

SENAPTec SENSORY TRAINING APP

The Senaptec Sensory Training application provides tools designed to improve visual and sensorimotor skills. This application is a separate program from the Senaptec Sensory Station application, which is used to assess sensory performance. When connected to the internet, the two applications will be linked in the cloud, so that the data associated with the user in one application will be tied to the data for the same user in the other application.

Currently 7 tools are offered in the Senaptec Sensory Training app:

- Eye Hand Coordination
- Go No Go
- Perception Training
- Dynamic Vision
- Depth Perception
- Near Far Quickness

The Eye Hand Coordination and Go No Go training modules are intended to be used on the 55" touchscreen of the Sensory Station. The other tools are designed to be used with the 13.3" tablet. A separate remote app is required for the user to provide input from a distance.

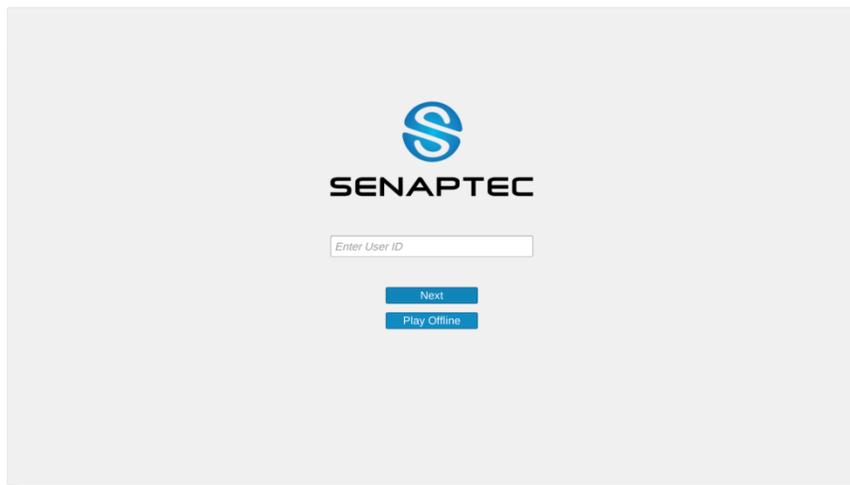
ACTIVATION

On a new installation of the app, an activation code is required. This code is provided by Senaptec and is unique for every organization. This code is a six digit alphanumeric code that is entered in the text box as seen below. If you do not have a code, please contact Senaptec.



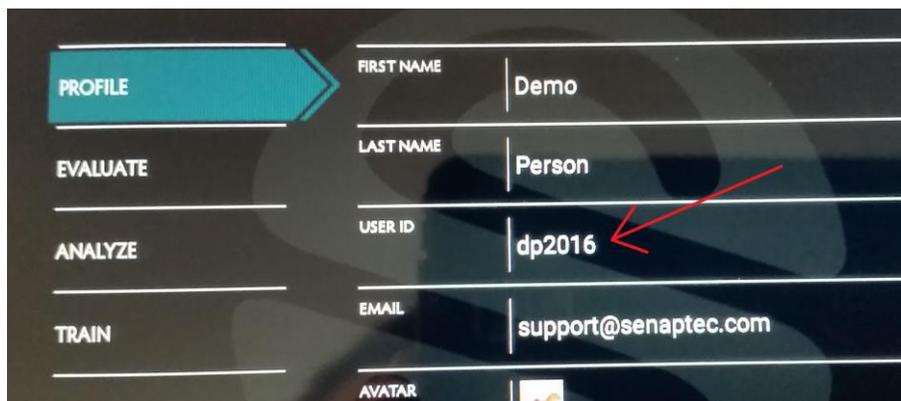
ONLINE VS OFFLINE MODES

The Senaptec Sensory Training Application can be used with or without an internet connection. To use without an internet connection, at the login screen, tap on “Play Offline.” Using this app while connected online provides additional features such as saving scores, saving settings, and maintaining a leaderboard.



