



UK-South Korea Inclusive Digital Museum Innovation

2023

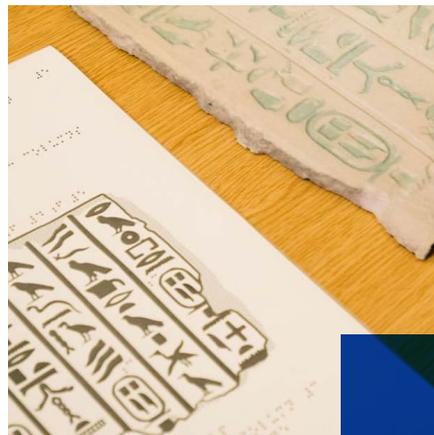


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Foreword and thanks

I am delighted to introduce this report, created as a result of the work of the Inclusive Digital Museum Innovation project led by UCL Institute of Archaeology in the UK and KAIST Games and Life Lab in South Korea.

This project is one of the ESRC-AHRC Opportunity: UK and South Korea social science, arts and humanities connections awards made as part of collaborative research networks aiming to develop long-term relationships between researchers in the two countries. Created during the second year of the pandemic, the Inclusive Digital Museum Innovation project was developed as an interdisciplinary response to a process of an accelerated shift towards digital technology and the digital divide that was exacerbated, but also exposed by COVID-19. Bringing together a cross-disciplinary team of researchers and professional practitioners, this project addressed the challenges that UK- and South Korean-based museums and libraries face when dealing with digital inclusion/exclusion.

Through its workshops, digital resources and the conference, the project has gathered knowledge about how museums and libraries created inclusive digital content and innovative engagement activities during the pandemic. It also created new knowledge about how researchers and professional practitioners tackle digital exclusion in the new post-pandemic landscape for our sector. The project team and partners also renewed their commitment to deliver effective digital inclusion, as expressed by the Manifesto for Digital Inclusion in Museums, Libraries and Heritage.

Many thanks to the project team based at UCL IoA and KAIST Games and Life Lab, our partners, Science Museum Group, British Library and V&A in the UK and the National Folk Museum of Korea, National Library of Korea, Nam June Paik Art Center and the National Science Museum in South Korea, to the workshop and conference presenters and participants, and to the many organisations and individuals who supported the project and its activities. Last but not least, I would like to thank our funder. This work was made possible through the generous support provided by ESRC under contract number ES/W011034/1.

Theano Moussouri



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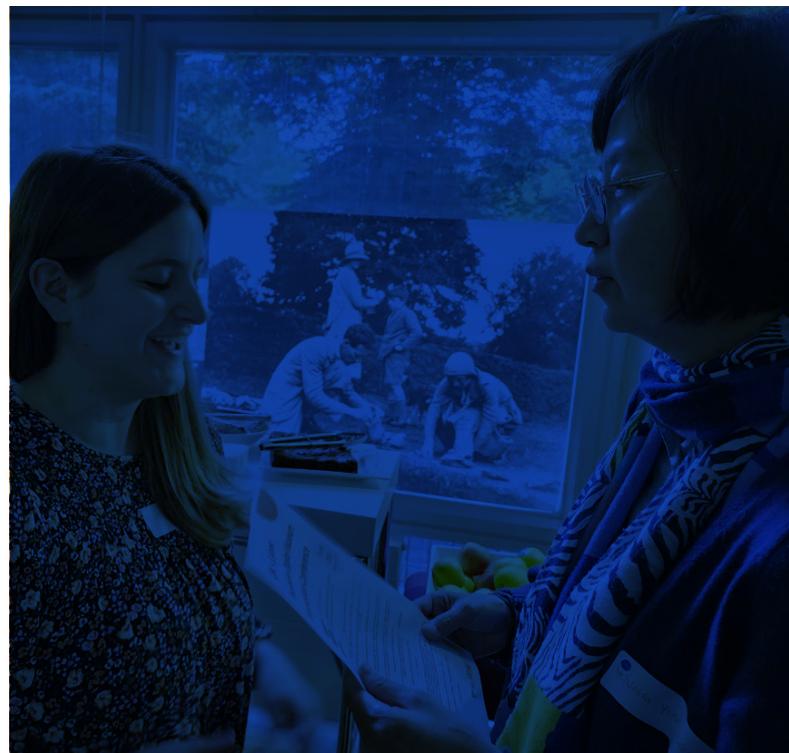
Project summary and introduction

How can we learn from experiences in both the UK and South Korea to create inclusive digital transformation in arts and heritage organisations?

From February 2022 to July 2023, a cross-disciplinary network of colleagues in the UK and South Korea worked together to explore answers to this question, in a project funded by the UK's Economic and Social Research Council (ESRC).

This project took advantage of the two countries' strengths in digital innovation and their cultural and creative industries to identify and consider themes and topics around digital inequality and the social responsibility of museums in the digital age.

With a series of three online workshops, and a final conference held in London, this project initiated unique international partnerships between UCL Institute of Archaeology and the KAIST Games and Life Lab as well as museum and library partners. These long-term relationships will contribute to the prosperity of the two countries and their ability to create a sustainable future for the digital economy and creative industry.



Project aims

The overarching aim of this project was to bring South Korea's advancements in digital technology and the digital game industry and the UK's socially engaged museum practices into dialogue with each other. The goal of doing so was to explore inclusive and ethical approaches to the digital transformation of arts and heritage organisations.

In particular, this project aimed to motivate museums to take actions to mitigate global challenges of digital inequality in society, improve our understanding of digital ethics regarding museum practices, and explore the potential benefits of digital gaming towards equity, diversity, and inclusion in museums.

Digital innovation that rapidly changes our lives promises to be a driving force for the economic growth of post-pandemic UK and South Korea. The development of game studies in South Korea emerges from its thriving games industry – the fourth largest games market in the world. This project seeks to integrate game studies to help global museums adapt to a post-pandemic cultural and leisure landscape in which digital is rapidly becoming the default.



Project objectives

The objectives of this project were threefold:

01

Firstly, we aimed to initiate the unique international partnership between the UCL IoA and KAIST Games and Life Lab, enabling mutual benefits to the ongoing digital transformation of both countries' museum sectors; improving understanding of cultural differences in ethics, and contributing to both countries' ability to create a sustainable future for the digital economy and the creative industries.

02

Secondly, we wanted to identify and develop concepts around digital inequality, seeking ways to apply them in museums to enable them to take social responsibility, and to increase the wellbeing of their communities through the design and incorporation of inclusive technology.

03

Lastly, this project, taking a cross-disciplinary approach between museum studies and game studies, promoted knowledge exchange for the improved understanding of digital leisure, and in particular the context of digital users - notably, those left behind by digital innovation (e.g. people with disabilities and people with marginalised ethnic and cultural backgrounds) with a potential benefit for designing inclusive digital museums.

The three research questions that guided our work were these:

- How can we understand the relationship between technology, culture, and ethics, and how can this understanding inform museums' digital transformations to be more inclusive for individual citizens' wellbeing and social connection?
- How can museums and other cultural organisations help mitigate digital exclusion in a post-pandemic society, especially for communities often left behind by digital innovation, such as people with disabilities and people with marginalised ethnic and cultural backgrounds?
- What approaches and design thinking are required for museums and other cultural organisations to adopt inclusive technology in their digital practices? What are the opportunities and challenges of applying such technology in practice?

In this report you can find a manifesto for digital inclusion which emerged from discussions at the conference.

The workshops are also summarised with references to further reading, as are the conference presentations and discussions.

A list of partners is included at the end.

Manifesto for Digital Inclusion in Museums, Libraries and Heritage



Emerging from discussion at the Digital Inclusion conference on 5 and 6 July, these are the things we believe about effective digital inclusion.

Manifesto for Digital Inclusion in Museums, Libraries and Heritage

01

If you design digital experiences to be inclusive, you will benefit everyone.

People with different needs and access requirements visit museums and take part in cultural activities. By considering a broad range of abilities and needs, you make the experience easier to access for all.

02

Inclusivity is best considered from the very start of the project.

A digital product built with fewer barriers to access from the start, is more equitable and more effective – saving time and money.

03

Digital technology can help you to build a larger audience.

Soon all members of society, up to the very oldest, will have grown up with digital technology. Accessible digital design means being more available to a huge potential number of visitors.

04

Three stakeholder groups play a role in creating a successful digital project.

It's vital to involve museums and libraries professionals, technology experts, and users with disabilities in development. You can't do without any one of them – but importantly, individuals may belong to more than one group.

05

The best digital experiences are social.

Multi-user digital experiences are the most powerful – for visitors with different access needs, for intergenerational visitor groups, and for visitors interacting with people they know or with strangers. The social aspect is at least as important as the content in terms of being memorable.

06

You can harness the power of digital media to allow new kinds of access.

Audio interpretation is underexplored and incredibly memorable. Gamified museum exhibits have inbuilt motivation and challenge. Digital experiences allow a diversity of outcomes and ideas – taking place on common ground but allowing a variety of perspectives.

07

Digital technology comes with challenges that museums need to grapple with.

Privacy, anonymity and safeguarding, impacts on mental and physical wellbeing; like other institutions museums need to make themselves aware of best practice to avoid harm to users, and reputational risk.

08

There is no need to reinvent the technological wheel.

Some of the best inclusive technologies are novel uses of existing, proven and standardised tools. Many more assistive digital capabilities are embedded in our devices today: translation, voice assistance, automatic subtitles, image recognition, multiplayer capability in games.

09

Ideally, your digital project will be co-created, people-centred and values-led.

To achieve this, whatever the size of your organisation, it needs to work towards inclusive governance and leadership, and a commitment to diversity in recruitment and equity in mission.

10

Anyone working in museums, libraries and heritage can play a part in promoting inclusion and changing society.

Museums can advocate for and model changes that foster an inclusive society. Museums and libraries can't do it alone, but we can lead positive change.

Participants said at the end of the conference that:

Digital access to culture is:

...an opportunity

...like taking an airplane instead of walking, it facilitates and mobilises you to go further

...crucial for an inclusive society

...happening, inevitable, whether we like it or not

...absolutely part of the process of engaging different audiences, reaching different types of audiences, bringing different layers of interaction, adding all this richness

...complex

...the way forward

Workshop 1: Tech, Culture, and Ethics

Background

In a post-pandemic society, digital has become the default. Digital transformation of museums has been accelerated in various ways, from the digitisation of collections to the development of virtual exhibitions in the metaverse. However, it is undeniable that technologies are not neutral. Digital methods do not work for all. Workshop 1 explored how we can better understand the relationship between technology, culture, and ethics, and reflect this relationship in museum practices in order to ensure digital audiences feel welcomed. This workshop identified key theoretical and ethical issues relevant in the two countries and which underpinned this project.

Questions for Workshop 1

- How can museums be proactive in promoting digital inclusion?
- What types of investment in digital skills and competencies are needed to achieve digital inclusion?
- What types of collaboration are needed to improve museums' capabilities in relation to inclusive digital provision and digital ethics/accountability?



01

Plotting the New Co-ordinates of Digital Museum Innovation

- Ross Parry, Professor of Museum Technology,
Department of Museum Studies, University of
Leicester, UK

Ross Parry illustrated how digital museum innovation is evolving positively regarding five areas including principles, people, products, process, and place. Digital projects today are more often people-centred and driven by need – including a commitment to equity. There is more reflection, evaluation, and sharing of expertise. A greater diversity of people is often involved in decision making, and the products made are more socially purposeful.



	Principles (why)	People (who)	Products (what)	Process (how)	Place (where)
Past	<ul style="list-style-type: none"> • Technology-centred • Problem-based • Progress-led 	<ul style="list-style-type: none"> • First adopters (Technical competencies) • Pioneers (Media expertise) 	<ul style="list-style-type: none"> • Instructive guides • Reflective critiques 	<ul style="list-style-type: none"> • Investigative experiments • Accumulative synthesis • Evaluative design • Iterative cycles 	<ul style="list-style-type: none"> • Close projects • Framed partnerships
Present	<ul style="list-style-type: none"> • People-centred • Context-based • Value-led 	<ul style="list-style-type: none"> • Allies (Cultural experience) 	<ul style="list-style-type: none"> • Enabling tools 	<ul style="list-style-type: none"> • Active campaigning • Responsive sprints 	<ul style="list-style-type: none"> • Open commons

But he underlined the need for digital design to flow from an effective organisational mission, vision, and culture.

‘The key to diversity, inclusivity and equity’, he said, ‘is to have an institution that reflects those values’



A copy of a slide from Ross Parry's presentation

02

Digital Transformation in Museums: Is it the Royal Road to Go for “Museums for All”?

- Jungwha Kim, Founding Director of Seoul Museum of Craft Art and former Professor in Graduate School of Culture Technology at KAIST, South Korea

She explained the efforts and challenges she encountered during the process of establishing the Seoul Museum of Craft Art to make it a museum for everyone. For example, financial limit and prioritisation, awareness on inclusion issues in society, the funding bodies, and museum staff. Despite these difficulties, she emphasized the importance of why we need to keep moving one step further. She highlighted museums can act as a bridge between different communities – a role that is more important than ever.

But since people have different levels of digital skill and familiarity, she argued that ‘We cannot resolve a digital gap simply by having better technology or design. We should invite everyone relevant in the discussions – users, families, schools, the local community, even policy-makers – and all try really hard to build an inclusive culture.’

뮤지엄의 디지털 전환 - 모두를 위한 뮤지엄을 실천하는 길인가?

