. Lastly, during the tours, I took photos of participants' immediate information spaces.

Data analysis

The IHI and guided tour audio recordings were sent out for human transcription. I analysed the transcripts using abductive analysis to identify themes and illuminating quotations (Tavory and Timmermans, 2014). During data analysis, I used abduction to conduct parallel and equal engagement with empirical data and extant theoretical understanding (Thompson, 2022) while using visual analysis for photographs and information horizon maps (Rose, 2012).

Information horizon maps

This study is comprised of various data collection methods. For the purposes of this paper, the findings emphasise the initial IHI map analysis in tandem with participants' thinking aloud transcripts as they drew their maps. There are no true parameters for the IHI aside from the questions and probes offered by the researcher. This method is a creative practice for researchers to understand information behaviour and practices among participants who likely do not recognise their own information behaviours. The maps themselves, and how participants envision their information resources, are left to their own interpretation.

Preliminary findings and discussion

Analysis of 25 IHI maps indicate vehicle residents' considerations of their immediate environments when contemplating their information horizons, revealing participants' holistic conceptualisation of information resources and access. Most participants not only shared the importance of their surrounding environments when dictating their thoughts during the drawing component but also illustrated elements of their environments and landscapes in their IHI maps, expounding upon their meaning and importance. Participants referred to tangible information resources and systems *about* the places they traverse (e.g.., iOverlander, Alltrails, weather apps), but more importantly, they also addressed the physical environment's role in their information practices using symbols.

Symbolism in IHI maps

Participants talked about and illustrated symbols such as suns, clouds, mountains, trees and rivers to support how they conceptualise themselves within their environment in addition to how elements like the sun, for instance, provide energy for participants. Gabi, a 35-year-old female spiritual coach, drew a large sun on her map: '*We get all our information powered from sun. Everything in the bus is powered from solar energy. Nature tells us stuff. The birds tell us about the weather.*' Gabi's examples of the sun and birds highlight how vehicle residents obtain information

from their natural surroundings, while other participants' maps indicate how they conceptualise their environment as part of their information practices.

The following section includes selected examples of participants' IHI maps conveying holistic interpretations of their environments. Maps are accompanied by verbatim, concurrent quotations about each respective illustration process from the interviews.

Conceptualising geographical information landscapes

Much Bureau of Land Management (BLM) land in the Western US sits near Indigenous reservation lands (Bureau of Land Management, n.d.). As vehicle residents frequent these areas, many are no stranger to developing meaning with the lands on which they park. For instance, all four of the vehicle resident community events I attended congregated near the borders of Indigenous reservation lands. Moonbeam, a 36-year-old non-binary basket weaver, explains how she conceptualises information as it relates to her environment:

> *I feel like there's also a lot of information that comes out of the relationship that I build with the land that I'm on. Yeah, in a less colonial kind of framework. So, I think I also have a sense of belonging and even spiritual support just from being with the land that I'm parked on for a long time. I'm drawing some sparkles and they're going to be deep in the earth. And plants. Yeah, when we're in places long enough—and certainly Indigenous peoples that have lived here for thousands of years know this—our landscapes have a lot to teach us … I'm not really a desert person. I really like being around moisture. But I've learned to appreciate the desert, I think, a lot because of the people. And connecting with the geographic landscape has come kind of slower for me, but the people have helped me appreciate it more and how this place holds us.*

Figure 1 depicts Moonbean's IHI map. During this portion of the interview, they illustrated a variety of information resources they access and use regularly to support their nomadic lifestyle. They use images of desert sand, a cactus, plants, mountains and a river to explicate how they consume and make use of their environments as information resources. Moonbeam's inclusion of elements of their geographical landscape suggests that they consider the geographical environment in which they are surrounded by when imagining their information horizon. While the IHI has been used as a method in a variety of studies, I have not seen participants include aspects of their environments in their maps (Hartel, 2017; Sinn et al., 2019; Tsai, 2010; Zimmerman, 2021).

