

# Game Accessibility Research Summit Workshop

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**Abstract.** Game accessibility evolves rapidly both in research and game industry contexts. While industry-oriented conferences provide an excellent outlet there is also a need for researchers across disciplines and regions of the world to meet in and discuss the advances and next steps. The aim of this workshop is to gather all researchers in the field of game accessibility in a hybrid summit, to enable inclusion of as many as possible. The purpose of the workshop is to work together to identify gaps with opportunities and challenges to further advance game accessibility and inclusion in games. The expected outcome is a joint plan and potential collaborations between researchers and research groups. This is achieved by submission of abstracts that are peer-reviewed and discussed during the workshop and used as basis for identifying intersections and opportunities to collaborate and make a plan to solve the most important issues that we find during the workshop.

**Keywords:** Game Accessibility, Inclusion Games, Special Needs

## 1 Introduction

### 1.1 Background

Game accessibility has evolved significantly during the last decade, both in research and in the industry. Progress includes e.g., accessible controllers, development kits, educational material, inclusive design processes and research about specific, often neglected groups such as deafblind gamers and people with cognitive disabilities. The Game Accessibility Conference<sup>1</sup> gathers developers and researchers in presentations and discussions. Research conferences also enable ad hoc meetings and of course, individual researchers collaborate on specific topics in various research efforts. However, there is a lack of an organized, continuously sustained effort to meet all or most peer

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<sup>1</sup> <https://www.gaconf.com/>

researchers within this specific field of research. While literature reviews provide a solid knowledge base, having the possibility to discuss ideas, challenges and opportunities, between junior and senior researchers, during a research conference about entertainment computing is equally important to advance the field and work together towards universal access in computer games.

## 1.2 Purpose and goal

The purpose of this focused full-day workshop is to have all peer researchers in the field working together, to identify gaps with opportunities and challenges to further advance game accessibility and inclusion in games. Thus, the workshop is open to all researchers and PhD students in the field of game accessibility, in a hybrid format to enable as many as possible to participate.

The goals of the workshop are: 1) discuss submitted short abstracts from each participating researcher, PhD student and/or research group; 2) outline research gaps with opportunities and challenges, including possible collaborations; and 3) decide on a continuous academic forum format for advancing game accessibility research.

## 2 Workshop design

As point of departure, all participants submit an abstract summarizing their own work. Furthermore, the YouTube repository from the IGDA Game Accessibility Conferences<sup>2</sup> is used to find the latest progress in the game industry. Also, a brief summary of some research areas is included here, before moving on to describing the workshop format and participant enrollment.

### 2.1 A brief overview of game accessibility in research

Research about game accessibility covers a wide spectrum of studies, and here only a few examples are provided to start the conversation during the workshop. First, the studies can be divided into addressing the medical versus the social model of disability [1] Social model studies focus on how to adapt the society or environment to fit the individual with a flexible and multimodal design, and also, how games can be an environment where each person's capabilities are in focus (e.g. audio games, often made both by and for blind players or games more generally for people on the autism spectrum). The social model thus requires an intersectional, universal access perspective. As contrast, medical model studies focus on how games can be used or designed as a tool for therapy or education, where the disability is in focus and the goal is to improve the person's ability in some way. The latter relates more clearly to the concept of serious games, i.e. games made for other purposes than entertainment. This can be further framed as studies in the lab (serious games, primarily made in academic contexts), as opposed to studies in the wild (games primarily developed by the game industry) which

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<sup>2</sup> [https://www.youtube.com/channel/UCKWG26bBd7TOiaLtc\\_crqvw](https://www.youtube.com/channel/UCKWG26bBd7TOiaLtc_crqvw)

is a gap identified by Engström [2]. Furthermore, there are disability perspectives on representation, accessible design and communities in games [3]. Also, there are technical studies on hardware development as well as machine learning. Related to the technical development, there is also a need of more studies about extended reality and metaverse for games with focus on accessibility [4]. The perspectives represented by social/medical models, industry/academia, entertainment/other applications, critical studies, hardware, machine learning, and related extended reality technologies illustrates the wide scope of studies related to game accessibility and inclusive, universal game design.

## 2.2 Recent development in the industry

To address the gap between the game industry and academia [2], and to make research outcomes relevant for the industry, it is vital to look closely to what is being done in the industry and find ways to collaborate. The following is mainly based on the latest available recordings from the Game Accessibility Conference, where Ian Hamilton makes a news update every year, with the following outline in 2023: Platform and hardware, player resources, developer resources, games, and people, with links compiled in a document online [5]. A summary is provided here as further input for the discussion during the workshop.

