The Long Way Home: News Values in Stories Told by **Appalachian Trail Thru-Hikers on Social Media**

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Technology use by long-distance hikers provide a fascinating glimpse of the future of HCI research, as it intersects with technology isolation and (non)use. We can understand the use of technology, explore opportunities for rural and outdoor computing, and work with underrepresented communities in these spaces to amplify their stories. In this paper, we focus on the thru-hikers on the Appalachian Trail and the stories they share on Instagram. We apply narrative analysis to understand the story content, and also leverage a News Value framework to describe how they craft their stories. The findings highlight opportunities to understand the different storytelling categories that thru-hikers employ, and the platforms they choose for the telling. We discuss the usefulness of understanding technology and storytelling needs for each type of storyteller, and explore the implications for designing technology and tools to amplify stories from underserved users and to support the telling of compelling stories.

 $\label{eq:CCS} \textit{Concepts:} \bullet \textit{Human-centered computing} \rightarrow \textit{Human computer interaction (HCI)}; \textit{User studies.}$

Additional Key Words and Phrases: Appalachian Trail, News Values Framework, Storytelling, Narratives, Thru-Hikers, Outdoor Computing, Rural Computing

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INTRODUCTION 1

The Appalachian Trail (AT) is the oldest continuous marked scenic trail in the United States, crossing 14 states from Georgia in the south to Maine in the north over 2190 miles (3525km) [16]. It is also the most popular of the Triple Crown Trails (defined in Figure 1) due to its proximity to large population centers [35]. About 20% of people who attempt an end-to-end hike (formally termed as a thru-hike) of the AT in a given season are successful [17]. A typical trail season involves either hiking north from Georgia to Maine, a season that begins between February and April and ends between July and October; hiking south from Maine to Georgia, a season that typically begins in June; or starting from, and returning to a midpoint (called a flip-flop), hiking in different directions. Figure 2^1 showcases the three prominent starting/ending points of the AT.

¹Images contained in Figure 2 are made available under creative commons CC0.

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Fig. 1. The three prominent long trails that form the Triple Crown Trails overlaid on the United States Map. Appalachian Trail is the oldest (est. 1937) and most hiked of the three.

The northbound hike of the AT is the most popular: it allows the hikers to start in Georgia's mild winter and complete the hike before the summer heat in Maine. It is also a favorable direction for less experienced hikers–the terrain allowing for the hikers to acquire their "trail legs"², which is necessary to tackle the mountainous northern states. Beyond the arduous terrain encountered early in the hike, southbound hikers have to contend with summer weather, leading to likelier encounters with swarm insects and the threat of tick-borne Lyme disease, all which thrive in the warmer weather [18].

A thru-hike of the AT is both mentally and physically arduous, and the motivations for attempting it, while differing from hiker to hiker, revolve around common themes, of taking "the long way home": seeking a sense of adventure [13], to find 'self' [25], in search of inspiration and healing [58], among others [54].

With increased numbers of hikers taking their smartphone and other technologies on the trail [48], and generating trail artifacts including social media post updates while on the trail [42], there is an opportunity to examine their motivations to understand them at-scale, through the stories they share of their journey.

Many thru-hikers use social media even during their hike. While this was previously frownedupon as against the ethos of being "away" [13, 32, 33] and disconnecting voluntarily [3], the sentiment has evolved as smartphones have gained ubiquity and as younger hikers have attempted the thru-hike. There are various reasons [23] why thru-hikers take their phones with them on the hike: as a primary map device [61], as a medium for collecting personal logged data [4, 56], as a central means of logistical planning, and even as a means to alleviate the tedium of thru-hiking [32]. These experiences are typically shared for the purposes of informing other interested stakeholders including future hikers, and as avenues for thru-hikers to express themselves as they find meaning through their experiences on the trail. Previous work has considered this use of social media in

²This is a term that describes the endurance that a hiker earns from repeated days of hiking (with heavy packs) over a long period of time.



Fig. 2. Three major starting points on the Appalachian Trail: The northern terminus at the summit of Mt. Katahdin in Maine, the "spiritual" midway point at Harpers Ferry, West Virginia, and the southern terminus at Springer Mountain, Georgia.

how trail cultures manifest on Twitter [7], and how thru-hikers find a sense of community when maintaining connection to their online community while on the trail [42].

Building on this work, and others that consider the smartphone as a "tool to capture everyday experiences" [10], we examine the role that social media platforms play in supporting the stories that the thru-hikers tell of their journey while on the trail. The choice of technology and platform for storytelling provides useful insights about the use of technology in rural and resource-challenged settings such as the trail. Beyond guiding our understanding of design needs, there are also opportunities to glimpse how stories are told, why they are told, to whom they are told to, and whether it satisfies the intentions of the storytellers.

We seek to address three research questions with this work:

RQ1. How do thru-hikers craft stories on the trail? To what extent does the platform choice and audience type impact their approach?

To understand how the thru-hikers stories are crafted, we apply the News Value theoretical framework [55]–from traditional media space, to guide our understanding about the different elements of the stories. We also explore the extensibility of the framework to the social media space.

RQ2. From the stories, what insights can be gained about the storytellers motivations and needs?

We approach this question by exploring the conundrum of going "away" to the trail to disconnect, while still connecting through social media. The motivation and needs for technology provide a space to explore the acceptable boundaries of their use in such outdoor settings, beyond expected– and outdated norms.

RQ3. What storytelling support does the social media platform provide, and what impact does it have on how the story is crafted?

We explore the reasons governing the thru-hikers' choice of Instagram platform to tell their stories, and the implications these choices have on how we understand technology needs, and how we can elicit guidelines for the design of supportive technology for storytelling.

We make three contributions with this work: First, we derive insights of how thru-hikers leverage technology and social media to share the stories of the life-changing but solitary trail experience. Second, we highlight the efficacy of a News Values framework [55] to guide the understanding of the motivations for telling the stories. Finally, we discuss the promise and implications of the storyteller categories in the design of future technologies to support storytelling.

This work has implications for designers who are interested in designing technology for use in the outdoors or other rural contexts, and other stakeholders who are interested in the trail experience

as way of understanding the mental processes involved in persevering through a long-distance hike, and for users interested in leveraging social media to tell compelling stories.

2 RELATED WORK

This work contributes to the growing body of research that discusses the opportunity for technology use in the outdoors, including exploring the opportunity to be gained through learning from populations residing in rural areas [30]. This is at the intersection of three areas: research on long-distance hikers, research on storytelling, and research on the use of News Values framework as a guide to storytelling.

