VAST.Rehab
REHABILITATION IN VIRTUAL REALITY

# EXTENSION PACK FOR X-COGNI

2021.4

# 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:

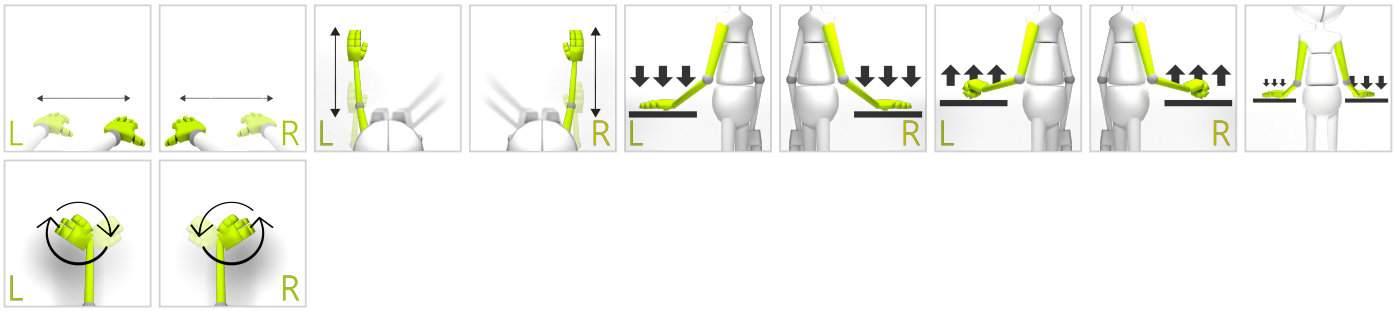
- Windows 10
- INTEL i5 processor
- 8GB RAM

