



European Project Semester

PROJECT OUTLINE

Project dates: September - December 2025	
Title: General Synesthesia - Waking up the senses	
Project activity areas: Virtual & Mixed Reality, Robotics, Medical Care	Keywords: Virtual Reality, Mixed Reality, Sound Design, VFX, Robotics, Synesthesia, Audio-Visual Synchronization
Tutor's name and coordinates Client – End-user: Lerass-IUT / LGP-ENIT Technical Supervisors + contacts: Raphaël Marczak: <u>raphael.marczak@iut-tarbes.fr</u> Benjamin Mauzé: <u>benjamin.mauze@enit.fr</u>	Project origin IUT - ENIT

Project technical background:

As part of the educational initiatives undertaken by third-year students of the Bachelor MMI (Métiers du Multimédia et de l'Internet – Multimedia and Internet Technologies) in the interactive devices and web track, and in collaboration with ENIT Engineering School, an innovative mixed-reality experience is currently under development, with a planned delivery for January 2025. This project utilizes the Meta Quest Pro headset to orchestrate robotic choreographies, where physical robots are immersed into visual effects, such as particles and renderings, visible through the mixed-reality environment.

The main objective of this *European Project Semester* proposal is to push the boundaries of immersive experiences by integrating additional sensory feedback, such as haptic sensations, while exploring the concept of synesthesia — how different senses can seamlessly interact and influence each other. Students will be required to synchronize sound, images, videos, animations, and haptic feedback using the Unity3D game engine to create a cohesive and multisensory experience.

In a second phase, the project aims to further enrich this immersive experience by incorporating insights from a person who actually experiences synesthesia. This contribution would enable participants to engage with an interactive narrative that blends gestures, vibrations, visuals, sounds, exoskeletons, and robotics, offering a unique multisensory exploration of this fascinating phenomenon.







Involved Kinova Robots

Mixed reality headset

Studied topics:

- Set-up of a Virtual Reality Development Environment
- Creating VFX Effects in Unity3D
- Mixed Reality Immersive Level Design
- Artistic Concept and Visual Storytelling
- Narrative and Interactive Design
- User Experience (UX) Design in Virtual Environments
- Transmedia Interaction Design