Research topic: Virtual and Augmented Reality for Education and Training

Dr Yongjun Zheng (y.zheng20@herts.ac.uk)

Topic: We welcome applications of PhD studentships in the domain of Mixed Reality-Enabled platform to Enrich and Complement Current Teaching Methods. The motivation for the project is to enhance teaching methods by giving students access through the creation of a new MR platform. MR is merely a form of AR/VR with expanded capabilities, which is assumed that the effect on the human mind and emotions will be more complete through total sensory immersion (Ahn et al., 2016; Leonardis, Frisoli, Barsotti, Carrozzino, & Bergamasco, 2014).

This research will propose adapting virtual contents based on the teaching topics; within this research, MR can change the students' perception of the teaching materials. In performances this platform is to deliver the virtual contents to the students; and MR has the capacity to create more immersive experiences (Z. Wu & Zhou, 2019) and to enrich ways of storytelling and engaging the students.

This project will benefit the education, creativity and computing communities and help to maintain the UK's leading status as an advanced technology based scientific research country. Specifically, UK institutes in the field of education, creativity and computing will benefit from the technology used in the education and entertainment research area. UK education and entertainment industries will benefit from the results of this project and the researchers undertaking this project will benefit from exploring in new areas research, leading to more creative initiatives.

Partnerships with industries and academics will be sought for both research and product development purposes. All Intellectual Property arising from the research will be protected. In addition, the prototype system may possibly be turned into commercial products.

Applicant requirements: Applicants should have a background in computer science or a similar field, should have strong programming skills. Experience in mobile application development will be a plus. Applicant is encouraged to contact Dr Zheng prior to making an application to discuss topic ideas or inquire about further information

Reference:

Ahn, S. J., Bostick, J., Ogle, E., Nowak, K. L., McGillicuddy, K. T., & Bailenson, J. N. (2016). Experiencing nature: Embodying animals in immersive virtual environments increases inclusion of nature in self and involvement with nature. *Journal of Computer-Mediated Communication*, *21*(6), 399-419.

Wu, Z., & Zhou, X. (2019). *The Application of Visual Image and Interactive Storytelling to Stage Performance.* Paper presented at the International Conference on Human-Computer Interaction.