# SPEED

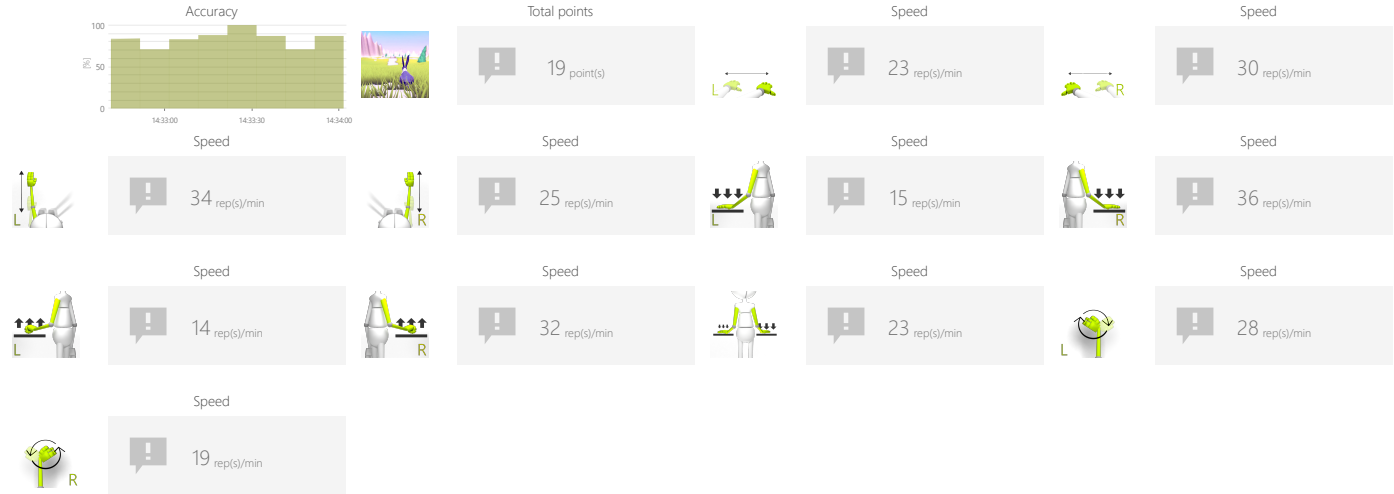
## RABBIT

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
- Distance from edge

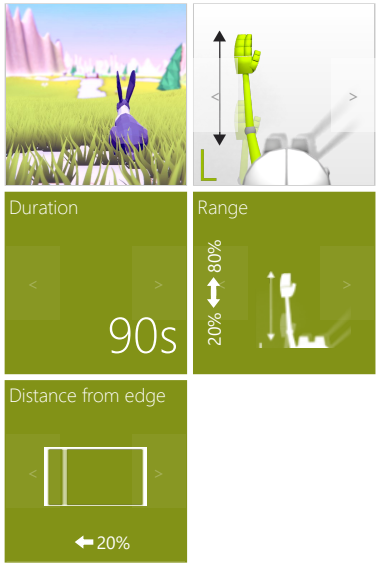
## OBJECTIVES

- Speed of movement
- Repetitive movements

## INSTRUCTION FOR PATIENT

Go through the entire route as fast as you can

## SAMPLE SETTINGS

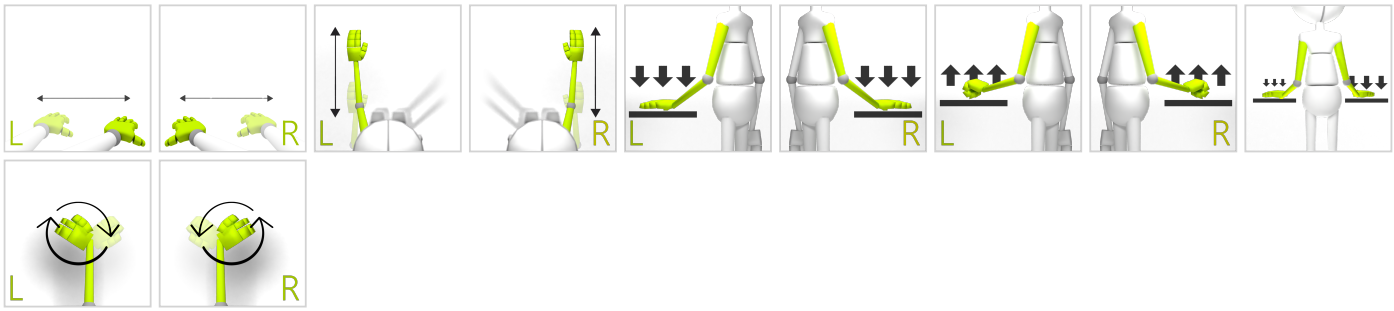


# SPEED

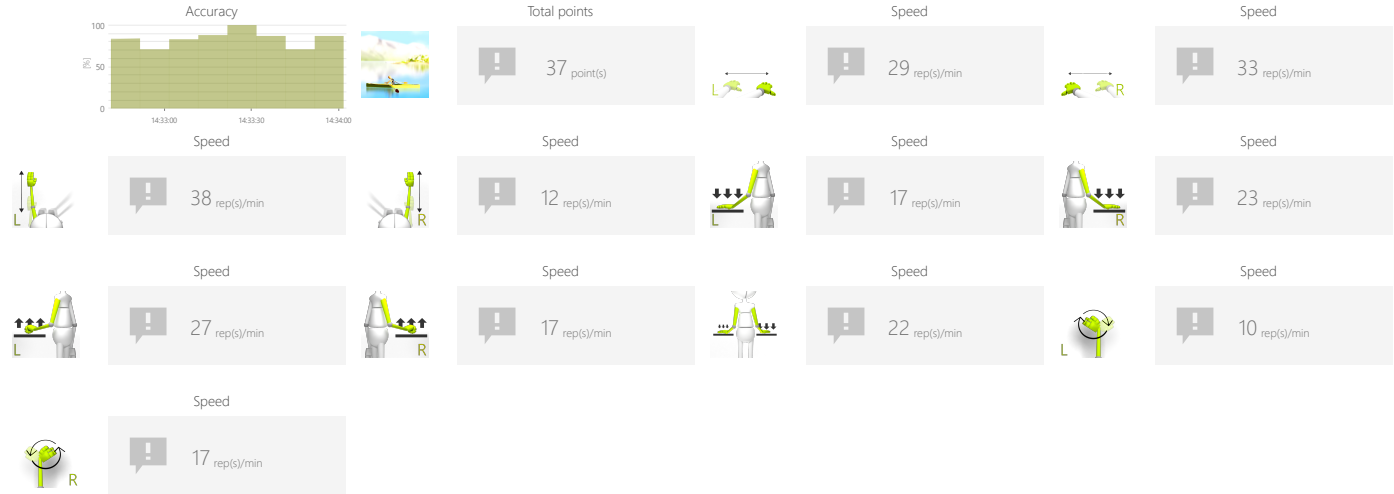
## KAYAK

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
- Distance from edge

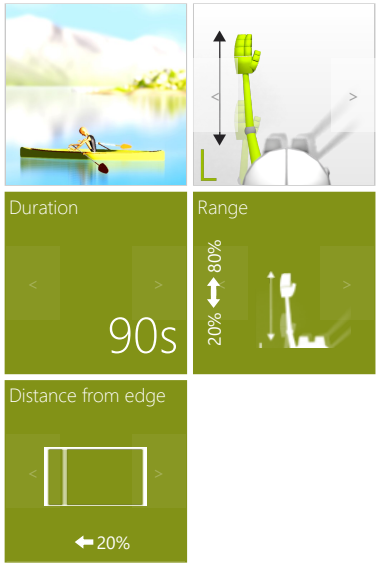
## OBJECTIVES

- Speed of movement
- Repetitive movements

## INSTRUCTION FOR PATIENT

Row as fast as you can

## SAMPLE SETTINGS



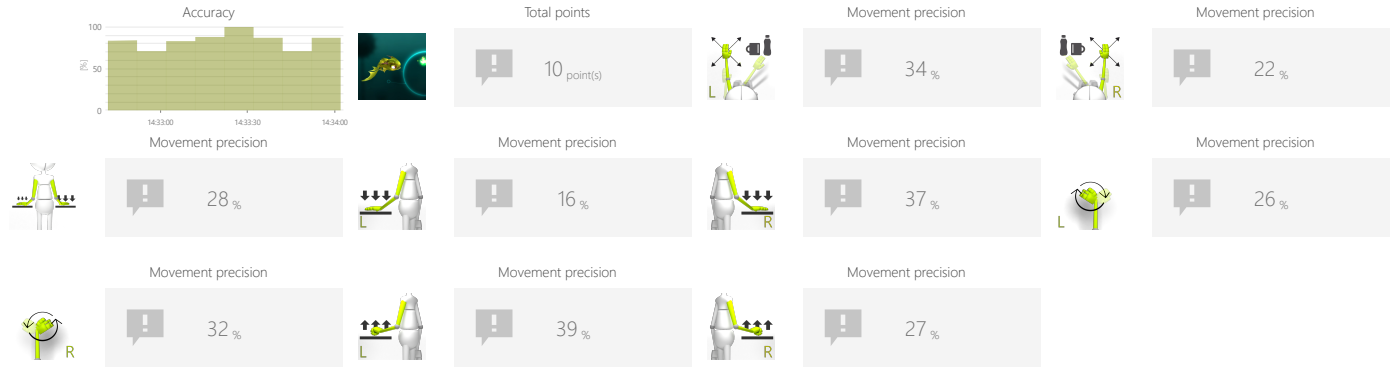
# MOVEMENT PRECISION

## 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
- Route shape
- Speed of objects

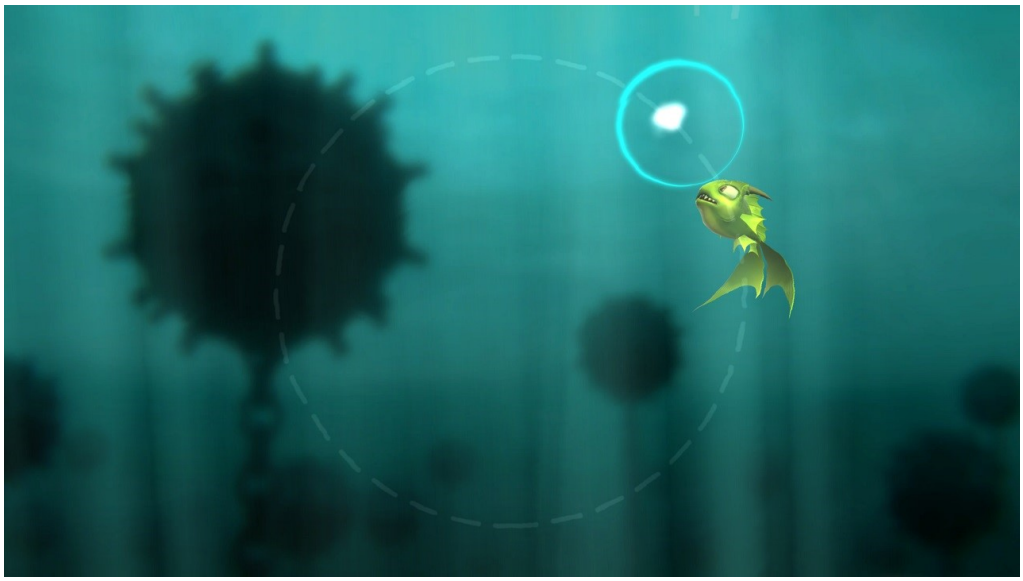
## OBJECTIVES

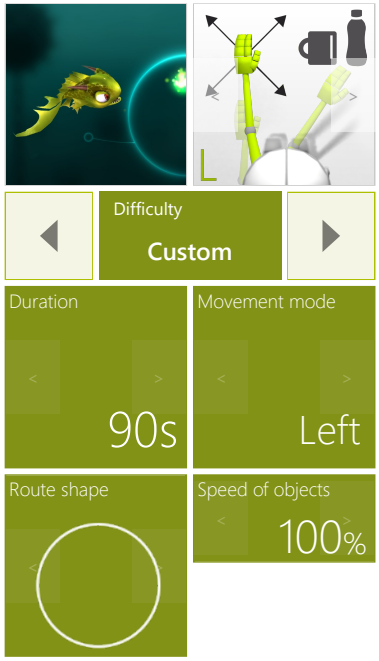
- 3D space movements reproduction
- Planned movements
- Muscle strengthening
- Movement precision
- Visual motor coordination