2.1 The Long Way Home: Thru-Hikers, the Trail, and the Motivation for Hiking

The Appalachian Trail spans over 2000 miles from Georgia in the south to Maine in the north. The trail is designed for foot traffic only–even horse-back riding is prohibited on the trail [16]. Thru-hikers (those hikers who attempt the entire end-to-end hike), are considered at a level separate from other hikers given the distance they cover, and the mental and physical challenges they have to overcome to complete a thru-hike [17]. Preparation for undertaking the hike is a months, sometimes years-long process [8] that involves gear purchase, gear shake-downs (testing gear performance in trail-like situations), research on trail conditions, and financial and logistical planning to be "away" on the trail for about five-to-seven months [25]. Previous work has looked at how would-be hikers also take advantage of active online hiker communities to seek intelligence, feedback, and counsel at the preparation stage of their thru-hike [42]. The motivations for wanting to undertake a thru-hike differ from person to person. Stories from previous thru-hikers attribute their choice for attempting a thru-hike for reasons such as: a search for reprieve from societal pressures [8], taking advantage of the opportunity given by living in close proximity to the trail alongside a sense of adventure [13], an opportunity to "walk off" the ravages of war experience [54], a response to life-crises-the thru-hiking experience providing the time and space to seek healing [58], or an opportunity to use the trail as a study context [25, 32]. These stories from the trail also reveal the travails of the trail: a thru-hiker carries their entire supply on their backs [25]; therefore, the logistics of keeping track of miles completed and the next food and water resupply points are crucial for the success of the hike [32, 58]. The thru-hikers narrative of how they planned for these eventualities together with how they overcome challenges on the trail ranging from injury [58], to getting lost [13]: beyond providing compelling stories, are useful in revealing the sometimes implicit motivations for perseverance.

2.2 Trail Dispatches: The Art and Science of Storytelling

Storytelling, and why we tell stories, has been explored across disciplines. People tell stories to make sense of the world surrounding them [50]. They are also used as a means of passing knowledge and are considered a culture's "coin and currency" [12]. The storytellers leverage their given context and culture to help in the telling [34] and to describe in their identity act of self-making through their stories [12]. Beyond the culture and context, it is also important for the storytelling to be compelling–leveraging the use of emotion or persuasive means of telling the story [22].

We further build our understanding by considering previous work that sought to understand users' choices surrounding their posts on SnapChat and Instagram stories [1] while leveraging narrative theories to cluster the stories [6]. Other approaches leveraging storytelling include quantitative approaches to automatically generate stories from images [63], providing new opportunities to unearth and probe for new and/or unsaid meanings [60], and understanding how users have leveraged Instagram's image-based sharing to understand disclosures around sensitive topics [2].

News Value	Attribute			
Prominence &	Importance of an event is measured in its impact; how many lives it affects. Actions of the powerful			
Importance	are newsworthy, because they have more ability to affect the general public.			
Conflict &	These Values alert us to important issues that one of our social institutions should address. Conflict			
Controversy	is inherently more interesting than harmony.			
The Unusual	Oddity also interests us. We assume that the events of one day will be similar to the next inherently			
	boring. When we read or view stories about unusual events, we are merely attending to the			
	exceptions that create this routine.			
Human Interest	People are interested in lots of things that have no direct effect on their lives, including celebrities,			
	political gossip and human dramas. Interest is based on the fact that the subject's life is so different			
	from our own.			
Timeliness	News is by definition timely, about new events that are close to us in time. People have limited			
	attention spans and want to know what is happening now.			
Proximity	Events that happen nearby are sometimes more newsworthy than distant ones, and local events			
	may be more interesting to the audience than distant ones.			

Table 1. We adopt the Shoemaker and Reese' [55] six categories of News Values, leveraging how they define the categories. We use the framework to determine its transferability, and to guide our understanding of the AT thru-hikers' news sharing on social media.

We chose "stories" over "narratives" based on how posts are created and intended on Instagram. Narratives are considered "a system of stories" [20], typically used in search for meaning [5, 12], and have a structure that can be used to guide the telling from beginning to the end [53]. This characteristic has been used in design approaches that take the human ability to understand narratives and support it, and argue that as humans, our compulsion to make sense of the world is through storytelling [47]. While the two terms can be used interchangeably "without loss of precision" [15], stories are more immediate and on social media they are often short snippets about an experience. In this sense, they are more like news updates.

The thru-hikers posts provide brief hike updates. While these periodic updates have mininarratives involving daily, weekly or even monthly progress, they represent an ongoing journey that neither the hiker nor the audience would know about the success of the thru-hike until it is complete, even as there is an understanding of where the hike will end. This understanding of stories and narratives guide our approach to understanding the thru-hikers stories, and give some context to their choice of considering Instagram as a platform suitable for storytelling.

2.3 Using News Values As a Framework to Understand Story Choices

On social media, stories are also often linked conceptually to the idea of "news". People post stories in their "news feed" on Facebook. On Twitter they are presented with a prompt to "share what is happening." Instagram invites users to share "your story." Many scholars have suggested that news itself has always had its roots in sharing stories that are of personal relevance to audiences [28, 57]. Even before written culture, early societies were sharing news stories to tell others about important current events, to be informed about issues, and to be entertained [44, 57].

While it is true that for a time in the last century news took on a much more professional orientation, there has always been a human interest in sharing news that is also of personal importance [52]. In more recent years, media theorists have observed that the internet itself has empowered audiences to create and share stories that are based on what individuals see as news that is important to them. Scholars in this domain have argued for the concept of the "former audience"[28]–people who used to be mere observers of the news in the past, but through new media technologies, have been able to define and produce news on their own terms.

We take the approach here that stories shared by thru-hikers are a form of personal news sharing about events and activities that are important to them as well as other hikers on the AT. As a result, our work is informed by research that has explored why some news stories are chosen for public sharing and others are not. While there is less research that has looked specifically at personal motivations for sharing news, there have been numerous studies in the past that have found that professional news has been chosen for airing or publication based on what journalists call "News Values." News Values can differ depending on the type of news outlet. For example, Gans [26] examined nightly national news and found that the major networks tend to select news that expresses a number of values such as the importance of democracy, pro-capitalism, and individualism. However, other research that has explored News Values in more local settings has found that journalists in local newsrooms often use a different set of criteria for selecting what is newsworthy. Researchers have found that local journalists tend to select news for their audiences that are about important issues to a community, that are often more positive reflections of the community, and that focus on everyday citizens [36].

