

BASE PACK FOR X-COGNI

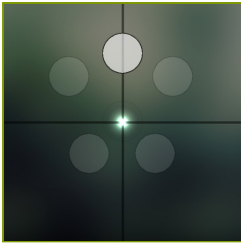
2025.1

Hardware requirements	3
What is needed?	3
Therapeutic tasks database	5
Movement time	5
Speed	7
Movement precision	9
Functional movements	15
Divided attention	28
Memory	30
Problem solving	32
Specialized	35

WHAT IS NEEDED?

Please make sure the PC where you want this module to be active have VAST.Rehab Patient Panel installed and that the following hardware requirements are met:

- Windows 10/11
- Intel Core i5 (8th gen or newer). Important: Avoid ultra-low-power versions (e.g., i5-8250U), as they may not meet performance requirements. Prefer standard or high-performance CPUs.
- Minimum: 8 GB RAM (16 GB or more recommended for optimal performance).

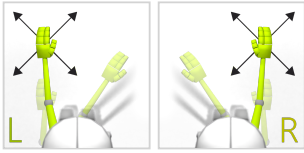


MOVEMENT TIME

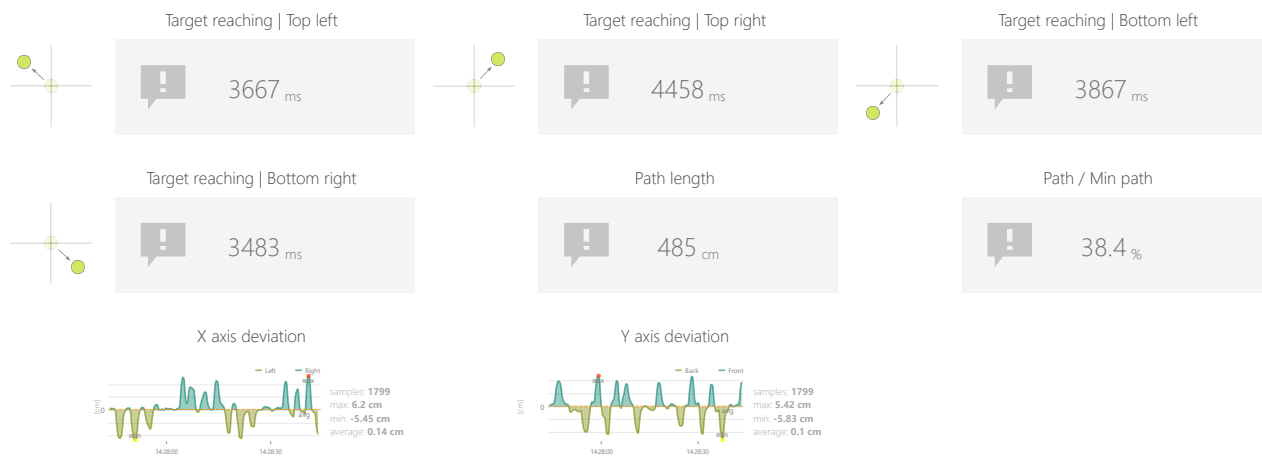
DYNAMIC TEST

Measure time taken to carry out a movement of a limb or other part of the body. It is measured from rest to target position.

CONTROL MODES



RESULTS



ADJUSTMENTS

- Accessory
- Show path
- Repetitions

OBJECTIVES

- Test the limits of balance and equilibrium
- Dynamics of planned movements

INSTRUCTION FOR PATIENT

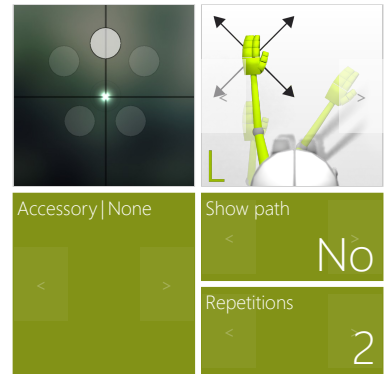
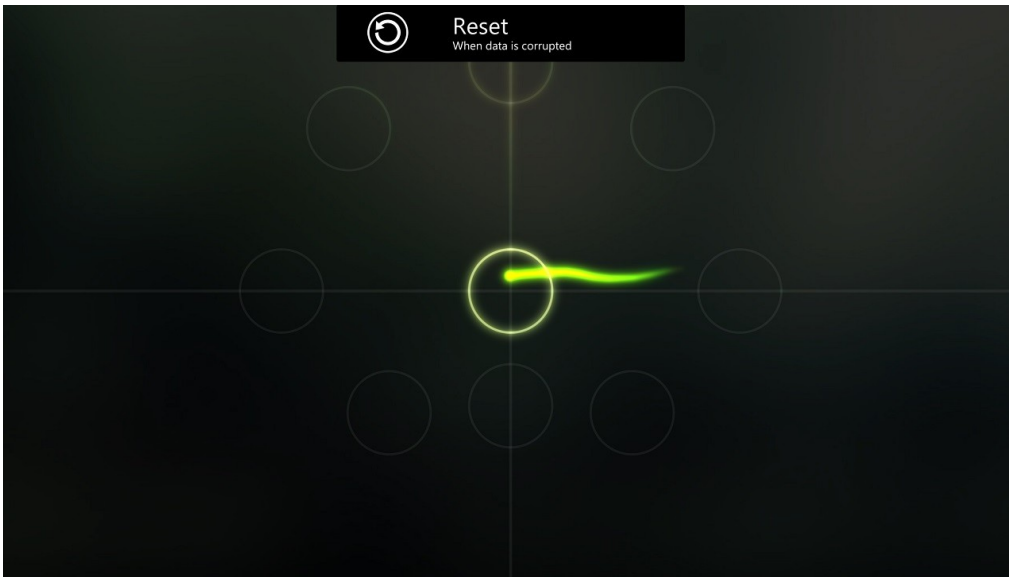
Move the dot to the highlighted target and hold it for a moment. Next target will be highlighted.

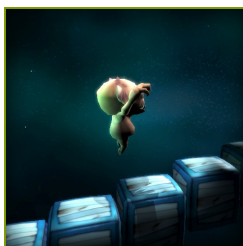


MOVEMENT TIME

DYNAMIC TEST

SAMPLE SETTINGS



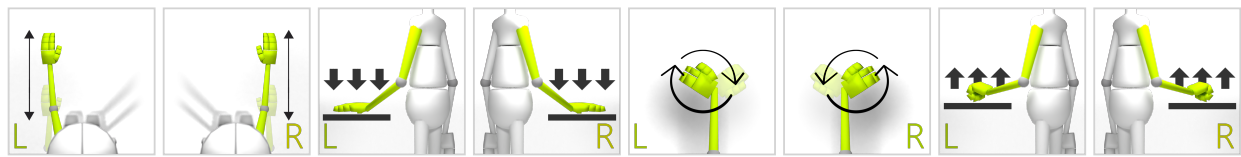


SPEED

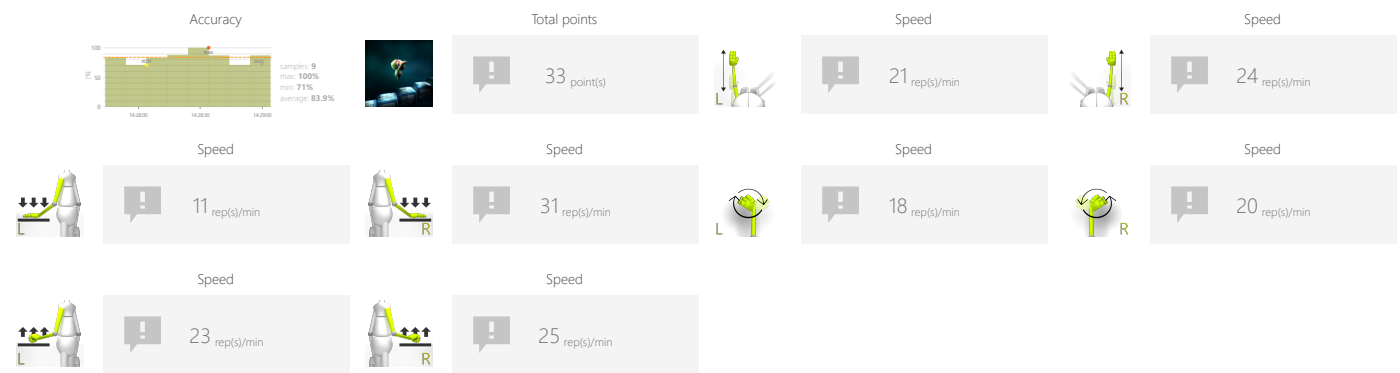
STAIRS

Measure number of repetitions of specific movement pattern an individual is able to perform within predefined time interval.

