

FULL BODY TRAINING

2021.4

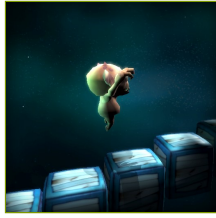
| | |
|-----------------------------------|----|
| Hardware requirements | 3 |
| What is needed? | 3 |
| Therapeutic tasks database | 5 |
| Speed | 5 |
| Movement precision | 11 |
| Functional movements | 21 |
| Divided attention | 81 |
| Memory | 83 |
| Problem solving | 87 |
| Specialized | 95 |

WHAT IS NEEDED?

HARDWARE REQUIREMENTS

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:

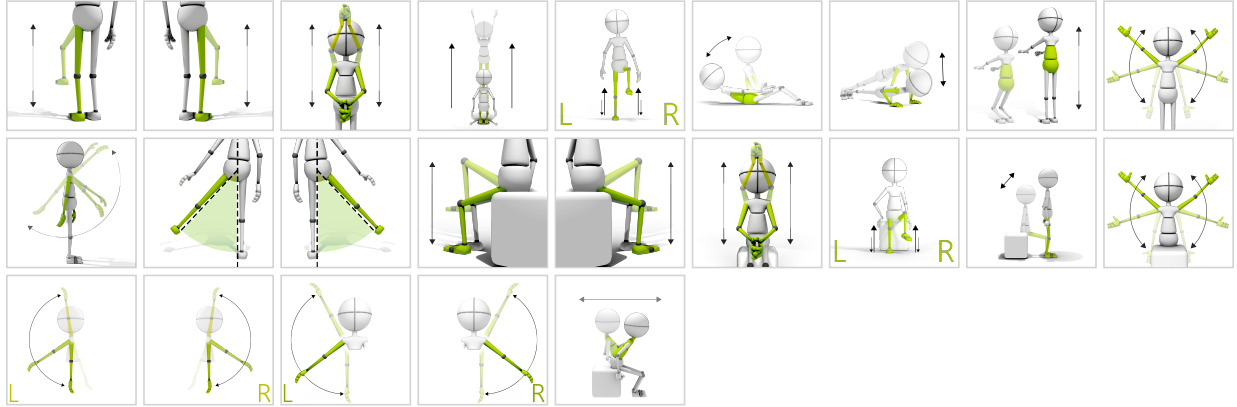
- Windows 10
- INTEL i5 processor
- 8GB RAM
- nVidia RTX2060 graphic card
- Azure Kinect sensor



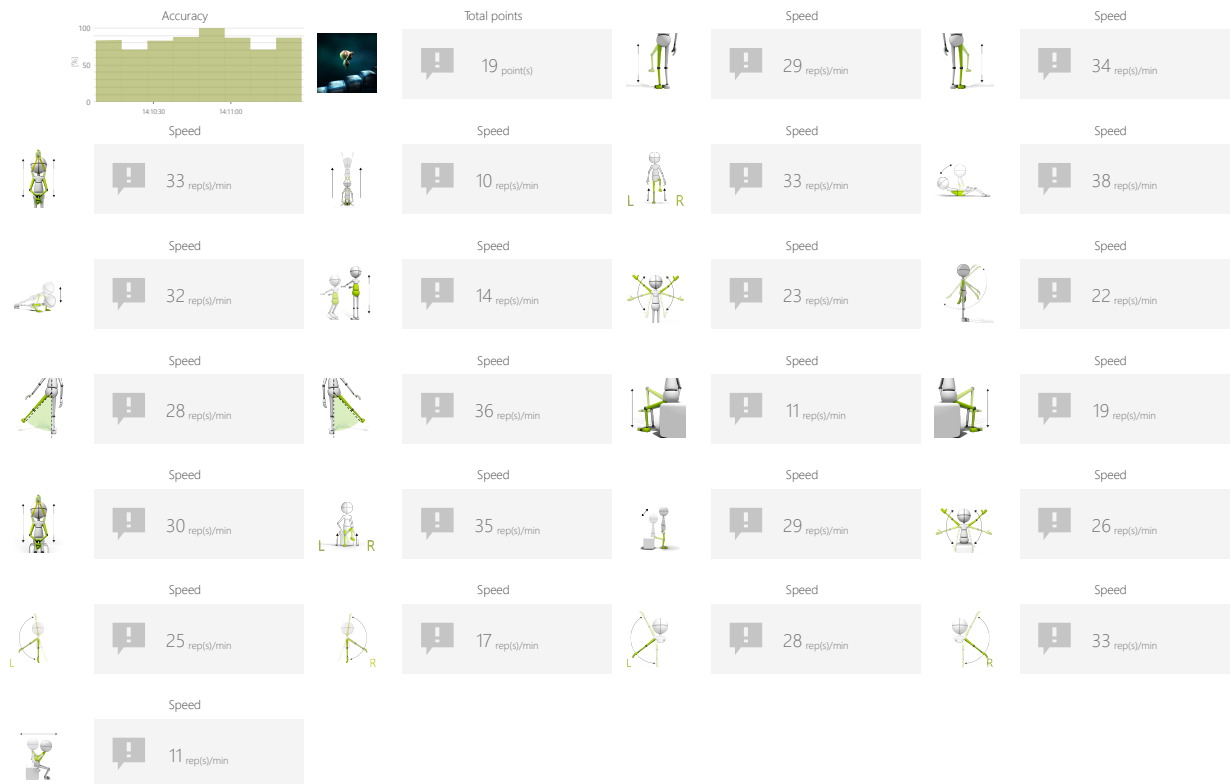
SPEED STAIRS

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

CONTROL MODES



RESULTS



ADJUSTMENTS

- Task duration
- Range
- Max time per floor
- Number of stairs
- Pause length

OBJECTIVES

- Jumping
- Knees lifting
- Dynamics of planned movements

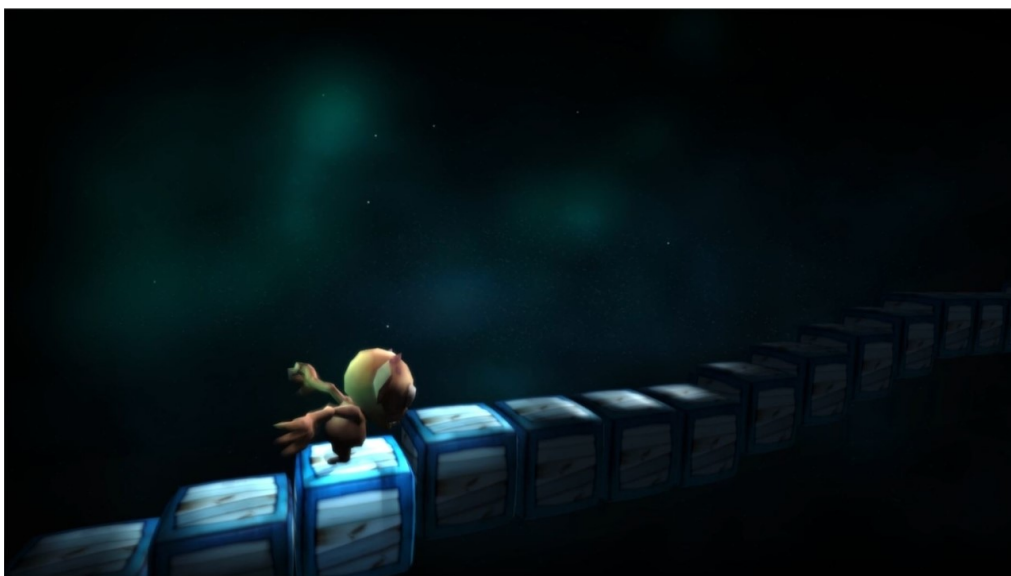
INSTRUCTION FOR PATIENT

Climb the stairs before they disappear



SPEED STAIRS

SAMPLE SETTINGS



| | |
|-------------------------------|-----------------------------|
| | |
| | Difficulty Custom |
| Duration 90s | Range 20% 80% |
| Max time per floor 15s | Number of stairs 5 |
| Pause length 3 | |

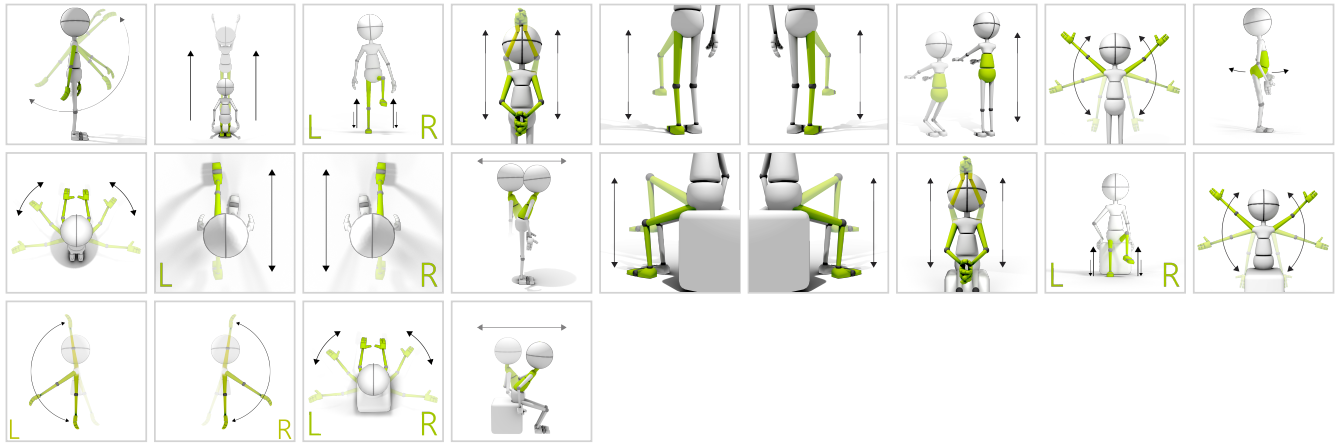


SPEED

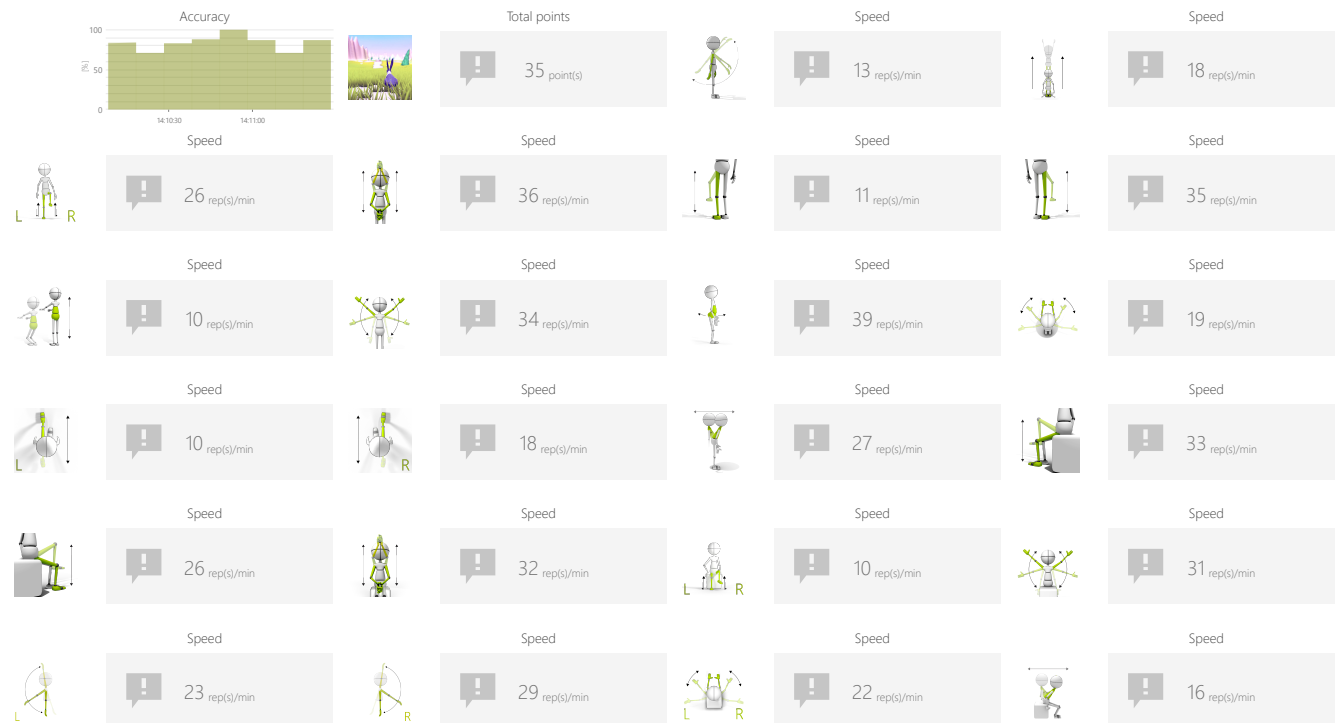
RABBIT

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

CONTROL MODES



RESULTS



ADJUSTMENTS

- Task duration
- Range

OBJECTIVES

- Speed of movement
- Repetitive movements

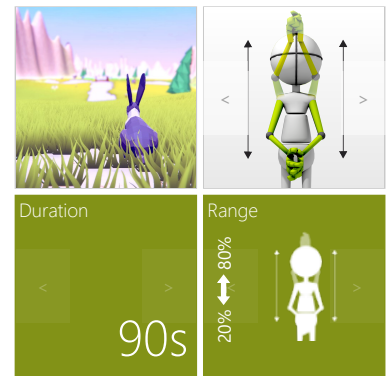
INSTRUCTION FOR PATIENT

Go through the entire route as fast as you can



SPEED RABBIT

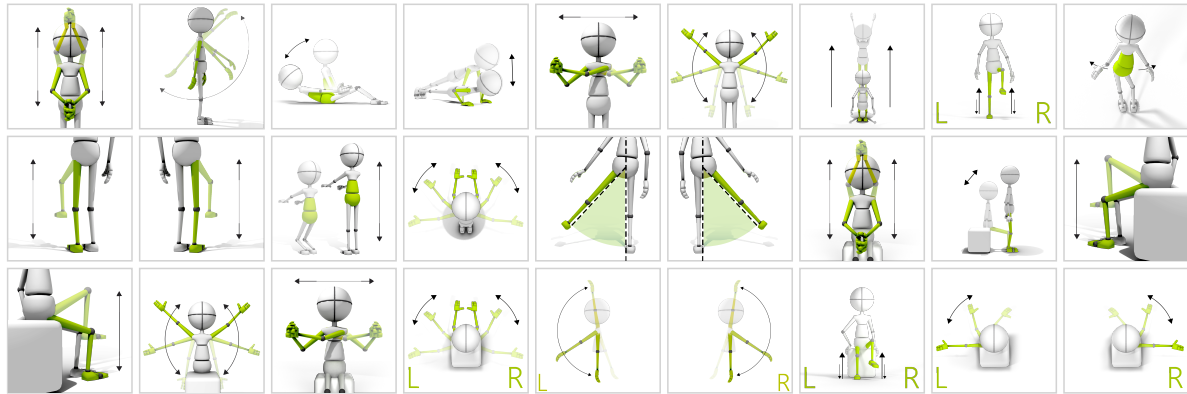
SAMPLE SETTINGS



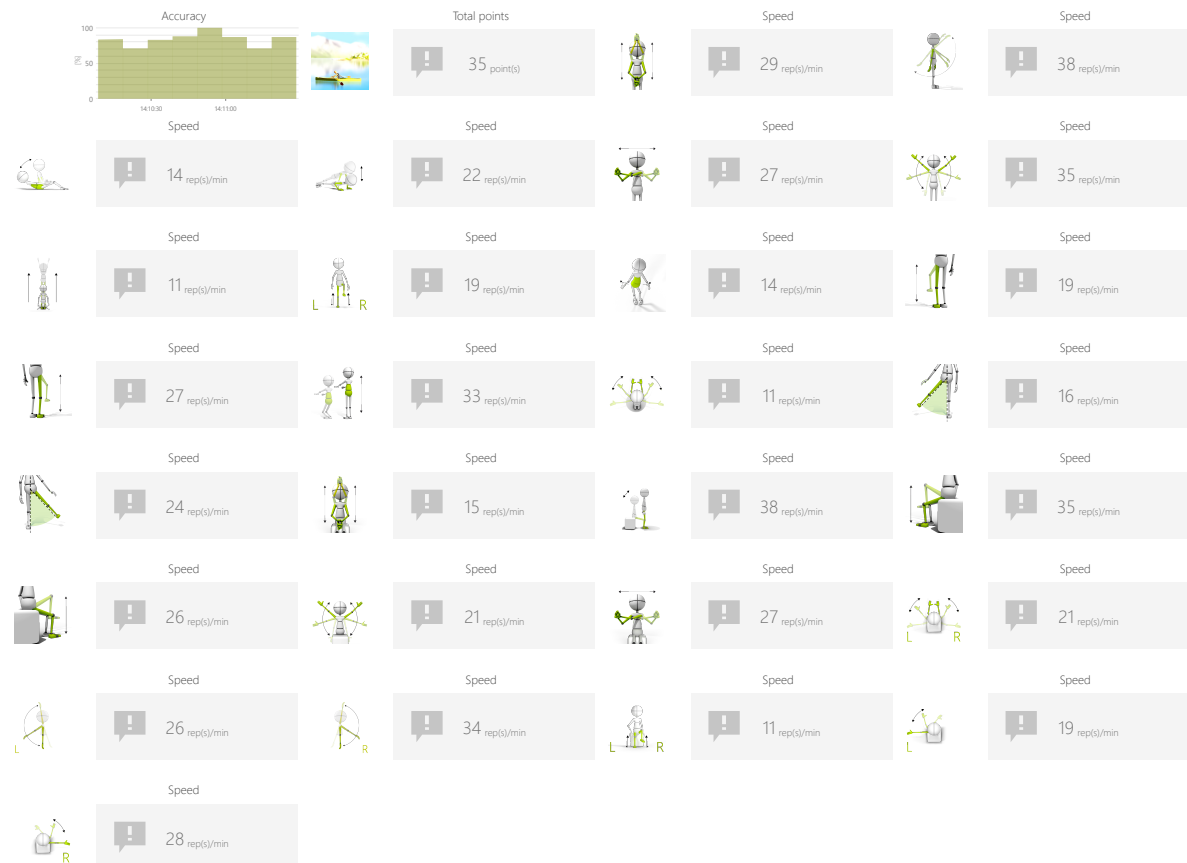


Measure number of repetitions of specific movement pattern an individual is able to perform within predefined time interval.

CONTROL MODES



RESULTS



ADJUSTMENTS

- Task duration
- Range

OBJECTIVES

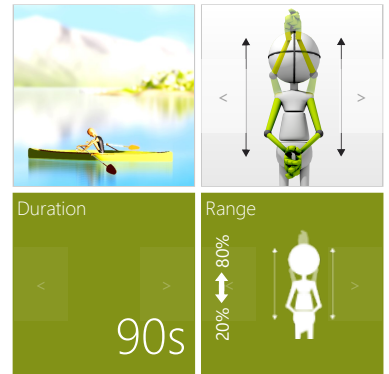
- Speed of movement
- Repetitive movements

INSTRUCTION FOR PATIENT

Row as fast as you can



SAMPLE SETTINGS



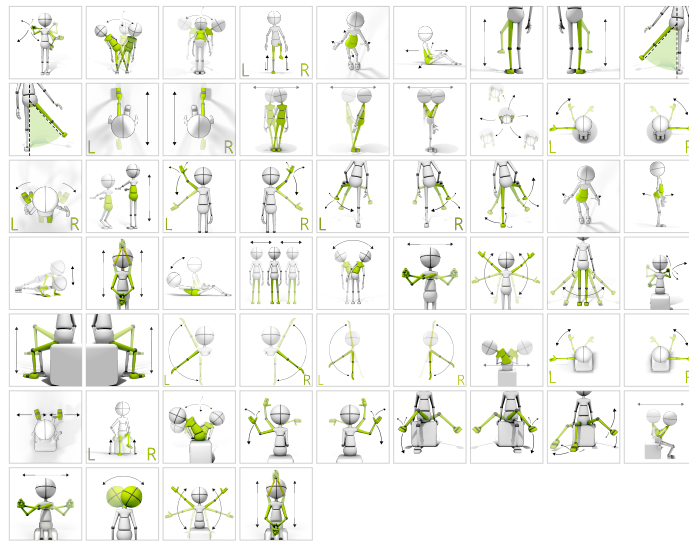


MOVEMENT PRECISION

FISH

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

CONTROL MODES



RESULTS



ADJUSTMENTS

- Task duration
- Movement mode
- Range
- Route shape
- Speed of objects

OBJECTIVES

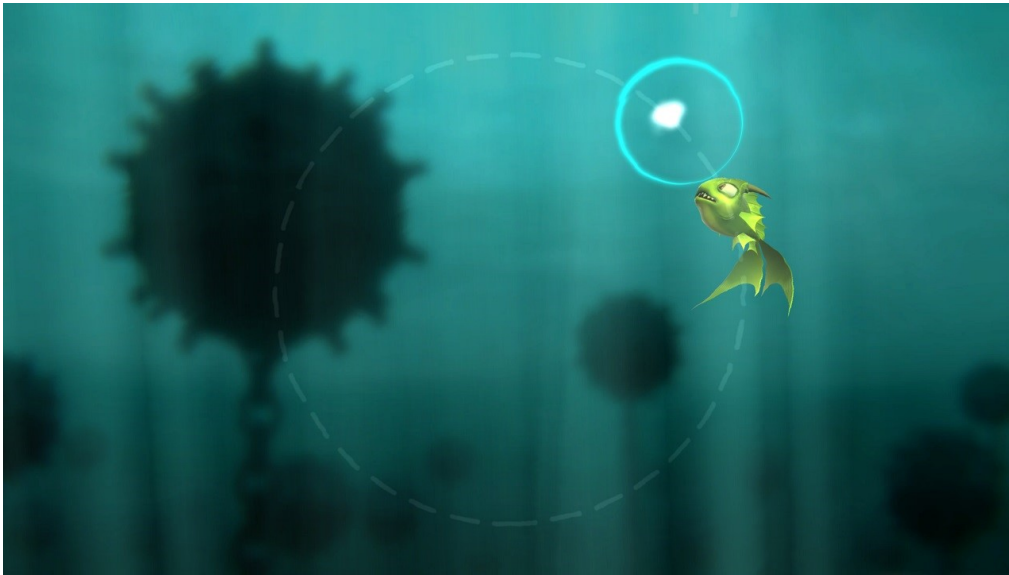
- 3D space movements reproduction
- Planned movements
- Muscle strengthening
- Movement precision
- Visual motor coordination

INSTRUCTION FOR PATIENT

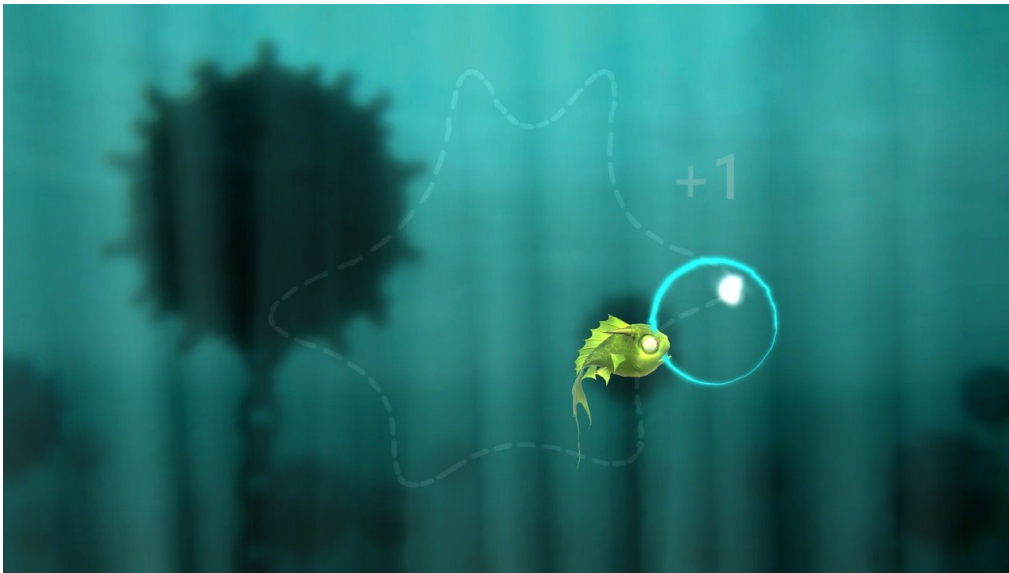
Move the blue circle to protect the sparks source from the fish.
When the sparks source is inside the circle it is safe



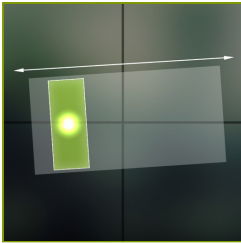
SAMPLE SETTINGS



| | |
|-----------------------------|-----------------------|
| | |
| Difficulty Custom | |
| Duration 90s | Movement mode Left |
| Range 20% ↔ 80% | Route shape |
| Speed of objects 100% | |



| | |
|--------------------------|-----------------------|
| | |
| Difficulty 1/3 | |
| Duration 90s | Movement mode Left |
| Range 20% ↔ 80% | Route shape |
| Speed of objects 100% | |



