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POLICY BRIEF

A UK Public Service Metaverse

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Summary of the research

In our currently-funded AHRC Covid 19 project “The application of motion-capture technology in telematic and virtual dance performance through a framework for long-distance remote communication” we have successfully undertaken the development, testing, and implementation of an open-source software tool for the real-time streaming of motion capture data.

This streaming tool has allowed us to bring fully-embodied dancers from different global locations into a shared virtual space to dance together with a convincing sense of physical copresence, direct interaction, and virtual touch. We call it *Goldsmiths Mocap Streamer*, and in the first half of this year we have had the opportunity to successfully demonstrate the framework to an international audience. In our recent performance showcase ‘Dancing into the Metaverse’ we evidenced not only that a sense of liveness could be achieved in the virtual space, but that this could be done with high-integrity aesthetic effects that render dance in radically new ways.

We have just received further AHRC funding to address the UN’s ‘year of creative economy for sustainable development’, with a project that aims to build an international network for real time, remote dance collaboration. We continue work with tech-industry leading partners Target3D (UK) and Noitom (US), and with world-renowned UK dance companies Akram Khan Company and Alexander Whitley Dance Company towards an exciting future for dance performance and collaborative practices in virtual spaces.

Principal Investigator Dr Dan Strutt (Goldsmiths, University of London) is a digital media humanities scholar with 8 years’ experience of working with dance companies and motion capture technologies. Over several research and production projects he has evidenced his ability to manage ambitious and complex digital dance productions whilst delivering high quality academic research

Policy recommendations

Facebook recently rebranded itself as ‘Meta’ and placed the idea of a shared, collaborative ‘metaverse’ into wider public consciousness. However, in his recent essay “Metabrand” tech analyst Benedict Evans offers a warning against the corporate monopoly of a space like this: “Tech history is full of companies that dominated one generation trying to seize the next – they tend not to make it. The incumbents very rarely create the future.” What we need then is an alternative to this, a virtual space that is indeed capable of creating ‘the future’ as a seedbed for technological innovation.

The policy recommendation is thus to create a strong national platform and open infrastructure for immersive and interactive work in virtual spaces – one that operates free of corporate control and primarily through public funding.

There are already a handful of unconnected *metaverse-type* platforms; including VRChat, NeosVR, Roblox, Rec Room, Mozilla Hubs, Sandbox, Tencent, Sensorium, Microsoft Mesh. These are offered as both creative and social experiences, where people can gather to make, create, and hang out. Meanwhile, many national institutions and festivals are already operating in virtual platforms and venues where content can



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be experiences in fully three-dimensional virtual spaces (see for instance the BFI London Film Festival's 'Expanse' virtual venue, or the virtual 360VR tour of the Freud Museum).

Several academic centres are currently investing heavily in bringing arts and culture into shared immersive virtual spaces, at:

- **XR Stories** in Yorkshire and Humberside
- **StoryFutures Academy** at Royal Holloway, University of London.
- **International Research Centre for Interactive Storytelling**, at Leeds Trinity
- **The 'Audience of the Future' Royal Shakespear Company-led consortium** at University of Portsmouth and De Montfort University

As Public Access Television formerly offered cable TV networks, we propose a fully supported server-infrastructure to support the bring together and streamline these various activities, with tools that allows community-made content to be shared publicly alongside more established work. It would be a virtual 'festival' district with different modes of access – through VR headsets, desktop app, or simple internet browser, It would offer a genuinely 'social' public model for immersive media, rather than a platform structured only around corporate marketing and data-harvesting.

There can be virtual meeting places – gardens and malls – that provide social opportunities for communities to meet without having to leave the house (with huge social wellbeing benefits). There can be virtual art galleries and arts complexes where museums and theatres alike can open access to high-calibre publicly funded work. There can also be ticketed 'events' where smaller performance groups can create new revenue streams, or discos and concerts where we can dance together in VR to watch well-known artists (as already occurs in the game-space of Fortnite).

A virtual public space like this could help solve some of the problems that smaller and mid-scale arts organisations or freelance practitioners have faced during the pandemic in producing work, finding new audiences and new ways to monetise their digital activity (without having to invest heavily in infrastructure). It could contribute to their resilience in the face of future crises and help them develop new business models. It would inevitably invite international and national partnerships and collaborations between organisations, boosting the UK's profile abroad.

What could make this happen?

- Large-scale investment in UK based servers.
- A funding-structure to allow established companies (like the RSC) to make work customised to the platform.
- A funding structure for smaller-scale producers to create and share work with full support.
- Partnerships with UK games producers and virtual venue makers.

Key findings

- There is huge capacity for interactive and realistically embodied engagement in virtual spaces which can be understood through concepts of 'the metaverse.'
- Recent tech developments around motion capture, streaming and real-time generative games engine permit genuine senses of full body presence in virtual environments, and at a cost that is rapidly coming down to being affordable to the average citizen.



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- And yet, most of this creative and academic ‘metaverse’ work is being done in an atomised way, and with high-cost barriers to access.
- There is vibrant international and collaborative community working on experimental content who would thrive on a free, open access platform, and who are reluctant to hand over IP to companies like Meta.

Further information

Links to our recent motion-capture dance showcase – streaming motion captured dance from London to New York in real-time. ‘Dancing into the Metaverse’ <https://youtu.be/aNg-ggZNYR0>, and in Brooklyn at <https://www.midheaven.network/>

Other examples:

Freud Museum: <https://www.freud.org.uk/visit/virtual-tour/>

BFI London Film Festival:

<https://whatson.bfi.org.uk/lff/Online/default.asp?BOparam::WScontent::loadArticle::permalink=howtoexperienceexpanded>

Community Garden <http://betterworldmuseum.com/projects/2018/10/27/vr-garden-including-1b-in-community>

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January 2022