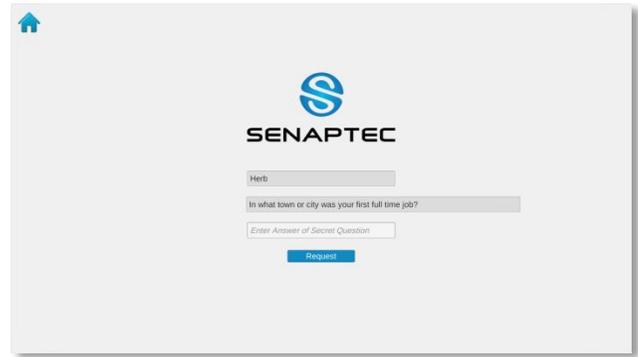
To use online mode, you must already have users created in the main Sensory Station app. This app accesses the username through the cloud. New users are NOT created through this app at this time. Users must first be established in the Senaptec Sensory Station application.

The User ID is the same User ID that the athlete has in the Senaptec Sensory Station Assessment Application. If you do not remember that User ID, simply open up the Sensory Station Application. Select the individual of interest, and look at their user ID (see the red arrow in the screenshot below).



When a user logs into this training app for the first time, the user must create a password. Returning users enter their password to access the app. If the user has forgotten their password, they can tap on the Forgot button to answer a security question. The security question will reset the password.

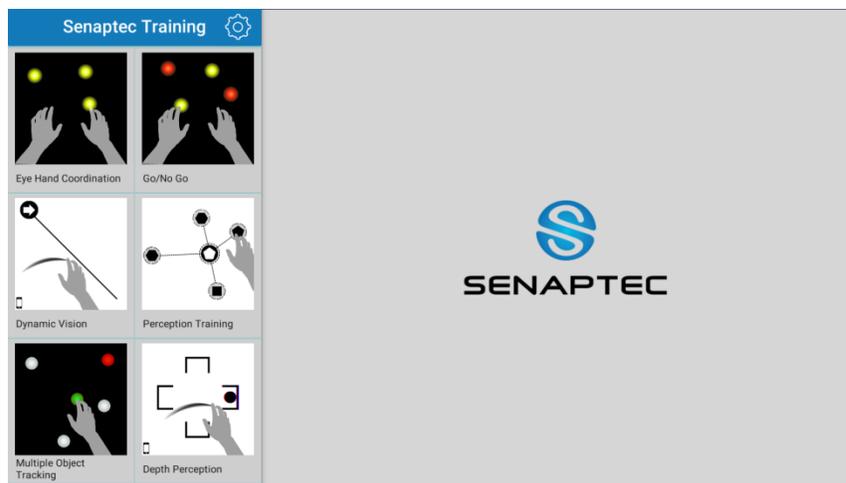
Security question can be different for each user. If you have forgotten the answer to the security question please contact Senaptec to reset the password.



DASHBOARD + SETTINGS

After login, the user is brought to the main dashboard. The dashboard provides access to the training modules available on the left panel. This panel is vertically aligned and you can scroll down to see all available training modules. The gear icon at the top of the left panel provides:

- 1) Access to Bluetooth options to connect to a remote
- 2) Option to log out of the app



PAIRING THE PHONE WITHIN THE TRAINING APP

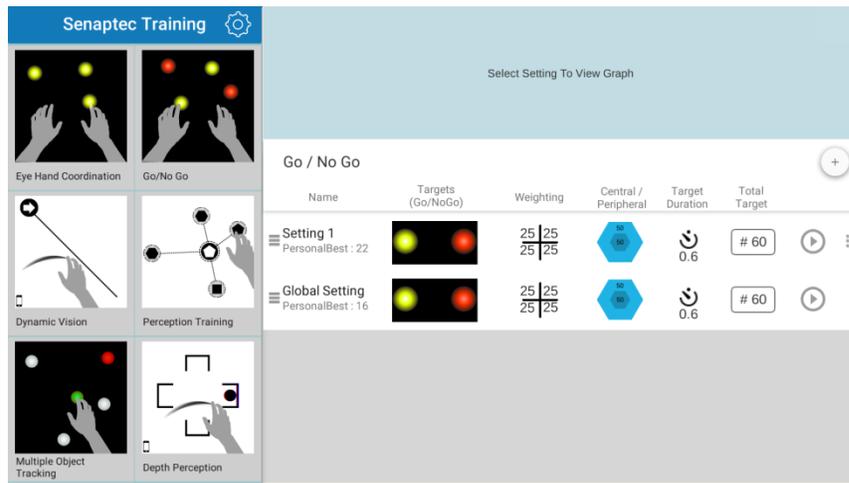
The first time the phone is used, it must be paired within the app. This is different than the hardware pairing that is done in the tablet settings. For subsequent use, you may be required to prompt the application to reconnect the phone.

