



REFLEXVR



Class I Medical Device

User manual

Distribution mode

Available for direct download at
<http://virtualisvr.com/espace-client/>

Use under licence



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DESCRIPTION

REFLEXVR software is complete software for the re-education of the spine, upper limb, lower limb, hemineglect, gesture accuracy (tremors, ataxia) and reaction time.

REFLEXVR is complete software for the treatment of neurocognitive and motor disorders in adults and adolescents.

INDICATIONS

Re-education of the upper and lower limb, reaction time, spine, balance disorders, hemineglect, ataxia, coordination, hip and shoulder dissociation, ...

CONTRAINDICATIONS

Epileptic patients, children under 15 years of age, pregnant women

FOR USE BY

Healthcare professionals: Physiotherapists; Occupational therapists; Neuropsychologists; ENT doctors; Neurologists; PMR doctors (physical medicine and rehabilitation), etc.

Research Centers: CNRS, CHU, INSERM, etc.

WARNINGS AND CAUTIONS

During sessions, stay close to the patient in order to anticipate any loss of balance or discomfort caused by the use of virtual reality.

Define a working area of about 3m² to allow for risk-free movements.

Take a 10 to 15 minute break every 30 minutes of use.

Potential adverse effects are those due to software, i.e. vomiting, malaise, dizziness, syncope

The accessories required to use the software may emit radio waves that can interfere with the operation of nearby electronic devices. If you have a pacemaker or other implanted medical device, do not use the product until you have taken advice from your doctor or the manufacturer of your medical device.



Any serious incident should be notified in writing to qualite@virtualisvr.com



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1. GENERAL

1.1. Advice for use

These stimulations have the potential to cause certain disorders: Vasovagal syncope, epileptic seizures, migraines, etc. (Despite a test phase on over 2000 patients)

The contraindications are identical: Mainly epilepsy and migraines.

As postural reactions can be spectacular, it is VERY STRONGLY advised to place patients in a safe environment and to stay close to them throughout the session.

It is also recommended to increase the duration and intensity of the stimulation very gradually, after an initial short session to make sure of patients' tolerance to this type of stimulation.

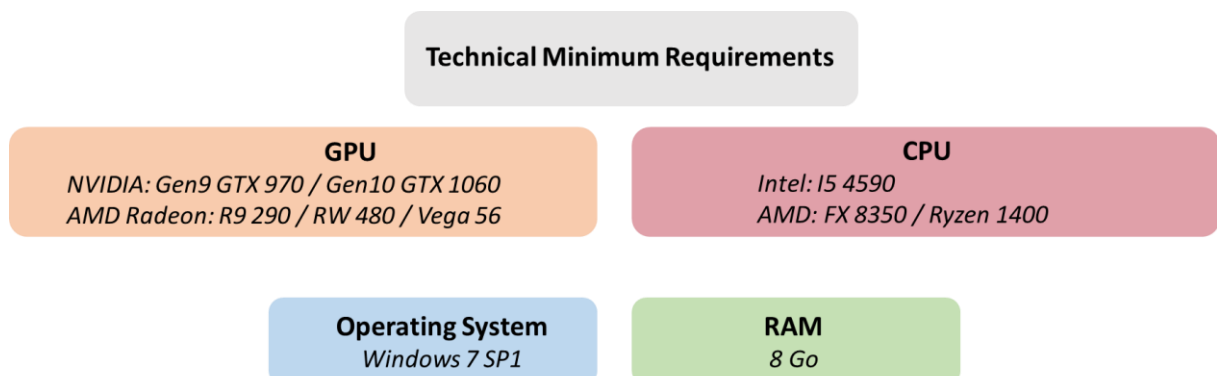
Virtualis declines any liability for any disorders suffered by patients during or after use of its software.