In probably the most comprehensive look at how newsrooms select content, Shoemaker and Reese [55] put forth that most news can be classified in one of six categories: *prominence and importance, conflict and controversy, the unusual, human interest, timeliness* and *proximity.* We use these categories both to inform our analysis of stories told by the thru-hikers on Instagram, and to consider its applicability to new media. Table 1 provides details about each of these News Values.

Though the trail is the same, the experiences greatly differ across thru-hikers: external conditions (e.g. weather) and internal motivations (e.g. to persevere through pain and mental fatigue) can differ from hiker to hiker. In addition, thru-hikers historically have been predominantly men and predominantly white. Although the number of women thru-hikers have been steadily increasing through the years, there are still very few thru-hikers of color mostly due to systemic reasons [24]. It is therefore important for each of the hikers, especially those underrepresented on the trail, to tell of their own experiences. This follows a respectful approach to understanding and designing for such users [38, 40, 41], while allowing underserved and marginalized communities to tell their own stories in their own ways [62]. We use both narrative theory and News Value framework in our approach of understanding how the hikers tell their story, how they represent themselves in this story, and how they 'voice' themselves in the telling.

2.4 Thru-Hikers and Platform Choice

Our interest in the thru-hikers on the Appalachian Trail and their use of social media platforms builds upon previous work that considered the choice of technology use/non-use on the trail [32], the type of technologies used on the trail [40, 48], and the tensions that arise between stakeholders as these technologies are introduced [39, 43]. This is in addition to research that examines how thru-hikers maintain a sense of community with the online trail community [42].

Using the insights from this varied work, we considered the different social media platforms used by the thru-hikers (except Facebook, as the profiles are private by design). In our previous work [42], we found that Reddit was predominantly used during the preparation for the hike, and after the completion of the thru-hike. The post updates that were shared by thru-hikers during their hike tended to provide reports of trail conditions alongside updating the community on their personal progress–a report rather than a story. Other platforms like Trail Journals³ were more suited to long-form, personal diaries than stories meant to be shared with a large audience.

Thru-hikers specifically show an increased preference for using Instagram both as a storytelling platform and as a means of curation [37, 42]. The promise of Instagram as a platform for storytelling

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³https://www.trailjournals.com/journals/appalachian_trail/

	Max	Min	Median	Mean	Std. Dev.
Instagram Post Frequency	2587	15	287	436	484
Instagram Followers	24700	45	678	1810	3328

Table 2. Descriptive statistics for 245 thru-hiker posts on Instagram. Post frequency and the number of followers are useful to understand motivational markers, and to provide context on the storytelling approach.

has been explored in other research contexts: to understand how users "engage in social exchange and storytelling about difficult experience" [2], and how they leverage Instagram features to tell their stories [1]. We add to this research by focusing on the stories that thru-hikers share on Instagram, to understand both the motivations for persevering through their hike, and for storytelling.

3 METHOD

3.1 Data Collection, Parsing and Ethical Considerations

To identify the thru-hikers, we first used hashtags to select posts that fell into a thru-hiker culture category; for example, #ATThruhiker and #AppalachianTrailThruHiker. We also considered tags that act as an explicit identification of the hiking "class"; for example, #ATClassof2016, #AT2016. We also examined location tags like #Katahdin denoting either the completion point for northbound (#NOBO) thru-hikers who hiked from Georgia to Maine (#GAME) in addition to southbound (#SOBO) thru-hikers who started their journey in Maine and ended in Georgia (#MEGA). Other keywords we used encompassed hiker culture such as #HikerTrash⁴–used to describe a hiker's appearance after a prolonged period on the trail without typical hygiene amenities.

Table 2 provides a descriptive summary of the final set of thru-hikers accounts highlighting follower counts and post frequency. We used the Instagram API to collect posts from the identified hashtags between 2016 and 2018, and manually verified 336 thru-hiker accounts and their 106,855 stories that were set to public. The Instagram API was discontinued in 2018, and in 2020 as we were undertaking the analysis for this work, we took additional steps to ensure the ethical handling of the stories. First, we wrote a simple script to check for accounts that were still set to public, and removed 91 accounts that were either subsequently deleted, set to private, or had less than 5 posts. Additionally, given the increased incidences of parents with children hiking the Appalachian Trail, we manually verified that the thru-hiker accounts did not include family accounts-where a family unit thru-hiking the trail included children. Finally, to further protect the post authors' privacy, we've amended the quotes that we've used to support our findings in this paper in such a manner that copy/pasting chunks or whole quotes on search engines will not lead to the primary source and so de-anonymize the thru-hiker. This study was approved by the authors' institutional research board (IRB).

Instagram posts spanned pictures, picture sets (interchangeably referred as image sets: Instagram posts with more than one image included), and/or videos that can be accompanied by and/or augment the story captions.

The responses to these posts are public. Instagram also provides a "story" platform that allowed trail updates that either expire after a given period of time or can be preserved as a set of stories. Responses to the Instagram story feature is private–only the post author can view this. We focus on the former.

A majority of the accounts (52%) were created specifically for the hike–as a means of curation, and to preserve privacy: delineating their personal accounts (set to private) from their thru-hike

⁴This is a controversial term that serves both to denote belonging to the hike community, and a derogatory term when used by a non-hiker to refer to a hiker.

Торіс	Associated Terms
Hiker Identity	thruhiker, adventure, home, great
Regular Updates	hikers, met, today, days, outside
Hike Direction	flipflop, nobo, sobo, maine, miles
Trail Conditions	love, cold, picture, going, fog
Trail Progress	state, happy, home, week, best

Table 3. Topic emerging from the LDA analysis of post captions from 245 thru-hikers posts on Instagram

journey (set to public). Of these specialty accounts, 28% remained active after the hike was either completed or abandoned. For the accounts that existed before the hike commencement, we manually identified the hike start date. If the account existed after the hike, we similarly manually verified the end date. All our analysis focused on this start/end date restriction, allowing us to limit noise by only considering on-trail stories.

