

Rod & Frame Test (RFT)

Module tutorial



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1. GENERAL

1.1. Description

Rod & Frame Test (RFT) software is an immersive 3D simulation based on virtual reality technology, i.e. it allows a person to be immersed in an artificial digitally created world.

RFT is a software used to assess the perception of verticality with the influence of the visual field (tilting).

1.2. Required accessories

Headset. Xbox controller, Hive controller(s) or keyboard are all optional.

1.3. Patient setup

These are simple, limited numbers of tips drawn from the literature.

The principle of measuring patients' Subjective Visual Vertical is that they have no vertical or horizontal, visual or proprioceptive reference.

Take the measurements using the following installation:

- Patient seated (preferably on an upholstered seat, a swivel chair is ideal).
- Feet on a footrest, not on the ground.
- Keyboard, controller(s) or Xbox controller in hand so they can take the measurements themselves (if possible).

2. Settings



2.1. Session settings

Measures

Measure count: 6

Pseudo-random values

Measure 1: 11, Measure 2: -30, Measure 3: 20, Measure 4: -20, Measure 5: -10, Measure 6: 30

Head angle: Tilt mode

Settings

Mode: Vertical / Horizontal

Sway referenced: ☐

Show arrows: ☐

Environment: Box / Bedroom

Room angle: -18°

Rod type: Rod / Image

My session Clear all

Start the session

The variable settings for this module are as follows:

2.1.1. Measures

Measures

Measure count: 6

Pseudo-random values

Measure 1: 10, Measure 2: -30, Measure 3: 20, Measure 4: -20, Measure 5: -10, Measure 6: 30

Used to define the value of the various measurements for the entire protocol.

There are many different protocols in the literature.

It is often recommended to take:



- At least 6 measurements (6 to 12).
- Variable initial angle, same tilts to the right and left in random order.
- Alternating Sequence.
- Scenery angle: several studies recommend 18° (right or left).

Measure count:

Number of measures taken during the session.

Value: 4 to 24.

Pseudo-random values:

Defines pseudo-random values for measurements. Values are mirrored: they are tilted both to the right (positive values) and to the left (negative values).

2.1.2. Tilt

The screenshot shows the 'Tilt mode' interface. At the top, there is a toggle switch labeled 'Tilt mode' which is currently turned on. Below it is a 'Tolerance threshold' slider set to 4.0. In the center, there are two large blue buttons with minus and plus signs. Below these are seven input fields for head angles, arranged in two rows. The first row contains 'Head angle 1' (-45), 'Head angle 2' (-30), 'Head angle 3' (-15), and 'Head angle 4' (0). The second row contains 'Head angle 5' (15), 'Head angle 6' (30), and 'Head angle 7' (45). Each input field has a small circular icon to its right.**Tilt mode:**

Checking this option unlocks the following parameters:

- **Tolerance threshold:**

Modifies the tolerance threshold for the head tilt angle.

Value: 1.0 to 20.0.



- **Head angle:**

Used to define head inclination values to be measured.

Delete or add measures by clicking on the “-” or “+” button.

2.1.3. Settings

The settings panel is titled 'Settings' and contains several options. Under 'Mode', there are two buttons: 'Vertical' (highlighted in blue) and 'Horizontal'. Under 'Sway referenced', there is a toggle switch that is currently turned off. Under 'Show arrows', there is a toggle switch that is also currently turned off. Under 'Environment', there are two buttons: 'Box' (highlighted in blue) and 'Bedroom'. At the bottom, there is a 'Room angle' slider with a blue track and a white knob, currently set to -18°.**Mode:**

Allows you to choose between vertical or horizontal measurements for the entire protocol.

Sway referenced:

Check this option to have the image displayed in the VR headset matched to the patient's head movements.