1.2. Hardware and minimum configuration requirements

Hardware required to use the system:

- VR Ready PC
- VR System: HTC VIVE, HTC VIVE Pro or compatible system
- Lighthouse bases (HTC VIVE tracking)
- HTC VIVE Controller
- XBOX 360 Controllers
- HTC VIVE Tracker
- USB HUB

In order to install and use our virtual reality applications, we recommend a configuration equal to or higher than the system requirements:

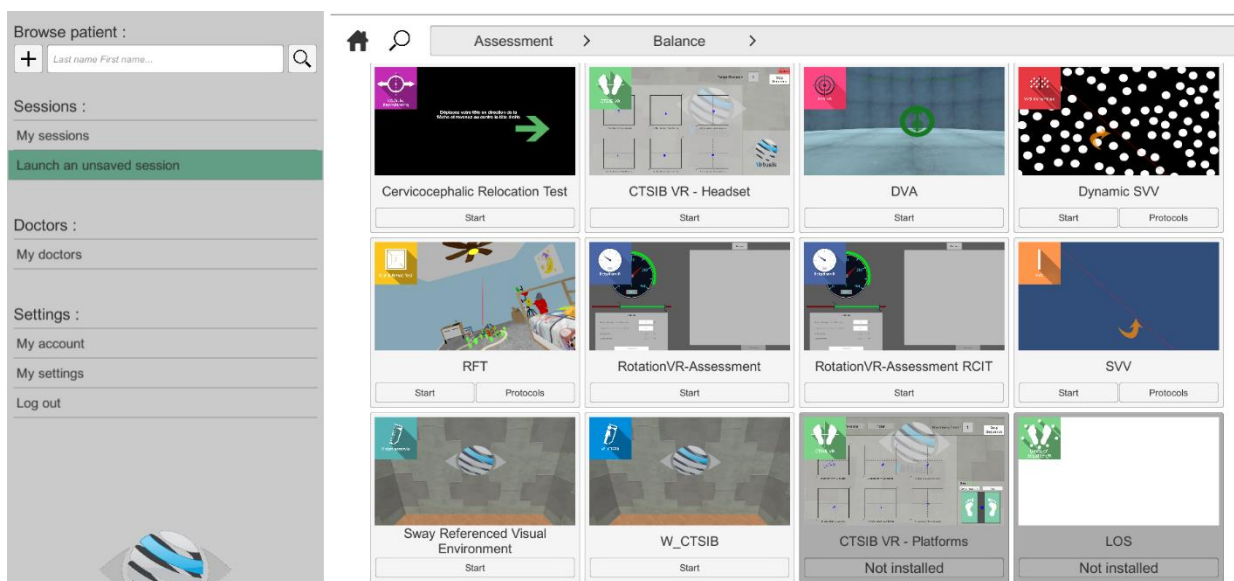


2. USE OF PATIENT MANAGEMENT

Once connected to the Patient Management software, you arrive on the home page. It is from this home page that you will be able to start your VR software as well as the other Patient Management functions.

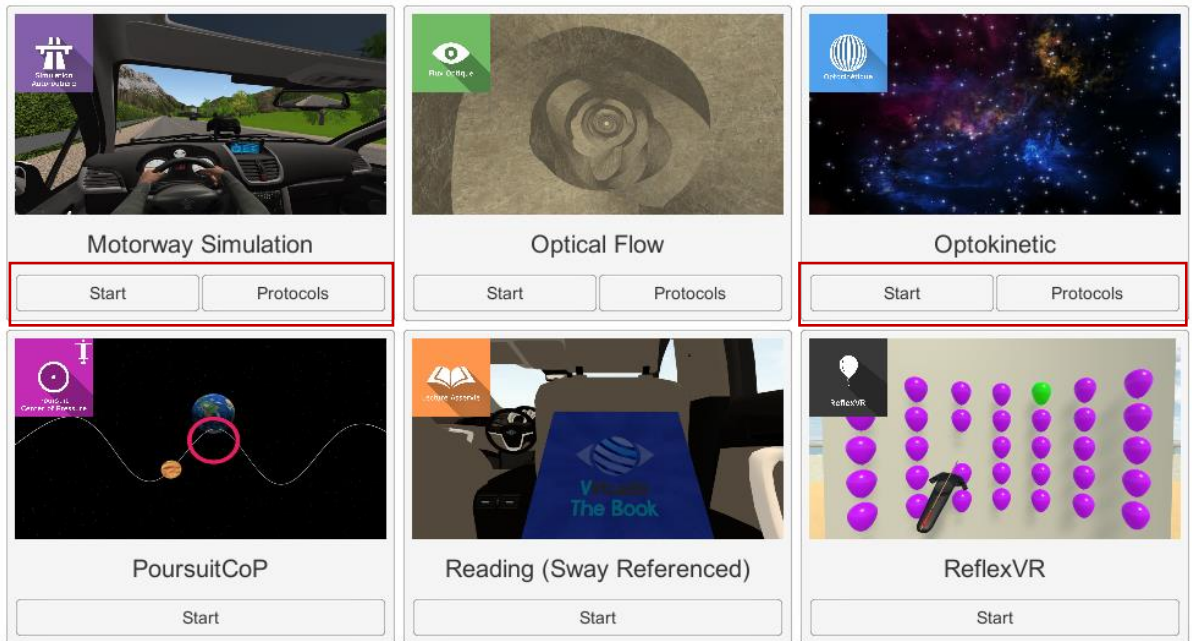
The software can be grouped according to criteria such as "Assessment" or "Re-education" and then by pathology type: Neurology, Balance, Functional or Travel sickness.

