PROJECT OUTLINE

Project dates: September – December 2024

Title: Design and proposition for a virtual UTTOP (UTTOPverse)

Project activity areas: Information System, Internet, VR, AR, XR, communication, metaverse	**Keywords:** IS, VR, AR, XR,
Tutor's name and coordinates Client – End-user: UTTOP (direction) ENIT Technical Supervisor + contact: Cédrik BELER : cedrick.beler@uttop.fr	**Project origin** UTTOP

Project technical background:

This project seeks to design and prototype a university campus metaverse for UTTOP. The long-term vision consists in integrating the physical and digital dimensions of campus life to enhance learning, communication, and community engagement among students, professors, and all personal of UTTOP. By leveraging 3D and XR technologies, the project will explore the feasibility, design, and implementation of various demonstrators within a virtual campus environment.

- Feasibility Study: Assess the practicality of developing a university metaverse, focusing on dimensional accuracy, user interaction, and technological requirements.
- Solution Exploration: Identify and evaluate both hardware and software solutions needed for the metaverse development, with a strong inclination towards OSS.
- Demonstrator Development: Propose and prototype key demonstrators within the metaverse, such as virtual classrooms, interactive campus tours, and collaborative workspaces.
- Technology Evaluation: Analyze the pros and cons of using native development tools versus WebXR and other web technologies for building the metaverse.
- Virtual Space Prototyping: Create prototypes for various applications within the university context, including student life, lectures, and internship showcases.

Studied topics:

- Virtual worlds and avatar, digital identity
- Ethics and privacy in digital worlds
- Digital workplace
- Digital communities
- Virtual Campus
- Mixed Reality
- WebXR basics
- Earth 3D representations and models
- Communication