

Accessible Games Day: Building Successful Community Engagement

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ABSTRACT

As games and gamification have become more intrinsically linked to both education and libraries, two librarians at a public university developed a tabletop gaming event in part to raise awareness of how games can be developed or modified in order to expand access to a larger population by addressing accessibility of play. While no individual game can be created or modified to have universal accessibility, playing games with an eye toward accessibility is the only suitable way to best determine what games have better design.

Keywords: Educational gaming, Accessibility, Libraries

INTRODUCTION

The authors, two librarians at a public university, developed a tabletop gaming event in order to raise awareness of how games can be developed or modified in order to expand access to a larger population by addressing accessibility of play. Introducing the temporarily able bodied to accessibility concerns can be a stressful prospect. Fortunately, because of their low stakes, cultural prevalence, and social lubrication, board game events such as these allow participants to set aside these apprehensions born of a lack of understanding. While games work very well in building communities, much of the tabletop gaming industry does little to mitigate exclusionary design for individuals with disabilities. The vast majority of games use color alone to distinguish player pieces from each other despite the prevalence of various types of colorblindness. It is estimated that 8% of the male population experiences some form of colorblindness, and a lack of accommodation eliminates and alienates these players unnecessarily, as the simple addition of patterns, shapes, or textures corrects the issue.

With their expertise in game design and human factors, the authors carefully reviewed and play-tested dozens of games for inclusion in the event. While it is the ideal, no individual game can be created or modified to have universal accessibility, and playing games with an eye toward accessibility is the only suitable way to best determine what games have better design. Providing descriptions and write-ups of what specific games do well (or poorly) along with tested modifications prompt players to consider how design can be improved for accessibility. This event was developed as a case-study and

model for future events, and this low-stakes inception of such concepts as a kind of positive social engineering was the authors' principal goal.

Key to reaching a broad audience and ensuring a wide variety of perspectives, development of programming such as this requires cross-departmental partnerships. Faculty, students, and community members offer differing insights. Critical among these partnerships are disability support advocates. In Universities, this often takes the form of student services geared toward accommodations in class. In another successful partnership, the authors were able to promote the event within the structure of a university acculturation class. Student attendees were asked to write brief reflection papers, promoting greater engagement with the event and its educational goals.

In developing events like these, the greatest expense comes from building game collections. While more familiar board games are generally quite affordable, these are generally among the worst when it comes to accessible design. That said, certain companies have created modified versions, including large print, braille, and tactile modifications. While these do expand human diversity in playability, most of these are post-market modifications which increase costs by as much as 500%. With the rising prevalence and falling costs of 3D printing and makerspaces, replacing or modifying the pieces and parts of existing games is far more effective if the right facilities are available in your area.

The authors will also share informational resources, including informational sites that will help in growing your own list of games suitable for playtesting, with factors such as popularity, time investment, complexity level, and design mechanics. 3D printing files are free or inexpensive, and multiple online communities devoted to accessibility in games can be found through both gaming and disabled perspectives.

LITERATURE REVIEW

For researchers investigating the use of games, a starting point for building educational programming incorporating games leads one to so-called "serious games." As games provide a high motivational factor, their applications as a learning tool for both practical concepts and critical thinking through immediate feedback and iterative problem solving (Gibson et al., 2007). Digital games have dominated this arena, but as the field develops more attention has been paid to board games. That said, where many existing digital games can be made to work with existing devices designed for accessibility, board games, which the authors use to define any non-digital game, exist in greater variety. Between mechanics, timing, sensory input, and social aspects, board games cannot be tested comprehensively for accessibility. While certain interventions can be made available to any game, much of these can only be played with non-disabled players compensating for those sensory or mobility interaction difficulties. Interventions of this sort are a poor solution, as according to Heron et al (2018), "...they do not permit the impaired player to interact with the game themselves, restricting autonomy and the empowered wish fulfilment that is a core feature of many titles."