You can start or switch from one software to another from the home page by clicking the corresponding "Start" or "Protocols" button.

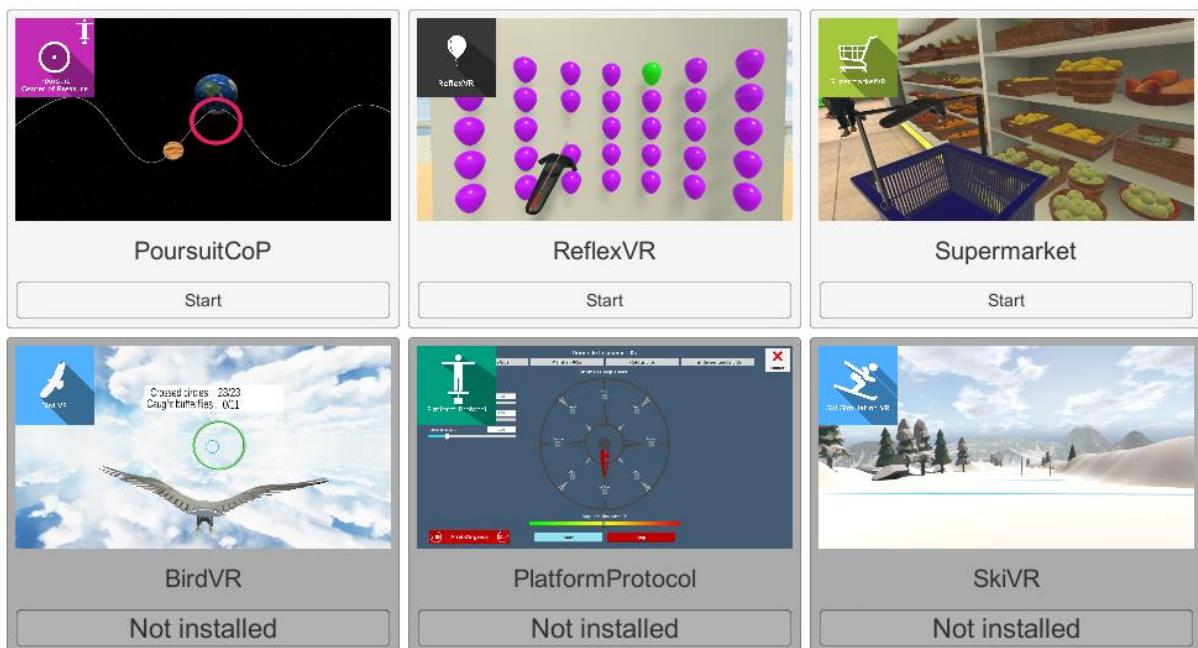


Some software can be started either in **manual mode**, by directly clicking the "Start" button, or in **protocol mode** by clicking the "Protocols" button.

The **manual mode** allows users to choose the settings for each environment. The **protocol mode** offers several sessions with different difficulty levels to test and gradually accustom patients to the VR environment.



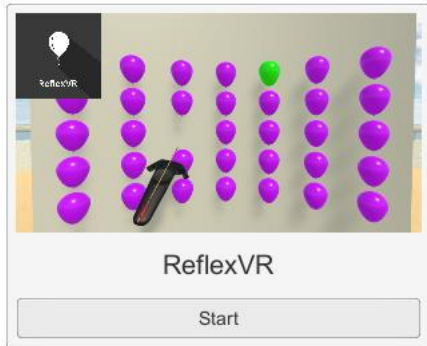
Software that is not part of your subscription package is greyed out. If you want to use it, please contact our sales department.





