

Cognilit Trainer Resource

Cognitive Training For High Performing Athletes

Lenica Research Group Inc. ("Lenica") is developing a series of cognitive training and assessment tools for the medical and sports community to improve cognitive performance. Cognilit combines pioneering virtual reality technology with 3D multiple object tracking research to train cognitive function.

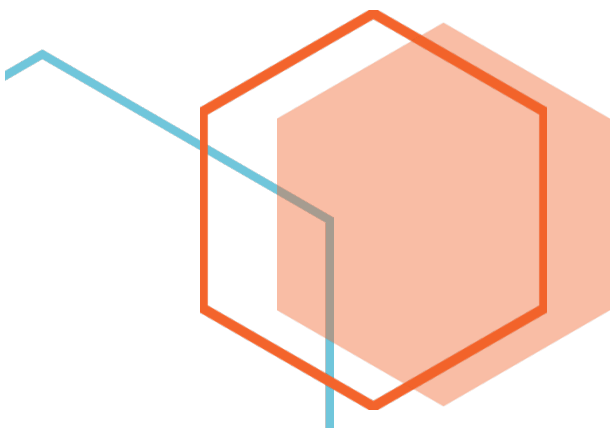


Cognilit - Immersive Cognitive Training

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Cognilit - Immersive Cognitive Training

Cognilit™ is a fully immersive brain training program designed using pioneering 3D-Multiple Object Tracking research (3D-MOT). Cognilit™ trains key cognitive skills including attention, processing speed, complex movement perception and working memory. Research on 3D-MOT has shown it to improve decision-making accuracy in soccer players (Romeas et al., 2015), increase ability to perceive and process complex visual movement patterns (Fabuert et al., 2012, Abernethy et al., 1999), improve sustained, selective and divided attention (Parson et al., 2015) and increase peripheral and situational awareness. This has important implications in the sports industry where athletes are constantly searching for new ways to gain an edge over their competition. In addition, Cognilit™ can be used to compare pre- and post-concussion cognitive performance, helping coaches determine whether an athlete is ready to return to game-play.



Training with Cognilit improves:

- Attention and focus
- Peripheral awareness
- Complex movement perception
- Decision-making accuracy
- Cognitive processing speed

Why incorporate Cognilit into your athletic training?

Cognitive performance plays a key role in achieving peak athletic performance. Most high performing athletes spend over 90% of their training on fitness and technique, often ignoring their visual skills. Sports science research has shown what separates great athletes from the group is not the physical abilities but the mental skills. Cognilit provides your athletes with the tool they need to train and enhance their cognitive skills.

Incorporating Cognilit into your Training

Incorporating Cognilit into your regular training is easy. As a trainer or coach, you can have your athletes in any of the following ways:

- Athletes come in 15 - 30 minutes before their regular physical training and complete a 10 minute Cognilit session.
- Incorporate Cognilit into your training circuit.
- Cognilit as a stand alone training session

You need three things to use Cognilit in VR:

- Virtual reality headset (Google cardboard or Samsung Gear VR)
- IOS or Android smartphone
- Cognilit app

Hardware Setup

Although Cognilit can be used in without a virtual reality headset, it is highly recommended you train your athletes in a virtual reality to achieve maximum results. Order your headset at <http://www.lenica.ca/orderheadset>

Samsung Gear VR



To run Cognilit on Samsung Gear VR you need:

Cognilit is designed to work directly from the Android app store and not the Oculus store

- Download Package Disabler Pro app
 - Type in Gear in the search bar
 - Check the Gear VR Service box
 - Run Cognilit

The following Samsung models are supported:

- Galaxy S8
- Galaxy S7
- Galaxy S7 Edge
- Galaxy Note 5
- Galaxy S6 Edge+
- Galaxy S6
- Galaxy S6 Edge

Google Cardboard



<http://www.lenica.ca/orderheadset>

Google cardboard allows you to use Cognilit with any vr-capable smartphone. The phone needs to meet the following requirements:

Android device with Android 5 (Lollipop) or higher

- To find your current Android version open Settings and then System > About device > Android version

Apple iPhone Recommended: iPhone 6s Plus, 6 Plus, or 7 Plus

- Minimum: iPhone 5s or newer
- To find your iPhone hardware model, look for the model number on the back of the phone and match it to a model

Software Setup

The Cognilit app can be downloaded for free from the Google and Apple app store.

