

# Thera

The future of rehabilitation



# The platform

Thera is a rehabilitation platform made of a virtual reality application and a web control app. It gives clinics, therapists and practitioners virtual reality exercises for motor and cognitive rehabilitation.

The patient wears the headset. The therapist never goes into the headset: the whole session is run from the web app.

Published on the Meta Store, compatible with Meta Quest 2, Quest 3, Quest 3S and Quest Pro. The headset is not included in the licence.

Interface available in Italian, English, French, Spanish, German and Chinese.



Sign in with your email and password

Email

m.marucci91@gmail.com

Password

\*\*\*\*\*

[Forgot your password?](#)

[Sign In](#)

[Need an account? Sign up](#)

# The therapist runs everything from a phone

The web app is a website: it runs from a computer, a tablet or a phone, with nothing to install.

Once the headset is on the patient's head, there is no need to take it off again. From the phone the therapist picks the room and starts it, adjusts the exercise parameters while the patient is working, watches live what the patient sees, pauses and switches exercise without interrupting the session.

The patient never has to learn virtual reality: no menus to open, nothing to navigate.

## Session for Mario Rossi

The session started at 23/Feb/2024 12:41

Basketball court - In this room it is possible to practice basketball in order to rehabilitate certain movements of the upper limbs.

Basket height

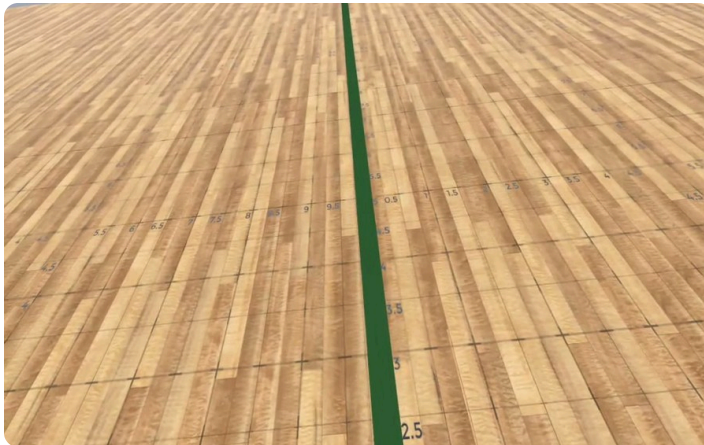
Basket distance



# The rooms

## BALANCE AND POSTURAL CONTROL

Thirteen environments, each built around a specific rehabilitation movement. The therapist picks the room according to the goal of the session and adjusts its parameters while the patient works. Some rooms are used bare-handed, with the headset's hand tracking; others with the controllers, depending on the movement the exercise calls for.



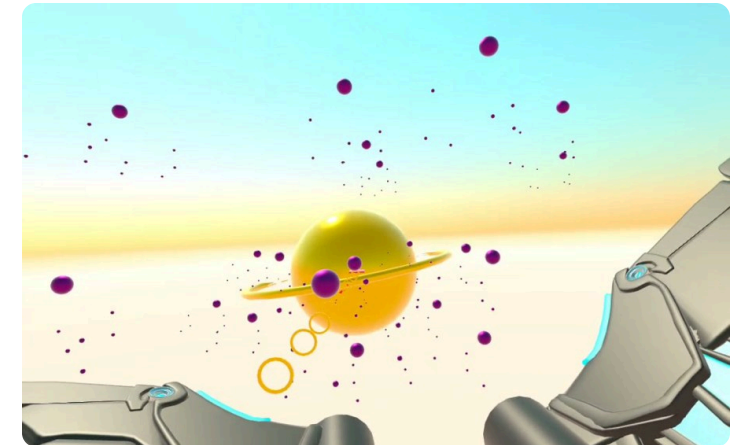
### Trunk Walking

The patient walks along a wooden plank that stays green as long as foot placement is accurate, giving immediate visual feedback at every step. The plank can be narrowed: the base of support shrinks progressively, and with it the demand on trunk control and single-leg loading grows.



### Cloud Dodging

Incoming clouds to be dodged by shifting weight from one side to the other. It works on lateral weight transfers and anticipatory postural adjustments. Spawn and travel speed are adjustable, to increase the time pressure.



### Flight

Holding two thrusters, the patient flies through a sequence of suspended rings. The direction the rings appear from — up, down, right, left and diagonals — determines the arm movement required. The distance between rings sets the difficulty.

