

Power Point Manual

**Get On The
BUS**



**BrainMaster
Universe
Simplified**



**“4ch PZOK
OEEGPRO”
level I
(No Changes)**

4chPZOK for Atlantis

Level 1

- At level 1 the “4chPZOK” Setting provides z-score training for 4 channels on the surface (not LORETA).
- By providing z-score training portions of the brain’s surface tends towards normalization. The setting rewards the brain when moving outliers towards a normal window while those in the normal range remain within.

All protocols are for demo and research purposes only. Clinicians must determine protocol choices. All protocols must be used within scope of practice and scope of competence.

4chPZOK for Atlantis

Level 1

- The variables involved for this type of training are
 - A target window set by the “u” key. Both upper zscore and lower zscore limits are set by a single key. A valid setting for this variable is one that can capture an estimated 60% of all zscores to be trained. A good value to start with is 1.2 SD (Standard Deviations). A “Blue” Line represents the percentage of zscores within this window.

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4chPZOK for Atlantis

Level 1

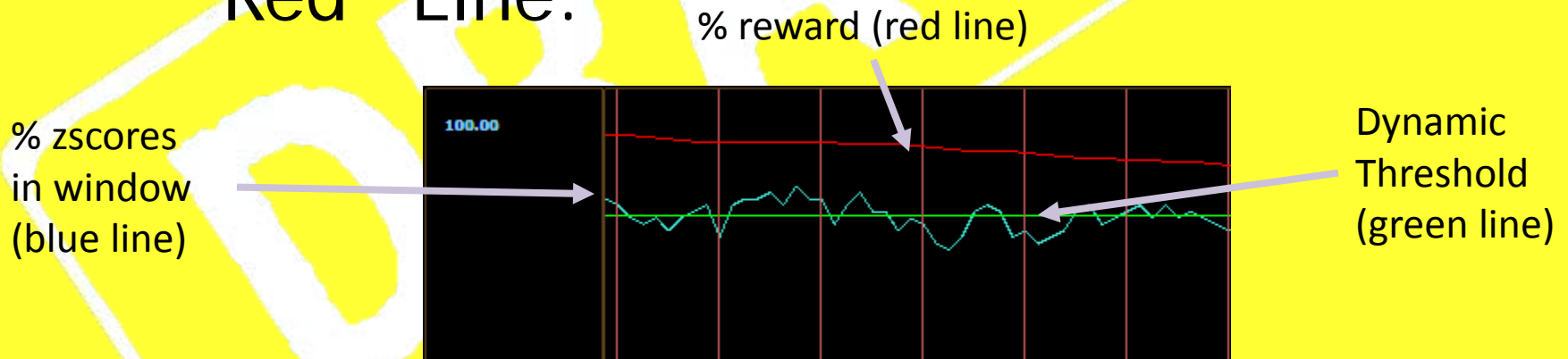
- A “Dynamic Threshold” for reward is provided by a “Green” Line. This green line shadows the blue line and provides reward when the percentage of zscores within the window peaks above the threshold (green line) and removes reward when the percentage of zscores within the window diminishes below the green line. Therefore, thresholding is dynamic and continuous.

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4chPZOK for Atlantis

Level 1

- A “Percent Reward” or the time the blue line (percent of zscores within the window) is above the green line (Dynamic Threshold) is provided by a “Red” Line.



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4chPZOK for Atlantis

Level 1

Lets Begin

- Make sure the Atlantis Amplifier is plugged into the USB Port.

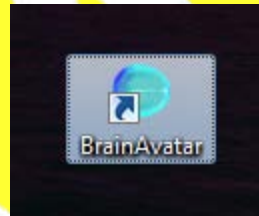


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4chPZOK for Atlantis

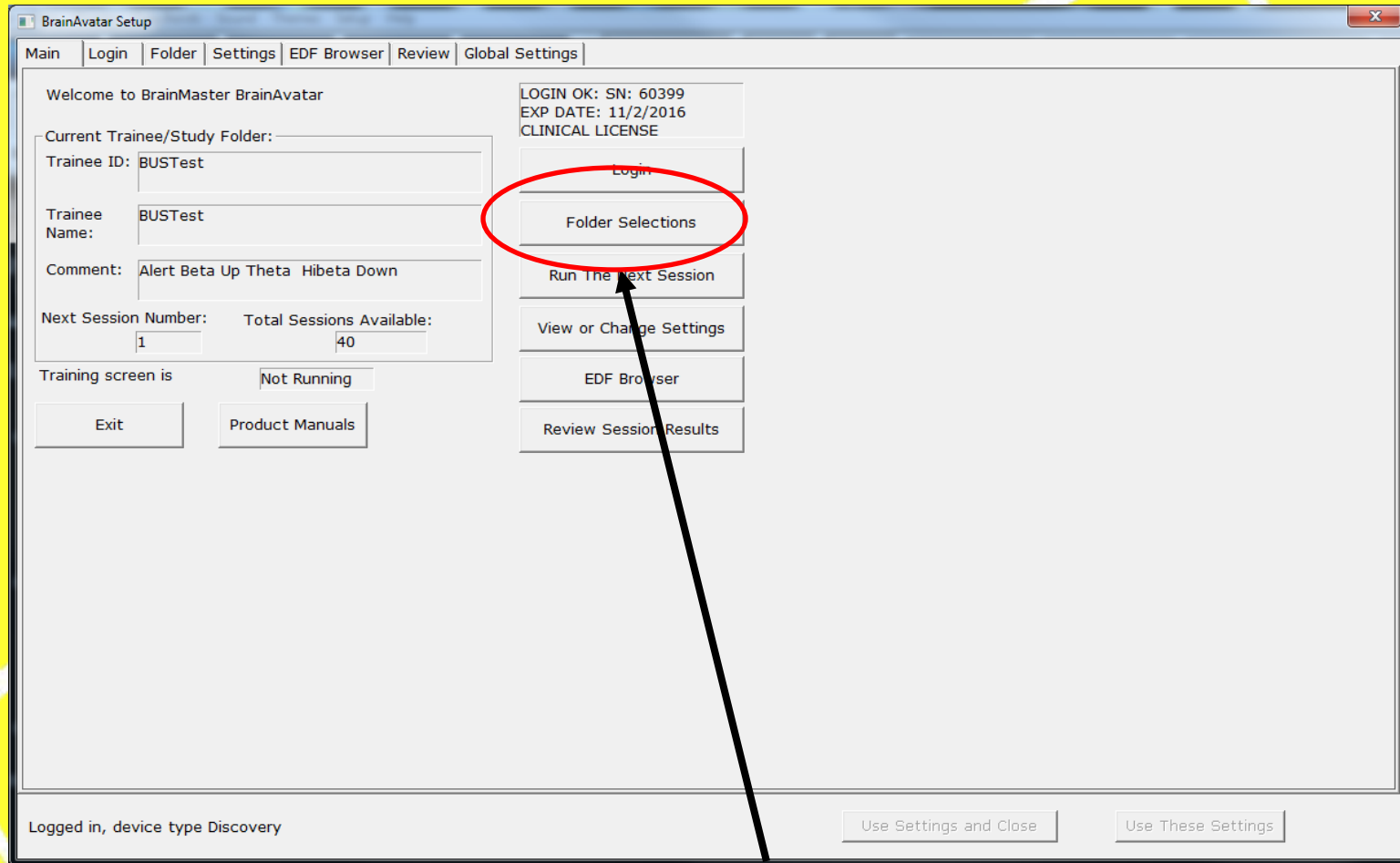
Level 1

- Open BrainAvatar by double-clicking the BrainAvatar Icon.



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- The BrainAvatar Setup Window will Appear



- Click “Folder Selections”.

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- The Select Folder Screen will appear.

BrainAvatar Setup

Main | Login | Folder | Settings | EDF Browser | Review | Global Settings

Select Folder | Create Folder | Folder Notes | Session Librarian | Edit Folder Info.

Select Folder: (you may double-click to select)

Study Name	Birth Date	Sess	Max	Comment	Technician	Physician	Trainee Name	Created	Modified
..									
BUSTest	2000-7-4	40		Alert Beta Up T...	EEG tech		BUSTest	2016-8-3	2016-8-3

Study Name (Trainee ID): BroJad4chPZOKP3P4O1O2

Trainee Name: BroJad4chPZOKP3P4O1O2

Comment: comment

Sessions Used: 4

Max Sessions: 40

Session Librarian

Administer Session Genie | Push Current Study to Server and Delete | Archive Current Study | Archive Current Study and Delete

Create New Folder | Folder Notes | Edit Folder Info. | Select And Run

Logged in, device type Discovery

Use Settings and Close | Use These Settings

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- The Select Folder Screen will appear.

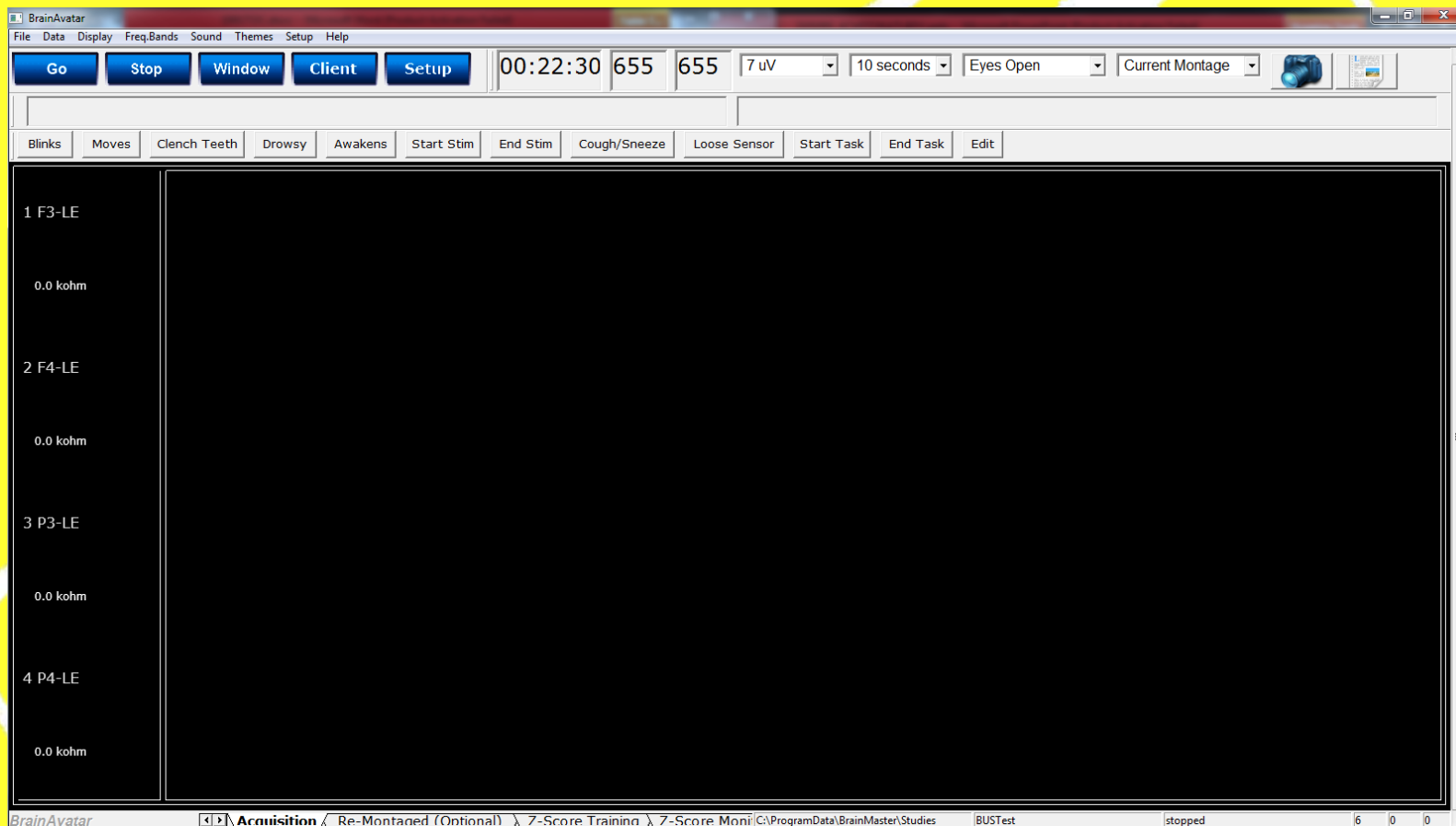
Using what you have learned in Section 01 of the BUS Program either:

- Create an new client folder and select the 2201001_4ChPZOKATLqEEGPro.bdb2 settings file to run for this example.
- Or if you are reviewing this program again open the existing folder you created the first time you went through this.