Pairing: To pair the smartphone remote with the tablet, first open the Senaptec Training Remote app on the smartphone. (This is an app that must be downloaded and installed separately from the Sensory Station Assessment Remote App). Set it aside, and on the tablet tap the gear icon and select 'Bluetooth'. Tap 'Pair with New Device' and select the smartphone from the menu that pops up.

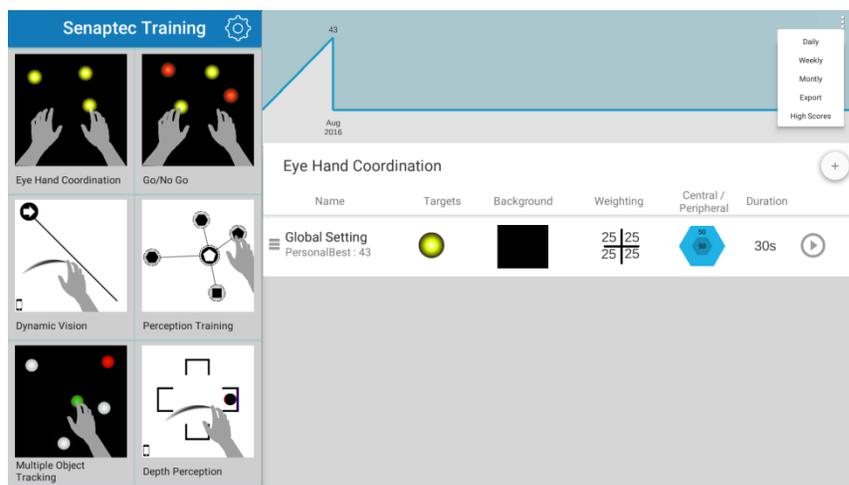
Reconnecting: When using the phone during a training session, you may need to reconnect the tablet and phone within the app. Select on a module that you want to use with the phone and hit "play". If the software does not respond to the swipes on the phone, then swipe inward from the right edge of the screen (on the tablet / large screen). Select "Reconnect". This will reconnect the phone with the tablet and you should be able to train as normal.

Tap on a training module to be used on the left panel to bring up the settings. There are two types of settings – global and custom. Global settings are provided for all users and cannot be deleted or modified. Custom settings are created and saved separately for each organization. A custom setting is created by tapping the + button (located in the upper right portion of the settings display). If a setting is created for one user, that setting is available for all users in that organization.

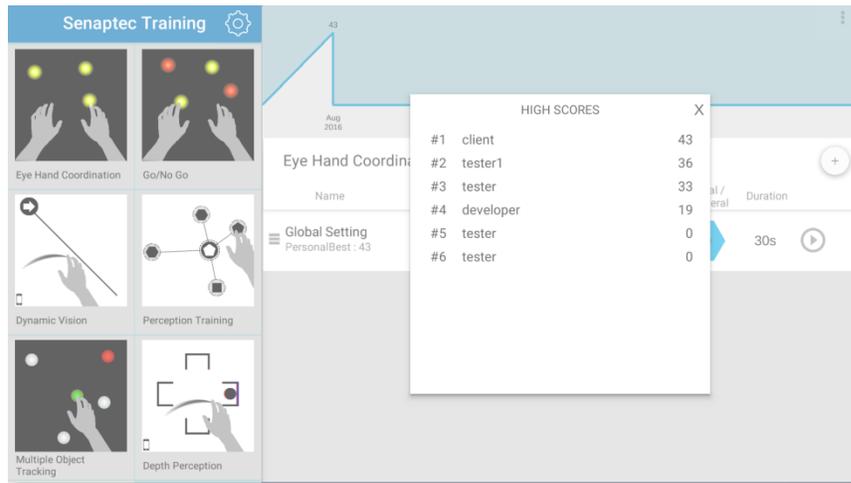
The setting view also provides icons to quickly review the parameters of the setting. To start the tool for that setting, tap on the play button  at the right side of the setting. To delete or edit the setting, use the menu (indicated by 3 dots) on the right of each setting.



When a setting is tapped, the score history of the user is shown at the top of the settings panel. At the top right of the score history, there is another menu option (indicated by three dots). By tapping on this menu, the score view can be changed to daily, weekly, or monthly view using the menu options. This history data can also be exported in a .csv format which is saved on the tablet.