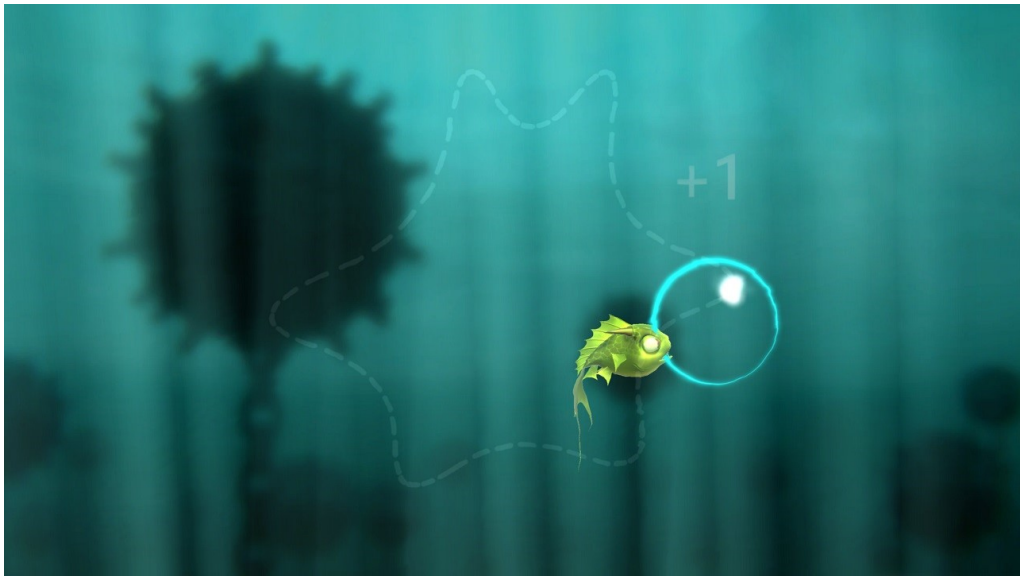
## INSTRUCTION FOR PATIENT

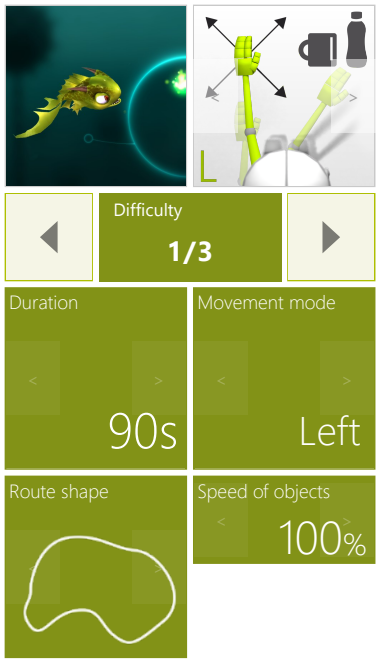
Move the blue circle to protect the sparks source from the fish. When the sparks source is inside the circle it is safe