CONTROL MODES



RESULTS



ADJUSTMENTS

- Accessory
- Task duration
- Range
- Distance from edge
- Max time per floor
- Number of stairs
- Pause length

OBJECTIVES

- Jumping
- Knees lifting
- Dynamics of planned movements

INSTRUCTION FOR PATIENT

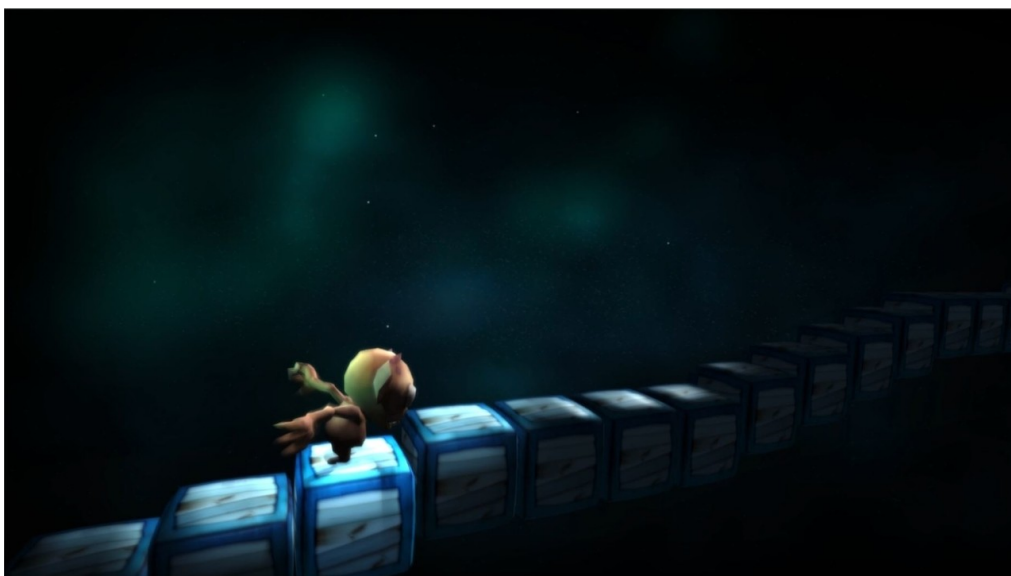
Climb the stairs before they disappear.

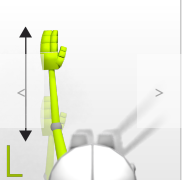
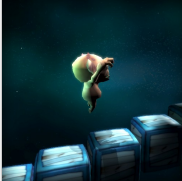


SPEED

STAIRS

SAMPLE SETTINGS





◀

Difficulty

▶

custom

Accessory | None

<

>

Duration

<

>

90s

Range

80%

20%

<

>

Distance from edge

<

>

← 20%

Max time per floor

<

>

15s

Number of stairs

<

>

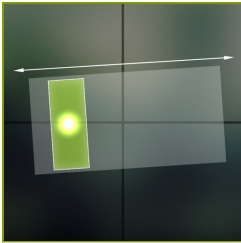
5

Pause length

<

>

3

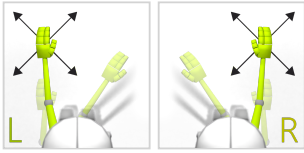


MOVEMENT PRECISION

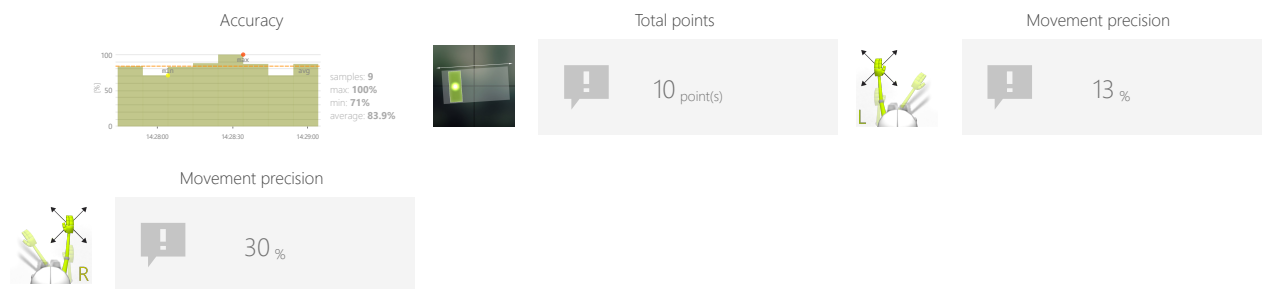
PENDULUM

Measure and train individual's skills to perform specific movement patterns with predefined speed and range.

CONTROL MODES



RESULTS



ADJUSTMENTS

- Accessory
- Task duration
- Show path
- Period
- Rotation
- Pendulum height
- Pendulum width

OBJECTIVES

- 3D space movements reproduction
- Balance and equilibrium training
- Rhythmicity
- Activity in a given rhythm
- Movement precision

INSTRUCTION FOR PATIENT

Try to synchronize yourself with the rectangle movements. Do your best to stay within the rectangle.

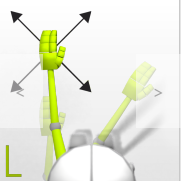
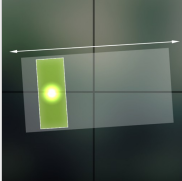


MOVEMENT PRECISION

PENDULUM

SAMPLE SETTINGS





◀

Difficulty
1/2

▶

Accessory | None
< >

Duration
< >
90s

Show path
< >
No

Period
< >
5s

Rotation
< >
0

Pendulum height
< >
50%

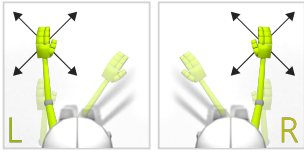
Pendulum width
< >
100%



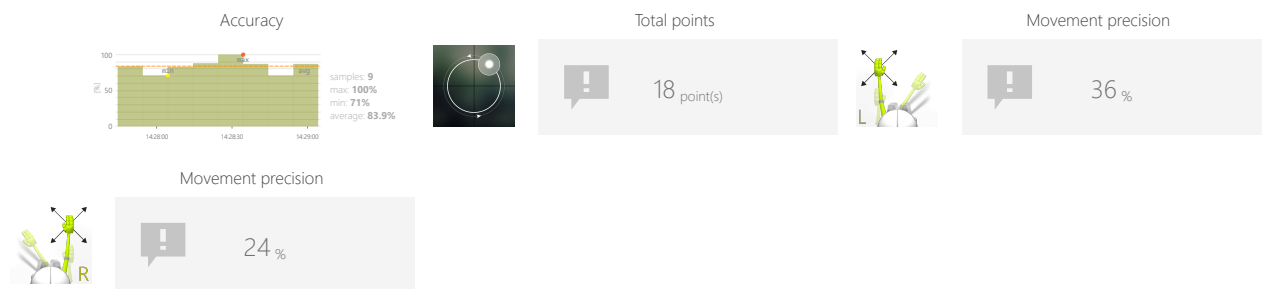
MOVEMENT PRECISION TRACKING

Measure and train individual's skills to perform specific movement patterns with predefined speed and range.

CONTROL MODES



RESULTS



ADJUSTMENTS

- Accessory
- Task duration
- Inverse direction
- Show path
- Period
- Radius
- Target radius

OBJECTIVES

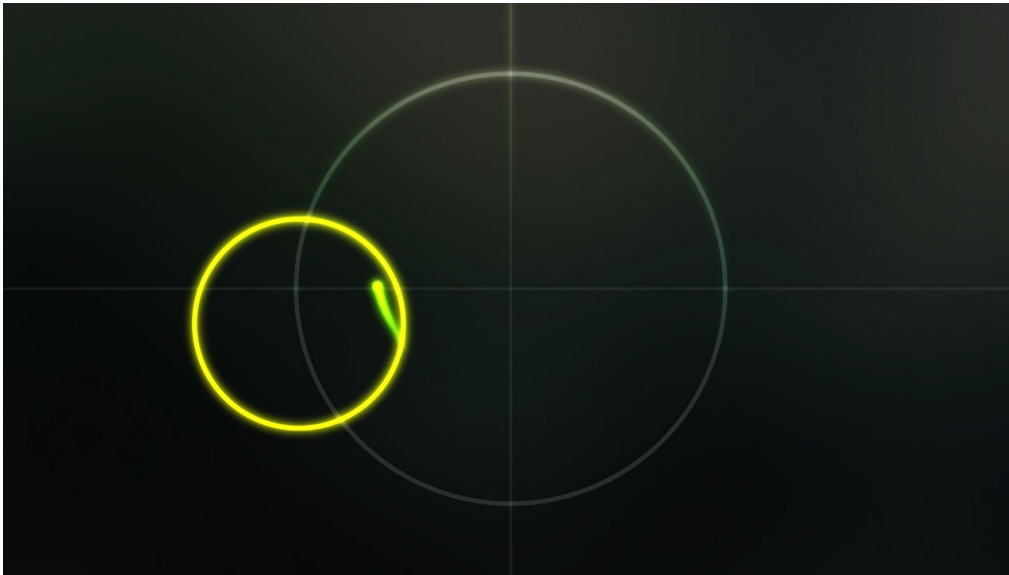
- 3D space movements reproduction
- Balance and equilibrium training
- Test the limits of balance and equilibrium

INSTRUCTION FOR PATIENT

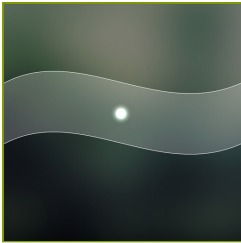
Try to synchronize yourself with the circle movements. Do your best to stay within the circle.



