



Thesis Project Form

Title (tentative): Shopping in a Virtual Supermarket

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Description

Motivation and application domain

Immersive Virtual Reality is a valuable tool for developing serious games for training the cognitive capabilities, in presence of several diseases, such as post-stroke.

In this thesis, the students will develop activities in a Supermarket, based on immersive Virtual Reality.

General objectives and main activities

The activities of the thesis will be structured as follows:

1. development of an immersive scenario, representing a standard supermarket
2. interaction with the objects (items on the shelves) with both bare hands and controllers
3. gamification techniques to produce a serious game, structuring the task on various levels and difficulties.
4. analysis of the user behaviour, using plume library (<https://github.com/liris-xr/PLUME-Protos>)
5. development of a user interface to set up the game
6. integration with an existing framework to collect and store usage data/game session data
7. testing of the system/user evaluation

The system will be developed with Unity 3D and Meta Oculus Quest 2 or 3.

Training Objectives (technical/analytical tools, experimental methodologies)

1. Development of immersive scenarios and serious games in Unity
2. Integration with existing sw packages
3. Development of user interfaces to support clinicians
4. Interoperability with storage frameworks

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

Additional information

Pre-requisite abilities/skills: Programming in C++ or C, Basic knowledge of Unity3D

Maximum number of students: 2