## SAMPLE SETTINGS





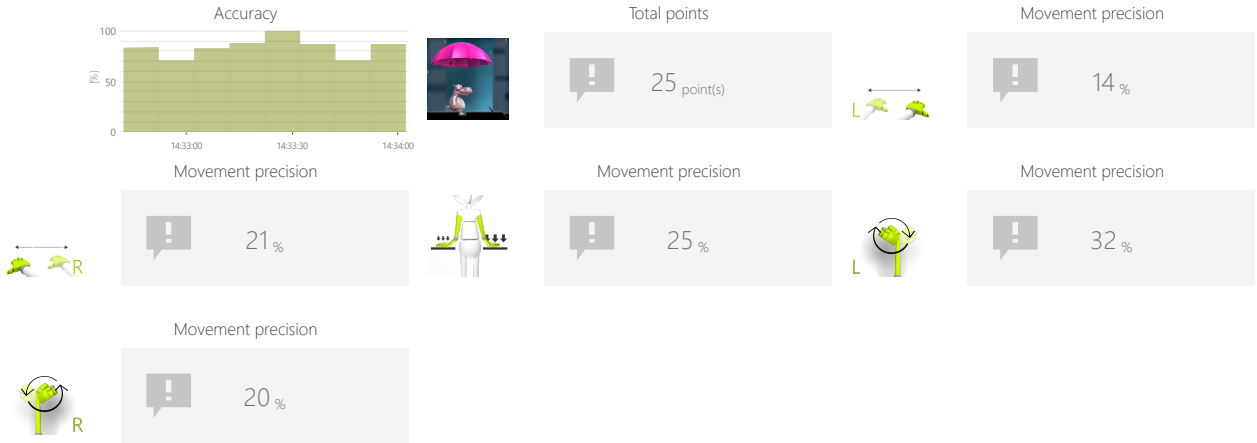
# MOVEMENT PRECISION

## 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
- Distance from edge
- Umbrella size

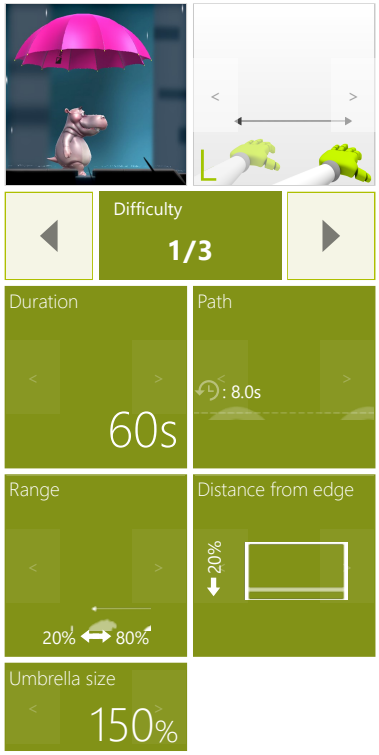
## OBJECTIVES

- Movement precision
- Visual motor coordination

## INSTRUCTION FOR PATIENT

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

## SAMPLE SETTINGS

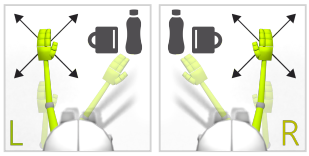


# FUNCTIONAL MOVEMENTS

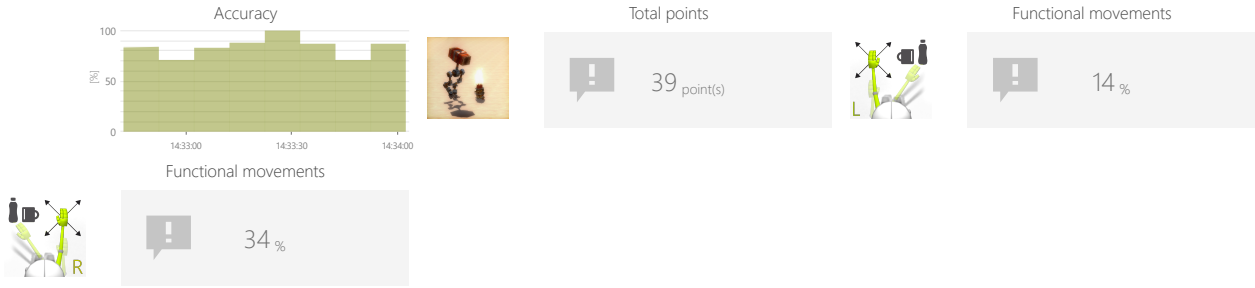
## HAMMER

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

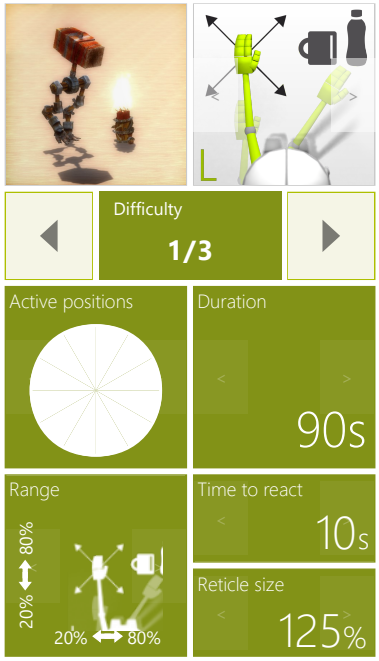
## OBJECTIVES

- 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

## SAMPLE SETTINGS

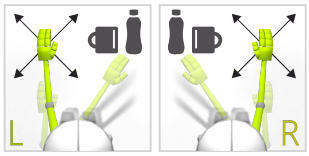


# FUNCTIONAL MOVEMENTS

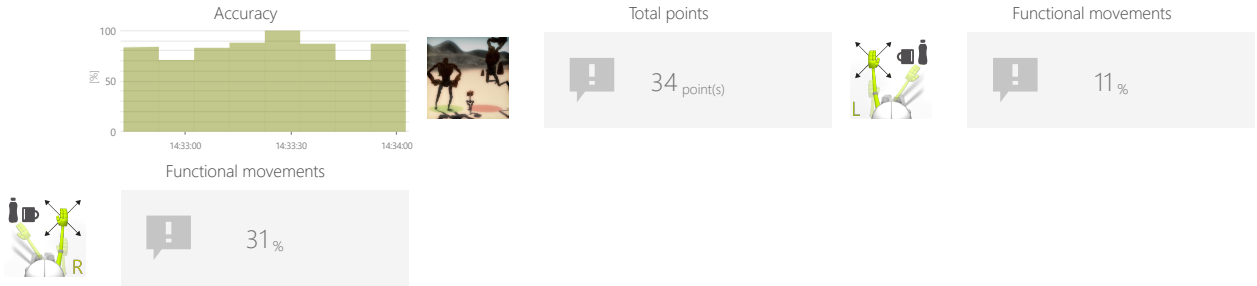
## RUNAWAY

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

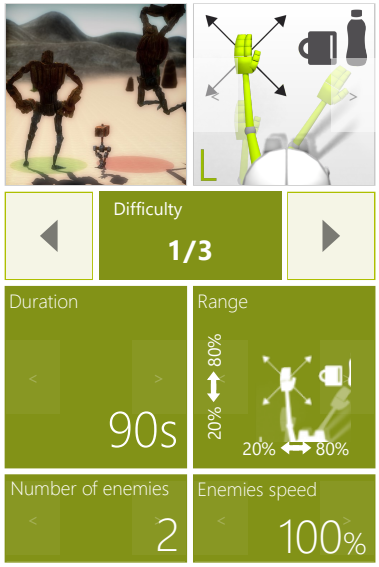
## OBJECTIVES

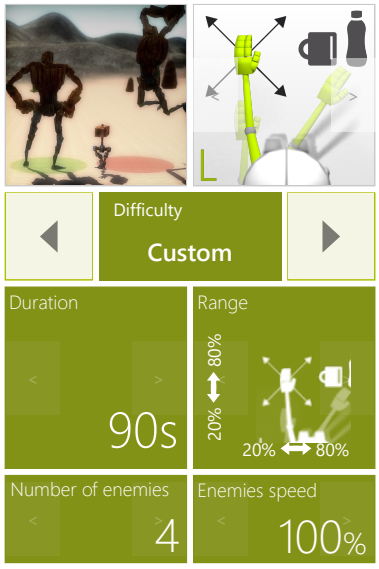
- Predicting the trajectory of objects in 3D space
- Response to negative visual stimuli
- Focusing
- Perceptivity
- Balance and equilibrium training

## INSTRUCTION FOR PATIENT

Keep away from the big robots

## SAMPLE SETTINGS



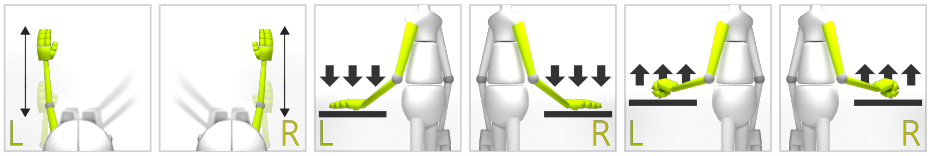



# FUNCTIONAL MOVEMENTS

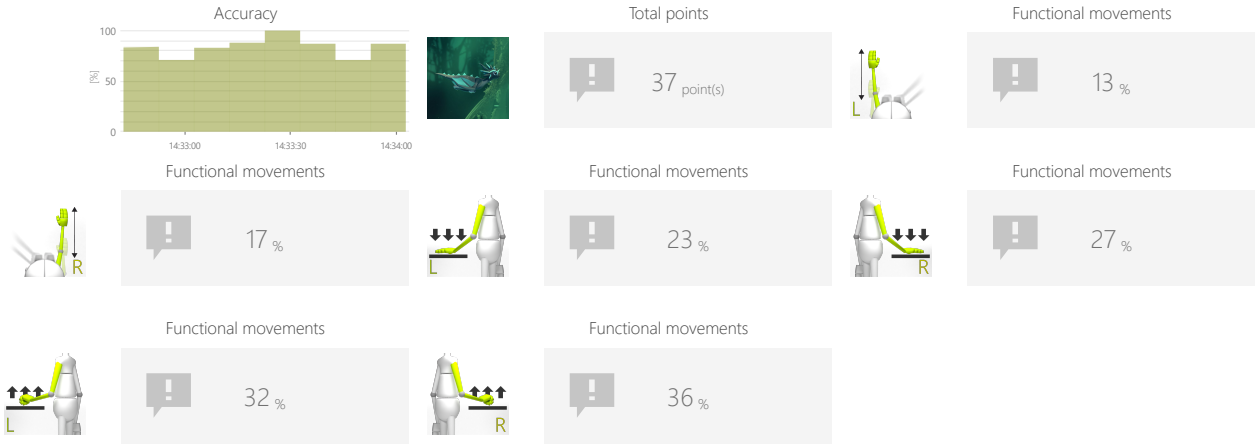
## DRAGON

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

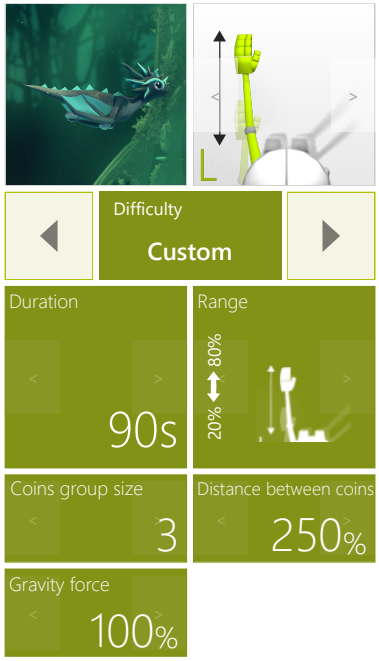
## OBJECTIVES

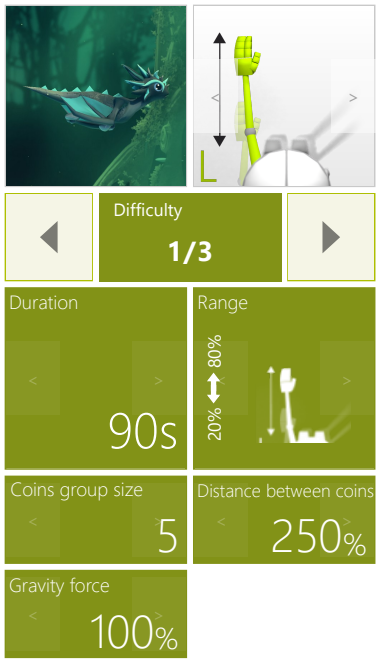
- Predicting the trajectory of objects
- Improve range of motion
- Visual motor coordination
- Muscle strengthening
- Planning and Strategy

