

Meta-design Approach for Mobile Platforms Supporting Creative Tourism Experiences

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Abstract. This paper conceptualizes the application of meta-design approach in the development of a mobile system supporting creative experiences for tourists. Specifically, for those working in creative industries, an adaptive mobile system will facilitate effective tourists' interactions with and interpretations of the local attributes of tourism destinations. The mobile system will integrate the sensory stimuli, the intense contact with cultural nuances and social network, the brand-based reputation, and the creative communities at tourism destinations into the iterative process of perception, conception, and expression of creative ideas among tourists.

Keywords: Creativity, Mobile Technology, Tourism, Meta-design, Mobility

1 Introduction

Traveling to induce creative processes has long been an acceptable practice among those who work in creative industries. Poets and painters take a journey to visit different places in order to seek for inspirations from sceneries, people, and vibrant atmosphere of foreign cities; designers and performers travel to participate in the sharing of ideas, concepts, knowledge, and skills with various cultural communities as well as to gain appreciation for their work. Recently, there has been a growing interest in the facilitation of creative tourism [1] [2], emphasizing the importance of providing an opportunity for tourists to contribute a lasting impact in their field through travel. The underlying idea of creative experiences through tourism is the relationship between space and individualized creativity [3]. Specifically, places are believed to have the capacity to induce creative imagination, processes, and performances not only among groups of people (i.e., social or communal creativity), but also among individuals. Indeed, it can be argued that tourism can be a source for inspirations and ideas, as tourism destinations provide prompts and artistic materials (e.g., landscape, architecture, traditional art form) for cultural production and creative processes [4]. Additionally, places can also be a source for social and cultural networks. Creative tourists travel not only to get closer to certain trends and cultural nuances; they also network with new others, engage in inter-personal and inter-group learning, and collective creative processes (e.g., co-design, collaboration). Lastly, tourism also provides temporary "personal space" for creative tourists to optimize their imagination and cogni-

tive processes [3]. Being outside of their usual environment, creative tourists might take advantage of the “heightened senses” they experience to respond to interpretative stimuli.

Today, mobile technologies have the potential to support creative endeavors and performances through effective interaction with and interpretation of cultural objects and materials outside home and work environment. Due to their portable nature and increasingly anthropomorphic features, mobile phones are considered the most intimate technology devices. Thus, people tend to perceive various social roles played by their mobile phones in different usage situations (e.g., mobile phones as mentors, coaches, personal assistants, etc.) [5]. The tendency that users respond socially to mobile phones indicates that mobile technologies can be designed in such ways that they can motivate users to engage in learning and creative processes wherever they are. Specifically, context-awareness applications embedded in mobile technologies can scan and suggest relevant resources for creative individuals to take inspirations from and mediate significant interactions that allow further processing of these resources within users’ creative endeavor. Therefore, the purpose of this paper is to provide a foundation to design adaptive mobile technologies to foster creativity from an effective use of natural, social and cultural resources representing the locality of tourism destinations, encountered during traveling. The adaptive technology platform will allow independent creative tourists to gain meaningful experiences by taking advantage of the different elements of tourism destinations for their personal and professional growth as well as self-actualization.

2 Place and Creativity

Due to the increasing importance of creativity in the society, there is a growing need to identify reliable and effective strategies to enhance the creative potentials of every individual [6]. Recent research has investigated the roles of places as a catalyst for creativity. People create physical space or settings to get in the mood to be creative or travel to different places in order to generate new ideas. Indeed, Cox (1997) points out that place-based attributes offer places “non-substitutabilities” that may be a magnet for creative workers to visit or relocate into [7]. In tourism, the integration of creativity and tourism is grounded in the idea of co-creation of value [8], allowing tourists to develop their creative potentials through interactions with resources at the destinations [1]. Indeed, creative tourism is defined as those that offer opportunities for tourists to participate in creative processes through experiences that are uniquely attributed to tourism destinations [9].

Based on an interview with creative workers in UK, four types of locality-based prompts or stimuli for creative experiences were identified [3]. They are locality as a resource of visual raw materials or stimuli, locality-based intensive social and cultural network, locality as a brand-based on reputation and tradition, and locality-specific communities of creative workers. In the context of tourism, the first type of prompts refers to the distinctiveness and quality of nature and built environment of tourism destinations that allow tourists to appropriate and integrate into their work. The sec-

ond type of prompts originates from the proximity to, intensity and frequency of contact with certain trends and cultural nuances within the destinations as well as intense interactions with cultural networks. The third type corresponds to creative processes informed by and based on a well-established reputation and identity of the tourism destination, which include the expression and marketing aspects of the creative products. Lastly, the fourth type of stimuli refers to the networks of creative individuals within the tourism destination with whom creative tourists can learn from and collaborate with. These four characteristics of tourism destinations should be managed in ways that make them accessible to optimize tourists' creative potentials.