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4chPZOK for Atlantis

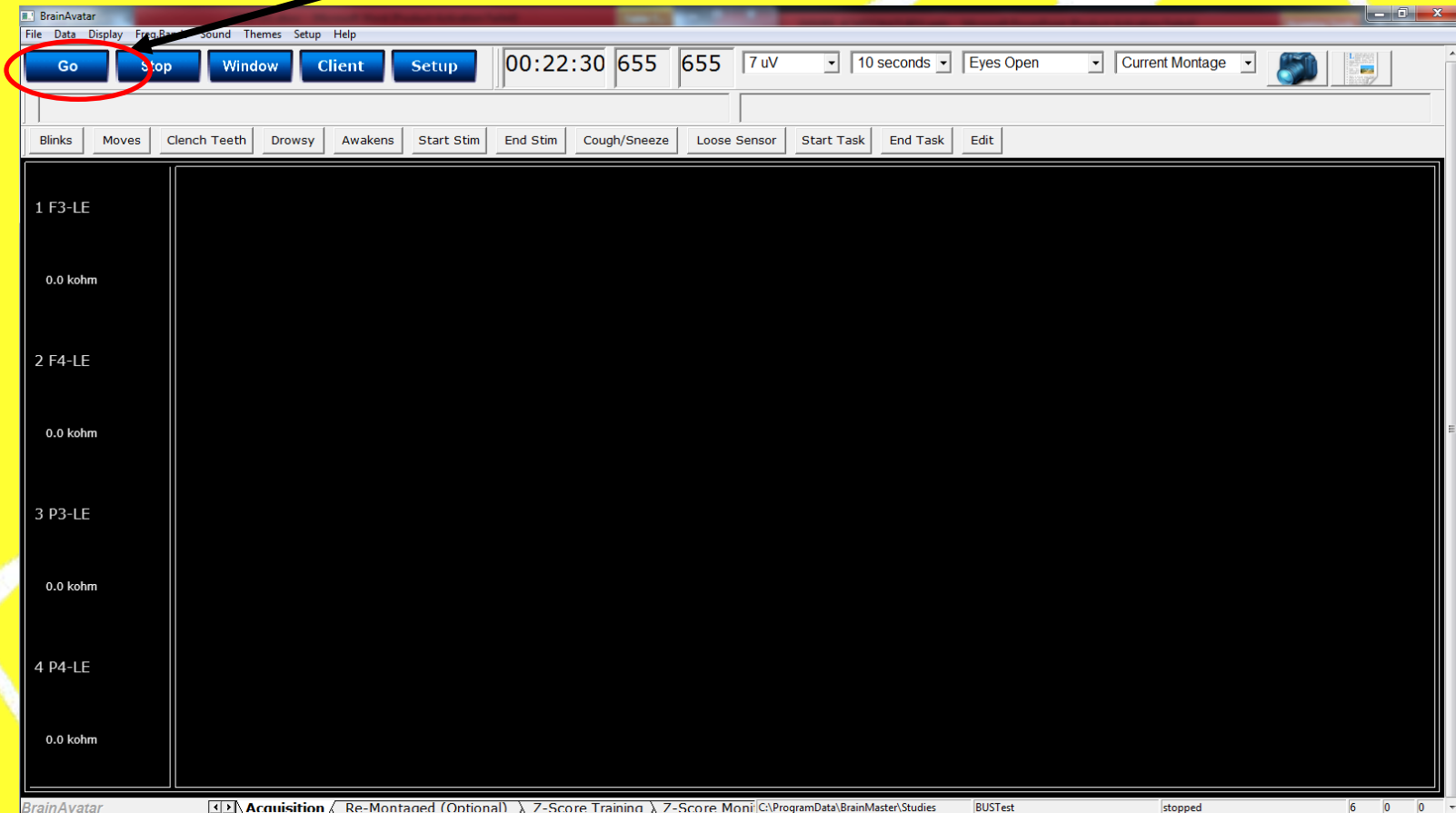
The Protocol is now ready to run



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4chPZOK for Atlantis

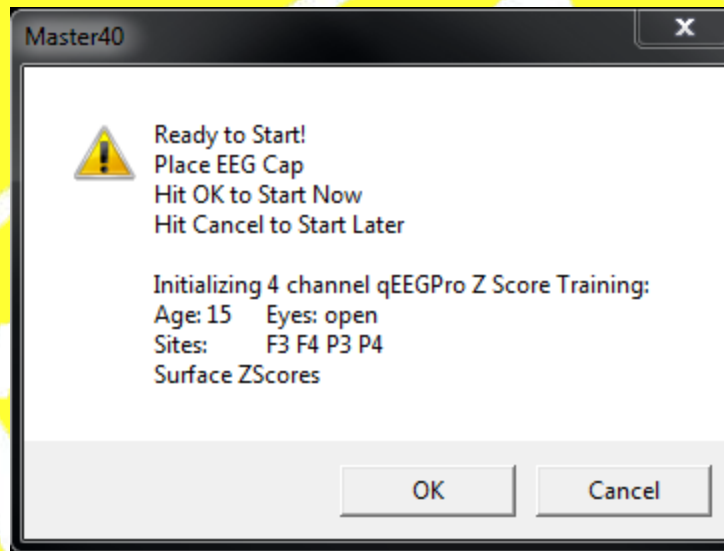
Click the "Go" Button



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4chPZOK for Atlantis

The Following Pop Up will appear



This is an indication to place the 4 active electrodes, 2 ear clip references and a ground on the clients head.

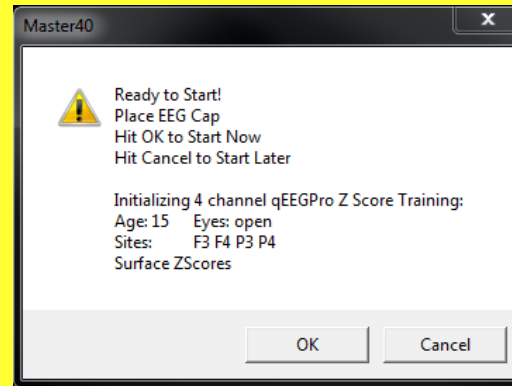
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4chPZOK for Atlantis



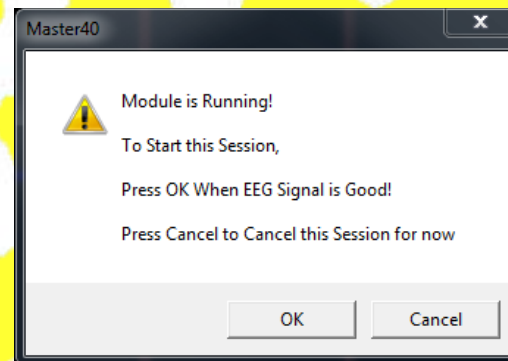
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Click "Go"



When you click "OK" BrainAvatar will begin recording EEG.

1. Check to make sure that the EEG is recording properly.
 - a. If not then check all your connections and impedances. Make sure there is no interference and that all cell phones are off
 - b. If the EEG is correct then hit OK on the Pop Up and the session has begun.



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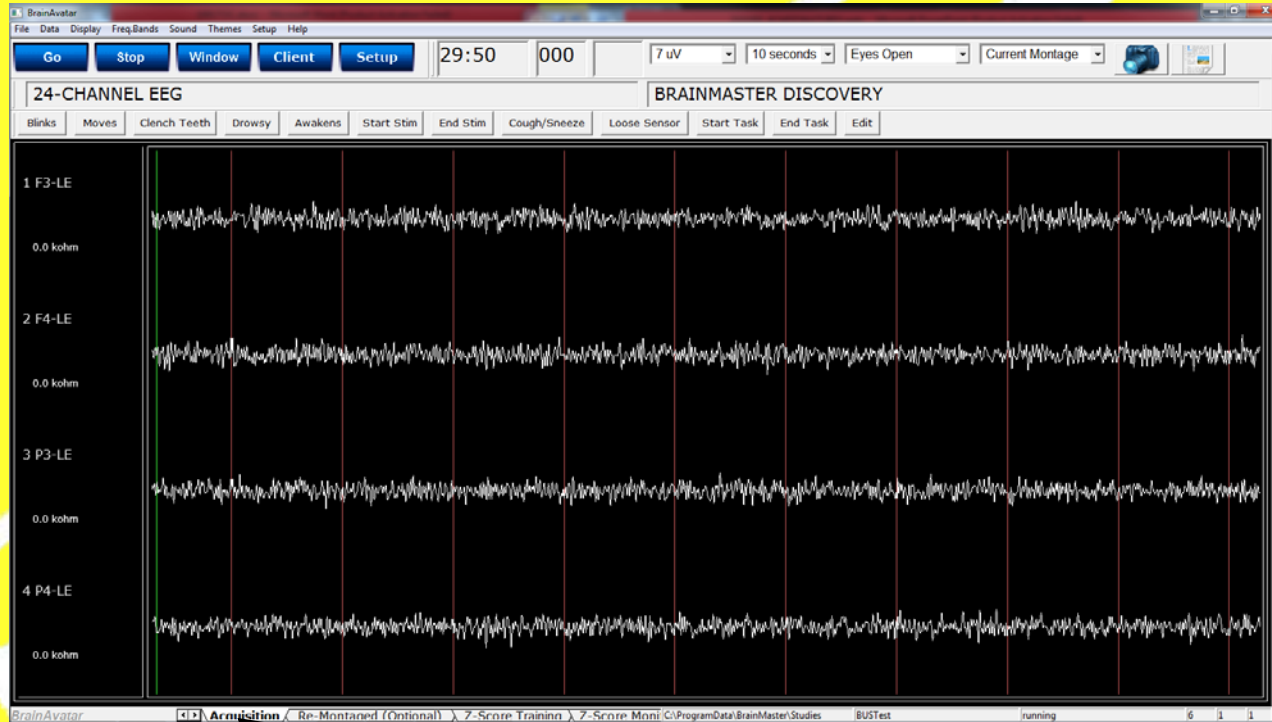
The protocol is designed to run for :

1. 10 contiguous 3 minute runs or 30 minutes. You may shorten the length of the session by hitting the “STOP” key at any time.
2. Thresholding is Dynamic meaning that reward is set automatically by the program.
3. The Z-Score window is set at ± 1.2 SD. This setting should provide a % z-score in the window value of 40%-60% (Blue Meter and Line). If the value is higher than this range decrease the size of the window, if the value is lower than this range increase the size of the window.
4. The Percent Reward (Red Meter and Line) should run between 45% - 55% (The technician has no control of this setting)
5. See the following slides for details regarding the above.
6. A variety of games are provided to help engage the client

