All Together Now:
A Collaborative Game to Increase
Advocacy Among Disabled Individuals

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ABSTRACT

A common problem for people with disabilities, particularly those who rely on mobility devices, is learning to navigate a new environment. This is especially troublesome for students who are attending a new university and need to figure out how to get from one place to another. All Together Now is a mobile multi-player cooperative game developed for two purposes. First, the game, developed by two computer scientists and a disability studies scholar, is intended to give disabled students a fun way to learn their way around campus, learn how to report accessibility issues on that campus, and make friends with people who have similar disabilities. Second, the game can be used as a way of fostering awareness and advocacy among students without disabilities, by having them work in teams where one member is someone with a disability that causes them to rely on mobility devices. This article describes the implementation of the game within a disability studies course and the results of two pilot tests, with both disabled and non-disabled participants.

KEYWORDS

Accessibility, Gaming, Mobility, Technology, Wheelchair Users

INTRODUCTION

In 1990, the Americans With Disabilities Act (ADA) was signed into law in the United States (ADA, 2016). This comprehensive piece of legislation prohibits discrimination against those with a disability. In addition, the ADA requires employers to provide reasonable accommodations to employees with disabilities, and imposes accessibility requirements on public accommodations. These accessibility requirements are “necessary and appropriate modifications and adjustments not imposing a disproportionate or undue burden, where needed in a particular [instance],” Real life examples of these reasonable accommodations include automatic door openers, ramps that lead up to a door as an alternative to stairs, and having doorways wide enough to accommodate a wheelchair.

A common problem with the ADA however is that its rules are largely open to interpretation (Fleischer & Zames, 2011; Hamilton, 2000; Scotch, 2001; USDOJ, 2016). While the ADA requires all public facilities to be accessible to the disabled, the method by which that requirement is met is at the discretion of the public entity itself. As such, there is no law set into place that standardizes the positioning of accessibility accommodations. Due to this fact, when a person with mobility issues is adapting to a new environment, it is hard to learn all of the intricacies of accessibility that exist.
While it may be one thing to read about accommodations on a page, in order to learn how to navigate a new environment as a disabled individual, experience is key.

For a new student or visitor to an unfamiliar college campus, this can be especially distressing. It’s difficult enough for anyone without disabilities trying to figure out for the first time where a specific room in a particular building is. Trying to find an accessible path to that building (without having to go over curbs or up or down stairs), the accessible entrance to that building (with a ramp and automatic door opener), and an elevator to the appropriate floor (again, considering stairs and doorways with no automatic opener) can be especially daunting for a new student in a wheelchair.

In addition to common problems with the ADA, another issue that those with disabilities may face while adapting to a new environment is a misunderstanding of reasonable accommodations by those in charge of said accommodations. Those without disabilities may be under the perception that their facility is accessible and follows ADA requirements. However, this may not be the case. Take for example President William F. Messener of Holyoke Community College in Massachusetts (Ross, 2008). In 2008, after complaints that the school was inaccessible, Messener took to a wheelchair and began to navigate the campus. To his surprise, although the campus technically followed ADA regulations, it was much harder to navigate the campus than he had originally believed. Although this is a common problem among public institutions, little has been done to solve the problem, and little has been done to help disabled people learn how to advocate for themselves when faced with similar situations. Furthermore, when dealing with issues of advocacy, it is important to realize that one is never alone. Having a support group while adjusting to a new environment as a disabled individual is an important way to increase advocacy for the disabled community.

With all of the issues mentioned above, the question now becomes what can be done to rectify the situation? How can one aid a disabled individual in adapting to a new environment while promoting self-advocacy, self-awareness, understanding, and community purpose? Our response was to create All Together Now, a social interactive game to help disabled people navigate new environments.

OVERVIEW OF ALL TOGETHER NOW

All Together Now was developed at our university by two computer scientists and a disability studies scholar with the following goals in mind:

- Help disabled people learn to navigate a new environment;
- Increase self-advocacy amongst disabled individuals in a specific locale;
- Increase understanding of accessibility issues for nondisabled individuals;
- Provide an easy way to report accessibility concerns;
- Promote community bonding amongst those with disabilities within a specific locale.

Figure 1 shows the opening screen for the game. All Together Now is a collaborative game, where all players must work together to “win” the game: either everybody wins, or nobody wins. Collaborative games have been shown to effectively increase both learning and players’ sense of self-efficacy (Sung & Hwang, 2013). By making the game collaborative, weaker players can get help from the stronger players, and a sense of camaraderie is developed as all become master of their environment.

IMPLEMENTATION OF ALL TOGETHER NOW

All Together Now is implemented as an iPad application using Filemaker as a foundation. Filemaker is a cross-platform database engine that uses a graphical user interface (GUI) to create applications that access the database through layouts and forms. Filemaker was chosen due to its comprehensive
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