김정화 서울공예박물관 초대관장, 전 KAIST 문화기술대학원 교수



사진 출처 : <https://museumnews.kr/309column/>

코로나19는 뮤지엄 운영의 모든 측면에서 디지털 기술에 대한 의존도를 가속화했습니다. 동시에 잠재적인 뮤지엄 방문자의 디지털 격차도 확인하고 있습니다. 우리는 혹시 지금 디지털 기술 혁신의 혜택을 누리지 못하는 사람들을 주의 깊게 고려해야 한다는 점을 잊고 있는 것은 아닐까요? 팬데믹을 겪으면서 뮤지엄이 그 어느 때보다도 커뮤니티의 기반 시설로 사회적으로 가치 있는 역할을 해야 한다는 필요성을 깨닫게 되었습니다. 뮤지엄 맥락에서 디지털 기술 적용의 다양한 가능성을 생각해 볼 때 뮤지엄 프로그램은 관람객과 소통하거나 뮤지엄이 소장하고 있는 작품 및 소장품 관련 정보와 지식을 전달하는 역할에만 머물러서는 안 됩니다. 오히려 한 걸음 더 나아가 뮤지엄이 사회적 플랫폼으로 어떻게 더 큰 공헌을 할 수 있을 것인지 그 방법을 생각해야 할 필요가 있습니다. 혁신적인 뮤지엄은 더욱 포용적이어야 하며, 믿을 수 있고, 신뢰할 만한 커뮤니티 기반 시설로 사회적 역할을 할 수 있어야 합니다.

A copy of a slide from Jungwha Kim's presentation

Challenges and barriers to digital inclusion in the art and culture sector (Mackey, 2021)

- **Individual**
 - Unaware of experience/activity.
 - Do not have a device or internet connection.
 - Cannot afford to engage.
 - Do not have digital skills to engage.
 - Do not have motivation/confidence to engage.
 - Activity/experience is not designed to be accessible.
 - Home environment is not conducive to engagement.
- **Organisational**
 - Old/insufficient in-house digital infrastructure.
 - Lack of digital resources to deliver digitally inclusive experience.
 - Staff do not have skills, capacity, or will to deliver digitally.
 - Staff do not have the skills to deliver inclusive online experiences.
 - Activity/experience is hard to deliver online.
 - Difficulty adapting to needs of different audiences.
- **Community**
 - Integration within the local and social infrastructure.
 - Lack of capacity or resources for digital inclusion strategies within the area.
 - Absence of a shared digital inclusion strategy.
- **Sector/Societal**
 - Best practice in digital delivery not consistently shared.
 - Lack of clarity about who is responsible for digital inclusion.
 - Insufficient recognition of the important role the arts and cultural sector plays within the social infrastructure.

Organisational culture that values equality, diversity, and inclusion (EDI)

- Ross Parry, 'The key to diversity, inclusivity and equity is to have an institution that reflects those values.'
 - How can we tell when organisations reflect these values? How do they manifest themselves in different aspects of practice across their organisation?
- **People-centred, Context-based, Value-led.**
 - Which values drive equality, diversity, and inclusion - both at the partner institutions and in the literature more generally, at different levels of cultural organisations?
- **Examples of museum strategy for EDI**
 - V&A EDI strategy, statement, etc.
www.vam.ac.uk/info/reports-strategic-plans-and-policies
www.vam.ac.uk/info/disability-access
www.vam.ac.uk/info/accessibility-statement
 - International collaboration and emerging technology in a museum context



International collaboration and emerging technology in a museum context

- [New technology and platformisation of digital service](#)

“The metaverse is really something that I think could be a useful discussion - nothing to do with Meta or bitcoin or NFTs or anything, but just as the idea of ‘worlds of worlds’ and what opportunities these may offer for culture. I think it could speak to the equity themes of the project. How can the metaverse offer more people the chance to create and experience culture? Do we need standards for creating digital museum experiences so that everyone in the metaverse can share in them? Or are these new technologies just making the digital divide bigger? And offering people more risk of becoming addicted? Maybe a keynote on the challenges and opportunities?”
- [Global digital divide \(Global North vs Global South\)](#)

“If we are thinking about how South Korea and the UK can promote digital inclusion across the world, then African countries often seem to be those with least access to the benefits of the internet. Are there partnerships that South Korea and the UK are part of which address this?” by Rebecca Mileham

Roles of museums in the digitally divided society

- [Museums are essential social infrastructure in a digital age.](#)
 - Jungwha Kim, ‘We cannot resolve a digital gap simply by having better technology or design. We should invite everyone relevant in the discussions – users, families, schools, the local community, even policy-makers – and all try really hard to build an inclusive culture.’
 - What could be the best digital practices of museums that tackle social deprivation, fragmentation, age-related exclusion, and the pipeline into well paid jobs, so that no one is left behind in a digital society?

Evaluation/assessment criteria for inclusive digital offerings in the art and culture sector.

- [What does mean a success in the context of inclusive digital museums, apart from the number of visitors/audiences/users? How can we measure such success?](#)

Challenges in English Korean translation due to cultural differences

- [For example, a range of meanings in the word ‘engagement’ in the context of museums in the UK and South Korea.](#)
 - Generally, ‘engagement’ is interchangeable to the words, ‘participation’ and ‘interaction’, in South Korea.
 - ‘Engagement’ can mean simply visiting a museum/library website to find useful information (i.e. opening hours). It could also mean a deeper and more meaningful kind of encounter with museum content.

For a reflective summary of workshop 1 see Appendix A

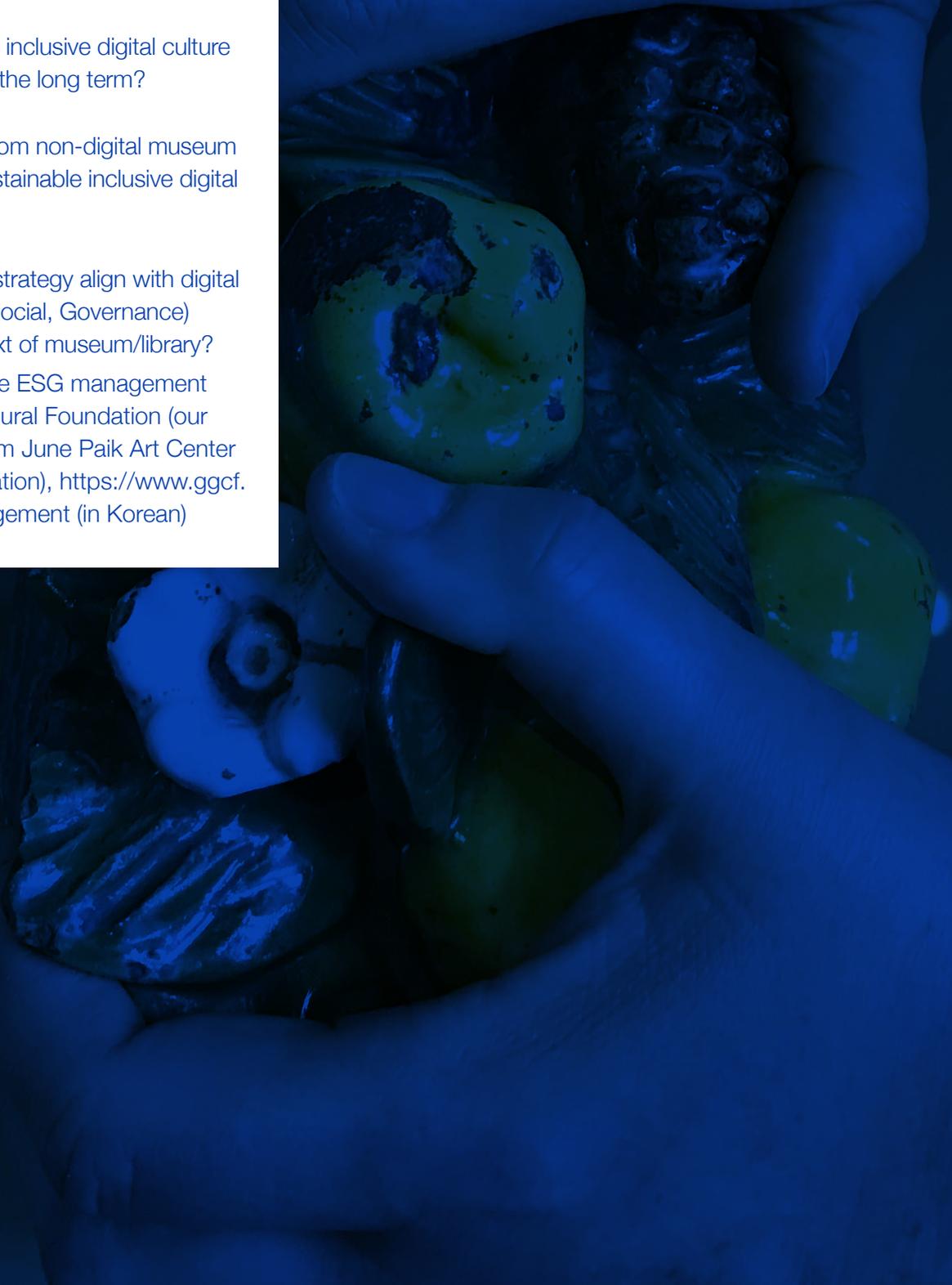
What We Learnt

Digital inclusivity in the context of museums is an academic and practical matter: clear guidelines and action plans are required alongside theoretical academic thinking.

Digital inclusivity within the community of practice of museum professionals is a sustainability issue.

- How can we form an inclusive digital culture that is sustainable in the long term?
- What can we learn from non-digital museum practices to build sustainable inclusive digital museum offerings?
- How can digital EDI strategy align with digital ESG (Environment, Social, Governance) strategy in the context of museum/library?
- The statement for the ESG management of the Gyeonggi Cultural Foundation (our partner museum Nam June Paik Art Center is part of the Foundation), <https://www.ggcf.kr/pages/esg-management> (in Korean)

International collaborations need to consider and accommodate digital literacy, language and socio-cultural differences to ensure knowledge is effectively shared and is beneficial for the network. Time, resources, funding, and effective communication are essential.



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Additional resources provided by Ross Parry

For a new national network/project working to build an inclusive workforce, see: The disability-led ‘Curating for Change’ initiative: <https://www.accentuateuk.org/Curating-for-Change>

For a perspective on how inclusive change needs to start with the museum workplace, see: <https://www.museumsassociation.org/museums-journal/opinion/2020/05/12052020-its-time-to-move-the-needle-on-disabled-representation/>

For a series of verbal essays on equity and digital in the museum workplace, see: <https://podcasts.apple.com/gb/podcast/people-change-museums/id1538390509>

For an example of a campaigning and activist organisation that is asking fundamental questions around who is ‘in the room’ and leading the conversation around cultural organisations and technology (particularly with respect to cultural identity), see: <https://www.museumhue.com/>

Building on this discussion on levels of ‘digital literacy’ in the UK and South Korea, here is a report that attempted to map skills (at least in a UK context): <https://doi.org/10.29311/2018.02>

Workshop 2:

Digital Engagement at GLAMs: Pushing the Boundaries to Challenge the Digital Divide

Background

Emerging technologies such as video games and virtual reality have been applied as a way for museum visitors to vividly interact with cultural contents and communicate with others in a virtual space. However, historically, we have encountered unexpected problems during these attempts because we do not consider diverse groups of people and their different experiences. In Workshop 1, we explored a number of concepts related to “digital inclusion” and identified a conceptual definition of the issues that we need to address.

In Workshop 2, we examined the issues related to the digital divide encountered in actual practices of digital transformation in culture institutions and museum spaces to find insights to the solution. Our partner institutions presented their experiences of conducting digital projects applying to emerging technologies such as games, VR, and interactive exhibitions, which is further illustrated in the Presentations section.

Rather than defining failure or success in cases, we wanted to gather wisdom to prepare ourselves for the challenges ahead by exchanging knowledge between GLAM partners in order to bridge the gap that is the digital divide. For this purpose, we addressed three key questions in particular with our participants (results can be found in the below Discussion section).

Questions for Workshop 2

- What are examples of the digital divide that each cultural institution has faced when applying emerging technology for public-facing services?
- What are examples of the digital divide that each cultural institution has faced when applying emerging technology for public-facing services?
- What should be considered and implemented to reduce the digital divide when applying such technology to the context of each cultural institution?



