Smart DCU Digital Twin: Advancing Towards an Immersive Environment

Type: Practice-based interventions

Topics of Interest:
1. How digital platforms help to transform how urban environments and daily life is navigated and mapped

Abstract (250-300 words)**:**
(e.g. screenings, illustrations, performances, installations) exploring the conference themes more experimentally. Please submit an abstract (250-300 words) and a biographical statement (50-75 words) alongside contact information for all authors. The abstract should describe the scope of the project as well as equipment, space and time needed (as relevant).

This is a groundbreaking collaboration that brings together Bentley Systems, Dublin City Council, Dublin City University, and the INSIGHT SFI Research Centre for Data Analytics with a goal of exploring and understanding the concept of Digital Twin Technology for better user experience. By leveraging their combined capabilities and expertise, the collaboration aims to push the boundaries of Digital Twins to new heights. The focus is on exploring the power of Artificial Intelligence (AI) and Immersive Technologies to visualise complex environmental and contextual data in real time using advanced 3D visualisation techniques. This technology is experimented in a 3D cyberspace of Dublin City University, which is also one of the testbeds under the broader Smart Dublin umbrella. It is an ongoing project and expects to develop effective use-cases for monitoring present situations, multi-stakeholder collaboration and action research towards a responsive and adaptive campus environment. The methodology is mainly based on the Bentley ecosystem, which is used for the processing of the drone photography, creation of the digital models, streaming and storing of IoT sensor data, and publication of the Digital twin. Our work would like to demonstrate the use case of Smart DCU to the wider audience using immersive technology and interactive web-based platforms. For instance, people would be able to experience the whole campus environment with existing IoT data, 360 degree views etc as well as explore the interiors of some of the buildings for which BIM models are in place. For this, we will need a dedicated space with a large projector screen for people to experience part of our ongoing digital twin project using VR headsets. The idea is to showcase the current work to the general public and possibly receive some valuable feedback. Time required: 1 to 2 hours (flexible).

Biographical statement (50-75 words):

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Dr. Mani Dhingra (She/Her) - SFI ADAPT senior postdoctoral researcher at Department of Sociology, Maynooth University Social Sciences Institute, for the role of Digital Twin

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Dr. Aphra Kerr - Professor at Department of Sociology and is a member of the Maynooth Social Sciences Research Institute (MUSSI) and the Assisted Living and Learning Institute (ALL) at Maynooth University. aphra.kerr@mu.ie