3.2 Data Analysis

We used both qualitative and quantitative methods to understand how hikers' stories show how they presented themselves. Pursuing an understanding of whether the representation was an "authentic self" or an "idealized self" [34] while out of scope of this work, has involved interview with the thru-hikers and is subject of ongoing/future that we expound upon in the future work section. We also consider how motivation for perseverance is revealed from the stories alongside other design considerations.

To understand whether there was significance in the choice of medium (single picture, picture set, video, or a combination), we manually examined a random sample of roughly 28% (58 thru-hikers). We found that a majority of the thru-hikers in this subset used captions to accompany image sets. We categorized 19 of the sampled thru-hikers as "mostly multiple image sets", for over 50% of their posts contained multiple image sets. We categorized eight sampled thru-hikers as "mostly single images", two thru-hikers as "mostly single with occasional video", three with a roughly equal mix of video, image sets, and single images, and finally, two thru-hikers as favoring exclusively single images.

Our qualitative analysis followed several steps. First, to understand image use, we textually described image content and categories until we achieved a theoretical saturation [49]. We followed this by describing the thru-hikers' image/video captions and posting habits: preference of one picture at a time; a set of pictures, or video use. After this, we applied thematic analysis [45] of both the descriptions and of image captions in order to identify salient themes. Finally in applying narrative analysis, we examined the fit of the News value framework to categorize the thru-hikers stories.

To understand the general topics of the stories shared by the thru-hikers, we applied Latent Dirichlet allocation–a standard topic modeling method [9], to all captions that accompanied the single image, image sets and video posts. Alongside providing a dimension to our understanding of the stories, we also use this approach to directly compare with our previous work where we considered Reddit discussions [42]. We present the resulting topics and their descriptors in Table 3.

The topics that emerged from the quantitative analysis (Table 3) included those that focused on the individual: how the hikers self-described their uniqueness while on the trail-ranging from explicitly labelling themselves as thru-hikers, their objectives on the trail and in their sense of belonging. The topics extended to the hikers' progress on the trail (states completed, states left to traverse), the trail conditions (based on weather events and crowds on the trail), and the progress

News Value	Our Interpretation Given the Trail Context		
Prominence &	(Why tell this story?) When storytellers share stories of notable hikers		
Importance	and other important figures on the trail.		
Conflict &	(What are the different sides of the conflicting story?) This is especially		
Controversy	prevalent when there are tensions on the trail especially surrounding trail		
	ethos, technology use and stories surrounding safety.		
The Unusual	(What is unexpected about this story?) The novelty of the story is the main		
	point.		
Human Interest	(Why are the people impacted by the story important?)		
Timeliness	When the story surrounds a place/time, and the timeline/order of events		
	is important.		
Proximity	(Does this story matter to the audience?) We consider both geographic,		
	psychological, and emotional connectedness to the subject matter.		
Emotional	When emotions are important - triumphs, fears, hopes, perseverance, etc.		

Table 4. Our interpretation of the News Values framework describing the thru-hiker storyteller categories. We include added dimensions to explain storytelling types that could not be described by the original categories.

direction: northbound, southbound, or flip-flop. These topics were useful to understand the general nature of trail posts on Instagram across all storytelling groups.

4 NARRATIVE STRUCTURE AND MOTIVATION FOR STORYTELLING

Our qualitative approaches allowed us to consider the individual storytelling groups and their extrinsic motivations for telling stories, and the Values they espouse in the telling. News Values provide a useful framework to then contextualize the storyteller types by describing approaches to creating newsworthy stories-thus interesting to read depending on the audience. The angles they choose to present the experience determines the News Value that we use to frame the storytellers.

In keeping with the News Value ethos, we used the dominant/prominent News Value for each storyteller–given their posting patterns–to describe them. The minor News Values that we identified provide an opportunity to compare how the storytellers are related, and, in future work, how we design tools and technologies that allow the storytellers to leverage the News Values approach to fit their specific context. Table 4 provides an overview of our interpretation of News Values in the context of the trail. We match the News Values to trail storyteller types later in the paper.

From the thematic analysis process, we considered broadly, the driving structure of storytelling while using the News Values framework as a lens for understanding the thru-hiker's storytelling approaches, and as a means to consider both intrinsic and extrinsic motivations to persevere through a thru-hike. We identified six types of storytellers: topic-driven, semantic-driven, time-driven, people-driven, meaning-seeking and interrupted storytellers.

4.1 Personal Journey: Topic-Driven Storytelling

We classified the hikers whose posting habits involve a lot of interactions with the audience to be topic-driven. These hikers provide frequent updates about their trail progress alongside reports of trail conditions. The posts in this category are typically introspective and emotional which makes for compelling storytelling. The storytellers gave words to inner thoughts, especially regarding psychological battles in persevering through the thru-hike:

"As the fog engulfed the mountains, we are left with a choice: have an attitude or gratitude. Sure, we wouldn't witness the majestic views we thought we'd earned through our climb, but didn't we get to watch the clouds shift as the wind breathed?"

Similarly, in describing the undesirable trail conditions, the stories are designed to give context to the positives and articulating invisible gains:

"Missed the shelter and spent the night in freezing rain, then hiked in slush. All this [s]ound like some horrible time, but I guarantee you that it's been awesome!"

The storytellers also highlighted their uniqueness. For context, after manually inspecting every self-reported AT thru-hiker on Instagram between 2016–2021 seasons, we found only six who identified as people of color, three of whom identified as men. Given their rarity, their unique voice, and how differently they relate to the thru-hike experience, hikers of color tend to be known figures–valued for the insights they contribute through their stories.

"I'm telling you all that Black Santa is real, and he's a thru-hiker. If you leave sweet deserts and energy out on the trail maybe he will leave you good trail gear as Christmas gifts!"

We consider topic-driven storytellers as extrinsically motivated–deriving encouragement through accountability and support from their audience on Instagram. They exude a sense of *purpose* that is a hallmark of Prominence News Value (See Table 5).

While we did not find significant incidences of topic-driven storytellers using their accounts after the hike (except for those who then went on to attempt the two other prominent long-distance trail: the Pacific Crest Trail (PCT) and the Continental Divide Trail (CDT)), we classify the hikers that then deliberately craft the narratives post the thru-hike, and thru-hikes we note earlier ([13, 25, 58]) also as purpose driven and thus fitting with the Topic-Driven storyteller category.

4.2 Travelling Poet: Semantic-Driven Storytelling

Unlike topic-driven storytellers who are intentional in crafting their stories to inspire, semanticdriven storytellers are more spontaneous–responding to "aha" moments⁵. This can encompass people met on the trail, moments in trail towns (where thru-hikers would go to re-supply), etc.