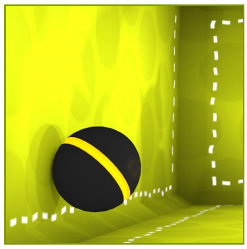
## INSTRUCTION FOR PATIENT

Fly and collect the coins

## SAMPLE SETTINGS



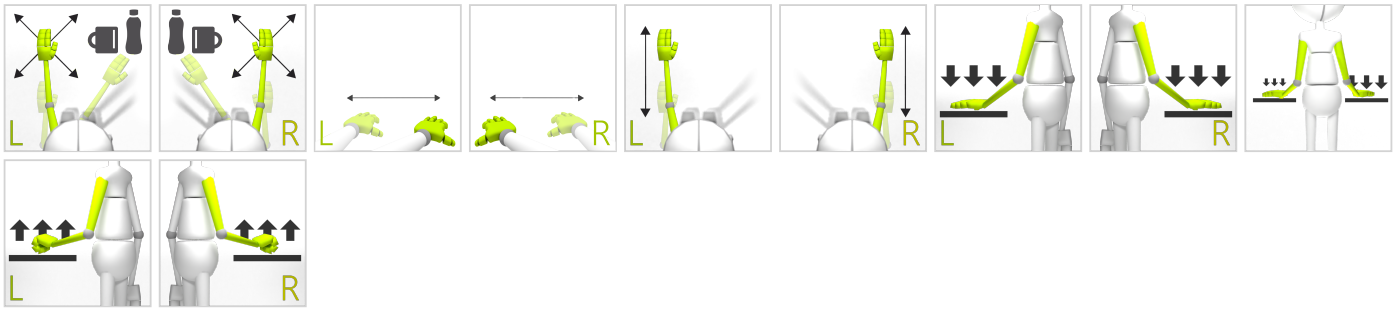


# FUNCTIONAL MOVEMENTS

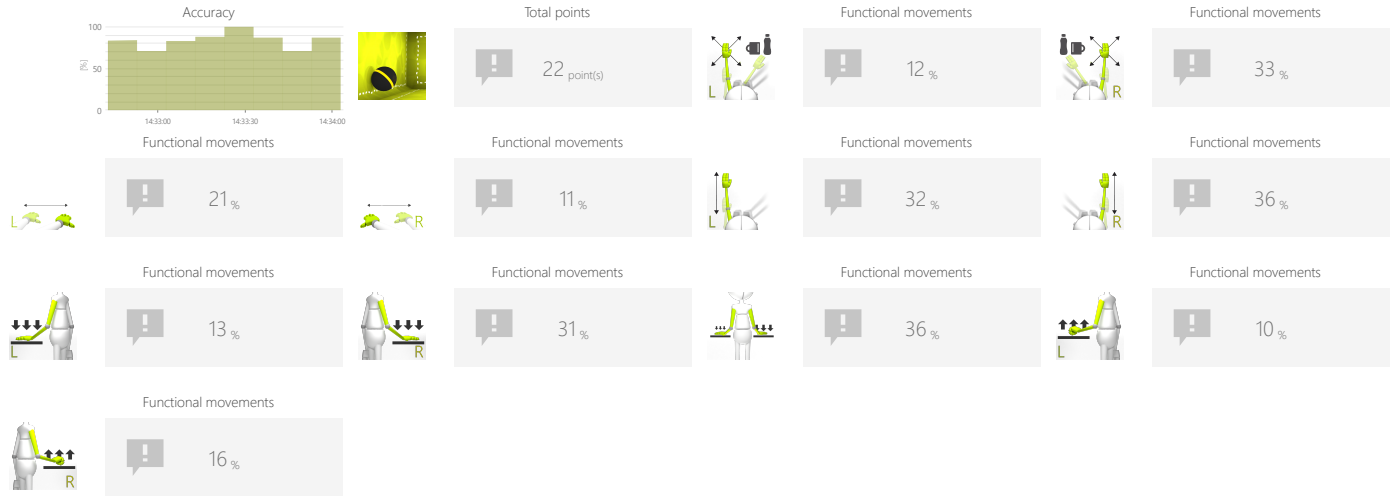
## ARCANOID

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

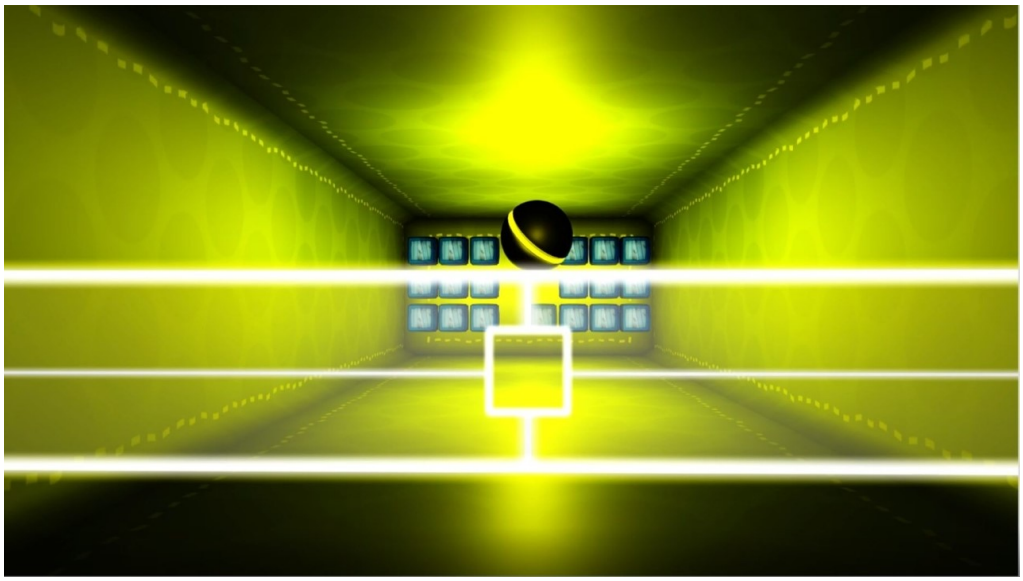
## OBJECTIVES

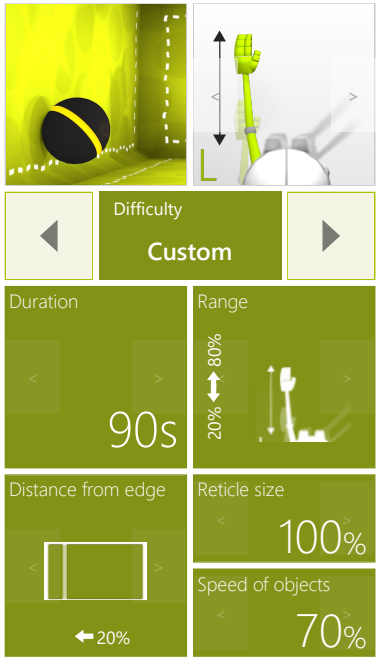
- Dynamics of planned movements
- Predicting the trajectory of objects in 3D space
- Visual motor coordination