MOVEMENT PRECISION

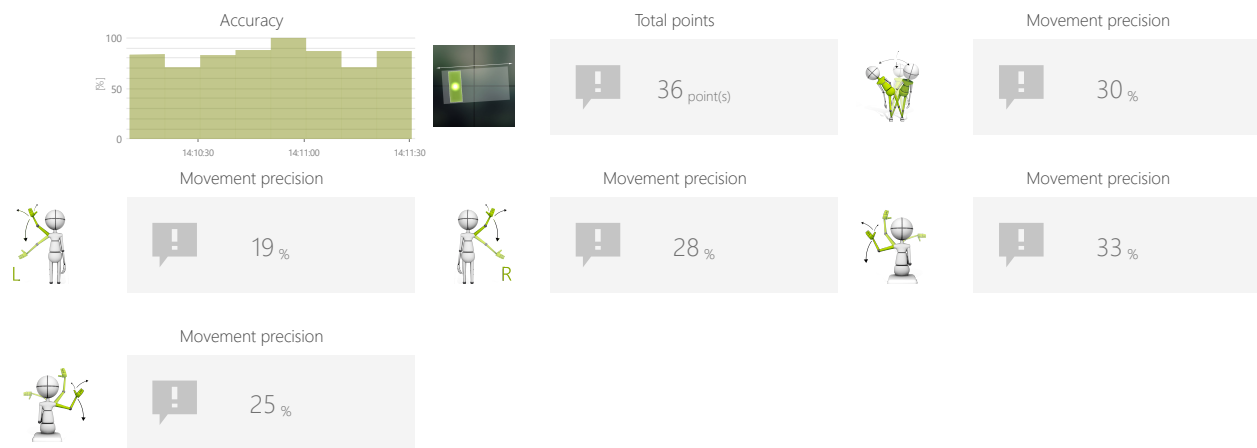
PENDULUM

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

CONTROL MODES



RESULTS



ADJUSTMENTS

- Task duration
- Range
- 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

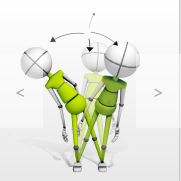
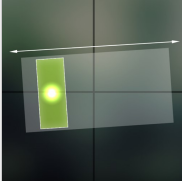



MOVEMENT PRECISION

PENDULUM


SAMPLE SETTINGS







Difficulty
1/2



Duration
< 90s >

Range
20% ↔ 80%
20% ↔ 80%

Show path
< No >

Period
< 5s >

Rotation
< 0 >

Pendulum height
< 50% >

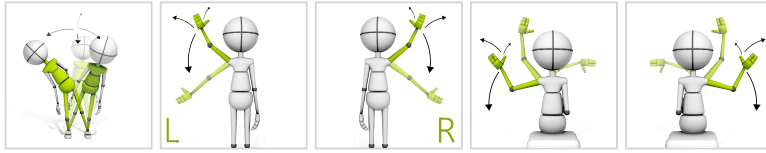
Pendulum width
< 100% >



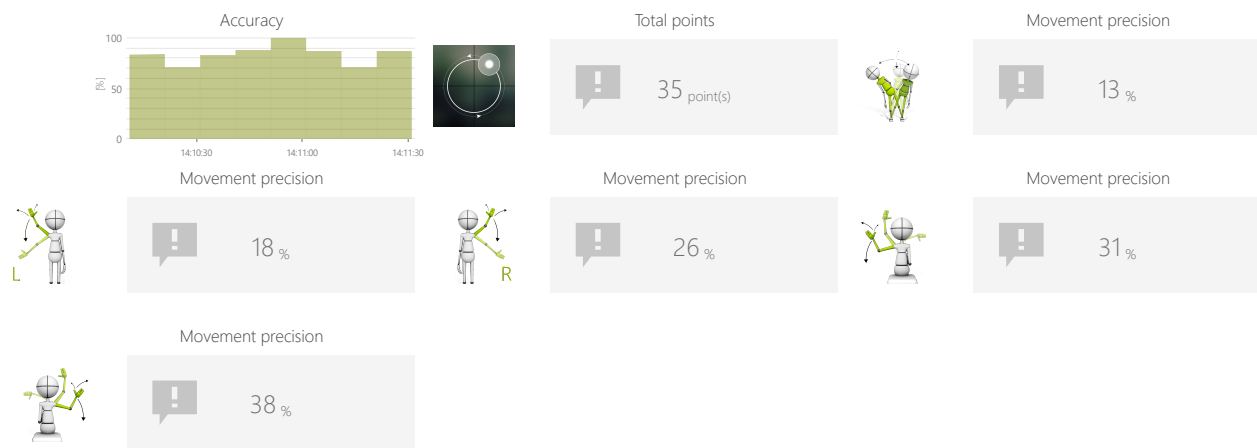
MOVEMENT PRECISION TRACKING

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

CONTROL MODES



RESULTS



ADJUSTMENTS

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

OBJECTIVES

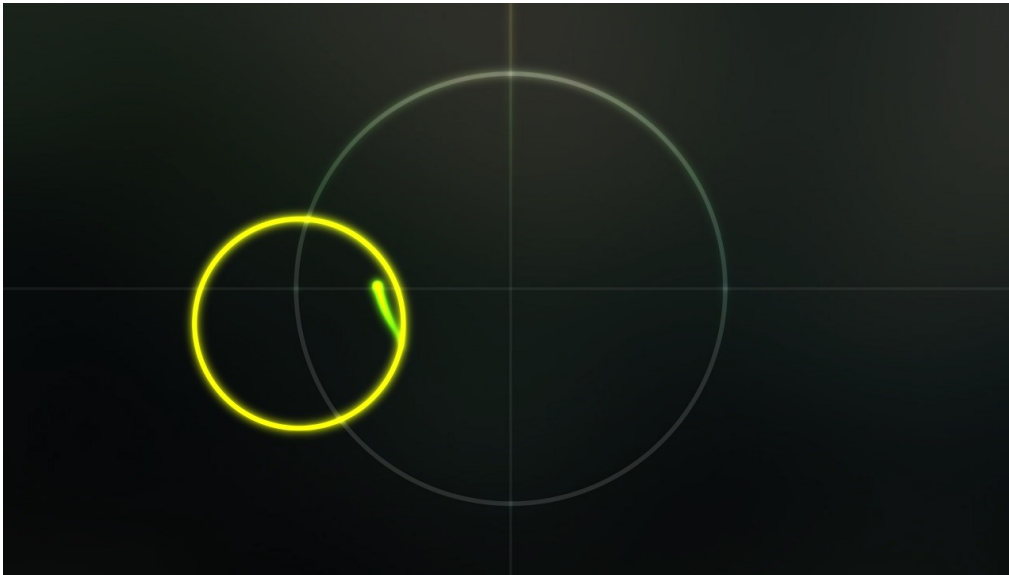
- 3D space movements reproduction
- Balance and equilibrium training
- Test the limits of balance and equilibrium

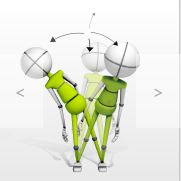

INSTRUCTION FOR PATIENT

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

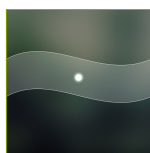


SAMPLE SETTINGS





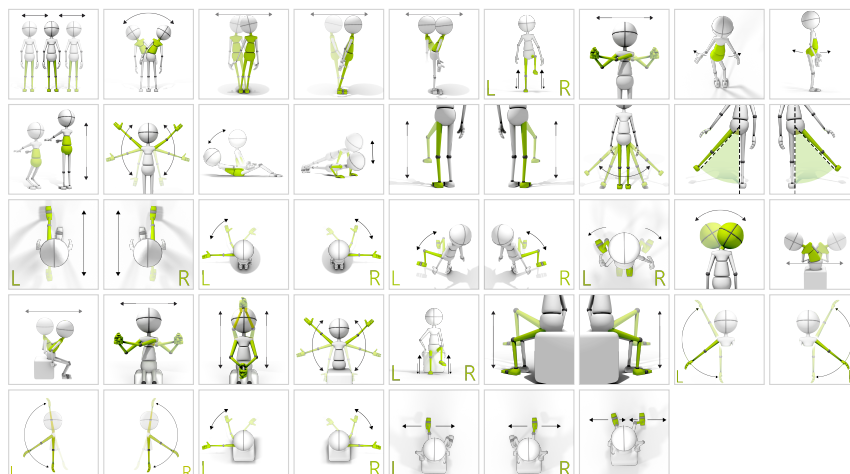
| | |
|-------------------|--------------------|
| Duration | Range |
| < 90s > | 20% 80% 20% 80% |
| Inverse direction | Show path |
| < No > | < No > |
| Period | Radius |
| < 10s > | < 75% > |
| Target radius | |
| < 75% > | |



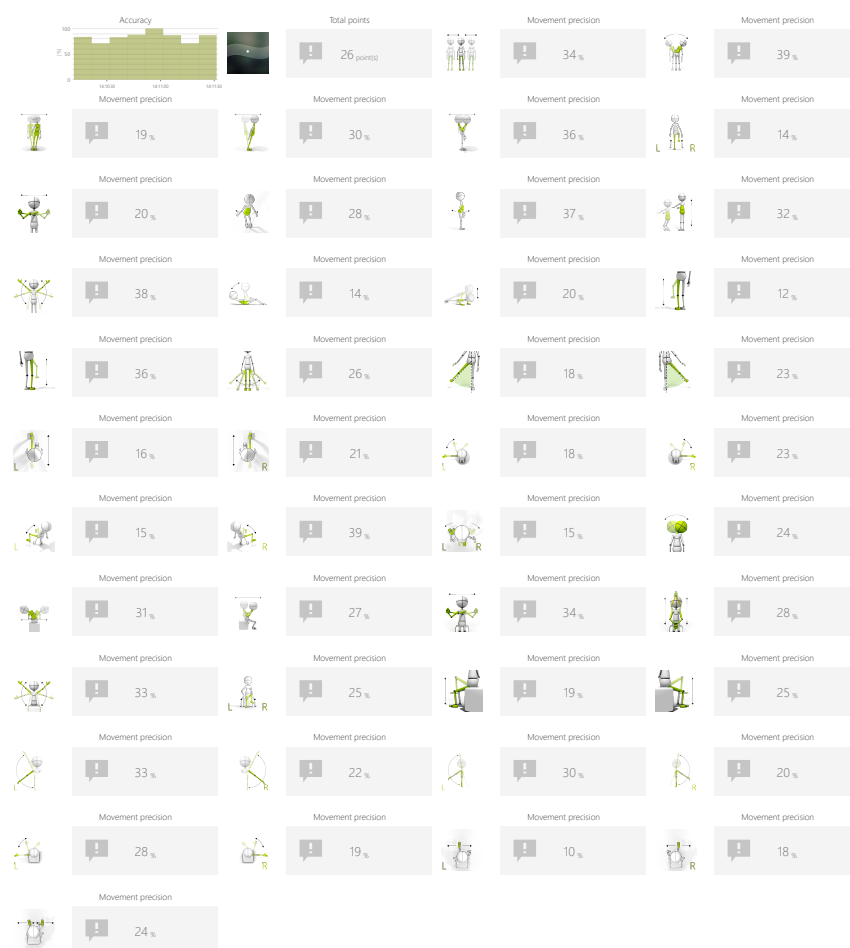
MOVEMENT PRECISION GRAPH

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.)
- Task duration
- Range

OBJECTIVES

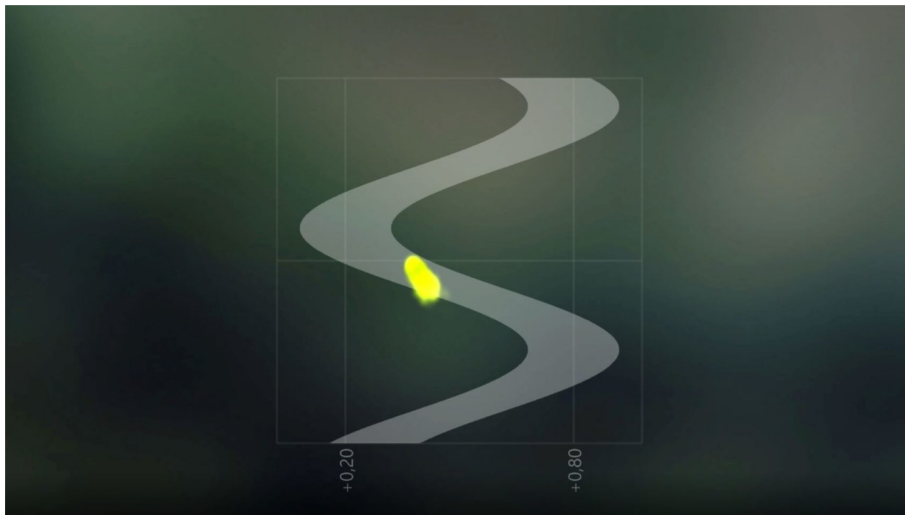
- Movement precision
- Activity in a given rhythm
- Repetitive movements
- Hands raising


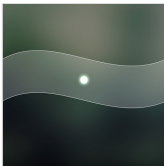
INSTRUCTION FOR PATIENT

Try to stay within the borders



SAMPLE SETTINGS






◀

Difficulty
3/3

▶

Graph configuration


⌚: 4.0s ±: 20%

Duration

<


>

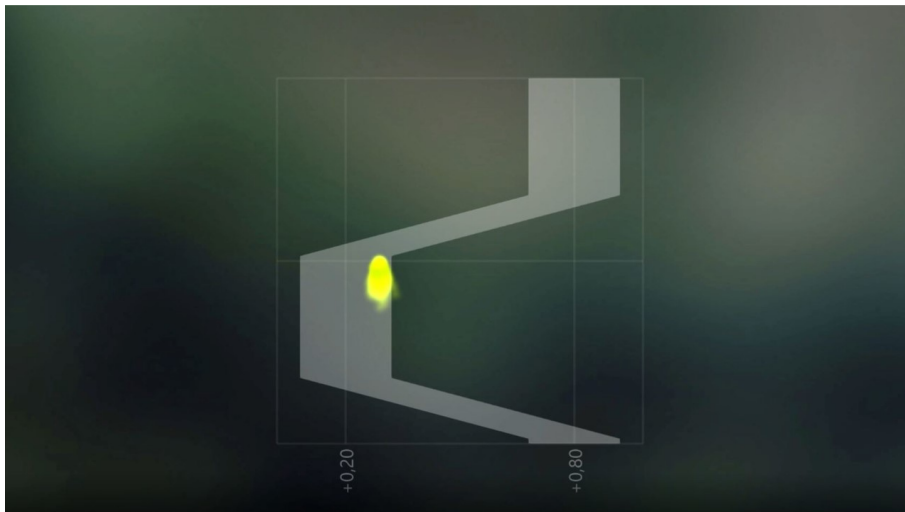
30s


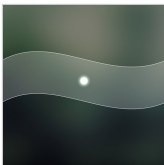
Range

<

>


20% ↔ 80%



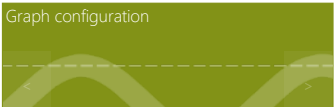


◀

Difficulty
1/3

▶

Graph configuration


⌚: 4.0s ±: 40%

Duration

<


>

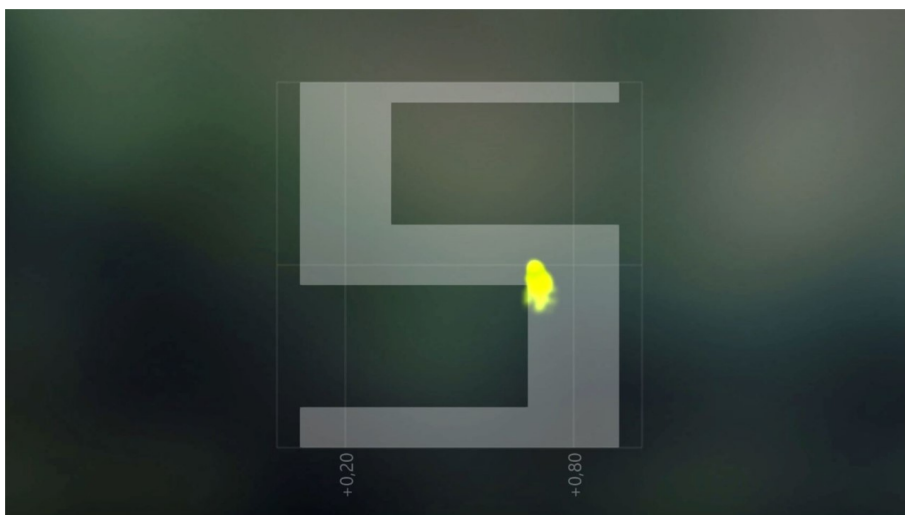
90s


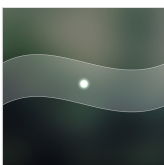
Range

<

>


20% ↔ 80%






◀

Difficulty
Custom

▶

Graph configuration


±: 20% ↑: 2.0s ↓: 2.0s ↗: 1.0s ↘: 1.0s

Duration

<


>

30s

Range

<

>


20% ↔ 80%

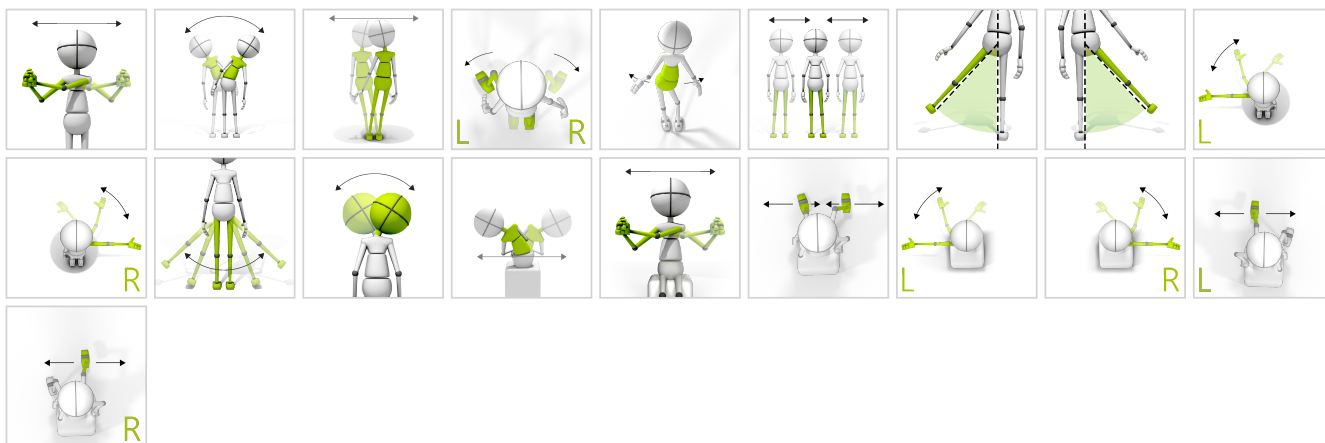


MOVEMENT PRECISION

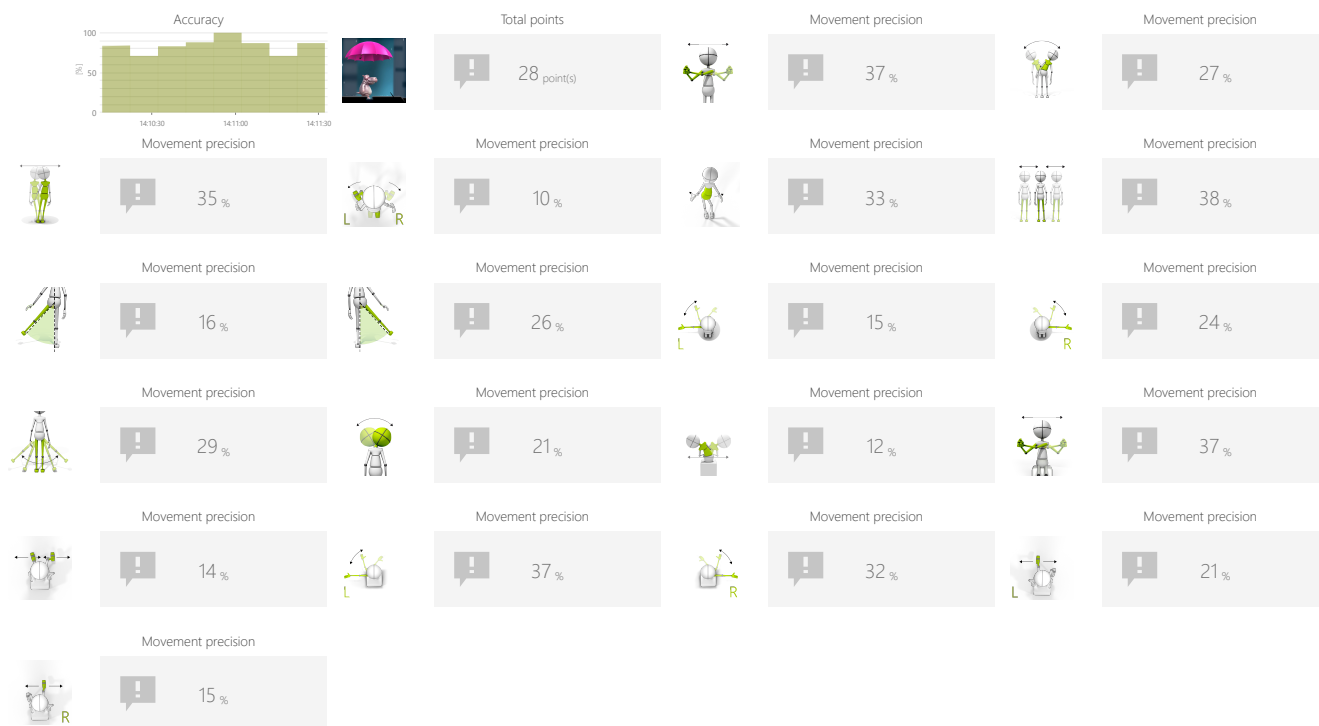
UMBRELLA

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

CONTROL MODES



RESULTS



ADJUSTMENTS

- Task duration
- Path
- Range
- Umbrella size

OBJECTIVES

- Movement precision
- Visual motor coordination

INSTRUCTION FOR PATIENT

Don't let the hippo get wet - keep the umbrella above him!



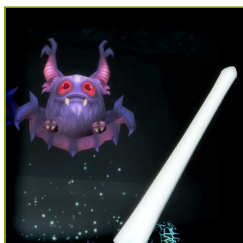
MOVEMENT PRECISION

UMBRELLA

SAMPLE SETTINGS



| | | |
|------------------------|--------------------------|------------------------------|
| | | |
| | Difficulty 1/3 | |
| Duration 60s | | Path 8.0s |
| Range 20% ↔ 80% | | Umbrella size 150% |

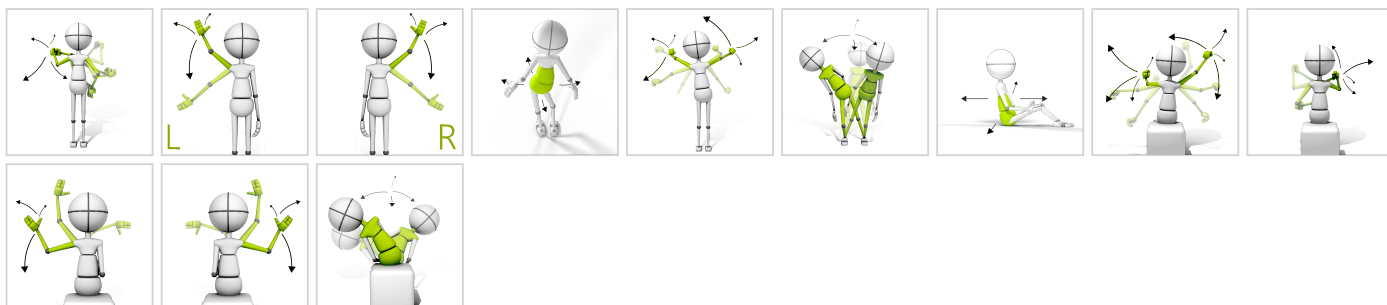


FUNCTIONAL MOVEMENTS

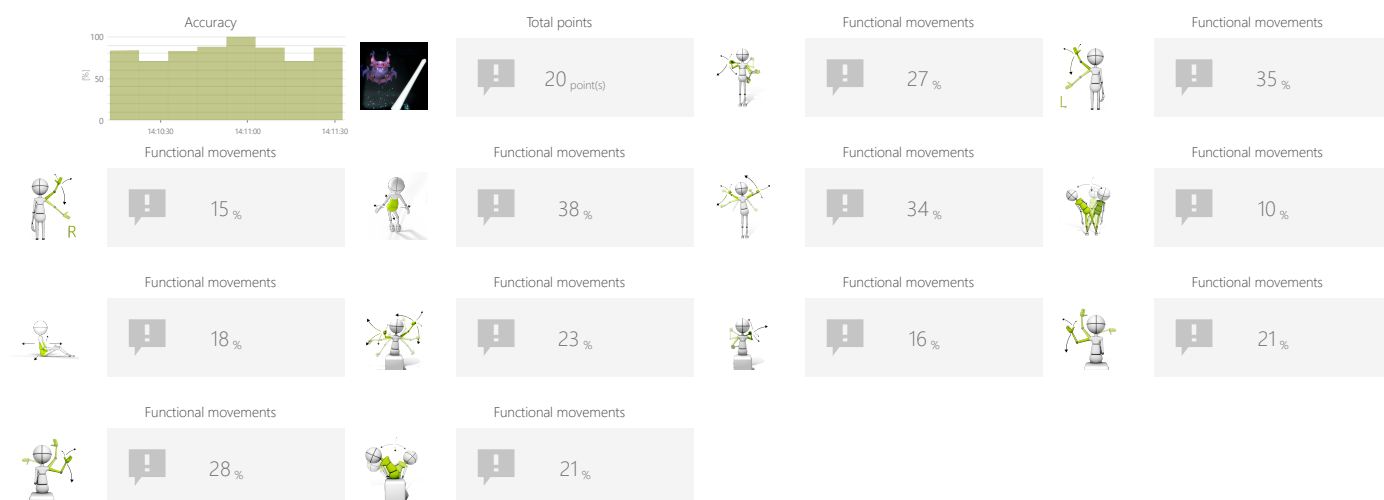
VAMPIRES

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

- Positions to have targets on
- Task duration
- Time between objects
- Time to react

OBJECTIVES

- Visual motor coordination
- Exercise with or without support from healthy limb
- Spontaneous movements in 3D space
- Speed of movement

INSTRUCTION FOR PATIENT

Use your sword to knock down flying vampires who want to bite you!





