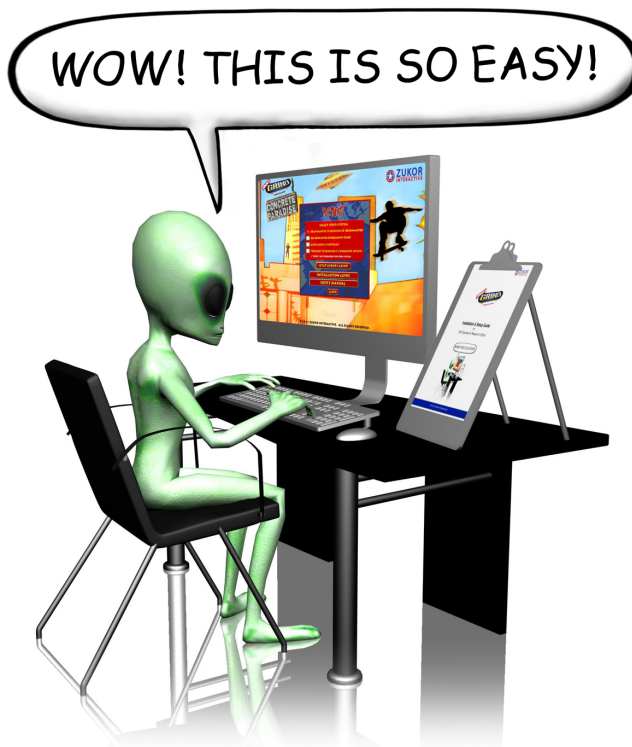




# QUICK START GUIDE

Installation, Setup & Basic Operation  
with  
EEG Education & Research's EEGER  
Version ZG 2.0-1



# **ZUKOR'S GRIND**

## **Quick Start Guide**

### **Installation, Setup & Basic Operation**

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## ACKNOWLEDGMENTS

### ZUKOR'S GRIND

is dedicated in loving memory of

**Helen Turcotte Davis**  
1937 - 2011

**Jefferson C. Davis, M.D.**  
1932 - 1989

*They dedicated their lives to advances in medicine  
and continuing medical education.*

### NEUROFEEDBACK ADVISORY TEAM

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**Neurofeedback Systems Technical Advisor:** Kate Novian

### SPECIAL THANKS

#### **EEG Education & Research**

Howard Lightstone

#### **My Wife**

My wonderful wife, Sandra Turcotte

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## **Welcome to Zukor's Grind!**

Thank you for purchasing Zukor's Grind. It is our sincere hope that it contributes to improved patient treatment. Our goal was to create a feedback game with the same world-class professionalism and sophistication as our neurofeedback and biofeedback system partners provide in their amplifiers and system software.

With Zukor's Grind, we have introduced many features to neurofeedback and biofeedback feedback games which have never before been seen in the field. Each feature was methodically considered and carefully developed under the guidance of and with feedback from experienced neurofeedback clinicians, in particular, our chief clinical advisor, Dr. Allen Novian.

This guide will help you make the most of these features. Additionally, there is built-in Help throughout the game. Should you need additional explanation of any feature, please contact us directly and we will make sure you fully understand it.

As you use Zukor's Grind, we hope you not only benefit from its vast range of innovative new features, but also from the ability to customize the features to meet your specific neurofeedback or biofeedback training strategy and the unique needs of each patient. Even more than the features themselves, we strongly believe (and our clinical advisors have repeatedly told us) that the ability for clinicians to select and customize features is critical for effective clinical neurofeedback and biofeedback treatment.

We welcome your feedback and suggestions, which we will use to create even more effective feedback games in the future. So, please let us know how we are doing.

Zukor Interactive is committed to supporting the increasingly important fields of neurofeedback and biofeedback. We are a proud member of the ISNR and AAPB and are financially supporting industry research efforts.

We strongly believe neurofeedback and biofeedback have an extremely bright future.

Thank you again for your support!