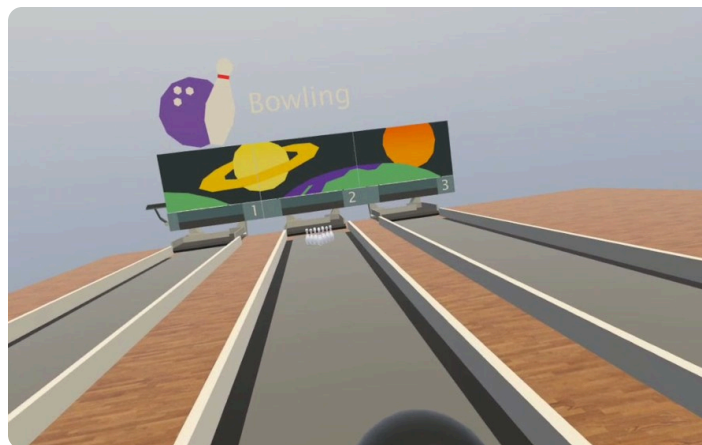
# The rooms

## UPPER LIMB



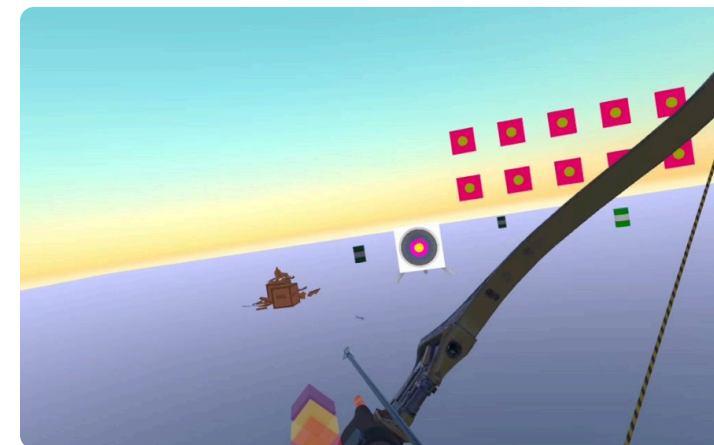
### Basket

Shooting hoops. Basket height and distance are adjusted independently: height grades shoulder elevation, distance grades the force and extension of the movement.



### Bowling

Bowling the ball at the pins, with forward weight transfer and eye-hand coordination. Pin distance is set across four levels, from very short to very long, to grade amplitude and drive.



### Ranged Shooting

A shooting range with bow or pistol. The bow calls for a bimanual movement with scapular traction and retraction, the pistol for single-handed precision control. Target distance regulates the accuracy demand.

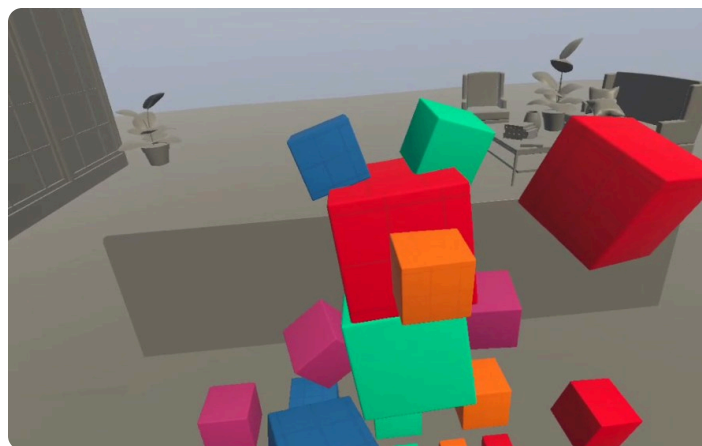
# The rooms

## HAND AND FINE MOTOR CONTROL



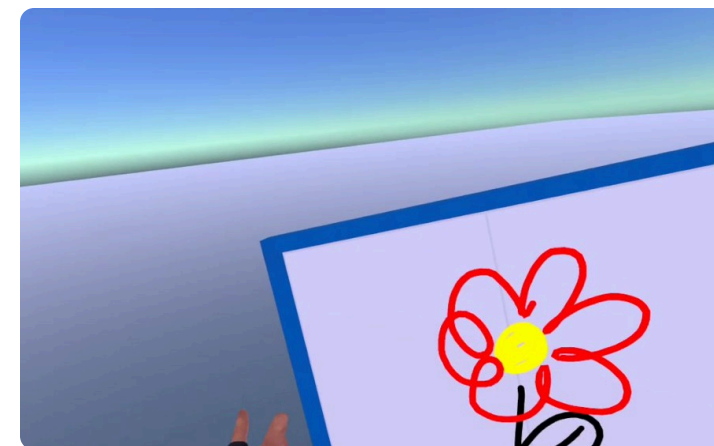
### Hand Gesture

Hand rehabilitation bare-handed, without controllers: the headset tracks the fingers directly. Practical exercises on grip, opening and thumb opposition.



### Cubes

Free manipulation of objects: grasping, moving, releasing. Work on prehension and transport, bimanual included.