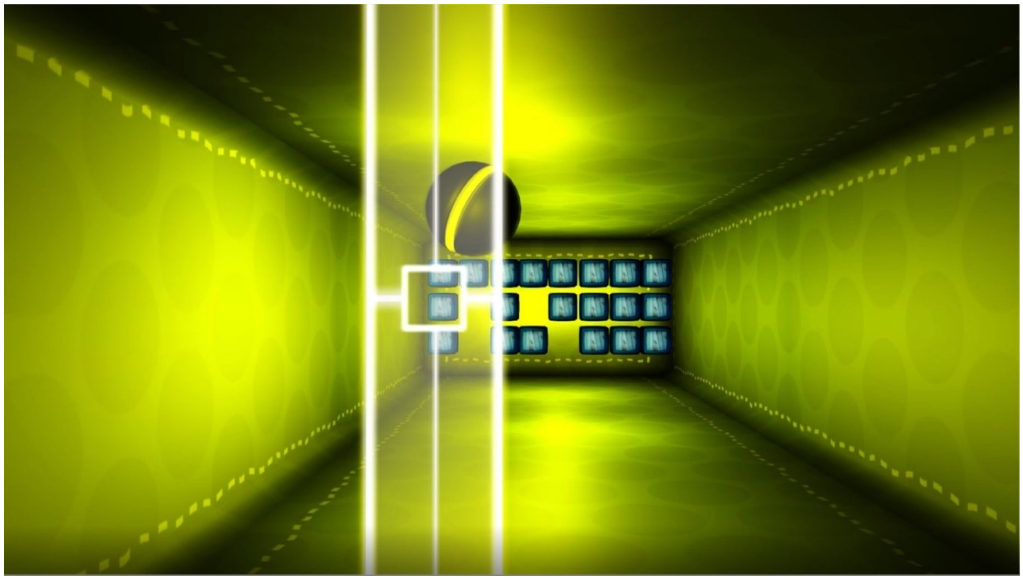
## INSTRUCTION FOR PATIENT

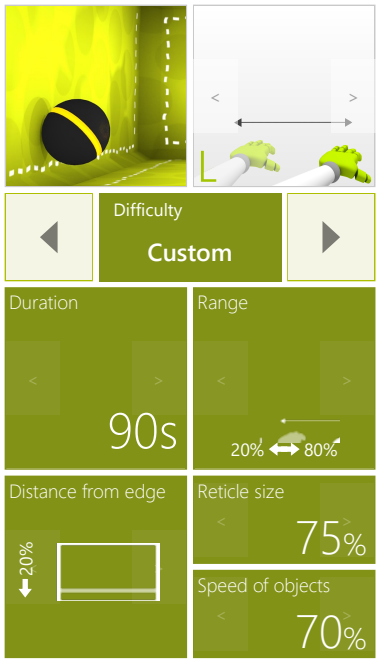
Destroy as many boxes as you can

## SAMPLE SETTINGS





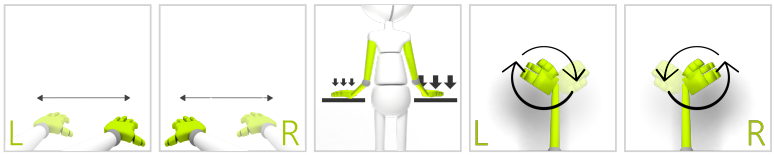


# FUNCTIONAL MOVEMENTS

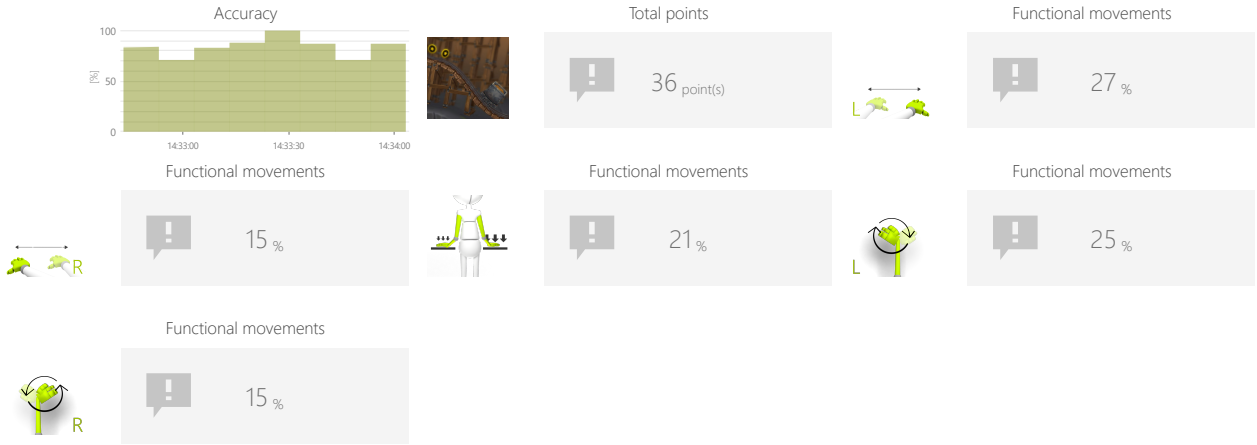
## RAILS

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
- Distance from edge
- Enable derailing
- Enable obstacles
- Time between objects
- Player speed

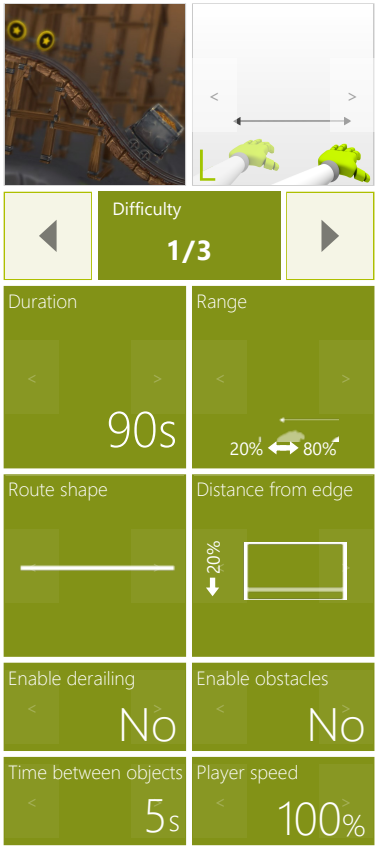
## OBJECTIVES

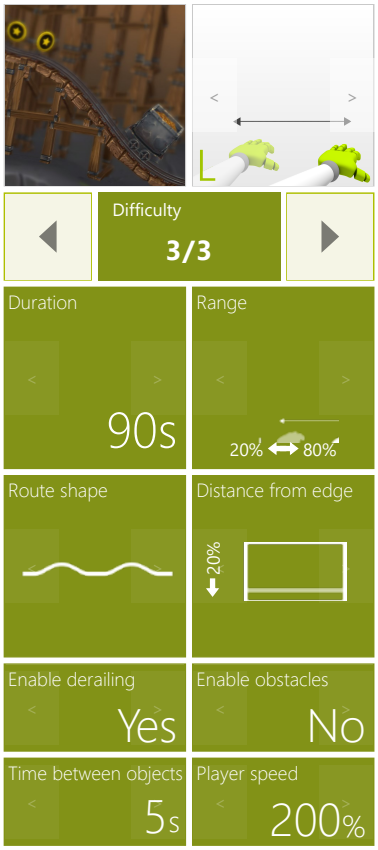
- Dynamic responses to emerging moving targets
- Predicting the trajectory of objects
- Visual motor coordination

