

# Virtual Tourism, Real Experience: A Motive-Oriented Approach to Virtual Tourism

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## ABSTRACT

Virtual tourism products promise to combine the best of two worlds: Staying in the safety of one's home while having engaging tourism experiences. Previous tourism research has emphasised that tourism experiences involve more than just seeing other places. They address cultural motives such as novelty and education and socio-psychological motives like relaxation, escape from a mundane environment or facilitation of social interaction. We suggest applying the motive-oriented perspective in HCI research on virtual tourism and report on a corresponding analysis of 21 virtual tourism products. Our findings show that current virtual tourism products neglect the breadth of tourist motives. They mainly focus on cultural motives while rarely addressing socio-psychological motives, especially kinship relationships and prestige. Our findings demonstrate the usefulness of the motive-oriented perspective for HCI and inspired conceptual ideas for addressing motives in virtual tourism products that may be useful for future research and design in this area.

## CCS CONCEPTS

• **Human-centered computing** → **Ubiquitous and mobile computing design and evaluation methods**; **Human computer interaction (HCI)**.

## KEYWORDS

Virtual tourism, tourist, virtual tour, tourist needs, tourist experience

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## 1 INTRODUCTION

In response to the global COVID-19 pandemic, most international tourism was significantly reduced [62]. Moreover, climate protection led to a rethinking [15, 44], because "tourism account[s] for about 8% of global greenhouse gas emissions" [33, p. 1] with transport accounting for the largest part [48]. These changes also drive the development of novel means for tourism experiences: virtual tourism products [37, 51]. Virtual tourism products are expected to make tourism business models more resilient to travel restrictions such as those experienced during the pandemic [8]. From an economic perspective, virtual tourism products are intended to arouse curiosity or increase bookings for actual visits [56].

But people also used them to "travel without traveling" during the pandemic - to have actual tourism experiences [69], with some researchers arguing that "virtual tourism [...] can replace mass tourism after the pandemic", even though it "must develop more features and value additions to achieve tourist satisfaction" [1, p. 1]. Following, Human-computer interaction (HCI) is tasked to identify such features rendering virtual tourism experiences valuable. However, HCI's current focus is on exploring novel ways to better show or see other places only, e.g. through drones [41], VR systems [63] or enhanced video conferencing systems [43].

We argue that the current focus on *showing other places* in virtual tourism falls short from an experiential and motivational perspective because tourist motives are more diverse than needing to see another place [e.g., 10, 21, 30, 39]. To enrich HCI's discourse on virtual tourism products, we propose to adopt an experience design perspective [22], paying particular attention to the various tourism motives and needs [10]. Drawing on established tourist motives from tourism research [10], we analyse existing virtual tourism products to demonstrate this perspective's value and see whether and how current products address tourist motives. Overall, we collected and analysed a convenience sample of 21 products promising virtual tourism experiences as diverse as possible. We contribute by introducing tourist motive theories to HCI and demonstrating how these motives are (not) addressed in current virtual tourism products. We uncover gaps and opportunities for future design and research, such as using tourist motives as inspirational frameworks.

### 1.1 Tourist Travel: Motives and Essentials

According to the United Nations World Tourism Organization, tourism encompasses all activities performed by tourists travelling to another location for a limited time [61]. However, why should people leave their familiar surroundings for pleasure vacations and

incur costs, efforts or time just to be in another place? First, tourism can have many positive psychological and social effects on well-being and benefits health and wellness [7]. And second, tourism behaviour is driven by two major groups of tourism motives: The place-specific cultural motives like education or novelty, and the socio-psychological motives like escape from a perceived mundane environment, exploration and evaluation of self, or relaxation [10, 30, 47, 53, 54]. Understanding the variety of tourism motives, or the "whys" of tourism, is useful for developing tourism activities and services since, ultimately, tourists engage in tourism to satisfy various motives [10]. If the underlying motives for tourism are understood, then appropriate offers can be developed to satisfy these motives. In line with the various motives driving tourism, provided tourism experiences are multifaceted. This is also reflected by the various tourism taxonomies highlighting essential factors such as novelty, knowledge, personal quest, or meaningfulness [30, 39]. All in all, tourism can only be understood in its diversity, and there is not just one tourism experience, motive, or need.