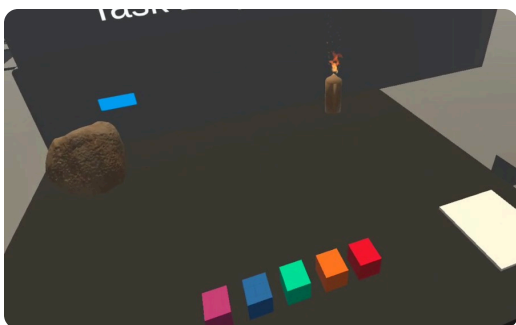


### Whiteboard

Writing and drawing on a whiteboard, for graphomotor movement and fine distal control along continuous strokes. Left-handed mode available.

# The rooms

## COGNITIVE AND FREE SESSION



### Shape Sorting

A timed selection task against a target geometric shape. At the slower level the patient discriminates by colour alone; at the fast level by colour and shape together, with a markedly higher attentional load. Presentation time, inter-stimulus interval, sequence length and repetitions are all adjustable.



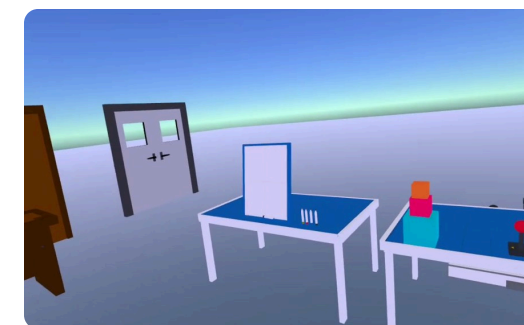
### Space

The same selection task, in two phases. In the first, gravity is on and objects behave as they would on Earth; in the second it is removed, objects stay suspended and move with a flick. The movement becomes a push and calls for graded force.



### Drone Attack

A genuine dual task: the patient throws a cube into a receding ring and, at the same time, uses the index finger to slice drones with a laser. The throw works on graded force and upper-limb accuracy as the distance grows; slicing the drones forces divided attention and reaction. No additional hardware required.



### Free Exercise

A virtual physiotherapy gym with freely manipulable objects and no imposed goal. It is the space where the therapist builds the exercise they need.

*Every parameter is adjusted from the web app while the patient is in session, without interrupting the exercise or removing the headset.*

# Custom rooms

If your practice calls for specific exercises, we develop them on request. The resulting room is acquired outright, with no additional recurring cost.



# Base, Ultra and neurofeedback



|                                                         | BASE | ULTRA | NEUROFEEDBACK |
|---------------------------------------------------------|------|-------|---------------|
| All thirteen rooms                                      | ✓    | ✓     | ✓             |
| Remote control from the web app                         | ✓    | ✓     | ✓             |
| Parameters adjustable in real time                      | ✓    | ✓     | ✓             |
| Patient and session management                          | ✓    | ✓     | ✓             |
| Sessions saved to a dedicated database                  | X    | ✓     | ✓             |
| Dashboards and statistics                               | X    | ✓     | ✓             |
| Scores, response times and time spent in each area      | X    | ✓     | ✓             |
| Data export                                             | X    | ✓     | ✓             |
| Difficulty that adapts to the patient's mental activity | X    | X     | ✓             |
| Mindtooth EEG headset                                   | —    | —     | REQUIRED      |

## LICENCE

### Base

Annual licence.

### Ultra

Annual licence, at a higher fee than Base.

### Neurofeedback

Included in Thera Ultra, at no extra cost. Requires the Mindtooth headset, purchased separately.

# Session data, session after session



With Thera Ultra every session is recorded in a dedicated database and stays available over time. It is not an archive to dig through: it is a dashboard showing how the patient is doing.

