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Immersive Scotland #1

The workshop was attended in the morning presentation session by 34 participants. There were 14 participants in the afternoon discussion. This short report provides a summary of the presentations and discussions.

'we had issues around reality so, for example, the draping and the texture or the capturing of the seagull. Bringing in the real, realness of the virtual-ness.'

**Augmented Fashion
  - Dr Yang Jiang**

**Development of Immersive Seat Previewer
- Jo-Anne Tait**

**Scanning the seagulls and being there
- Prof Richard Laing**

**Mobile Art School - Co-Creation in Virtual Reality
- Craig Barrowman**

**<DISTANCE> Digital Immersive Technologies and Craft Engagement
- Netty Sopata - Applied Arts Scotland**

'the challenge today is indeed between removing noise from data scanning systems and yet the necessity to add the noise of human perception.'

'they really enjoyed the fact that materials or what they interpret to be their materials within the drawing apps were behaving differently, it's a completely different experience.'

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Five presenters shared their work within immersive. Themes to emerge from the morning discussions included a focus on capturing and re-creating reality (textures, draping, seagulls, trees), providing a service to users, enhancing creative practices, use of avatars/faces and collaboration as a non-isolated virtual experience.

- **Dr Yang Jiang:** The Augmented Fashion project explores ways to educate the consumer about the sustainability, craftsmanship, heritage and value of traditional fashion and textile products, using a variety of mediums such as film and immersive technologies (www.augmentedfashion.co.uk).

- **Jo-Anne Tait:** Seat Previewer is designed to allow people to select a seat in a venue and be transported virtually to the very spot, offering enhanced accessibility and confidence in choice.

- **Prof Richard Laing:** Described how digital technologies have been used to record and represent the experience of being in an urban space beyond the geometry of buildings to include 'capture' movement: of people, vehicles, snow and seagulls.

- **Craig Barrowman:** The Mobile Art School (MAS) has undertaken immersive projects with students and faculty at Gray's School of Art using innovative collaborative apps (Spatial and Gravity Sketch) via the Oculus Quest VR headsets. The talk shared some of the work created in these sessions and discussed some of the benefits and challenges encountered.

- **Netty Sopata:** An introduction to the DISTANCE Project, currently being delivered by Applied Arts Scotland in partnership with SOLUIS. The presentation discussed the project to date and the learning curves experienced.

The morning presentations demonstrated an overarching theme of collaboration and discussed immersive as a non-isolated virtual experience. The speakers explored different ways of bringing people together or observing people perform in virtual spaces. **Humanization of the virtual** quickly became apparent as the overarching theme.

key theme:
'humanizing the virtual'

connection in
the immersive space

credibility:
realism, textures, draping,
visual & auditory noise

corporeality:
presence, faces, expressions, avatars, movements

connection through
the immersive space

collaboration:
sharing spaces & practices, facilitating progress

companionship:
developing non-isolated immersive experiences

connection with
the immersive space

customers:
providing a service & support for users at all levels

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During the workshop, the following questions were addressed through group discussions:

- *What is the purpose of the network?*
- *What are the different needs of stakeholders and where are the current gaps in support?*
- *What do we think will be the scope of the term 'Immersive'?*
- *What is the breadth to be explored through the network?*
- *What will the network support?*
- *What technologies will it encapsulate?*

'Reflecting on the morning presentations, immersion wasn't taking place because of the technology, the technology was used as an aid to help in immersion to other places.'

'Weaving without gravity ...what would it be?, sparked a synesthetic associative and poetic explosion of inspiration.'

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Participants shared their different perspectives on the development of Immersive Scotland network framed around the following questions:

What is the purpose of the network?

- To showcase a range of things that are going on within the immersive space – creating a central point, a place where people can say "I am a part of this network" and can see where to go to get further information.
- To share learning experiences.
- To provide resources and definitions of immersion.
- To keep the 'history' of the practice alive and accessible to all.
- To create a space to support innovation within immersive.
- To support collaboration.
- To analyse what immersive means by exploring the edges of what this encompasses.