"It's been seven days since the last shower. I wish I could find out a way to attach the smell to this Instagram photo."

Given the spontaneous nature of their storytelling, their posting habits do not follow any given formula, and include a hodgepodge of inspirational quotes and thought-provoking pictures. The frequency of posts also wildly varies: for example, sharing four different stories in one day followed by four weeks of radio silence. Semantic-driven storytellers do not intentionally set out to tell a story, but rather mini-episodes of interesting encounters: their narrative focusing on contexts.

"This rock wall was lined along a gap in Tennessee as the [AT] heads into Damascus. A lot of labor had to be invested in transporting and aligning all these stones."

The captions accompanying the pictures are meant to be synergistic, such that were the picture to be removed, the captions accompanying the image would lack context. For example, a story about two thru-hikers in their 70s successfully summiting Mt. Katahdin, marking the successful end of their thru-hike:

"This is the final episode for the 'No Country for Old Men Tour." [time], [date], 2017. We are grateful to you for following us the last 2200 miles. Drink responsibly, and drive safely."

⁵"A moment of sudden realization, inspiration, insight, recognition, or comprehension" Source: https://www.merriam-webster.com/dictionary/ahamoment

They tend to complete the trail as par the course and, while they announce their completion, the motivation to complete is absent in their narrative: the journey is the story.

"Well folks, that was a long freaking walk. I told you al that we won't stop. And today, I proved it."

Their posts, while inspirational, are crafted for a non-specific audience and depend on context. Each post is either with a specific sub-audience in mind, but often it is ambiguous.

"I'm standing on the infinite number of rocks that the state of Pennsylvania has to offer. Every step I take, their edges stick right into the bottom of my foot."

Considering the accounts that we classified under this storytelling category, we find that they tend to exist beyond the thru-hike and continue the same philosophy of letting the moment drive the story. Beyond the storytelling, the storytellers use their Instagram accounts for curation and meaning-making purposes. The spontaneity led to the matching of this storyteller group to the *Emotional* News Value (Table 5). We expound on the implication of this classification in the Discussion Section.

4.3 Dear Diary: Time-Driven Storytelling

We classified time-driven storytellers based on their regimented storytelling approach, with each post containing a trail progress report: time to next shelter, miles completed in a day, miles remaining on the trail, days on the trail, and/or trail conditions. The stories are log entries that often did not provide much emotional coloring.

"Day 14 9.3 miles. Started at [location] Shelter, passed [landmark] and had lunch at [location] Shelter. Reached the summit of Standing [location] Mountain (elevation 5435ft), ran into a couple of deer. Ended the day at [location] tenting area."

These time-driven stories tend to be short and to the point. While other types of storytellers include date/time and mile covered, their stories are not about those details but as a means to provide context in the form of a timeline to support their stories. For the time-driven storytellers, the time and progress are the main points of the story.

"AT | Day 129 | [state] | [starting point] to [stopping point] | Miles; 21.5 | Total Miles; 200[0+] | Lots of rain and mud today. We had to dodge through slippery rocks and roots, but still managed to reach our stopping point for the day|"

These time-driven storytellers particularly attract interested future thru-hikers. This is because the time-driven approach is targeted at giving logistical facts, trail performance, gear failure and the impact on external factors such as the weather conditions on the trail.

"Day 82 started up on top of Mt. [named]. There was a bit of rain today, but I managed to cross into [state] and even hiked more than planned."

Time taken to complete the hike is important. A typical thru-hike takes five to seven months to achieve, and hikers only count the number of days on the trail (a typical pace is four-to-five day hike, followed by a rest-day typically spent in a trail town). Time-driven storytellers, in their placing importance on time and location, provide the most valuable and measurable progress. Interested future hikers alongside actively participating in the story by asking questions, can compare pacing, age, physical fitness, budget, and other factors, towards preparing for their own thru-hike.

"21[00] miles. 15[0+] days. Fourteen states, many jars of peanut butter, a couple pairs of shoes, and a goal. All done. So... what's next?"

Time-Driven storytellers are also the most consistent posters, typically providing daily end-ofday updates if they are in a location with network connection. This attribute is akin to the *Episodic* News Value (Table 4) that similarly places prominence on the order of events (described in Table 5).

4.4 People Person: People-Driven Storytelling

We categorize people-driven hikers given their stories revolving around the people they meet on the trail: who they are, their trail names⁶, and hike progress. From the textual description of the images the shared, their preference was for people-focused pictures over personal or vista pictures. This sets them apart from the topic-driven storytellers.

"I wanted this account to be a focus on what is truly important to me. Sharing this memorable journey with unforgettable people, and showcase some of my favorite ones."

The secondary reason for the use of this mode of storytelling is because of the number of "trailies" (a portmanteau of "trail" and "families") that spontaneously form as thru-hikers progress through their hike. A thru-hiker has a chance to meet and hike with others who share the same ethos, and who hike roughly at the same pace:

"We call ourselves [tramily name]. I've hiked over 1000 miles with these folks, and I wouldn't change it for the world."

Beyond the use of the platform to tell stories, people-driven storytellers also use Instagram as a means to maintain contact with the trail community and their trail family after completing their thru-hike. This is especially so for the hikers that they encountered in-person while on the trail. Therefore, their extrinsic motivation can be driven by the need to connect or re-connect with this highly specific audience.

"This post is a quick shout out to all the fellow hikers who I have met so far on the trail. You make this journey worth it."

People-driven storytellers are also well placed to have their accounts serve as a means of repository, providing a curated album of sorts of their trail experience. *Community* better describes this need for seeking connection with people that would extend beyond the trail context.

"The best thing about a thru-hike is meeting different people, listening to their stories and becoming part of their journey. I met [J. Doe] who is an good hiker and all around awesome peroson."

Their narrative approach revolved around telling other people stories; for example, the tale of 'Pappy':

"Just before I hit the [miles] nobo mark today, I met 87 year old 'Pappy' who is attempting to break the record of the oldest thru-hiker of the Appalachian Trail."

"Pappy" who was already a triple-crowner⁷, did not manage to break the record for the oldest hiker [11], and had to leave around the 1500-mile mark. The use of their trail name–offering a measure of personal privacy, even in their trail fame. A different people-driven storyteller added depth to this story:

"['Pappy'] wanted to mark the 20th year since his last thru-hike by trying it again. It was an honor to meet and talk with him."

