



Thesis Project Form

Title (tentative): Monitoring user behaviour in eXtended Reality

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Description

Motivation and application domain

The development of XR systems for biomedical applications must be accompanied by methods to analyze and understand the user behaviour, in order to increase the potential use of such technologies for training and rehabilitation. This thesis aims to analyze and use a tool for monitoring user behaviour in eXtended Reality

General objectives and main activities

The main aim of this thesis is to explore the recently released library PLUME, capable of recording User Behaviour in 6DoF XR experiences. In particular, the student will:

1. analyze the library, the documents and the source code
2. use the library withing XR applications already available
3. develop simple exergames in XR where user behaviour is monitored and stored using the library
3. perform a user study to record and collect data

Among the goals of the thesis there is the understanding and the analysis of the main feature of the library, and the possibility of sharing recorded data into an external data lake.

-More info: <https://github.com/liris-xr/PLUME-Protos>

Ref: PLUME: Record, Replay, Analyze and Share User Behavior in 6DoF XR Experiences

Charles Javerliat, Sophie Villenave, Pierre Raimbaud, Guillaume LavouÃ© (Journal Track) IEEE Conference on Virtual Reality and 3D User Interfaces

Training Objectives (technical/analytical tools, experimental methodologies)

- Development of XR applications in Unity 3D
- Use of external libraries for data collection
- User study of XR systems
- Data collection and analysis

Place(s) where the thesis work will be carried out: DIBRIS Valletta Puggia

Additional information

Pre-requisite abilities/skills: Programming in C++ or C#

Maximum number of students: 1