SAMPLE SETTINGS



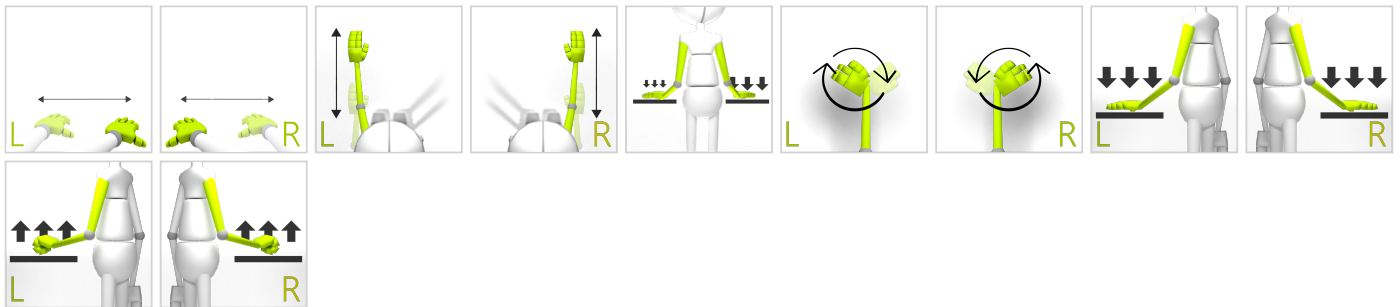
Accessory None < >	Duration < > 90s
Inverse direction < > No	Show path < > No
Period < > 10s	Radius < > 75%
Target radius < > 75%	



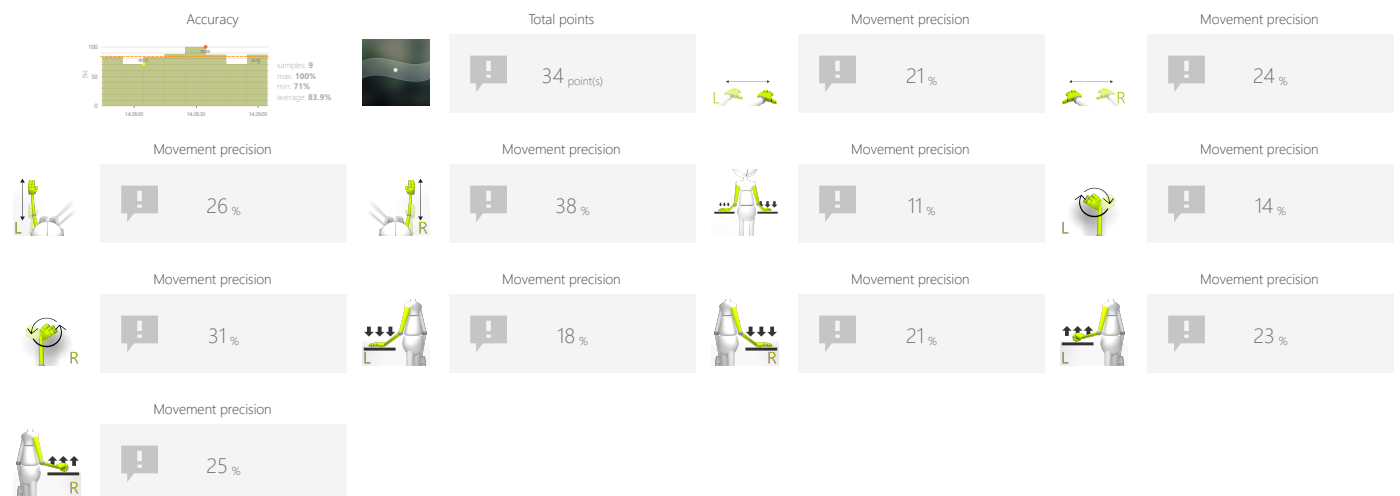
MOVEMENT PRECISION GRAPH

Measure and train individual's skills to perform specific movement patterns with predefined speed and range.

CONTROL MODES



RESULTS



ADJUSTMENTS

- Graph shape (sinus or square, amplitude, border, etc.)
- Accessory
- Task duration
- Range
- Distance from edge

OBJECTIVES

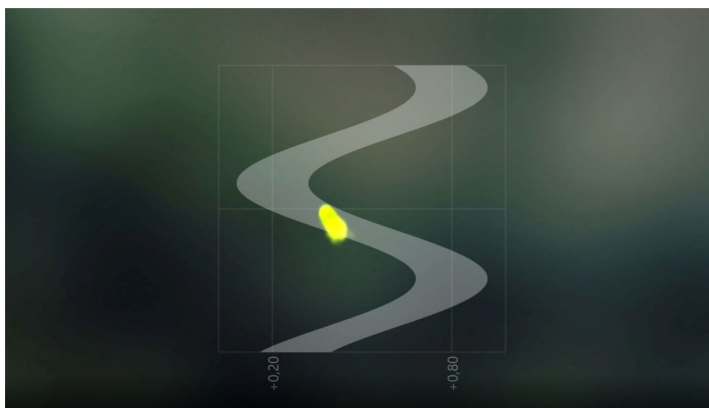
- Movement precision
- Activity in a given rhythm
- Repetitive movements
- Hands raising

INSTRUCTION FOR PATIENT

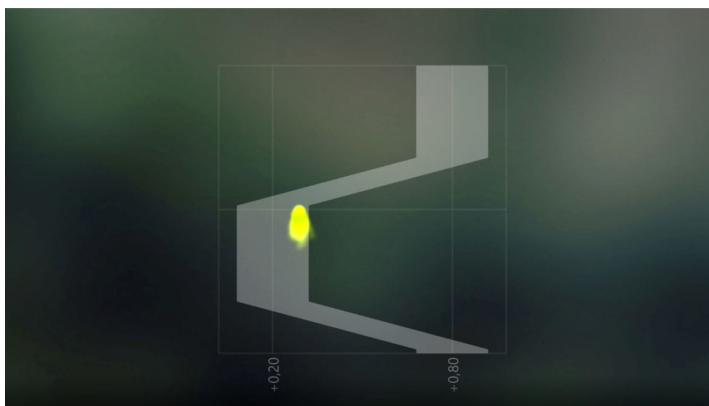
Try to stay within the borders.



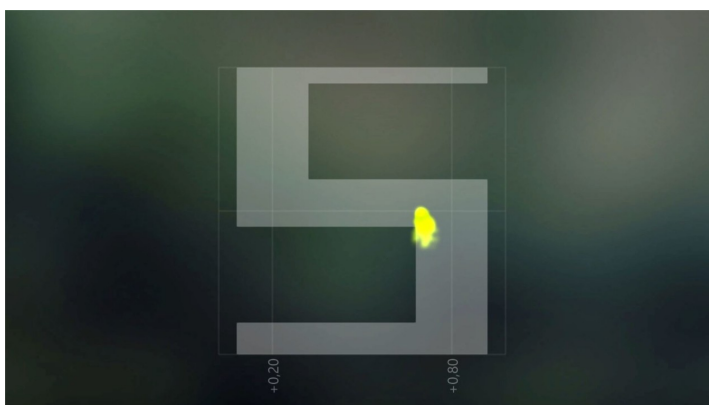
SAMPLE SETTINGS



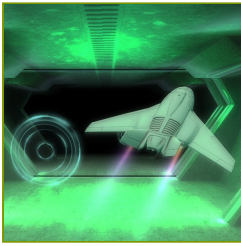
Difficulty	3/3
Graph configuration	
4.0s +/-: 20%	
Accessory None	Duration
	30s
Range	Distance from edge
20% ↔ 80%	20%



Difficulty	1/3
Graph configuration	
4.0s +/-: 40%	
Accessory None	Duration
	90s
Range	Distance from edge
20% ↔ 80%	20%



Difficulty	custom
Graph configuration	
+/-: 20% ↑: 2.0s ↓: 2.0s ↗: 1.0s ↘: 1.0s	
Accessory None	Duration
	30s
Range	Distance from edge
20% ↔ 80%	20%