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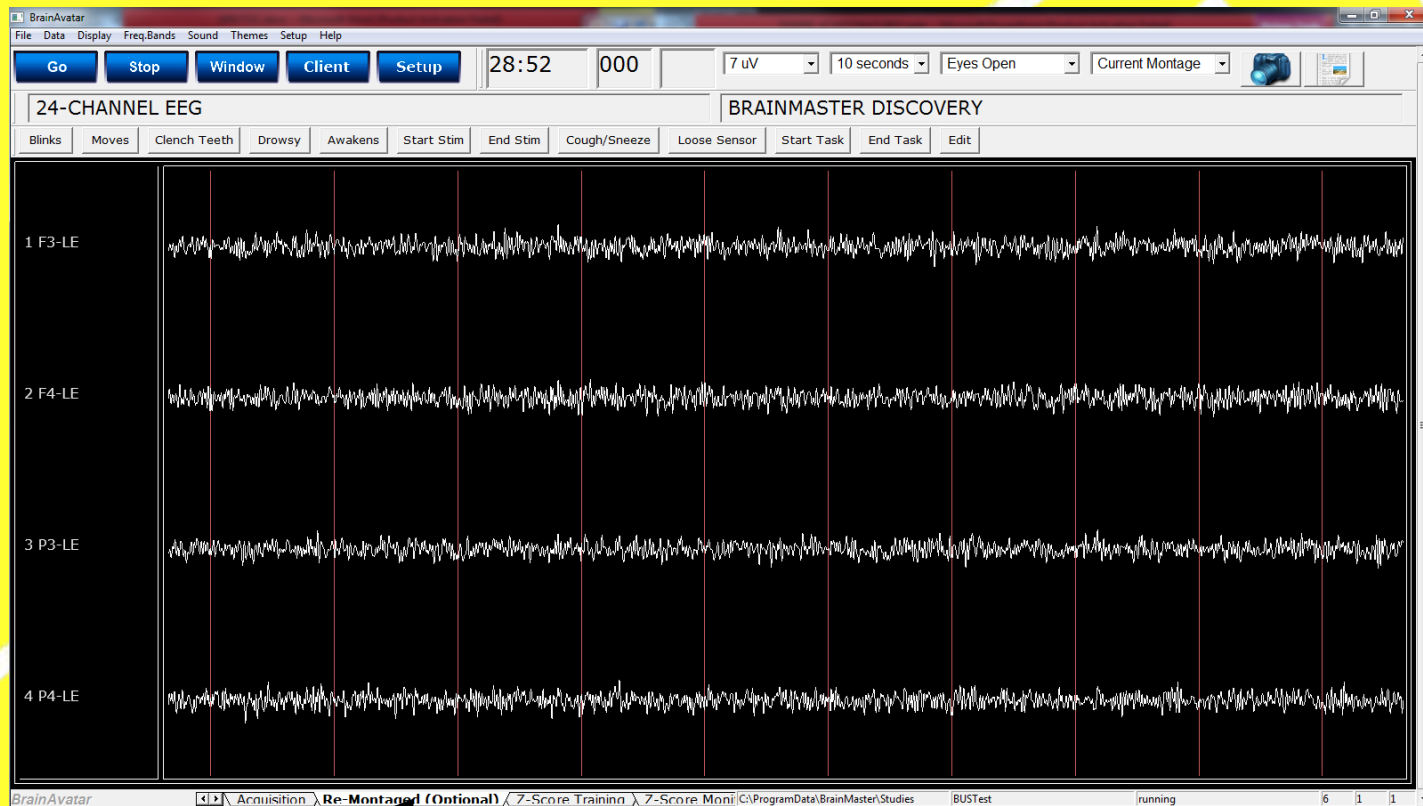
Take a moment and check that the EEG is good. If not, then take necessary action



Next...you may switch from the Acquisition Tab to the Re-Montaged (Optional) Tab to view the recording using a preset Linked Ear Reference Montage

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4chPZOK for Atlantis

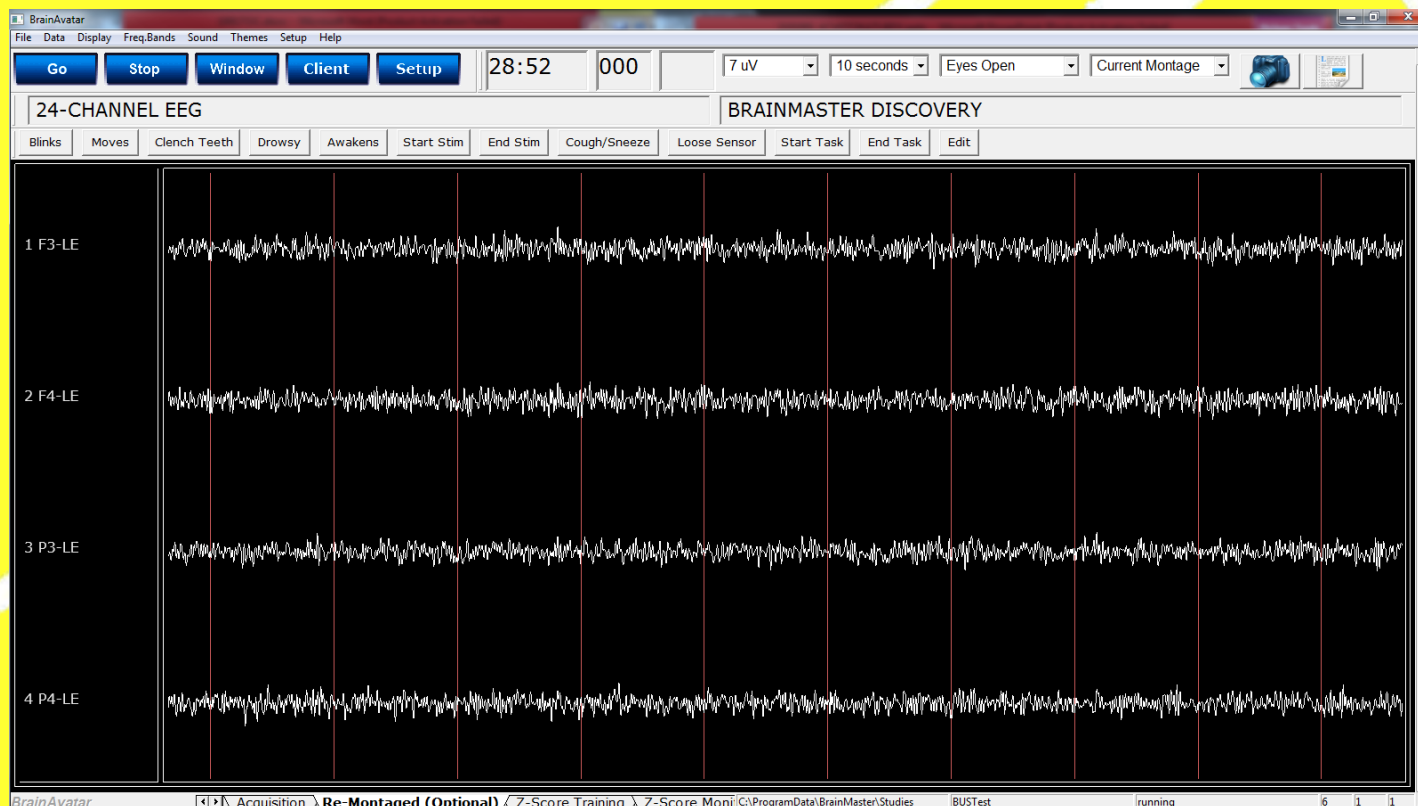


Notice in this montage bilateral pairs are grouped together for convenience of viewing. In future levels you will learn how to include your preferred montage.

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4chPZOK for Atlantis

Take a moment and analyze the raw EEG to detect sources of artifact and/or neurological issues such as dipoles, seizure or asymmetries in bilateral pairs.

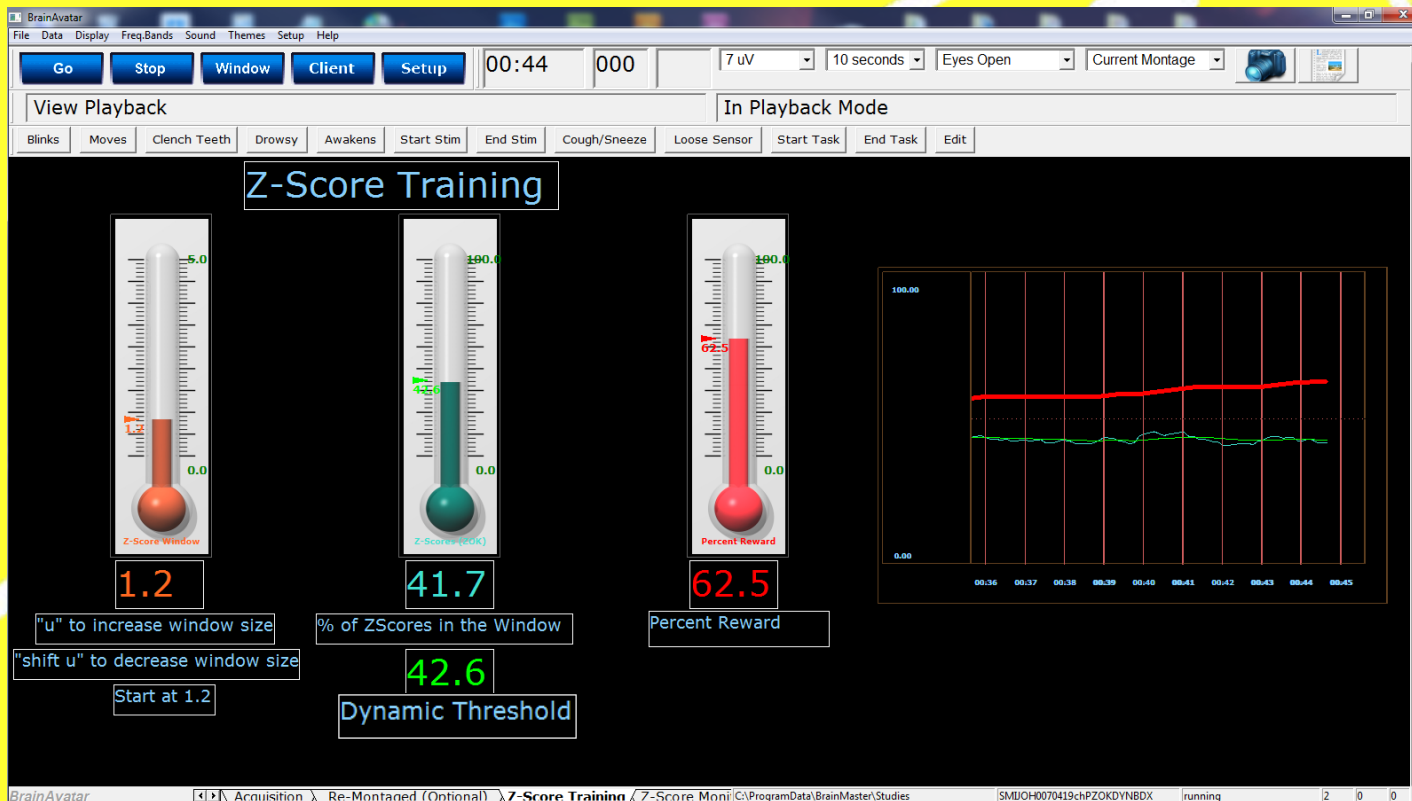


Next switch to the Z-Score Training Tab.

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4chPZOK for Atlantis

The Z-Score Training Tab is where the PZOK training is actually monitored.

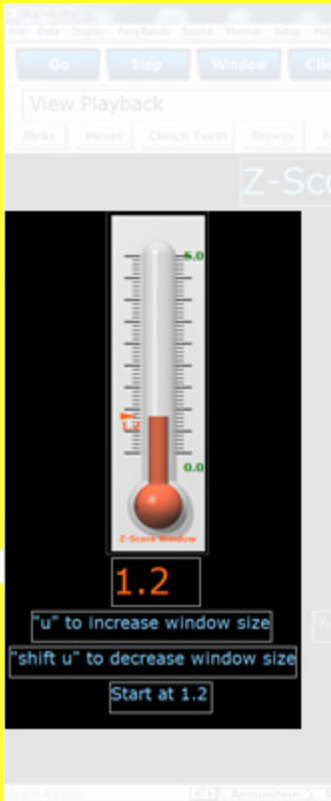


The following pages shall elaborate on the components of this screen.