01

Overview

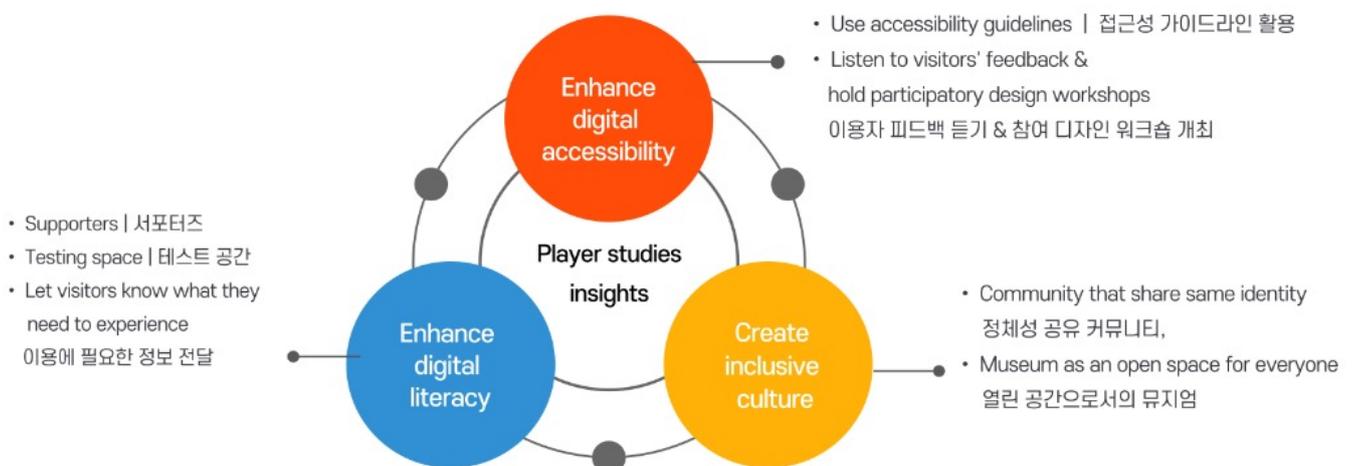
- Young Yim Doh, KAIST Games and Life Lab, South Korea

In the overview session, Young Yim Doh introduced insights that their video game research can provide for museum professionals who wish to create more inclusive museum experiences. She presented three dimensions of creating an inclusive space: enhancing digital accessibility, enhancing digital literacy, and creating an inclusive culture. Drawing on the case studies from middle-aged and older adults players and players with cerebral palsy, she introduced insights that research from game studies and related fields discovered, such as using accessibility

guidelines and participatory design workshops, as well as the increasing need to involve supporters and testing spaces. Ultimately, she emphasized that museums, just like digital games, can serve as an open space for everyone where visitors can build and find a community that shares the same identity.

Digital Games and Museums as Inclusive Spaces

포용적 공간으로서 디지털 게임과 뮤지엄의 만남



A screenshot of a slide from the Overview session

02

Digital Divide in Libraries

- Mingi Kang, National Library of Korea, South Korea

In her presentation, Mingi Kang discussed the impact of the digital transformation of the National Library of Korea in 2018 on visitor experiences. According to their 2021 Usability Report, middle-aged and older adult users (aged 40-60) were the most frequent users of the digital library. While the library provided them a physical space for accessing the internet and other digital technologies, they also reported the lowest satisfaction scores due to difficulties in using the technology, revealing the existence of a digital divide between different age groups. The report also suggested that the National Library of Korea can leverage its strength as a digital library with a physical space to discover the new role of library as an educational resource for addressing the digital divide by offering digital literacy education for older adult users.



03

LITCRAFT in Libraries: Engaging Reluctant Readers

Stella Wisdom, British Library, and Sally Bushell, Lancaster University, UK

In her presentation, Stella Wisdom introduced the LITCRAFT project run by the collaboration between the Lancaster University and the British Library. LITCRAFT is a project that started from 2018 where they used the game Minecraft to construct the literary world, with its main goal to engage young readers with classic literature. In this project, they collaborated with public schools and partner public libraries where teachers and students co-created the scale model of the maps in classics (i.e. treasure map in the adventure novel *Treasure Island*). An interesting digital divide issue that she pointed out from this case was that the teachers and libraries reacted differently to this project; libraries welcomed the project as they were aware of the importance of the digital divide issues, but teachers were confused as to how they can implement gaming technology in the classroom. However, once the project was initiated, they were received positively and had students highly engaged. Moreover, the project often led to new discoveries (i.e. students who did not excel academically showed their potential as the “Minecraft expert”), highlighting the game’s potential in mitigating digital divide between teachers and students.

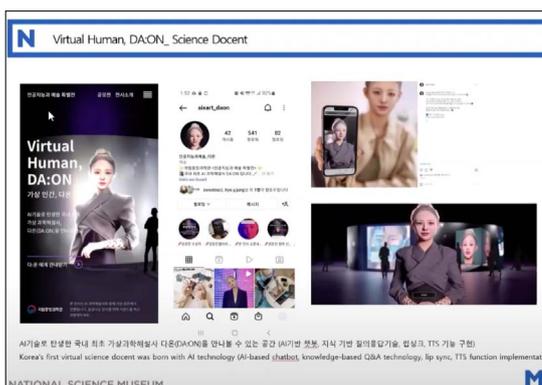


04

Attempts to Build Innovative Exhibition Spaces during the Pandemic

- Taebeum Ahn and Juha Lee, National Science Museum of South Korea

Taebeum Ahn and Juha Lee presented their case of the <AI And Art> exhibition which was held fully online due to COVID-19. The exhibition's primary goal was not to replicate the physical exhibition on an online space, but rather to use cutting-edge technologies to create a unique experience for visitors. Da:On, a virtual human docent, was one of the technologies used to engage visitors and provide an immersive experience. The digital transformation of the exhibition showed the potential of online exhibition to attract new types of visitors; The exhibition attracted visitors from various regions across the country, and the majority of visitors were in their 20s and 30s, which was different from the museum's typical visitors (middle-aged and elderly visitors with children). Despite the positive reviews from visitors, the digital exhibition also revealed several challenges. The digital divide due to different levels of digital literacy was one such challenge, with middle-aged and elderly visitors struggling with accessing digital technology which led to low visit rates for this demographic. Additionally, the virtual human docents attracted visitors initially, but their limited conversation content resulted in visitors losing interest quickly. The sustainability of the technologies used was another issue, with the virtual human docent being particularly challenging due to its development time and cost. The presenters emphasized the need to develop ways to balance innovative technologies with inclusive experience design.



05

Wonderlab+ and Open for All

- Fiona Slater and Emilia McKenzie, Science Museum Group, UK

Fiona Slater described how the Science Museum Group utilized user studies to enhance the accessibility of their Wonderlab+ and Open for All project and create a more inclusive experience for all users. Wonderlab+ is an interactive online platform featuring videos, games, and hands-on experiments aimed at families, especially children between the ages of 7 and 12, with limited exposure to science. The project prioritized accessibility and inclusivity throughout the design process, conducting three user tests where individuals with different conditions explored the website and provided feedback. They also assessed the website's usability for users with assistive devices (such as screen readers) and ensured that the content was accessible to all users (such as providing captions for those with hearing loss or sensory issues). The presenter emphasized that while incorporating user tests into the project may appear burdensome given the timeline and budget, they can be conducted with relatively few resources (such as an outside agency, paper prototypes, or a small pool of testers) and can yield significant benefits.

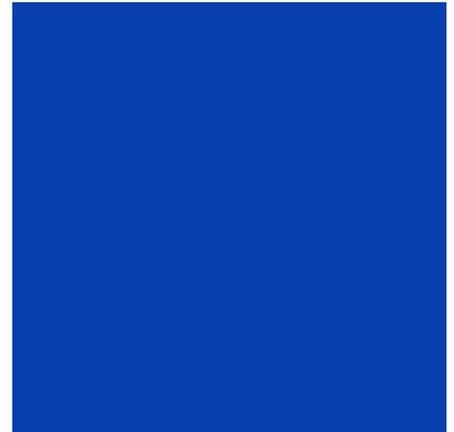


06

Yorkshire Game Festival

- Katheryn Penny, Science and Media Museum, UK

Katheryn Penny addressed how their program, Yorkshire Game Festival, acted as a space to observe and bridge the digital gap between parents and children. Since 2016, the festival has aimed to raise awareness of the differences between parents and children regarding games, such as attitudes towards games and utilizing games as a career opportunity. To accomplish this, the festival introduced measures such as Let's Play Weekend, where families could play games together, and career bars and responsibility panels where families could discover new aspects of gaming and discuss how to foster a healthy gaming culture within society. By offering new opportunities to museums to address the digital divide, the festival provided a platform where such gaps could be bridged, and visitors could connect with gameplay as a medium. The program further suggested that museums can serve as a ground for bridging the generational gap and cultivating a healthy culture for technology use. As a result, the festival saw a shift from family-oriented visitors to gamers who focus on the "game festival,"; however, it also saw a rise in returning visitors who brought their parents to the festival during family weekends, suggesting that museums can still serve as a place to connect generations.



Digital transformation of museums needs a good balance between the latest technology (AI, Metaverse) and easy and familiar technology

- Museums and libraries increasingly implemented digital transformation and adopted the latest technology in the process. Digital transformation of libraries and museums gathered attention as means to expand the range of visitors. However, adopting the latest digital technology also brought new challenges as they acted as a barrier to those who were unfamiliar with using them or lacked devices to access them. In the process, some institutions found a new social role as a physical, social space for older adults to learn and use the latest technologies.
- Case of National Digital Library, National Library of Korea in Seoul, South Korea: “Visitors in their 60s and older show the highest rate of using PCs installed in the digital media section, but their satisfaction rate is the lowest. We think it is because they experience difficulty using devices (...) to tackle the digital divide issue, we are providing digital literacy education programs.”
- Case of National Science Museum of Korea in Daejeon, South Korea: “(In the exhibition) The number of middle-aged and older adults visitors was very low, around 5.5% of the total visitors (...) it seems necessary to think about barriers such as the interface barriers.”
- Latest technologies such as the virtual human docent attracted visitors’ attention and were perceived to bring new, fresh experience. However, they turned out to be challenging to develop and maintain for the institutions, highlighting the importance of balancing them with the more conventional technology.
- Case of DA:ON, AI chatbot, the National Science Museum of Korea in Daejeon, South Korea: “We used a virtual human docent but we thought that it would be difficult to keep using them because developing it (movement and voice) was too costly. We are thinking of using a more spatial platform similar to Minecraft in the future.”
- Involving potential users from the design stage was presented as an important and meaningful way to make the technology more inclusive for all.
- I.e. Wonderlab+, Science Museum Group, UK: “User tests may feel heavy considering the project timeline and budgets, but if you collaborate with an external agency, use paper prototypes, and involve even just a few users, we can get great help in designing a more inclusive space.”



Social gaming that helps to mitigate the digital divide in society

- Social gaming (playing video games with others) gathered participants' interests as an effective means of bridging the digital divide by facilitating greater understanding of each other's abilities and fostering new discoveries. In the context of the aforementioned digital divide, intergenerational gaming has emerged as a significant opportunity to address the digital gap between different generations and age groups (i.e. teachers and students; parents and children).
- i.e. Litcraft: mitigating digital divide between teachers and students: shedding light on students who did not get the spotlight before; "Minecraft expert" students earned new roles, taking an active role in assisting teachers and other students get engaged & play together.
- i.e. Yorkshire Games Festival: Parents discovered the positive experiences that video games can afford (i.e. increased social connectedness with their child achieved by gaming together, finding new benefits that games can bring to their family life).

Intergenerational approaches

- Participants further discussed the issue of adopting intergenerational gaming as means to mitigate digital divide.
- Using games in museums and libraries, visitors were able to experience positive aspects of technology as a bridge that connects them.
- Case of intergenerational gaming research, mentioned by Seyeon Lee: "Playing the game that depicted human life from the birth to death, young players (20s) taught the older adult players how to play the game, while the older adult players taught younger players the wisdom and values they learned from their experiences in life. We were able to see that the exchange of knowledge occurred as they played the game

together. When designing these intergenerational gaming activities, choosing the appropriate game that can foster communication between generations can give players an experience that benefit both generations."

Healthy game-playing/gaming culture

- Participants also talked about the issue of museums' role in cultivating a healthy culture around technology, as museums often act as a social space open for discussions about social issues. Particularly, participants focused on how museums are sparking discussions about the healthy game-playing and gaming culture.
- By holding educational programs and related exhibitions, museums were contributing to changing the perspective on gaming from addiction to career options and digital leisure.
- Attendees shared their respective museums' observations on healthy gaming practices within families, highlighting common themes that emerged from the exchange of ideas and perspectives.
- i.e. at the Yorkshire Games Festival presentation: a Korean participant mentioned the parents' demands on the educational programs on how to guide their childrens' healthy game use and asked if there is also such a demand in the UK; the case of Yorkshire Games Festival suggested that there is also a similar demand in UK families (i.e. talk about game addiction, games for socialization).

For a reflective summary of workshop 2 see Appendix B

What We Learnt

- 'A generational digital divide that arises due to differences in familiarity with the technology and perception of the technology seems to be the major issue that museums and libraries are witnessing
- Latest digital technologies implemented by museums and libraries provided new opportunities to expand the visitor scope and the range of experiences that institutions can afford, but it also turned out to be challenging to use for some populations (i.e., older adults, visitors with disabilities).
- Video games (particularly intergenerational social gaming or co-playing) and participatory design that actively involved the diverse range of users were discussed as an effective means to mitigate digital divide and design more inclusive experiences.

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Additional resources provided by Young Yim Doh

Game Design Guide for Adults in their 50s and Older: <https://wikidocs.net/book/7249> (Korean), <https://wikidocs.net/book/7356> (English)

Game Accessibility Manual: <https://bit.ly/3CTxhXn>.

Workshop 3:

Inclusive Technology for Vision Impaired Museum Visitors: Physical and Digital Challenges

Background

Technological approaches that support cultural inclusion are developing rapidly, particularly three-dimensional and tactile objects, web applications and audio resources. While traditionally-defined 'assistive' technology facilitates the daily lives of people with disabilities, it does not promote inclusion. The museum context is an ideal framework to explore this difference. In fact, inclusion is not promoted by 'special' assistive technology that draws attention and singles out people with disabilities in public educational settings like museums. Such attention culturally and physically excludes people with disabilities from non-disabled people in the same setting. This workshop discussed the need to employ inclusive technology instead, namely mainstream technology that can be used by people with disabilities with little or no adaptation. Such devices constitute crucial social inclusion tools, as they have inclusive applications in educational contexts and are used by learners to create and share information. The focus of the workshop was on how cultural institutions are employing technology (both mainstream and assistive technology) to facilitate the museum visit of visually impaired visitors (and disabled visitors in general).