But how essential is the aspect of travelling to another location for tourism experiences? A philosophical answer to the question was given by De Botton [13]: "*[T]he pleasure we derive from a journey may be dependent more on the mind-set we travel with than on the destination we travel to. If only we could apply a travelling mind-set to our own locales, we might find these places becoming no less interesting than, say, the high mountain passes and butterfly-filled jungles of Humboldt's South America*" [13, p. 206]. Other researchers have supported this notion of a particular inner state essential to the tourism experience. For example, Leed [32] described tourism as a three-partite structure of departure, passage, and arrival, in which the departure already initiates a change in mindset (e.g., leaving parts of one's identity behind by adopting another). Similarly, Wang et al. [67] suggested that a tourism experience in one's usual environment is possible and depends more on a specific state of mind than on travelling great distances.

## 1.2 Virtual Tourism in HCI: An Emerging Topic

The concept of virtual tourism adds to that the aspect of using technology to create a tourism experience artificially. Hence, technology-mediated means deliver tourism experiences, targeting wider audiences and use contexts. Within the past few years, a broad range of products promising virtual tourism experiences has emerged, even more so since the COVID-19 pandemic when tourism was restricted. While recent research showed that virtual tourism products such as 360° virtual tours might reduce stress caused by COVID-19 [70], researchers are just starting to explore what makes successful virtual tourism experiences [66] and how to design them best [52].

Researchers in HCI proposed various prototypes enabling virtual tourism experiences focussing on exploring different technologies for virtual tour experiences, such as drones to fly through and see cities [41], VR systems to relive and see historic sites [35, 63], or enhanced video conferencing systems to facilitate live virtual tours better [14, 43]. The technologies are designed to enhance seeing or showing another place through immersion and presence [5], or through variations in camera stream setups [41, 43] or stream presentation setups [9]. Also, researchers explored how existing images can be integrated into an interface, allowing tourists to browse

the various perspectives to understand better what a place looks like [55]. A more tangible example is the multisensory interactive "window" allowing users to see a remote location from home [2].

The more complex the technical setups to show other places are, the less they can be used from home. For example, Reunanen et al. [50] realised an immersive experience where tourists can navigate through the sea on a stereoscopic screen, exploring the shipwreck of a Dutch merchant ship. Furthermore, Tennent et al. [59] proposed a VR experience inside a museum with empty showcases and walls. The physical layout matches the virtual environment, but in VR, tourists can see and interact with content, creating a physical and virtual experience. All HCI examples have in common that they focus on improving the showing or seeing of other places.

This focus initially seems obvious, given that tourism involves travelling to and seeing other places. However, as introduced above, the tourism motive literature clearly shows that tourism is not just about seeing other places. (Traditional) tourism experiences address a variety of different motives since motives are the "impelling and compelling force behind all behavior" [10, p.409] [4]. We want to harness this knowledge for HCI and apply it to virtual tourism. A significant challenge that we want to address in the following sections is to gain a detailed understanding of whether and how the various tourist motives can be addressed by virtual tourism. Therefore, as a first step, we analysed existing virtual tourism products to demonstrate the perspective's value for HCI and identified gaps and opportunities for future research and design. By showing the gap between established tourism motives and current virtual tourism prototypes, we also seek to support HCI researchers in identifying opportunities for future research that explores not only how to show other places but also how to address tourism motives.

## 2 METHODS

Given that virtual tourism can be supported by various means (e.g., websites, services, applications), we aimed to identify a broad range of different products promising virtual tourism experiences. As the field of these products is somewhat unstructured and constantly changing, we decided to collect a convenience sample based on three factors for this initial exploratory work: popularity (good ratings, recommended), accessibility (products we could try from home), and diversity (in terms of content and technology). We collected various products, not to compare but to apply the motive perspective to many examples. Users and researchers commonly utilise popularity and accessibility to judge the representativeness of a product, especially when demonstrating the value of adopting a novel perspective [e.g., 12, 28, 29]. To scope the study more precisely, we deliberately did not include any products without interactive features (e.g., video documentaries, travel blogs) or that were advertised as video games. Accordingly, the set of products identified is not complete, and the results should be interpreted in light of this scope. When using the term "product", we include applications, services, or websites.