'I guess that one of the things that the immersive Scotland network could explore is how much do people need to know to then be able to do what they want to do… or who they need to know.'

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What are the different needs of stakeholders and where are the current gaps in support?

- Seeing examples of the use of immersive technologies was identified as an important aim of the network.
- SMEs and micro-businesses need support with skills development, access to technology and technology investment for upscaling and diversification of their business.
- There was discussion on the different requirements of stakeholders with technology; providing a 'buffet' of what technologies can offer, with different entry levels (in terms of cost, skill, longevity and outputs) was identified as important for the network.
- The network was identified as a place for sharing interdisciplinary innovation and research in the development of immersive work.
- Learning each other's terminologies across disciplines was discussed as important to facilitate interdisciplinary working.
- Providing opportunities to experience and open up spaces for creativity and new practices was deemed important. A virtual exhibition space, together with interactive spaces to create collaborative works or experience taster sessions, were discussed.
- **Gaps in access to technologies were identified where the speed of change (in technologies and practices) is rapidly changing.**

'Exposure to the potential is huge for creative practitioners. I think watching a knitwear designer using virtual reality successfully highlighted the benefits of it and sparked interest. Whereas before it wasn't on their radar.'

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What do we think will be the scope of the term 'immersive'?

- Participants identified creative practice, heritage, and health and well-being as areas of interest. Recognition was made that this will likely expand based on evolving membership's interests and expertise. Invited presentations on 'what is immersive?' at future sessions was suggested.

What is the breadth to be explored through the network?

- Conversations around this question identified that the term 'immersive' means different things to different people/contexts. Defining the breadth of the Immersive Scotland network therefore was identified as important where sub-groups may emerge that explore different interests.

'They're not all just variations of the same thing.'

'I think there's a task here of understanding what we mean by immersion. We need to tighten up where we feel Immersive Scotland will operate. What kind of spaces will it operate within? It looks like it is working within the cultural, heritage, creative spaces at the moment and potentially as a tool to facilitate either engagement or participation, so I think we're tending towards the virtualized maybe rather than the immersive.'

'Some of us… want to talk endlessly about what immersive means.'

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What will the network support?

- Support opportunities to experience immersive technologies
- Support for collaboration and interdisciplinary working

What technologies will it encapsulate?

- Participants recognised immersive technology tools were an important factor however discussion focused on the need to create a network that was multi-dimensional in its encapsulation of all things immersive i.e., humanisation of technology, experience, collaboration etc. (this relates back to the question - *What is the breadth to be explored through the network?*

Further insights made by participants are noteworthy:
- How we can utilize current immersive systems for new contexts. For example, the customization of existing immersive tools for creative practice
- The recognition that there is a shift from object to context development

'A good network exchanges knowledge, skills, expertise and opportunities. It keeps the 'history' of the practice/subject alive and accessible, but it also has enough 'noise' in it to support innovation…

'How quickly technologies become obsolete is such an important issue, when thinking about cross-disciplinary platforms. The context has to take into account that by the time the research is finished the technology is already obsolete, thus the selection of tools needs to have a long-term life span focusing on learning, flexibility and more on the amplification and enhancing of narratives.'

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Emergent Themes

- **Humanisation of the virtual** - the intersections between the virtual and the real (hybridising hand with technology).
- **Communication** - there can be communication gaps between craft makers and technologists; craft makers may not understand the technology, equally computer scientists may not fully understand how these technologies can be applied within design disciplines (building a common language between disciplines).
- **Interdisciplinary Collaboration** - there was recognition that immersive requires interdisciplinary working, bringing together expertise across STEAM subjects.
- **Connectivity** - two themes were discussed in relation to connectivity; firstly, the importance of connecting with other organizations within the UK, in Europe and internationally; and secondly the importance of immersion as a means of connectivity between individuals, within their environments, the connectivity between the real world and the virtual.
- **Design & Craft -** From a maker's perspective, immersive technology provides opportunities to experience 'new materials', for example as seen in the DISTANCE project (the experience of weaving without gravity). Makers can save time and physical resources in terms of sampling by using virtual sketching, before final physical products (3D sampling is now seen in many industries).
- **Health & Well-Being –** participants were interested in how immersion could contribute to the richness of life and people's health and well-being.
- **Importance of Place –** Considering the Scottish environment as a place for tourism; there was interest in virtual tourism, not as an immersion in technology but being immersed in Scotland as a virtual place to experience.