1. Download Cognilit from the Google or Apple app store



2. Open Cognilit on your device and select VR or phone mode



3. Select your training environment



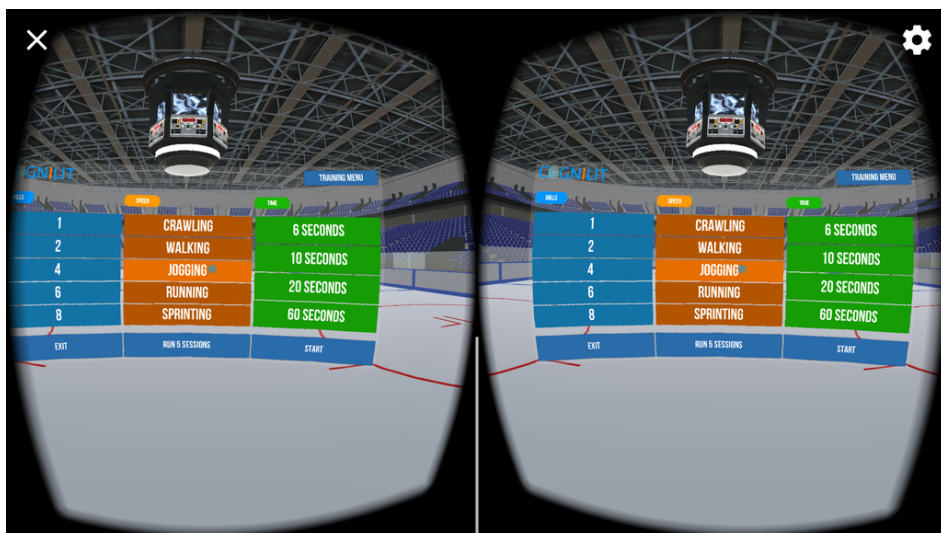
Using the app

The program utilizes the user's head movement in the same way you would use a computer mouse to select objects on a screen.

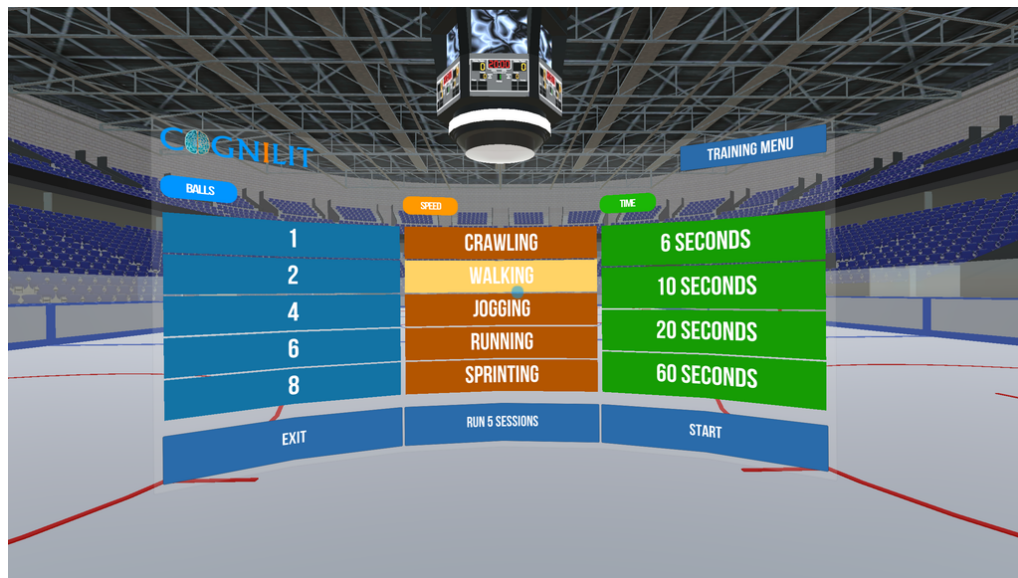
Phone mode is the 2D version of the program which does not require a virtual reality headset. The blue pointer in the middle of the screen will allow the user to select the option they want by tapping anywhere on the screen.



VR mode is the fully immersive version of the program which requires a headset. The headset must have an action button to allow you to interact with the app in 3D



Practice Mode



Balls

- Select the total number of balls you want in the environment. The athlete will be required to track half of those balls.
- The cognitive attribute trained is complex movement perception.

Speed

- Select the speed of movement of the balls.
- The cognitive attribute trained is processing speed.

Time

- This option determines how long the balls will move in the environment.
- The cognitive attribute trained is focus and mental endurance.

“Start” option

- Select this option to run one session.

“Run 5 sessions” option

- Select this option if you want to run multiple sessions consecutively.

Training Mode

This mode utilizes an algorithm to modify the complexity of the movement of balls based on user's cognitive performance. When the athlete selects all the correct balls, the algorithm increases the difficulty in the next level. If the athlete gets one of the balls wrong the algorithm decreases the level.



Tracking Your Athletes' Data

Use training mode to determine how well your athletes are progressing. Save each athlete's training level after each session and use it to monitor their progress.

Sign up for a trainer account at www.lenica.ca and get access to the data tracking sheet.

Assessing Your Athletes' Cognitive Performance

Get comprehensive information on your athletes' cognitive performance by requesting an assessment from the Lenica research team. Once you have signed up for a trainer account at www.lenica.ca you will be able to upload your athlete training data through our secure portal. Our team will email you assessment results within 72 hours.

If you have any questions, please contact us [here](#).

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