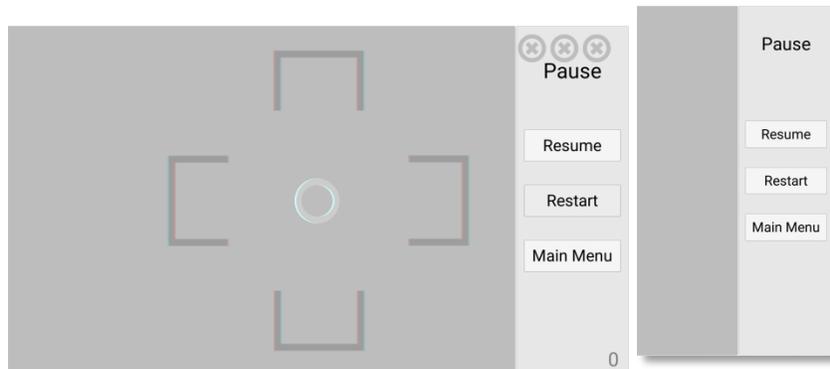


The high score table is available from the settings menu on the top right of the score history. This high score is specific to this setting. To see high scores for another setting, switch to another setting and display again through the menu option. The high score table is only available in online mode.



APPLICATION NAVIGATION

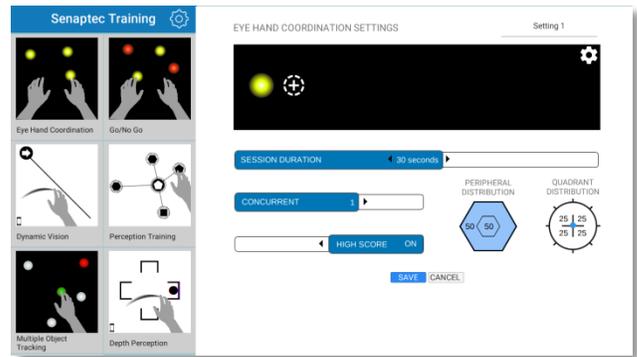
The Senaptec Sensory Training Platform is designed to operate with two screens (after login). The first screen is the settings menu that was described above. The second screen is the training module. After completing a training module, the user will automatically be returned to the settings menu. However, during any training session, the session can be paused or stopped with the tablet or the remote device. This is accomplished by swiping in from the right-hand side of the screen. A simple menu will appear giving the ability to pause, return to the main menu, restart, or resume.



EYE HAND COORDINATION

Eye Hand Coordination training is designed to train the speed and accuracy of visually guided hand responses to rapidly changing targets. Many of the parameters can be customized. These include:

- Name of setting
- Target image
- Background image
- Session duration
- Number of concurrent targets
- Central/peripheral distribution of targets
- Quadrant distribution of targets
- Create a high score board for this setting

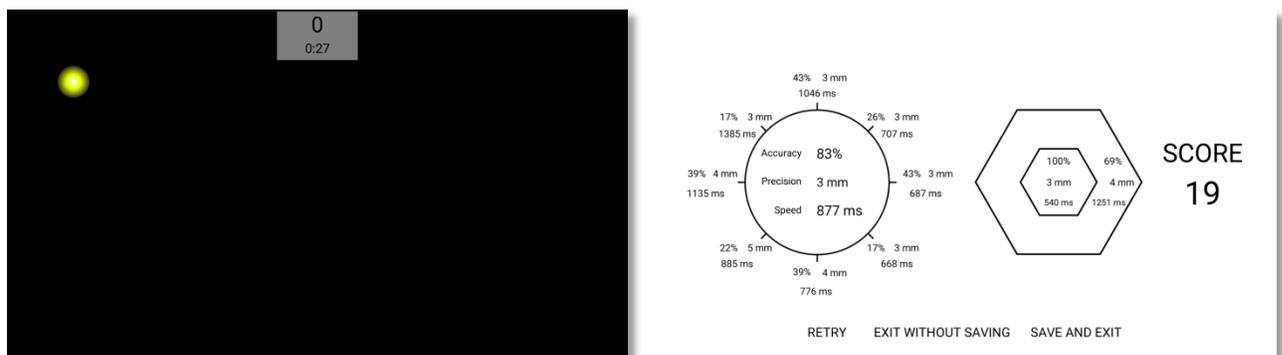


Target and background images can be changed. You can upload your own target or background image by tapping on the “+” symbol at the bottom of the menu of preloaded images. This allows the user to take a photograph to use as the background or target image, or to add a pre-existing image to the list of options for your organization. To add a pre-existing image, the desired image must already be on the tablet or on the SD card installed in the tablet.