3 Technology for Creativity

In Human-Computer Interaction (HCI) research, the subject of creativity has been explored to design computer technologies that address the needs of creative users [10], which includes the design of computer-based environment that support creative processes (i.e., by facilitating conditions that nurture creativity and eliminating conditions that deter creativity) and the design of interactions that foster cognition. Recently, the increasing roles of mobile technologies in facilitating and enhancing creativity have been acknowledged. Due to its portability, mobile devices can support learning and creativity in many different contexts or situations, including an informal learning process while traveling, which is typically unstructured, instantaneous and voluntary in nature.

The roles of technology to foster users' motivation and creativity should be relevant to the creative process itself. In the area of design, Lockard (2000) conceptualizes the creative process to include three stages: perception, conception and expression [11]. Perception stage is associated with research, where information related to the design problem is gathered and stored. Conception stage involves analyzing and comparing the information with past experiences (i.e., referred to as bisociation process) to formulate ideas to solve the problem. The result of conception stage is the external representation of the problem. New ideas are then disseminated (i.e., expression stage), discussed, and modified using new information by restarting the perception stage, suggesting the iterative nature of the process. Consistent with this process, emphasizing the user-centered design of e-learning system, Shneiderman (1999) calls for technologies that facilitate users' abilities to collect information (i.e., perception), relate it to other information and ideas from peers (i.e., bisociation), create new information through exploring, composing, reviewing, etc. (i.e., conception), and disseminate new information broadly (i.e., expression).

Other researchers have examined the different ways computer can be involved in supporting creativity. Lubart (2005), for example, summarizes four areas where computers can be integrated to support the creativity of their users: management of creative processes, communication between individuals collaborating in creative processes, creativity enhancement techniques, and human-computer cooperation in idea production, all of which can happen simultaneously [13]. These lead to context-dependent roles of technology for its users (i.e., as nanny, pen-pal, coach, and col-

league), implying that to support users' creativity, computing technology are nurturing the "co-creation" process. Hence, it suggests the relevance of participatory design in developing technology to support creativity.

4 Supporting Creativity through Mobility

In order to support creative experiences of tourists, it is necessary to design a system that assists tourists with the iteration of creative processes, managed through effective interactions with prompts provided by the unique characteristics of tourism destinations. Since tourists are actively participating in the co-creation of value at the destinations, it is imperative that as end users they are allowed to actively engage in the continuous development of the mobile system rather than being restricted to using existing system. This emphasizes the application of meta-design approach [14], where end users are co-designers of the mobile system. Meta-design extends the traditional notion of system design to include an ongoing process in which users become co-designers throughout the whole existence of the system. This typically requires the system to permit users to create customizations and extensions, presenting them with opportunities, tools, and social reward structures to extend the system to fit their needs [15]. Consequently, the design time and use time of the system occur simultaneously.

Fig. 1 represents a conceptual model of the mobile system supporting creative experiences through travel applying meta-design approach. The design of mobile platforms for creative tourism is based on the systems' capabilities to support active tourism experiences that allow for perception of insights and inspiration, conception of new design/information, and expression of the creative outcomes (e.g., products) through users' interaction with locality-based sensory stimuli, cultural networks, brand-based tradition and reputation, and creative communities. First, tourists typically start with an incomplete and imprecise representation of the pieces they want to create through their journey. They actively learn from their surroundings as they travel to perceive a clearer, more specific mental representation of their design problem and seek for inspirations to find its solutions. From users' interactions with the different aspects of destinations, mobile technologies should support the processes whereby users evoke aspects of design (e.g., functional aspects, structural aspects, etc.). In other words, mobile platform for creative tourism should have the capacity to communicate and translate raw cultural objects and materials encountered in tourism destinations into aspects of design specific to tourists to assist them in the design perception process. For example, tourists seeking for inspirations for musical creations could activate an intelligent context-aware mobile system to assist them in easily recognizing, recording, and recalling local tunes from his surroundings.