Themes and questions for Workshop 3

- Strategies or resources that institutions have implemented to facilitate the physical and digital experience of vision impaired visitors.
- Challenges that institutions face when it comes to access and inclusion of vision impaired visitors.
- What type of support institutions would need for real change to happen in their organisation?
- What challenges do museums face when it comes to using digital technology to provide assistive resources or accessible information to vision impaired visitors and visitors with other needs and disabilities?
- How are digital assistive technology beneficial for people with disabilities and for the wider public?
- What prevents museums from using digital accessible technology for people with disabilities and for the wider public?
- What type of support do institutions need for real change to happen in their organisation?



01

Digital technology and inclusive museum experiences for visually impaired people

- Barry Ginley, Chief Executive Officer, Tamstone Consulting Ltd, former V&A Access and Inclusion Lead, UK

Barry Ginley illustrated how digital technology has the ability to make accessing museums for visually impaired people more inclusive. He argued that with wayfinding apps which do not depend upon beacons and apps which use AI to identify works of art, the future of fully immersive museums is closer than we may think. Barry presented digital technology projects (Waymap and Smartify) that have the potential, if combined, to enable museums to be drivers for social change.

He highlighted the need for museums to provide as much information as possible before the visit in an accessible format, but also reflected on the need to adapt and accommodate in person on-the-day support to enable visitors with different access needs to experience the museum without planning in advance.



02

Accessibility improvement for visually impaired users in <Seoul 2033> a mobile interactive storytelling text game

- Yuwon Lee, Chief Executive Officer, Banjiha Games, South Korea

Yuwon Lee from Korea's Banjiha Games, a small indie game developer, shared a case study from the cutting edge of digital culture. South Korea has one of the most advanced computer games industries in the world, with two thirds of citizens enjoying digital activities from E-sports to mobile gaming, consoles to virtual reality. Banjiha Games launched a text storytelling adventure game, "Seoul 2033" in 2018. During the live service, Banjiha Games was able to contact visually impaired users who were already playing the game using the Voice Assistant feature, and recognized that existing UI graphics sets, which were made only for non-disabled users, were interfering with the play experience. The problem was solved by adding a voice-readable label to the existing UI graphic assets, and Banjiha Games is still continuously tracking the issue by having a visually impaired QA and scenario writer in-house. Currently, 0.6% of DAUs are visually impaired users.



During the discussion, the group reflected on the impact of accessible digital technologies on the way museums and cultural institutions create and provide information and digital experiences

- Use of different technology to respond to different needs.
- Difficulty to use the same technology for all operations.
- Economic factors when using different apps.
- Tech-led or audience-led development of technology.

The group also discussed how voice-enabled apps and technologies have clear benefits for all kinds of visitors, and therefore, why museums seem to struggle to embed these types of technology in their operations

- Issues with staff training.
- Generational differences and familiarity with the use of technology among members of staff.
- Often use of digital accessible technology is led by single individuals, rather than embedded as institutional practice.
- Difficulty to keep up with latest technology advancements.

From traditionally-defined 'assistive' technology to inclusive technology

- Inclusion is not promoted by 'special' assistive technology that draws attention and identifies people with disabilities in public educational settings like museums. Such attention culturally and physically excludes people with disabilities from non-disabled people in the same setting.
- Case: the function VocieOver on iPhone used for a mobile game Seoul 2033, developed by the Banjiha Games company.
- Case: Waymap and Smartify.
- The international WCAG 2.1 guidelines.

Inclusive culture and diversity at work

- Museum staff's willingness to be more open to using inclusive digital technology.
- Systemic approach and structural change required: policy, legislation, regulation etc.
- New role/position for inclusion staff.
- Hiring people with diverse backgrounds and various abilities.



What We Learnt

- Museums do not need to 'learn' how to use accessible digital technology, but can learn and adapt from other creative industries.
- Technology development is fast and it is difficult for museums to keep up with latest advancements.
- Digital technology needs to be accessible for people with disabilities, but to create a truly inclusive visitor experience for everyone, it needs to be developed for and with museum audiences.

For a reflective summary of workshop 3 see Appendix C. Appendices D and E provide insights into access issues in the South Korean museum context.

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Appendices A to E:



From access to inclusion

By Rebecca Mileham
(Museum Consultant)

During the pandemic, digital access to culture was the only access. No one could visit a museum, take a physical book out of a library or attend an event in person. Yet despite all the difficulties, aspects of online culture blossomed. Huge audiences flocked to digital leisure as a new default, finding more opportunities on offer than ever before. Some audiences, lacking access of one kind or another, lost out.

Post-pandemic, many of us in the culture sector want to boost our understanding of how to combat digital inequality. We can see that museums, libraries and archives could potentially interact with large new audiences, enhancing wellbeing and fostering creativity. Among these audiences are people who have previously experienced exclusion for physical, societal or economic reasons. But how can we ensure that digital technology is a bridge to access, not a new barrier?



The transnational Inclusive Digital Museum Innovation project seeks to address questions like this. Awarded funding by the ESRC earlier this year, the initiative is exploring approaches to digital inclusion and equity in arts and heritage organisations. The ingenuity of the project is in bringing together the deep experience of the UK's audience research community with the wealth of innovation and advancement in South Korea's technology landscape and digital games industry. The hope is to benefit the cultural sector in both countries.

Led by Theano Moussouri from the UCL Institute of Archaeology and Young Yim Doh of the KAIST Games and Life Lab, the project involves a network of researchers from national museums, galleries and libraries on both sides of the world. On 21st June 2022, the group's first workshop addressed the relationship between Technology, Culture and Ethics.

A radical call for inclusion

Ross Parry, Professor of Museum Technology from the Department of Museum Studies at Leicester University illustrated how digital museum innovation is evolving positively. Tech projects today are more often people-centred and driven by need – including a commitment to equity. There is more reflection, evaluation, and sharing of expertise. A greater diversity of people is often involved in decision making, and the products made are more socially purposeful.

But he underlined the need for digital design to flow from an effective organisational mission, vision and culture. 'The key to diversity, inclusivity and equity,' he said, 'is to have an institution that reflects those values.'

Jungwha Kim, Founding Director of Seoul Museum of Craft Art and Former Professor in Graduate School of Culture Technology at KAIST, South Korea, highlighted that museums can act as a bridge between different communities – a role that is more important than ever.

But since people have different levels of digital skill and familiarity, she argued that 'We cannot resolve a digital gap simply by having better technology or design. We should invite everyone relevant in the discussions – users, families, schools, the local community, even policy-makers – and all try really hard to build an inclusive culture.'

Questions of tech, ethics and culture

Differences in perspective from the two territories emerged in the discussion that followed.

In the South Korean context, for example, museums have been exploring various ways to make museums more inclusive in recent years, with legislation being a primary motivation for increasing access. In the UK, the debate centres around equity and the ethical importance of using technology to make collections more accessible. In both cases, however, the process by which institutions can achieve the outcome could be an inclusive one. Ross Parry provided some resources (below) on practical ways to move towards a diverse, inclusive organisation.

There is a range of meaning in the word 'engagement' which could mean simply attracting a user or visitor, or could signify a deeper and more meaningful kind of encounter with museum content. Perhaps this relates to the different way the word is used in the context of museum studies and in the world of websites, hits and clicks.

There were also a range of ethical questions and practical issues relating to digital culture raised by participants from both South Korea (K) and the UK (UK).

- The museum online and offline have different identities and are different products (K). But are we using the most effective ways of providing online exhibition experiences? And how do we provide this service to larger audiences?
- Are the online and offline visitors the same people or not?
- The digital technology available for us to use offline in our exhibitions and cultural institutions changes at a very rapid pace. How do we shape the technology to meet visitors' needs? (K).
- On the other hand, institutions are often keen to offer the latest approaches, but this leads to inconsistency in the offer – and we still don't cover all the basics in terms of accessibility (UK).
- There is a need to evaluate and learn from visitors using digital culture (K and UK), and establish our understanding of different technologies. Do some visitors struggle to keep up with the technology we are using? What discrimination do visitors encounter?
- Are digital literacy levels higher in South Korea?
- Users have a higher expectation of accessibility now (UK), so an inclusive approach to exhibitions, collections and digital offerings is demanded and expected, going beyond legal requirements.
- The metaverse is a huge discussion (K and UK) and expectations continue to grow around the metaverse, virtual reality (VR) and artificial intelligence (AI): what they might look like, how they might change our lives and the ways in which museums can grasp those opportunities and make them work for us.
- Should we be concerned that big tech companies are taking the lead in creating cultural resources? (K)
- Who is leading the transformation and what is the biggest obstacle to achieving transformation? These are the most significant questions. (K and UK)

Conclusion and next steps

What struck me most from the workshop was the perspective shift involved in moving from accessibility to inclusion. It marks a change that reflects progressive thinking in many cultural institutions – and involves sharing the power that we hold as museums, libraries and archives.

Rather than taking cultural products and digitally retro-fitting them for different audiences, inclusion demands a different approach and a new vision. The vision, which tackles what we do, who gets involved and who has control, enables our institutions to be transformed from the inside.

The *Inclusive Digital Museum* Innovation project is about using resources well and in a visionary way to achieve greater inclusion. This workshop suggests there is an appetite across the partnership for such radical change.

Additional resources provided by Ross Parry

For a new national network/project working to build an inclusive workforce, see: The disability-led ‘Curating for Change’ initiative:
www.accentuateuk.org/Curating-for-Change

For a perspective on how inclusive change needs to start with the museum workplace, see:
<https://www.museumsassociation.org/museums-journal/opinion/2020/05/12052020-its-time-to-move-the-needle-on-disabled-representation/>

For a series of verbal essays on equity and digital in the museum workplace, see:
<https://podcasts.apple.com/gb/podcast/people-change-museums/id1538390509>

For an example of a campaigning and activist organisation that is asking fundamental questions around who is ‘in the room’ and leading the conversation around cultural organisations and technology (particularly with respect to cultural identity), see:
www.museumhue.com/

Building on this discussion on levels of ‘digital literacy’ in the UK and South Korea, here is a report that attempted to map skills (at least in a UK context):
<https://doi.org/10.29311/2018.02>

No one left behind

By Rebecca Mileham
(Museum Consultant)

What links a map-building project in Minecraft, a virtual exhibition exploring art and AI, and a computer games festival celebrating play? In her second report from the Inclusive Digital Museum Innovation project, museum consultant Rebecca Mileham discusses exciting cultural initiatives and their implications for digital inclusion.

The projects above were all among the visionary activities presented by partners from South Korea and the UK as part of the *Inclusive Digital Museum Innovation* project's second international workshop on 21st September 2022. Every presentation sought to share research and resources to equip the culture sector as it grapples with digital inequality and seeks to broaden access and participation.



Session one – digital innovation in libraries

The National Library of Korea set up its National Digital Library in 2009 with the aim of widening access to knowledge. The library has been undergoing digital transformation ever since, reflecting a changing society, as Mingi Kang, Deputy Director of the Digital Information Planning Division explained.

She presented the library's latest survey data which showed that younger library users generally felt satisfied with their experience. Older people were more numerous, but less satisfied – despite the library's state-of-the-art internet services – and also tended to be the users most at risk of exclusion and disadvantage in society.

The library plans to offer a learning platform and hands-on workshops and cultural events to help older users develop digital skills. 'It is vital that libraries are fully committed to ensuring that no one is left behind,' said Mingi.

The same spirit, but a different audience, is at the heart of a UK-based project to encourage disadvantaged young readers using the computer game Minecraft.

Sally Bushell, Professor of Romantic and Victorian Literature at Lancaster University, and Stella Wisdom, Digital Curator of Contemporary British Collections at the British Library, presented Litcraft, a resource that enables 8-12-year-olds to build charmingly accurate virtual versions of literary maps from classic books they are reading.

The team tested the resource and associated activities in schools, but found that IT systems and sceptical teachers often presented a barrier. It was librarians who proved to be the project's champions. 'Public libraries in the UK have long been working to conquer the digital divide – they are trusted community spaces promoting digital inclusion,' said Stella. Members of the Living Knowledge Network, a partnership of public and national libraries, now use Litcraft to encourage reluctant readers into a virtuous cycle of crafting maps, and enjoying reading books.

Physical and social aspects of technology

Both the National Library of Korea and the British Library are working with online partners such as Google Arts and Culture to continue their journey towards digitisation. But, as the discussion following the first session explored, physical library facilities will always be vital for access to reference and heritage collections, as well as for in-person events.

The benefit of face-to-face contact was underlined by Young Yim Doh, one of the Digital Inclusion Project's leaders, and Professor at the KAIST Games and Life Lab. She shared resources (see below) from her research into game design for people with disabilities, and for older users, noting the success of intergenerational workshops to uncover older users' needs in game design. 'For older people, intimacy and human interaction is a very important part of growing their digital literacy,' she said.

Session two – science museums and digital inclusion

When the pandemic struck, and museum doors closed, the same question faced many institutions - how can you create a successful online exhibition?

Instead of building virtual versions of physical galleries, the National Science Museum of Korea in Daejeon decided to make a three-dimensional experience accessible only online, explained Juha Lee, an Art and Science researcher at the museum. The team chose a question ideal to tackle in a virtual space – 'Can AI create art?' – and included interactive activities to explore whether an artificial intelligence can ever truly paint a picture, play music, or dance. A specially-created AI chatbot called DA:ON welcomed and guided visitors.