To identify products that promise virtual tourism experiences from home, we, a team of three researchers, started with internet searches using different keywords like "virtual tourism", "(virtual) tourism technology", "tourism without travelling", "tourism from home", "travel experience during covid-19". In addition to individual

**Table 1: The two categories of tourism motives [10] and the virtual tourism products of our set that have the potential to address these motives. For comprehensibility, all products are referenced in this table.**

Motive	Addressed by
<b>Cultural</b>	
Education	Anne Frank (web, VR) [16, 25], Berlin Underground [17], Buckingham Palace [26], Greenwich Naval College (+VR-feature) [23], Catacombes de Paris [6], Louvre virtual tour [36], Virtual Yosemite [24], Google Arts & Culture [11], Statue of Liberty [49], WildEarth Live Safari [68], Machu Picchu (+VR-feature) [64], Peace Palace (+VR-feature) [19], Würzburg live [18], Virtual Japan [27], Faroe islands [58], Lights over Lapland (+VR-feature) [45], Visit London [65], Giants causeway [60], Holy land Jerusalem [46], Shakespear's Globe (+VR-feature) [20]
Novelty	Anne Frank (web, VR) [16, 25], Berlin Underground [17], Buckingham Palace [26], Greenwich Naval College (+VR-feature) [23], Catacombes de Paris [6], Louvre virtual tour [36], Virtual Yosemite [24], Google Arts & Culture [11], Statue of Liberty [49], WildEarth Live Safari [68], Machu Picchu (+VR-feature) [64], Peace Palace (+VR-feature) [19], Würzburg live [18], Virtual Japan [27], Faroe islands [58], Lights over Lapland (+VR-feature) [45], Visit London [65], Giants causeway [60], Holy land Jerusalem [46], Shakespear's Globe (+VR-feature) [20]
<b>Socio-psychological</b>	
Relaxation	Statue of Liberty [49], Virtual Yosemite [24], Würzburg live [18], Virtual Japan [27], Faroe islands [58], Lights over Lapland [45], Giants causeway [60]
Facilitation of social interaction	WildEarth Live Safari [68], Berlin Underground [17], Würzburg live [18], Virtual Japan [27], Faroe islands [58]
Escape	Anne Frank (VR) [16], (Peace Palace VR-feature [19])
Exploration and evaluation of self	Anne Frank (VR) [16] Würzburg live [18], Virtual Japan [27], Faroe islands [58]
Regression	Faroe islands [58]
Kinship relationships	-
Prestige	-

products, we also found many platforms that offer virtual tours to different places, such as Klapty [31], which offers tens of thousands of tours. Given the many examples, we already filtered examples during the search according to the three factors mentioned above. For example, many museums provide virtual tours using similar technologies, and we did not include all examples in our initial set but only the ones that seemed to differ from previous ones. Similarly, we only included one example for platforms such as Google Arts & Culture [11] that provide numerous similar experiences of different places. Overall, this process led to an initial set of 57 examples that we considered for further review. In the next step, we briefly accessed and reviewed all examples and generated a bottom-up coding system to aid in more detailed decision-making on a final set. For each product, we noted the technologies used, the focus of the main activity, the synchronicity of the main activity, the senses addressed, and the goals. Ultimately, the first two authors decided on the final set based on the previous considerations to reach a broad but manageable set.

The first two authors analysed this final set of 21 virtual tourism products. In line with our experience design perspective [10, 22], we focused the analysis on identifying whether and in what way tourism products addressed tourists' motives and needs. We started with an expert-evaluation-like analysis resembling a walkthrough

described by Light et al. [34] or Daudén Roquet and Sas [12] to systematically classify and describe the virtual tourism products in light of their ability to address tourism motives. To guide the analysis, we used a popular set of tourism motives from tourism research [10] and documented each motive's expression in the various products. To review our assumptions from the descriptive analysis, we additionally used all products in our leisure time with a tourist state of mind while there were still many travel restrictions due to the COVID-19 pandemic. In doing so, we tried to empathise with virtual tourists and reflected on our own motivations and feelings before, during and after our virtual journeys. We individually documented brief descriptions and salient features concerning motive addressing. We regularly compared and discussed our experiences until a consensus was reached about whether and how motives were addressed. From these discussions, we drew overarching conclusions about whether a virtual tourism product addressed certain motives and, if so, what shared elements across products most saliently contributed to these motive addressing. Before turning to the results, we suggest readers immerse themselves in some virtual tourism experiences (see Table 1).

### 3 RESULTS: A FOCUS ON CULTURAL MOTIVES, GAPS IN SOCIO-PSYCHOLOGICAL MOTIVES

Our findings uncover a lack of diversity in virtual tourism products that mainly focus on cultural motives only (see Table 1). In the following sections, we detail the motives and the elements that most saliently contributed to the motive addressing (in italics) and provide illustrative examples of how motives were addressed.