The PlayStation Access controller is an example of progress in a platform as well as adaptive hardware that can work across platforms, similar to the previous Xbox Adaptive Controller, and there is also a haptic system menu feedback for blind players. Other platform progress was the Assistive Access on iOS to simplify starting apps, and support for accessibility switches with “mapping switches directly to gamepad inputs”. Also, Google released Project GameFace, which can map facial expressions to mouse interactions. A related development, MotionInput Games<sup>3</sup> is an excellent example of how academia and industry (in this case, University College London, Intel, IBM and Microsoft) can work together for increased accessibility in games.

For players resources, there are now game reviews in general (i.e. not special accessibility reviews) that include game accessibility information, e.g., Eurogamer, Techradar and VG 24/7. Also, the Family Gaming Database have developed an API providing accessibility information in their database to review sites like Push Square, Nintendo Life and Pure Xbox. The Xbox Ambassador program is a network of players to provide a safe space to play in. The Accessibility Summer Showcase by Laura Kate Dale showing recent games that have prioritized accessibility in the game design.

Regarding developer resources, Tolk ease the implementation of screen reader support via an abstraction library. This, and ReadSpeaker, as well as native support lower the threshold for game developers. Another approach was provided by Rebellion who hired an accessibility consultant from Game Accessibility Nexus to audit their game, and then shared this online for free, to help others learn how a game can be made more accessible but also how hiring a consultant can help. Yet another approach was taken

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<sup>3</sup> <https://www.ucl.ac.uk/computer-science/collaborate/ucl-industry-exchange-network-ucl-ixn/touchless-computing-ucl-motioninput-3>

in Spain where the disability organization Fundación ONCE collaborated with AEVI (the Spanish games industry organization), to write a white paper about game accessibility and related hardware. This is a great example of how to bridge the gap between the game industry and disability organizations.

Finally, Ian Hamilton [5] provides an extensive list of games with accessibility features that is too long to elaborate on here, as well as full-time positions such as UI/UX Accessibility Designer, Lead Accessibility Designer, Accessibility Program Manager, Chief Accessibility Officer, Accessibility Quality Designer and Accessibility Researcher. A recent development is also discussions about game development workplace issues, as discussed during the IGDA Game Accessibility SIG roundtables at the Game Developer Conference in 2023 and 2024.

### 2.3 Workshop preparations

Organizing events is time consuming and this summary may aid in reducing the effort needed for creating follow-up workshops over time.

**Call for participation.** Information about the workshop was published at the conference website about five months before the conference, which enabled us to reach out to peers around the world as early as possible. The web page contained a brief introduction, the main objectives, the workshop format, how to participate and a brief information with name and affiliation of all organizers<sup>4</sup>. The target group was researchers from PhD students to senior researchers interested in inclusive game design and game accessibility. The estimated number of participants was around 30, either onsite at ICEC or online during the workshop hours.

**Format for participant enrollment.** The call for participation included request to submit an abstract of between one to two pages, outlining the participants' current research efforts, including references to their own work, no later than one month before the workshop date. To ensure a good workshop, the workshop organizers make a basic review checking the coherence and pertinence of the topic. This review and selection were done within a week after the deadline.

### 2.4 Workshop format

This is a full day workshop to have ample time for the following activities, related to the goals of the workshop:

1. Introductions of attendees.
2. Peer-review all submitted abstracts and discuss them (goal 1).
3. Identify intersections between research groups and efforts (goal 2)
4. Identify challenges and opportunities to collaborate on (goal 2)
5. Create a plan for potential collaborations (goal 2)

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<sup>4</sup> <https://icec2024.uea.edu.br/workshops.html>

## 6. Decide when and where to have the next yearly summit (goal 3)

As the point of having a workshop where some peer researchers perhaps meet for the first time to find possible collaborations in the future, the introduction will be a substantial part of the workshop, up to one hour. From there, moving on to taking time to read each other's abstracts, need ample time, at least one hour, and depending on the number and length of abstracts (1-2 pages) the group may need to be divided into subgroups. From there we move on to identify intersections, challenges and opportunities and see where different researchers (or groups of researchers) can collaborate to further advance the field.

## 3 Expected outcomes and continued work

During the last part of the workshop, we summarize the discussion into an overarching plan outlining possible collaborations and what to do until the next yearly summit. This will ensure a continuation to make the summit sustainable over time. This plan may be structured as a shared sheet or table, with details about researchers, fields of research (based on submitted abstracts), intersections between researchers and groups, and thematic organization of the challenges and opportunities found during the workshop to work on as a research community until the next summit. The sheet can further outline a rough time plan with milestones, and some online meeting times in subgroups to address the milestones.

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