3. REFLEXVR

3.1. Start interface



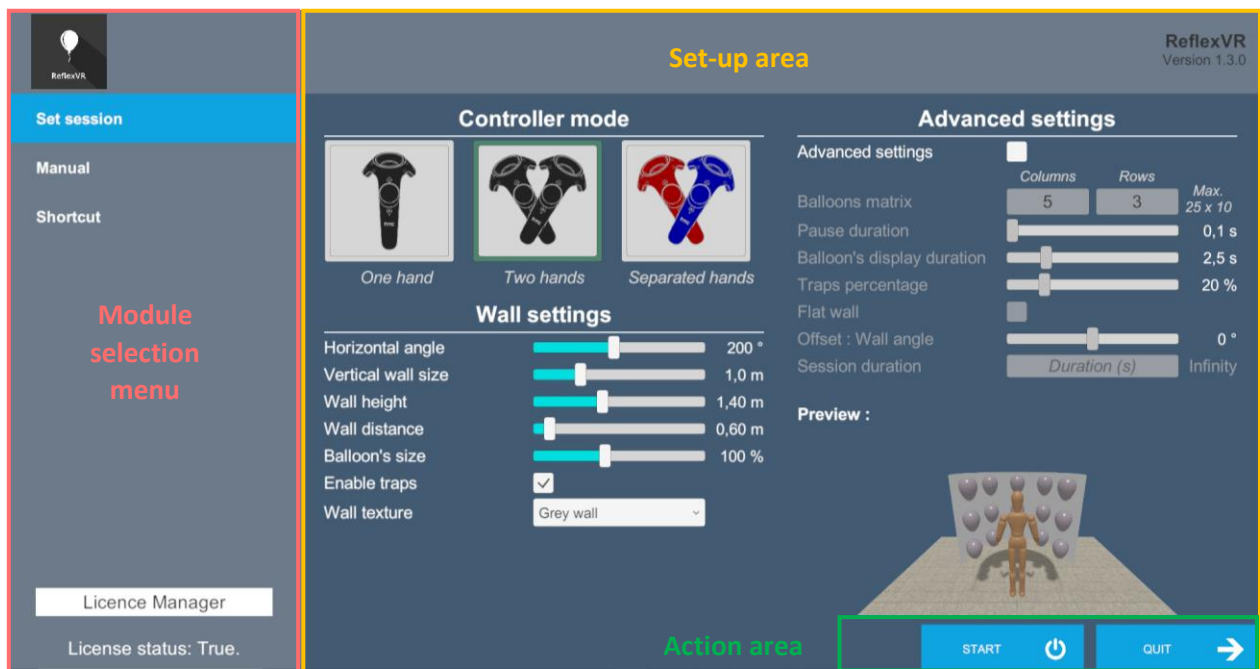
When starting the software in **manual mode** ("Start" button), the opening is made in a start interface, consisting of a module selection menu on the left, a set up area on the right, and an action area at the bottom right.

Depending on the module selected in the left menu, the set up area shows the various possible settings/information.

It is possible to access the general Patient Management menu from the start interface by simply clicking the "Quit" button located in the action area, or by pressing the "escape" key on the keyboard.

the keyboard.

The module is launched by simply clicking the "Start" button in the action area.



Once this button is pressed, the module starts by taking into account the specified settings. You can also modify some settings while the module is running, using the mouse or keyboard.

The Start/Quit buttons allow the environment to be played back or stopped entirely to adapt the experience to the patient's sensations.

Once an environment has been selected, it launches in the headset, and you can see and track what is happening in your patients' headset from the software window.