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4chPZOK for Atlantis

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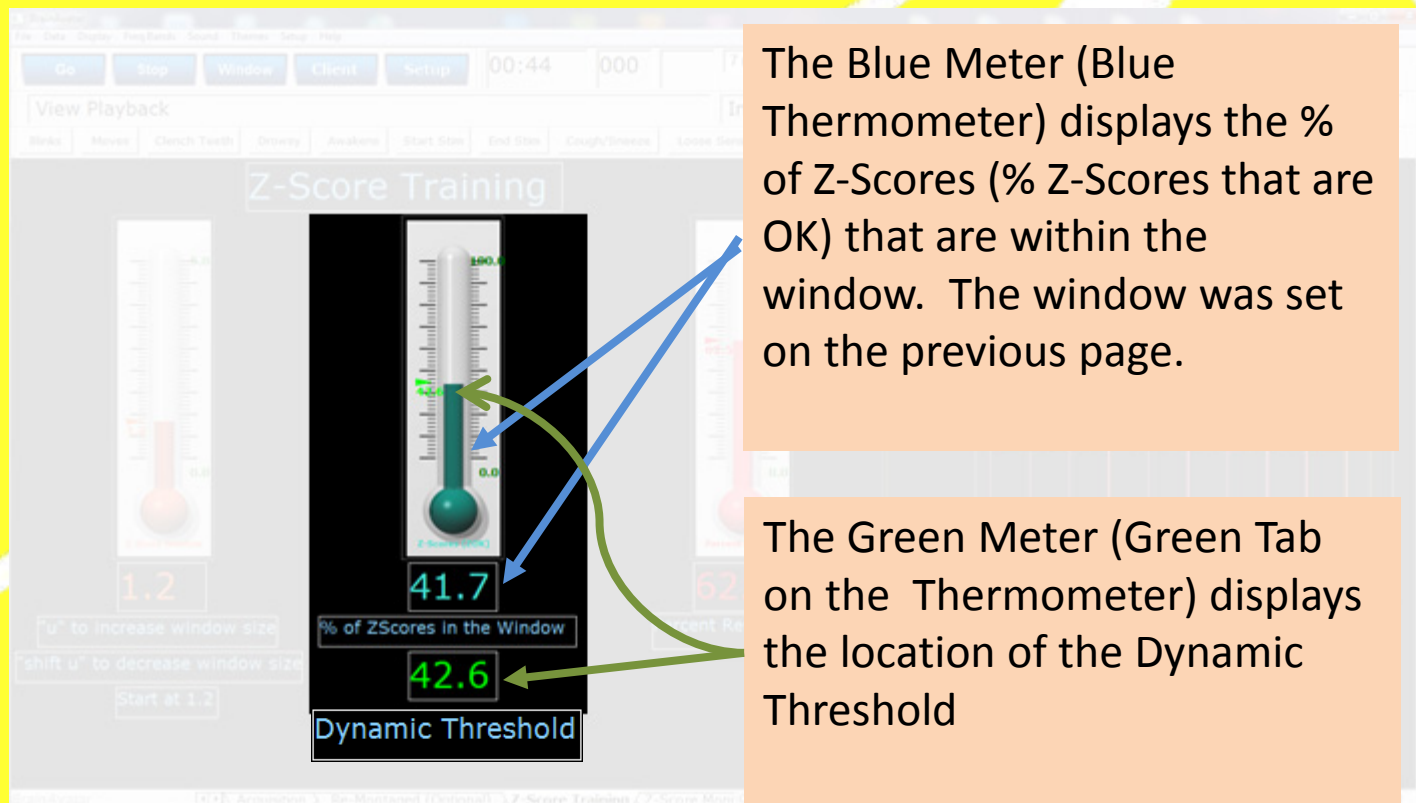
Z-Score Window Thermometer

- Sets the size of the Z-Score window
- Start at $\pm 1.2SD$
- Wait a few seconds until the variables stabilize
- If the blue variable (% of Z-Scores within the window) is below 40% tap the “u” key once and wait to see if it settles between 40% to 60%. Repeat if necessary
- If the blue variable (% of Z-Scores within the window) is above 60% tap the “shift-u” key once and wait to see if it settles between 40% to 60%. Repeat if necessary.

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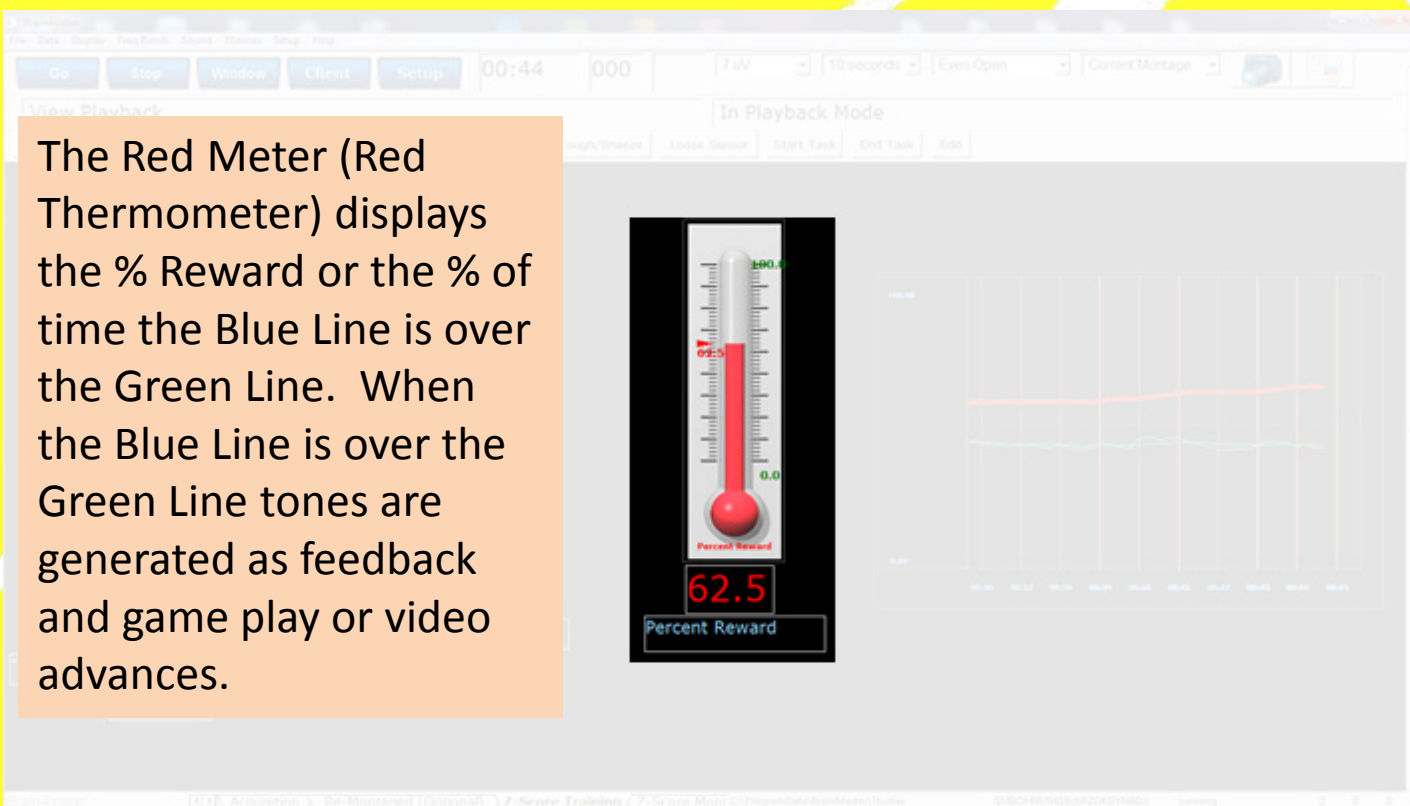
The Z-Score Training Tab is where the PZOK training is actually monitored.



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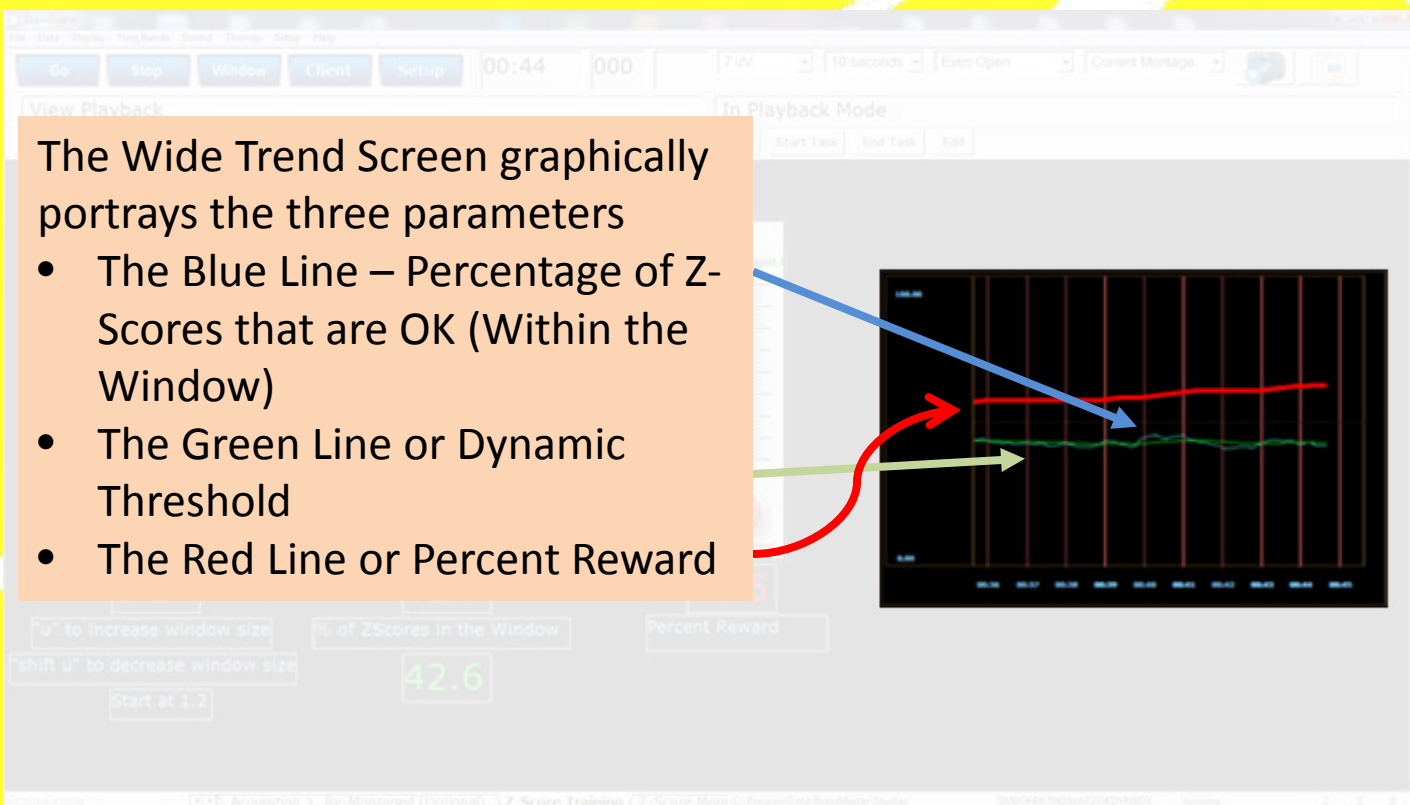
The Z-Score Training Tab is where the PZOK training is actually monitored.