FUNCTIONAL MOVEMENTS

VAMPIRES

SAMPLE SETTINGS





◀

Difficulty
1/3

▶

Active positions

| | | |
|--|--|--|
| | | |
| | | |
| | | |

Duration

< 90s >



Time between objects

< 2s >

Time to react

< 2s >





◀

Difficulty
1/3

▶

Active positions


| | | |
|--|--|--|
| | | |
| | | |
| | | |

Duration

< 90s >

Range

80%
20% ↔ 80%



Time between objects

< 2s >

Time to react

< 2s >



FUNCTIONAL MOVEMENTS

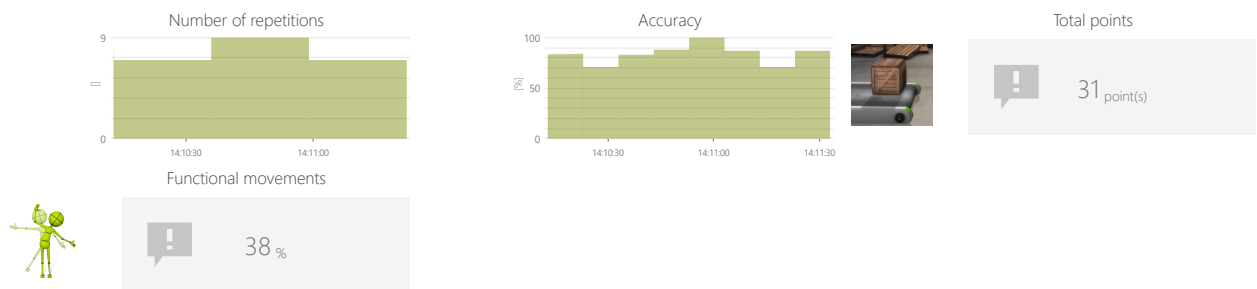
PRODUCTION LINE

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

- Task duration
- Source line elevation
- Target line elevation

OBJECTIVES

- Planned movements
- Repetitive movements
- Hands raising
- Sideways walking
- Both hands grabbing

INSTRUCTION FOR PATIENT

Move boxes from one line to another by precisely gripping and releasing them, lifting them up, lowering them and moving with them.



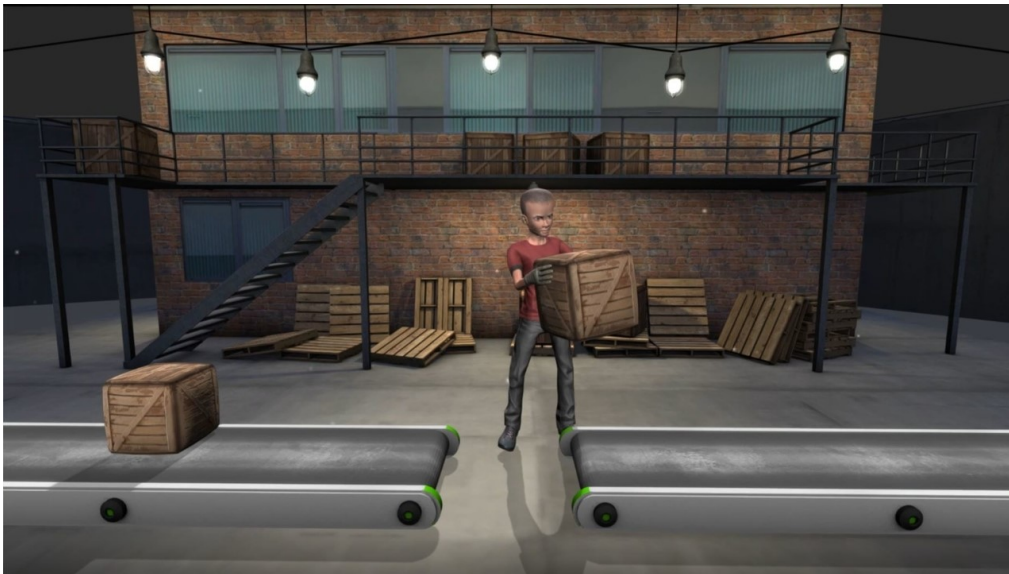
FUNCTIONAL MOVEMENTS

PRODUCTION LINE

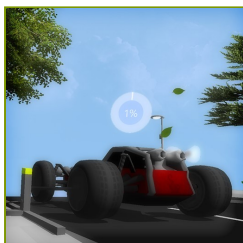
SAMPLE SETTINGS



| | |
|-----------------------------|-----------------------------|
| | |
| Difficulty Custom | |
| Duration 30s | Source line elevation 0 |
| | Target line elevation 80 |



| | |
|-----------------------------|----------------------------|
| | |
| Difficulty Custom | |
| Duration 30s | Source line elevation 0 |
| | Target line elevation 0 |

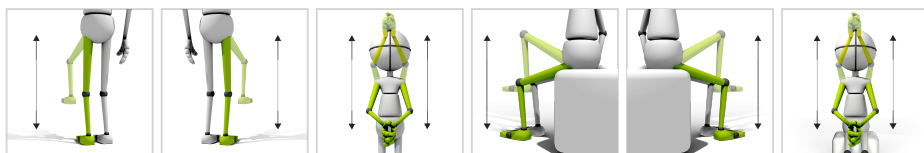


FUNCTIONAL MOVEMENTS

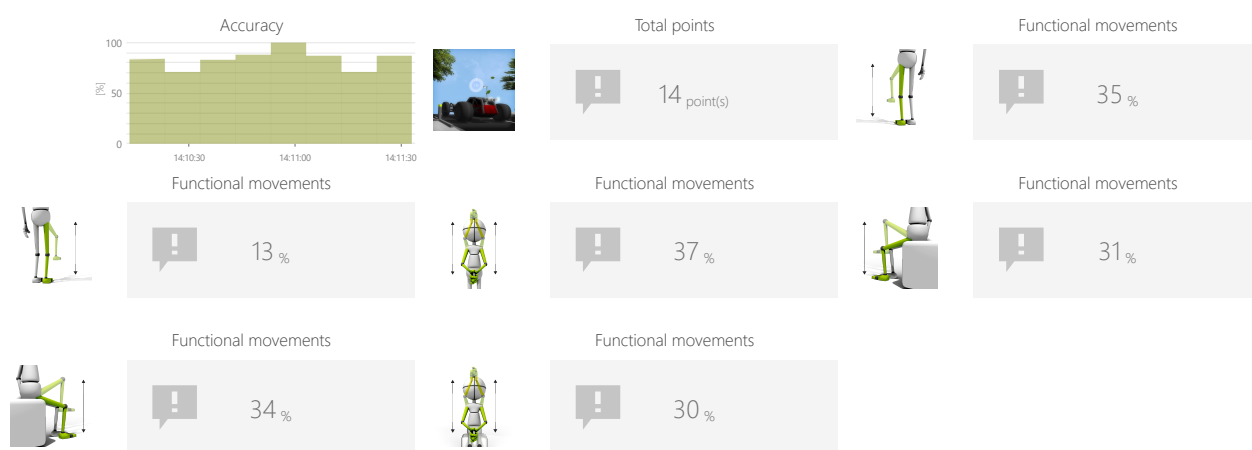
PUMPER

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

- Task duration
- Time to complete action

OBJECTIVES

- Speed of movement
- Knees lifting
- Hands raising
- Dynamics of planned movements

INSTRUCTION FOR PATIENT

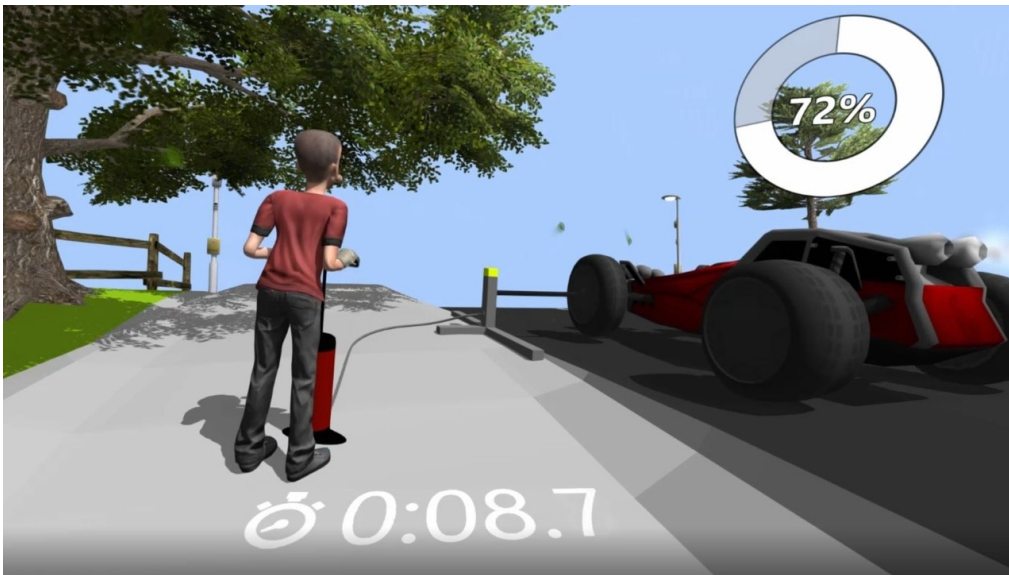
Pump the wheels as quickly as you can



FUNCTIONAL MOVEMENTS

PUMPER

SAMPLE SETTINGS



| | |
|-----------------|------------------------------|
| | |
| | Difficulty 1/2 |
| Duration 90s | Minitask duration 30s |



FUNCTIONAL MOVEMENTS

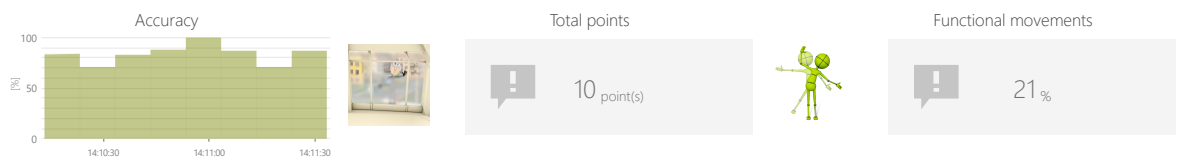
CLEANER

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

- Task duration
- Time to complete action
- Force centered position

OBJECTIVES

- Visual motor coordination
- Exercise with or without support from healthy limb
- Improve range of motion
- Movement awareness
- Mirrored feedback exercises

INSTRUCTION FOR PATIENT

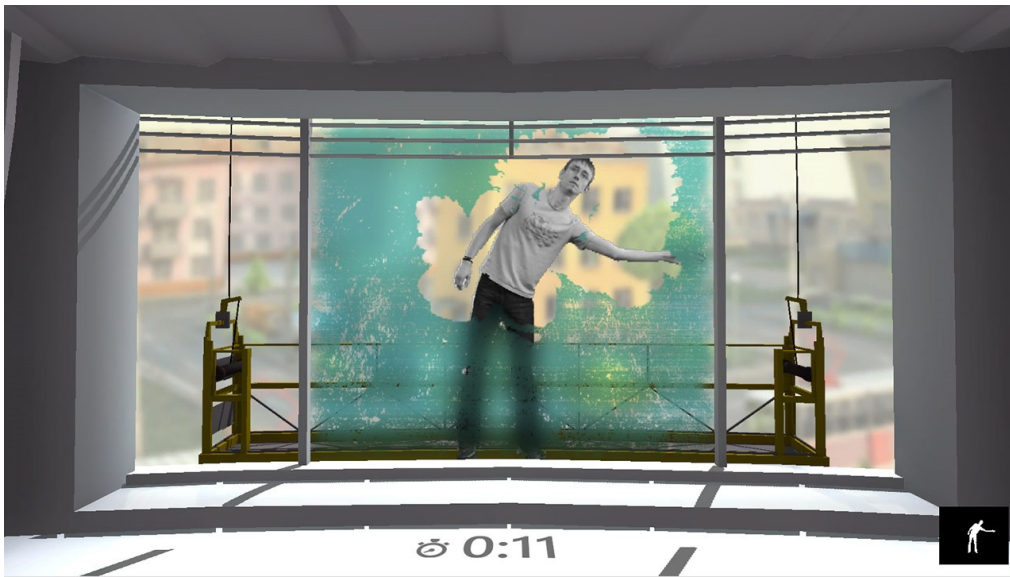
Clean the largest possible window area as quickly as possible.




FUNCTIONAL MOVEMENTS

CLEANER

SAMPLE SETTINGS





◀

Difficulty
1/3

▶

Duration

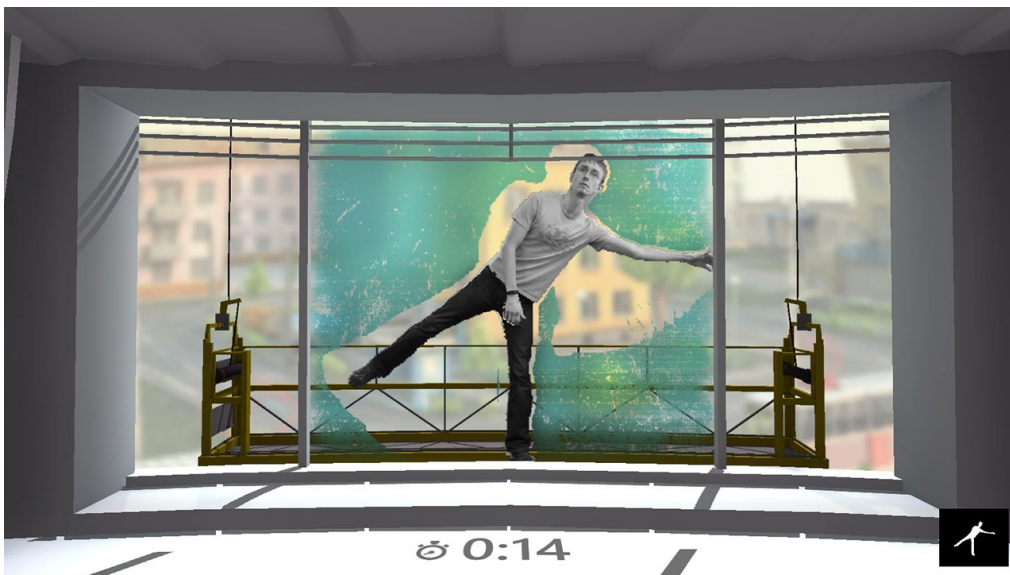
< 90s >



Minitask duration

< 20s >

Force centered position

< No >





◀

Difficulty
1/3

▶

Duration

< 90s >

Minitask duration

< 20s >

Force centered position

< No >



FUNCTIONAL MOVEMENTS

CANS

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

- Task duration
- Speed of objects
- Weight of targets

OBJECTIVES

- Movement precision
- Predicting the trajectory of objects in 3D space
- Dynamics of planned movements
- Dynamic responses to emerging moving targets
- The ability of spatial visualization



INSTRUCTION FOR PATIENT



Throw the balls to strike as many cans as you can

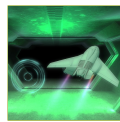


SAMPLE SETTINGS





| | | |
|---|--------------------------|---|
|  | Difficulty 1/4 |  |
| Duration 90s | | Speed of objects < 75% > |
| | | Weight of targets < 100% > |

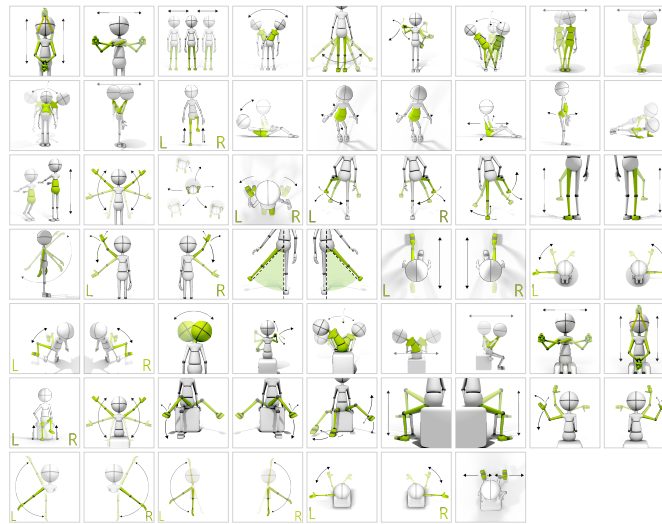


FUNCTIONAL MOVEMENTS

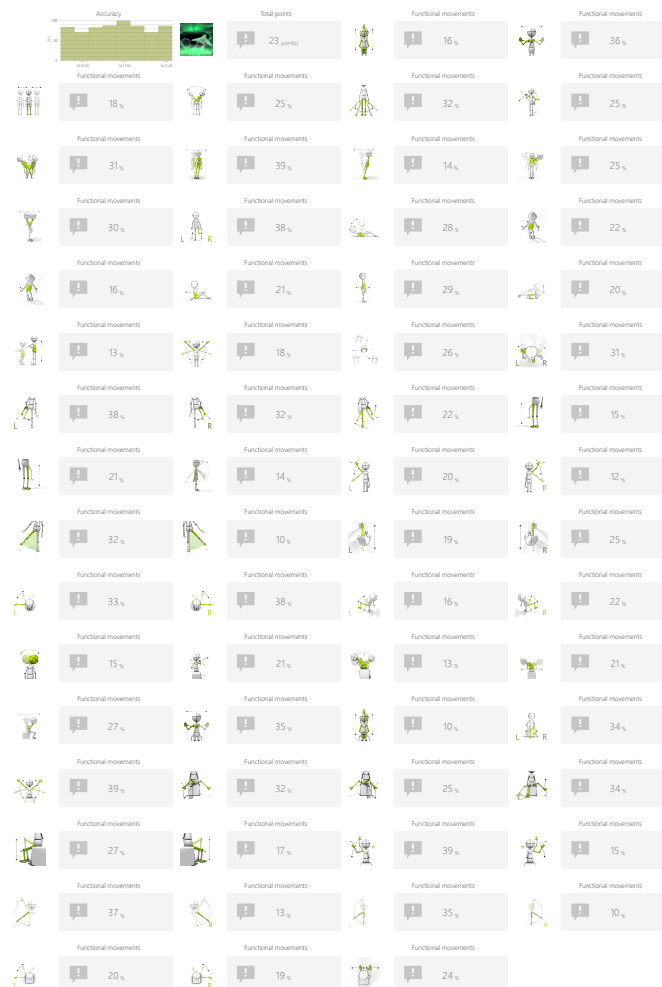
AIRPLANE

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

- Task duration
- Range
- Player speed

OBJECTIVES

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

INSTRUCTION FOR PATIENT

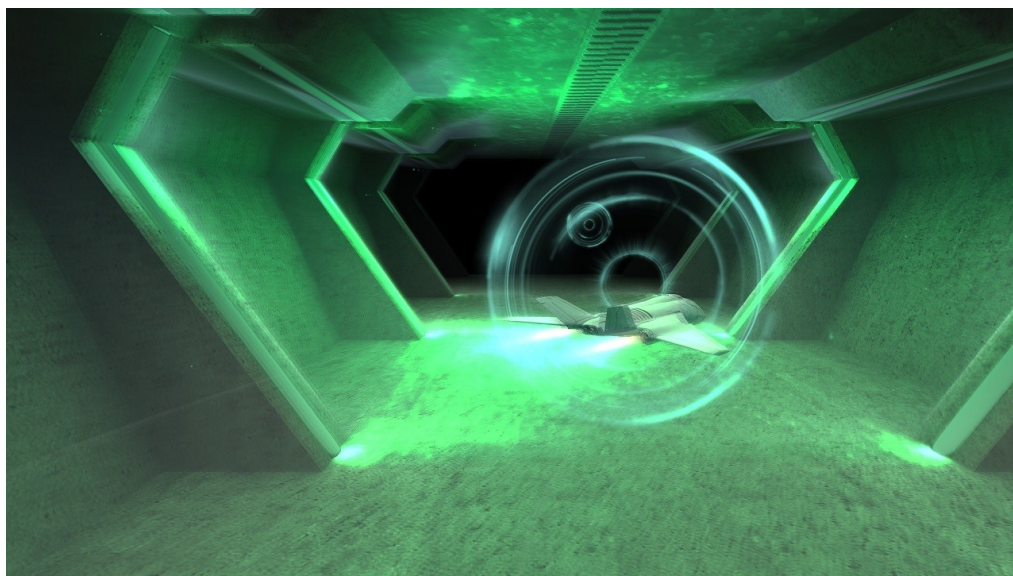
Make the airplane fly through the circles. The closer to the center it flies the more points you get

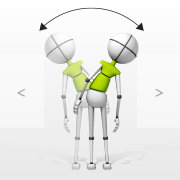
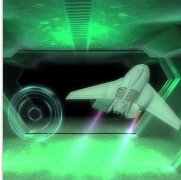


FUNCTIONAL MOVEMENTS

AIRPLANE

SAMPLE SETTINGS





◀

Difficulty
2/4

▶

Duration
90s

Range
20% ↔ 80%

Player speed
100%



FUNCTIONAL MOVEMENTS

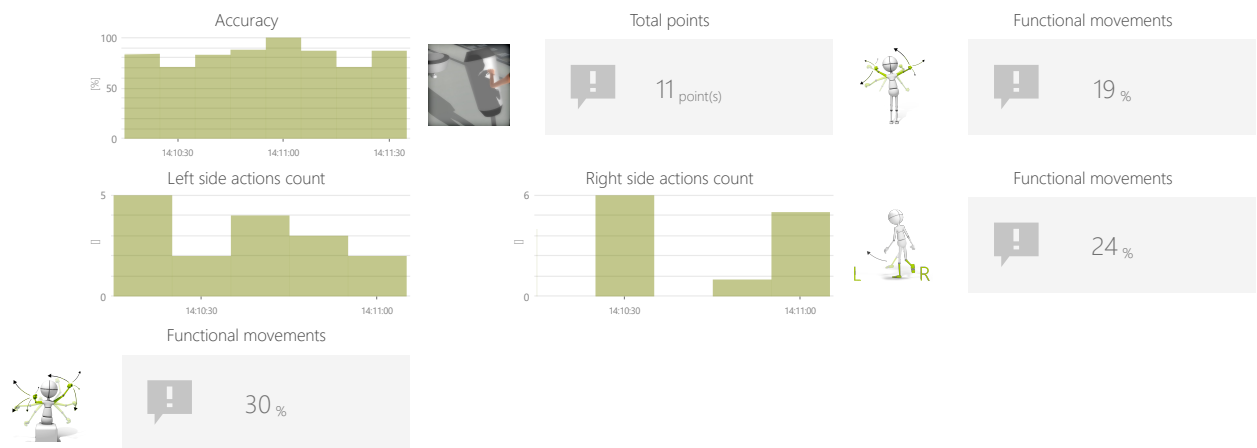
PUNCHER

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

- Task duration
- Time to complete action

OBJECTIVES

- Speed of movement
- Spontaneous movements

INSTRUCTION FOR PATIENT

Punch or kick the bag as many times as you can



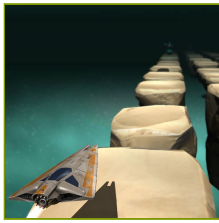
SAMPLE SETTINGS



| | |
|---------------------|-------------------------------|
| | |
| ◀ | Difficulty 1/2 ▶ |
| Duration < 30s > | Minitask duration < 30s > |



| | |
|---------------------|-------------------------------|
| | |
| ◀ | Difficulty 1/2 ▶ |
| Duration < 30s > | Minitask duration < 30s > |

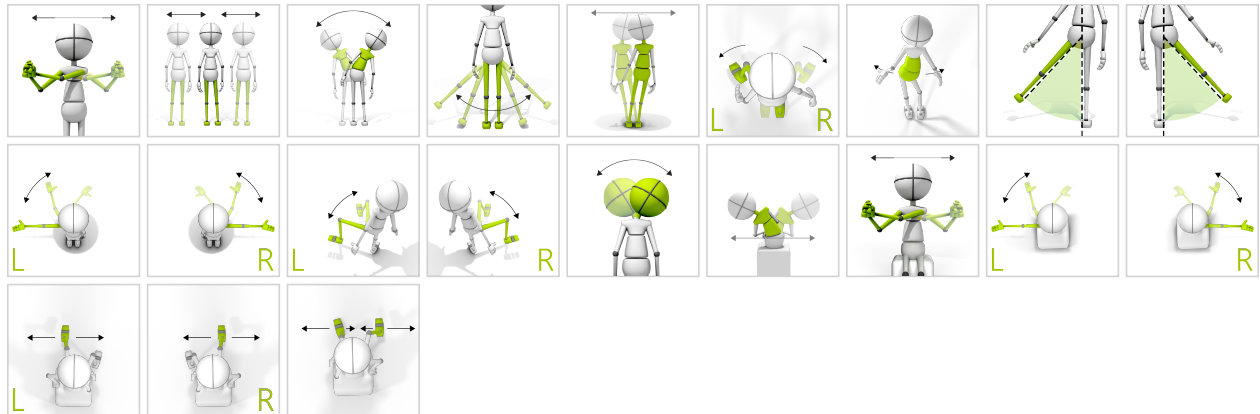


FUNCTIONAL MOVEMENTS

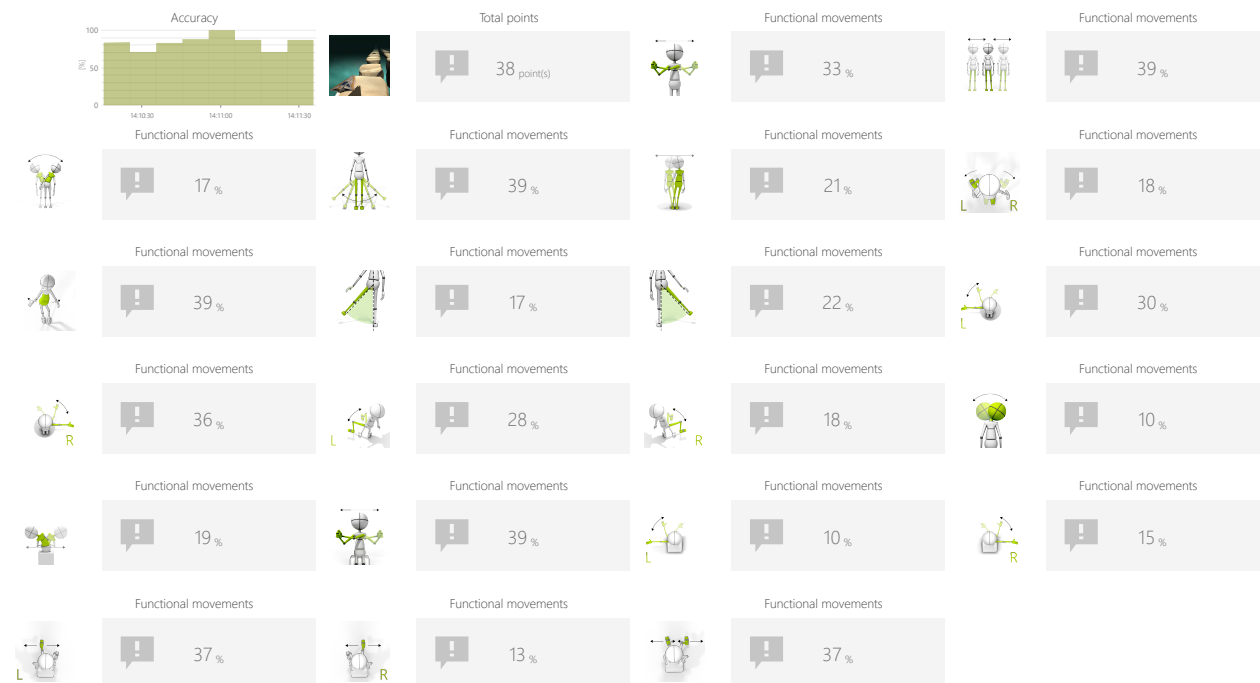
STONES

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

- Task duration
- Range
- Player speed

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 | |
| Duration 90s | | Range 20% ↔ 80% |
| Player speed 100% | | |