3.2. Module field of application

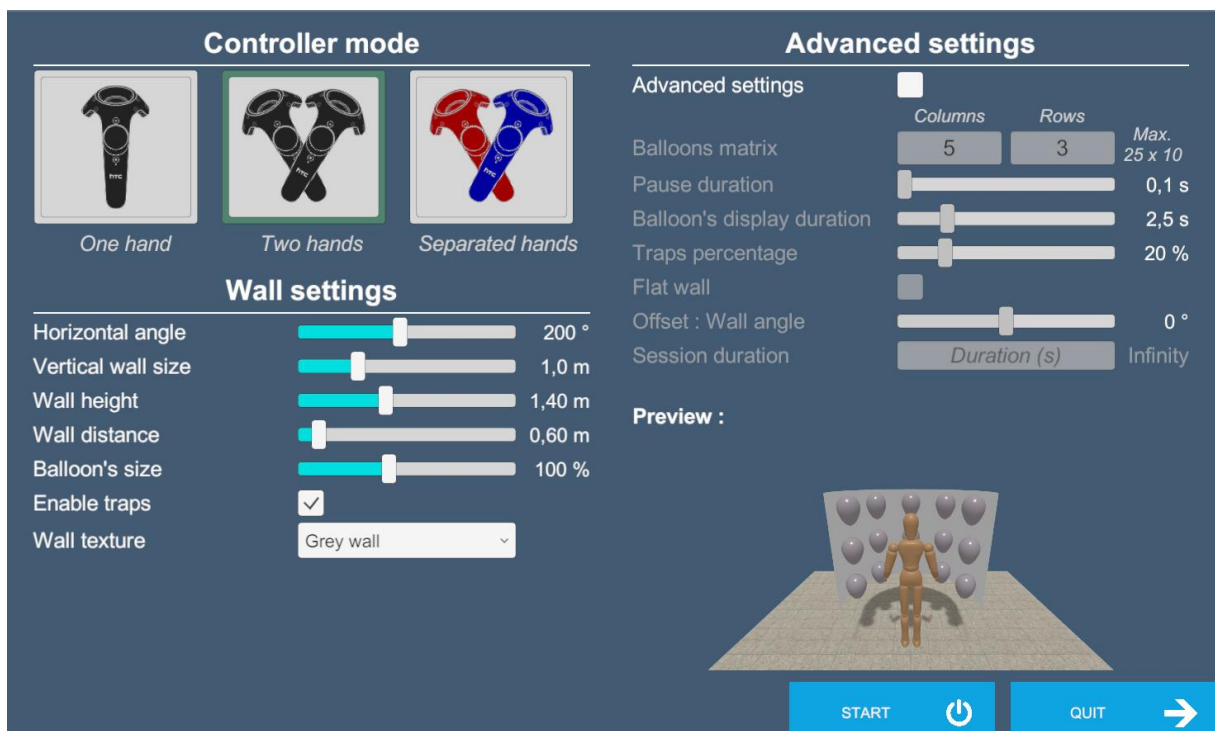
This module is used to work the upper limb, the lower limb, reaction times, spine, balance disorders, hemineglect, coordination and gesture accuracy.

3.3. Installing the patient

Standing or seated: upper and lower limb work

Seated: Cervical spine work, trunk balance (e.g. in the chair), hemineglect, hip and shoulder dissociation.