While accessibility is the central theme, for most attendees this will not be enough to draw them in. The target audience should go beyond the community's disabled population, as the goal should include educating the general populace rather than "preaching to the choir." To that end, one must understand that the most important element is not the lesson, but the fun. Just like their able-bodied peers, disabled people "play for enjoyment ...regardless of the meaning that many researchers and experts attribute to the intersection of youth, games and disability (Wästerfors & Hansson, 2017)." The goal of such an event is to "welcome everyone and enable them to participate fully, on their own terms (Finkel & Dashper, 2020)." Social interaction becomes independent of the mechanics of the game, being a byproduct of player composition. This increased verbal communication helps create a sense of security, encouraging relationships to develop (da Rocha et al., 2019).

For professionals developing events of this nature, understanding the elements of a game's required skills gives a baseline for playtesting in terms of accessibility. Brunk and Monobe (2020) describe the use of a simplified task analysis for games using the example of *Texas Hold 'Em*:

1. Players must grasp multiple cards.
2. Players must pick up and lay down cards.
3. Players must be able to see the cards while holding them at an angle that does not allow other players to see their hands.
4. Players must remember the constituent parts of different hands and the worth of each hand.
5. Players must be able to conceal emotion so that other players cannot guess the quality of their hand.
6. Players must be able to quickly calculate odds to determine if they should continue to play and how much they should bet.

CHALLENGES OF CREATING AN ACCESSIBLE GAMING EVENT

The most significant challenge is that no game is universally accessible or universally appealing. Some games can be made significantly more accessible by simple adaptive technology such as magnification, a reading app on a player's phone or basic card holders. Other games can be made significantly more accessible with modifications we were able to create using library resources. Some games could be made both more accessible and more fun with the addition of a neutral narrator. Cooperative games, by their nature allow more easily for the dignified and meaningful inclusion of disabled participants. A player may not be able to physically manipulate pieces or read text on a board or in a book, but they can participate on equal footing in group discussion and decision making. Unfortunately, some games simply cannot be modified without significantly changing the experience of the game. We approach accessibility questions using the social justice model, that is to say a player's autonomy and dignity matter as much as technical functioning. Disabled gamers also have differing and sometimes conflicting needs. We do not have hard and fast rules for determining whether a game is "accessible enough" for inclusion in our event, although using successful modifications

in this case study does give some insights toward developing standards. Further research in this area resulting in a standardized rubric could assist event planners without the advantage of expertise in accessible and inclusive design.

EVENT PLANNING AND SET-UP

Marketing and usability were equally influential in our plan for the Accessible Game Day. We chose a location that would be visible to library patrons who had not known about or planned to attend the event. Further, our layout of game tables featured the games with the least commitment in terms of time and/or effort required to learn to play game. The tables with the lowest commitment games led to tables with games that would either take longer to play or were more complex to learn. We did not expect participants to engage in games that would take more than about an hour to play. We did still want a striking visual element, so, we asked the campus gaming club to set up a table for an all-day *Magic the Gathering* campaign. We placed signs with game descriptions on all the tables where we had laid out games. We also had a welcome table at the public entrance to the library nearest to our game set-up with all the game write-ups so that attendees could either browse our descriptions or ask questions about the suitability of games.

We had multiple goals for the event. We wanted to create a welcoming gaming experience free of gatekeeping. We chose our games carefully to ensure we were able to offer games that would meet a variety of needs. Designing a single game that is universally accessible is nearly impossible. RS Games interface is as close as possible to a universally accessible interface. However, it also strips all the aesthetic pleasures from the games it provides access to. We also wanted to provoke students to think about accessibility without overtly lecturing. Responses from attendees indicated that at least some were struck by the design of the Tactile *Connect 4* and the Braille and Large Print *Monopoly* in particular. Attendees expressed shock at the price difference between the accessible *Monopoly* and the standard version.

