

## Improving Access To Critical Games For Game Education At Cultural Heritage Institutions

**Introduction:** The Game Research Group (GAMER Group) at the University of Washington Information School (UW iSchool) – with the [Video Game History Foundation](#) (VGHF)<sup>1</sup> as the partner organization – requests \$240,999 for a two-year research project regarding the accessibility under the Digital Millennium Copyright Act (DMCA) regarding critical games within the digital games space. Game educators have voiced concerns regarding DMCA and how its existence functions more as a threat, preventing them from working to obtain access to games under fair use. Additionally, game historians have voiced that due to the large volume of content in need of preservation, there is a need for multiple cultural heritage organizations to pursue targeted efforts to secure and share access to these games. To aid in these efforts we will work with game educators and historians to identify critical games that best encapsulate and communicate desired educational takeaways and investigate the current methods in which they could be accessed.

**Project Justification:** Video games have evolved into an important part of our modern cultural heritage. With game oriented programs becoming more prominent in the educational space there is a growing need for access to classic games that serve as the pioneers and quintessential examples of not only game mechanics implementation, the evolving market, the various eras of game development and education, and experimentation (i.e. What did *Halo* do in comparison to *Doom/Quake*, what creates the distinction between *Super Mario* (a platformer) and *Hollow Knight* (a metroidvania), etc.). A recent study revealed that merely 13% of classic video games are available on modern platforms (VGHF, 2023) [1]. This indicates that the primary way to access these games would be through obtaining original hardware, which becomes difficult due to the aging and disposal of products that are out of circulation and general societal interest. Additionally the game industry has seen the advent of digital only available titles, a transition to digital over physical distribution, and the sheer number of games released in a year seeing a 13,098% increase over the last 40 years. The Nintendo Entertainment System (NES), one of the most popular early game consoles, had a total of 837 games released in the US of its 10 year relevant lifespan (1985-1995, avg. 83.7), compared to the 10,963 games released on Steam, the leading digital game storefront, alone in 2022 (Statista) [2]. While efforts are being made to preserve games at cultural heritage institutions, due to the DMCA, libraries are able to do this preservation, but unable to provide digital access outside of the physical location. This leads to an issue with game design education, where instructors find themselves unable to provide access to games that would best communicate key elements or aspects related to the games design, relevant to course materials for their students. This sometimes leads them to explicitly design their curriculum around the games that they know are in distribution, regardless of if they are the best example. This was revealed through our interviews with game design educators and historians regarding their knowledge of DMCA, games they wanted to incorporate into their work and their accessibility, conducted as part of research for the history game availability study [1].

These factors culminate in an urgent need to improve historic game accessibility for games that are critical to educators and researchers. As such, first, there is a need to identify the critical games that educators and area experts believe are crucial to improving game research and education for future generations that are distinct from various existing lists of games that are compiled based on commercial success [3]. In addition, we also need to develop a framework to guide these same individuals in determining if a game that has garnered their interest can be reasonably provided to their students, instead of simply choosing the safer options out of fear from breaking DMCA guidelines. A key component of truly making these games accessible is removing the dependency on utilization of original hardware, as this poses restrictions on where these games can be accessed. This heavily limits the number of individuals who can utilize materials at a time based on not just the games availability, but the availability of loanable original hardware as well. A better assessment of the game's availability in specific cultural heritage institutions or other online archives and possible types of access for these games will help mitigate this challenge.

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<sup>1</sup> VGHF: The Video Game History Foundation is a 501(c)3 non-profit organization dedicated to preserving, celebrating, and teaching the history of video games. Their archives provide rare material for study, and their advocacy and educational outreach supports documentation and preservation of video game history.

**Project Work Plan:** This research project aims to identify the negative impact that current games accessibility under copyright has on educators and researchers, and explore ways to support the shared access to games critical for educational purposes. Our primary research questions are:

**RQ1.** What kinds of games do these stakeholders describe as critical games for the education of game design and history, and what kind of characteristics do they have? What kinds of challenges, in terms of access, do educators experience when trying to incorporate these games into their curriculum?

**RQ2.** What are the current practices of librarians and museum professionals for investigating the accessibility of games? What can we learn from game researchers and historians as their best practices for obtaining this information?

**RQ3.** In what ways are we able to improve the access that is not dependent on the original hardware for critical games across different cultural heritage institutions?

The first year will primarily focus on information gathering regarding difficulties regarding accessing critical games, knowledge of how to identify if a game is accessible, and a non-comprehensive but extensive list of games that, if accessible, would improve the quality of education within the game design space. This information gathering will be done through recorded interviews with relevant area experts and surveys. The results will be analyzed to establish shared characteristics in identified games and accessibility methods needed, to develop a broader survey that will be leveraged in year 2. The second year will consist of working with the VGHF to create a best practice guide to aid in the spread of tools/approaches to see if a game is reasonably accessible, as well as performing a wider survey to establish quantitative metrics for our findings from the first year. The research findings will improve our understanding of the needs of educators in presenting materials that can help cultivate the skills of future game designers. In addition, they will contribute to mitigating librarians, archivists, and museum professionals' current challenges in investigating and ensuring access to games through sharing knowledge about best practices.

**Diversity Plan:** Many of the veterans in the game design space are often older white or Japanese men, largely due to how young the digital games industry is and when things began to take off between the 70's-90's[4]. This was further spurred by the focused marketing of digital games in the U.S. towards boys, however during the 2010's significant efforts were made to diversify the representation within the games industry[4]. As a result of the aftereffects of these original biases, we intend to make focused efforts of reaching out to experts from various backgrounds, race and ethnicity, gender, countries, and eras in our study. When we are distributing our survey in the second year, we will reach out to smaller coalitions of representation demographics (e.g., [5], [6]) to distribute the survey to a wide audience of diverse backgrounds and ethnicities.

**Project Results:** The main contributions of this work will be the curation of an extensive list of critical games compiled from game educators and historians. An analysis of the identified games will be performed to identify shared characteristics of the listed games. At present these critical games are only identifiable after they have influenced future game development, and as such these characteristics will not be able to identify if a game will become a critical game in the future, however will provide some understanding of how a game can become influential. We will also create a best practice guide to support how to check if/where a game is available and accessible under DMCA/Fair Use in partnership with the VGHF that will be publicly accessible. A critical component of the findings will also be leveraged to identify avenues for improving critical game availability within cultural heritage institutions and online archives and the creation of an actionable roadmap for further pursuing the identified options; for instance, the list of critical games and their accessibility that can serve as a discussion point in future DMCA policy hearings where the need for fair use of games is evaluated, which occurs once every 3 years.

**Budget Summary:** \$240,999, which includes the UW indirect rate 55.5%, is the total anticipated direct costs with \$118,804 for personnel and tuition (Dr. Jin Ha Lee will spend 1 full month in Year 1 to overseeing the development of the research instrument, interview data collection and analysis, and 1 full month in year 2 focusing on collection and analysis of survey data and dissemination of the findings; PhD student Lane Koughan, will work 50% during the Academic year in Year 1 and 2); \$3,000 for participant support and incentives; \$1,000 for advisory board participant payments; and \$9,000 VGHF Industry Consultants to collaborate on creating documentation for accessing critical games.