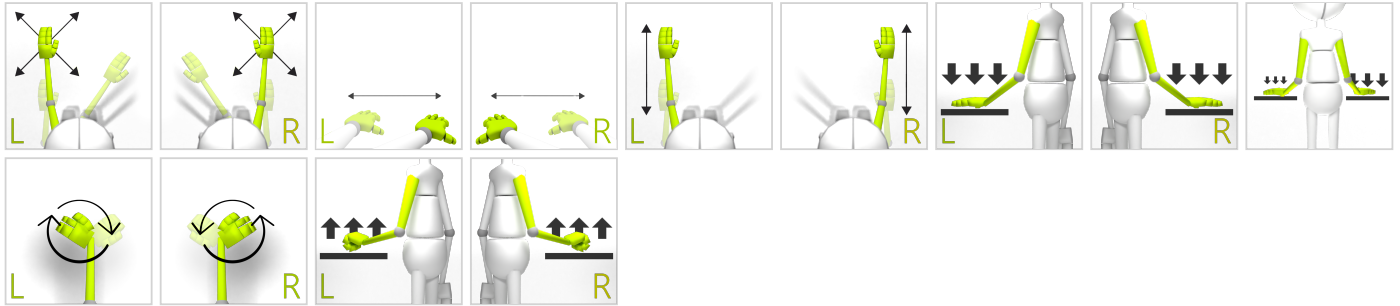


FUNCTIONAL MOVEMENTS

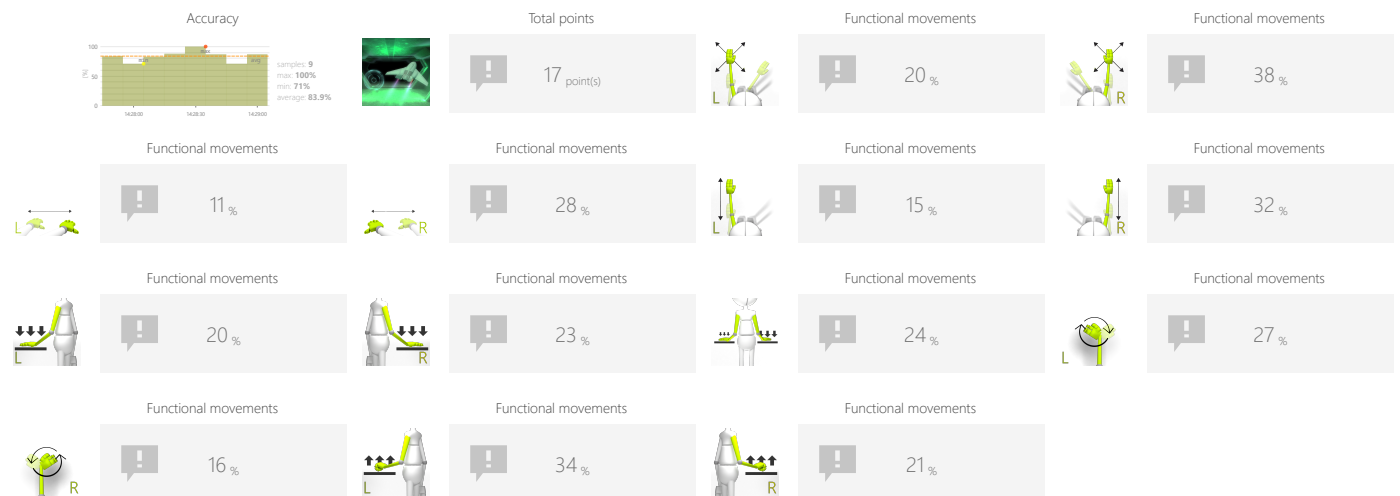
AIRPLANE

Measure and train individual's skills to perform movements based on real-world situational biomechanics. They usually involve multi-planar, multi-joint movements which place demand on the body's core musculature and innervation.

CONTROL MODES



RESULTS



ADJUSTMENTS

- Speed
- Accessory
- Task duration
- Range

OBJECTIVES

- Focusing
- Perceptivity
- Movement precision
- Predicting the trajectory of objects in 3D space
- Balance and equilibrium training

INSTRUCTION FOR PATIENT

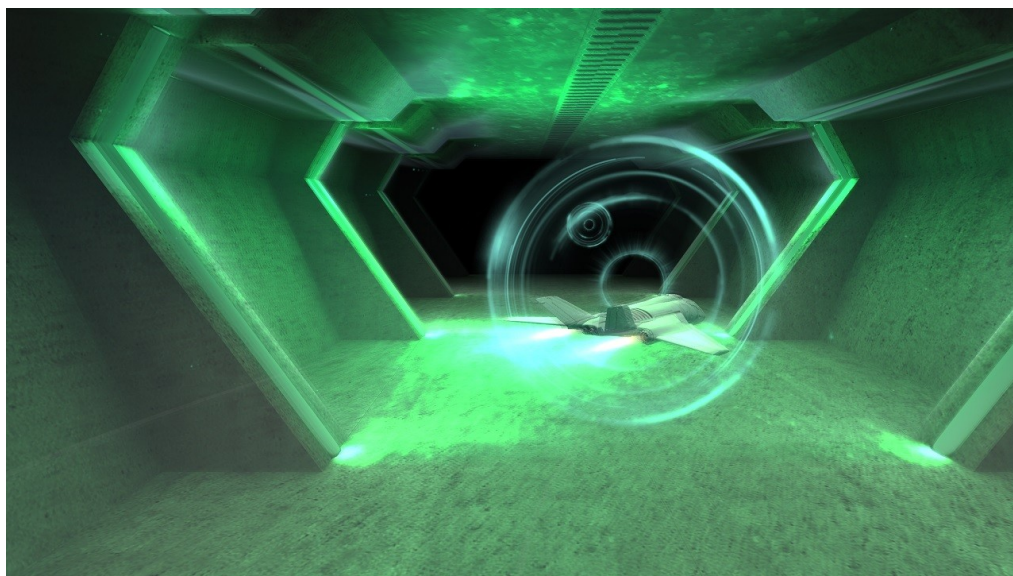
Make the airplane fly through the circles. The closer to the center it flies the more points you get.

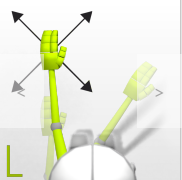
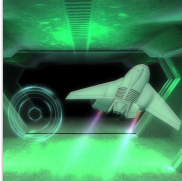


FUNCTIONAL MOVEMENTS

AIRPLANE

SAMPLE SETTINGS





◀

Difficulty
2/4

▶

Speed

< 100% >

speed set automatically

Accessory | None

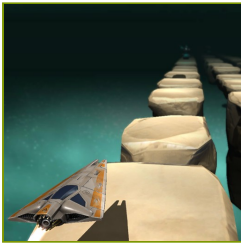
< >

Duration

< 90s >

Range

20% 80%
20% 80%

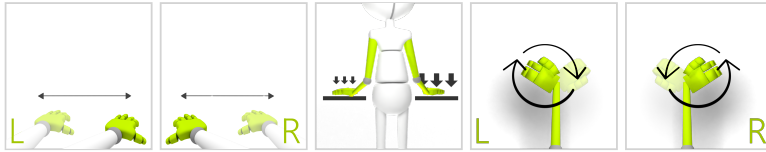


FUNCTIONAL MOVEMENTS

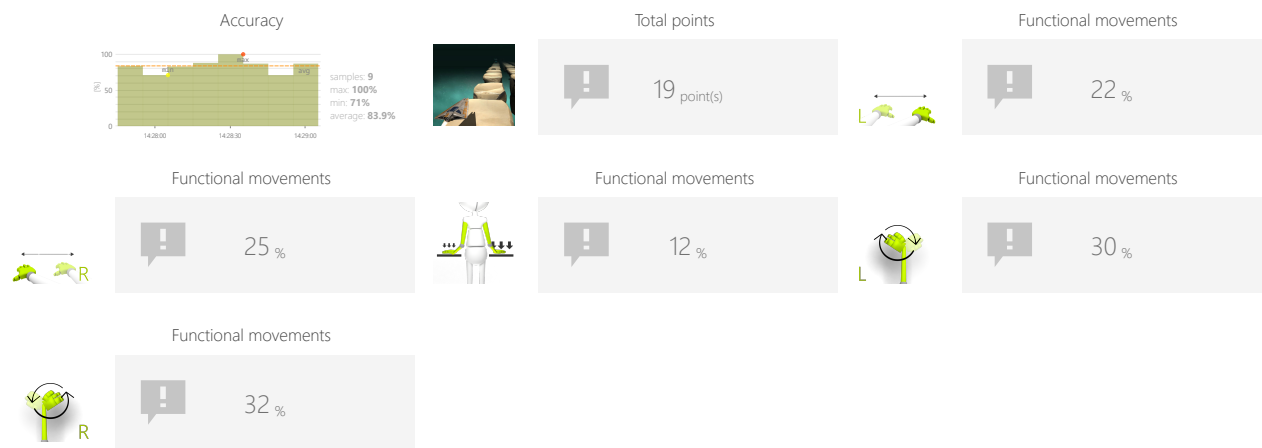
STONES

Measure and train individual's skills to perform movements based on real-world situational biomechanics. They usually involve multi-planar, multi-joint movements which place demand on the body's core musculature and innervation.

CONTROL MODES



RESULTS



ADJUSTMENTS

- Speed
- Accessory
- Task duration
- Range
- Distance from edge

OBJECTIVES

- Perceptivity
- Dynamics of planned movements
- Reaction to the positive visual stimuli
- Response to negative visual stimuli

INSTRUCTION FOR PATIENT

Make the the spaceship collect the colorful creatures and avoid the rocks.

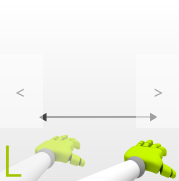
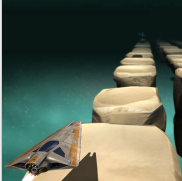



FUNCTIONAL MOVEMENTS

STONES


SAMPLE SETTINGS











Difficulty
1/3





Speed

100%

speed set automatically



Accessory | None



Duration





90s

Range




20%  80%

Distance from edge

 20% 

18

 **VAST.Rehab**
REHABILITATION IN VIRTUAL REALITY

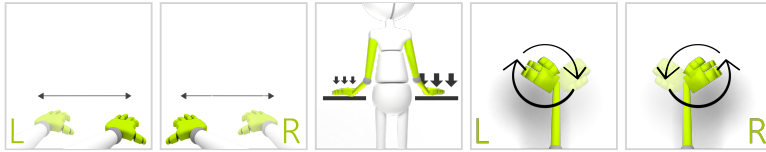


FUNCTIONAL MOVEMENTS

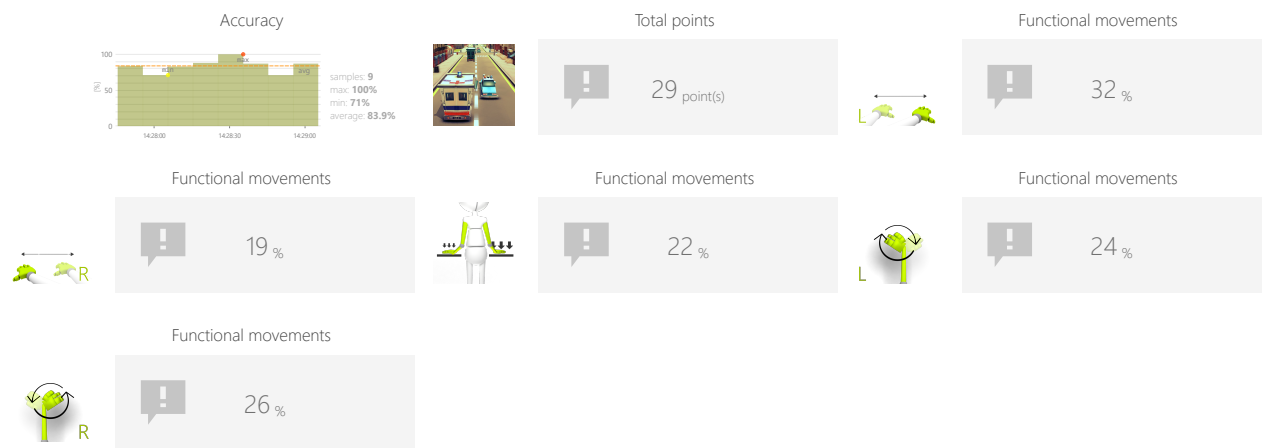
AMBULANCE

Measure and train individual's skills to perform movements based on real-world situational biomechanics. They usually involve multi-planar, multi-joint movements which place demand on the body's core musculature and innervation.