How to use

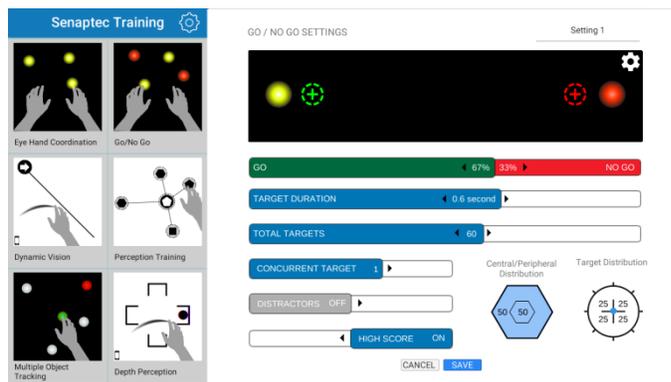
When targets appear, the user must touch each target as quickly as possible until the time runs out. After the session is complete, the results screen shows the accuracy, precision, and response time of the session. These results are also broken down by direction – quadrant and central/peripheral regions. The user then can exit with the option to save or discard the session data.



GO NO GO

Go No Go training is designed to train quickness and accuracy of decision making in pressure situations. Many of the parameters can be customized, these include:

- Name of setting
- Target images
- Background image
- Go/No Go ratio
- Target duration
- Total number of target per session
- Distractors
- Central/peripheral distribution of targets
- Quadrant distribution of targets
- Create a high score board for this setting

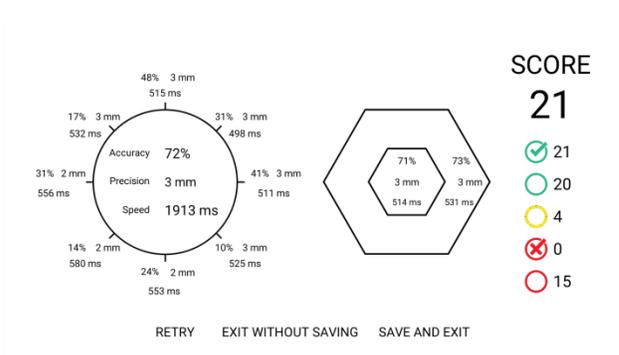
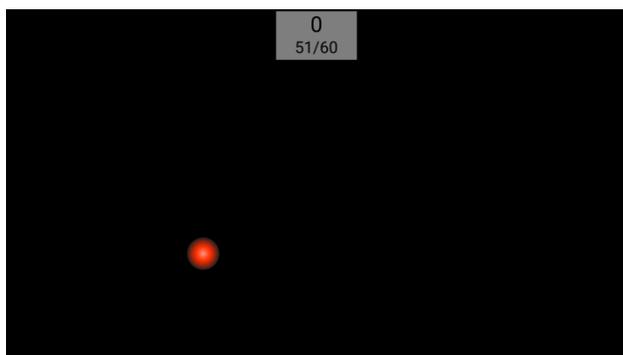


How to use

When targets appear, the user must touch the targets as quickly as possible until the end of session. There are two types of images. User must hit the GO target images, but not hit the NO GO target images. The session duration is based on the number of targets instead of time. Distractor targets are those that start as one type of target (GO or NO GO) and switch to the opposite image (GO to NO GO; NO GO to GO).

The targets also appear for a limited time, so the user must either hit the target while present or move on to the next target if they've missed the prior.

After the session is complete, the results screen shows the accuracy, precision, and response time of the session. These are also broken down by direction – quadrant and central/peripheral regions. The user then can exit with the option to save or discard the session data.