#### 3.1 Cultural Motives

The cultural motives category entails two sub-motives related to specific location characteristics [10]. The **education** motive refers to the idea of becoming a more educated or "rounded individual" [10, p. 420] through exposure to and learning from specific cultural places or phenomena that "ought to be seen" [10, p. 421]. The education motive was often addressed in our virtual tourism products (see Table 1). It seemed like many products' main focus was education, which was addressed by a combination of *displaying cultural objects or places* and *providing additional information* about them. Frequently, such products were named virtual museum visits or virtual tours, advertised according to their *unique features of why they ought to be seen*. An example is the virtual tour "The painted hall" of the Greenwich Naval College, which has "one of the greatest decorative painted schemes in England" [23]. The virtual tour provides 360° pictures and additional information (written, spoken, and sign language). Users can navigate between different hall sections, turn the camera around, and zoom in/out to get detailed views of the paintings' sections. The display of the painted hall alongside additional information supported the acquisition of knowledge and, thereby, education. However, this knowledge was limited, given the static nature of the experience. Most virtual tourism products were similarly structured with *pre-defined tours, texts, and images*. However, some products also allowed for live interaction with experts to *ask questions and receive personalized information* (e.g., Wild Earth Safari). In one example, the Anne Frank VR experience, education was addressed more affectively by triggering a sense of place. The detailed *3D-modelled replica* and the *(historic) background noises* of Anne Frank's Secret Annex allowed us to get a sense of how oppressive it must have felt for Anne Frank to live there.

The second cultural motive, **novelty**, is often intertwined with the education motive, given that experiencing novel places or phenomena can be educational in itself [10]. This overlap was also reflected in our set of virtual tourism products (see Table 1). The novelty motive is strongly tied to experiencing rather than reading. Even if one has prior knowledge about a specific phenomenon or place, experiencing it is different and comes with feelings such as curiosity and adventure [10]. The novelty motive leads tourists to visit novel places rather than re-visiting known places. However, striving towards novelty can also come with perceived risks and feelings of threat or anxiety. In traditional tourism, organized and guided tours are means of coping with this threat: One can experience a novel cultural place within a perceived secure setting [10]. Like education, the experience of novelty could arise from seeing *cultural objects, places, or phenomena*. An example is the Google Arts & Culture virtual tour, which provides a range of national parks to explore through 360° images alongside short videos and

audio guides explaining specifics about the parks. While this also served the education motive, the unusual way of assembling all these elements, in addition to some *unique features* like a simulation of echo-location in a bat cave, made for a novel experience. Other virtual tours addressed novelty by *allowing for interactions that would traditionally not be possible* like going to prohibited places (e.g., Statue of Liberty), or *combining various elements uncommonly* like a game controller to navigate a human guide at a remote location (e.g., Faroe Islands). Some products also addressed novelty by providing live content or enabling a connection to other tourists, thereby adding an *element of unpredictability* (e.g., Virtual Japan).

#### 3.2 Socio-Psychological Motives

Socio-psychological motives highlight the values individuals gain from a tourism experience, independent of specific places [10]. Although essential to tourism experiences, the seven socio-psychological motives were less addressed in current virtual tourism products, some even not at all (see Table 1).

Among the virtual tourism products, **relaxation** was addressed most. Relaxation is a specific mental state achieved through non-routine activities [10]. In this sense, relaxed tourists can, at the same time, be physically exhausted [10]. Most virtual tourism products addressed relaxation by *inviting a calm and relaxing experience* through respective instructions or a calm atmosphere (e.g., with *nature sounds*, Virtual Yosemite). Also, products were mentally relaxing when there was *no goal to achieve or task to perform* or when *auto-modes or hosts took the lead*. The Statue of Liberty virtual tour, which shows 360° images that can be explored by clicking from one place to another, addressed relaxation by removing all people from the images. Thus, the product created a very tranquil atmosphere with a high degree of perceived freedom. This freedom was also supported by the high resolution of the images that allowed to watch up to the horizon, including the skyline of New York City and the surrounding waters, making it easy for the mind to get lost in the distance and get to a state of relaxation. Other elements to address relaxation were *informal presentation of cultural information* that felt more like listening to a friend telling a story (e.g., Virtual Japan) and *immersion in the experience* through VR headsets shield the environment (e.g., Anne Frank VR).