CONTROL MODES



RESULTS



ADJUSTMENTS

- Speed
- Accessory
- Task duration
- Range
- Distance from edge
- Distance between cars

OBJECTIVES

- Balance and equilibrium training
- Dynamics of planned movements
- Focusing
- Speed of decision making
- Visual motor coordination

INSTRUCTION FOR PATIENT

Go as fast as you can and avoid hitting other cars.

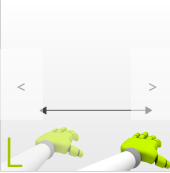



FUNCTIONAL MOVEMENTS

AMBULANCE

SAMPLE SETTINGS






Difficulty
2/3

Speed
50%
speed set automatically

Accessory | None

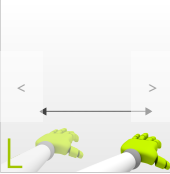

Duration
30s

Range
20% ↔ 80%

Distance from edge
20% 

Distance between cars
50%






Difficulty
custom

Speed
50%
speed set automatically

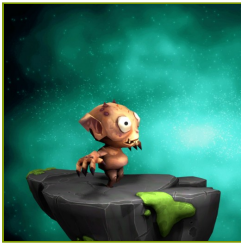
Accessory | None

Duration
30s

Range
20% ↔ 80%

Distance from edge
20% 

Distance between cars
200%

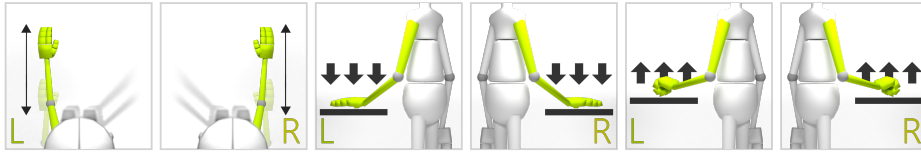


FUNCTIONAL MOVEMENTS

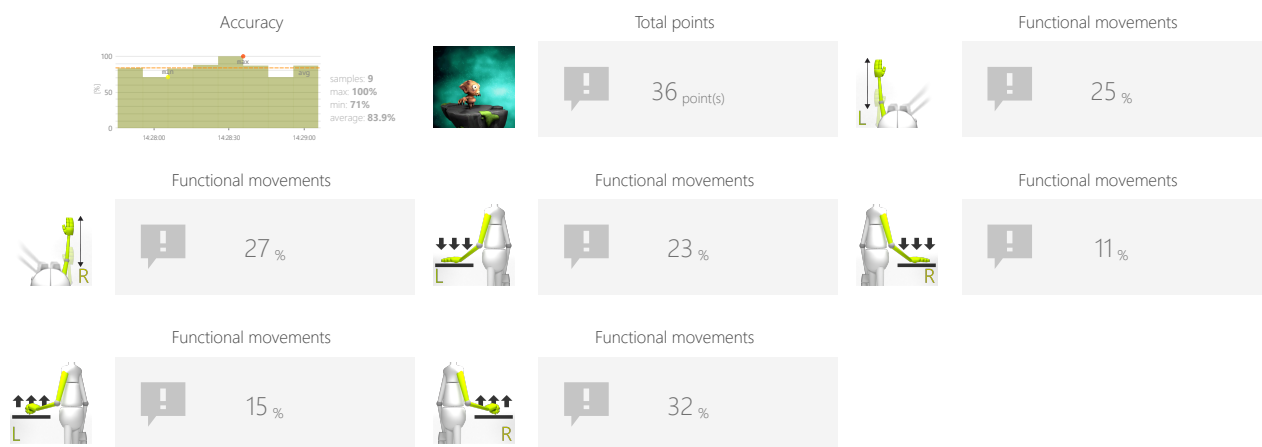
ROCKET JUMPING

Measure and train individual's skills to perform movements based on real-world situational biomechanics. They usually involve multi-planar, multi-joint movements which place demand on the body's core musculature and innervation.

CONTROL MODES



RESULTS



ADJUSTMENTS

- Accessory
- Task duration
- Range
- Distance from edge
- Time between objects
- Bomb format
- Speed of objects

OBJECTIVES

- Spontaneous movements
- Dynamic responses to emerging moving targets
- Predicting the trajectory of objects

INSTRUCTION FOR PATIENT

Help the creature jump over incoming rockets and avoid being hit.

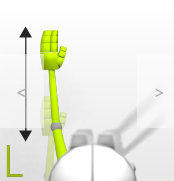
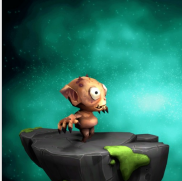


FUNCTIONAL MOVEMENTS

ROCKET JUMPING

SAMPLE SETTINGS





◀

Difficulty
1/3

▶

Accessory | None

< >

Duration

< >

90s

Range

20% 80%

< >

Distance from edge

< >

← 20%

Time between objects

< >

5s

Bomb format

< >

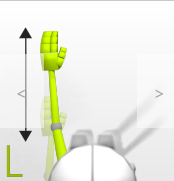
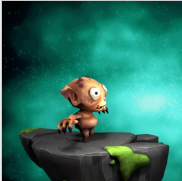
1

Speed of objects

< >

100%





◀

Difficulty
custom

▶

Accessory | None

< >

Duration

< >

90s

Range

20% 80%

< >

Distance from edge

< >

← 20%

Time between objects

< >

5s

Bomb format

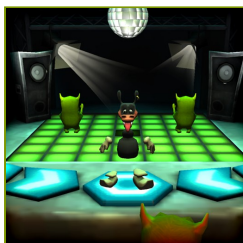
< >

2

Speed of objects

< >

100%

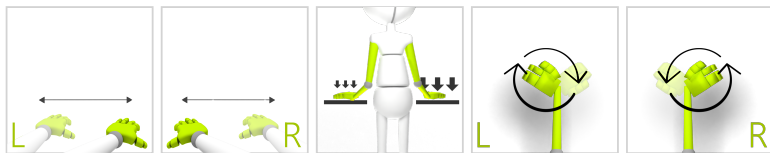


FUNCTIONAL MOVEMENTS

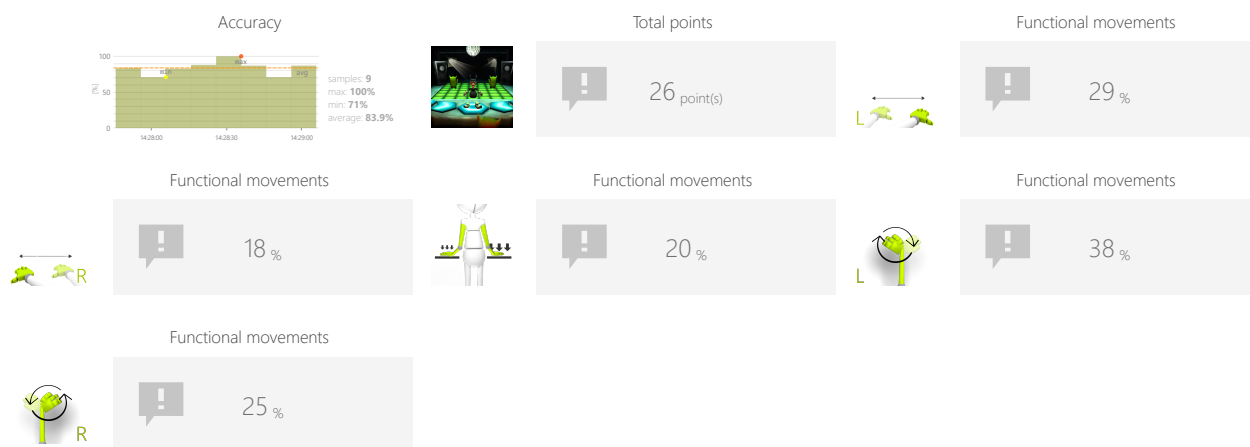
DANCEMAN

Measure and train individual's skills to perform movements based on real-world situational biomechanics. They usually involve multi-planar, multi-joint movements which place demand on the body's core musculature and innervation.

CONTROL MODES



RESULTS



ADJUSTMENTS

- Accessory
- Task duration
- Range
- Distance from edge
- Advanced scoring
- Song index
- Spawn rate level

OBJECTIVES

- Activity in a given rhythm
- Spontaneous movements
- Visual motor coordination

INSTRUCTION FOR PATIENT

Hit the green characters when they come close.