'Of course, it was all very experimental,' says Juha. 'We knew that if there were problems with the interface, page loading speed, or flow, then visitors would just close the window immediately.' Visitor research showed a predominance of younger, male visitors. There were fewer from older audiences who are less likely to own smartphones – but a pleasingly broad geographical reach. 'What struck us was that the exhibition went beyond spatial and regional limitations. It can be enjoyed from anywhere, at any time,' said Juha.

In the UK's Science Museum Group, the Learning team is creating accessible and inclusive

web-based resources through a commitment to a science capital approach. This means looking through the eyes of users and considering their relationship with science, as Emilia McKenzie, Digital Manager, told the session.

She is developing Wonderlab+, an activity website for children and families who may not be regular museum-goers or feel at home with science. During the project, there have been several rounds of prototyping and user testing, plus accessibility work to ensure neurodivergent people and those who use assistive technologies are included too.

And at the Science and Industry Museum in Bradford, UK, the team behind the Yorkshire Games Festival aims to address an intergenerational digital divide that often exists within families. By celebrating computer game play, creativity and coding, the festival seeks to showcase the multiple career options available in the games industry, inspiring future digital creators – and crucially, their parents and carers, too.

Kathryn Penny, Head of Screen and Cultural Engagement at the museum, believes the Festival can help overcome socioeconomic inequality too. 'We want the Games Festival to appeal even more to audiences from our priority areas, in Bradford, where there are multiple indices of deprivation and we can make the most difference by inspiring future digital creators,' she said.

Digital access and exclusion

In the discussion following session two, the question of healthy game-playing arose. Addiction to gaming is a worry in both South Korea and the UK – and the role of digital culture and social media in shaping the experience of our lives certainly requires ongoing research and attention.

Yet there was a clear message that came through the meeting as a whole. Digital access has changed the ways available to us to learn, to play, to work, to interact, to consume culture, to create media, to communicate, to participate, to share and be part of communities and movements. To be excluded from digital access is an increasingly bitter blow – at any stage or situation of life.

As Young Yim Doh commented, ‘Galleries, libraries, archives and museums are the ideal place for life-long learning and to connect people to digital culture, so that no one is left behind.’ The Inclusive Digital Museum Innovation project is usefully showcasing ways to put this into practice.

Game Design Guide for Adults in their 50s and Older:

wikidocs.net/book/7249 (Korean)

wikidocs.net/book/7356 (English)

Game Accessibility Manual:

www.nrc.go.kr:2451/

viewer/skin/doc.html?fn=

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[/202210/](http://202210/)

Accessibility: the new normal

By Rebecca Mileham
(Museum Consultant)

Voice-activated and audio-enabled technologies are now an everyday part of life for many people. They're also striking a chord in the culture sector as museums and digital artists seek to offer inclusive experiences to vision-impaired users, as Rebecca Mileham found out at the latest workshop in the *Inclusive Digital Museum Innovation* project.

In the last year or so, I have changed the way I catch up on the news. I use a newspaper app, but rather than peering at my phone screen, I tap a button or two and a voice reads the articles to me. It's the same when I ask my hands-free smart speaker to play music or check train times, or when I get directions from my navigation app. It's convenient, seamless – and becoming the new normal.

What does this kind of technological accessibility mean for the culture sector? Inclusive technology for vision-impaired museum visitors was the theme of the third international workshop in the *Inclusive Digital Museum Innovation* project, which took place on 8th November 2022. Partners and delegates from organisations in South Korea and the UK gathered online to explore the physical and digital challenges that stand in the way of digital equality.

Audio tools in digital culture

Yuwon Lee from Korea's Banjiha Games company shared a case study from the cutting edge of digital culture. South Korea has one of the most advanced computer games industries in the world, with two thirds of citizens enjoying digital activities from E-sports to mobile gaming, consoles to virtual reality.

As Yuwon explained, his company had recently published a new text-based mobile adventure game. *Seoul 2033* depicts a city devastated by nuclear war, in which you and your family have to survive and defeat your enemies. 'We came up with a story where players explore a world and select the story they experience,' explained Yuwon. Every game is different and leads you down a different path depending on your choices.

The game had a positive response, and the Banjiha team planned to develop a version for vision-impaired players. But then came the surprise. A visually impaired user told them that they were already playing the game using a function called VoiceOver on their iPhone. 'VoiceOver detects objects on the screen, and then reads out the features to the user,' said Yuwon. A similar system called VoiceAssist exists on Android phones too.

Delighted with this discovery, the team made tweaks to optimise the experience: 'Some of the features were interfering with each other, so we streamlined them, adding voice labels to the user interface icons. We also gave descriptions to some of the elements, for example so that instead of saying 'image' it read out 'close button'.'

The company then took on a vision-impaired story designer. 'We wanted to diversify our team, but also simplify our work process', Yuwon explains. 'The story designer draws on her experience to help the users.' A small but significant number of the daily active users for the game now interact using the VoiceOver feature.

What about feedback from vision-impaired players? 'We were stunned by how excited users were,' says Yuwon. 'Strategies can be just as fun as the visual features in a game – it can all be done using the voice. The response from players was that finally they have a game they can enjoy with family and friends.'



Museum access via voice

Whether visiting a museum with friends or solo, for vision-impaired visitors the quality of the available pre-visit information is crucial, according to Barry Ginley. Barry spoke at the workshop from his perspective as a highly experienced disability and access consultant, and as someone with visual impairment.

‘A key factor is for museums to develop their websites to the international WCAG 2.1 guidelines that ensure vision-impaired people can use screen reading technology,’ he said. ‘It avoids lost business and visits – most people will quickly click away from an inaccessible museum website.’

Once at a museum or gallery, there are two apps that are transforming the experience of vision-impaired visitors.

Waymap is a phone-based navigation app that maps both outdoor and indoor environments. A UK project, it emerged from experiments in audio navigation by the Royal Society for Blind Children, alongside breakthrough advances in indoor location technology.

‘As more people use the app and visit museums, it learns from the data provided. It’s very good at mapping complex old buildings, and it navigates you to within half a metre of your selected objects or locations using spoken guidance,’ explains Barry. The app also updates automatically from user

data if, say, a lift is out of order. Although take-up is in its early stages, Waymap has signed an agreement to cover all Washington DC’s transport network, streets and public buildings.

Smartify is an app that ‘opens up the museum’s cases’ as Barry describes it, by making an institution’s content management system accessible via a visitor’s phone. Smartify has been devised for museums and collections, and – prior to the pandemic, at least – was gaining traction.

‘Once the Smartify system is enabled in a museum, and a visitor has the app, it’s simple,’ says Barry. ‘You point your camera towards an artwork and the app picks out the object and gives label information, or alt text for an image. If audio or sign language interpretation is available, the app can provide that.’

Both these apps have wide-ranging potential – and if they were to join forces, it would be even better. ‘Museums can be drivers for this kind of change,’ Barry points out.

Strategy, awareness and innovation

Voice-enabled apps and technologies have clear benefits for all kinds of visitors. So, as Theano Moussouri, one of the Digital Inclusion project leaders, asked, what prevents museums from joining the dots and providing such access for visitors?

Barry Ginley reflected that younger staff are sometimes more open to using digital technology than more established colleagues. But he added, ‘As we all become more digitally aware, accessibility will improve.’

Seo Hye-ran, former director of the National Library of Korea, had direct experience of creating audio content. ‘I volunteered to make audiobooks for the blind in the library’, she said. ‘There was no problem with the text but it was a pity that I couldn’t deliver picture information like maps and portraits well. There are still areas that are technically difficult to solve to accurately convey content.’

One delegate raised the interesting question of whether we are seeing a splintering of audience experience, as different kinds of provision are created for people with different needs. Others felt that the new experiences reflected the reality that seeing something is only one way of interacting with it. More may be to come as we move towards haptic technology, where a glove can provide a virtual touch sensation of an object in a case.

Jungwha Kim, Founding Director of Seoul Museum of Craft Art, commented that a museum's aim was often to provide a comparable experience for vision-impaired visitors and others, with tactile exhibits and audio guides. However, the biggest challenge was in securing the dedicated budget and personnel to deliver. Her view was that structural change is the only way to achieve this, with responsibility placed at senior level.

Rafie Cecilia, Research Fellow at the UCL Institute of Archaeology, and session chair, agreed that while some larger UK museums have dedicated inclusion staff, this was rare across the country. This left colleagues in smaller museums trying to do a huge amount of access work as well as act as advocates.

Fiona Slater of the Science Museum Group noted that museums and galleries often want to innovate and use the latest technology – particularly when a new project allows the resources to try something new. The audience, meanwhile, may prefer consistency, using something simpler and more familiar.

The agility of the games industry, and its receptiveness to user feedback, seems to have helped Banjiha Games to innovate. 'Like museums, we are limited in resources,' says Yuwon Lee.

But he saw great opportunities ahead for museums and digital games alike. 'There are audiences waiting for cultural experiences, and great empty spaces that we all need to walk into and fill. What we offer carries enormous value for people.'

And voice-activated and audio-enabled technologies are a resounding success story that is here to stay. 'Before working on Seoul 2033, I didn't know VoiceOver existed,' admits Yuwon. 'Having it in the game has made a lot more people aware of it, which I'm quite proud of. For me, it's the new normal.'

To play *Seoul 2033*

On Android: play.google.com/store/apps/details?id=com.banjigamaes.seoul2033_global&hl=ko&gl=US

On iPhone: apps.apple.com/kr/app/seoul-2033/id1585938647

Running the Virtual and the Real in Parallel

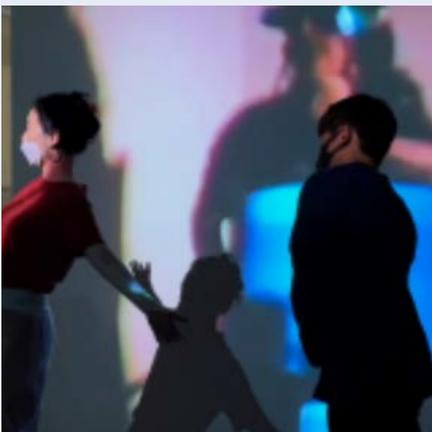
By Kim, Seong Eun
(Director, Nam June Paik Art Center)

Nam June Paik (hereafter NJP) Art Center is the first public museum specializing in media art in South Korea, embracing the latest contemporary art along with Paik's historical work, and devoting itself to cultivating artistic and scholarly experiments. Its primary mission lies in not simply seeing the power of technology as an artistic medium, but exploring its potential to change society from various angles. A museum of the internationally renowned artist as a trailblazer of video art, the NJP Art Center as a physical site has about 200,000 visitors annually, but its geographical location in a provincial city, not in Seoul, often puts it in a challenging situation to balance or choose between international art communities and members of the local general public. And this requires decision-making on the

use of online platforms and other technological tools to take into account the issues of accessibility in careful and elaborate ways.

Among the programs that museums have increasingly been staging in recent years are those relying on the technology of virtual reality. These are evolving from making exhibitions available for viewing online in 360 degrees, to more actively inviting the works of VR-based art, even to creating an exhibition specifically for a VR space. The NJP Art Center seeks to use the VR technology reflecting critically on its literacy and implications. Part of the endeavors is a project dealing with Paik's solo show Exposition of Music – Electronic Television held in Germany in 1963. It was an exhibition through which composer Paik pioneered a realm of media art. The audience was enabled to participate in the exhibition, engaging with multiple bodily senses, rather than a single sense of sight or hearing. To deal with the historic exhibition with VR technology in 2022 is not to reenact the past, but to revive the participatory experience of the then audience and to bring about learning and unlearning relevant today. It is because this involves sensorial aspects of media that need to be discussed in the present museum environment.

In collaboration with Dankook University Department of SW Convergence Contents, Gyeonggi Content Agency, and National Museum Foundation of Korea, the NJP Art Center developed a VR app of Paik's Exposition of Music. Consisting of five acts, the time travel brings you to Gallery Parnass in Wuppertal in 1963 where you take part in Paik's Klavier Integral, Random Access, and Experimental Televisions, and back to TV Garden at the NJP Art Center. There are two versions: one that you can experience by wearing a VR gear at the museum site, and the other downloadable and playable like a computer game. In conjunction with the VR app, Exposition of Music, Do It Together! was organized, for which Ro Kyung Ae, Moojin Brothers, Park Seungsoon, and Heo Daechan were invited to present video commentaries in their own artistic languages on Paik's early work and the VR technology. And this exhibition was accompanied by an audience participatory workshop. Who took part in the workshop were those of various ages, children, families, and the elderly, and also those of general learning disabilities from the Giheung-gu Welfare Center for the Disabled in the city of Yongin, and from YEJIWON, an institute for people with disabilities run by the Sambo Welfare Foundation in the city of Gimpo.





Ro Kyung Ae, See. Touch. *Exist.* 2022, single channel video, 8 min, colour, sound.