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4chPZOK for Atlantis

One way to determine a client's success is to be able to reduce the Window size so that the Blue Line (% of Z-Scores that are OK) remains between 40%-60% and the Red Line (% Reward) remains between 45% to 55%.

For example...this client's window was set at ± 1.2 SD's. At that setting the Blue Line %ZOK was 41.7%. The Red Line (% reward) became 62.5%.

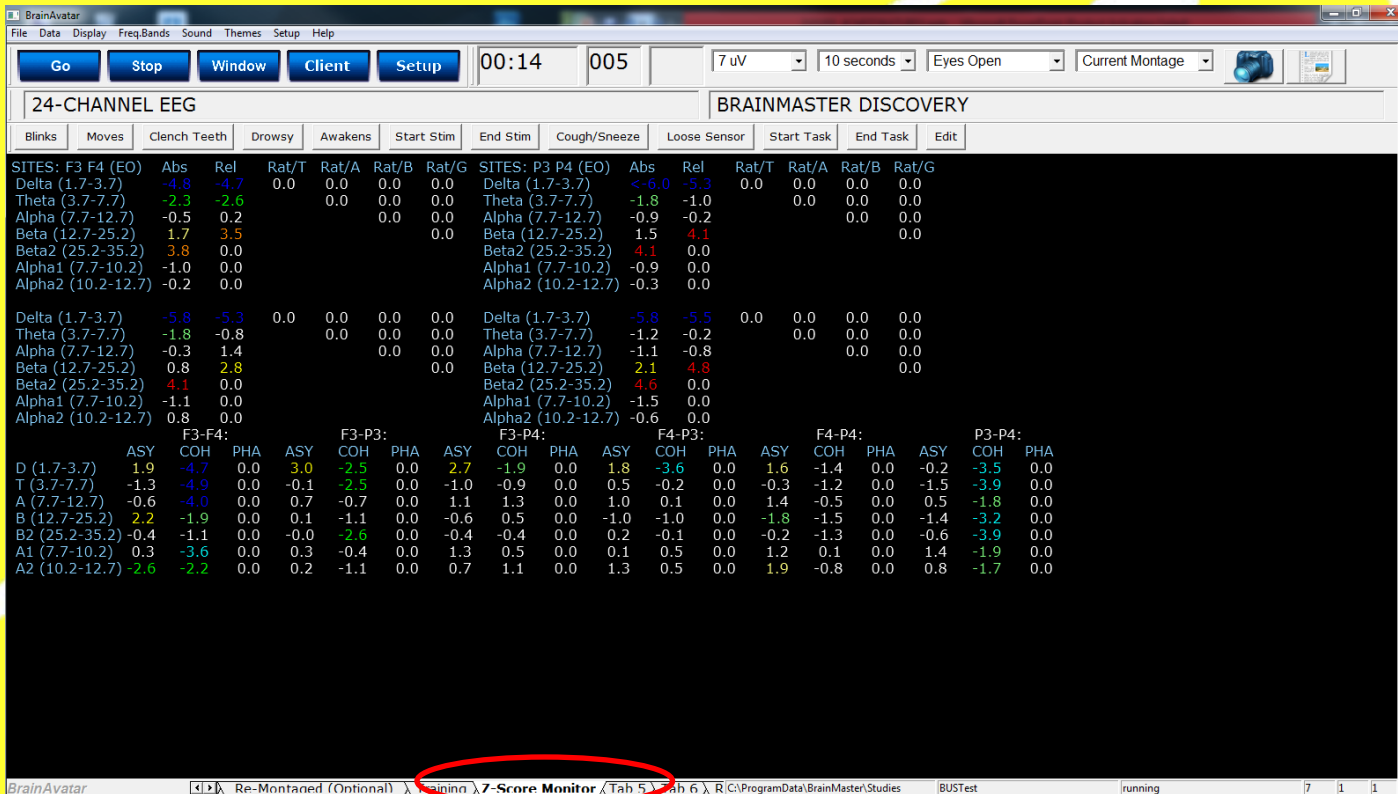
Since the Blue Line was below 45% this called for an adjustment of the window upward to 1.3 SD's. You would hit the "u" key once and watch the variables stabilize. Let's say the Blue Line stabilized at 52.5% and the Red Line stabilized around 51%, then all would be well.

Now, let's say over three or four sessions with the same settings we find the Blue Line become 78%. This would call for an adjustment of the window downward. In order to accomplish this more of the Z-Scores would have entered the window. This means that outliers would have been drawn in which means the client's metrics are improving.

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Now look at the Z-Score Monitor Tab.



Notice all of the Z-Scores (Metrics) are shown in real time for your review.

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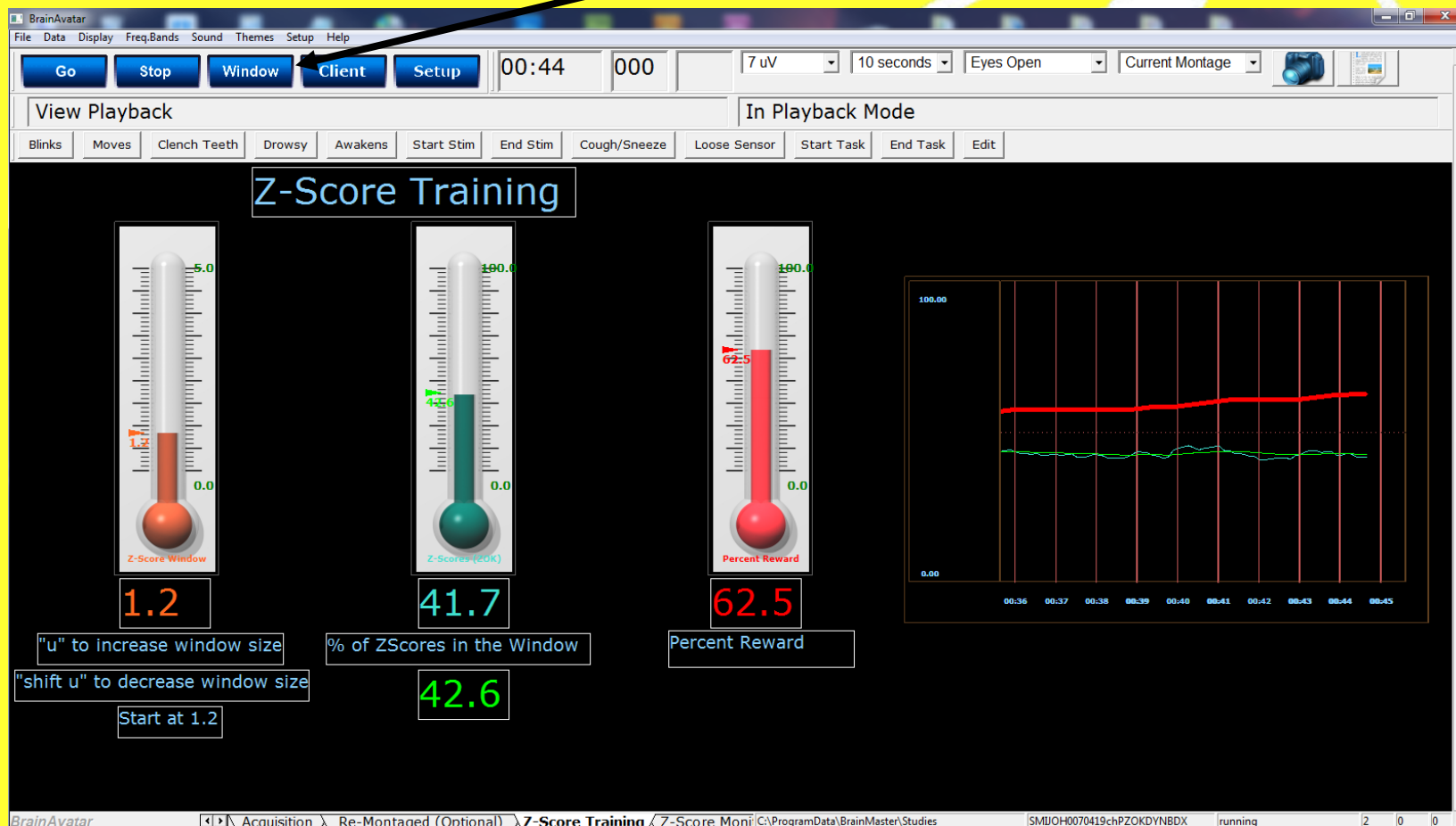
You may switch between any of these tabs while training is progressing to monitor brain activity.

Also, there are a number of games and video options to choose from to provide more interesting client feedback.

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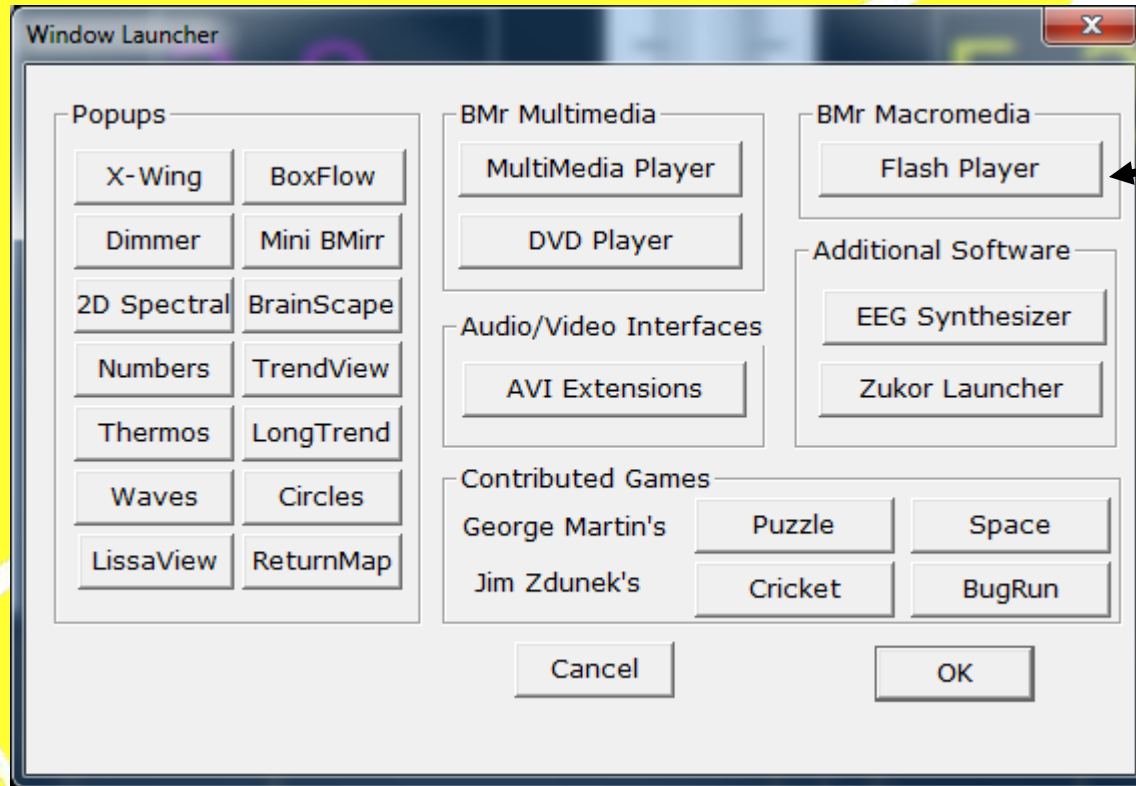
Flash Player for Games

Click "Window"