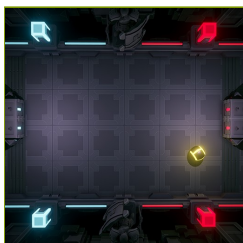
FUNCTIONAL MOVEMENTS

DANCEMAN

SAMPLE SETTINGS



Difficulty 1/6	
Accessory None	Duration 90s
Range 20% ↔ 80%	Distance from edge ↓ 20%
Advanced scoring No	Song index 0
Spawn rate level Easy	



FUNCTIONAL MOVEMENTS

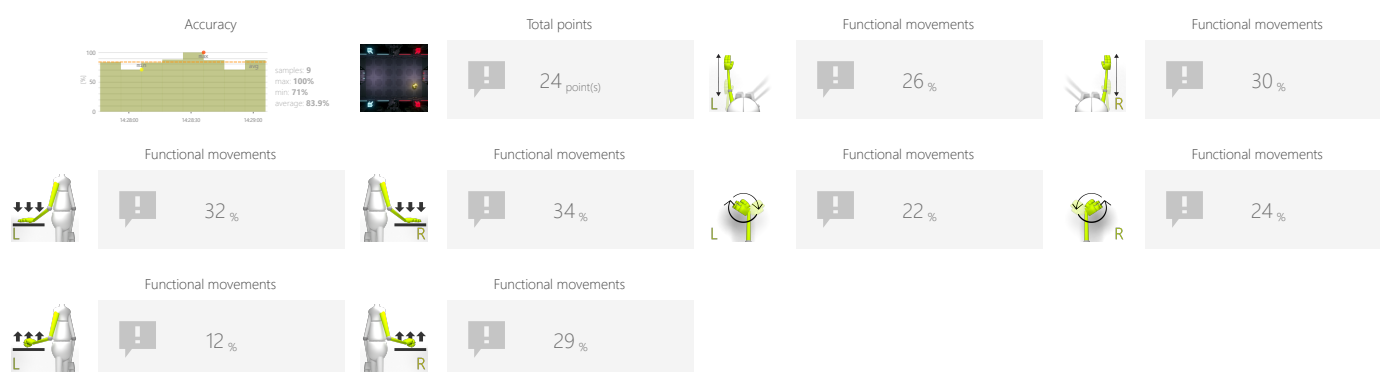
PONG

Measure and train individual's skills to perform movements based on real-world situational biomechanics. They usually involve multi-planar, multi-joint movements which place demand on the body's core musculature and innervation.

CONTROL MODES



RESULTS



ADJUSTMENTS

- Accessory
- Task duration
- Range
- Distance from edge
- Speed of objects

OBJECTIVES

- Planned movements
- Focusing
- Predicting the trajectory of objects

INSTRUCTION FOR PATIENT

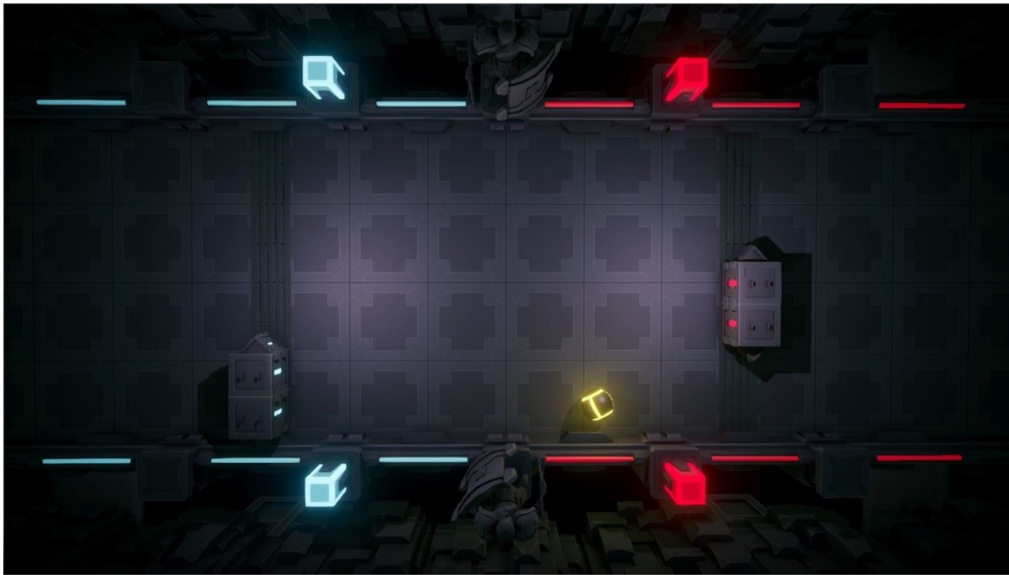
Use the paddles to hit a ball back and forth.

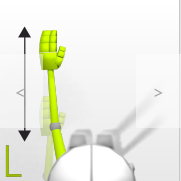
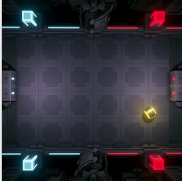




FUNCTIONAL MOVEMENTS

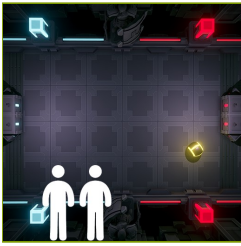
PONG

SAMPLE SETTINGS





◀	Difficulty 1/3	▶
Accessory None < >		Duration < > 90s
Range 20% 80% ↑ ↓ 		Distance from edge < >  ← 20%
Speed of objects < 100% >		

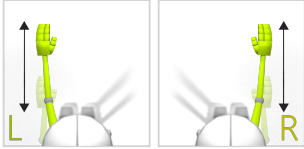


FUNCTIONAL MOVEMENTS

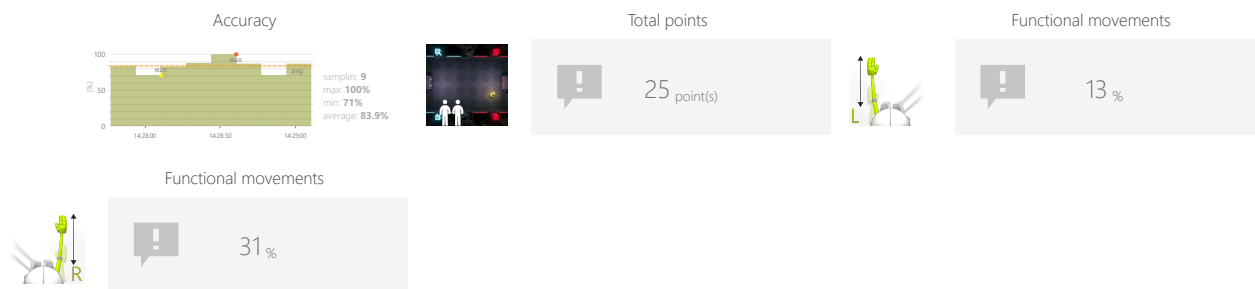
PONG

Measure and train individual's skills to perform movements based on real-world situational biomechanics. They usually involve multi-planar, multi-joint movements which place demand on the body's core musculature and innervation.

CONTROL MODES



RESULTS



ADJUSTMENTS

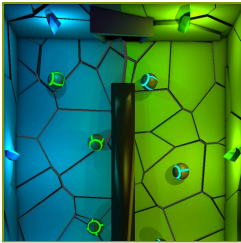
- Accessory
- Task duration
- Range
- Distance from edge
- Speed of objects

OBJECTIVES

- Planned movements
- Focusing
- Predicting the trajectory of objects

INSTRUCTION FOR PATIENT

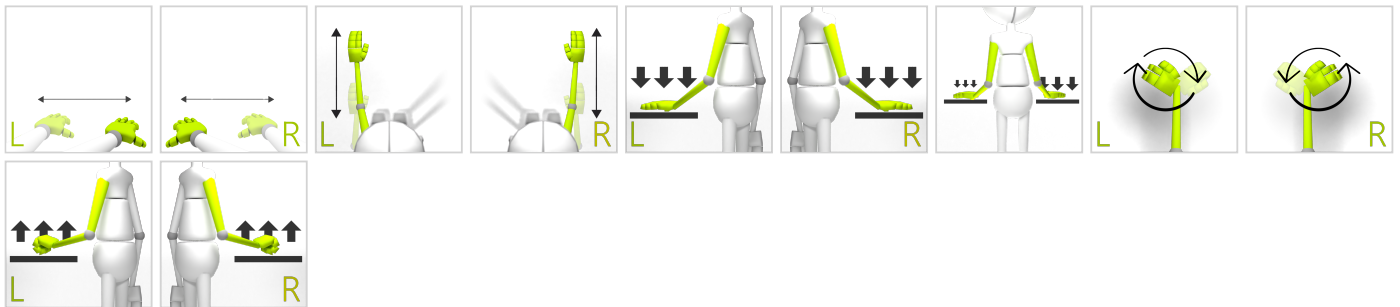
Use the paddles to hit a ball back and forth.



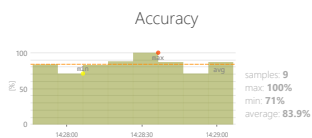
DIVIDED ATTENTION SORTER

Measure and train individual's skills to successfully execute more than one action at a time, while paying attention to two or more channels of information.

