

# **An app in the park: a phenomenological study of park visitors' use of mobile digital applications in a Canadian park**

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## *Introduction*

Mobile digital technology has become a core part of how people live their lives. Connectivity is increasingly limitless, even in many wilderness areas. Some have warned that the presence of technology has the potential to change nature-based experiences, and indeed the very meaning of nature (Borrie, 1998; Cuthbertson et al., 2004; Shultis, 2001, 2012; Stankey 2000). Nature, when mediated by mobile information and communication technology (ICT), is shaped and transformed by these actions – for better and worse (Wiley, 2005). Others suggest mobile ICT has become too all encompassing in our lives, and that humans need places and times where they can be digitally disconnected. Some propose that nature parks should serve this purpose. There are however many proponents who suggest that facilitating mobile ICT use in parks affords opportunities for enrichment, social connection, learning, and safety provision.

## *Background*

In this presentation, results from an exploratory study of park visitors' experiences of interacting with mobile digital technology will be reported. This research addresses a growing challenge that park managers face, the need to make decisions about how and where to offer mobile ICT services to visitors. Park managers are striving to connect individuals to the heritage that parks conserve and protect so that the public see parks as relevant, important, and as places that should be supported. In recent decades a decline in visitation to several Western countries' park systems has been documented. Adding mobile ICT services to their suite of offerings may attract priority market segments (e.g., youth and families) to parks and result in park experiences that are meaningful and memorable resulting in positive visitor intentions such as plans to return, recommend and support parks. Alternatively increased delivery of mobile ICT opportunities may alienate other market segments. An examination of visitors' use experiences of mobile ICT in parks will provide insight into this issue, thereby informing park agencies decisions regarding visitor-related ICT investments.

The second major problem this study addresses is the lack of understanding of the outcomes people experience when they engage with mobile ICT in nature contexts. Park tourism and recreation planners can only speculate about the type of experiential outcomes derived from mobile ICT use in parks and what produces these outcomes. Mobile ICT may enrich, entertain, educate and make visitors feel safe. However it may also distract visitors, inhibiting their ability to immerse into and connect with heritage contexts producing fewer opportunities to emotionally connect and experience positive outcomes traditionally associated with park visitors such as mental restoration, physical fitness and (non-virtual) social bonding time with friends and family. A small number of studies have found that having access to mobile ICT in wilderness areas decreases park visitor's perception of risk and increases risk-taking activities (Holden, 2004; Martin & Pope, 2012; Roscher, 2009). Mobile ICT devices have been criticized for their ability to disrupt individuals' attention from their embodied geographic and temporal contexts. For example, a study of mobile device use on an environmental education trail adults reported being distracted by the digital guide more so than a paper-based guide (Rutchter, 2010). In contrast, educators have observed students' increased attention to environmental education tasks when using digital aids (Chavez, 2009; Ruchter et al., 2010; Uzundoylu et al., 2009).

## *Methodology*

To begin to address these issues, a phenomenological study of park visitors' use of mobile applications on hand-held digital devices was engaged in. For this exploratory study the park visitors' were a sample of undergraduate students engaged in an outdoor education course (n=14). Through participant observation and post-ICT use focus groups students' experience of mobile digital technology during a two day park visit was examined. Students were asked of uses of mobile digital technology. For the first task two teams of 7 students engaged in a geocaching exercise that was performed over 1.5 hours with GPS units. The second task involved the use of a star gazing app (Star Tracker) on an Android tablets. Two students each shared a tablet to perform a series of star, constellation and factual searches. Research assistants accompanied and observed the students as they engaged with the digital experience. This digital use was followed by two focus groups (n≤7) where researchers asked students about their experience with the applications (usability, enjoyment, etc.). Structured observation sheets and semi-structured interview scripts helped to frame data collection. These along with extensive debriefing between data collectors attempted to ensure inter-rater reliability. Venkatesh et al.'s (2003; 2012) Unified Theory of Acceptance and Use of Technology (UTACT2) guided the initial assessment of mobile device and application use. Outcomes arising from the use of the technology such as disruption or enhancement of nature experience, connection with park and nature, increased knowledge of the environmental subject being interpreted and perceived appropriateness and acceptance of such technology in a park experiences were also documented. Similar observation approaches have been used to study shopping experience (Fung & McCarville, 2011) and cell phone use (Park et al., 2013). Data collection also entailed the documentation of visitor and trip characteristics (e.g., group socio-demographic traits, trip motives, park and trail history, ICT familiarity).

### *Next steps*

Analysis of data is currently being engaged in. An existential-phenomenology approach is guiding the analysis of participants' experiences. Existential-phenomenology allows for analysis of context-dependent, 'live-in' experiences (Thompson et al. 1989) and has been used in mobile phone use studies (Grant & O'Donohoe, 2007; Shim, Ahn, & Shim, 2006). It is hoped that this study will produce an understanding of the outcomes of ICT use visitors experience and what aspects of mobile ICT produce these outcomes. Initial field-work de-briefs between the data collectors reveal several interesting preliminary reactions to the mobile digital technology experience. These included: during the geocaching exercise students often failed to attend to the natural environment around (exceptions included notice of biting insects, moose dung, and small frogs), the emphasis instead was on the task of finding caches and racing the other team to completion; (b) a preference for the more visually sophisticated Android tablet over the simple digital display found on the GPS unit; (c) use of digital devices rapidly became 'routine'; and (d) a failure of nearly every student to highlight a nature-related element, when asked, "what was the most memorable thing you did today that was related to nature?" Data from this pilot project will also be used to guide the development of an expanded quasi-experimental program of research that is designed to more rigorously examine the impacts of ICT provision to visitors in parks.