

Towards Cultural Inclusion: Using Mobile Technologies to Increase Access to Audio Description

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Abstract: This paper describes a National Park Service (NPS) and University of Hawaii research project that is developing a mobile application for audio describing NPS print brochures for blind and visually impaired park users. The project has the potential to expand access to cultural and aesthetic material for blind and visually impaired people.

Key words: accessibility, assistive technology, blind and visually impaired

Introduction

Creating access for people with disabilities by public and private entities in the United States is most often driven by the compulsion to meet the minimum requirements of the Americans with Disabilities Act (Jones, et al., 2012) and other Federal and State civil rights laws. Often the focus of accessibility efforts is on the obvious and the essential. Can someone in a wheelchair get into a building to conduct business? Can someone who is blind or visually impaired independently ride the bus or read a government webpage? Access to cultural and aesthetic content is usually seen as a luxury rather than a right. This oversight deprives many people with disabilities from social inclusion, recreation, and the benefits that cultural and aesthetic pleasures bring to an individual's quality of life.

Audio description is a means of providing people who are blind and visually impaired with a verbal synopsis of visual content. Audio description has been most widely utilized as a narrative technique for providing visual access to live cultural events such as movies and theatrical performances. However, audio description is largely underutilized for more static visual material such as museum displays, outdoor attractions, and image-dependent brochures. The lack of audio-described material is due in part to the time-consuming and specialized process of describing visual content using human actors.

The National Park Service (NPS) is funding a research team from the University of Hawaii at Manoa to use mobile technology as a platform to offer audio described park service brochures for people who are blind or visually impaired. Mobile technologies make it possible to more efficiently and affordably create audio description content that is uniform, portable, and easily adjustable to meet the needs of individual users. Challenges include developing a best practices protocol on audio description for NPS personnel, applying accessibility guidelines, and

developing a user-friendly application for both the content providers and blind and visually impaired audiences.

Need for Alternate Format Brochures

The NPS has 342 brochures that are designed and produced in collaboration with their publication house in Harper's Ferry, West Virginia. The NPS uses brochures not only to convey basic information about the park, such as park hours, hazards, and the location of campsites and visitor centers, but also to give the visitor a sense of the historical, natural, and cultural significance of the park. Increasingly, this is done through the use of highly visual media such as photographs, maps and drawings. NPS brochures are seen not only as a tool for use by visitors while they are in the park, but as an aesthetically pleasing souvenir for park users to take away with them when they leave (Hartley et al, 2015).

Currently the NPS offers large print, some Braille, and a few audio described brochures for blind and visually impaired people. The Americans with Disabilities Act (ADA) and Section 508 of the Rehabilitation Act require federal agencies to make alternative and accessible formats of information offered in print and on the web (Schuur, 2001). There are no specific mandates about best practices for achieving high quality print access (Lazar, Goldstein, & Taylor, 2015). According to the American Foundation for the Blind (AFB, n.d.), in 2012 there were over 20.3 million adult Americans with a visual impairment. In keeping with the NPS effort to offer broad access to the park system to a wide range of people, the NPS is actively developing alternative formats for their Park site visitor displays, videos, and printed materials.

Project Goals and Description

With the increasing popularity of mobile devices in the United States, using software programs via mobile technologies, such as smartphones and mobile apps, offers the opportunity to engage with alternate, and potentially accessible, applications for personal and on-demand use. Bouyed by the growing use of mobile technologies, this NPS project will develop an application for delivering audio-described Park Service brochures in an economical and efficient mode for blind and visually impaired park users.

There is limited research and real-world guidelines for creating audio described print materials (Braun, 2011; Morales, 2011). One of the NPS project's goals is to develop a best practices protocol for creating usable and current output in a repeatable and consistent manner. Existing research and documentation falls into three categories (Szarkowska, 2011): 1. soundtrack audio description options for film and television production; 2. live theater performance audio described recordings, and 3. museum tour guided programs directed toward blind and visually impaired visitors. There are currently no national or international standards for

providing consistent and high quality audio description (Orero & Vilaró Soler, 2012; Morales, 2011).

The backend software program for creating content for audio output to a mobile device application will require NPS personnel to input data into an online tool, created during this process, providing an opportunity for step-by-step instructions based on a set of best practices. This NPS project will implement recognized international accessibility guidelines from the World Wide Web Consortium (W3C) Web Accessibility Initiative (WAI) (www.w3c.org/WAI) to bring the software applications in compliance with the ADA and Section 508 regulations and will be used to contextualize the final best practices documentation. However, the project also will go a step further by collecting, analyzing and integrating the existing ad hoc best practices in audio description with project research on best practices so that blind and visually impaired end-users will have a high-quality audio-described brochure that provides them with the same informational, aesthetic and cultural experience intended for sighted users.

Finally, the NPS project's software prototypes will be tested by NPS personnel and blind and visually impaired users at three NPS sites for evaluation and feedback. Using real NPS sites for testing will bring together best practices protocols for creating content with blind user preferences for access and engagement. Our hope is that such research and testing in practical situations will provide an opportunity for rich dialog on improving audio description and mobile technology and thus contribute to the knowledge base on audio description.

Implications

Providing an audio-described brochure for blind and visually impaired visitors will expand NPS reach to people with disabilities wishing to experience and enjoy the parks as other visitors currently do. The National Parks offer a social context that is supposed to be educational, historical, and entertaining for all people. This project has the potential to significantly enhance the park experience for blind and visually impaired visitors by enabling them to explore and engage in the social and cultural opportunities that the parks provide. This project also will put the NPS at the forefront of the accessibility field, as media becomes increasingly visual and less dependent on the written word for communicating to the general public.

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