CONTROL MODES



RESULTS



Total points

20 point(s)

Divided attention

37 %

ADJUSTMENTS

- Accessory
- Task duration
- Range
- Distance from edge
- Number of objects
- Gap size
- Speed of objects

OBJECTIVES

- Predicting the trajectory of objects
- Focusing
- Perceptivity
- Movement precision
- Exercise with or without support from healthy limb

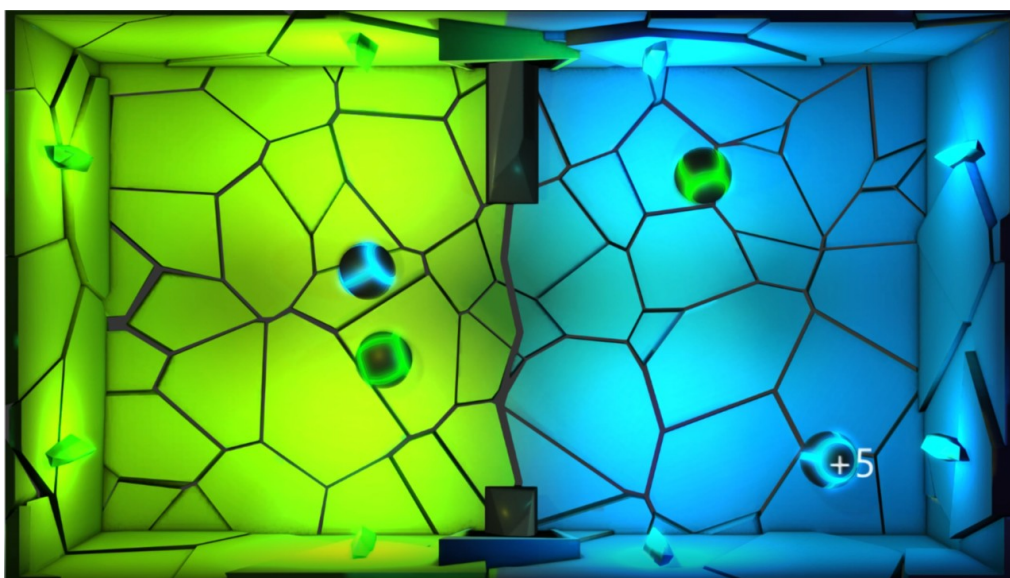
INSTRUCTION FOR PATIENT

Pass or block the balls so that the blue balls are on the blue side and the green balls are on the green side of the screen.

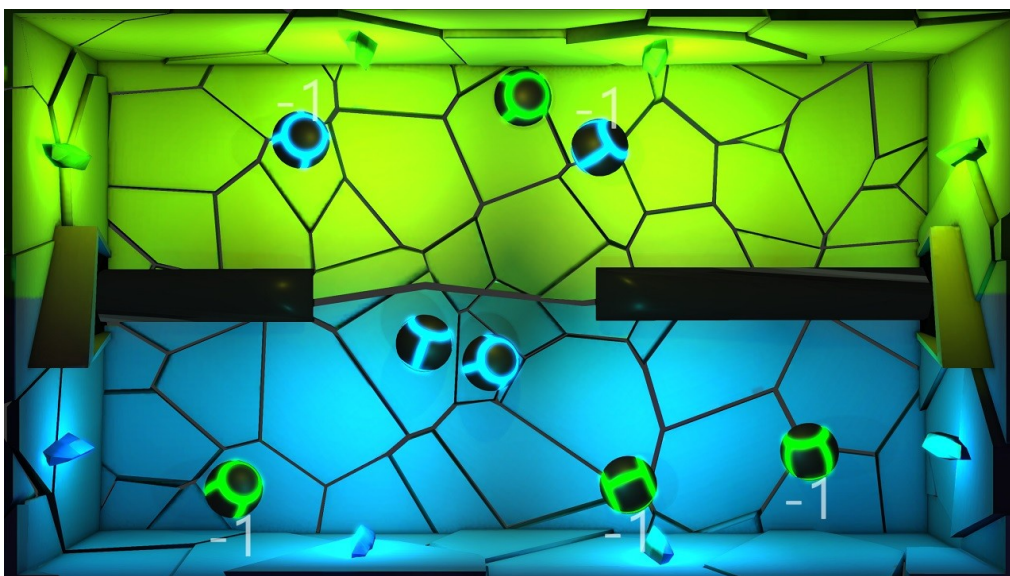


DIVIDED ATTENTION SORTER

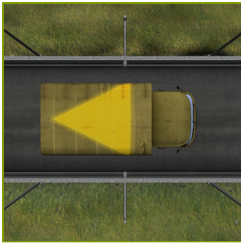
SAMPLE SETTINGS



Difficulty 1/3	
Accessory None	Duration 30s
Range 20% ↔ 80%	Distance from edge 20% ↓
Number of objects < 4	Gap size < 150%
Speed of objects < 100%	



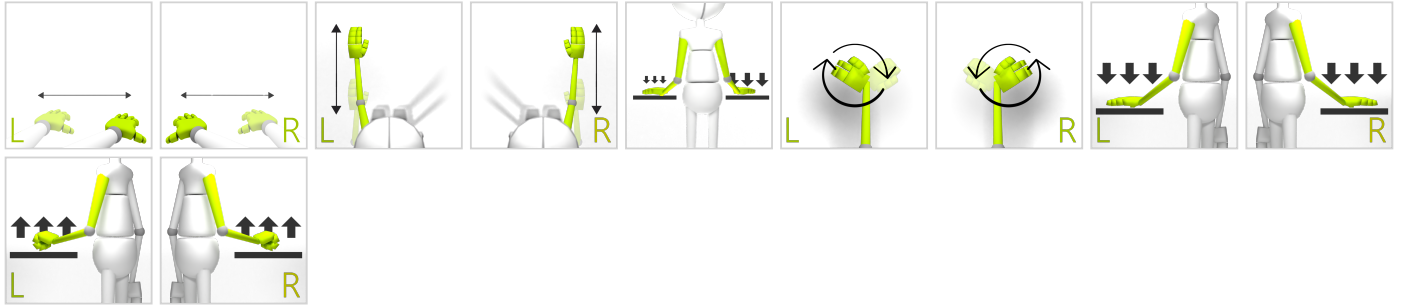
Difficulty 1/3	
Accessory None	Duration 30s
Range 20% ↔ 80%	Distance from edge 20% ↓
Number of objects < 4	Gap size < 150%
Speed of objects < 100%	



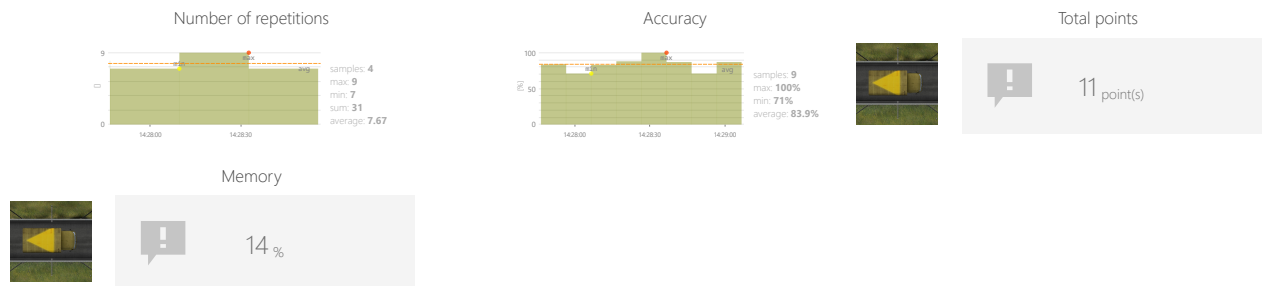
MEMORY TRUCKS

Measure and train individual's skills to memorize information.

CONTROL MODES



RESULTS



ADJUSTMENTS

- Accessory
- Task duration
- Range
- Distance from edge
- Variations

OBJECTIVES

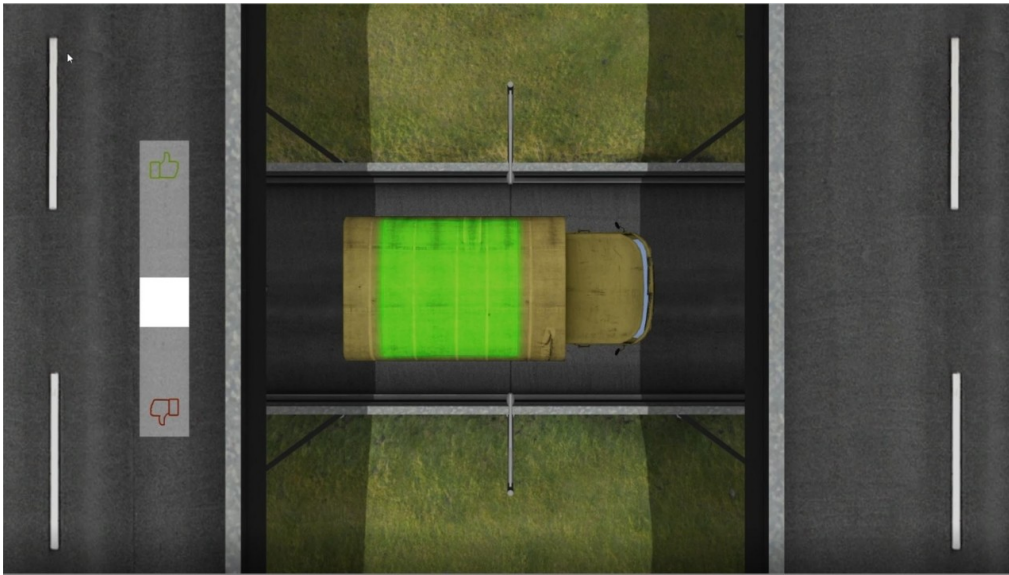
- Logical tasks
- Focusing
- Perceptivity

INSTRUCTION FOR PATIENT

Remember the shape and/or its color on the roof of the car you see. Decide with thumbs up or down whether the next car has the same shape and/or color on the roof as the previous one.



SAMPLE SETTINGS



Top-down view of a truck on a road with a green rectangular highlight on its cargo area. A thumbs up icon is on the left, and a thumbs down icon is on the right.