**Samuel Turcotte Davis**

**President & Chief Technology Officer**

**Zukor Interactive**

## MINIMUM COMPUTER SYSTEM REQUIREMENTS

Your computer system needs to meet the below requirements to properly run Zukor's Grind.

Computer systems which don't meet these requirements may run the game,  
but you might encounter issues ranging from minor to extreme.

These requirements are in alignment with the requirements of the EEGer system manufacturer as well.

***NOTE:** Most computers sold within the last two years will meet the first two requirements.*

### 1. OPERATING SYSTEM

- Windows 7 or Windows 8/8.1 on a regular PC or on a Mac (via Boot Camp).

***NOTE:** Microsoft no longer supports most versions of Windows XP and Windows Vista.*

**IMPORTANT:** Make sure you have installed **ALL** Windows 7 or Windows 8/8.1 updates **PRIOR** to installing and running Zukor's Grind. Failure to do this may lead to improper operation of the game.

### 2. COMPUTER GRAPHIC REQUIREMENTS

- Dedicated graphics card with at least 512 MB dedicated video memory.

***NOTE:** Systems which do not meet these graphic requirements will still likely play the game, but may require graphic adjustments within the game to reduce graphics quality so the game will play smoothly.*

### 3. MONITORS/DISPLAYS

**Two monitors (dedicated dual monitor setup).**

**Game monitor should be 21+ inches, "widescreen" and set at a minimum resolution of 1024 x 768.**

***NOTE:** Video projectors, Plasma TVs, LCD TVs and LED TVs usually work as well, but could require different Windows graphic settings to be selected.*

## NEUROFEEDBACK SYSTEM SOFTWARE REQUIREMENTS

- EEGer 4.2.2pd or later
- EEGer dongle keyfile (available from whomever you purchased Zukor's Grind)

***Note:** It is highly recommended that EEGer and Zukor's Grind be run on a single, dedicated system with no other applications running.*

# Installation

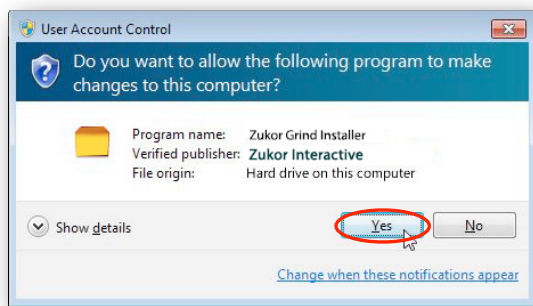
Follow the below steps after you have downloaded Zukor's Grind.

1. Locate the **Zukor's Grind Installer**. Likely it is in your Downloads folder or, maybe, on your Desktop.

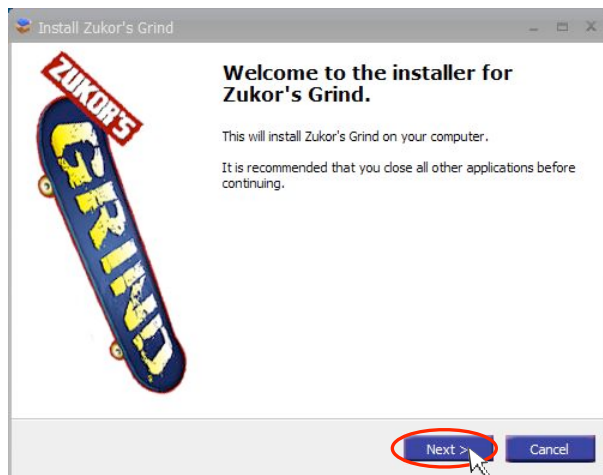


NOTE: The installer may have automatically started after downloading finished and the **User Account Control** (Step 3) may already be visible.