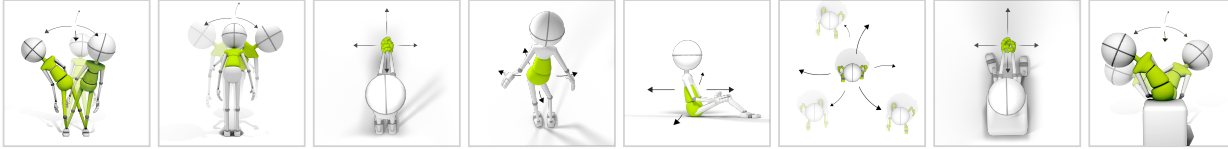


FUNCTIONAL MOVEMENTS

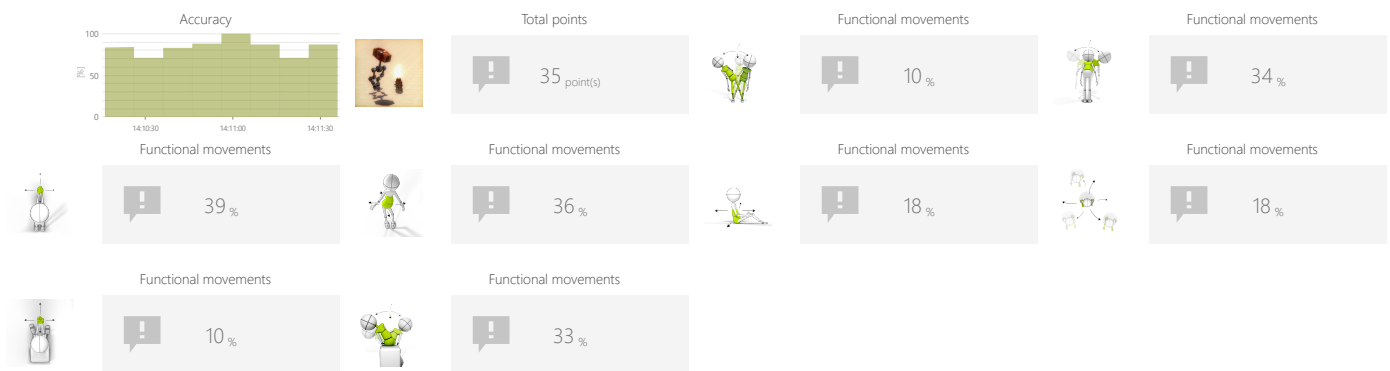
HAMMER

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

- Positions to have targets on
- Task duration
- Range
- Time to react
- Reticle size

OBJECTIVES

- Planning and Strategy
- Sideways walking
- Balance and equilibrium training
- Speed of decision making

INSTRUCTION FOR PATIENT

Hit the burning barrels as quickly as you can. Then return to the center



FUNCTIONAL MOVEMENTS

HAMMER

SAMPLE SETTINGS



| | |
|--------------------------------|--------------------------|
| | |
| | Difficulty 1/3 |
| Active positions | Duration < 90s > |
| Range 0% 100% 0% ↔ 100% | Time to react < 10s > |
| | Reticle size < 125% > |

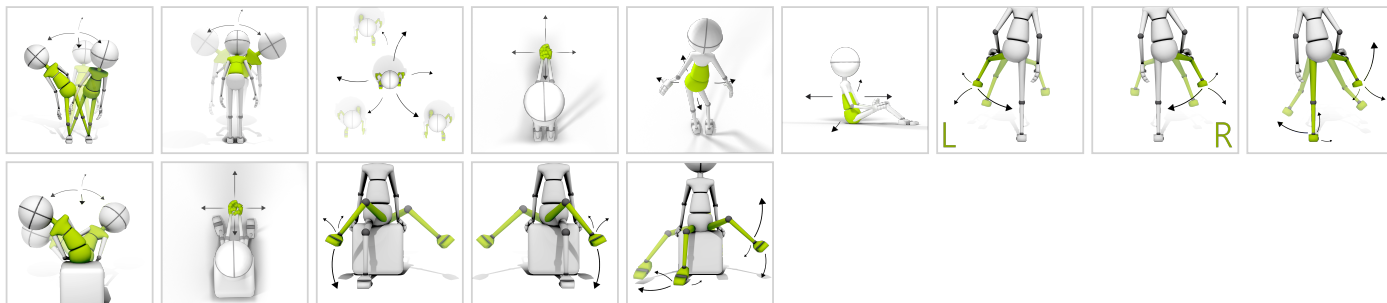


FUNCTIONAL MOVEMENTS

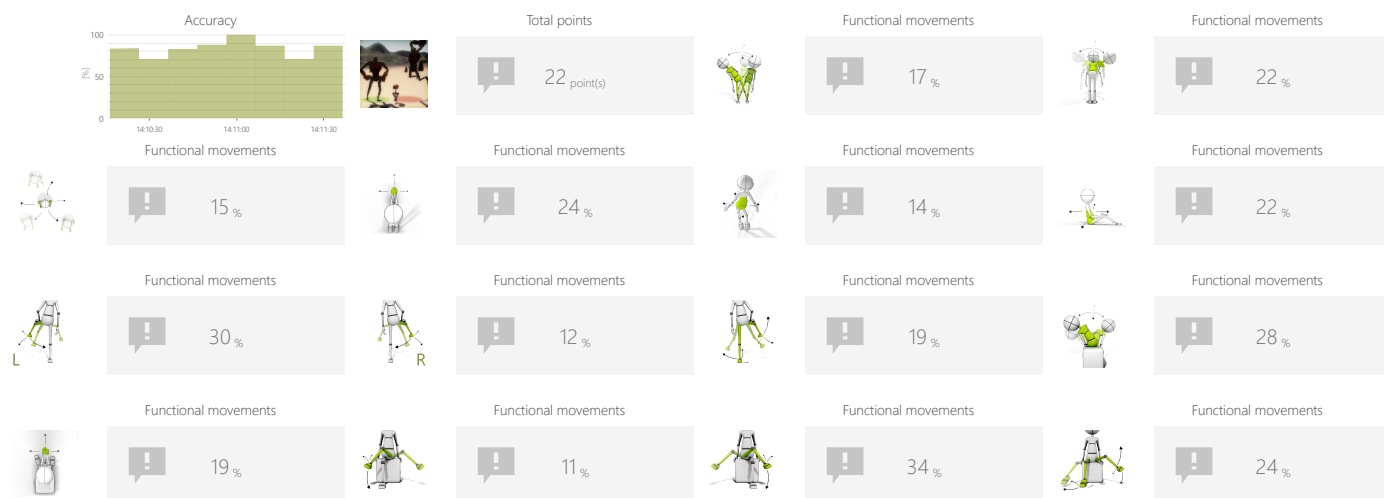
RUNAWAY

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

- Task duration
- Range
- Number of enemies
- Enemies speed

OBJECTIVES

- Predicting the trajectory of objects in 3D space
- Response to negative visual stimuli
- Focusing
- Perceptivity
- Balance and equilibrium training

INSTRUCTION FOR PATIENT

Keep away from the big robots

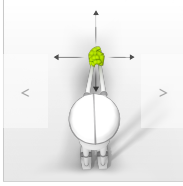



FUNCTIONAL MOVEMENTS

RUNAWAY

SAMPLE SETTINGS





◀

Difficulty

▶

1/3

◀

Duration

▶

90s

◀

Range

▶

0% ↔ 100%

◀

Number of enemies

▶

2

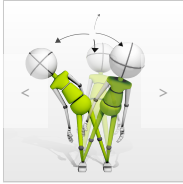

◀

Enemies speed

▶

100%





◀

Difficulty

▶

Custom

◀

Duration

▶

90s

◀

Range

▶

20% ↔ 80%

◀

Number of enemies

▶

4

◀

Enemies speed

▶

100%

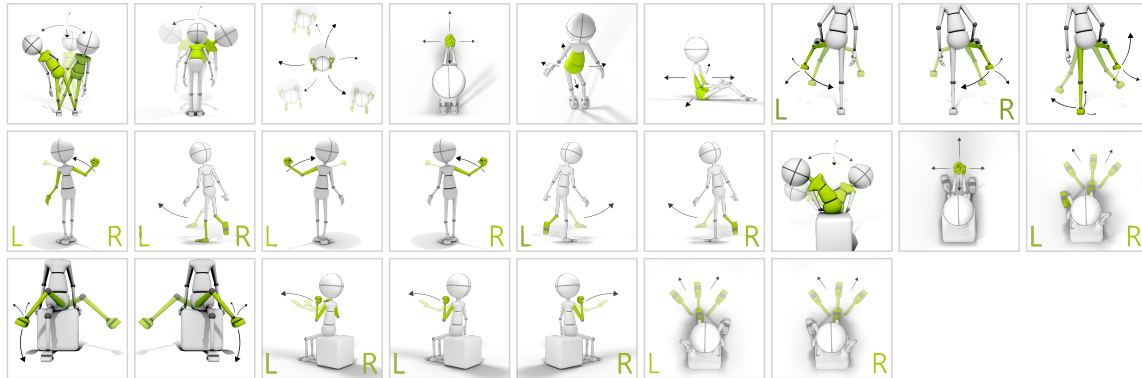


FUNCTIONAL MOVEMENTS

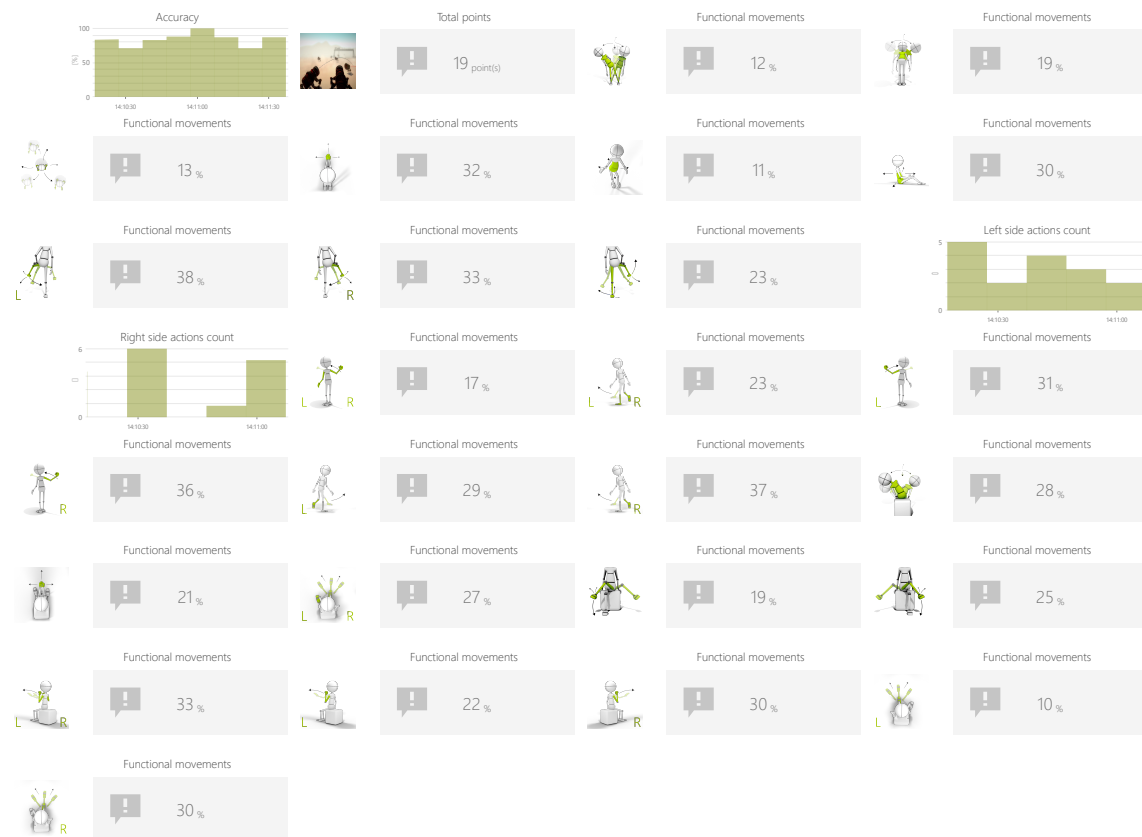
CANNON

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

- Task duration
- Range
- Time between cannonballs
- Time between enemies
- Enemies speed

OBJECTIVES

- Planning and Strategy
- Movement precision
- Predicting the trajectory of objects

INSTRUCTION FOR PATIENT

Use the cannon(s) to shoot into the robots coming in your direction



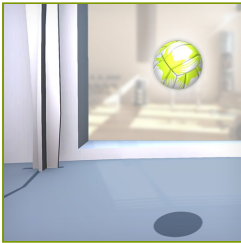
SAMPLE SETTINGS



| | | |
|------------------------------------|--------------------------|--------------------------------|
| | | |
| ◀ | Difficulty 1/3 | ▶ |
| Duration ◀ 90s ▶ | | Range 0% 100% 0% ↔ 100% |
| Time between cannonballs ◀ 2s ▶ | | Time between enemies ◀ 4s ▶ |
| Enemies speed ◀ 50% ▶ | | |



| | | |
|---------------------------|-----------------------------|--------------------------------|
| | | |
| ◀ | Difficulty Custom | ▶ |
| Duration ◀ 90s ▶ | | Time between enemies ◀ 4s ▶ |
| Enemies speed ◀ 100% ▶ | | |



FUNCTIONAL MOVEMENTS

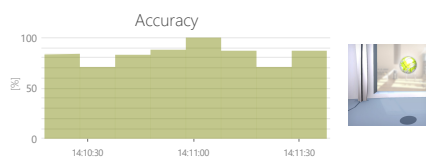
BALL

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.

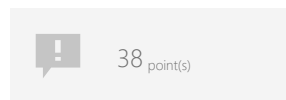
CONTROL MODES



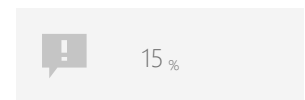
RESULTS



Total points



Functional movements



ADJUSTMENTS

- Positions to have targets on
- Task duration
- Enable marker
- Time between objects
- Speed of objects

OBJECTIVES

- Improve range of motion
- Visual motor coordination
- Predicting the trajectory of objects in 3D space
- Activity in a given rhythm
- Mirrored feedback exercises

INSTRUCTION FOR PATIENT

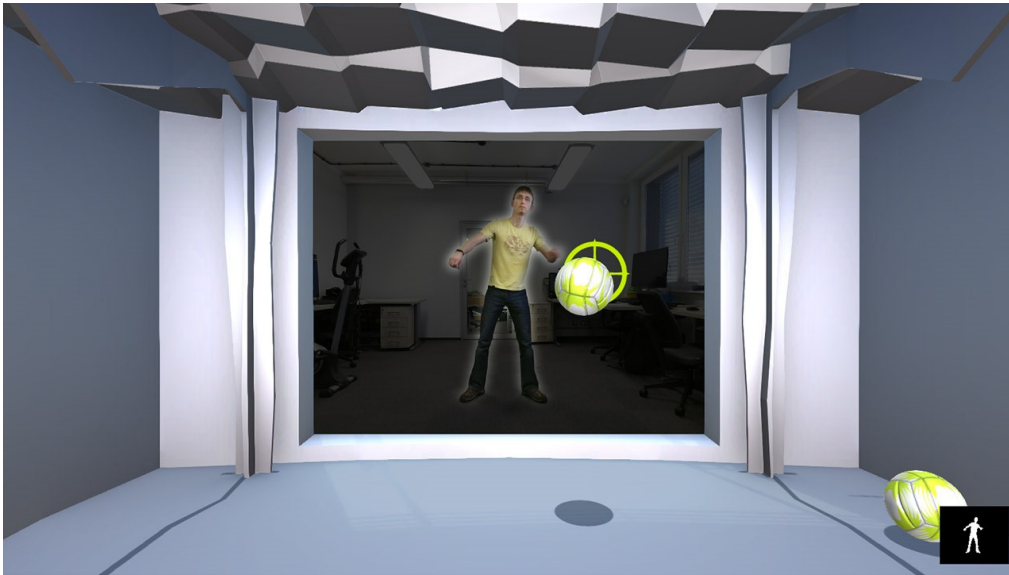
Use your body to hit the balls



FUNCTIONAL MOVEMENTS

BALL

SAMPLE SETTINGS



| | | |
|-----------------------------|--------------------------|--------------------------------|
| | | |
| | Difficulty 1/3 | |
| Active positions | | Duration 90s |
| Enable marker < Yes > | | Time between objects < 5s > |
| Speed of objects < 75% > | | |

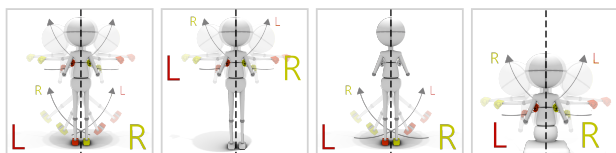


FUNCTIONAL MOVEMENTS

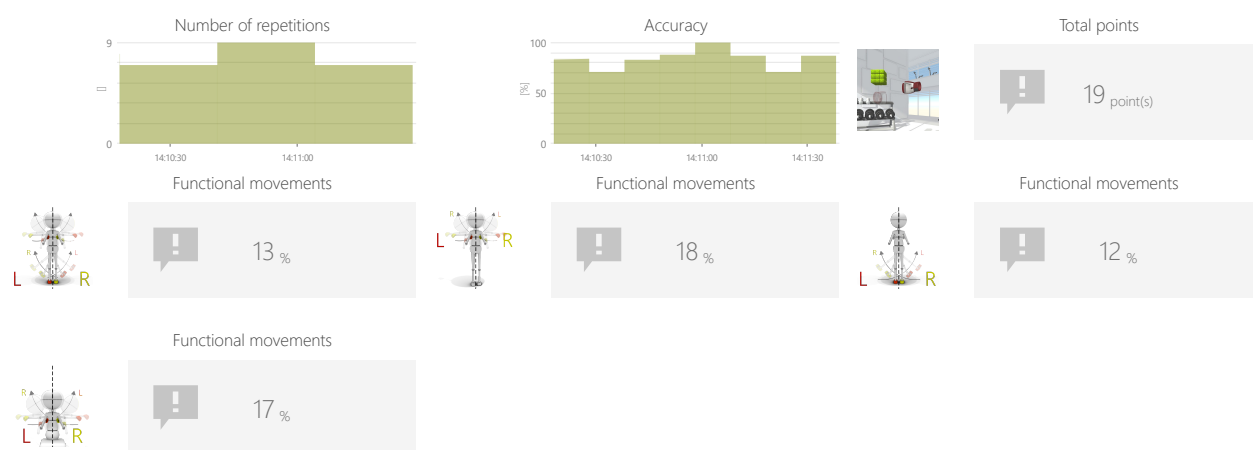
CROSS PUNCHER

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

- Task duration
- Time to react
- Distance to targets

OBJECTIVES

- Crossing the midline
- Speed of movement
- Rhythmicity
- Repetitive movements

INSTRUCTION FOR PATIENT

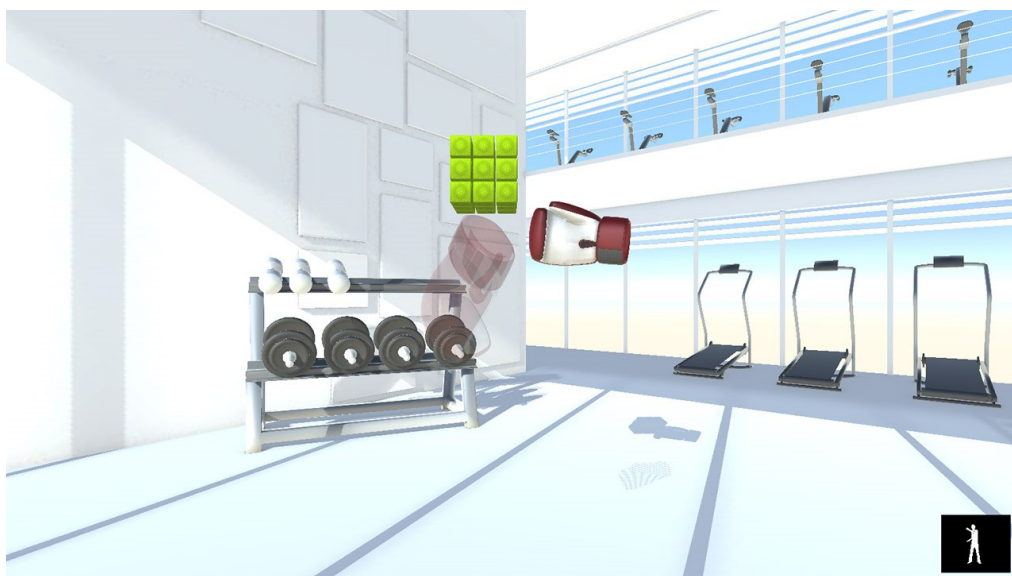
Hit green cubes as fast as you can and remember to always cross your punches and kicks



FUNCTIONAL MOVEMENTS

CROSS PUNCHER

SAMPLE SETTINGS



| | | |
|-----------------------------------|--------------------------|----------------------------|
| | | |
| | Difficulty 1/3 | |
| Duration 30s | | Time to react 3s |
| Distance to targets 75% | | |

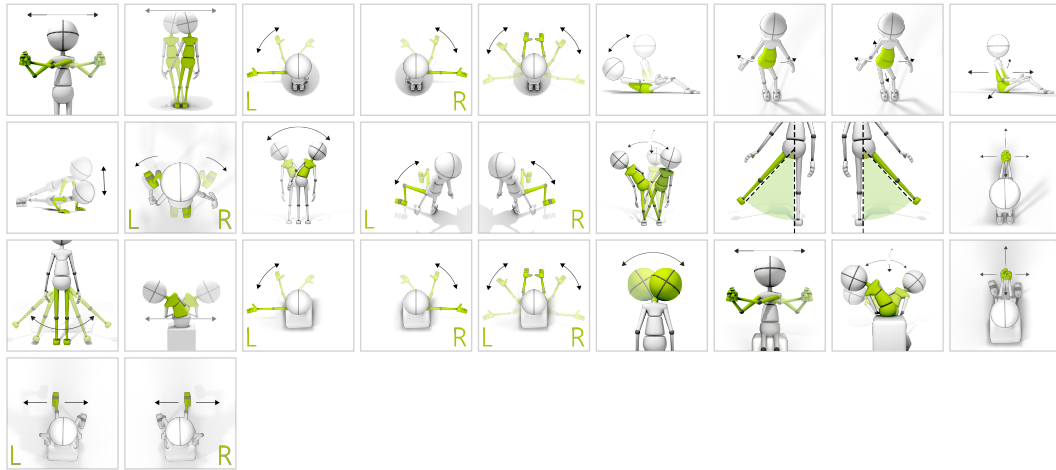


FUNCTIONAL MOVEMENTS

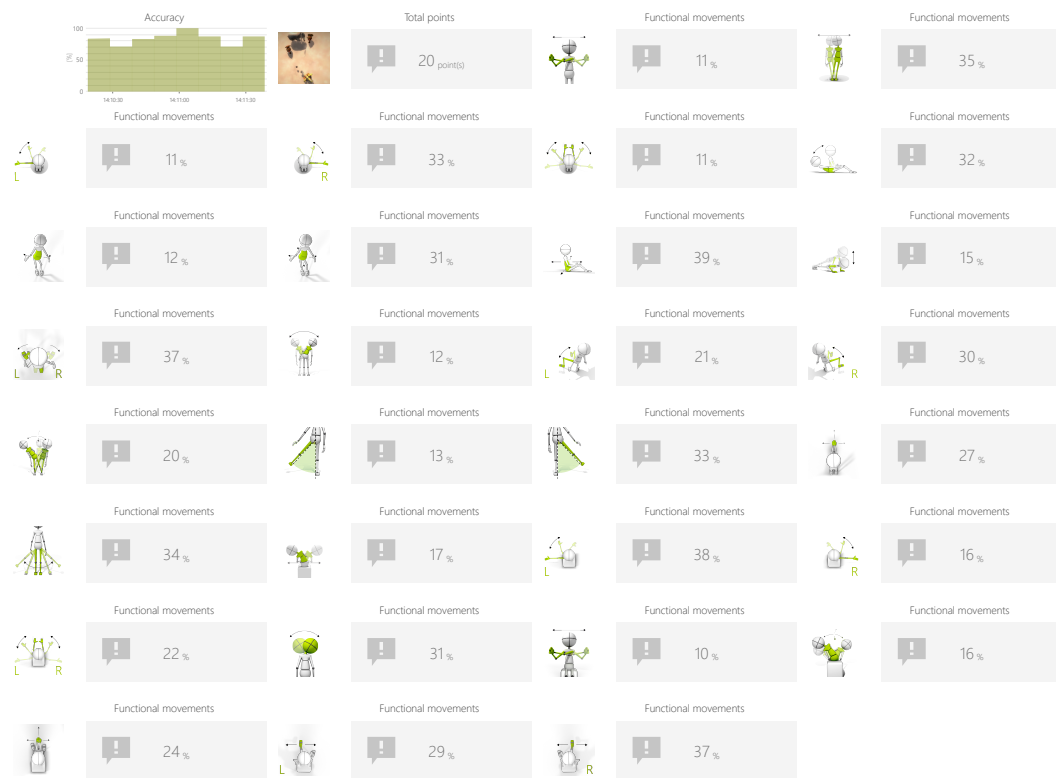
AUTOMATIC CANNON

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

- Task duration
- Range
- Enable distractors
- Time between cannonballs
- Time between enemies
- Enemies speed

OBJECTIVES

- Divided attention
- Spontaneous movements
- Arms swings
- Muscle strengthening

INSTRUCTION FOR PATIENT

Control cannon(s) to destroy robots, but avoid hitting the elephant!