3.4. Session settings



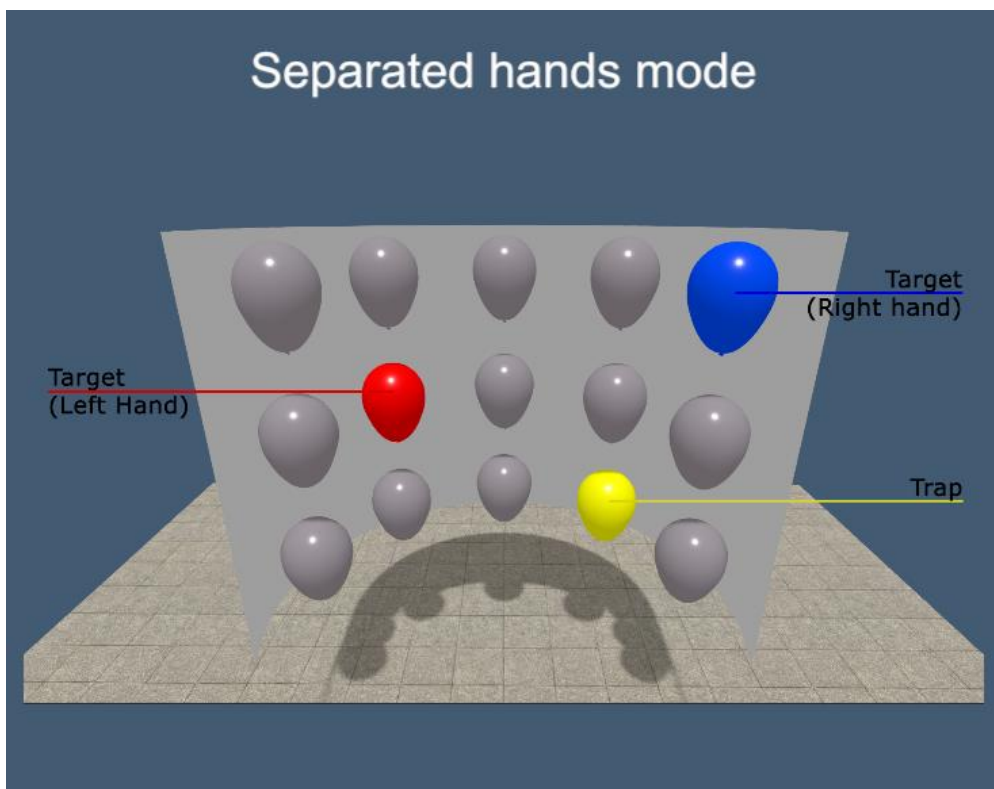
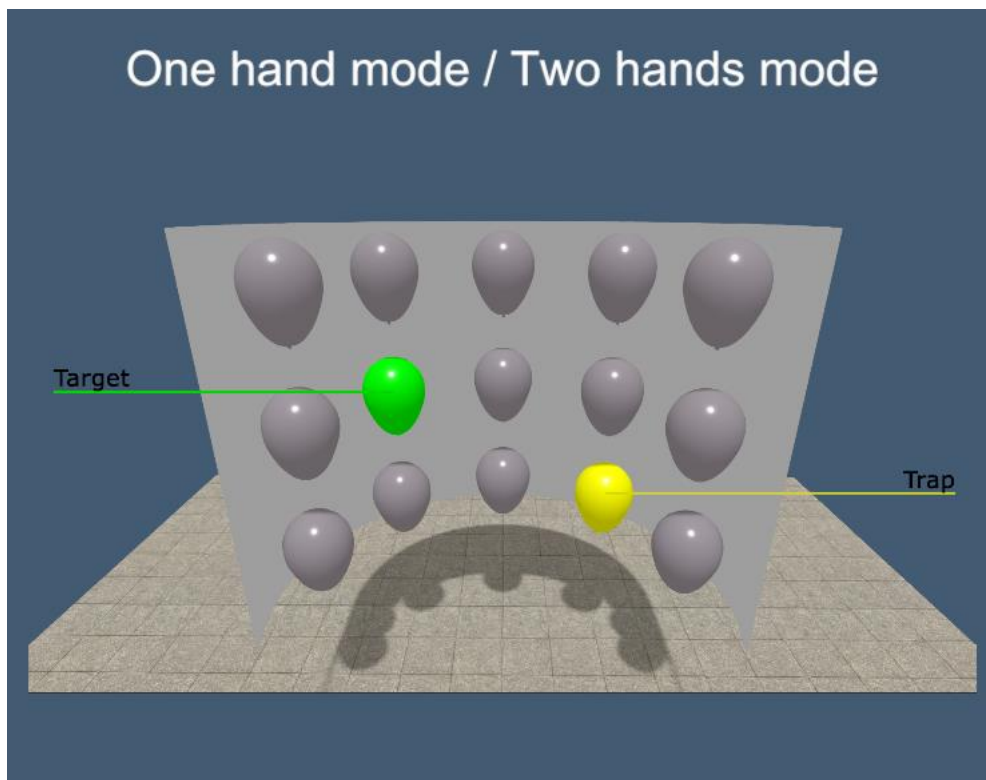
The variable settings for this module are as follows:

Controller mode

Three controller modes (hand-held controller or wrist-mounted tracker) are possible:

- **one hand:** patients must touch the green balloons with only one hand
- **two hands:** patients can touch the green balloons using both hands
- **separate hands:** patients must touch the red balloons with the left **hand** and the blue balloons with the right hand

If the "Enable traps" option is checked, yellow balloons appear; patients must not touch them





Wall settings

Several settings are possible directly using the corresponding cursors:

Horizontal angle: used to choose the wall angular width

Vertical wall size: used to choose the wall size

Wall height: used to choose the wall height relative to the floor

Wall distance: Used to choose the distance between the patient and the wall

Balloon size: used to choose balloon size

Enable traps: if the option is activated, patients must avoid touching yellow balloons