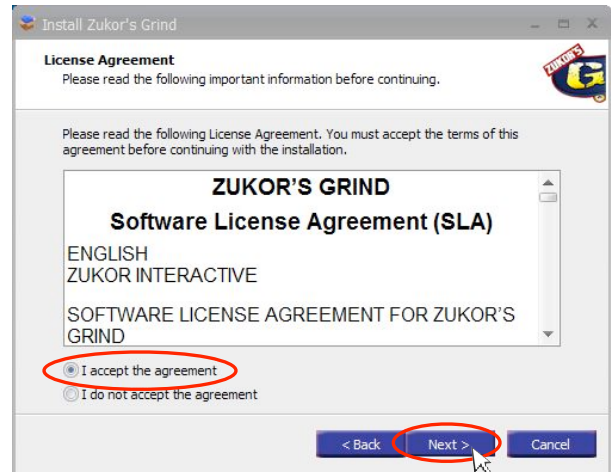
2. Double click the **Zukor's Grind Installer** icon.
3. If the **User Account Control** box appears, click **"Yes."**



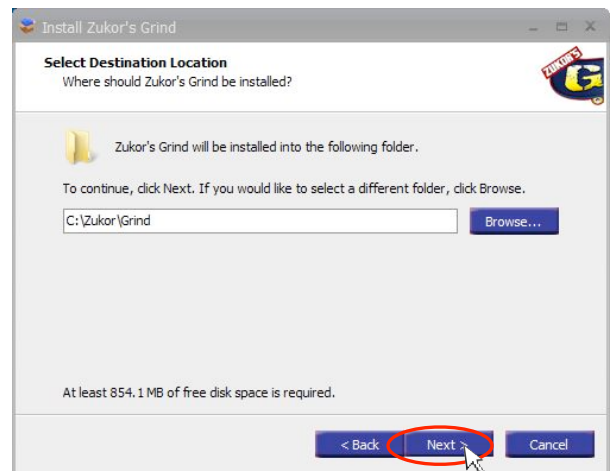
4. When the installer appears, click **"Next."**



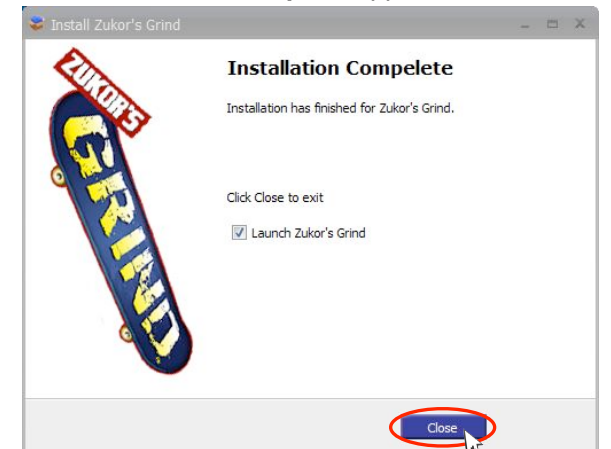
5. When the **Software License Agreement** appears, please read it and, if you agree, then select, **"I accept the agreement."** and then click **Next**.



6. When the box below appears, click **"Next."**



7. When **Installation Complete** appears, click **"Close."**



# Two Monitor Setup (Windows 7)

**You can skip this if you are already using two monitors.**

## OVERVIEW

Zukor's Grind is designed to work with your neurofeedback or biofeedback system software in a two monitor configuration. If you are not already using a two monitor configuration, then the below steps to properly configure your monitors in Windows 7. The steps are similar in other versions of Windows.

**Monitor 1** = The "Clinician Monitor" to display your neurofeedback or biofeedback system software and clinician screen.

Note: Monitor 1, the "Clinician Monitor," can be a laptop screen.