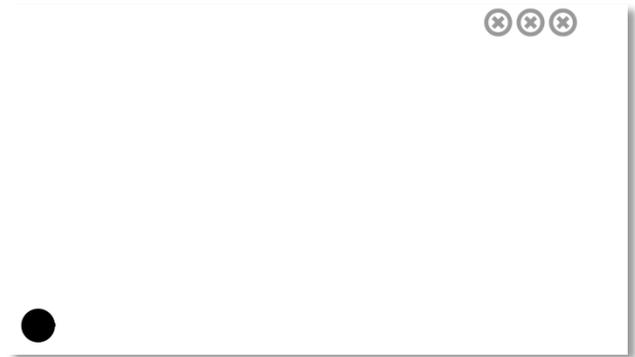
DYNAMIC VISION

Dynamic Vision is designed to train dynamic visual acuity. Targets move quickly and the user is required to move their eyes quickly to see the important details. Saccadic eye movements are required for the *Jump* training mode while pursuit eye movements are required for the *Pursuit* training mode.

There are three difficulty modes: Normal, Hard, and Expert. There are two size options: Small and Large. Large is performed on the 55" touchscreen with the Senaptec Sensory Station, while Small is performed on the tablet.

How to use

1. At the beginning of a trial, one reference cell is located one corner of the screen



2. The reference cell jumps to one of the other three corners and briefly shows an arrow pointed in one of four directions: up, down, left, or right.



3. The user swipes in the direction of the arrow that they saw. As soon as the user swipes correctly, the reference cell moves to another corner with the next trial.

If the response is incorrect, the correct answer will be shown in red and then move on to the next trial.

4. As the levels increase, the arrow is shown for shorter and shorter amounts of time until the user gets 3 incorrect responses. Incorrect responses are shown as strikes in the upper right part of the screen.



PERCEPTION TRAINING

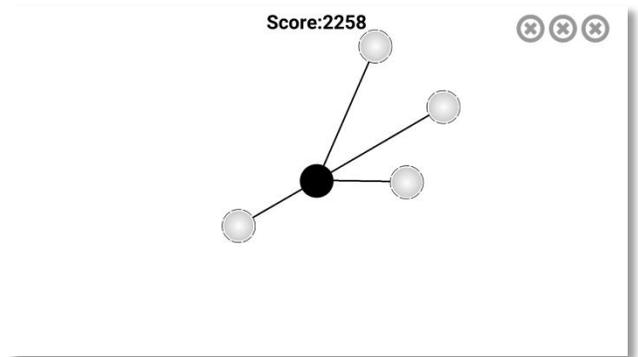
Perception training is designed to train speed and span of perception. Target objects appear for a brief period of time and you are required to identify the matching target with the reference cell.

There are two modes: speed and span. The speed mode emphasizes quick processing of detailed information while the span mode emphasizes quick processing of a greater area of information.

There are 3 difficulty settings: normal, hard, and expert. The more difficult modes require quicker perception of the critical information.

How to use

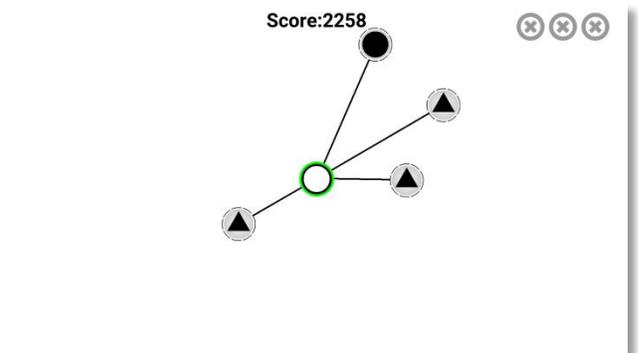
1. The center reference cell in black and target cells shaded grey will appear on the screen.



2. Shapes briefly appear in all cells. The shape in one of the target cells matches the shape of the reference cell. The user must identify the matching target cell by tapping directly on it.
3. A correct response will advance the pattern to higher levels.

If the response is incorrect, it will turn red and that branch will be removed from the pattern and you must repeat the same trial. A strike is counted against you for every incorrect response.

4. As the levels increase, the number of targets increase and/or the location of the targets get wider. The number of strikes is reset when you advance to a new level.