## What happened in the session

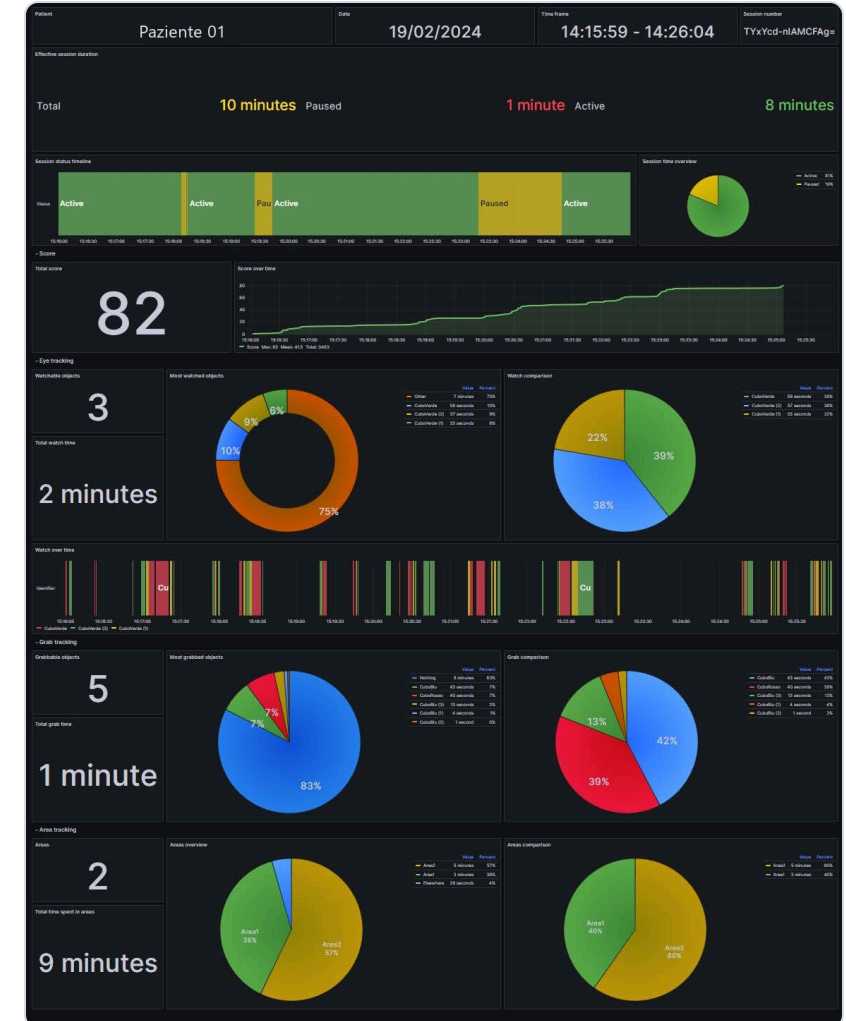
Which exercise, with which parameters, how long it actually lasted and how many pauses were needed.

## How the patient worked

Scores exercise by exercise, response times and how long was spent in each area of the room.

## Whether they are improving

Scores and times compared across sessions: progress is visible, and the rehabilitation plan is adjusted on what the data says, not on memory.

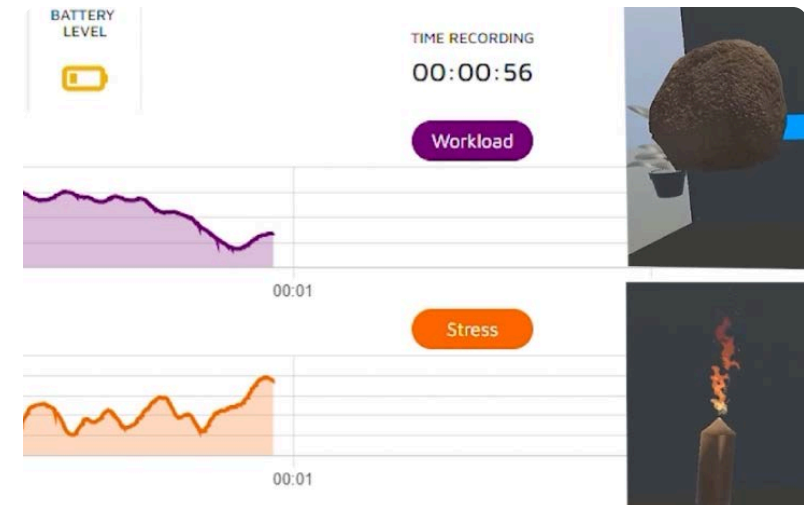


Data is exported whenever needed: for the clinical report, the patient record or research.

# Neurofeedback option

Thera Ultra can be extended with neurofeedback: a wireless EEG headset tracks the patient's stress, cognitive workload and attention in real time.

With the device active the platform qualifies as a neurofeedback system: the virtual reality experience is modulated in real time on the patient's mental activity. Using stress or mental fatigue to regulate task difficulty, for instance, the exercise never becomes too easy or too demanding, and the patient stays in an optimal state.



*The Mindtooth is a professional device, purchased separately from BrainSigns ([www.brainsigns.com](http://www.brainsigns.com)): it is a hardware investment in its own right, not included in the licence.*

# The scientific grounding

THERA does not come from a product idea: it comes from ten years of peer-reviewed research.

The founder is first author on iScience (Cell Press, 2024). The 2019-2026 publication series includes Scientific Reports, Brain Sciences, Healthcare, Frontiers and JCM.

The platform is developed together with IRCCS Fondazione Santa Lucia and Sapienza University of Rome, and is published and distributed on the Meta Store.



## Contacts

[www.MYNDEK.com](http://www.MYNDEK.com)

[THERA.MYNDEK.com](http://THERA.MYNDEK.com)

[info@myndek.com](mailto:info@myndek.com)