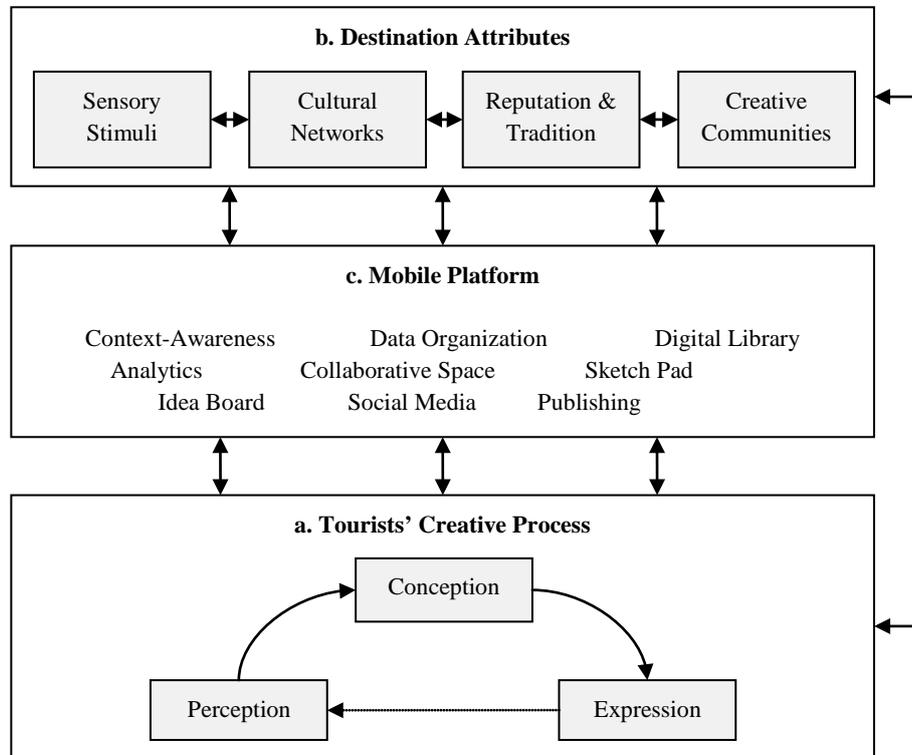


Fig. 1. A conceptual model of mobile platform supporting creative experiences for tourists

Secondly, tourists will filter the inspirations and new information gathered from the destinations and then compare them with existing knowledge and past experiences to match the design problems at hand. Mobile technologies should be designed to support the conception of ideas through providing users with information stored in the system or other information retrieved elsewhere when they evoke new design aspects. This will also allow for bisociation process, whereby two unrelated concepts could be brought together to provide solutions to the design problem. For example, after taking pictures of local textile patterns, a tourist who is an interior designer could be prompted to easily integrate these patterns into her sketches or compare them with design trends elsewhere stored in her mobile inspiration board. The capabilities of mobile devices to exchange a large amount of information and to perform complex analytical procedure open up opportunities for various data processing and analyses to support the conception of new ideas.

Lastly, creative tourism will involve the process of expression, whereby creative products are externalized and communicated to the creative communities in the respective domains. For example, travel may be connected with collaborative expression whereby creative tourists work together with local creative communities to stage art exhibitions, events, and activities. Mobile technologies should be able to facilitate

the expression process where creative products such as these can be discussed, modified and then re-perceived. Social media and other publishing platforms could be integrated for a broad and easy dissemination of the creative outcomes resulting from tourist – destination interactions. Creative products that are appreciated by the cultural communities within a locality can assist in shaping the sense of place, which, in turn, will enhance the value of tourism destinations.

The main idea of meta-design approach is to let the end users customize the mobile system according to their specific creative needs, which, to some extent, will be dependent on the domain of their industries. The system should be open for customizations, whereby different functionalities can be designed according to the destinations, purposes of the trip, etc. In other words, the best way of facilitating creativity is to let the end users be creative with designing and using their technologies.

5 Conclusion

This paper conceptualizes an adaptive mobile system to support creative experiences while traveling. Drawing from previous studies on the roles of places for creativity, the creative process, and the technology development to support creativity, the importance of user-centered design and participatory design that allow for effective management and coordination between technology and its users is highlighted. Consequently, meta-design approach to system design is considered suitable to be applied in this context. To support creativity for those who are away from home and work environment, it is imperative that technology should assist tourists in the perception of information and inspirations, conception of new ideas and expression of creative outcomes. An adaptive mobile system should not only enhance the creative performance to manage creative processes of tourists, it mediates the interactions between creative tourists and the raw materials, cultural nuances and social network as well as the creative communities within a destination.

The implications of this study may be important for tourism destinations positioning themselves as creative cities, offering creative spectacles, and attracting creative tourists. The long lasting appreciation of technology-assisted creative tourism will highlight the uniqueness and non-substitutability of tourism destinations, making them even more attractive for creative tourists. What is more, the conceptualization of adaptive mobile technology that could motivate people to actively seek information and inspirations from different places may offer greater benefits for those in need of staying active for their wellbeing, such as the promotion of active aging or creative youth lifestyle.

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