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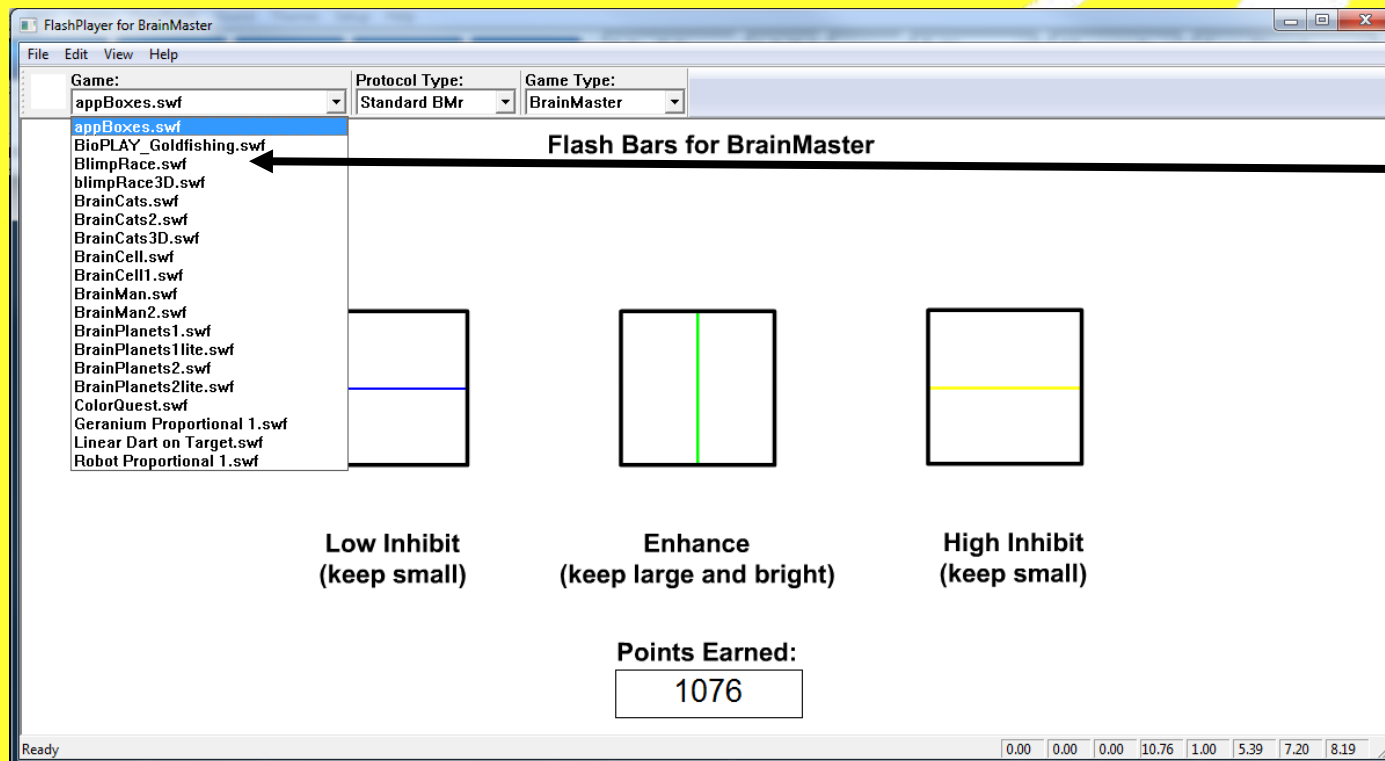
Flash Player for Games



Click "Flash Player"

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Flash Player for Games



Click "Blimp Race"

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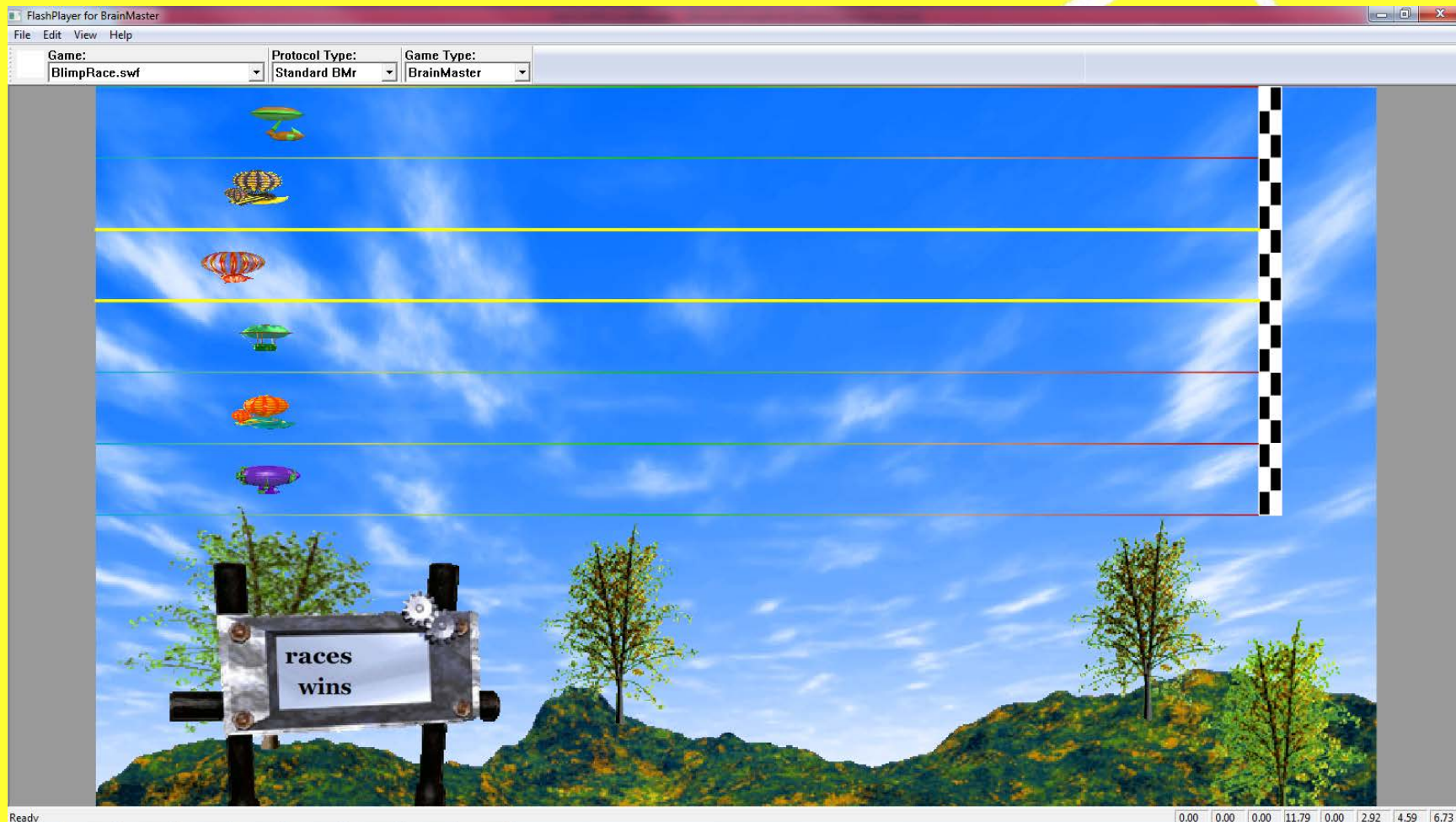
Blimp Race



Adjust the Protocol Type to LZT Live z-score.

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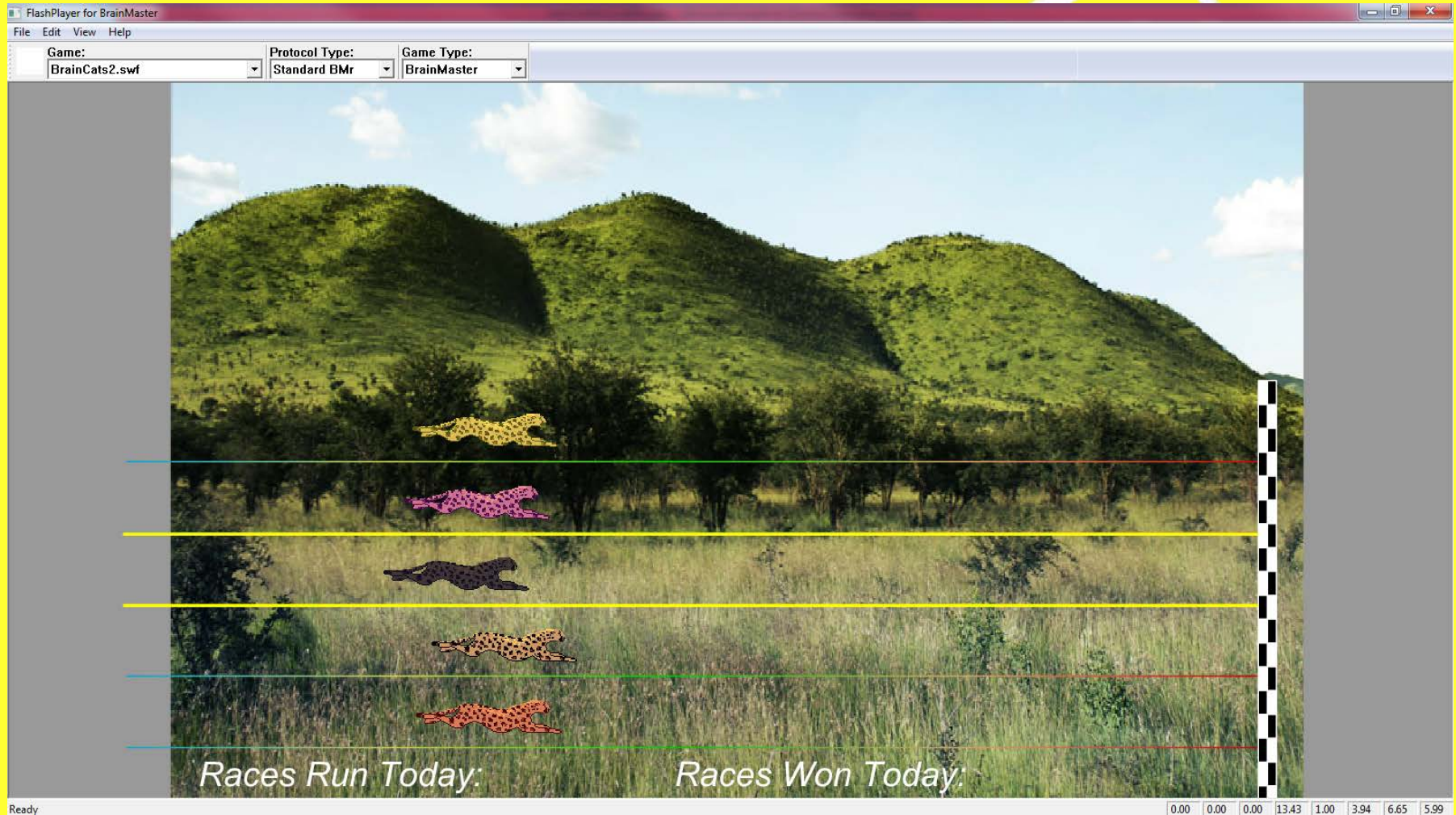
Blimp Race



The blimp advances and the lane flashes yellow whenever the Blue Line is over the Green Line.