Wall Texture: Used to choose the exercise environment

Advanced settings

The following settings can be changed by activating "Advanced settings":

Balloon matrix: choice of the number of rows and columns; maximum 10 x 25

Pause duration: possibility of modulating the time between the moment a balloon is touched and the appearance of another balloon

Balloon display duration: possibility to increase or decrease the balloon display time

Trap percentage: possibility of modulating the number of traps

Flat wall: possibility of activating or deactivating the flat wall

Offset: wall angle: possibility of changing the wall position relative to the patient

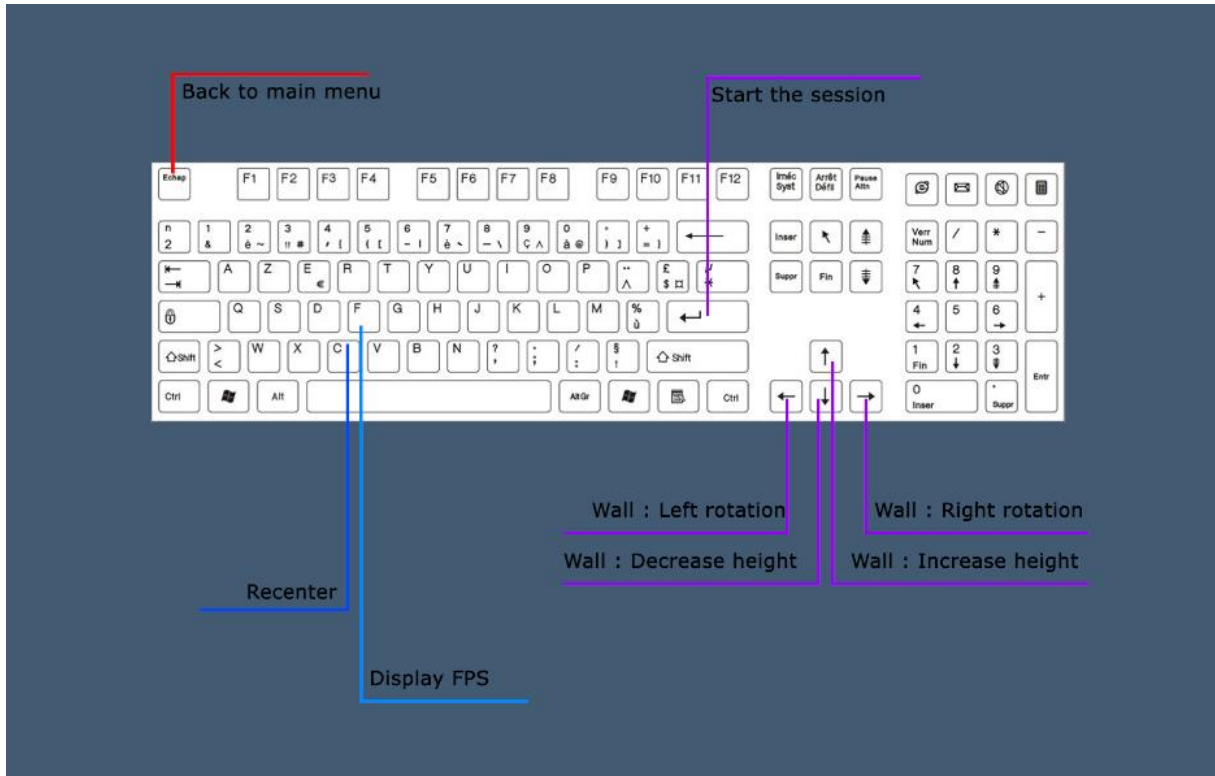
Session duration: used to define the exercise duration by directly entering the time; infinite if nothing is entered in the field

At the end of the exercise, users will get results representing the exercise time, the reaction time to touch the balloons (and the average), the number of balloons touched, errors and missed balloons.

3.5. Shortcuts

Keyboard or joystick shortcuts can be accessed in two ways:

- on the "Shortcuts" tab available at the start interface level
- within the module, by clicking on the joystick icon in the upper right corner of the screen





3.6. Data processing

Data retrieval and analysis uses the Patient Management software.