**User Generated Content and e-Accessibility**

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It is likely that we have all heard the term User Generated Content, or crowdsourcing, but never realized how it could dramatically change the way we access information about our surroundings. Crowdsourcing is an online exchange of information, ideas and solutions creating a distributed problem-solving and production model[[1]](#footnote-1). Since ‘no one knows everything and everyone knows something,’ the idea behind crowdsourcing is that intelligence stems from the combination of skills, understanding and knowledge[[2]](#footnote-2).

Crowdsourcing is based on an Internet increasingly influenced by intelligent web services that empower the user to contribute to developing, rating, collaborating on and distributing Internet content and customizing Internet applications. In general, the people who contribute to crowdsourcing application do so without expectation of payment. In fact, the amount of money paid to the crowd for high quality labor relative to the amount that labor is worth in the market resembles a slave economy[[3]](#footnote-3). So why do so many people eagerly participate? They do so to connect with peers, to achieve a certain level of fame, notoriety or prestige, and to express themselves[[4]](#footnote-4).

So at the end of the day, we have a limitless and customizable source of information produced at little to no cost. What this means for a person with a disability is that they can collect, enhance and share information tailored to their interests and to their disability. The boundless scope of this information could include, for example, public transportation schedules, a Braille menu at a restaurant, spatial layouts, locations of public restrooms, and physical accessibility features, such as wheelchair ramps and accessible kiosks. People with disabilities have already been sharing knowledge about the access opportunities and barriers in their communities on a much smaller scale. For decades they have been sharing travel anecdotes with others who they happen to know. Participating in crowdsourcing activities will match the power of communication technology with the deep knowledge base of community members, codifying a hitherto-untapped bonanza of access content.

Crowdsourcing information is abundant, however, without a way to make the information meaningful to the user, all this information is useless. Sendero Group researchers, funded by various Department of Education grants, have identified another area of high need of information accessibility, Location-Based Information. The idea behind Location-Based Information is that relevant data in the form of news broadcasts, historical anecdotes, or tour guide information will be linked to the user’s current location giving real-time relevant information. Whereas sighted people have alternative access to print signs, posted transit information, monument plaques, museum descriptions and historical markers, blind people do not. The genius in the crowdsourcing solution is the ability to unite various technologies.

**Need for setting a standard**

Smith-Kettlewell is currently leading a project which gathers a Community of Practice (CoP) to try to build a consensus among a wide range of groups who are crowd-sourcing disability-related geographical information. Some groups are gathering information about the location of bus stops and subway entrances, while others are collecting locations and attributes of curb ramps and accessible building entrances. Still other groups are cataloging non-visual landmarks such as audible fountains or windchimes. The fact that so many different communities are gathering disability-related geographical information poses the potential problem of different data cataloging approaches. The accessible geographical information community of Practice (GeoCoP) will create community-based guidelines and defacto standards to help ensure that accessible geographical data is tagged and cataloged consistently and reliably. This will ensure that different communities will be able to find and use disability-related geographical information when it is needed.

**Various apps that harness crowdsourcing:**

**Wikipedia** is a crowd-sourced Encyclopedia online resource where users are allowed to edit the content freely.

**Foursquare / Blindsquare** is an iOS-app that helps blind and visually impaired people to travel independently by providing them with spoken information about their environment. It gets information of the surrounding environment from Foursquare[[5]](#footnote-5).

**Able Road** connects people with accessible businesses. AbleRoad gives people with disabilities, families, friends, caregivers and business owners an online destination to rate and review community access[[6]](#footnote-6).

**OpenStreetMaps is built by a community of mappers that contribute and maintain data about roads, trails, cafés, railway stations, and much more, all over the world.**[[7]](#footnote-7)

**Yelp and other rating feedback apps**

**Need for momentum to guarantee success**

For crowdsourcing to succeed there needs to be a collaboration between mainstream players (FourSquare and OSM) and accessibility specialists.

**Other Examples of Crowdsourcing:**

**Crowdsourcing with User POIs for Sendero GPS:** Sendero has focused its energies on the creation of an electronic wayfinding system that enables people with no functional vision to move efficiently and comfortably through the streets of their villages, towns and cities using accessible information to monitor their locations, travel direction, and the names of businesses and other points of interest they are passing. They can also use the device to create and then follow walking routes in the same manner as automobile GPS devices. In addition, users can electronically tag specific points, such as bus stop signs or ATM machines, and later relocate them using the device.

**YouDescribe**: Smith-Kettlewell has also been involved with development of tools for crowdsourcing video descriptions. By creating a cloud-based repository for description data, called the Descriptive Video Exchange (DVX), it paves the way for anyone, anywhere to create and distribute video descriptions to everyone, everywhere. In the future, DVX can be used as a repository for crowd-sourced description for streamed videos from YouTube, Netflix, Amazon, or other video on the web. The existence of DVX is already having an impact on the availability of described YouTube videos through Smith-Kettlewell’s experimental YouDescribe.org web site – an online tool that allows volunteers to describe any YouTube video without copying, or otherwise impacting the original video. [[8]](#footnote-8)

**Benetech’s BookShare project** which allows volunteers all over the world to scan, process, and upload textbooks to be used by students with print-reading disabilities. Now, with POET, Benetech has created a new crowd-sourcing tool that allows volunteers to describe images in textbooks. New tools under development by Touch Graphics, Inc., and Smith-Kettlewell are enhancing the POET system by automating the creation of image descriptions based on a virtual interview process conducted with volunteer image viewers. This exciting approach to crowd-sourcing of image description and transcription is likely to lead to a significant increase in the availability of image descriptions in accessible textbooks used by students with a wide variety of disabilities. [[9]](#footnote-9)

1. **Brabham, Daren** (2008), ["Crowdsourcing as a Model for Problem Solving: An Introduction and Cases"](http://www.clickadvisor.com/downloads/Brabham_Crowdsourcing_Problem_Solving.pdf), *Convergence: The International Journal of Research into New Media Technologies* **14** (1): 75–90 [↑](#footnote-ref-1)
2. **Lévy, P.** (1997 [1995]) Collective Intelligence: Mankind’s Emerging World in Cyberspace (R. Bononno, Trans.) New York: Plenum [↑](#footnote-ref-2)
3. **Brabham, Daren** (2008), ["Crowdsourcing as a Model for Problem Solving: An Introduction and Cases"](http://www.clickadvisor.com/downloads/Brabham_Crowdsourcing_Problem_Solving.pdf), *Convergence: The International Journal of Research into New Media Technologies* **14** (1): 75–90 [↑](#footnote-ref-3)
4. **Organization for Economic Co-operation and Development (OECD/OCDE)** (2007), Working Party on the Information Economy, “Participative Web: User Created Content. Accessed from <http://www.oecd.org/dataoecd/57/14/38393115.pdf> [↑](#footnote-ref-4)
5. BlindSquare.com http://blindsquare.com/ [↑](#footnote-ref-5)
6. Able Road: http://ableroad.com/about.php#sthash.4kQRjo04.dpuf [↑](#footnote-ref-6)
7. http://www.openstreetmap.org/about [↑](#footnote-ref-7)
8. YouDescribe Project at SKI: http://youdescribe.ski.org/rel/ [↑](#footnote-ref-8)
9. BookShare.org https://www.bookshare.org/ [↑](#footnote-ref-9)