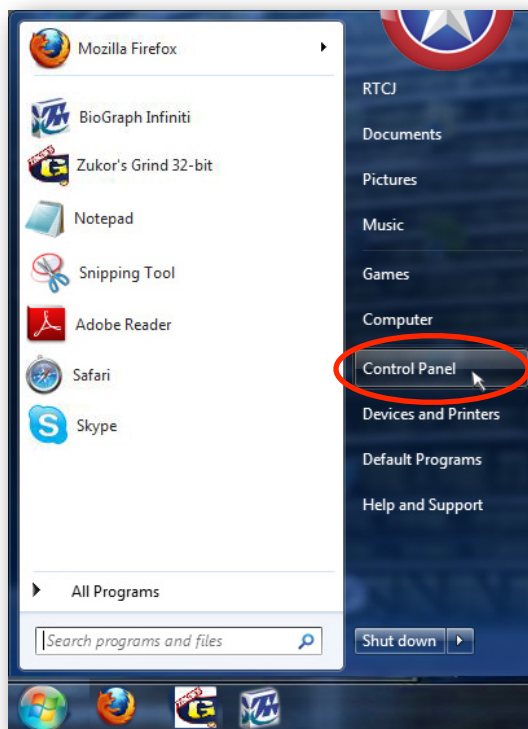
**Monitor 2** = The "Game Monitor" to display the Zukor's Grind feedback game for the patient.

Note 1: Per the Zukor's Grind system requirements, the Game Monitor (Monitor 2) should be a 21+ inches widescreen monitor and set at minimum resolution of 1024 x 768. A smaller monitor, a non-widescreen monitor or one set at a lower resolutions will work, but the game display experience will be less than optimal.

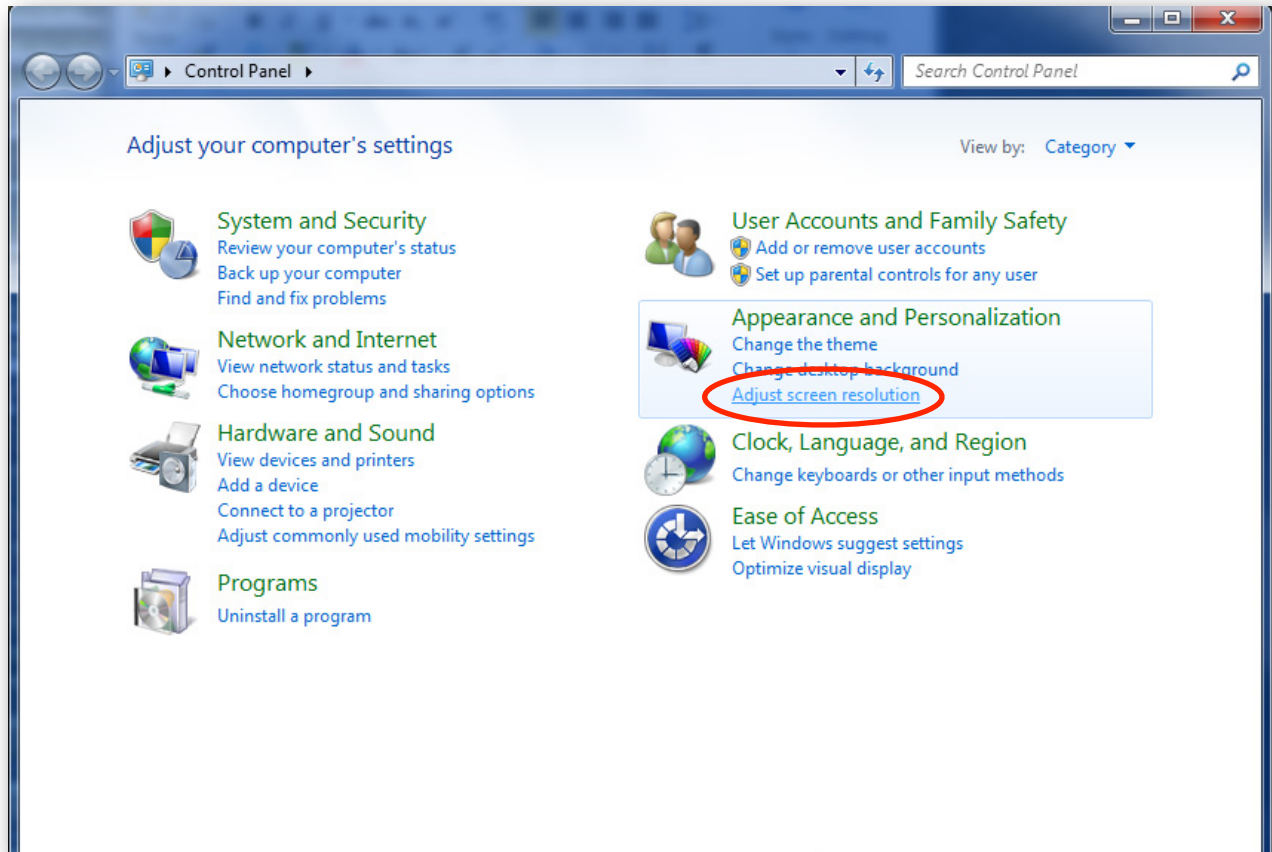
Note 2: Monitor 2 can also be a Plasma/LCD/LED TV or video projector. However, some of these alternative displays may require additional configuration changes in Windows.