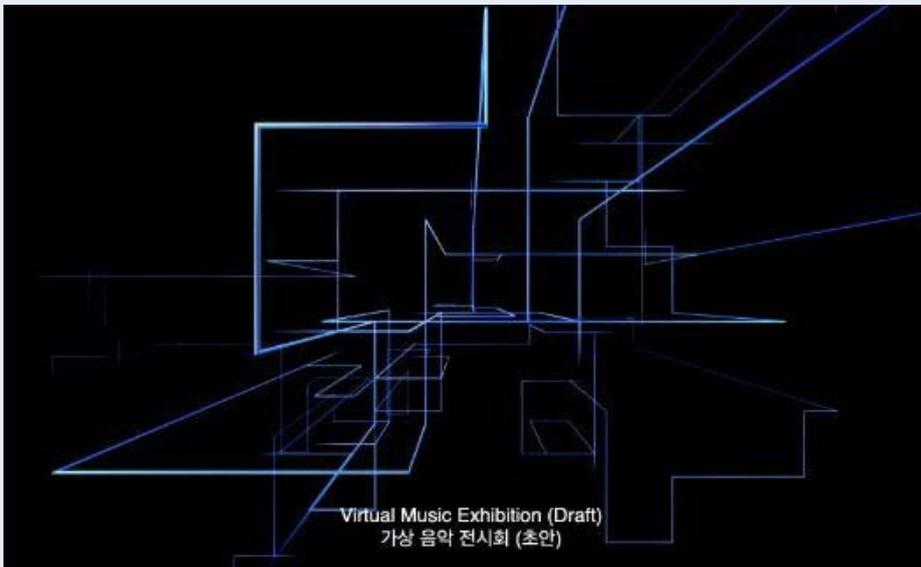


Moojin Brothers, The Trace of the Box – *Technicalized Good People*, 2022, single channel video, 6min, 16:9(FHD), stereo sound.

Choreographer Ro's See. Touch. Exist. looks into the act of 'seeing' in virtual reality through bodily movements. In a virtual world, all experiences are mediated through sight. You can touch any object as if it existed, but it simply disappears once you close your eyes. In a real world, the other way round, there are things invisible but existent. Ro's performers move between these two worlds, leading you to think about the sense of touching. Media artist group Moojin Brothers' The Trace of the Box – Technicalized Good People, virtually releases chickens in Paik's TV Garden. The chickens are symbolic beings that have eternal life with technicalized images, while humans remain as "good beings" as they do not have to consume chickens or cage them for breeding. The AI voice in the video raises questions as to whether this ecology of technicalized life, with immortal chickens and good human beings, could be truly a future utopia.

Sound artist Park's Virtual Music Exhibition (Draft) imagines a virtual space composed of sound as an alternative to sight. Park designs a space for the exhibition of 'virtual music' in which the audience can assume their own location or the spatial size only through sounds without being able to see anything. Researcher Heo's Waypoint: Wuppertal, Gwacheon, Yongin And

takes the form of lecture about the route across the three cities relating to Paik's 1963 exhibition. Drawing on a game called 'Flight Simulator 2020,' Heo guides the audience on a virtual flight along these time coordinates as waypoints, interpreting and connecting technological and socio-cultural layers at each point.



Park Seungsoo, Virtual Music Exhibition (Draft), single channel video, 5 min, color, sound.



Heo Daechan, Waypoint: Wuppertal, Gwacheon, Yongin and, single channel video, 15 min, color, sound.

All these works disclose the gap between visual and bodily senses inherent in VR technology, the changing experience depending on a participant's physical abilities, the limitations of the experience from a first-person point of view, and the feeling of being real through motion recognition, which is in fact volatile in nature. They also remind you that virtual reality is built upon the configuration set by curators and developers. The workshop led by artist Kim Alex Jaehyeon and educator Ko Younglae, in connection with Exposition of Music, Do It Together!, was attended by, among others, elderly people and those with general learning disabilities, whom VR programs are usually less accessible.

A total of 54 participants over 7 sessions showed discrepancies in terms of the extent to which they experienced art and technology in the museum. This raises the awareness that when providing an art-and-tech educational program, it should be a lot more specific whom it is for, and that the 'whom' needs to be carefully defined small groups rather than the 'general' public. To work in the juxtaposition of the virtual and the real, together with those having less experience of the kind, whether it be due to disabilities or due to the digital divide, can be an opportunity to delve into fundamental questions about the relationship between art and technology. Joined by artists and audiences, it is probably the museum itself that learns something.

Exposition of Music, Do It Together!

njpart.ggcf.kr/exposition-of-music-do-it-together/

Kim Seong Eun, DPhil, is an anthropologist specializing in museology and contemporary art, and her research interest lies in the agency of media art for the body and sensorial experiences in museums and the modality of the curatorial relating to the commons. Among her curatorial projects are CAMP After Media Promises (2021), Common Front, Affectively (2018), Intermedia Theater (2015-16), Transmitted Live: Nam June Paik Resounds (2013). Kim is currently Director, Nam June Paik Art Center.

Museum for All, the National Folk Museum's efforts to bridge the gap in viewing

By Aran Oh
(Curator / Exhibition Division
National Folk Museum of Korea)

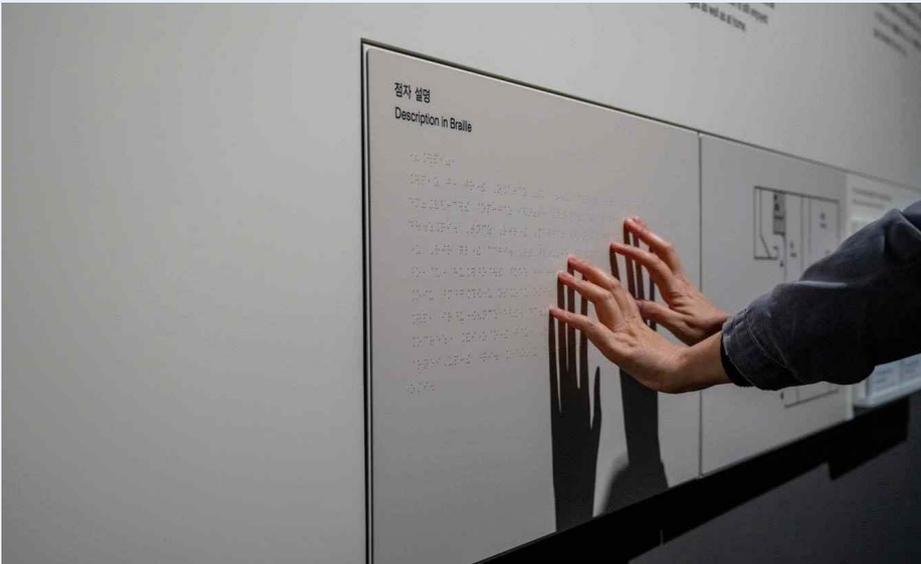
With changes in the definition and exhibition functions of the museum, visitors have expanded from specific classes such as scholars, artists, and aristocrats to the general public. In the second half of the 20th century, the museum began its efforts to “develop visitors” to actively attract visitors, and now it is trying to become a museum that embraces and cares for everyone regardless of gender, age, nationality, cultural background, or disability. I would like to introduce how the National Folk Museum of Korea has responded to the changes in museums for visitors, visitors, and visitors.

Since the early 2000s, the National Folk Museum of Korea has been striving to provide an equal viewing experience so that anyone can enjoy all the programs and services of the museum, aiming for an open museum. In particular, various attempts have been made to expand the accessibility of the blind. In 2004, offline, a permanent exhibition hall and a children's museum Braille brochure were provided, and an Internet homepage for the blind was opened online to enhance the convenience of viewing. In particular, the children's museum Braille brochure for visually impaired children uses the background color as a primary color so that not only blind students but also low-visibility students can experience the exhibition, and various three-dimensional image materials are added to allow them to be touched by hand and viewed indirectly. Since then, various online and offline programs such as online sign language commentary have been provided to relieve the blind's sense of distance from the museum.

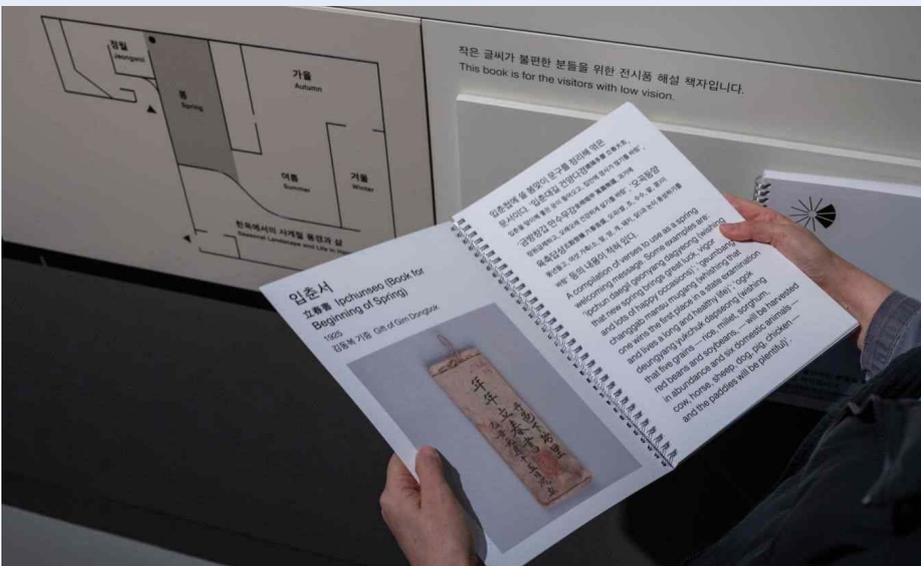
In 2021, permanent exhibition halls 2 and 3 were newly reorganized, and viewing devices for the visually impaired were installed in the exhibition hall. If the existing Braille Flet was a passive device that visitors with disabilities had to find themselves through a separate process called the information desk, the Braille panel, tactile map, and tactile exhibits installed this time can be said to be an active device aimed at enjoying a barrier-free culture. Braille panels including braille were introduced to panels explaining the themes of each part, and large text books for the visually impaired and the elderly were provided together to help the visually impaired understand the exhibition in an equal position to the general public. In addition, tactile exhibits made with 3D printers were placed on the same line as the display case and exhibition data location so that the visually impaired could touch and view the exhibits. It can be said that it was an active attempt compared to the existing method of providing an educational program using tactile materials or a separate exhibition space for tactile exhibits. The meaningful attempt to place viewing services for people with disabilities directly inside the exhibition hall was well received not only by people with disabilities but also by the general public. In particular, it is used as an educational material for children who want to touch objects.

Blind spots also exist in viewing services for people with disabilities provided by the National Folk Museum. Attempts to narrow the digital gap, such as voice commentary on the video that filled the exhibition hall, are still insufficient. It is recent that exhibition techniques using digital technology have appeared and been applied to museum exhibitions, but the video goes

beyond auxiliary materials to help understand the exhibition and becomes an exhibition itself like a realistic content exhibition. However, there is no video commentary service for the blind and hearing impaired. In addition, compared to services for the visually impaired, viewing devices for the deaf and the physically handicapped are still insufficient.



Braille panels and touch maps



A large book of letters for that visionary



Tactile Exhibition and Braille Description



Tactile Exhibition and Braille Description

In addition, there is no government-level manual for building barrier-free exhibition halls, regular reviews such as surveys of visitors with disabilities, and continuous monitoring of organizations for people with disabilities are not yet in the stage to say that museum viewing services are systematic for everyone. Of course, the museum's efforts continue. The special exhibition of "Happiness of That Winter", which will open

on November 15, will introduce a new interpretation medium for the blind as well as a sign language commentary on video exhibits for the deaf. In the future, the National Folk Museum of Korea will continue to make various attempts to build a barrier-free exhibition hall for the blind, sound commentary service for the hearing impaired, voice amplifiers, FM hearing aids, and wheelchairs for people with disabilities.

Introduction to the Museum:

The National Folk Museum of Korea is a representative living and culture museum in South Korea, and since its opening in 1946, it has been striving to collect, preserve, exhibit, and systematically investigate and research Korean folk materials. Exhibitions and educational programs are provided to show what kind of life we have lived in this land, what the living goods are in the process, what the symbols and meanings expressed in those living goods are for, and the folk culture in our lives in an easy to understand.

Average annual visitors are 140 million (before COVID-19): It was 430,000 (after COVID-19), and before COVID-19, 60 foreign visitors accounted for

60%. In the case of domestic visitors, as of 2021, 46% of visitors in their 20s, 70% of visitors on weekends, and 82% of visitors from the Seoul metropolitan area.

The National Folk Museum of Korea is also trying to find practical ways to bridge the gap as academic discussions on equal viewing rights, such as museums for all and universal design, become more active. As part of this, permanent exhibition halls 2 and 3 reorganized in 2021 will provide exhibition interpretation media such as Braille panels, tactile maps, large-letter books, and tactile exhibits, and a barrier-free exhibition space such as fortune-telling for the visually impaired and video sign language commentary for the hearing impaired.

Aran Oh, is a curator of the National Folk Museum of Korea and is in charge of exhibition planning such as the Realistic Special Exhibition and the Rabbit Year Special Exhibition. She earned a master's degree as a major in history education at Korea University, and is interested in interdisciplinary research in museum and history education, including museum exhibitions and the impact of education on visitors' perception of history.

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Nam June Paik Art Center
National Library of Korea
National Folk Museum of Korea

Report: UK – South Korea Inclusive Digital Museum Innovation Conference



5 July 2023 Inclusive Digital
Museum Innovation – talks,
responses and demonstrations

Hosted by Theano Moussouri,
with discussion led and moderated
by Hannah Thompson, Professor
of French and Critical Disability
Studies at Royal Holloway,
University of London.

Lightning talk 1:

Digital Museum Innovation: The Shift from Assistive to Inclusive Tech, by Dr Rafie Cecilia

Technological approaches that claim to support cultural inclusion are developing rapidly, particularly three-dimensional and tactile objects, web applications and audio resources. While traditionally-defined 'assistive' technology facilitates the daily lives of people with disabilities, it does not promote inclusion. In this lightning talk, we will look at examples of digital innovation and mainstream technology that have embodied the notion of inclusive practice to create truly equitable experiences for all.