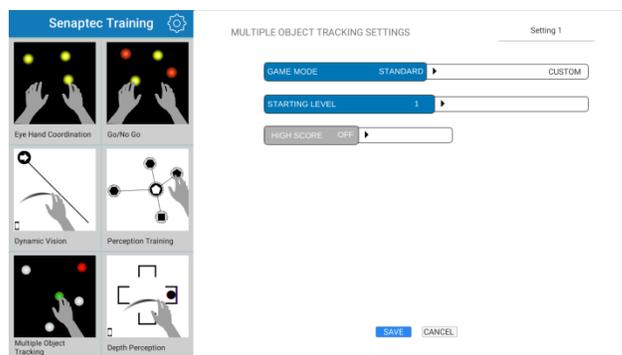
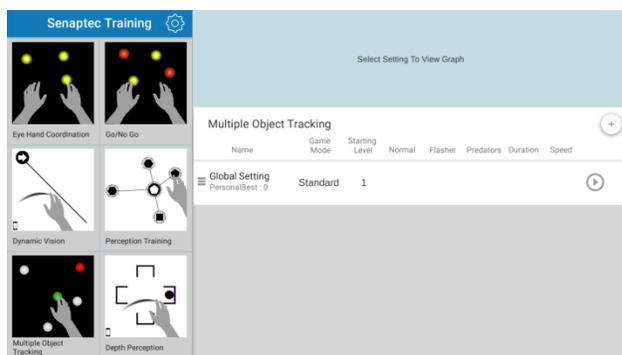
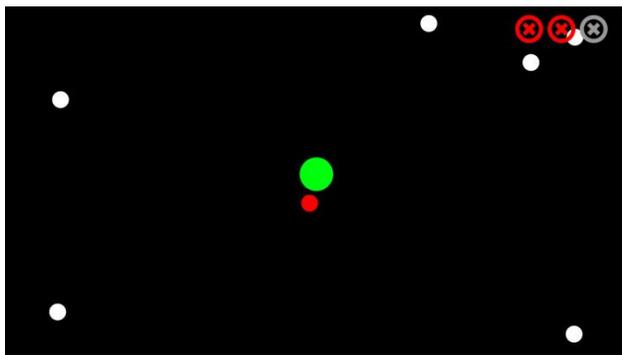
MULTIPLE OBJECT TRACKING

The multiple object tracking training tool is designed to train the ability to track the movement of multiple objects at the same time.

How to use

You must keep your finger on the large green circle and move it around the screen to avoid colliding with other objects on the screen. The white objects move at different speeds and random trajectories with some of them flashing on and off during the path. The red objects are called “predators” that have trajectories that chase your green dot.

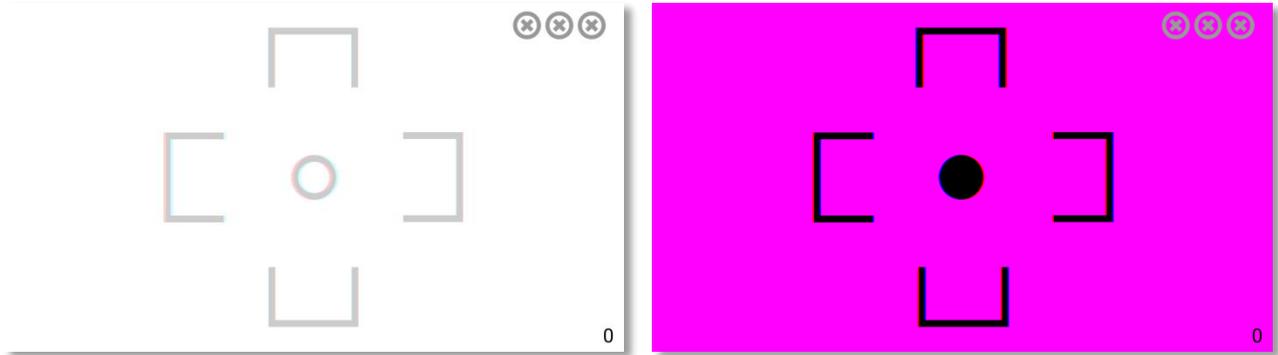
There are two modes – standard and custom. Standard mode is pre-defined type and number of objects in play, while the custom mode allow you to set these parameters. The starting level of play for standard mode can also be adjusted in the settings.



DEPTH PERCEPTION TRAINING

Depth Perception training is designed to improve sensitivity to depth information. This is done by simulating depth using red/cyan glasses and presenting images that are at different perceived distances.

