Immersive Realities

Leveraging Immersive Technologies to Foster Public Engagement

Professorship of Public Policy, Governance and Innovative Technology at the TUM School of Social Sciences and Technology & Immersive Realities Working Group at the TUM Think Tank

Project Description

The IDP project will be co-designed based on the students interests and expertise, along with the supervisor and the team at the TUM Think Tank and can be supported by the Immersive Realities Working Group. This project is supervised at the Professorship of Public Policy, Governance and Innovative Technology at the Department of Governance. Its purpose is to leverage immersive technology to support the engagement of different stakeholder groups with the work conducted at the TUM Think Tank. Three potential project directions are outlined below.

Project 1: Augmented Reality Exhibits
Develop an AR exhibit that brings the projects at the TUM Think Tank to life, allowing visitors—either onsite or in public spaces—to interact with artifacts from the Think Tank's labs. These exhibits could serve as a powerful tool for outreach, education, and engagement, making complex ideas accessible and engaging to a broad audience.

Project 2: Virtual Collaboration Spaces
Build a virtual environment designed to facilitate collaboration and brainstorming among think tank researchers and external partners, regardless of their physical location. This virtual space could offer entirely new, tailored environments that promote creative thinking and effective collaboration at the TUM Think Tank.

Project 3: Digital Twin
Create a digital twin of the TUM Think Tank's physical space. This could also include virtual meeting rooms, exhibition spaces for displaying projects, or interactive areas where users can engage with project outcomes or with each other.

Milestones

Milestone 1: Project Planning - project definition, technology review, feasibility check
Milestone 2: Design and Prototyping - design documentation, prototype development
Milestone 3: Core Development Phase

Milestone 4: Testing and Refinement - user testing, iterative improvements

Milestone 5: Finalization and Deployment

Milestone 6: Documentation and Presentation

Your Profile

The IDP can be tailored to the student's skills and interest to some extent. Depending on which direction the project evolves, core skills could lie in VR or AR development (e.g., C# for Unity, C++ for Unreal; ARKit or ARCore), virtual environment design, web development, user interaction design (UX/UI principles), or in 3D modeling. Soft skills like project management, self-organization and effective communication are highly beneficial, as the projects involve talking to different stakeholders from different backgrounds and driving your own project. Familiarity with version control systems like Git and/or Perforce will be beneficial for managing codebase changes and collaborating with others.

Lectures

You can find an overview of available courses at the Chair of Public Policy, Governance and Innovative Technologies on this page. Other seminars or lectures at the Department of Governance might be chosen to complete this IDP as well.

Timeline and Supervision

The IDP student can start their project at the respective beginning of the semester either for the winter or summer term. Throughout the project, the IDP student can join the monthly meetings of the Immersive Realities Working Group at the TUM Think Tank. Appointments with the supervisor and with the team of the Think Tank are scheduled on an individual basis. We recommend taking a lecture at the Department of Governance, preferably with the Chair of Public Policy, Governance and Innovative Technology, in the first or second semester of starting the IDP to create optimal synergies.

Contact

If you are interested in working on this or a related topic, please contact Sofie Schönborn (sofie.schoenborn@tum.de), state your motivation as well as your relevant prior knowledge and qualifications.

About the TUM Think Tank

The TUM Think Tank at the [Munich School of Politics and Public Policy](#) facilitates societal and political change by bridging theory and practice, thinking and doing, insight and action. Leveraging the technological and scientific advancements at the [Technical University of Munich (TUM)](#), it serves as a learning platform to develop actionable ideas and build bridges between social sciences and technical disciplines. Committed to academic rigor and dedicated to public interest, we aim to develop innovative approaches and applications in areas such as digital transformation, mobility, health, and sustainability by creating inclusive communities of practice from diverse fields and backgrounds.

As agents of change, we seek to push the boundaries of what is possible and help shape global society. We learn, engage, and innovate as a networked community. And we are just getting started.

About the Immersive Realities Working Group

The realms of Augmented Reality, Virtual Reality, Mixed Reality, Digital Twins, and related technological advancements are not mere fantasies. Recent applications and other manifestations have the potential to change the realities of people across diverse contexts. Whether in the workplace, public spaces, or even our private lives, these technologies bring new dimensions to our existence. Our cross-disciplinary group delves into the intricacies of these technologies and the ways people interact with them, exploring devices, infrastructure, applications, and use cases that are shaping how we perceive reality. We are examining this dynamic evolution, focusing on experiences and the far-reaching effects these technologies facilitate.

We believe in studying the broader social, political, and legal implications to shape trajectories of immersive technologies and foster their sustainable and human-centric development. It's not just about advancement; it's about paving the way responsibly and for the good of society.