VISION & ENGINEERING COMMUNITY

INTERACTIVE VISUALIZATION WORKSHOP: XR SOLUTIONS FOR THE BUILT ENVIRONMENT

EELISA WORKSHOP AT BME

WHAT'S GONNA BE THERE?

- **Introduction to Virtual Reality in Urban Design**
- **Developing VR Applications with Unity**
- **Optimizing 3D Models for VR**
- **Hands-on Workshop:**

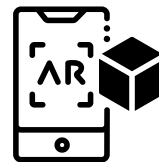**Create Your Own Urban VR Environment**

Details & Registration:

THE WORKSHOP IS FREE OF CHARGE, BUT YOU ARE RESPONSIBLE FOR YOUR OWN TRAVEL AND ACCOMMODATION COSTS. WE ADVISE YOU TO CHECK WITH YOUR LOCAL EELISA OFFICE TO FIND OUT ABOUT FUNDING OPPORTUNITIES.

NOVEMBER 27-28 2024

BUDAPEST / HUNGARY
BME MAIN BUILDING

ONSITE EVENT

LOVAS.TAMAS@EMK.BME.HU

EVENT PROGRAM

DATES: 27-28/11

VENUE: BME Main Building

WEDNESDAY

10:00-10:30	Registration and Welcome
10:30-12:30	**Keynote Speeches**
12:30-14:00	Lunch Break
14:00-15:00	AEC application
15:00-16:00	**Workshop Session 1**
16:00-16:15	Coffee Break
16:15-17:30	**Group Work**

THURSDAY

9:00-9:30	Welcome and Recap
9:30-11:00	**Expert Panel Discussion Roundtable**
11:00-12:00	Lunch Break
12:00-14:00	**Workshop Session 2**
14:00-14:30	Coffee Break
14:30-16:00	**Project Presentations**
16:00-16:15	Short Break
16:15-17:30	**Closing Ceremony and Networking**

EELISA
European University
EVENT AT
MŰEGYETEM 1782

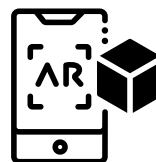# INTERACTIVE VISUALIZATION WORKSHOP: XR SOLUTIONS FOR THE BUILT ENVIRONMENT

EELISA WORKSHOP

NOVEMBER 27-28 2024

BUDAPEST / HUNGARY
BME MAIN BUILDING

ONSITE EVENT

LOVAS.TAMAS@EMK.BME.HU

EVENT PROGRAM

DATES: 27/11

VENUE: BME Main Building

EELISA
European University
EVENT
AT

MŰEGYETEM 1782

INTERACTIVE VISUALIZATION WORKSHOP: XR SOLUTIONS FOR THE BUILT ENVIRONMENT

EELISA WORKSHOP

Workshop I.	**Creating Immersive Experiences – Fundamentals of VR Design in Unity**
Description	In this workshop, participants will gain hands-on experience creating a 3D visualization application in Unity. After a brief introduction to the Unity interface, the focus will shift to importing an FBX model and exploring key topics such as: • Creating efficient low-poly models for real-time applications. • Applying and optimizing textures to enhance visual quality. • Using photogrammetry to turn real-world images into 3D assets. • Implementing strategies to optimize models and scenes for smooth VR performance.
Tools	PC / Unity / Street View Download 360 (Download https://svd360.com/) Headsets (provided by us)
Outcome	At the end of the workshop, participants will be able to import, visualise and optimise a 3D model in Unity and create a working application.

NOVEMBER 27-28 2024

BUDAPEST / HUNGARY
BME MAIN BUILDING

ONSITE EVENT

LOVAS.TAMAS@EMK.BME.HU

VISION & ENGINEERING COMMUNITY
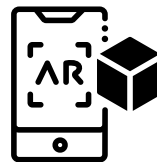
EVENT PROGRAM

DATES: 28/11

VENUE: BME Main Building

Workshop II.	**Collaborative Innovation – Designing VR Projects for the Built Environment**
Description	In this workshop, participants will work in groups to design a VR project focused on the built environment, aiming to balance aesthetics and performance for an efficient VR experience. Groups will brainstorm and develop concepts using learned design principles, with an emphasis on open innovation. A group discussion will follow, where teams present their projects and receive feedback, enhancing communication and problem-solving skills. Skills Enhanced: - Communication: Presenting and discussing projects. - Problem solving: Overcoming design challenges. - Collaboration: Fostering teamwork and leveraging group strengths. - Open innovation: Sharing ideas and promoting creativity.
Tools	Yourself / PC (Optional)
Outcome	Participants will enhance skills in collaborative VR design and communication, gaining practical experience and insight through reflection on diverse approaches and feedback.

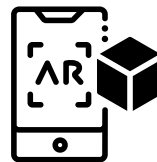## INTERACTIVE VISUALIZATION WORKSHOP: XR SOLUTIONS FOR THE BUILT ENVIRONMENT

EELISA WORKSHOP

NOVEMBER 27-28 2024

BUDAPEST / HUNGARY
BME MAIN BUILDING

ONSITE EVENT

LOVAS.TAMAS@EMK.BME.HU

VISION & ENGINEERING COMMUNITY

EVENT PROGRAM

DATES: 22/11

Online, 1 hour sessions

|	
Lesson I.	**Introduction to Virtual Reality and its Applications in the Urban Context**
10:00–11:00 a.m., CET	
Description	This unit serves as an introduction to the world of Virtual Reality (VR) and its many applications. It will explore various case studies, showcasing projects that highlight the transformative potential of VR. Demonstrations will further enhance understanding by showing how VR can effectively represent and simulate complex urban spaces. A comprehensive review of the state of the art in VR technology will be included, discussing the latest advancements and trends that are shaping the field.
Lesson II.	**Technologies and Software for Developing VR Applications in Unity**
11:30–12:30 a.m., CET	
Description	This lesson provides a comprehensive introduction to the basics of Unity, a powerful platform for creating immersive experiences. Key topics include navigating the user interface, understanding scene management and the essential steps for creating virtual reality (VR) projects. The class will then focus on the process of importing 3D models into Unity. Students will learn how to use software such as Blender and Metashape, which are essential tools for creating detailed 3D assets. A special focus will be placed on photogrammetry techniques, demonstrating how real-world images can be transformed into accurate 3D models. Discussions will include best practices for optimising resources to ensure that imported models maintain efficient performance without compromising visual quality.

INTERACTIVE VISUALIZATION WORKSHOP: XR SOLUTIONS FOR THE BUILT ENVIRONMENT

EELISA WORKSHOP

NOVEMBER 22 2024
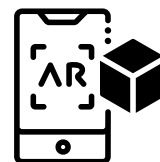
IN ADDITION TO THE ONSITE JOINT CALL EVENT

ONLINE EVENT

LOVAS.TAMAS@EMK.BME.HU