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Brain Cats 2

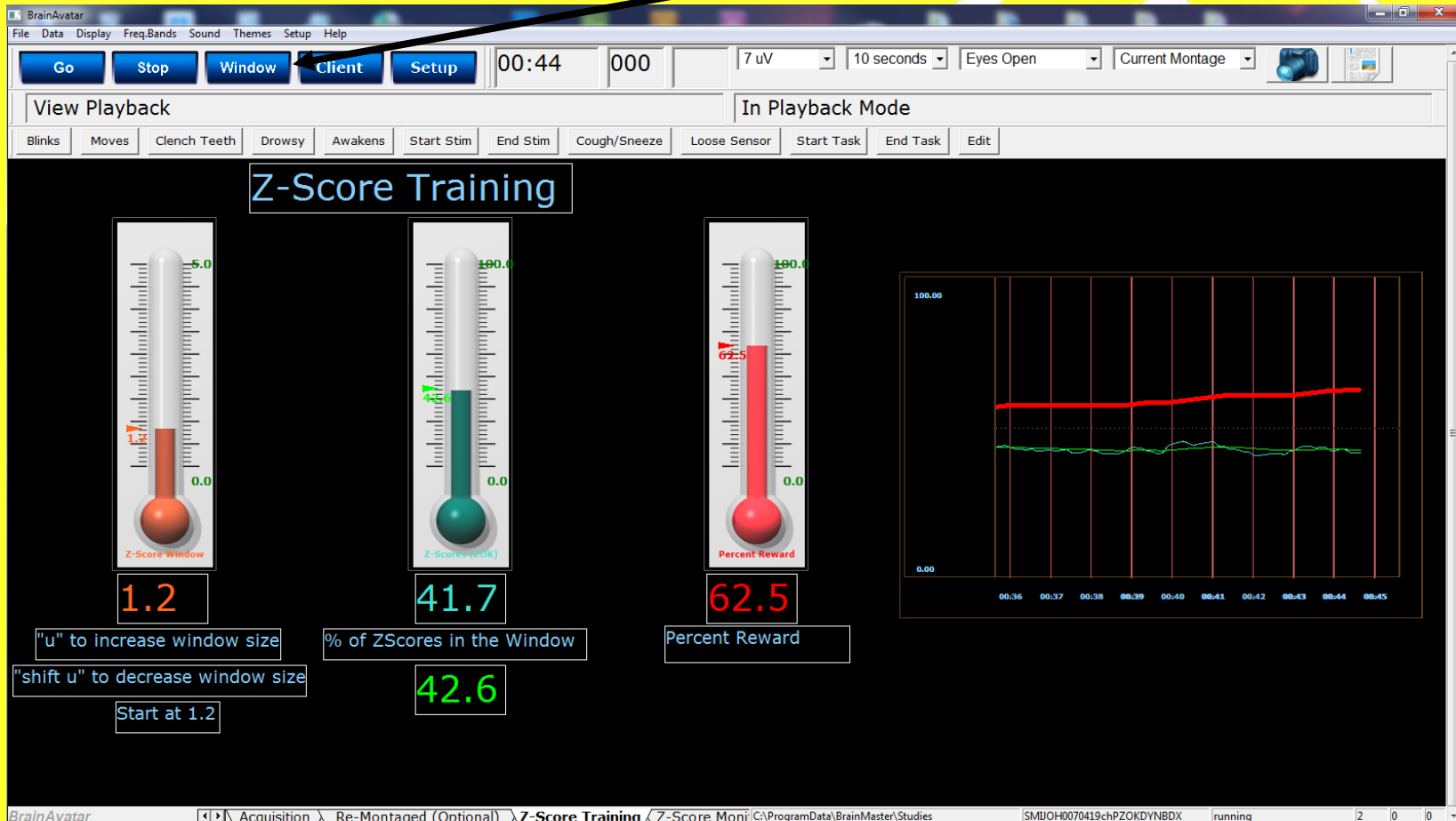


The cat advances and the lane flashes yellow whenever the Blue Line is over the Green Line.

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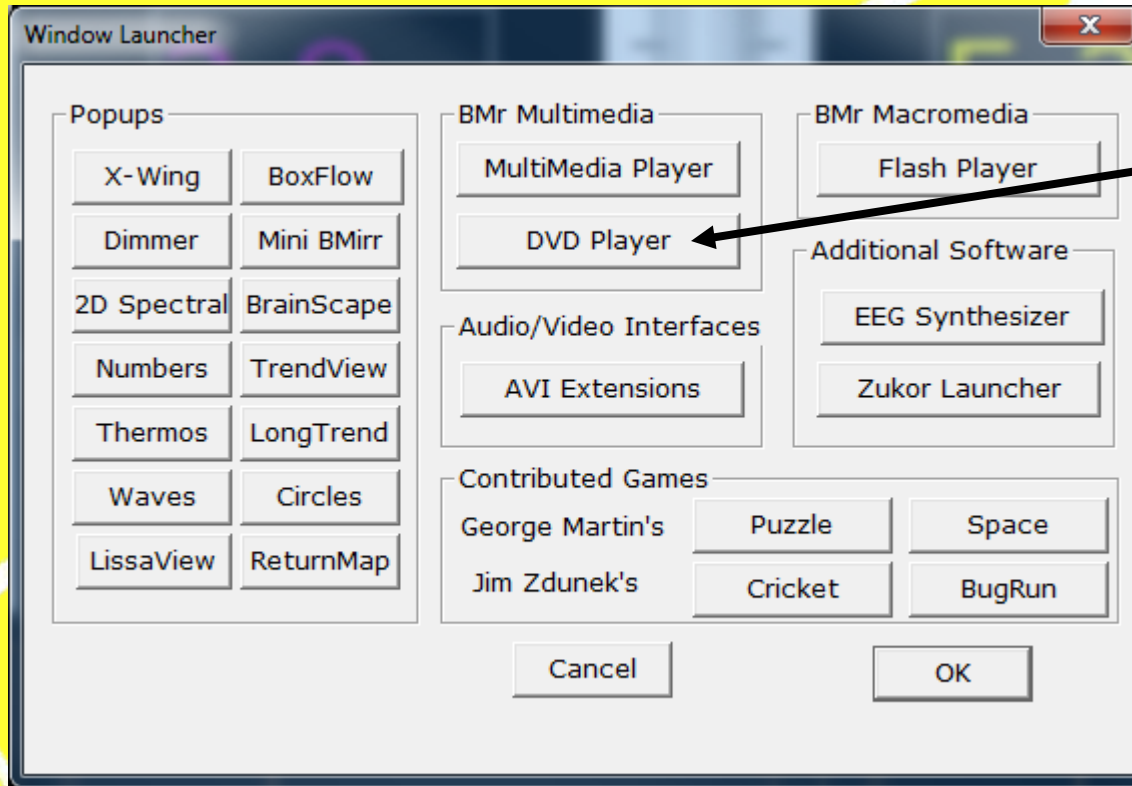
DVD's

Click "Window"



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DVD's



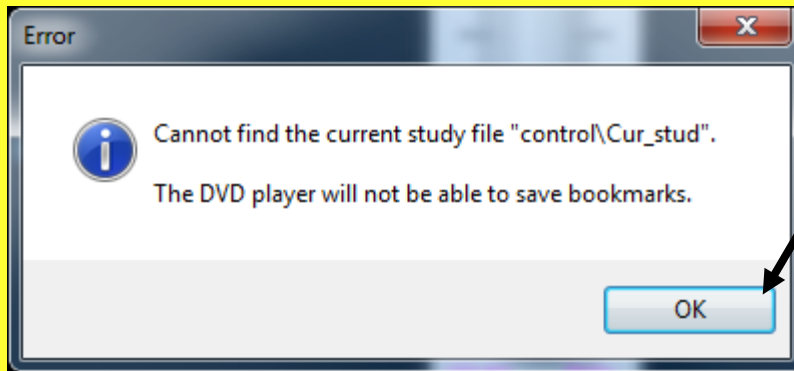
Place a DVD in the DVD Player

When the default DVD Player engages "CLOSE IT"

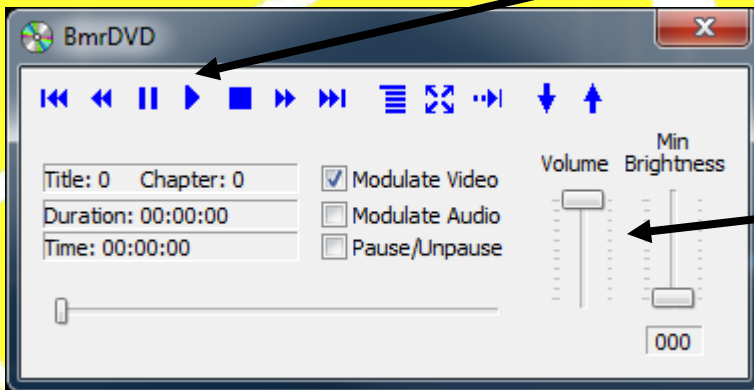
Click "DVD Player"

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DVD's



If this error message pops up simply click "OK".



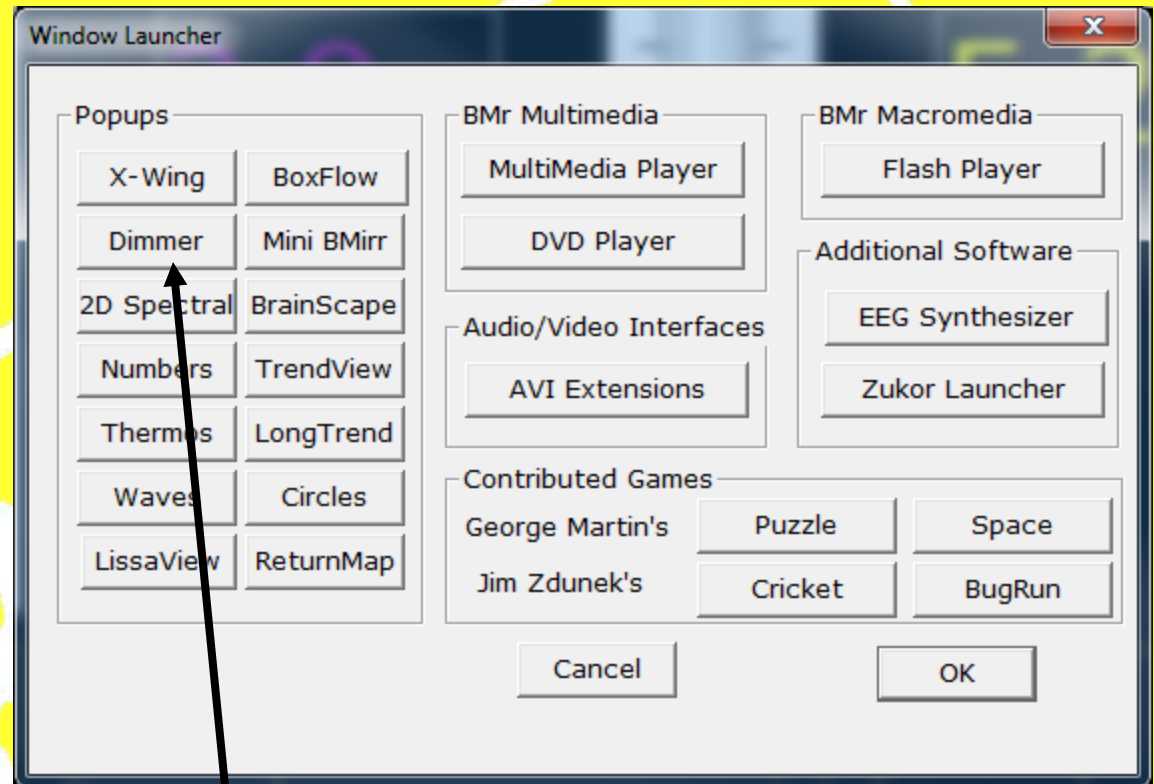
Next this typical DVD control box will appear. Hit the play button to start the DVD.

The DVD will brighten and get louder when criteria are met. Adjust the volume and brightness with the sliders.

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The Dimmer

The Dimmer is a device which may be used with any DVD, Media Player, internet app or YouTube to provide feedback to the client from any BrainAvatar Setting.



Before clicking Dimmer choose a media source.