- There are often differences of meaning and approach between academia and museum practice, but one useful definition of inclusion is as follows: Inclusive technology can be used by everyone with little or no adaptation.
- So what does inclusivity look like for museums, and museum visitors with disabilities? Unfortunately, sometimes companies make technology products without reference to museum professionals and/or users. These products fail.
- However, a product like Smartify is really good. It scans and gives information about artworks, by using a user's phone's accessibility settings. It enables people to have an independent experience.
- The Smartify developers are museum professionals, and they worked with visually impaired people to develop the app.
- Less high-tech examples of successfully inclusive projects also exist. For example, a PhD project involved creating touch replicas of exhibits in response to what visually impaired people requested – to know about texture, details, or guided touch and audio description.

- The best examples of inclusive projects are co-created, people-centred and values-led.
- Three groups – technology developers, museum professionals and users with disabilities – must all be included. These groups sometimes overlap.



Hannah Thompson, Royal Holloway University:

Co-creation with people with disabilities is such an important idea and I am very interested in the three groups you mentioned – museum professionals, technology companies and visitors/visitors with disabilities. But how about museum professionals with disabilities? Where are they? Are we engaging with them?

Rafie, UCL IoA: I am writing a book chapter at the moment about invisible professionals with disabilities in the care of museum collections. Disability within some professions in the museum world is invisible. But it is possible for the groups to merge – for example in Smartify, museum professionals are the same people as the technology professionals. And sometimes a tech developer might also be a disabled person. So in practice those people have particular insight.

Hannah: Smartify is a good example of a piece of technology led by museum professionals and which very early on had accessible technology like Apple's VoiceOver built in. Even if a museum or gallery hasn't subscribed, if the artwork is in the public domain then the app will recognise it and provide some information. It relies on crowd-sourcing and co-curation.

Rafie: During one of the workshops (workshop 3, talking about the game Seoul 2033) it was interesting to hear about how tech developers discovered that players with disabilities had already found a way to play the game, and in subsequent development of the game, inclusive practices were embedded organically.

Cultural organisations are often not very inclusive, and when a museum professional with disabilities gets into the world, a lot of responsibility is often placed on them. How do we make sure that people can bring their lived experience into their work, but are compensated for it?

George Alexopoulos, UCL Institute for Sustainable Heritage:

I work in the UCL Institute for Sustainable Heritage. I'm very interested in the three groups involved in making inclusive experiences. I specialise in working with olfactory heritage – smells – and when my computer science colleagues were ready to design an app, all of a sudden there was a discussion of 'why haven't we included people with certain disabilities?'. We had no experience with this and so we hadn't left time to do it. What is the best way to make contact with the museum sector if an organisation has no experience?

Hannah: The sooner that inclusive access is included in a project the better, ideally from the start. Things are better when designed with inclusion in mind.

Hannah Platts, Royal Holloway University:

The question of how to fund inclusive access is very important. Museums are wildly varying in size, and one of the concerns when you start to develop a project is that you don't know where the money will come from to develop effective inclusive access. It needs to be much more carefully addressed.

Lightning talk 2:

Playing Together: Creating Conversations in Parent-Emerging Adult Dyads Through Interactive Narrative Games, by Pooseung Koh

Museums play a vital role in providing access to knowledge to their communities but also offer families a unique opportunity to spend quality time together. In this lightning talk, we will explore how an interactive narrative game can enhance the museum experience for families, focusing on its potential to facilitate conversations and strengthen the bond between parents and emerging adults.

- For young people, emerging into adulthood, this is a period of changing authority, and navigation of a developing sense of self. There is less time spent with parents, and more egalitarian communication while they establish their own path.
- The research involved observing pairs of parents and young people playing *As Dusk Falls*, an interactive multiplayer narrative game that explores themes of family betrayal, resilience and sacrifice.
- Researchers observed how the participants interacted while playing the game. The gameplay sparked discussion, and the conversations that took place were a catalyst for sharing values and beliefs, and reflecting on each person's life experiences.
- The fictional characters made it easier to discuss things that normally would be uncommon themes to bring up. Individuals could express how their choices might be similar or dissimilar to those in the game, establishing difference.
- Young people felt a strong responsibility to check the parents were engaged and enjoying the game. Parents sought opinions of the young people and roles in daily life were reversed. Both generations felt heard and valued.
- It highlighted the potential of intergenerational game play to foster bonds. Can museums and libraries build on this experience?

The success of the game rested on three aspects:

01

The game was simple, accessible and easy to play – digital literacy was not a factor – the playing field was level.

02

The collaborative aspect helped foster a collective agenda – there was a shared story, and play unfolded on common ground.

03

The choices in the game didn't have a simple right or wrong answer, which led to good discussion. **Players had to bring their personal values to bear.**

However, this game took an hour to play, which might not be suitable for the museum environment.



Lightning talk 3:

Creating Inclusive and Meaningful Digital Museum Experiences: The Power of Understanding Visitor Life Context, by Karam Eum

Museums' digital interactive exhibitions hold promise for providing inclusive social experiences for visitors, but creating meaningful experiences that have a lasting impact beyond museum walls necessitates a thorough understanding of visitors' needs and values. Drawing on a case study involving gameplay experiences of young players with cerebral palsy and their families, I present how an understanding of visitors' life contexts can help us design a more inclusive social experiences in digital exhibitions.

- The research involved going to the homes of young people with cerebral palsy and asking them and their families about their experiences. Interviews were conducted using communication boards.
- A key question was about how games can bring positive outcomes outside of the game play itself. Many social modes of gaming emerged.
- One young person taught the researcher how to play the game Tekken. For another young person, playing Ace Angler, the game was a social experience, with family members cheering player achievements.
- The key outcome was that when thinking about players with disability, they play together with others. Meaningfulness is constructed in the social context.
- We are all interested in making meaningful experiences in museums – but tend to focus so much on the content – storyline, narrative, visuals, audio elements, interactions. The memories that last longest are those that we share with people around us, though.
- Those are the fond memories we cherish. The laughter or conversation that we had with people around us: strangers or people we know.
- Surprises are forthcoming from discovering different sides of yourself or of others. In the research, gamers felt enabled, and were able to communicate emotion to their family. It served as a way of exploring different sides of the child, and communicating things deeper than daily needs.

To create such powerful experiences in a museum setting, collaboration with people with disabilities is vital, and asking questions such as:

01

Basic accessibility – do we have all this satisfied?

02

Discover visitors' social context. Who are they coming with? What kind of experiences do they have together in daily life and what do they want to have?

03

Co-participation – how can you design ways for the visitors to engage together in the exhibit?

- We often don't consider interactive experiences in museums to be social – but what can we learn from gaming for inclusive design? From streamers and how they engage spectators – there are some things we can learn from each other. Museums can give spectators a chance to express their reaction or to share something after the exhibition. Make them feel included and part of a welcoming community. It could be a way to make more people feel included.



Museum studies student: I wondered about the profile of the parents and teenagers in Pooseung’s study – was there any difference with single parents? How about if siblings were included?

Pooseung Koh, KAIST PhD candidate:
The work was just with individual emerging adults and parents from nuclear families. But for all of the participants, the important factor seemed to be the time spent together. The young people didn’t like talking when all the attention was focused on them.

Hannah: I was struck by how the intergenerational gameplay reversed the hierarchy. The emerging adult took responsibility for helping navigate the digital space. Museums are great at providing experiences for young children and parents – but everyone likes playing, and this lends itself to older children.

There are lots of productive ways to use an exhibit to spark a conversation. I have had the experience of creative collective audio description in a museum space, sometimes with a professional curator but sometimes with a friend. I say ‘Tell me what you can see’. It always leads to a really good conversation. By questioning it invariably ends up with the describer having a richer experience with that artefact.

Rebecca Mileham: Nelly from the Wellcome Collection had been telling me about the way that audio interpretation encouraged adult visitors to slow down and spend more time at exhibits. It’s almost as if we need interpretive interventions to trick us into taking time to spend together – in front of a painting or playing a video game.

Joe Rizzo-Naudi: I am working on an exhibition called ‘Behold: a show about touch’ in which we tried to increase engagement for all, with a specific focus on blind and partially sighted people in an art gallery. One intervention was that blind and partially sighted people like myself, who were familiar with the artworks, were employed to offer a mediation experience for visitors in order to help them engage more deeply with the artworks. The blind mediator collaborated with the visitor to create an improvised description of the artwork they were engaging with. It led to long conversations, social responses and experiences, bonding and sharing things from life. Perhaps this can be made into some kind of game to give people a sense of familiarity – we know it needs to start at an easy level and progress from there. Games are more accessible and harness the social glue that is all around us.

Hannah: Sometimes you need a professional guide. But other visitors are already there, and we can interact together. It’s an underused resource.

Lightning talk 4:

Promoting an Inclusive Organisational Culture for Digital Museum Innovation, by Dr Juhee Park

Embedding the values of equality, diversity, and inclusion (EDI) in digital practices at museums is not an issue for individual museum practitioners. Rather, it is an organisational and societal concern. In this lightning talk, I will look at the challenges that museums have faced regarding digital EDI and how an inclusive organisational culture can bring positive changes in digital museum innovation from concepts and strategies to actions.

- In modern life our societies prioritise particular things in public design. Digital has become the default in so many areas of Korean life now – including ordering food in restaurants, where there are no longer waiting staff. In London, bus drivers are required to provide disabled passengers with assistance to board or alight the bus.
- But inclusivity should be embedded in all public services – in an acknowledgement of people's agency as individuals. Inclusion is a critical organisational factor in museums and libraries.
- In South Korea, significantly fewer people are registered as, or identify as, disabled, in comparison to the UK.
- In South Korea and the UK alike, museums have delivered programmes for people with disabilities and they display a percentage of art by artists with disabilities. Hiring practice is changing too – but we must take a critical view of whether people with disabilities are really included or if it is just a political box-ticking exercise.
- How do you rate your organisation? A Learning Culture is what characterises diverse, flexible, exploratory organisations. This makes them better at adapting and innovating. At the other end of the spectrum are organisations that prioritise stability and authority.
- From the director down, inclusive leadership is required, with a manifesto and action plan, involving stakeholders. Inclusive workplaces welcome a diversity of employees in recruitment, retention, stewardship, working groups, building communities of practice, and working with volunteers.
- It takes time and effort, but museums can be social activists, creating inclusive organisations that promote inclusion in culture and society.
- Museums and libraries can't do it alone but we can lead positive change. One day we will be able to say our institutions are more inclusive.



Hannah: Access and inclusion are different; a lot of programming or projects that are specifically designed for a certain group actually marginalise them. But having an inclusive approach from the beginning, is more equitable - and more effective in the long term. Saves time and money as well.

To go further, we should remind resistant organisations that everyone can benefit from a measure that is inclusive. Lots of people don't realise they will benefit from a measure because they've never been exposed to it before.

Laurence Maidment-Blundell, UCL IoA PhD candidate: There's a need for inclusion throughout the sector, but where does the vision come from? The Museums Association? From internal pressure and discussion?

Jungwha Kim, Founding Director of Seoul Museum of Craft Art: In South Korea there is an association that allocates museum officially, but there is no particular body with the power to enforce the various museums to apply inclusive principles in their activities. At the moment, each individual museum can see the significance of inclusivity so they seek ways to navigate inclusion. At the Seoul Museum of Craft Art, when we began our journey, we introduced programmes dedicated to people with visual impairments.

Mingi Kang, National Library of Korea: I'm from the central library in South Korea. Previously, there was a special department for people with disabilities but now there is a dedicated library in its own right. The government wanted to make sure there was no discrimination and so they funded this.

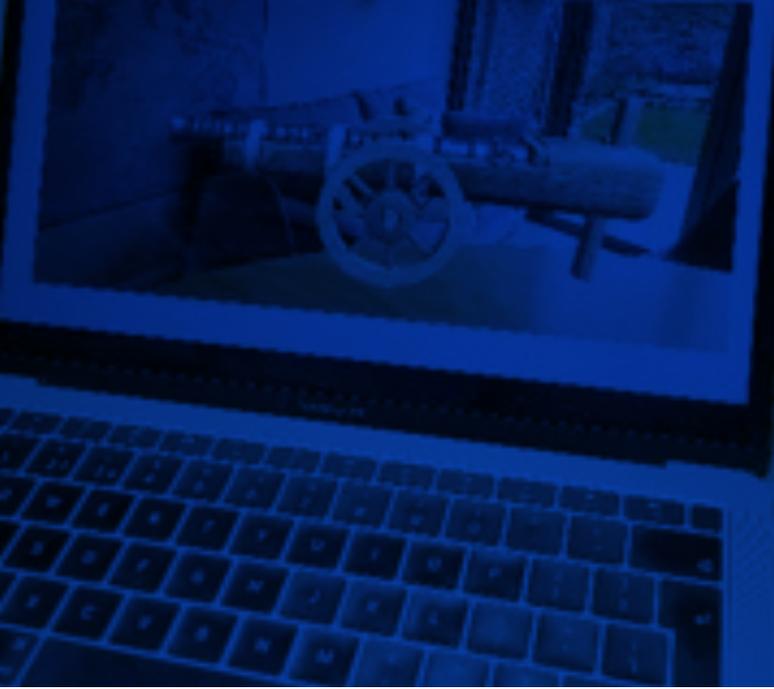
Seong Eun Kim, Nam June Paik Art Center: In South Korea the current environment is that policy makers are strongly focusing on promoting rights for people with disabilities. With the new government in power, public museums are trying to put technology in place, and put more programmes in place and expand it – that is the current position. So nothing is mandatory yet, to be accredited, but public and national museums do have that duty.