## INSTRUCTION FOR PATIENT

Tilt the world to let the trolley collect the coins

## SAMPLE SETTINGS



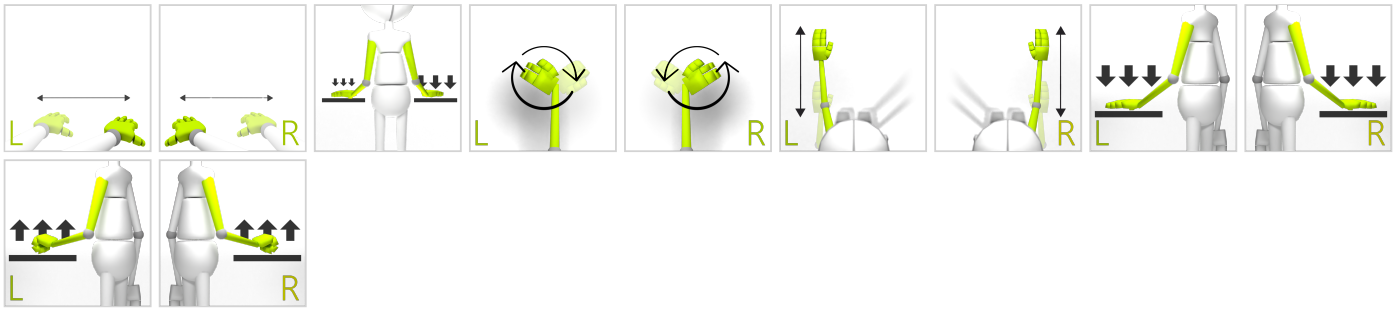



# FUNCTIONAL MOVEMENTS

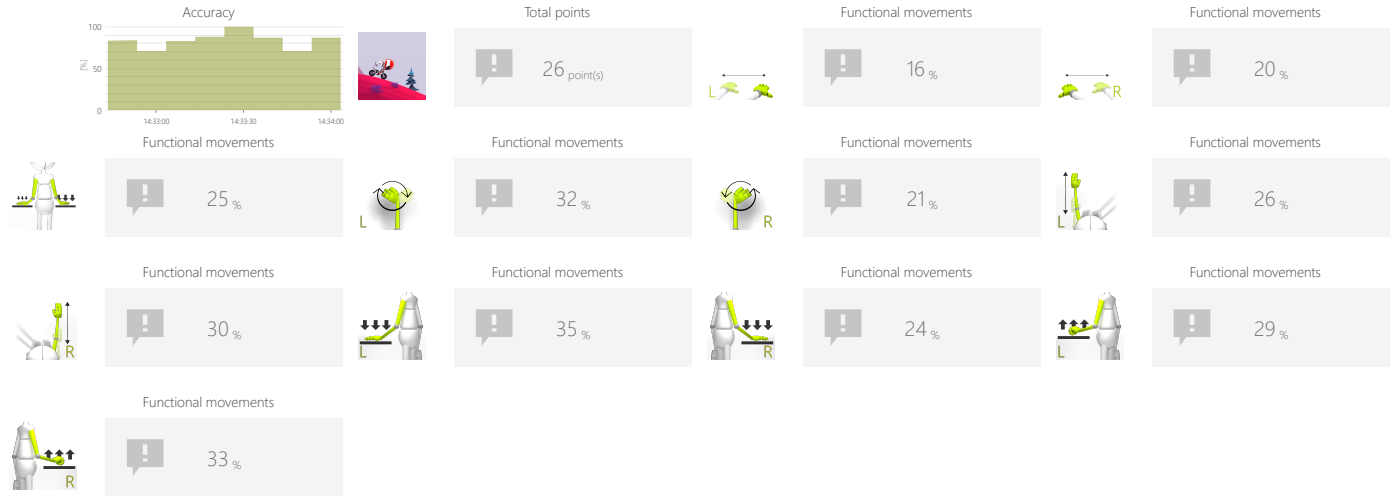
## MOTOCROSS

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
- Distance from edge
- Route shape

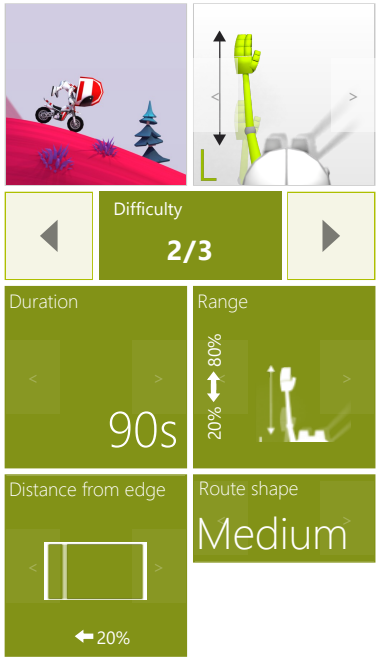
## OBJECTIVES

- 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

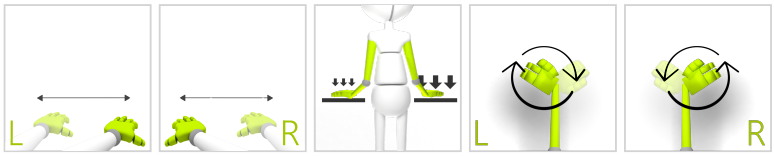


# FUNCTIONAL MOVEMENTS

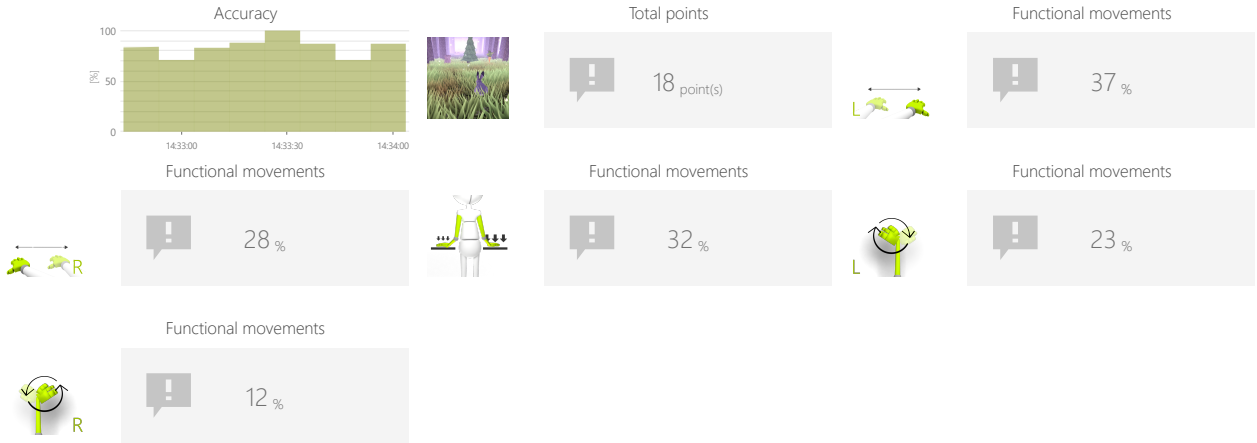
## FOREST RUNNER

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
- Distance from edge
- Player speed

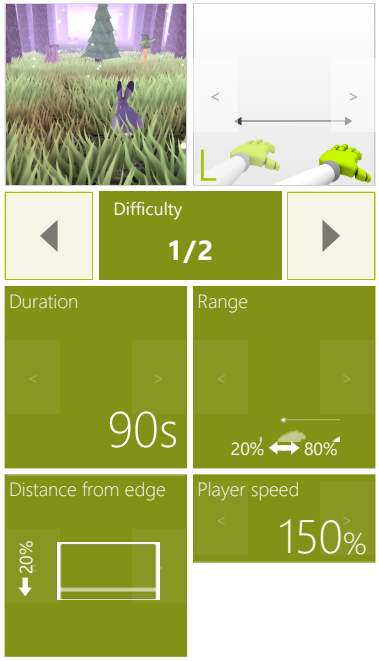
## OBJECTIVES

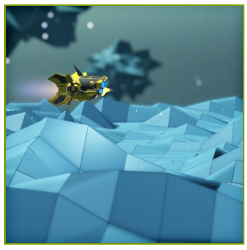
- Dynamics of planned movements
- Focusing
- Planned movements
- Speed of movement