APPROACH TO WRITING GAME DESCRIPTIONS AND SAMPLES

One of the authors has a journalism background, which has led to her creating library marketing materials throughout the course of her career. The other author has a humanities background, and his writing background is largely in disciplines that allow for more verbose writing. These different approaches provide useful examples for others wanting to plan similar events. Our goals with the game descriptions were to indicate which games might work best for a particular disability or user need. At the same time, we did not want to be overt and indicate that a particular game might or might not be suitable for a blind player, for example because blind gamers can still have very different needs. Rather, we wanted to provide information that would provide players with enough information to make their own decisions about which games might be suitable. Our audience for this event was primarily university students, and that did affect our writing style and word choices.

The description for *Fluxx* describes the primary accessibility problem. Because the rules and goals are not known from the outset of the game and are changeable as the game progresses. This may not be compatible with several disabilities or neurotypes. Fluxx game decks are made with a variety of themes, or skins. For example, *Doctor Who Fluxx* and *Monster Fluxx* have very different aesthetics and color schemes. Therefore, it is difficult to say how accessible each deck is from a visual perspective.

“*Fluxx*: If you don’t like unpredictable things, skip this game. If you like a quick and wild ride, pick up this quick card game with a variety of themes to appeal to everyone’s taste.”

This description explains the basic game mechanic. Dice chuckers (dice throwing games) may not be suitable for those with disabilities affecting the hands or wrists. We also describe the visual aspects of the games. This game is also available in a free interface that can be either audio or text based and altering players to assistive and adaptive technology in games was one of the goals of our event.

“*Zombie Dice*: Throw the dice and take your chances! Do you win tasty brains or feel the wrath of a shotgun blast? This is a simple and fun dice-chucker with color and shapes cues on dice. If the dice don’t work for you, try the RS Games text or audio version.”

A more verbose approach will draw players in by using tone and flavor. *The Night Cage* and similar games utilize a narrative and aesthetic that enhances gameplay, and the corresponding description draws attention to this while still addressing mechanics and levels of accessibility.

“*The Night Cage*. Imagine a horrifying prison with no walls...and no light. Isolated in darkness, you and your fellow players must coordinate carefully to find the keys to your escape with only the fragile light of a single candle to guide you. This cooperative tile-laying game eschews color, and while some fine details may cause difficulty for players with visual impairment this is offset by the coop nature of the game.”

LESSON LEARNED FROM USERS

Our extensive testing and planning resulted in a relatively smooth event. However, there were still a few surprises in store for us. The first was realizing we had neglected to plan sufficient reminders for our volunteers that we had counted on to help teach the games and help keep the play moving along smoothly. We will make more plans to remind volunteers and use information gained from this event to refine our placement of volunteers for our next event. We were surprised by student reactions to the games. For example, we did not expect *Avalon* to be as popular as it was. *Avalon* is a social deduction game where players are assigned various roles, including some traitor roles. The objective is to figure out who the traitors are. Roles are assigned by drawing cards, and the game requires voting. We developed tactile tokens for assigning roles and for voting. The tactile tokens were developed as an adaptation for visually impaired players. However, when given the

choice of the original cards or the tactile tokens, players chose the tactile tokens.

Tables intended for the game event were clearly marked with standing signs with game descriptions and the game were all set up for immediate play. Despite the clear indications of the event taking place, students packed up one of our games in order to study at that specific table. We will be asking volunteers to prevent this in the future in order to avoid damage to games and disruptions in the flow of the event.

CONCLUSION

While Schmutz et al. (2017) previously demonstrated that accessible websites are more satisfying for non-disabled users, little research has been conducted to determine if the same holds true for adaptive games. Our experience would suggest this is quite possible. Some of the game modifications are quite simple. For example, Tactile Connect 4 differs from the original game only in that one color of disks also has holes drilled through the center. This modification is relatively simple and cost effective but immeasurably enhances the accessibility of the game. Producing plastic tactile tokens is also relatively inexpensive. Game manufacturers could also produce 3-D printer files for use by consumers in order to create more accessible games. The availability of 3-D printers in libraries also significantly reduces the cost for end users who would like to print tactile tokens. Further research on creating accessible games that appeal to all users could make gaming much more attractive as a hobby for disabled users while enhancing the experience of all players.

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