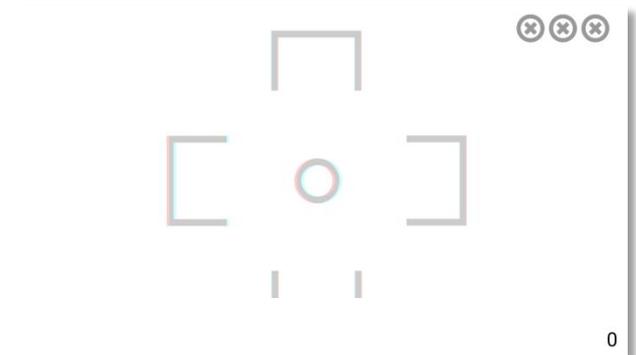
There are two color modes – white and magenta. These modes operate the same and the two modes are provided as one might be more easily perceived by a user.



How to use:

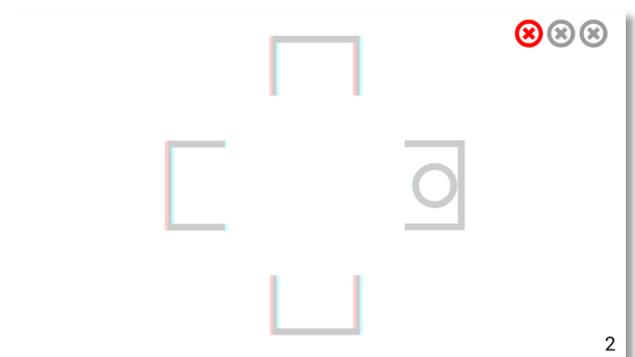
Have the user stand about 10 feet away from the tablet screen and put on the red/blue 3D glasses.

1. There are four “goals” to the right, below, left, and above the puck at the center of the screen. Three of the goals are aligned on the same z-plane. The puck at the center is on the same plane as the fourth goal, which is on a different plane than the other three goals.



2. When the user determines the goal that is in the same plane as the puck, he/she should swipe in the direction of the location of the goal – up, down, left, or right.
3. A correct response will result in the puck being scored in the goal.

An incorrect response will result in the puck passing by the goal.



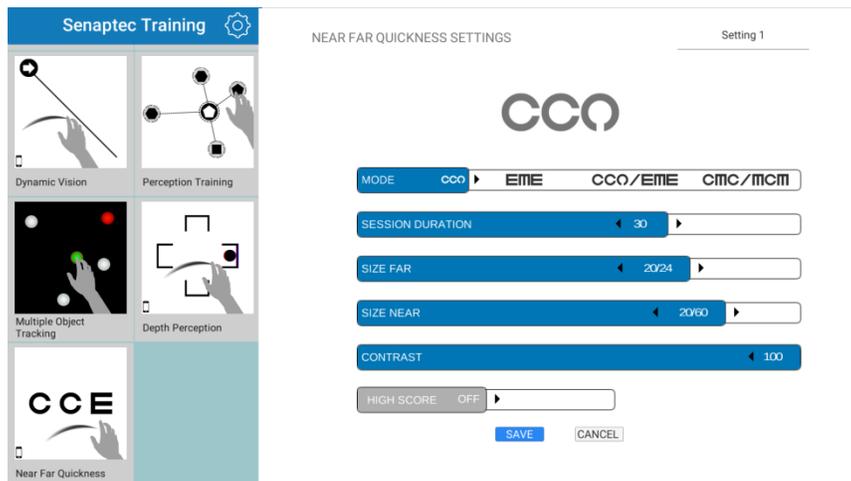
4. As the user gets more correct responses, the difference in the z-plane between the target goal and the other three will decrease, requiring better depth perception sensitivity.

NEAR FAR QUICKNESS TRAINING

Near Far Quickness is designed to improve the ability to quickly shift your focus between near and far objects. The tablet and the remote device will be used to display images that you will respond to quickly.

Many of the settings can be customized, these include:

- Symbols used
- Session duration
- Size of far symbol
- Size of near symbol
- Contrast ratio of symbol
- Saving high score



How to use

There will be three directional symbols that appear together. The symbols can be Landolt rings, E's, or a combination. Two of the three symbols will be facing the same direction while the third will not. For the Landolt rings, it is the direction to swipe from the center to the direction of the opening. For the E's, it is the direction that the "prongs" of the E is pointed.

The user must determine which two symbols are facing the same direction and then swipe the remote input device in that direction.

This set of symbols will appear on the tablet first and will alternate between the remote device and the tablet with each input. Every correct response is worth a point while an incorrect response will deduct a point.