FUNCTIONAL MOVEMENTS

AUTOMATIC CANNON

SAMPLE SETTINGS





◀

Difficulty

▶

1/3

<

Duration


>

90s

<

Range

>


0% ↔ 100%

<

Enable distractors

>

No

<

Time between cannonballs

>

1s

<

Time between enemies

>

3s

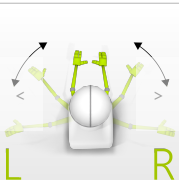

<

Enemies speed

>

50%





◀

Difficulty

▶

Custom

<

Duration


>

90s

<

Range

>


0% ↔ 100%
L R

<

Enable distractors

>

No

<

Time between cannonballs

>

1s

<

Time between enemies

>

3s

<

Enemies speed

>

100%

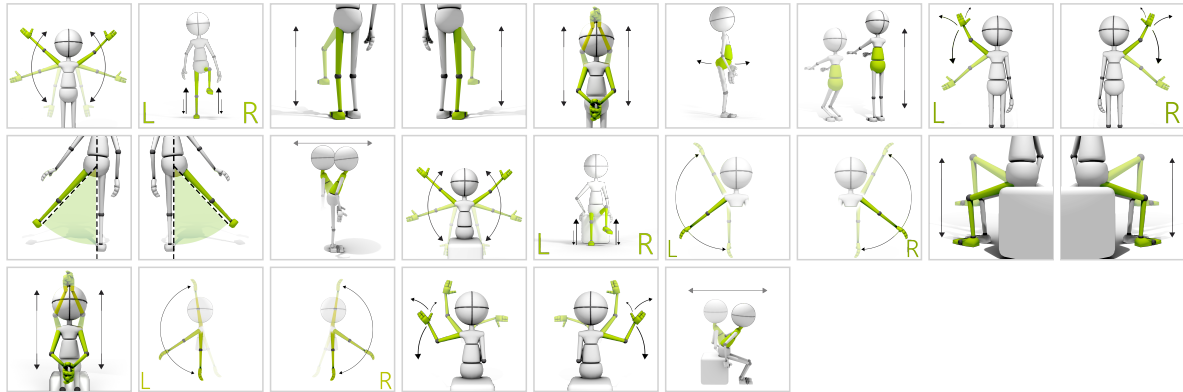


FUNCTIONAL MOVEMENTS

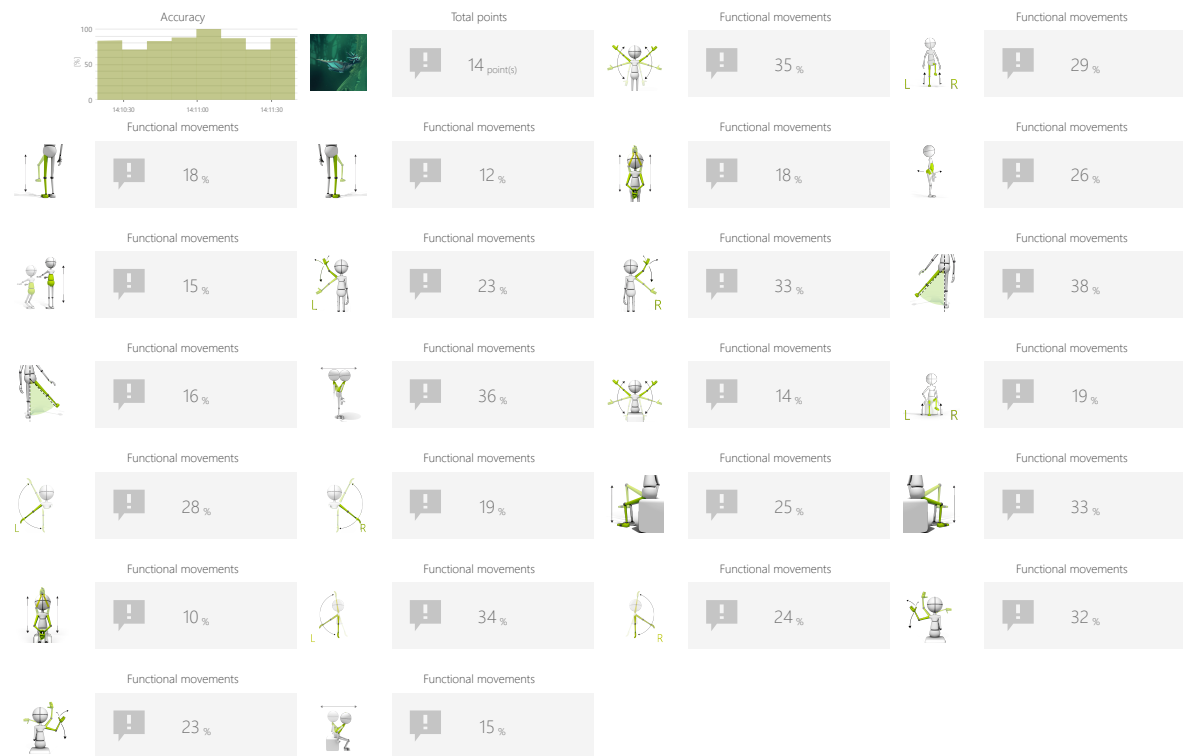
DRAGON

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

- Task duration
- Range
- Coins group size
- Distance between coins
- Gravity force

OBJECTIVES

- Predicting the trajectory of objects
- Improve range of motion
- Visual motor coordination
- Muscle strengthening
- Planning and Strategy

INSTRUCTION FOR PATIENT

Fly and collect the coins



FUNCTIONAL MOVEMENTS

DRAGON

SAMPLE SETTINGS



| | | |
|------------------|------------------------|---|
| | | |
| ◀ | Difficulty | ▶ |
| Custom | | |
| Duration | Range | |
| < 90s > | 80% 20% | |
| Coins group size | Distance between coins | |
| < 3 > | < 250% > | |
| Gravity force | | |
| < 100% > | | |



| | | |
|------------------|------------------------|---|
| | | |
| ◀ | Difficulty | ▶ |
| 1/3 | | |
| Duration | Range | |
| < 90s > | 80% 20% | |
| Coins group size | Distance between coins | |
| < 5 > | < 250% > | |
| Gravity force | | |
| < 100% > | | |

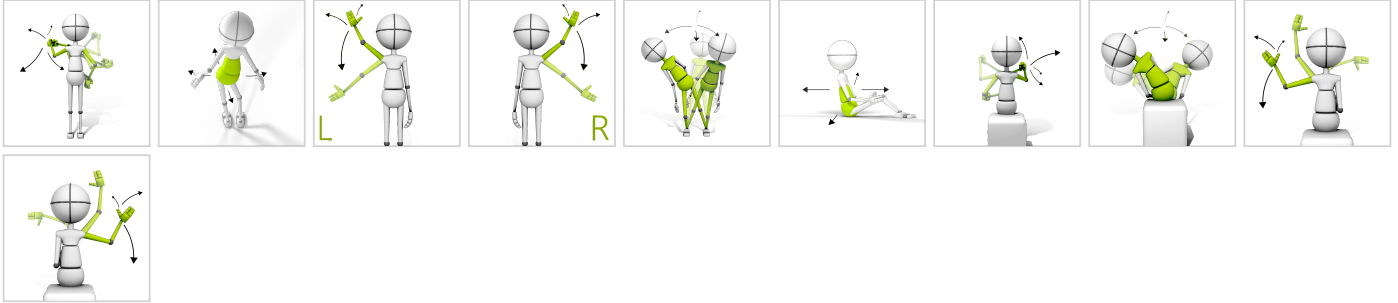


FUNCTIONAL MOVEMENTS

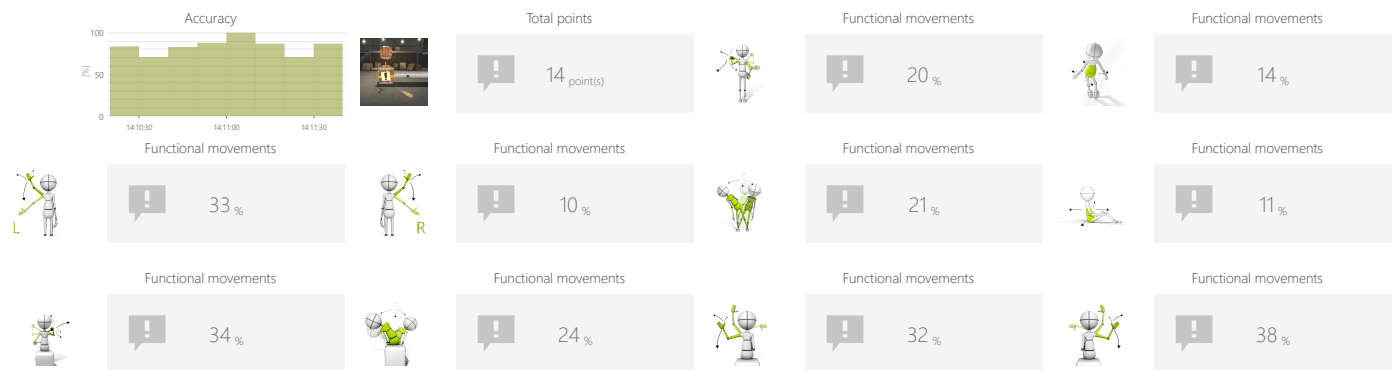
BOX CRUSHER

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

- Positions to have targets on
- Task duration
- Range
- Required force

OBJECTIVES

- 3D space movements reproduction
- Movement awareness
- Muscle strengthening
- Repetitive movements

INSTRUCTION FOR PATIENT

Smash boxes with the club

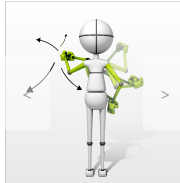



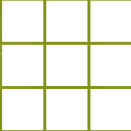
FUNCTIONAL MOVEMENTS

BOX CRUSHER

SAMPLE SETTINGS





| | | |
|---|--------------------------|---------------------------|
| ◀ | Difficulty 1/3 | ▶ |
| Active positions  | | Duration < 90s > |
| Range 80% 20% 20% ↔ 80% | | Required force < 50% > |

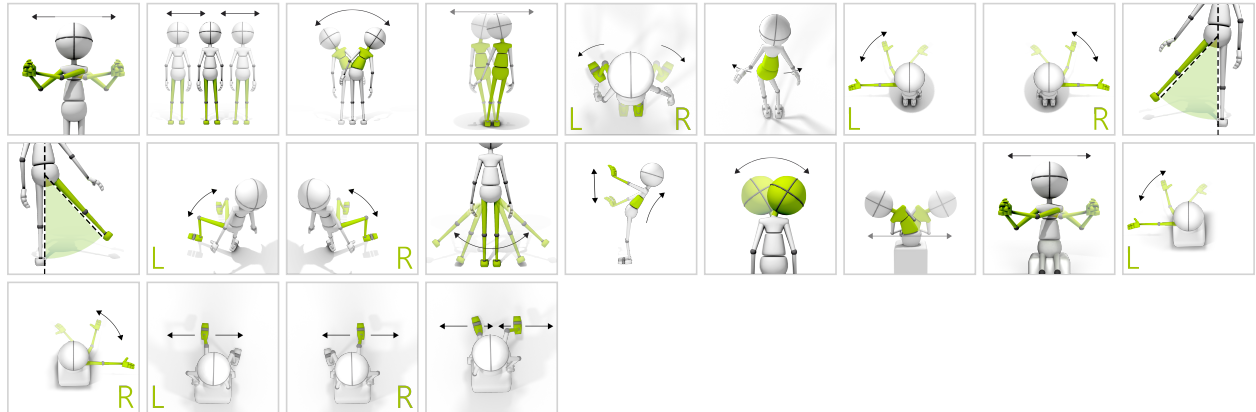


FUNCTIONAL MOVEMENTS

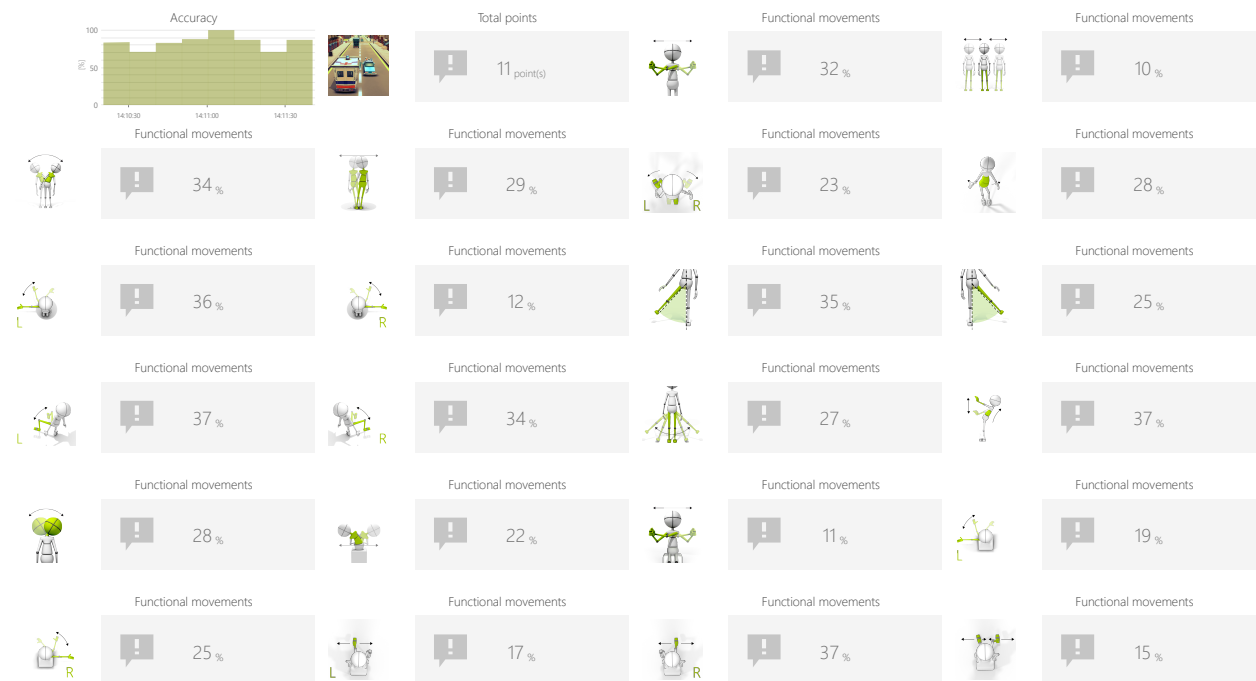
AMBULANCE

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

- Task duration
- Range
- Distance between cars
- Player speed

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

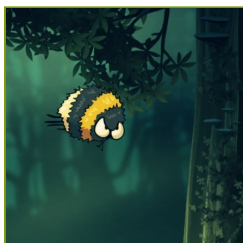
SAMPLE SETTINGS



| | |
|------------------------------|---------------------|
| | |
| Difficulty 2/3 | |
| Duration 30s | Range 20% ↔ 80% |
| Distance between cars 50% | Player speed 50% |



| | |
|-------------------------------|---------------------|
| | |
| Difficulty Custom | |
| Duration 30s | Range 20% ↔ 80% |
| Distance between cars 200% | Player speed 50% |

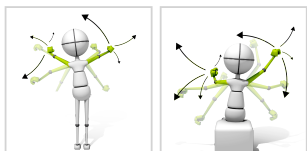


FUNCTIONAL MOVEMENTS

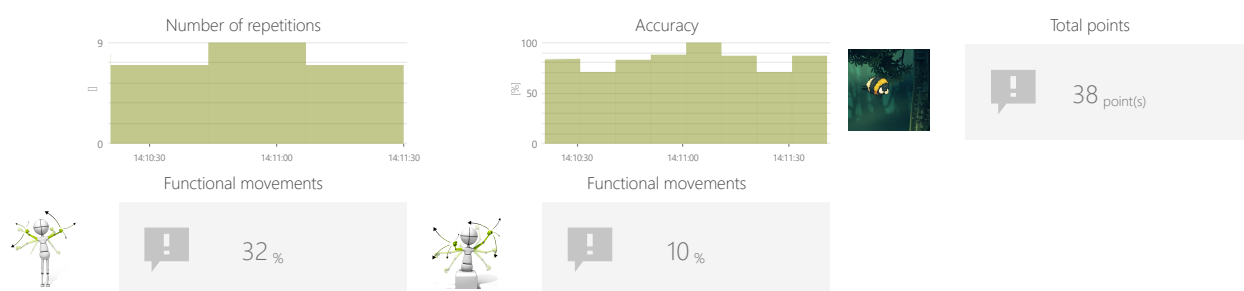
INSECTS

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

- Task duration
- Time between objects
- Time to react

OBJECTIVES

- Dynamic responses to emerging moving targets
- Focusing
- Mirrored feedback exercises
- Visual motor coordination

INSTRUCTION FOR PATIENT

Hit all the insects that sit on your body



FUNCTIONAL MOVEMENTS

INSECTS

SAMPLE SETTINGS



| | |
|---------------------|---|
| | |
| ◀ | Difficulty 1/3 ▶ |
| Duration < 90s > | Time between objects < 4s > Time to react < 4s > |

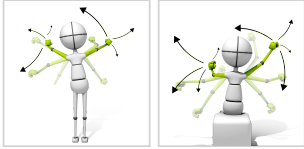


FUNCTIONAL MOVEMENTS

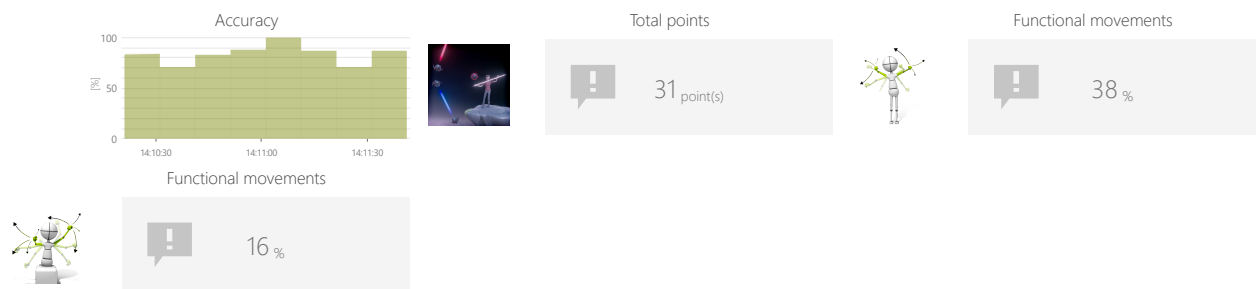
SORTER: LEGACY

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

- Task duration
- Number of gates
- Gravity force

OBJECTIVES

- 3D space movements reproduction
- Dynamic responses to emerging moving targets
- Planning and Strategy

INSTRUCTION FOR PATIENT

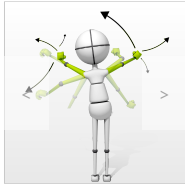
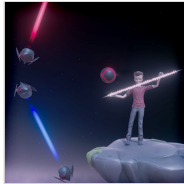
Make the ball fly through the gate in corresponding color



FUNCTIONAL MOVEMENTS

SORTER: LEGACY

SAMPLE SETTINGS



◀


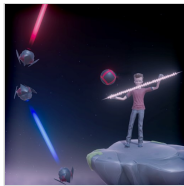
Difficulty
1/3

▶

Duration
< 90s >

Number of gates
< 2 >

Gravity force
< 100% >



◀

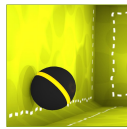
Difficulty
3/3

▶

Duration
< 90s >

Number of gates
< 4 >

Gravity force
< 100% >

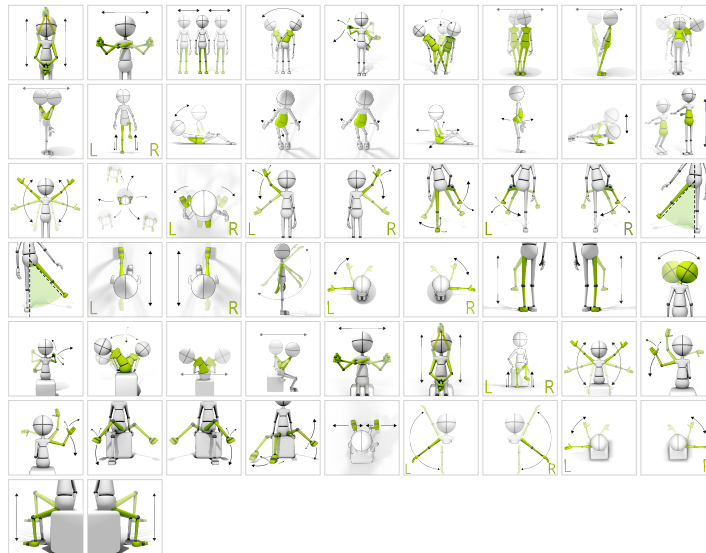


FUNCTIONAL MOVEMENTS

ARCANOID

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

- Task duration
- Range
- Reticle size
- Speed of objects

OBJECTIVES

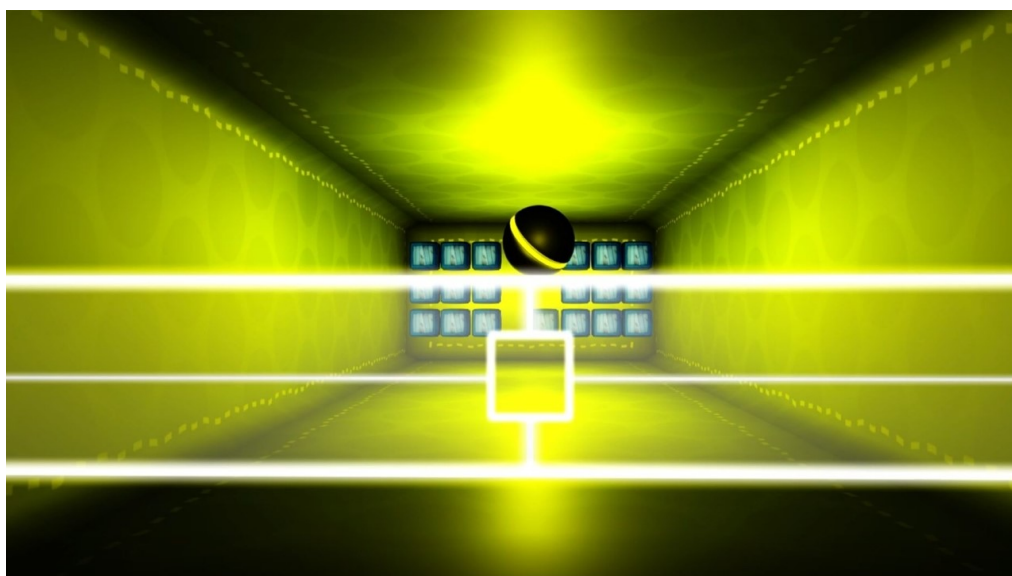
- Dynamics of planned movements
- Predicting the trajectory of objects in 3D space
- Visual motor coordination

INSTRUCTION FOR PATIENT

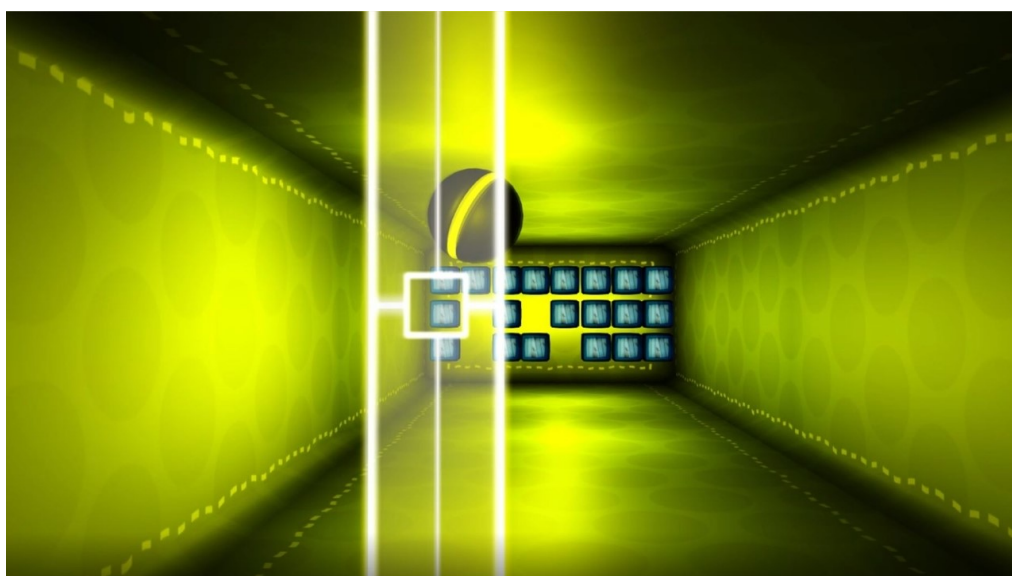
Destroy as many boxes as you can



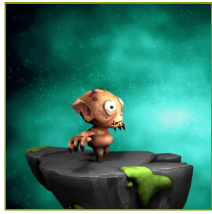
SAMPLE SETTINGS



| | |
|-----------------------------|-------------------------|
| | |
| Difficulty Custom | |
| Duration 90s | Range 20% ↔ 80% |
| Reticle size 100% | Speed of objects 70% |



| | |
|-----------------------------|-------------------------|
| | |
| Difficulty Custom | |
| Duration 90s | Range 20% ↔ 80% |
| Reticle size 75% | Speed of objects 70% |

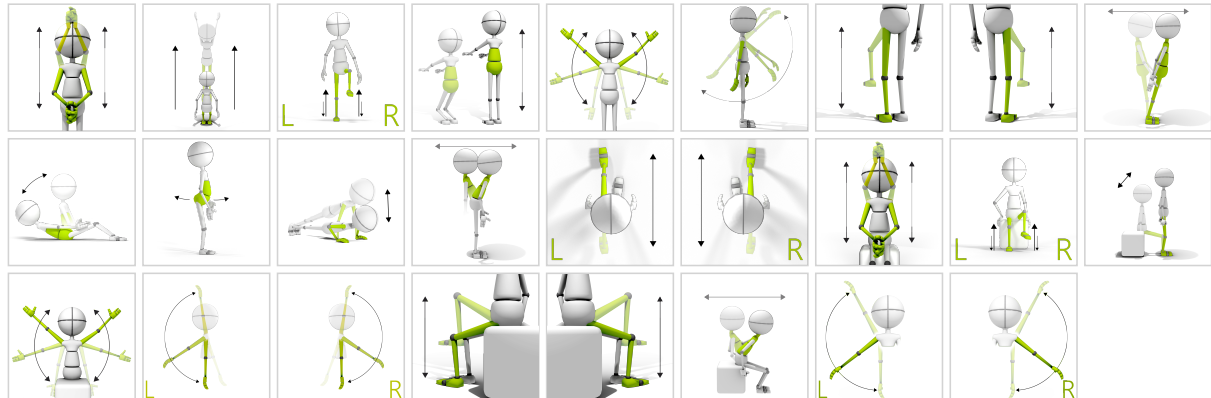


FUNCTIONAL MOVEMENTS

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

- Task duration
- Range
- 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.