 $^{^6{\}rm These}$ are names given to hikers that can be used to identify them, preserve their privacy, while also denoting membership https://www.atmuseum.org/trail-names.html

⁷A Triple-Crowner refers to a hiker who has completed a thru-hike of the three long-distance trails that are collectively referred to as the Triple-Crown trails: Appalachian Trail, Pacific Crest Trail, and Continental Divide Trail.

Typically, stories told by people-driven storytellers in each trail season wove around each other, even more so with members of trail families. Accordingly, it is possible to follow the story of interesting individuals who do not update Instagram, as the case of "Pappy", and/or provide a different angle to stories shared by other hikers.

The people-driven storytellers have similar attributes to topic-driven storytellers in the story output. However, people-driven storytellers place importance on telling stories of others on the trail–espousing the Human-Interest News Value over the Prominence & Importance that is the hallmark of topic-driven storytellers. The story craft is a by-product and thus a minor News Value.

4.5 Elder States-Person: Meaning-Seeking Storytelling

We categorize storytellers who place a greater emphasis on their mastery of different facets of the trail journey as meaning-seeking storytellers. Their stories while personal, involve passing along knowledge and lessons learned.

"There is a hiking culture ethos: 'the trail provides' which means that if you are patient and care for it, it will repay you by giving you provision when you are in need."

Unlike topic-driven storytellers who appeal to emotion in telling their story as a means to offer inspiration, meaning-seeking storytellers while sometimes introspective, are yet imparting the wisdom especially regarding lessons they have accrued regarding the trail ethos:

"There is a saying that hikers carry their fears. I was fearful of being called weak, so never slackpacked⁸. This fear caused me to be angry when I saw others slackpacking. But I have learned that that is not what the hiking journey is about."

They give counsel about the choice of what to take on the trail, and when it's worth adding the extra weight-to bring something meaningful along with them on the trail. For example a story that revolves around the thru-hiker choosing to bring their dog with them for the months-long hike (dogs are generally welcome, except in some state parks, and discouraged in difficult, and mostly-rocky terrains [46]):

"Every ounce of luggage count. We strive to shed every unnecessary weight, and we constantly have to renegotiate with ourselves on how uncomfortable we can get to be and still enjoy the journey. We will happily add extra weight if the things we carry have more meaning, and are worth the extra work."

As with semantic-driven storytellers, we also find that the majority of the meaning-seeking storytellers preserve their Instagram accounts beyond the thru-hike and use it to further leverage their past expertise as thru-hikers into other hiking contexts. Competence is important and their use of Instagram and the types of stories they tell are carefully crafted to maintain this expert persona. This tailoring to an audience and imparting an "elder statement-like" persona in how they relate to their expertise of trail culture and culture experience, mirrors the Proximity News Value (considering their emotional connection to the subject matter). Other aspects of the Proximity Value: the emotional connection to the trail itself, is a minor Value observed in all the storyteller types. This is not surprising given the context of the stories.

4.6 AWOLs: Interrupted Storytelling

The final category of storytellers involve those who either ended their thru-hike prematurely: whether or not they updated their stories with the reasons why. Given the arduous nature of a

⁸To allow a hiker to have a faster pace, they would hand over their pack to a volunteer who would drive it ahead of the hiker to their intended destination for the day. The lighter weight then allows the [thru]hiker to hike at a faster pace and potentially cover more miles. This advantage makes slackpacking controversial as it is seen to be a contravention of an authentic thru-hike.

thru-hike and the mental and physical toll it takes on an individual, ending a hike early is not necessarily a matter of shame:

"I don't know if you know this, but the hardest part of a thru-hike is mental war. I have to remind myself constantly that stopping is not quitting. It takes a lot of strength to end a hike when so close to the finish line."

There are other storytellers whose stories abruptly stop, and their thru-hiker Instagram accounts abandoned with no clear explanation. These storytellers, alongside those whose stories had yet to reach a point of consistency, are in the interrupted storytellers category.

"I've hiked close to 500 miles. I've had to make the tough decision to get off the trail. There are many unsaid reasons, but mostly I have come to a realization that my home is with my loved ones—who are more important that my thru-hike."

A hike can be interrupted by the thru-hiker choosing to end their hike due to mental toll. Perhaps due to the change of motivation and direction mid-way. These types of stories, tend to straddle different categories: sometimes espousing the trail ethos of "hike your own hike"⁹ which would place them in the meaning-seeking storyteller category, but this categorization would only emerge around the time they chose to end the hike, perhaps as a way to provide context to their choices:

"I finally made the decision to end my hike. The adventure wasn't that anymore. We were more focused on hitting the miles and persevering through the hardship more than really experiencing the journey and the beauty of the spaces we were passing through."

Other stories are complete in their incompleteness, with the thru-hiker using the final posts when announcing their decisions to interrupt their hike to give context that have further impacts beyond their own selves: following the *Human-Interest* News Value that is emblematic of people-driven storytellers for example:

"With roughly 300 miles remaining, I'm ending my hike. It was a tough decision. But I had another mental episode on the trail. Of course I could push my body to finish the hike–after all I am in great physical shape. But what will it cost my mental health?"

The presence of mental fortitude, but being physically unable to complete the hike is also one of the major reasons for interrupted storytelling. Unlike the example above, a lot of thru-hikers tend to want to take a break and resume their hike after recovering physically.

"So this was me, the very moment I realized that my journey was over. At this point I knew that reaching the northern terminus was going to be impossible. My feet simply could no longer handle it."

If the injury is chronic in nature, then this fact becomes an interwoven theme in their storytelling, and tended to also attract people with health concerns, but interested in attempting a thru-hike.

"Getting off the trail is associated with going home. But for hikers, it is more like leaving home. So as hikers we will often persist through the point of safety and commons sense to avoid leaving."

We thus cluster these storyteller types as "other". This is because while these storytellers espouse various dominant News Values, they are overshadowed by the fact that their stories are incomplete. We expound on the implications and opportunities guiding this choice in the subsequent Discussion Section.

⁹ 'Hike Your Own Hike (HYOH) is a trail ethos that has different interpretations. Fundamentally, it is a reminder to hikers to experience the trail in their own way, and not to allow others to dictate that experience.