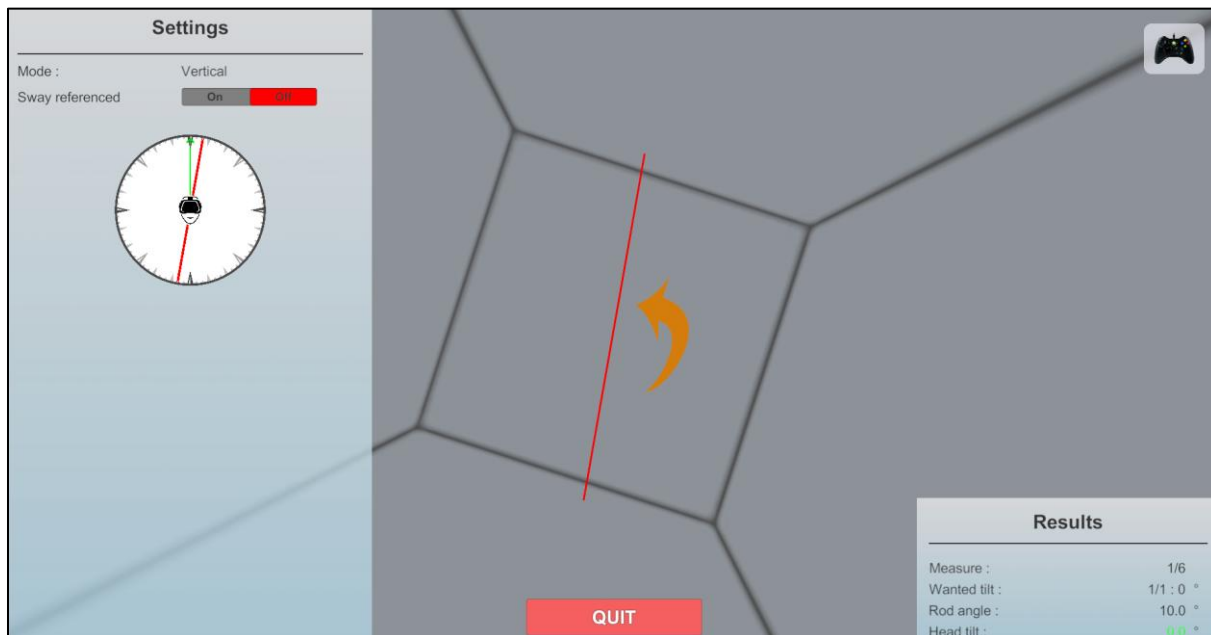
If enabled, the bar is “fixed” in front of the patient, and tilts with the patient's own head tilts. Measured values are relative to the earth's vertical, without taking head tilt into account.

Otherwise, the bar is in “real conditions”, as if it were floating in the room. It is therefore unaffected by the patient's head movements.

Show arrows:



Check this option to make the arrows visible and help the patient visualize the direction of movement of the bar (right or left).



Environment:

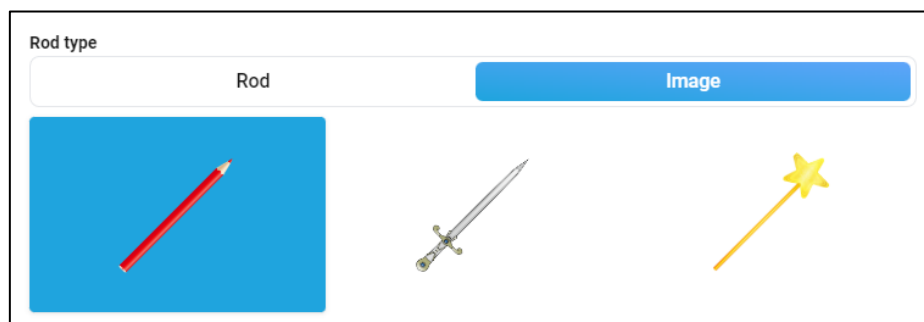
- **Box:** repeats the original Rod and Frame Test principle.
- **Bedroom:** tilting room with many references, for an examination in more "natural" conditions.

Room angle:

Determines the scenery tilt angle (box or bedroom) (-18 or +18 recommended).

Value: -90 to 90°.