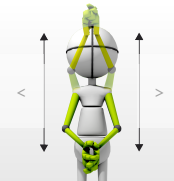
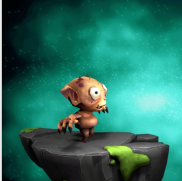


FUNCTIONAL MOVEMENTS

ROCKET JUMPING

SAMPLE SETTINGS





◀

Difficulty
1/3


▶

◀

Duration
90s

▶

◀

Range
20% 80%


▶

◀

Time between objects
5s

▶

◀

Bomb format
1


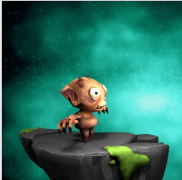
▶

◀

Speed of objects
100%

▶





◀

Difficulty
Custom


▶

◀

Duration
90s

▶

◀

Range
20% 80%


▶

◀

Time between objects
5s

▶

◀

Bomb format
2

▶

◀

Speed of objects
100%

▶

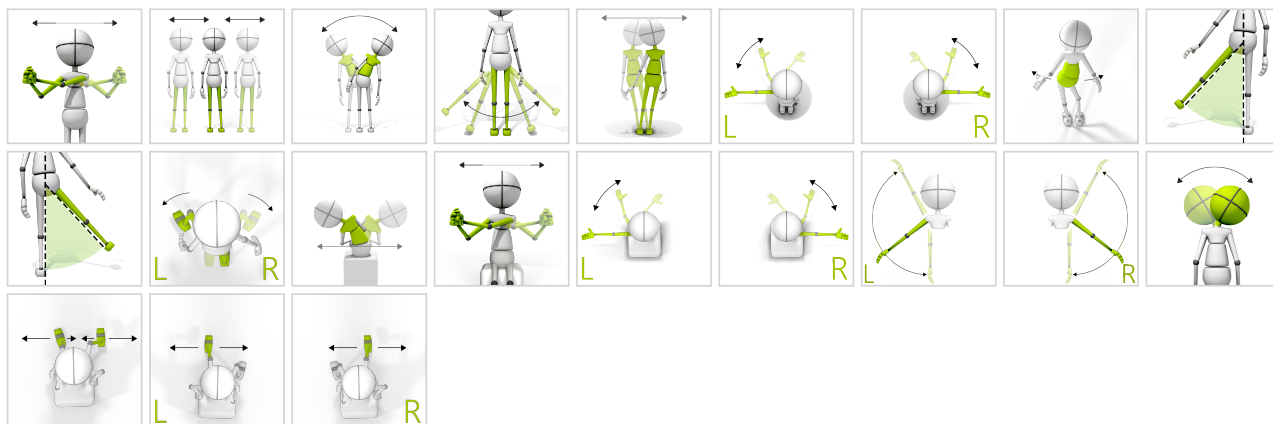


FUNCTIONAL MOVEMENTS

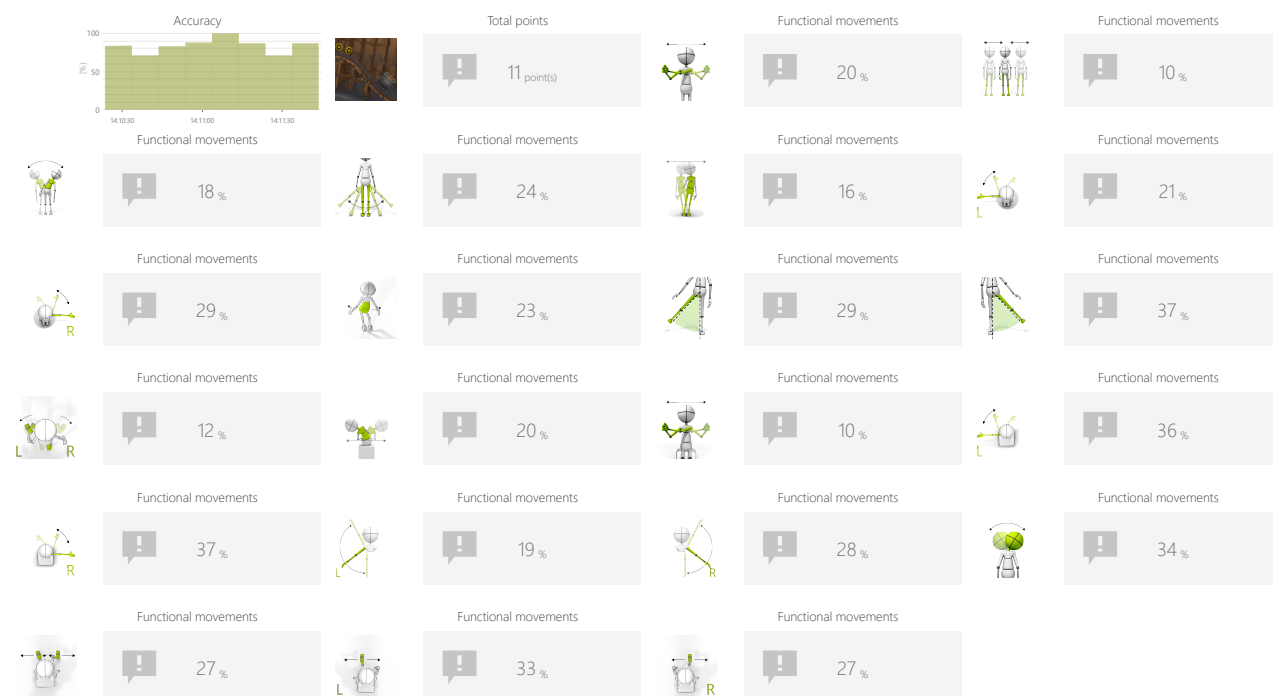
RAILS

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

- Task duration
- Range
- Route shape
- Enable derailling
- Enable obstacles
- Time between objects
- Player speed

OBJECTIVES

- Dynamic responses to emerging moving targets
- Predicting the trajectory of objects
- Visual motor coordination

INSTRUCTION FOR PATIENT

Tilt the world to let the trolley collect the coins



FUNCTIONAL MOVEMENTS

RAILS

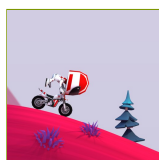
SAMPLE SETTINGS



| | | |
|----------------------------|--------------------------|---|
| | | |
| ◀ | Difficulty 1/3 | ▶ |
| Duration 90s | Range 20% ↔ 80% | |
| Route shape — | Enable derailling No | |
| | Enable obstacles No | |
| Time between objects 5s | Player speed 100% | |



| | | |
|----------------------------|--------------------------|---|
| | | |
| ◀ | Difficulty 3/3 | ▶ |
| Duration 90s | Range 20% ↔ 80% | |
| Route shape ~ | Enable derailling Yes | |
| | Enable obstacles No | |
| Time between objects 5s | Player speed 200% | |

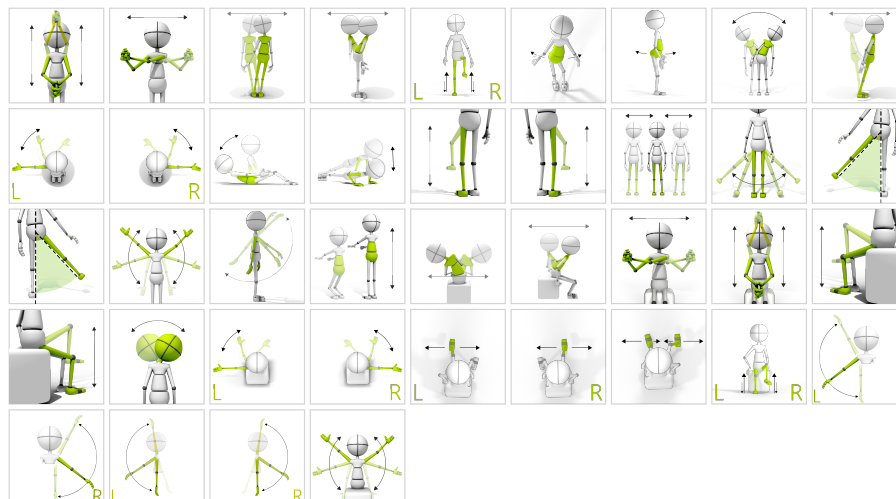


FUNCTIONAL MOVEMENTS

MOTOCROSS

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

- Task duration
- Range
- Route shape

OBJECTIVES

- Dynamics of planned movements
- Planning and Strategy

INSTRUCTION FOR PATIENT

accelerate and brake to cover the entire route as quickly as possible without tipping.



SAMPLE SETTINGS



| | |
|------------------------------|--------------------------|
| | |
| | Difficulty 2/3 |
| Duration 90s | Range 80% 20% |
| Route shape Medium | |



FUNCTIONAL MOVEMENTS

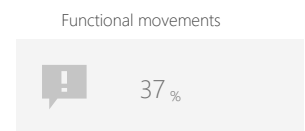
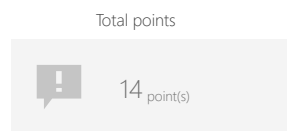
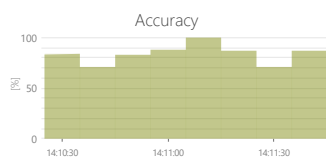
WALKER

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

- Task duration
- Range

OBJECTIVES

- Planned movements
- Knees lifting
- Balance and equilibrium training
- Repetitive movements

INSTRUCTION FOR PATIENT

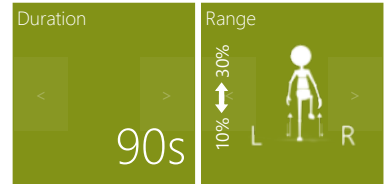
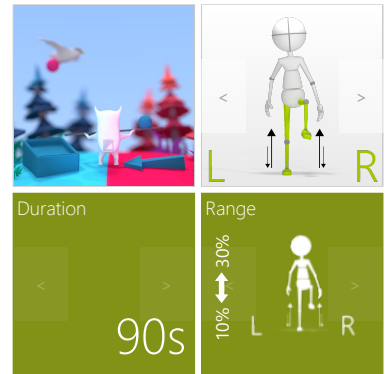
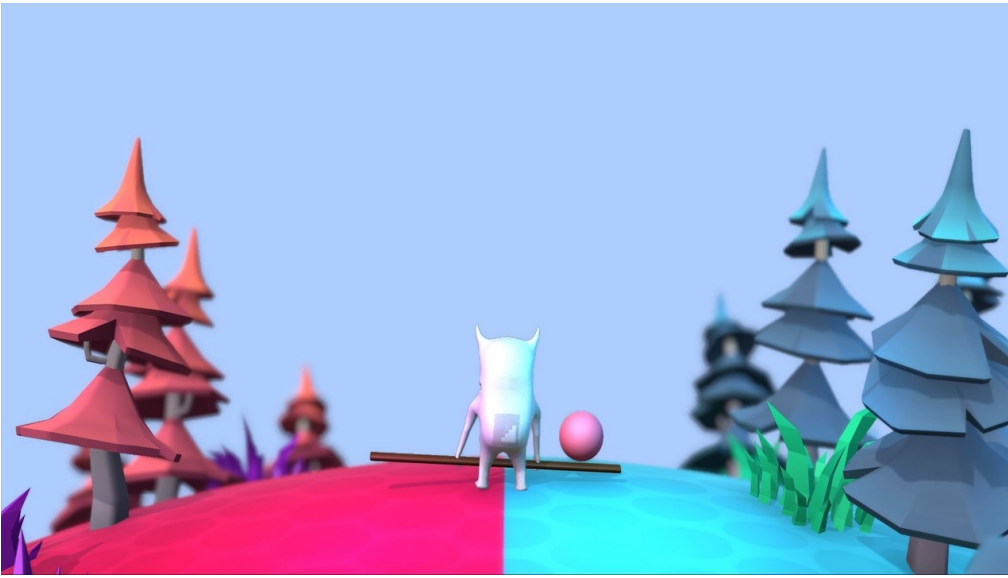
Keep walking. Put blue balls into blue boxes and pink balls into pink boxes



FUNCTIONAL MOVEMENTS

WALKER

SAMPLE SETTINGS



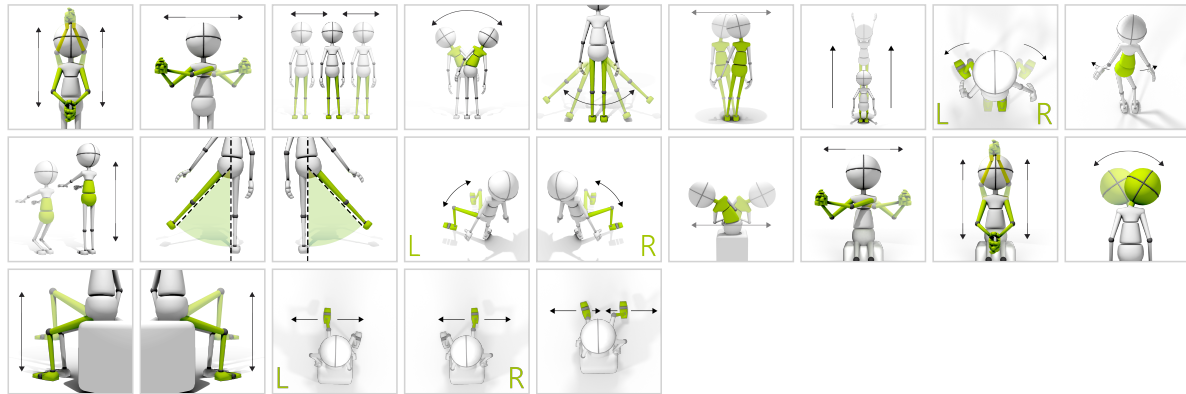


FUNCTIONAL MOVEMENTS

FOREST RUNNER

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

- Task duration
- Range
- Turning

OBJECTIVES

- Dynamics of planned movements
- Focusing
- Planned movements
- Speed of movement

INSTRUCTION FOR PATIENT

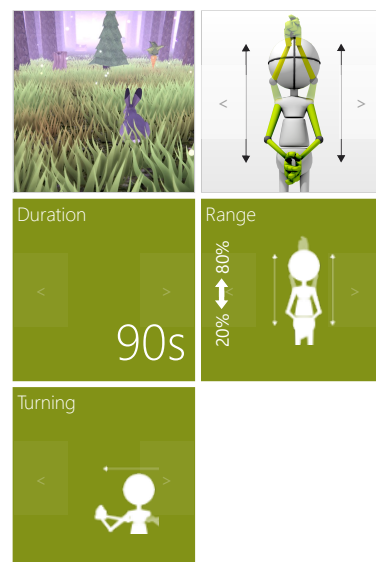
Keep the hare on the run, avoid obstacles and collect as many carrots as you can.



FUNCTIONAL MOVEMENTS

FOREST RUNNER

SAMPLE SETTINGS



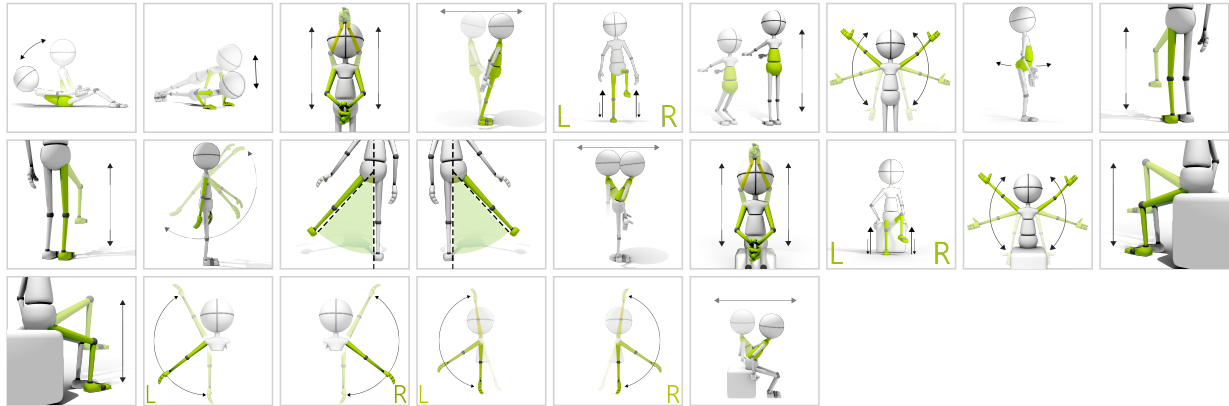


FUNCTIONAL MOVEMENTS

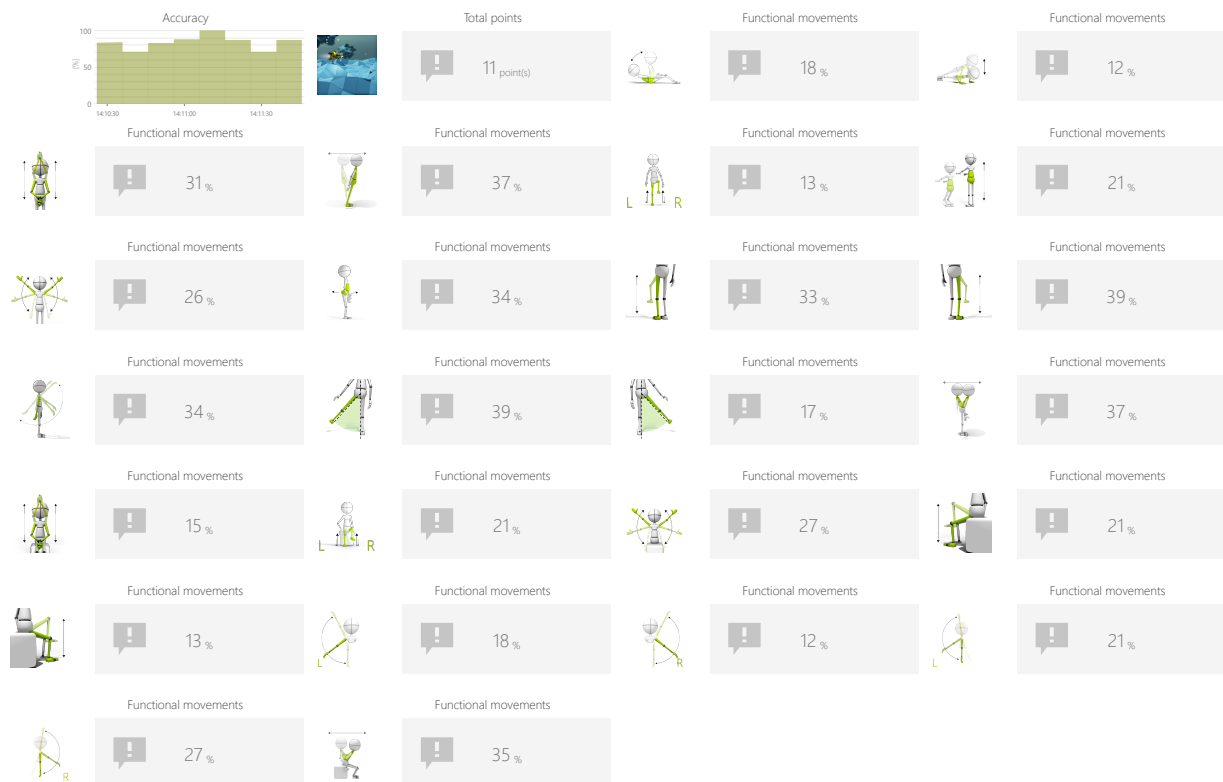
GEOMETRY FLIER

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

- Task duration
- Range
- Player speed

OBJECTIVES

- Dynamics of planned movements
- Activity in a given rhythm
- Visual motor coordination

INSTRUCTION FOR PATIENT

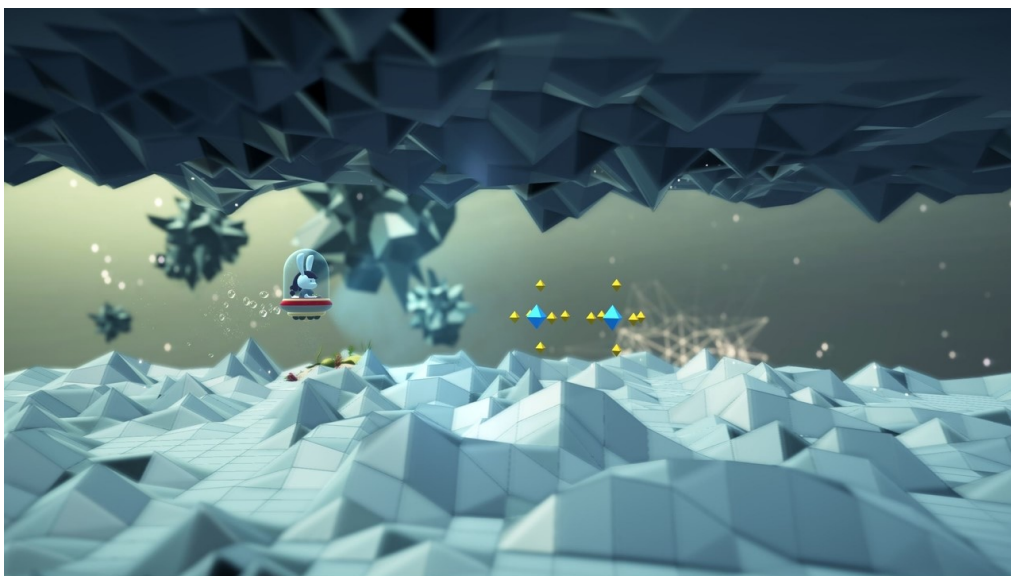
Control the vehicle to avoid the obstacles



FUNCTIONAL MOVEMENTS

GEOMETRY FLIER

SAMPLE SETTINGS



Difficulty
1/3

Duration
< 30s >

Range
20% 80%

Player speed
< 100% >



FUNCTIONAL MOVEMENTS

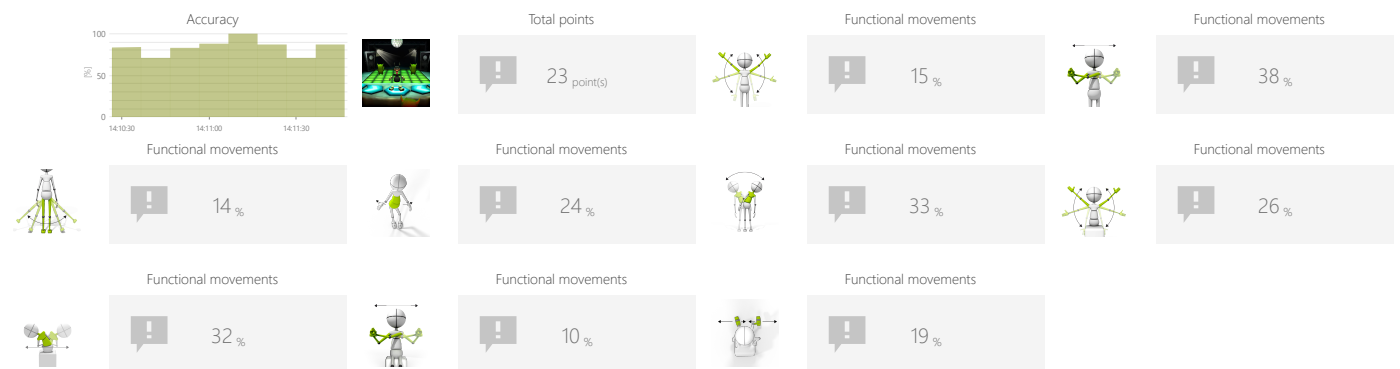
DANCEMAN

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

- Task duration
- Range
- 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 |
| Duration 90s | Range 20% ↔ 80% |
| Advanced scoring No | Song index 0 |
| Spawn rate level Easy | |



FUNCTIONAL MOVEMENTS

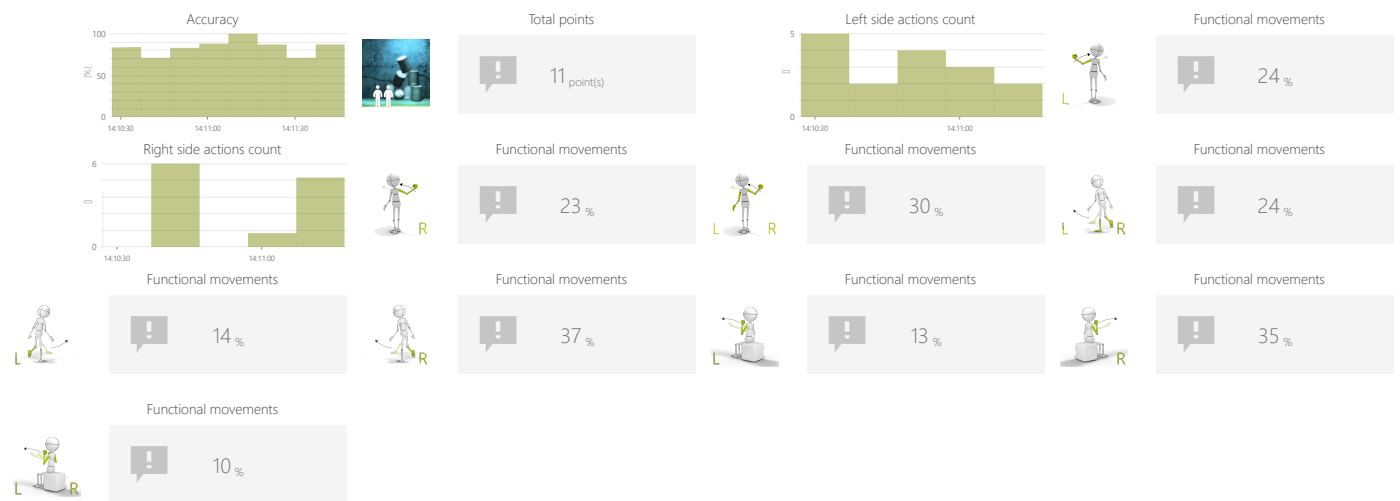
CANS MULTIPLAYER

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

- Task duration
- Speed of objects
- Weight of targets

OBJECTIVES

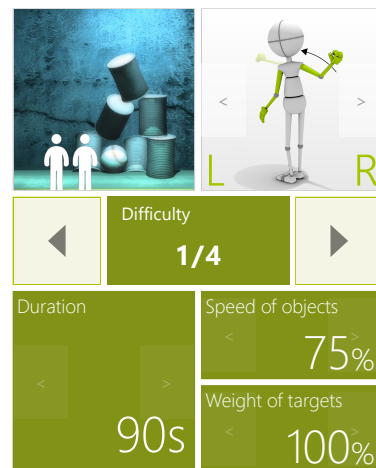
- Movement precision
- Predicting the trajectory of objects in 3D space
- Dynamics of planned movements
- Dynamic responses to emerging moving targets
- The ability of spatial visualization

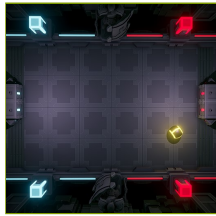
INSTRUCTION FOR PATIENT

Throw the balls to strike as many cans as you can. Each player throws balls in unique color.