Storyteller	News Value	Description
Topic-Driven	Prominence	They value audience interactions; driven by a sense of purpose
Semantic-Driven	Emotional	They craft and share spontaneous stories of interesting encounters
Time-Driven	Episodic	They follow regimented storytelling, valuing logistics
People-Driven	Human-Interest	They value community and tend to highlight others on the trail
Meaning-Seeking	Impact	They value dispensing knowledge as they learn on the trail
Interrupted**	Other	They represent stories on Instagram are abandoned,
		or thru-hikes not completed

Table 5. Mapping storyteller types to their predominant News Values. **Because the thru-hikers end their hikes in different places on the trail, we categorized interrupted storytellers in two places, first in the category that described their storytelling approach, and then also in the interrupted storyteller category.

5 DISCUSSION

We sought out in this research to understand the different thru-hiker storyteller types and the News Values they embody in the stories they tell. We focus on understanding the choice that technology use on the trail, and especially the choice of social media platforms, has played in empowering people them to tell different kinds of stories. In this section, we situate the storyteller categories in previous research as we elaborate on how we applied the News Values framework. From this, we describe opportunities that designers and researchers would need to consider when designing technology to support storytelling: the effectiveness of News Values, the manifestation of community even in isolation, the promise of interrupted storytellers, and other opportunities to be found in considering the great outdoors.

5.1 Platforms for Compelling Storytelling

The use of News Values provided a framework to elicit what the storytellers reveal about their motivation for thru-hiking and the News Values they espoused in the telling on Instagram. This is informed by the choice for telling spontaneous stories, stories focusing on others, or focusing on themselves–including presenting themselves as experts in the storytelling. This in turn provide guidance for deliberative consideration of how best to tell new stories to fit the context and storyteller needs. While we focus on consistent News Value in order to establish the dominant News Value that follow the ShoeMaker and Reese's [55] definition that is guided by motivation, there is space to grow and evolve to meet the (changing) needs. The deliberation would inform the Value the storyteller would embody to appeal to a specific audience, to meet an end-goal, as they encounter others' on the trail, as a means of maintaining their sense of community, etc.

The stories were influenced by audience with increasing geographical space: thru-hikers, hiking community, and general audience. When combined with *why* the thru-hikers chose to tell the story, we are able to better understand how they leveraged the same geographical bounds, and the same platform to tell their stories differently. Instagram as a platform provided the space for this variety to exist, and showcasing the value that these stories bring to the tellers (as means of repository), as it does to the audience.

Allowing the users to actively query their ways of storytelling given their circumstance, audience, and needs is an interesting approach for effectively leveraging platforms. We see in our work this conscious choice in the choice of platform: YouTube for video stories, and Instagram for pictures and stories (very suitable for the trail). Instagram gives control of the narrative by default:

"The technology not being designed for contextual adaptation and/or appropriate visualizations and user interactions to deal with the tentative/in-between adaptation, or simply lack of time" [4].

Prior to Instagram gaining popularity, thru-hikers would post their progress, and connect with other thru-hikers in the given season using Facebook Groups or Facebook Pages [32]. This means of storytelling has declined in popularity so much so that from 2017 on-wards, we find no thru-hikers announcing that they would post their public progress on Facebook. There are trail users who still leverage the platform, but they mostly involve individual and groups who have been continuously active for a number of years, and individuals who post updates on behalf of thru-hikers on the trail. In the latter case, often they would post duplicate updates on YouTube for access to a wider audience [59]. Facebook discouraging anonymity and pseudo anonymity is also a contributing factor as to why it is not a preferred platform for storytelling especially for those hikers who do not wish to share their personal information. We do not consider Facebook use for the purpose of solely updating the typical friends/family circle.

5.2 Effectiveness of the News Value Framework

News Values usefulness in guiding how journalists shape and share their stories is particularly useful in this context to also derive the Values that each thru-hiker storyteller prefers in sharing their stories with the public. This approach can also be used as a means of starting a discussion on what Values are more useful, and has further implications for designing nudging interventions to encourage people to tell stories at opportune times. Because of the assumption of newsworthiness of public posts, the framework may not be appropriate to consider stories that are intended to be private (e.g. online journals).

Table 4 provides an outline of how we repurposed the News Value framework to apply to the trail and thru-hikers contexts. We assigned each storyteller type to a predominant News Value they employed in their storytelling. This allowed us in the analysis to understand their method of storytelling, while also revealing the promise of News Value as a means of considering adapting to a given context of storytelling. For instance, time-driven storytellers place importance on timeline and apply *Timeliness* News Value in their storytelling, which may not work as effectively when narrating bear encounters – where *Proximity* news value has slightly more importance over *Timeliness* in the narration.

5.3 Solo Hiking as a Community Sport

Fundamentally, thru-hiking is mostly an individual journey that involves "long-stretches of isolation in rural areas with pocket of togetherness on the trail and online" [42]. We find in this work that isolation does not quite extend online, as the thru-hikers tell of their journey. Unlike their use of Reddit that reflected the on-trail isolation [42], Instagram supports the opposite. The thru-hikers through this platform, are able to still maintain regular connection with family, friends and interested audience through their stories, even when they choose not to update the Reddit community with similar regularity.

Except for time-driven storytellers who were the type of storytellers least likely to interact with the audience in the comments section, the rest of the storyteller types did so. This was especially prevalent with people-driven storytellers who would have people they met on the trail and whose stories they shared, also interact with those stories. Both this storyteller category and the topic-driven storytellers interaction with the audience highlighted the emotional connection that the audience found in following the thru-hikers journey through the stories they shared.

5.4 "If at First You Don't Succeed...": The Promise of Interrupted Storytellers

There are great insights to be learned when considering interrupted storytellers. In this work, we focus on how they narrated their interrupted stories–where possible. While we categorized the storytellers based on said and implied reasons for ending their hike, these reasons were almost always *internal* to the hiker. In this section, we find opportunities to consider *external* factors that lead to an interrupted hike. An example is the AT thru-hiker class of 2020 season, some of whom had already began their NOBO hike, only to be forced to abruptly leave the trail due to the various sections closed by the request of Appalachian Trail Conservancy owing to COVID-19 concerns [19].

The consequences of an interrupted hike are particularly stark, given the planning for a thru-hike often involves: a sizeable savings to support the trail expenses, the time investment in researching, and in being "away" on the trail, in addition to uprooting one's life. Logistical planning for resupply points on the trail sometimes involve mailing food and gear replacement ahead of the hiker to be picked up in local post offices. Thru-hikers at times have to quit their employment, and, often, have to give up houses and apartments due to the length of time they will be on the trail.