Charlotte Connelly, Science and Media Museum: The UK's accreditation scheme is quite light-touch on this topic. We have a really flat system of museum accreditation, covering enormous organisations down to tiny ones. So the accreditation system doesn't drive inclusion, it's much more down to funders like the National Lottery Heritage Fund, Arts Council England and so on. They lead museums to work in more participatory ways.

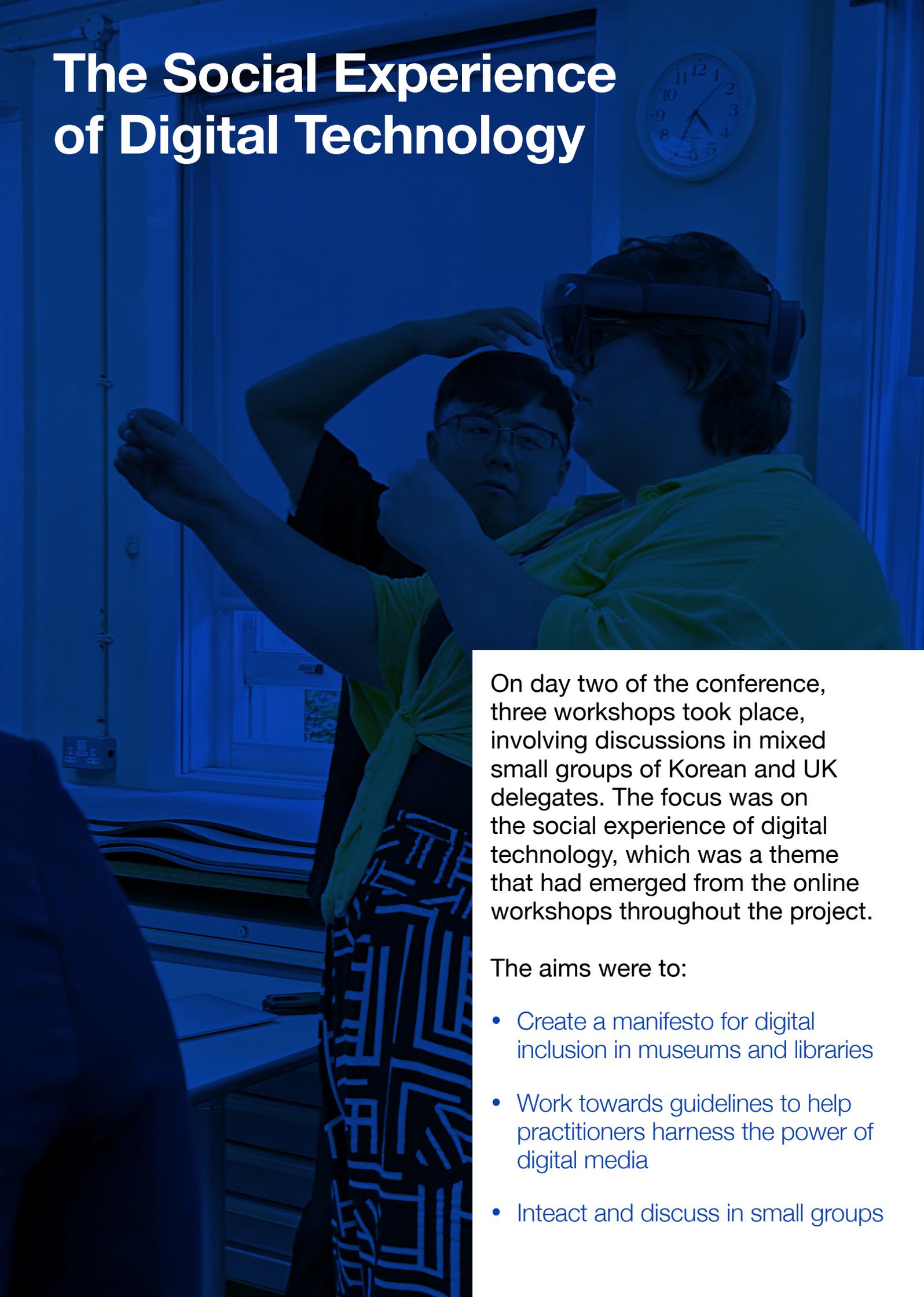
Technology Petting Zoo

In a practical session of demonstrations, delegates saw inclusive digital work presented by Raffaella Fryer-Moreira and Dorian Morales Arce (UCL Urban Laboratory and Guarani Nandeva Photographer and Filmmaker), Albert Higgins (UCL Global Disability Innovation Hub), Karam Eum (KAIST Games and Life Lab), Pooseung Koh (KAIST Games and Life Lab), Hannah Platts (Royal Holloway University of London), Chenxing Zhao (UCL Institute of Archaeology),





The Social Experience of Digital Technology

A photograph of two people in a room, one wearing a VR headset and the other looking on. The image is overlaid with a blue tint. The person wearing the VR headset is on the right, and the other person is on the left. They appear to be in a workshop or classroom setting. A clock is visible on the wall in the background.

On day two of the conference, three workshops took place, involving discussions in mixed small groups of Korean and UK delegates. The focus was on the social experience of digital technology, which was a theme that had emerged from the online workshops throughout the project.

The aims were to:

- Create a manifesto for digital inclusion in museums and libraries
- Work towards guidelines to help practitioners harness the power of digital media
- Intelect and discuss in small groups

Session 1

Social dimensions of the digital experience

01

have you ever had or seen a great multi-user digital experience?

- Immersive 'room'-type art experiences like Van Gogh are popular and have low barriers to entry – can the experience be extended somehow to deepen it?
- Date night in a game – a good way to both spend time with your partner and learn about their personality and behaviour
- Quest or goal-based games are good, with a shared mission, perhaps where you collect information that you can 'take home' on an app (do people actually ever revisit it?) or do a treasure hunt in the museum
- Online RPGs (role-playing games) have enormous user loyalty, would this translate to museums? Are there shared goals that would sustain a long-term relationship between visitors and museums?
- Motion capture is growing in popularity
- The Science Museum had early multi-user table-based games in the Wellcome Wing
- Observers can enjoy someone else playing a game, or help by giving advice. One person operating a VR headset can interact with other players using mobile phones
- A game must be easy to use but also have a challenge to overcome
- Under development is a metaverse library in which users can create an avatar and create their own bookshelf
- Good multi-user experiences are user-led, they can reach non-visitors and also transcend national barriers
- Multiplayer is now standard and museums can use technologies that already exist. But expectations are very high and museums do not have the budget to compete with commercial experiences

02

what kind of digital experiences best promote conversation and interaction?

- Those that allow you to see other people and customise the environment – the metaverse will allow this globally
- Those that present the museum as a fun, community-oriented place rather than 'educational'
- Perhaps virtual spaces that mirror familiar physical spaces (e.g. library) will be more inclusive?
- See answers to 1 also, but note also the warnings:
- There is an issue with anonymity in digital spaces, regarding safeguarding, which presents a difficulty in children's museums and libraries. The privacy laws are different in the UK and South Korea.
- There are also issues surrounding children overspending in digital spaces, gambling and using Bitcoin.
- Society is concerned about the impact of games on children's health and fitness, and maybe their competitiveness (seen as toxic?).
- At the moment you can't use VR headsets with under-12s.
- There is a generational concern with violent video games.
- Missteps in any of these areas could constitute a reputational risk to museums and libraries. Museums may also question whether more digital access will mean fewer physical visits.
- Science Museum Group research with families showed that many parents don't consider computer games as a valid career option.
- In South Korea there is a growing niche of parents who see E-sports as a valid goal for earning money, because it is so hard to get a job even if you have a degree.

03

can museums/libraries create successful social digital experiences for visitors who don't know each other?

- The Museum of London had the Olympic / Paralympic Cauldron on display and a Paralympic athlete visiting shared their experience and response on social media – surprised and delighted to find themselves represented in the museum. It had a huge impact on their followers and was shared widely.
- Museums often create intentional selfie moments now.
- K-pop band BTS visiting art museums has been very influential. One BTS star in particular is a famous art collector and fans follow him to museums he visits.
- In South Korea there was an exhibit where you can listen in to what previous visitors said; there was an asynchronous aspect to the interactions that were possible.
- Science Museum audience research indicates that visitors who don't know each other will interact

04

how can organisations make sure they are creating socially inclusive digital experiences?

- You can touch and interact with a digital analogue of an object in ways that you cannot with the real thing.
- Digital inclusion is very effective when mediated by educators – but we do not want social inclusion to be siloed into the learning team only. However all institutions have limited budget and space, and many priorities.
- Digital resources can be the answer – but once released online, how are they being used?
- The British Library is working with Mental Health and Dementia audiences to create resources under the banner of digital therapy, using the Sound Collection. They are very digitally accessible.
- Question: Is there the same commitment to accessibility in the physical exhibitions at the British Library? Could there be? Should there be?

05

since digital media moves so fast, how can our sector to keep up?

- There is no need to reinvent the wheel – use technology to help you.
- We can use digital technology to enhance an exhibition, or help visitors prioritise their experience.
- There are already many tools we did not have a few years ago – Google translate, many visitors carry a smartphone, VoiceAssist, automatic subtitles, Wifi, QR codes, even Chat GPT.
- In terms of peripherals, in gaming, players with disabilities know what they need. We can provide modular controllers that are adaptable, or digital tools that manage interaction, toggling features on and off, to give players agency.

Session 2

Generational differences in the perception and adoption of digital technology; inclusive cross-generational design

01

what would be your ideal digital museum/library experience with someone of a different generation?

- An ideal experience takes place on common ground but allows for different perspectives.
- Creating dialogue with the other person is key. But what is the trigger – is it the theme or the digital experience?
- In South Korea there was a very successful digital experience around weddings. The media was crowdsourced, and the fact that it was digital enabled a lot more content to be included.
- Digital experiences allow there to be sharing, and for the content to live on inside (or outside) the museum. They also allow you to see the potential implications of an action (on a system or network), and to potentially 'leave your mark' in the museum.
- Digital experiences may be able to help visitors navigate more difficult content than they would normally, if handled in the right way.

02

in South Korea and the UK, how do attitudes of older generations towards technology differ?

- It is more about the countries having different attitudes towards older people. In both countries you navigate life through digital technology. In the UK you can still use an analogue system if you want to, often. In South Korea there are workshops for elderly people to learn how to use kiosks.
- At the other end of the spectrum, young people are now not familiar with how to use laptops (there was a class in which 9 and 10 year olds picked up laptops and tried to type with their thumbs).
- People want to zoom and swipe on all screens, because they can on their phones.
- Different age groups prefer different platforms.

03

do digital experiences narrow or widen generational divides?

- Soon all members of society will have grown up with digital technology. This means perhaps that there are bigger markets and audiences for digital experiences.
- Younger people do expect quicker responses. Older people need things to be bigger and clearer on the screen, generally.
- Gamers were once young gamers, but they haven't stopped gaming.
- Reading and writing are not a given in our societies, and so things like video labels are extremely valuable.

04

is it more important to standardise digital access or to innovate, and why?

- Smartify is a good example of an app built using existing standards and techniques, but in a novel and very effective way.
- Standardised approaches are important in digital development, as with webpages.
- At the Korean Folk Museum of Korea, there is a process of consulting colleagues and giving feedback on proposals. But the lack of legislation makes it hard to advocate effectively for inclusion.
- Tech companies do set standards, but we are more audience focused. And standards have to be revised after an innovation cycle, so they are not fixed.

Session 3:

Sustainable digital practices and their implications for people with disabilities

01

can you think of organisations that are doing well at creating accessible digital experiences?

- The Burrell Collection in Glasgow has good digital initiatives that are very inclusive.
- The British Library found ways of working during the pandemic with people in Tyne & Wear, Leicester and Manchester; involving people with Dementia or Mental Health needs, and people with Aphasia and their carers; sending out activity packs and working with artists and the Sound Collection to develop digital therapies in line with the library's wellbeing agenda; creating an online exhibition with art and sound.
- Sound and memory are very powerfully linked. Previously museums haven't treated sounds like objects, but digital changes this. The VR space is very sound-centred. For a tour, visitors preferred a shared speaker rather than earphones that isolated each visitor.
- We should be aware of the sustainability impact and energy cost of uploading resources, and of creating digital junk.

02

how can we overcome barriers to institutions creating inclusive and accessible digital media? what digital skills, roles and leadership do we need in the sector?

- For an institution to be inclusive and have an active disability and people-centred approach, it needs inclusive governance.
- At the Science Museum Group, the Open for All strategy means that there are steering groups of senior colleagues which meet monthly to look at activity that furthers this agenda. This includes how the organisation is changing to recruit a more diverse staff, and how the museums are working towards growing science capital at the heart of their mission.
- The Human Resources team is always crucial alongside Learning, and Audience Research and Advocacy.

03

which global standards and practices in digital media can cultural institutions adopt to enhance access?

- Legislation is vital so that museum advocates can devote resource to inclusion.
- The people-centred approach leads to a Human Rights- and social justice-based approach.
- Sign language is used for public communication, news and national TV shows in South Korea by law.
- In the UK, the Equality Act is one of the most advanced legislative provisions for people who identify as disabled, but it is almost 15 years old and requires updating. For example, There is a British Sign Language Act, but during the pandemic people who identify as D/deaf were not catered for by Covid communications.