'I really like that crossover space between the virtual and the real, and how you can reconcile these two worlds… how do we get the real, tangible, touchable stuff into the virtual?'

'Psychologists might be interesting people to bring into the space/debate.'

'The first thing every interdisciplinary project has to do is learn each other's terminology.'

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What do we need to do next in response to the gaps identified?

- Provide information and access to immersive technologies for Immersive Scotland members, including SMEs and micro-businesses, through workshops and information made available via Immersive Scotland communication channels.
- Create a glossary of immersive terminologies that can be shared to members to facilitate effective interdisciplinary working.
- Develop understanding of the network's breadth of operations within the different definitions of the terms, 'immersion' and 'virtual'.
- Undertake a mapping exercise to share a visual diagram that captures the different areas of research taking place and interests of the network.
- Provide Immersive Scotland members with access to immersive literature that encompasses the past, current work, and the future, including both commercially ready and speculative research.
- Develop access to the Immersive Scotland network through on-line platforms that can connect with others interested in immersion both within the UK, Europe and internationally.

'What was Merleau-Ponty talking about if not immersion, you know the whole philosophy of phenomenology ….there's some fundamental stuff here that's been going on for decades that we can't pretend doesn't exist, so I think that kind of scoping is really important. Maybe part of the project is to make that available in some way, in an accessible way to different stakeholders, or to thread it through education that we are involved with.'

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References

Throughout the day participants shared a broad range of information and references captured in the list below:

- Rogers' Person Centred Approach for participatory design - https://www.researchgate.net/publication/288654329_Towards_a_Person-Centred_Approach_to_Design_for_Personalisation
- https://indeterminacy.ac.uk/podcasts/cecile-malaspina-on-noise/
- Art and Sustainability book by Sacha Kagan - https://www.amazon.co.uk/ART-SUSTAINABILITY-Image/dp/383761803X
- Interpersonal Process Recall – https://journals.sagepub.com/doi/10.1177/160940690800700102
- Jorge Luis Borges 'On Exactitude in Science' - https://en.wikipedia.org/wiki/On_Exactitude_in_Science
- Gravity Sketch - https://www.gravitysketch.com
- Spatial.io - https://spatial.io
- Tiltbrush/Multibrush - https://www.vrfocus.com/2021/02/tilt-brush-gains-multiplayer-with-multibrush-for-oculus-quest/
- Ed *Ruscha https://www.tate.org.uk/about-us/projects/transforming-artist-books/summaries/edward-ruscha-twentysix-gasoline-stations-1963
- Qualitative Interviewing Using Interpersonal Process Recall: Investigating Internal Experiences during Professional-Client Conversations
- https://journals.sagepub.com/doi/10.1177/160940690800700102
- Peta Bush: https://www.trendtablet.com/19918-peta-bush/
- Hans Ulrich Obrist - https://artreview.com/do-it-obrist-eliasson-problem-vr-art-lockdown/
- Challenging Craft : International Conference 8-10 Sept. 2004
- Research Through Design - https://www.researchthroughdesign.org
- Anarkik3D- https://anarkik3d.co.uk
- TEI conference - https://tei.acm.org/2022/
- Jorge Luis Borges 'On Exactitude in Science' - https://en.wikipedia.org/wiki/On_Exactitude_in_Science
- Fluxus - https://www.artsy.net/article/artsy-editorial-fluxus-movement-art-museums-galleries
- Merleau-Ponty - https://www.researchgate.net/publication/291891529_A_guide_to_Merleau-Ponty_Key_concepts

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Contacts

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