"We planned and saved for over 3 years for our attempt. By the time we got to the terminus, we had focused our hearts and minds and pocketbooks toward our goal in full force. Neither of us had jobs. Or a home."

Therefore, there is tension between persevering through the hike [64] regardless of external factors, or dealing with the consequences of prematurely ended hike [21]. This includes at a short notice: arranging transportation, finding new accommodation, cancelling package postage, finding new employment, etc.

We could not find enough cases of interrupted storytellers resuming their stories in the following season on Instagram (although we found cases in other platforms, who then resumed their stories on Instagram). Perhaps the Appalachian Trail Class of 2020 and 2021 interrupted thru-hikers would offer better insights about how their interrupted stories went to inform the stories they tell of their repeated attempt of the thru-hike in 2022 and beyond, if they are able to do so–and the consequences of delayed starting date, change of hike direction or cancelling the thru-hike altogether. We consider this breadth of possibilities in ongoing and future work.

5.5 Design Implications

5.5.1 The Promise of News Values in Storytelling.

The use of News values, alongside narrative analysis to understand storytelling on social media, offers a means of distinction between said and unsaid motivations. We provide insights by focusing on the Appalachian Trail thru-hikers who post on Instagram, and specifically the type of pictures they post alongside the captions, in order to understand how they position themselves on the trail and how they reveal their motivations through stories.

Our approach focus on the thru-hikers who have deliberate ways of telling their stories to known and imagined audience, but do not have the same training as journalists who formulate narratives to a known audience. This approach is also different from the focus on the audience's news values to understand what they like to consume [27]. This approach has further implications when studying online communities especially towards understanding how their identity is established in these communities, how it is satisfied, and how it evolves over time–as they establish their 'voice' in sharing their stories with their audience.

News Values provides a useful meta-framework to approach the understanding of user motivations beyond what is explicit. As shown in Table 5, we can further posit that it has a generous framework with the flexibility that allows for ease of consideration of other factors beyond a focus on motivations: especially in communities that share similar values as the hikers (for example in caring for the outdoors), or who face similar challenges as the hikers and who tell the story as a means to give shape to their struggle, and to support others in the community. It is this ease of use that provides us with the glimpse of its promise in how it can be used as a design approach towards eliciting other user needs.

It is important to note that while our study provides some insights into the news values that are important to thru-hikers, it may not fully capture all of the values that are important in this context. As we noted previously, the majority of hikers on the AT are predominantly white and predominantly male. As a result, what appears to be salient news values for this demographic may not be the most salient or even relevant set of values for other demographics such as women and minority groups that take it upon themselves to hike the AT. While the later group in particular are the least prevalent on the trail, further work might yield significant differences in the types of stories that are seen as important among both these groups.

5.5.2 Dispatches from the Great Outdoors.

Exploring the stories that the thru-hikers tell their stories from contexts that are famous for their scarcity provides an opportunity to consider how else designers can empower and amplify storytelling from under-resourced places and communities. Understanding what makes a story compelling given a context provides a means for communities to be empowered to tell their stories better, and leveraging critical aspects such as *Time* and *Proximity* Values in the telling.

There is an opportunity for designers to approach this by leveraging nudging and notifications to aid the storytellers in capturing events in opportune moments, and be more effective in eliciting and telling their stories-depending on their motivation and audience. These implications extend to the research on both use/non-use [31] and most especially designing notifications that can be customized to user-type depending either on preferred storytelling type, or on the understanding of their storyteller type elicited from those stories that they shared. For example, a user can consider themselves time-driven, but their storytelling type would classify them differently. News Values are useful for framing this understanding owing to its universality, and the breadth of research that underpin its usefulness towards guiding the production of compelling stories. Similar to how a good pair of shoes is critical for a successful thru-hike, so too is matching the user to the storyteller type based on their approach, needs, and context.

5.6 Future Work

We limited our analysis to accounts that were set to public, and retroactively excluded the thruhikers that subsequently set their accounts as private in the time between our data collection and when we conducted the analysis. We also excluded family accounts that included children from our analysis and did not make distinction between single-user accounts and accounts that represented partnered hikers (mostly prevalent in couples in relationships, siblings, parent-adult child pairs, or friends). This may have an impact in how the stories are told.

We also observed YouTube as a second platform for storytelling. Our focus on the mini-stories that were sometimes shared spontaneously in liminal, in-between spaces [65], meant that YouTube was beyond the scope of this work. The tendency of thru-hikers to share their stories on YouTube was to tell mini-narratives rather than mini-stories involving weekly introspection. They also tend to be driven by the audience needs: hikers tended to answer questions asked of previous video postings on subsequent videos. This provides great avenues for future research, by exploring the thru-hikers choice to share their narratives through YouTube, and how they choose to represent themselves in their narratives. Researchers can leverage Self-Presentation theory [29] to guide their approach in understanding this phenomenon.

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Considering the thru-hikers' audience-their reception, and why they choose to follow these accounts-would build upon work that consider the user motivations behind other domains, such as spectatorship in games [14], commensality [2] among others. The rural nature of the trail, and nature of the thru-hike would add a useful dimension to the research domain. Studying the audience would be beneficial to understand both what motivates them, and what influence they have to each of the storyteller type (if at all), how they behave in different platforms, what they seek in each of these different platforms, and if these needs are universal. We recommend the use of Uses and Gratifications theory [51] as a useful lens to understand these patterns.

6 CONCLUSION

Our mixed-method approach allowed us to understand the type of stories that are told on Instagram by thru-hikers on the Appalachian Trail. Through the use of narrative analysis and News Values Framework, we further explore the motivations that drive the hikers to persevere through the hike regardless of the challenges encountered, and how they craft their stories narrating their experience. Using News Values framework as a lens to explore the stories, we find evidence to suggest that many of the strategies for storytelling, maps well to design approaches that serve this community alongside other communities residing in rural areas.

Our findings should be useful to researchers interested in understanding the trail communities alongside other rural communities, and those that are interested in understanding how we can elicit design recommendation from storytelling alongside the application of News Values in new contexts. We offer design guidelines for researchers in the HCI/CSCW domain, and insights to stakeholders in the outdoor computing domain in informing how best to understand the thru-hikers in the stories they tell about their journey, and their use of social media to tell these stories.

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