Figure 1. Moonbeam's IHI map.

In a similar way, Brian, a 50-year-old male camp host and Home on Wheels Alliance Board member, discussed how he absorbs his surroundings, both socially and environmentally. As he drew, Brian shared about his environments and the different ways they impacts him: '*That [landscape, location] is the most important thing to me as well, and what gives me joy and gives me happiness is being out in nature, being surrounded by good people or nature*'.

Figure 2. Brian's IHI map.

In Figure 2, Brian's use of arrows depicts information flow between people, technologies and institutions. He depicts the library as an important access point using arrows to and from his cell phone, laptop and library resources. In addition, the binary numbers between the lake and his cell phone represent GPS data used to find directions to new locations, especially beautiful locations. While these are all important points in his IHI, Brian drew the mountain landscape as the focal point of the image. He explained:

> *I want to be in beautiful places ... to me, being in nature is just the biggest part of my journey. It's not about just being on the road. It's about being in beautiful places and seeing amazing sights, and watching the full moon rise last night. And so, these magical moments, for me, is why I'm out here. Letting all of this impact me (Brian opened his arms to the desert mountains to our right).*

Bernice, a 43-year-old female editor, referred to the desert's beauty in multiple instances throughout her interview; however, Bernice situated herself within the actual landscape, surrounded by natural elements also representative of various information resources. Figure 3 illustrates a landscape inspired by *Middle Earth* in The *Lord of the rings*. As she drew, Bernice explained:

> *Let's do some Purple Mountains Majesty ... I'm just going to represent this as an actual mountain range, which is just the, 'Where do I go?' So I mean, I've always been a map nerd. Then this is going to be my geographic information range over here. This is the highest peak. We're just going to say that here's Mount iOverlander over here. Here's my Gaia GPS, Free Campsites. And sort of the shale underneath, kind of the substrate of the bedrock of this whole mountain range is the fact that I do have paper. It's a paper map orogeny that's underlying the range. So, I have paper maps. They're always there for me. They're bedrock.*