Difficulty **1/3**

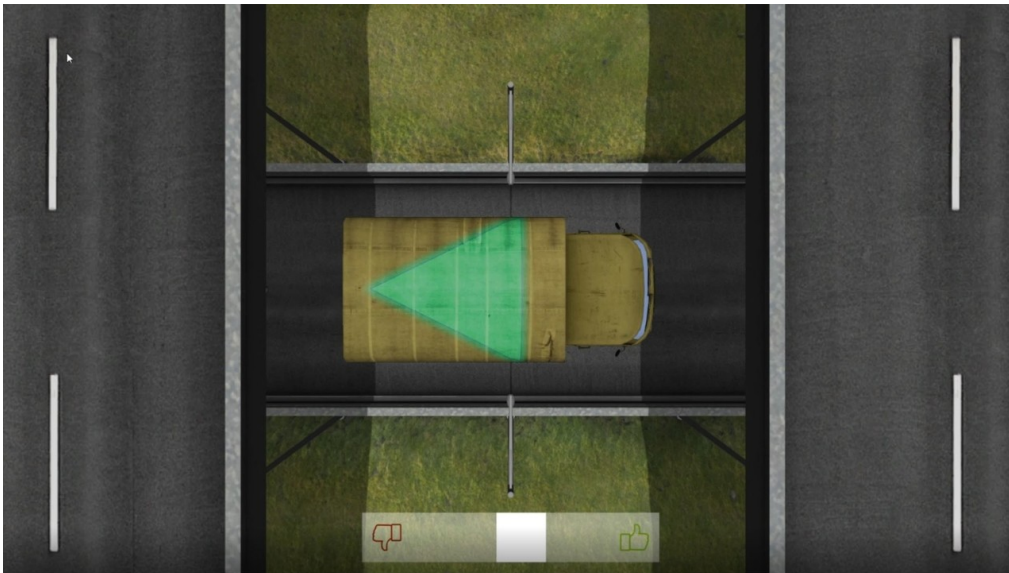
Accessory | None

Duration **30s**

Range **20% ↔ 80%**

Distance from edge **20%**

Variations **colors**



Top-down view of a truck on a road with a green triangular highlight on its cargo area. A thumbs down icon is on the left, and a thumbs up icon is on the right.

Difficulty **2/3**

Accessory | None

Duration **30s**

Range **20% ↔ 80%**

Distance from edge **20%**

Variations **shapes**



PROBLEM SOLVING

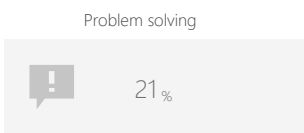
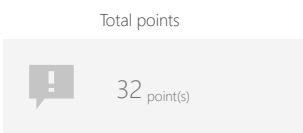
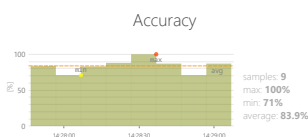
CLONES

Measure and train individual's skills to reach a solution of specific problems. Problem solving may include mathematical or systematic operations and can be a gauge of an individual's critical thinking skills.

CONTROL MODES



RESULTS



ADJUSTMENTS

- Accessory
- Task duration
- Time to complete action
- Range
- Distance from edge
- Number of pairs

OBJECTIVES

- Perceptivity
- Visual motor coordination
- Logical tasks

INSTRUCTION FOR PATIENT

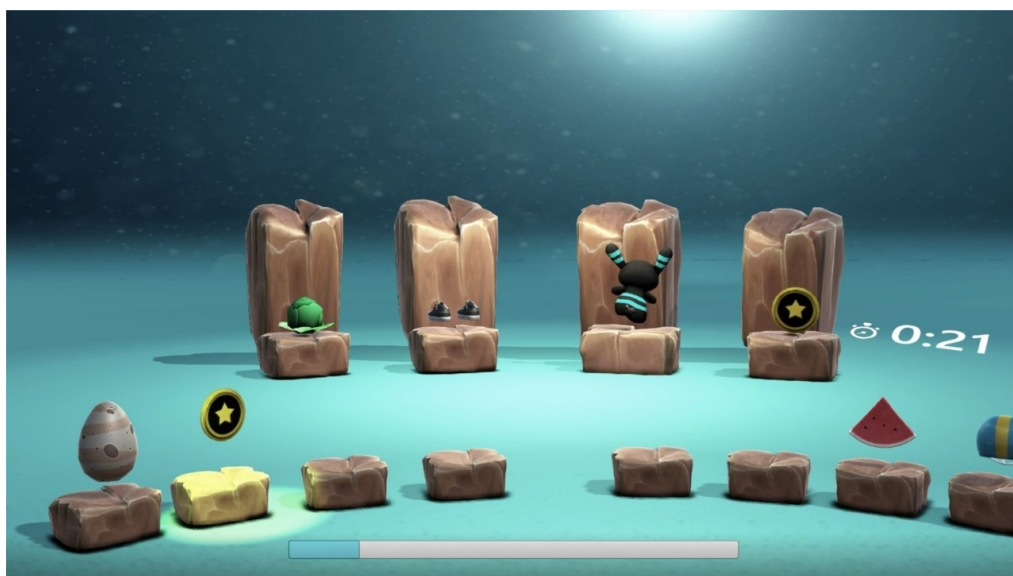
Select the item which has a pair on the screen.



PROBLEM SOLVING

CLONES

SAMPLE SETTINGS



	Difficulty 1/3	
Accessory None		Duration 90s
Minitask duration 30s		Range 20% ↔ 80%
Distance from edge ↓ 20%		Number of pairs 4

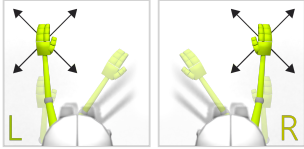


PROBLEM SOLVING

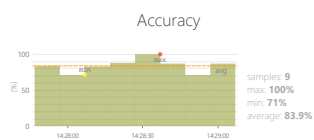
JIGSAW PUZZLE

Measure and train individual's skills to reach a solution of specific problems. Problem solving may include mathematical or systematic operations and can be a gauge of an individual's critical thinking skills.

CONTROL MODES



RESULTS



Total points



35 point(s)



Problem solving



23 %

ADJUSTMENTS

- Task duration
- Number of pieces
- Show preview

OBJECTIVES

INSTRUCTION FOR PATIENT

Drag and drop the pieces into place, connecting them to create the picture. If a piece wiggles, it's a sign that it is misplaced.



SPECIALIZED

BLOOD PRESSURE

Specialized tasks and evaluations that collect data from multiple categories or do have a unique objectives.

CONTROL MODES



OBJECTIVES

- Monitor external parameters

INSTRUCTION FOR PATIENT

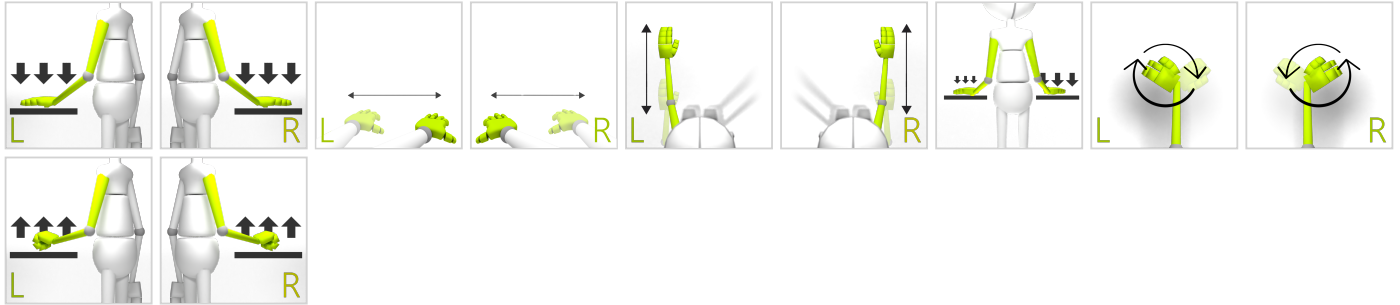
Measure yourself your blood pressure and type it in the result.



SPECIALIZED GONOGO TEST

Specialized tasks and evaluations that collect data from multiple categories or do have a unique objectives.

CONTROL MODES



RESULTS



ADJUSTMENTS

- Range
- Distance from edge
- Required proper repetitions
- Hit if

OBJECTIVES

- Spontaneous movements
- Speed of movement
- Response to negative visual stimuli
- Reaction to the positive visual stimuli

INSTRUCTION FOR PATIENT

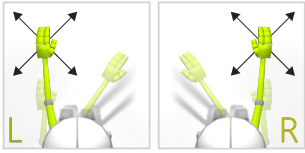
Hit the button when positive trigger appears.



SPECIALIZED PRECISION TEST

Specialized tasks and evaluations that collect data from multiple categories or do have a unique objectives.

CONTROL MODES



ADJUSTMENTS

- Accessory

OBJECTIVES

INSTRUCTION FOR PATIENT

Draw a green heart over each white heart visible on the screen.
Try to be very accurate.

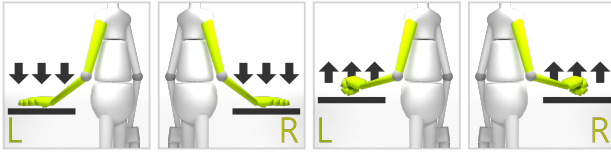


SPECIALIZED

X-COGNI STRENGTH TEST

Specialized tasks and evaluations that collect data from multiple categories or do have a unique objectives.

CONTROL MODES



OBJECTIVES

INSTRUCTION FOR PATIENT

Press or pull each white circle visible on the screen. Use as much force as you can.