**Facilitation of social interaction** is the only socially oriented motive addressed in our set of virtual tourism products [10]. As a tourist, it is easier and more likely to come into contact with other people, even from other milieus, than when being bound to the daily routine [10]. Tourists often come into contact with other tourists and less with locals [10]. In current virtual tourism products, *shared personal information* from a guide or local (e.g., Virtual Japan) supported the experience of social interaction. Social interaction was also supported in the WildEarth Safari, primarily through a *live chat during the stream* and the *live moderation of the ranger who also addressed virtual tourists directly*. For example, the ranger asked for guesses on the blood volume of an adult elephant, which initiated a discussion and exchange in the chat. The tourists also empathised with the different animals in the chat, triggering a sense of community. The sense of community was also evident when various tourists greeted each other by name in the chat.

The **escape** motive is related to leaving a familiar environment and entering a socially and physically different one [10]. Anticipating this location change reinforces feelings of escape [10]. In the set of virtual tourism products, escape was most strongly supported through *high degrees of immersion* and the *exclusion of current environmental stimuli*. An example is the Anne Frank VR experience that is accessed with a VR headset. It provides a 3D-modelled, detailed environment of the Secret Annex that allows one to "explore the hiding place of Anne Frank and her family" [25]. Unlike a web application, the VR headset shielded the local environment and strengthened immersion into the Secret Annex, supporting a sense of escape from one's usual environment. This sense of escape depended on further factors like being in a *calm and spacious environment* or engaging with a well-designed VR application that minimised risks of inducing simulator sickness. The latter was not the case with all VR products, leading to nausea that overshadowed the experience.

**Exploration and evaluation of self** focuses on internal processes of learning about oneself [10]. Novel physical or social contexts and conditions combined with the lack of pressure from familiar people trigger reflection about oneself and invite acting out different self-images [10]. Above all, encountering a new, unfamiliar milieu can be a trigger and point of reference [10]. In the set of virtual tourism products, this motive was only addressed in terms of reflection, which was best provoked by *getting a sense of place or local culture that differed from one's usual environment*. An example is the Virtual Japan experience which provides live and recorded video streams of commented walks through Japan. It "looks to share the virtualized experience of being in Japan, in hope to provide you with a slice of everyday life of what it's really like to be here" [27]. Through commenting on everyday life while walking through Japan, the videos' host shared *tacit knowledge about local culture*, thereby conveying what is perceived as "normal" in Japan and triggering one to reflect on own understanding of "normal".

**Regression** is a motive tied to the withdrawal of usual role obligations [10]. Tourists often feel freed from specific expectations or values essential in their everyday life [10]. Some tourists behave in unusual or childish ways while others playfully explore other lifestyles (e.g., using fewer digital technologies) [10]. We found corresponding regression experiences only in one virtual tourism product, the Faroe Islands virtual tour, where tourists can control a local guide streaming from a POV by game-controller-like directional commands. This *gamified interaction and concept* seemed to trigger childlike behaviours in some tourists. For example, tourists directed the host to a harbour edge and then pressed forward, instructing them to jump into the water, or made them walk into groups of strangers. Here, the *perceived lower responsibility of actions* through distance and anonymity also contributed to regression.

**Enhancement of kinship relationships** was not addressed by any virtual tourism product. The motive is supported when a group of tourists (e.g., families) is forced to spend time together, e.g., in long car drives [10]. This may sound negative, but it usually has advantages for the quality of relationships [10]. All virtual tourism products reviewed supported individual interactions, and none promoted joint activities between several co-located virtual tourists. Also, the **prestige** motive was not addressed by any virtual tourism product. It refers to the idea of seeing tourist travel as an expression of a higher lifestyle that is unique and enviable [10].

However, prestige might be less relevant when tourism is affordable and widespread [10], and therefore possibly less relevant for the easily accessible virtual tourism products in our set.

## 4 DISCUSSION, IMPLICATIONS, AND FUTURE WORK

In this paper, we analysed virtual tourism products from an experience design and tourism motive-oriented perspective [10, 22] to demonstrate the perspective's usefulness, gain new insights into the status quo, and identify potential areas for future research and design. Although we tried to cover various virtual tourism products, our results showed that only cultural motives are widely addressed (see Table 1). This focus on cultural motives is not inherently wrong, but it opens up opportunities for improvement:

First, the experiential and motive-oriented perspective can be consciously applied when designing future virtual tourism products. We demonstrate this opportunity along the novelty motive, one of the most central influencing factors of tourism experiences [30, 54]. Tourists long for unexpectedness and surprise [53, 54] and experiencing something different from everyday life is definitionally important [21]. The phenomenon of virtual tourism products may seem novel in itself, but this effect will quickly wear off. Having experienced several products, we recognised standard controls and mechanisms, which helped us master the interaction, but also led to a sense of monotony. However, as virtual tourists, we craved surprises and the unusual rather than routine. To address novelty, current virtual tourism products focus on elements such as *highlighting the experiences' uniqueness, displaying unique places, or providing unusual combinations of technologies*. Including more uncontrollable elements, such as other tourists who might behave unexpectedly, or live elements that could potentially be different each time could increase novelty experiences. Also, future virtual tourism products could adapt to local seasons or cultural events or include (seemingly) random events only available at certain times.