SAMPLE SETTINGS



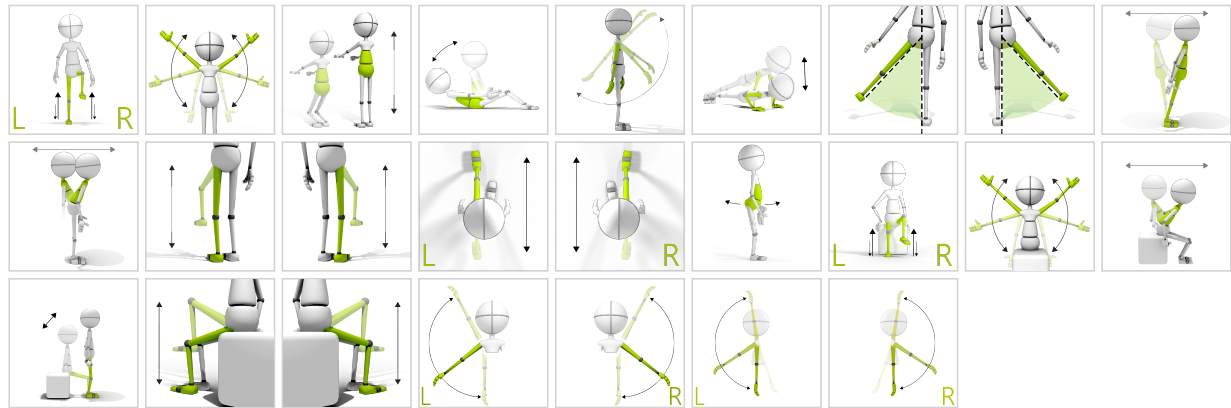


FUNCTIONAL MOVEMENTS

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

- Task duration
- Range
- Speed of objects

OBJECTIVES

- Planned movements
- Focusing
- Predicting the trajectory of objects

INSTRUCTION FOR PATIENT

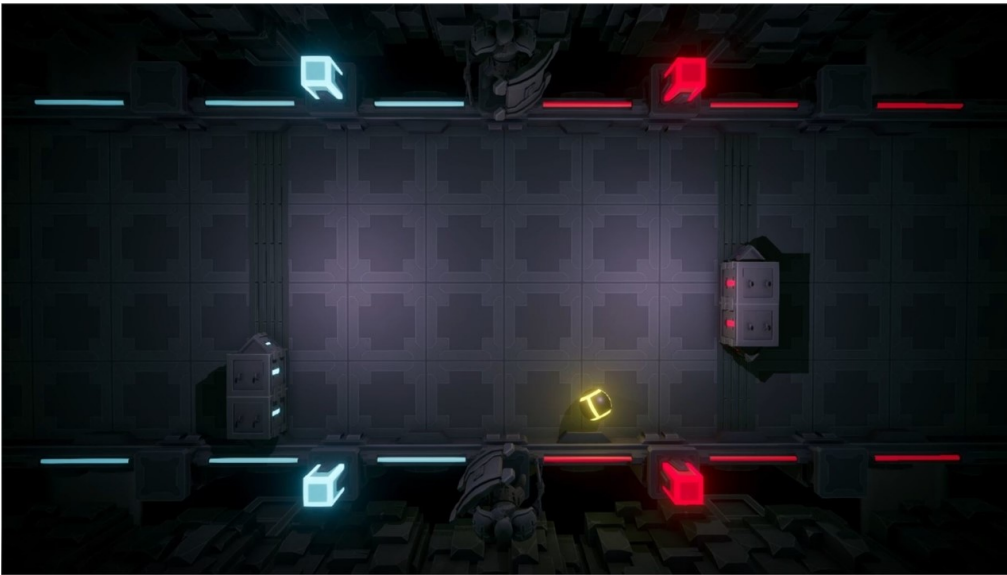
Use the paddles to hit a ball back and forth



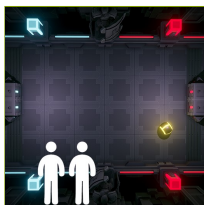
FUNCTIONAL MOVEMENTS

PONG

SAMPLE SETTINGS



| | | |
|------------------------------|--------------------------|----------------------|
| | | |
| ◀ | Difficulty 1/3 | ▶ |
| Duration < 90s > | | Range 20% 80% |
| Speed of objects < 100% > | | |

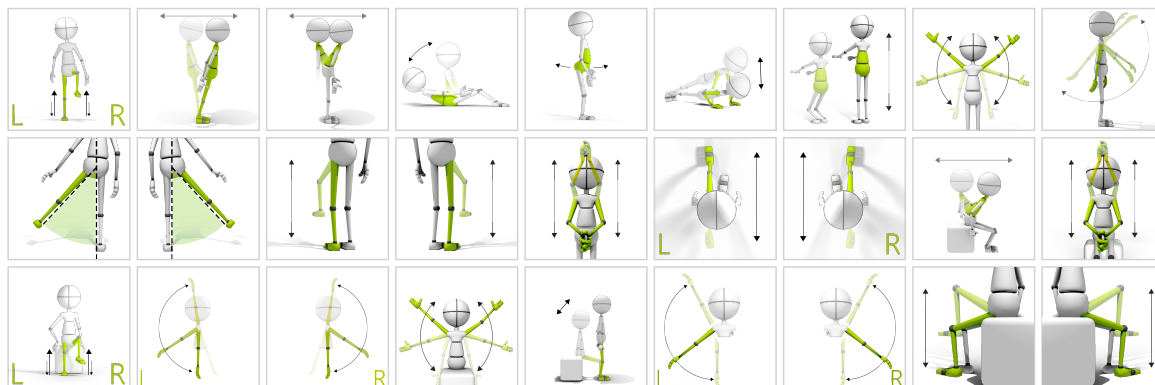


FUNCTIONAL MOVEMENTS

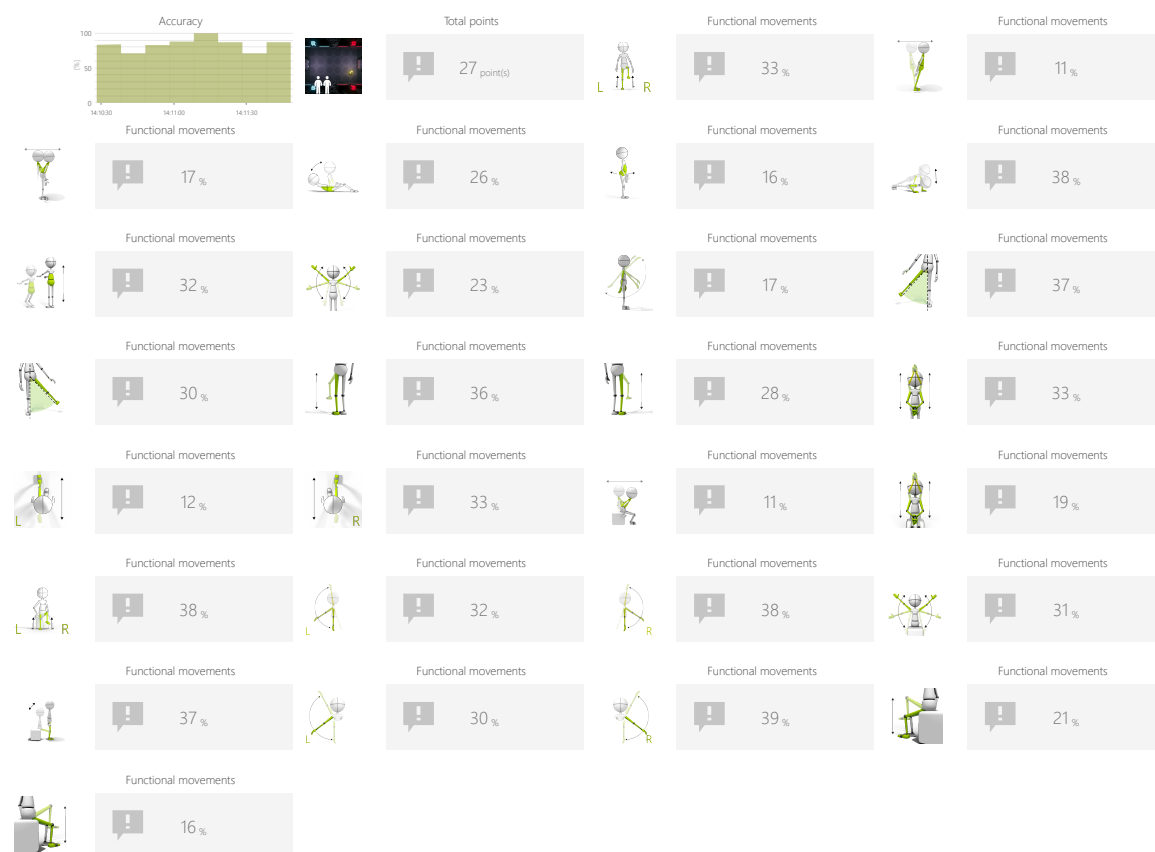
PONG

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

- Task duration
- Range
- 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

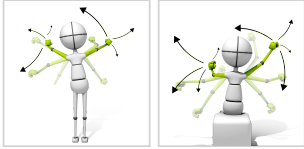


FUNCTIONAL MOVEMENTS

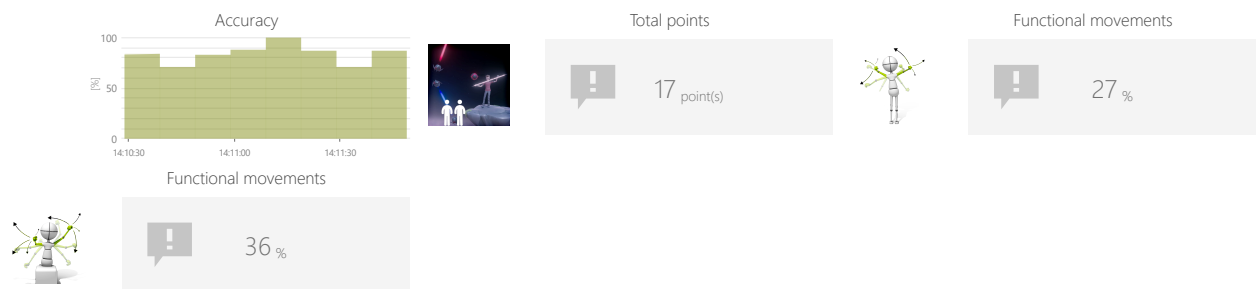
SORTER: LEGACY MULTIPLAYER

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

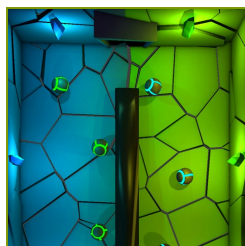
- Task duration
- Number of gates
- Gravity force
- Mode

OBJECTIVES

- 3D space movements reproduction
- Dynamic responses to emerging moving targets
- Planning and Strategy

INSTRUCTION FOR PATIENT

Make the ball fly through the gate in corresponding color

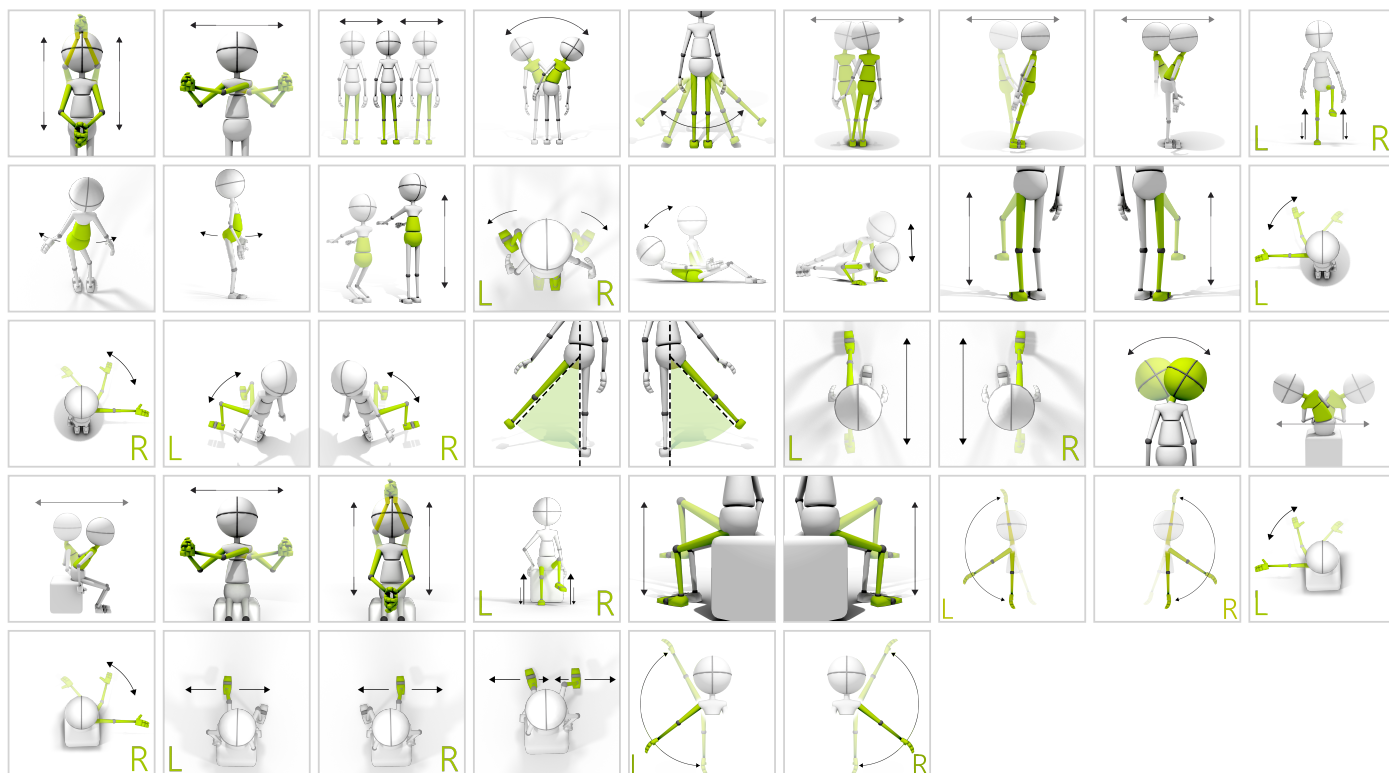


DIVIDED ATTENTION

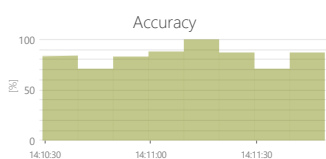
SORTER

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

34 point(s)



Divided attention

27 %

ADJUSTMENTS

- Task duration
- Range
- 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

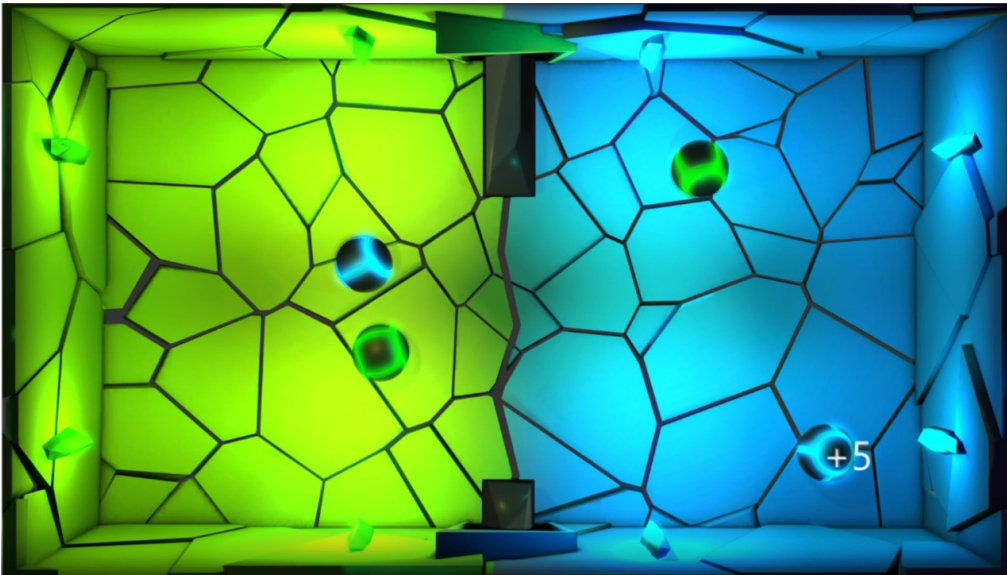
Pass or block the balls so that the blue balls are on the blue side and the green balls are on the green side of the screen.



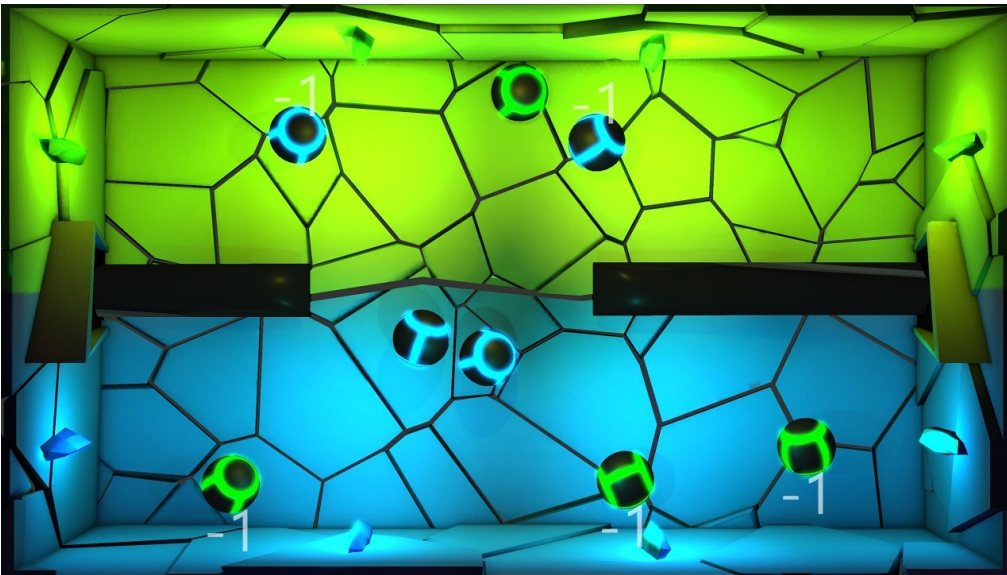
DIVIDED ATTENTION

SORTER

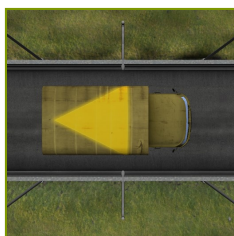
SAMPLE SETTINGS



| | |
|--------------------------|------------------|
| | |
| Difficulty 1/3 | |
| Duration 30s | Range 20% 80% |
| Number of objects 4 | Gap size 150% |
| Speed of objects 100% | |



| | |
|--------------------------|------------------|
| | |
| Difficulty 1/3 | |
| Duration 30s | Range 20% 80% |
| Number of objects 4 | Gap size 150% |
| Speed of objects 100% | |

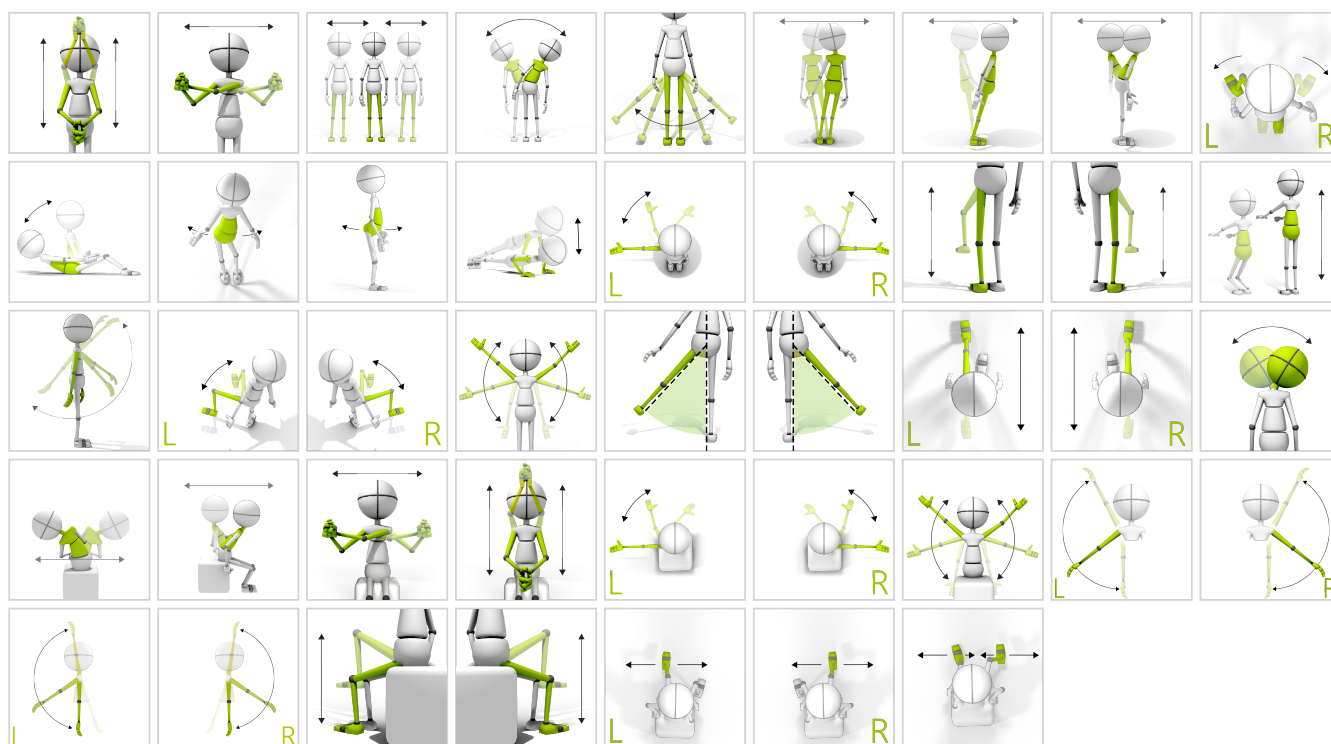


MEMORY

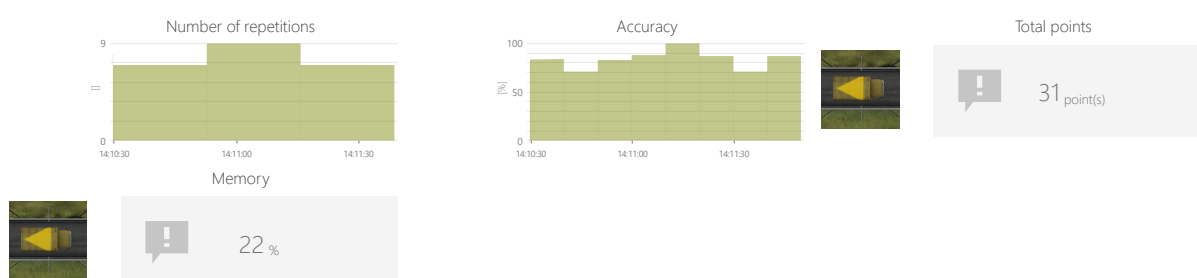
TRUCKS

Measure and train individual's skills to memorize information.