2.1.4. Rod type



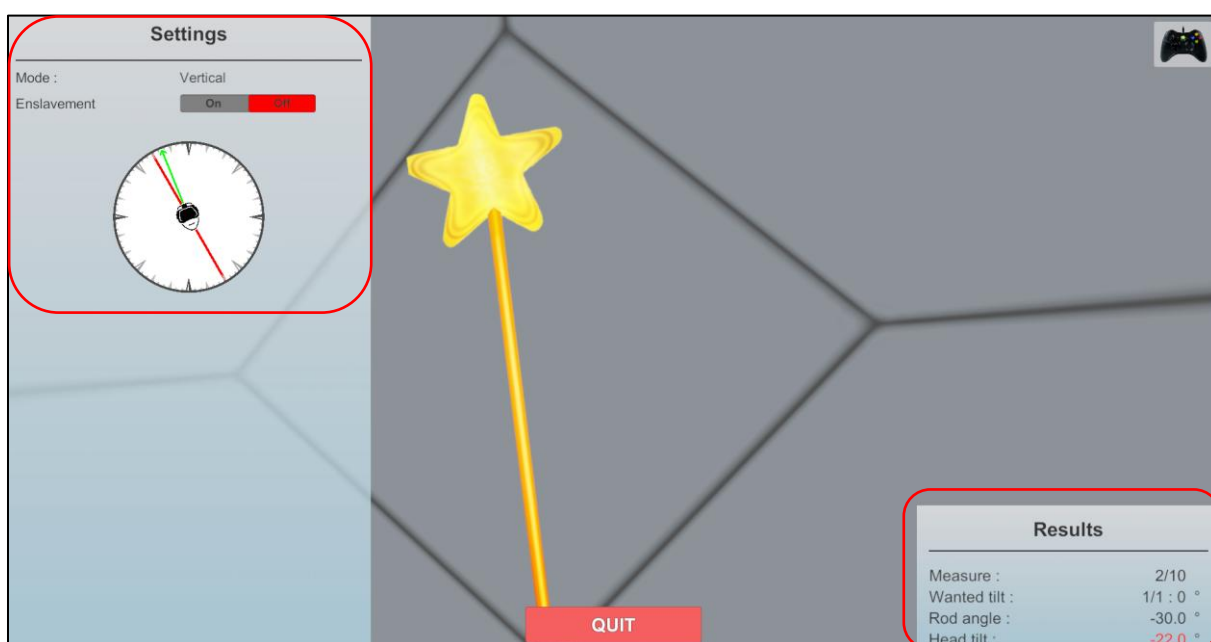


Changes the type of rod displayed on the screen.

3. Module

3.1. Session

Once the presets have been defined, click on the **"Start the session"** button.