Second, future virtual tourism products can consider little-noticed motives more. For example, the escape motive has only been addressed through VR headsets that shut out the familiar environment. However, Crompton [10] highlighted that feelings of escape are influenced and reinforced by the anticipation of a change of location. In other words, the experience of escape also depends on a certain mindset that expects and welcomes change [32]. Previous literature asserts that with this particular mindset, even the familiar environment can become a tourism experience [67]. Therefore, we suggest that future virtual tourism products could support the transition to such a mindset, considering the time before entering the actual virtual tourism experience [57]. In addition to the actual tourist activities, reminiscing can serve as a brief escape from the mundane. However, current virtual tourism products rarely support memory-making except for taking screenshots or buying posters. Future products could support more individualized memory-making and induce "anticipatory nostalgia" throughout the experience [3].

Our analysis revealed that virtual tourism products never addressed enhancing kinship relationships and prestige. Although prestige is expected to be less important when tourism is affordable and widespread [10], it could be a novel lens for viewing virtual tourism products. Most virtual tourism products are accessible to

almost anyone with internet access. However, requiring special, less widespread equipment such as VR headsets may evoke prestige for virtual tourists. Virtual tourism experiences could limit participation slots to increase prestige, rendering the experience rare and unique, like a "once in a lifetime" experience. Finally, a great opportunity lies in enhancing kinship relationships in future virtual tourism products. Although tourism activities are often performed in groups, no virtual tourism product fostered collaborative, co-located experiences. All interactive elements could be operated by one person only (e.g., mainly using a mouse and keyboard or VR controllers), and co-located virtual tourists could only watch passively. Future virtual tourism products could integrate more collaborative elements, like requiring at least two co-located tourists to start the experience or master the interaction. Also, future virtual tourism products could adopt game-style elements, such as challenges that must be solved together.

We note that with our suggestions, we do not aim to replace traditional tourism. Virtual and traditional tourism can enable tourism experiences, each with unique elements, opportunities, and pitfalls [40, 42]. Instead, with this paper, we want to support the understanding and improvement of virtual tourism experiences so they can eventually become valuable complements to traditional tourism [38]. An important step is a better understanding of tourism motives because these must be satisfied by virtual tourism products. Only in this way can virtual tourism products become real alternatives.

Since the two authors who analysed the virtual tourism products have similar cultural backgrounds, our results are limited in this respect. Nonetheless, we consider this work a valuable contribution that initiates a discussion on virtual tourists' motives. Following this initial exploratory step, further research is needed to understand better when and how motives are addressed by virtual tourism and how corresponding experiences can best be designed. Thus, in future work, we want to involve a wide range of users to consolidate our results and explore how novel virtual tourism experiences can address the various motives. For example, we currently perform A/B tests with a newly designed virtual tourism experience to better understand how specific tourist motives can be addressed.

## 5 CONCLUSION

In this paper, we wanted to expand HCI's perspective on virtual tourism through an experiential and motivational perspective [10, 22]. To demonstrate this perspective's value, we analysed virtual tourism products through the lens of experience design and tourism motives [10, 22], providing a structured overview of and uncovering gaps in current virtual tourism experiences. We show that current virtual tourism products mainly provide tours with pictures and knowledge. Thereby, they only address cultural motives, mostly neglecting socio-psychological motives and the plethora of tourist motives. Hence, current virtual tourism products can neither create fulfilling nor memorable tourism experiences. Products addressing socio-psychological needs did so by implementing unusual features. This should be developed in future virtual tourism products. We present two major strategies for improving motive addressing in future virtual tourism products and provide respective examples [10]. Our insights result from taking a tourist motive-oriented perspective, and we note that further research is needed to understand

better when and how motives are addressed by virtual tourism products and how to best design for them. We expect that a better motive addressing will result in more fulfilling tourism experiences. In this way, virtual tourism products can ultimately be an incentive to reduce travel behaviour and thus benefit the climate.

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