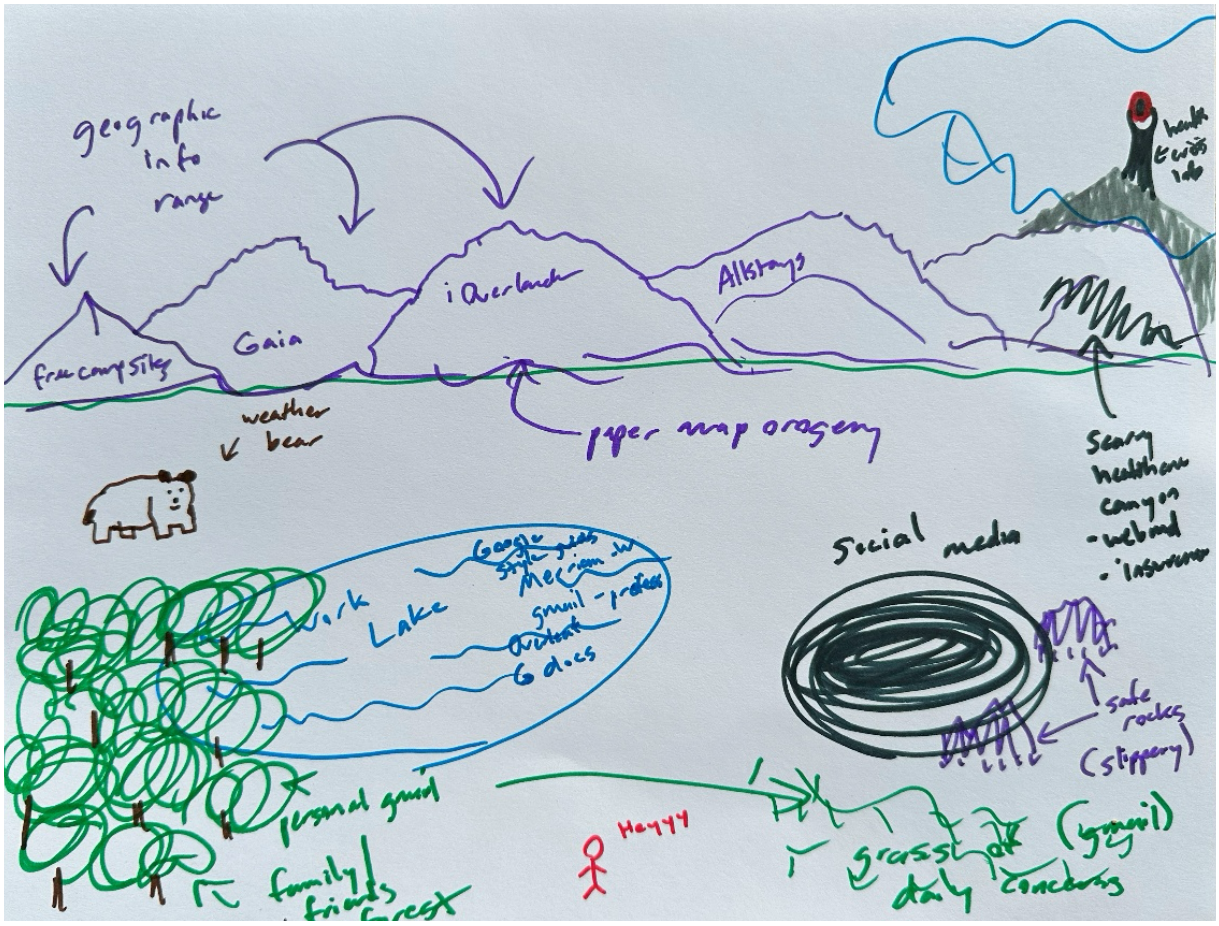

Figure 3. Bernice's IHI map.

In Figure 3, Bernice illustrates the mountain range representing both information resources about safe parking places, marking iOverlander as the highest peak and most valuable resource, and drawing out the foundations of information access in paper form. Bernice spoke of barriers to information access in remote areas, explaining why she keeps paper maps in her vehicle at all times.

The above IHI maps are only a few of many examples where participants emphasised their environments in detail via illustration and explanation. This study offers preliminary findings about how vehicle residents incorporate their immediate environments and geographical location in their conceptualisations of information and barriers to information access, urging researchers to create a deeper and more nuanced understanding of environmental influences on information practices.

Conclusion and future directions

Geographical location and immediate information environments impact how vehicle residents conceptualise information and information access. Additionally, geographical location is a critical component of vehicle residency and shapes and how and why vehicle residents search for information in any given situation. Participants' environments not only shaped their information needs but also hindered and facilitated information access (e.g., loss of cellular connection in the desert), impacting and influencing information and resources available in their environments. Cultivating a deeper understanding of these considerations and information practices provides theoretical implications for information behaviour researchers to further interrogate environments beyond contextual applications. Additionally, practical implications have the

potential to inform resource and service development and information systems design and implementation.

Future directions will expand on this present work to interrogate how environments impact information horizons. Specifically, forthcoming work will dissect themes that comprise vehicle residents' environments: geographical landscapes and their communities. Both a person's physical, geographical landscape and the community that surrounds them are imperative elements that shape their environments. In turn, community also impacts and influences available information and resources in those environments, influencing vehicle residents' information horizons.

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About the author

Kaitlin E. Montague is a postdoctoral researcher in the Department for Library and Information Science at Humboldt University. Her research focuses on vehicle residents' information practices and information resources using ethnographic and visual methods, exploring ways that place and mobility impact information access. Kaitlin can be contacted at kaitlin.montague@rutgers.edu.

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