CONTROL MODES



RESULTS



ADJUSTMENTS

- Task duration
- Range
- Variations

OBJECTIVES

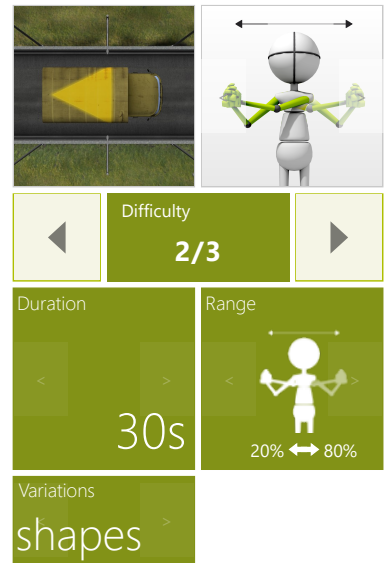
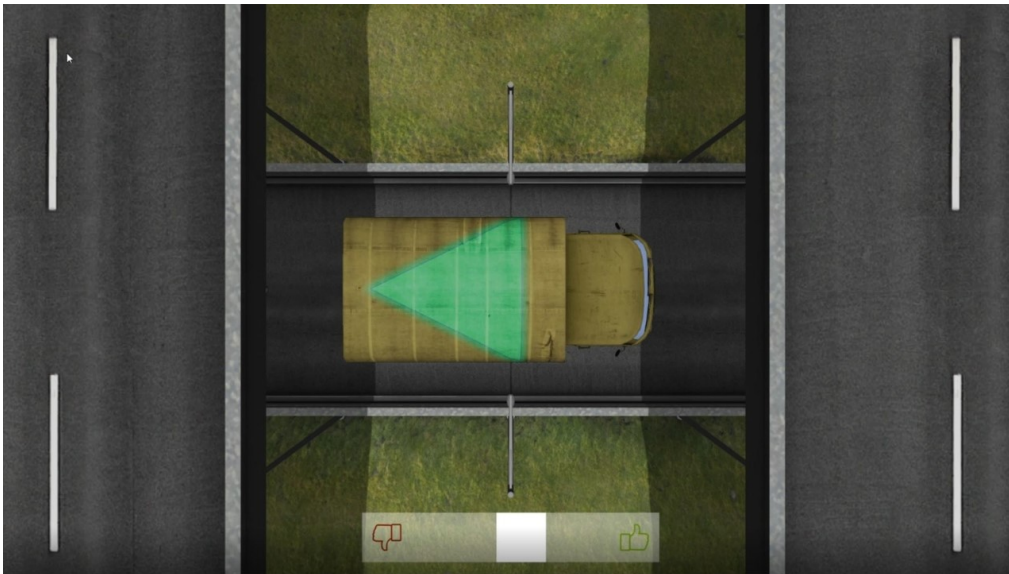
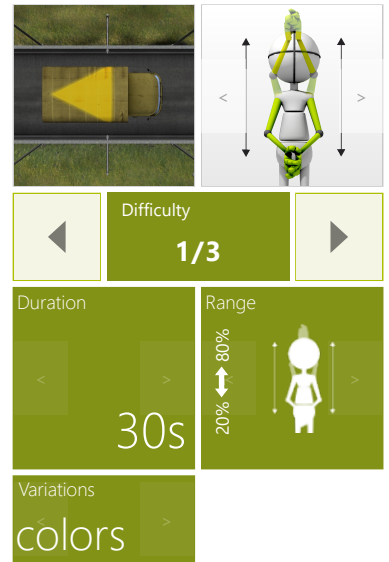
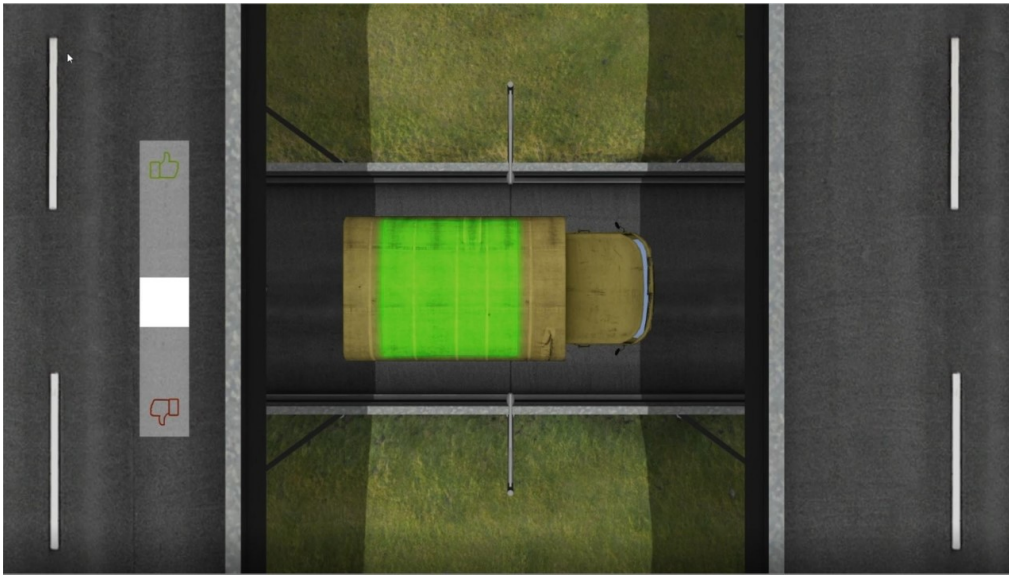
- Logical tasks
- Focusing
- Perceptivity

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



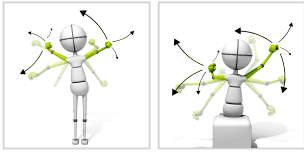


MEMORY

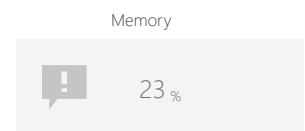
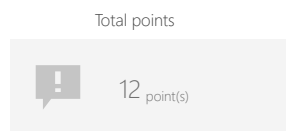
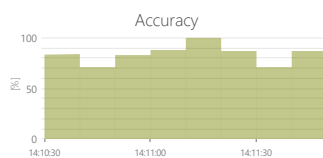
POSE REPEATER

Measure and train individual's skills to memorize information.

CONTROL MODES



RESULTS



ADJUSTMENTS

- Task duration
- Time to remember poses
- Time to repeat pose
- Number of poses to remember

OBJECTIVES

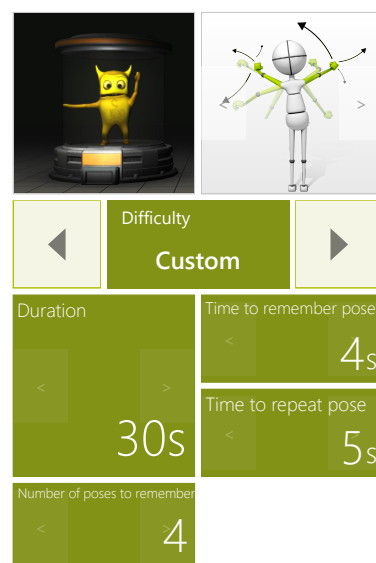
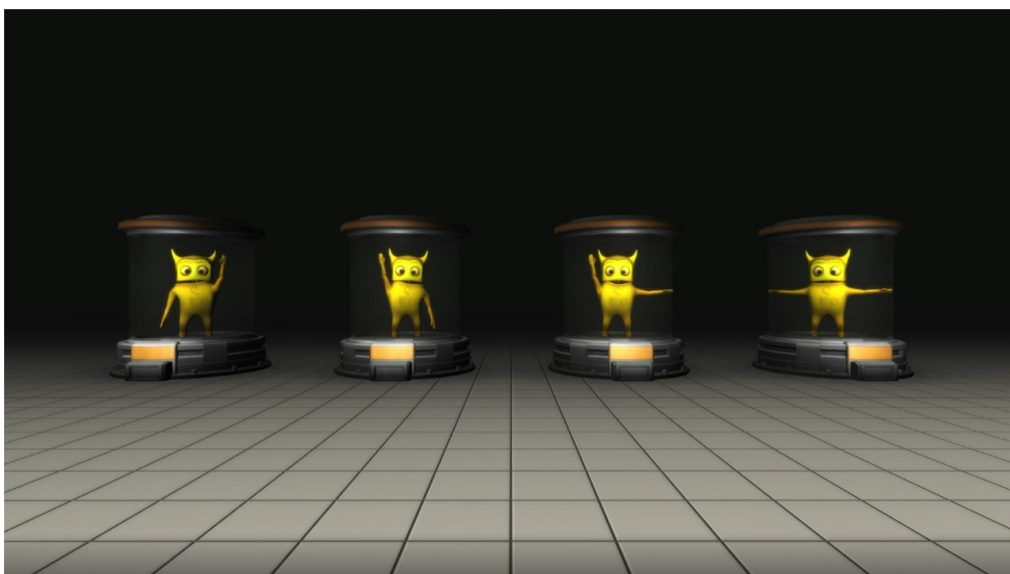
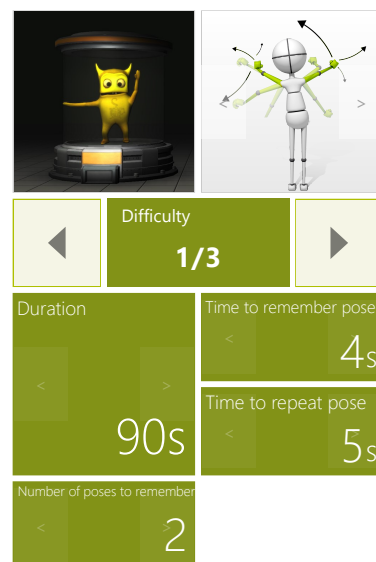
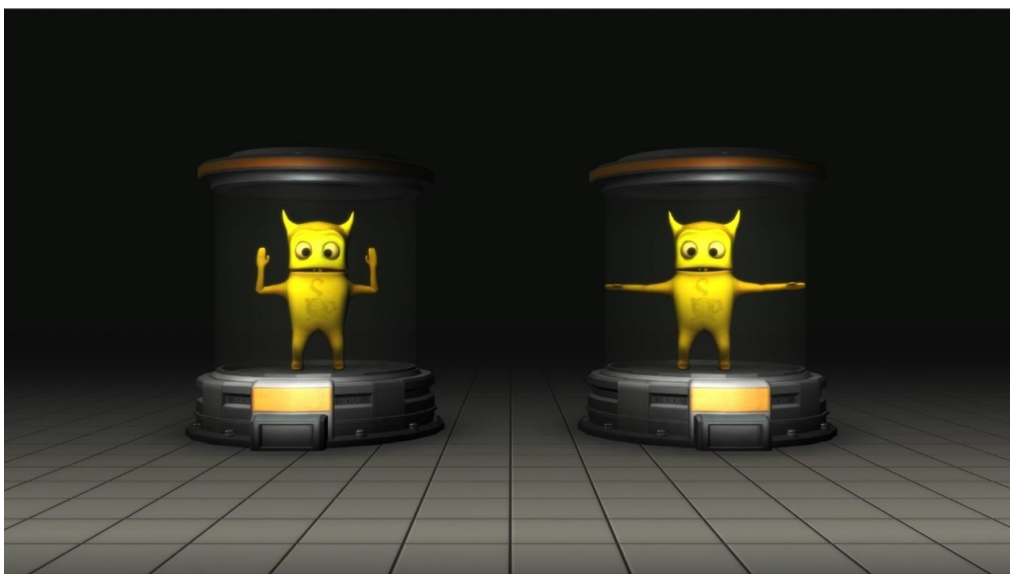
- Memory training
- 3D space movements reproduction
- Focusing
- Speed of decision making

INSTRUCTION FOR PATIENT

Remember poses presented by yellow creatures and then try to repeat selected pose based on what you managed to remember



SAMPLE SETTINGS



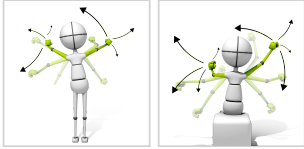


PROBLEM SOLVING

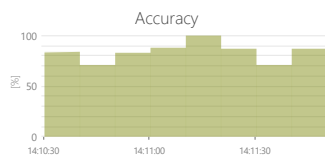
MATH

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

24 point(s)



Problem solving

33 %

ADJUSTMENTS

- Task duration
- Target number range
- Allow negative numbers

OBJECTIVES

- Logical tasks
- Arms swings

INSTRUCTION FOR PATIENT

Hit the punching bag to change its state (orange ring means it is active). Make the sum of the numbers above active punching bags to be equal to the number in top left corner



SAMPLE SETTINGS



| | | |
|------------------------------|--------------------------|--|
| | | |
| ◀ | Difficulty 1/5 | ▶ |
| Duration 30s | | Target number range min 5 max 10 |
| Allow negative numbers No | | |



| | | |
|-------------------------------|--------------------------|---|
| | | |
| ◀ | Difficulty 5/5 | ▶ |
| Duration 30s | | Target number range min 10 max 20 |
| Allow negative numbers Yes | | |

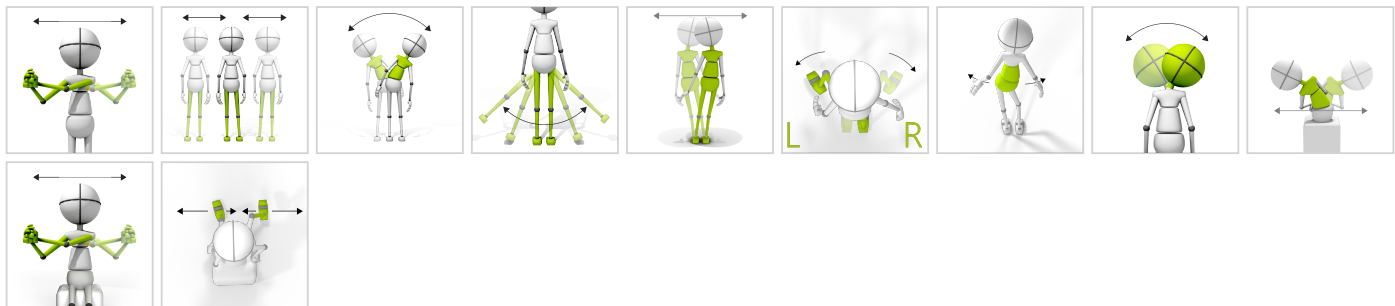


PROBLEM SOLVING

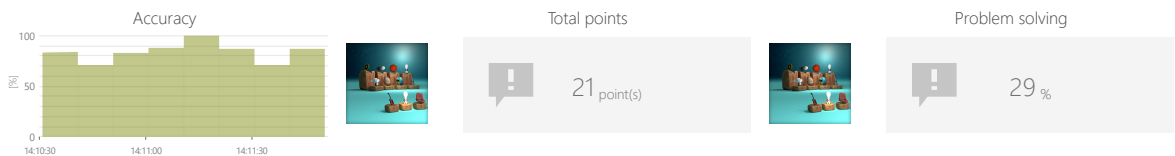
CLONES

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

- Task duration
- Time to complete action
- Range
- Number of pairs

OBJECTIVES

- Perceptivity
- Visual motor coordination
- Logical tasks

INSTRUCTION FOR PATIENT

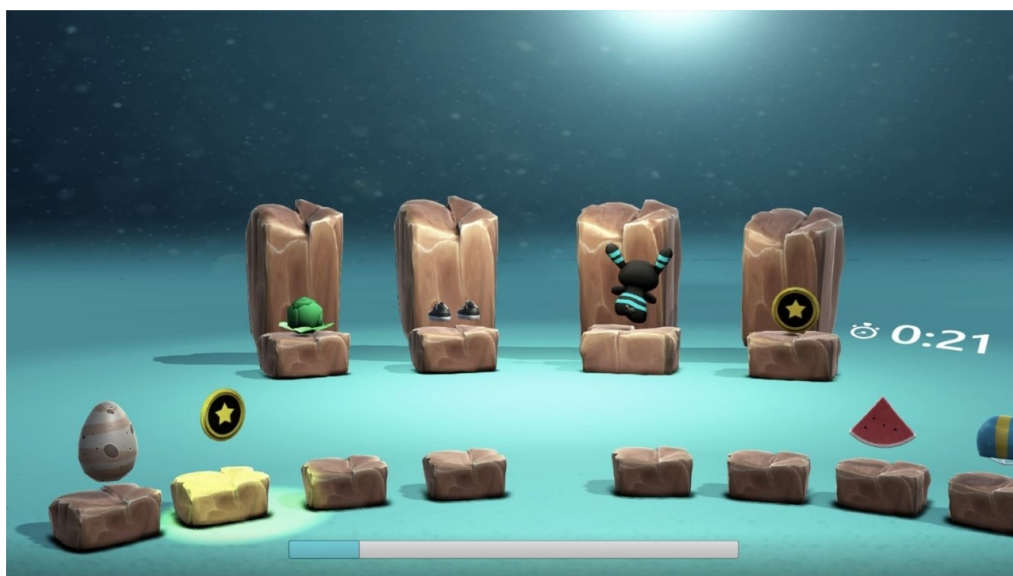
Select the item which has a pair on the screen





PROBLEM SOLVING

CLONES

SAMPLE SETTINGS





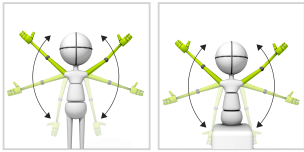
| | | |
|--------------------|--------------------------|--------------------------|
| ◀ | Difficulty 1/3 | ▶ |
| Duration 90s | | Minitask duration 30s |
| Range 20% ↔ 80% | | Number of pairs 4 |



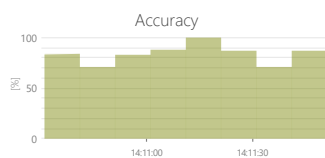
PROBLEM SOLVING CLOCK

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

18 point(s)



Problem solving

39 %

ADJUSTMENTS

- Task duration
- Time to complete action
-

OBJECTIVES

- Speed of decision making
- Visual motor coordination
- Logical tasks

INSTRUCTION FOR PATIENT

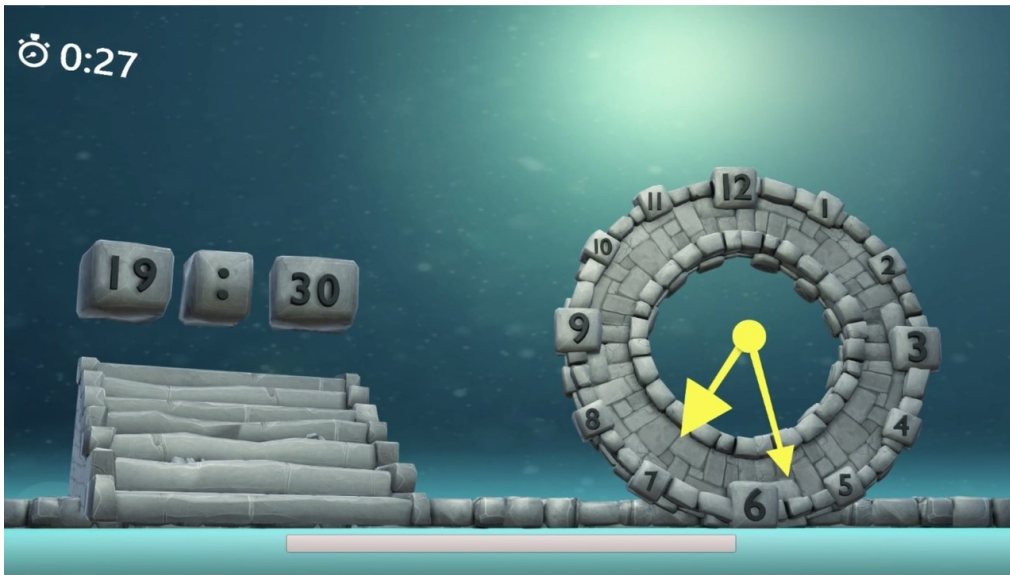
Control the arrows to set the time visible on the left clock



PROBLEM SOLVING

CLOCK

SAMPLE SETTINGS



| | |
|---------------------|------------------------------|
| | |
| Duration < 90s > | Minitask duration < 30s > |
| Angle 180° | Angle 180° |



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.

| Time Slot | Accuracy [%] |
|-----------|--------------|
| 14:11:00 | ~85 |
| 14:11:00 | ~75 |
| 14:11:00 | ~85 |
| 14:11:00 | ~90 |
| 14:11:00 | ~100 |
| 14:11:30 | ~90 |
| 14:11:30 | ~75 |
| 14:11:30 | ~90 |



Problem solving

- Task duration
- Range
- Show path
- Maze size

- Logical tasks
- Planned movements
- Planning and Strategy

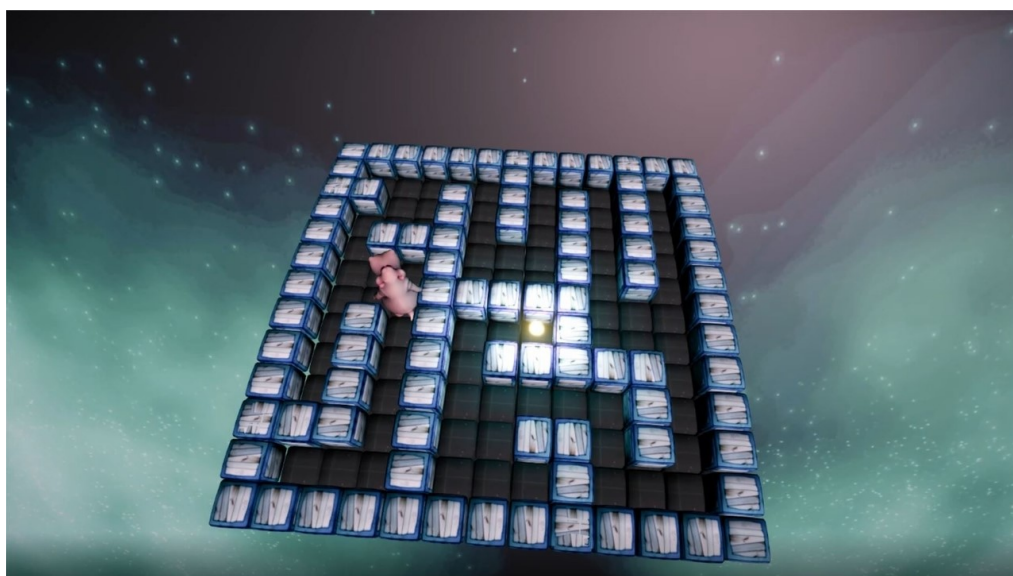
Lead the hippo through the maze to the glowing target.

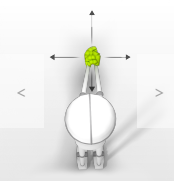



PROBLEM SOLVING

MAZE

SAMPLE SETTINGS





◀

Difficulty

▶

2/4

◀

Duration

▶

90s

◀

Range

▶

0% 100%

0% 100%

◀

Show path

▶

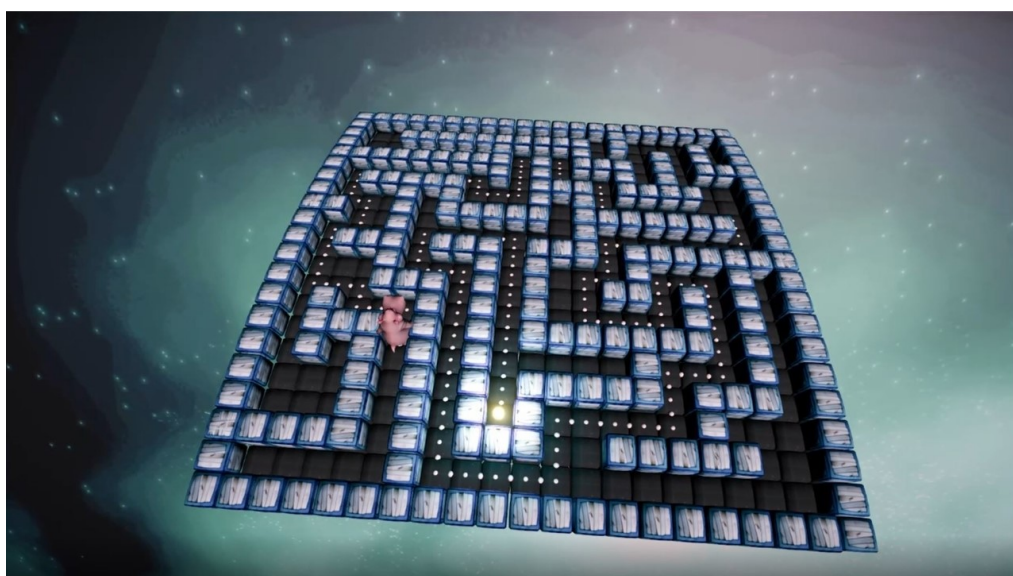
No



◀

Maze size

▶

6





◀

Difficulty

▶

Custom

◀

Duration

▶

90s

◀

Range

▶

20% 80%

20% 80%

◀

Show path

▶

Yes

◀

Maze size

▶

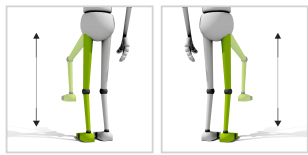
10



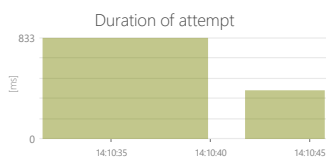
SPECIALIZED SINGLE LEG STANCE TEST

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

CONTROL MODES



RESULTS



ADJUSTMENTS

- Time to complete action

OBJECTIVES

- Test the limits of balance and equilibrium
- Knees lifting
- Postural stability

INSTRUCTION FOR PATIENT

Try to keep your body balanced while performing single leg stance