## INSTRUCTION FOR PATIENT

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

## SAMPLE SETTINGS



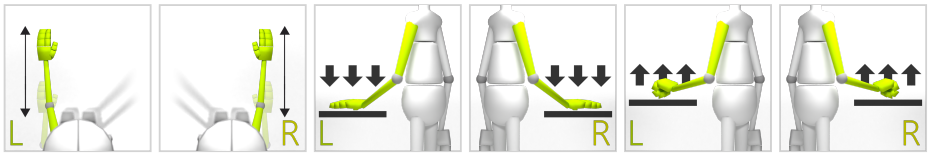


# FUNCTIONAL MOVEMENTS

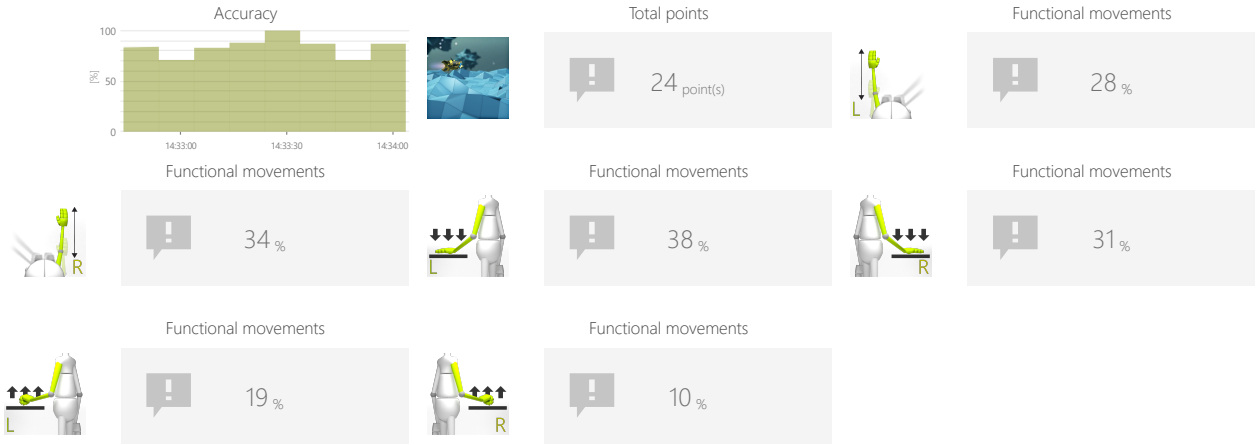
## GEOMETRY FLIER

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
- Distance from edge
- Player speed

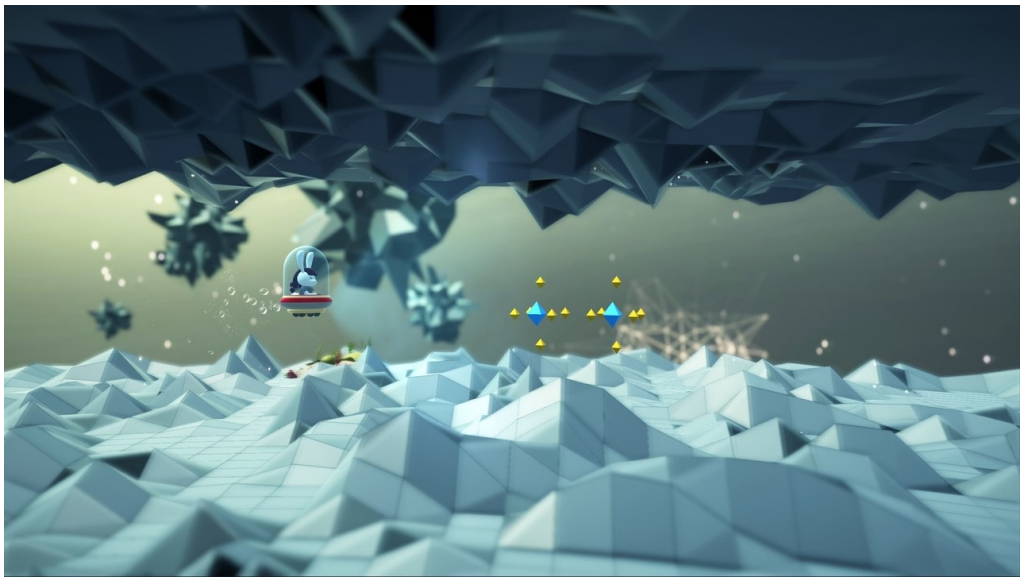
## OBJECTIVES

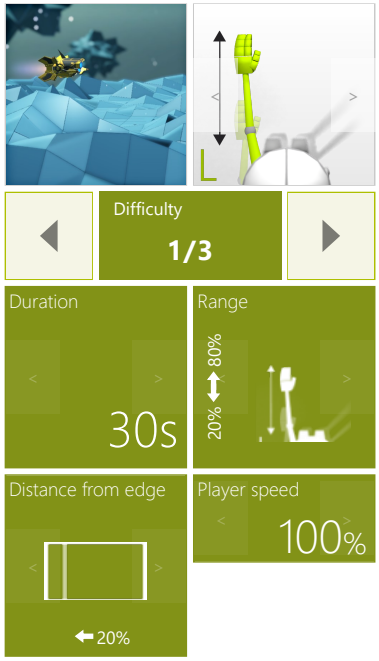
- Dynamics of planned movements
- Activity in a given rhythm
- Visual motor coordination

## INSTRUCTION FOR PATIENT

Control the vehicle to avoid the obstacles

## SAMPLE SETTINGS



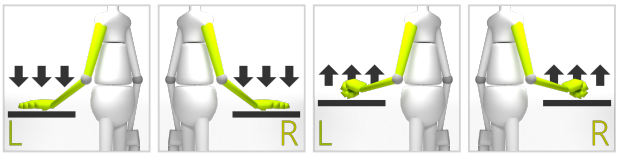


# STRENGTH

## STRENGTH TEST

Measure and gently motivate to increase individual's force while performing predefined movement patterns.

## CONTROL MODES




## ADJUSTMENTS

- Time to complete action

## OBJECTIVES

- Strength examination
- Muscle strengthening

## INSTRUCTION FOR PATIENT

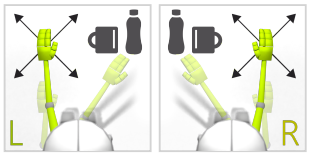
Try to achieve best result

# PROBLEM SOLVING

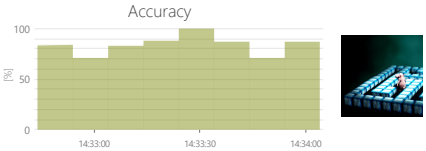
## MAZE

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
- Range
- Show path
- Maze size

## OBJECTIVES

- Logical tasks
- Planned movements
- Planning and Strategy

## INSTRUCTION FOR PATIENT

Lead the hippo through the maze to the glowing target.

## SAMPLE SETTINGS