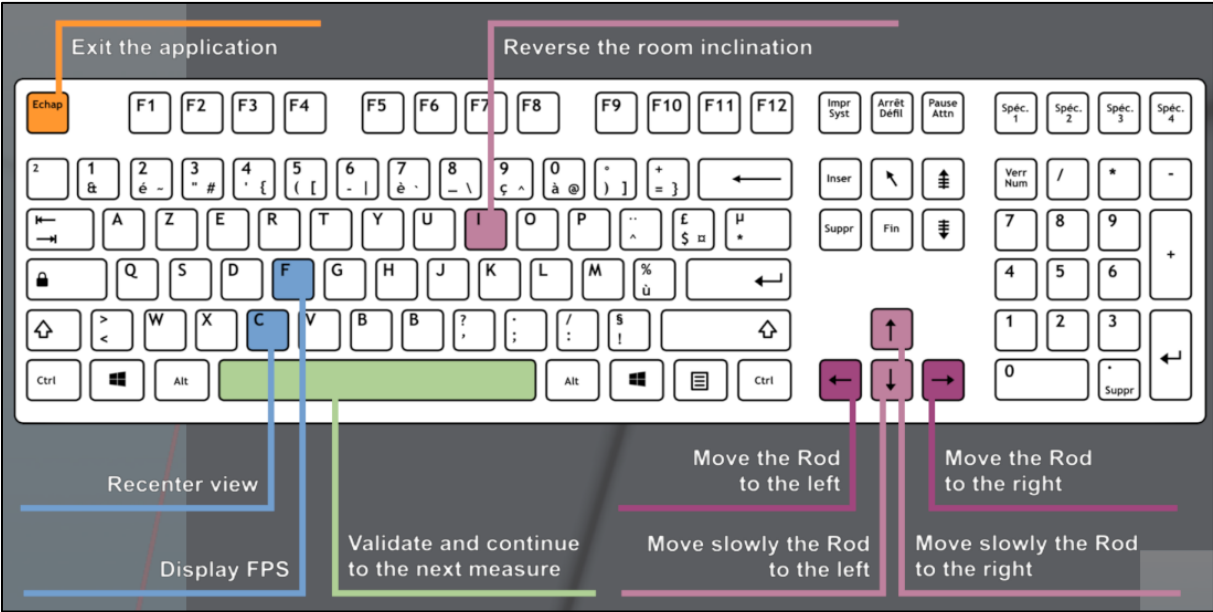


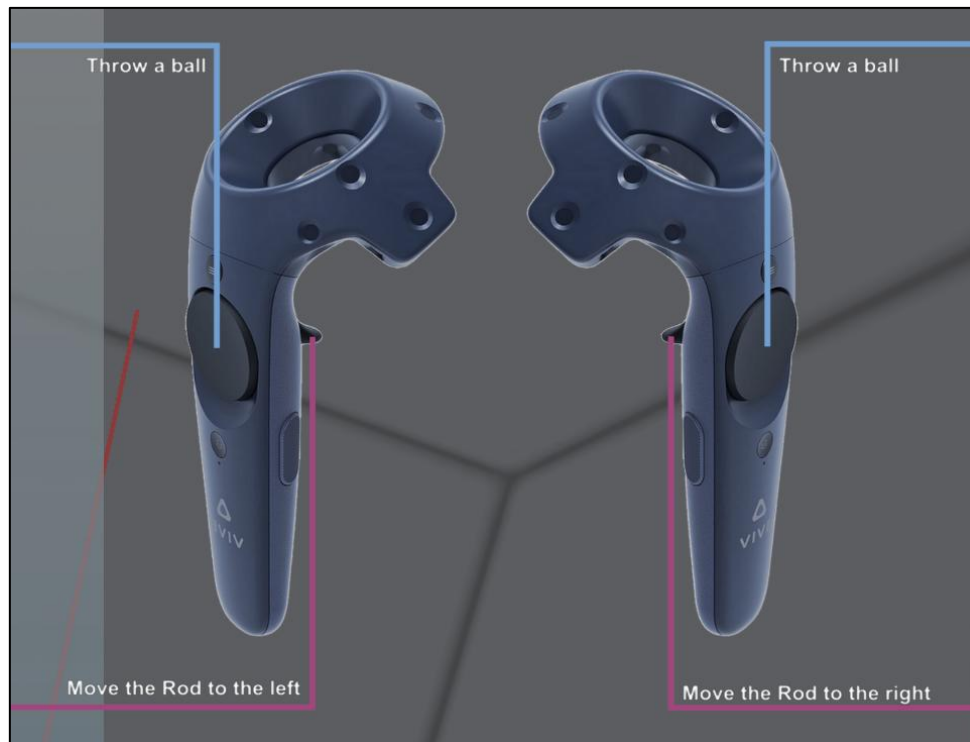
During the session, the user can modify the parameters from the **left side of the screen**. They are not visible to the patient.

In the bottom right corner of the screen, the user can view the results of the session in real time.

3.2. Shortcuts

During the session, the shortcut list is found by clicking on the Xbox controller icon in the upper right corner of the screen.





3.3. Results

At the end of the session, the different head inclination values of the patient are displayed.



3.3.1. Summarized results

No summarized results are displayed at the end of the session.

3.3.2. Graphs and report

To find the detailed results and to generate a report, click on the histogram icon.

Session details
06/05/2025 14:40

RFT



Parameters

Results

Notes

Name	Result					
Results	[10, 0] °	[-30, 0] °	[20, 0] °	[-20, 0] °	[-10, 0] °	[30, 0] °