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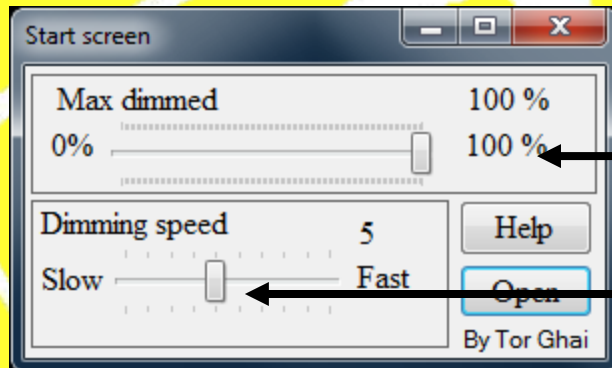
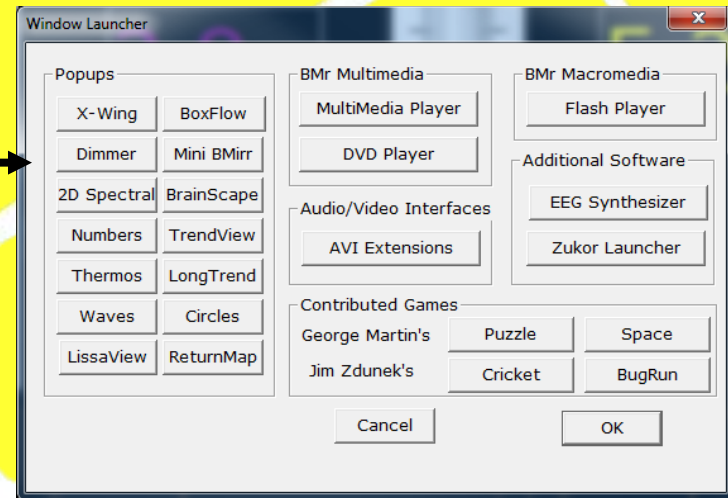
Choose a media source – in this case “YouTube”



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The Dimmer

Click “Dimmer”



The Start Screen Window Opens

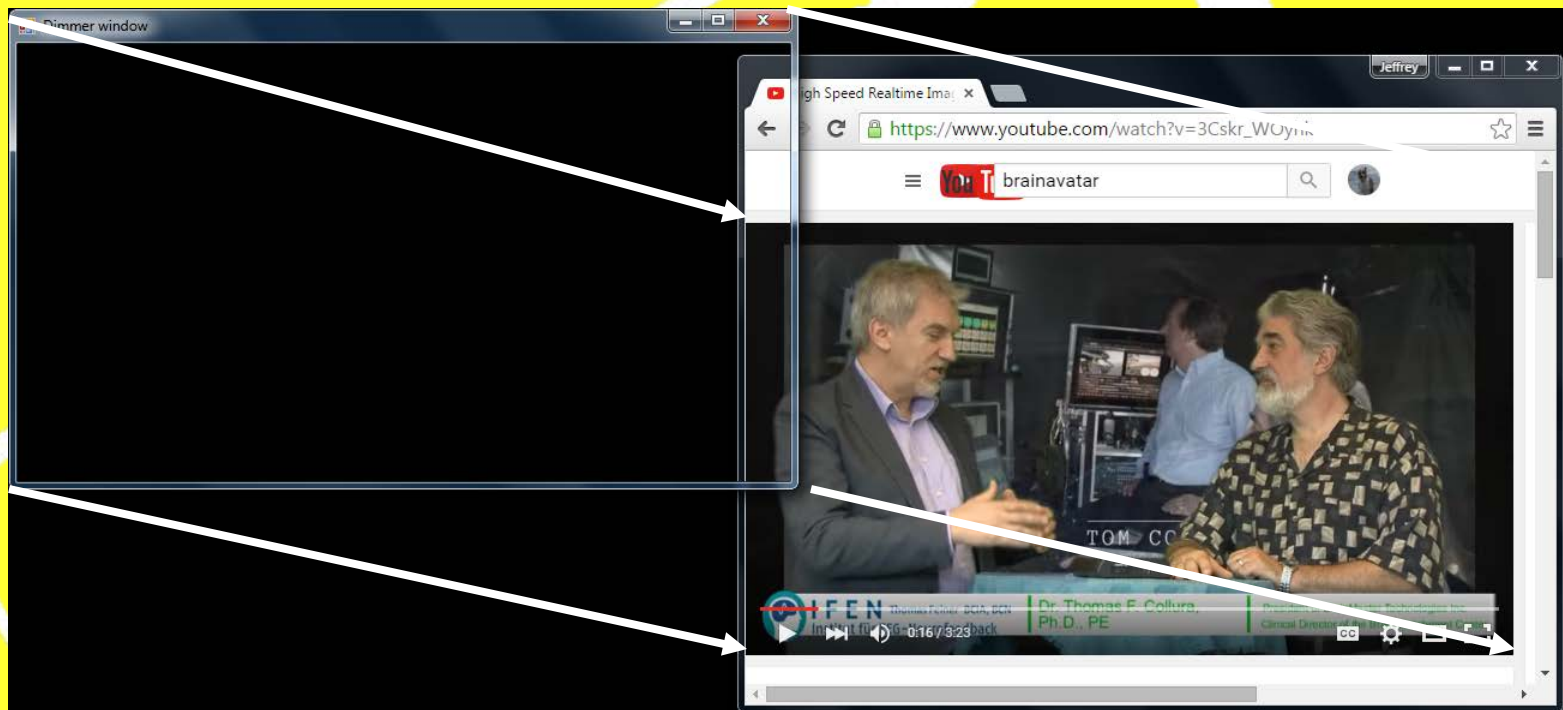
Maxed dimmed sets whether the media disappears or simply dims.

Dimming speed sets how quickly the screen disappears.

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The Dimmer

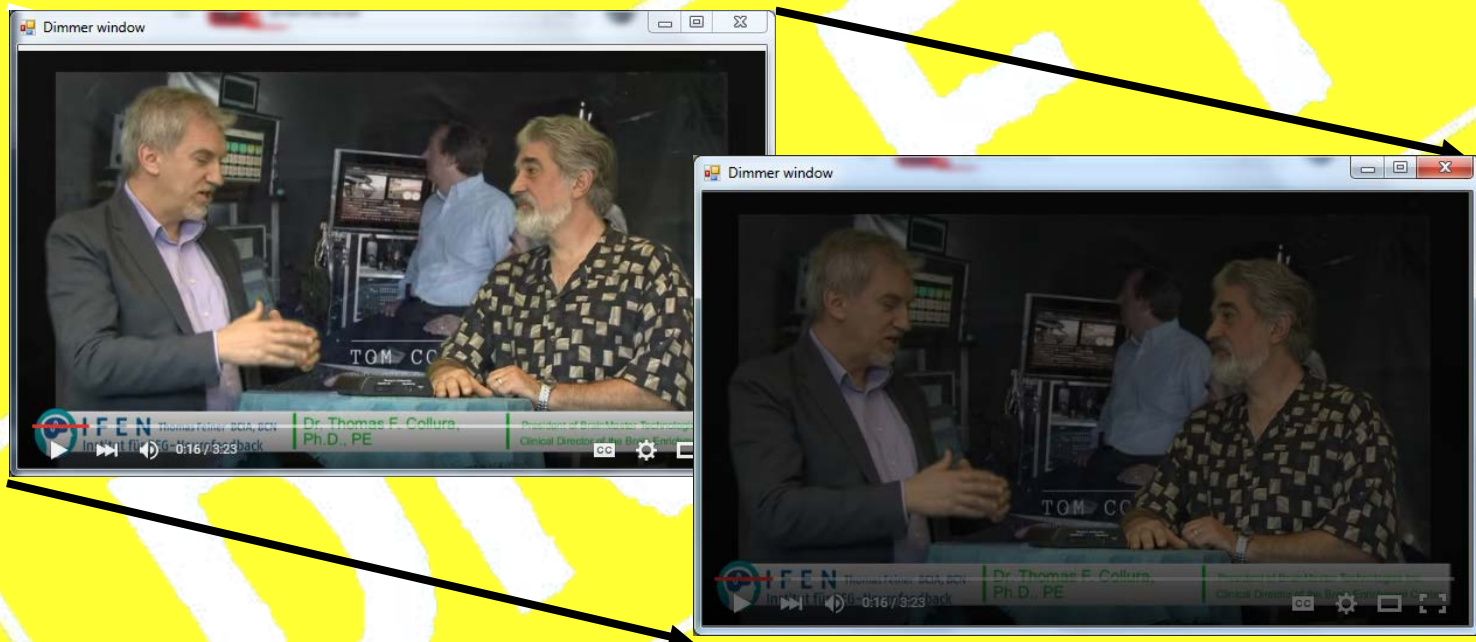
The Dimmer Window shall open which should be sized over the media that is presented to the client.



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The Dimmer

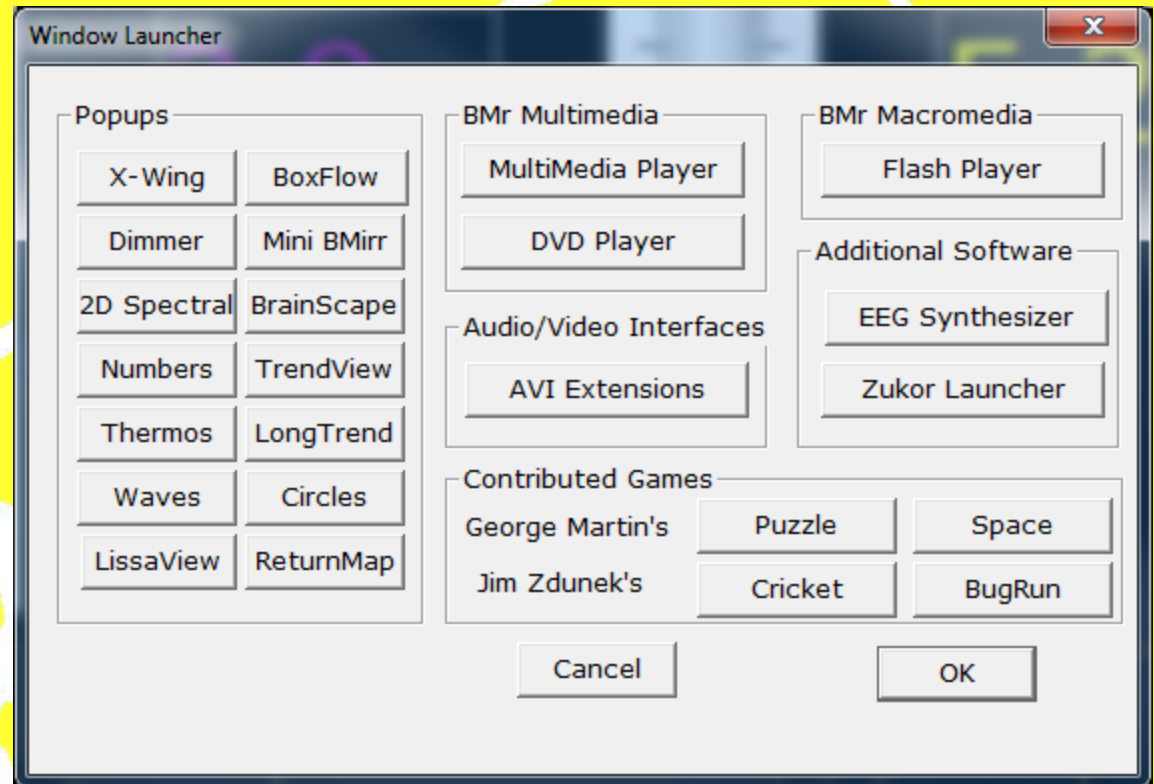
YouTube is illuminated when criteria are met and dims when they aren't.



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Other Media

As you can see there are a myriad of media choices available so please feel free to try all of these to your client's content. For a more extreme experience contact BrainMaster Sales and inquire about the Zukor Games. If you have already purchased one or more of the Zukor Games their use will be covered in Level 2 and beyond.



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