## MONITOR SETUP

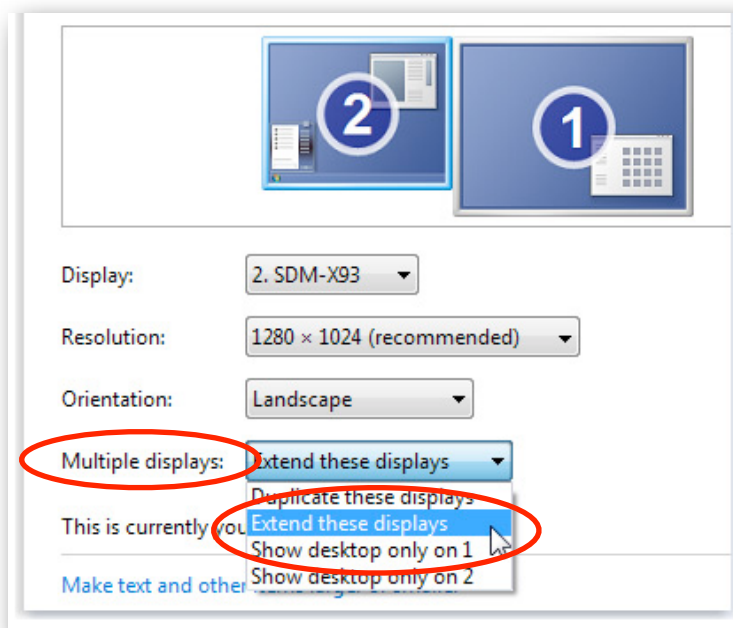
1. On the **Start** menu in Windows go to **Control Panel**.



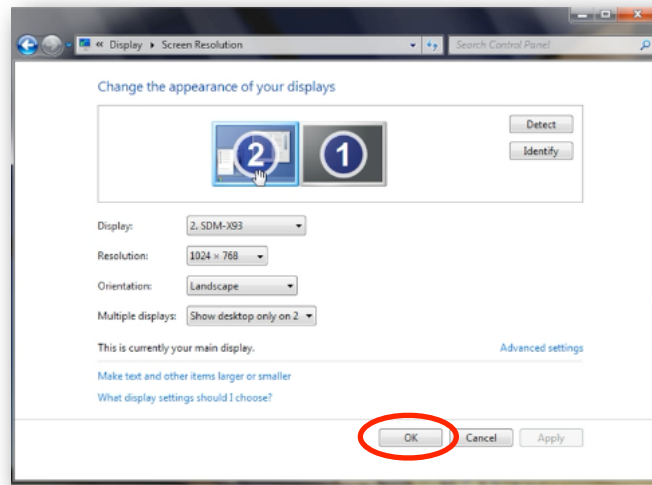
2. On the **Control Panel** window under **Appearance and Personalization**, click **Adjust screen resolution**.



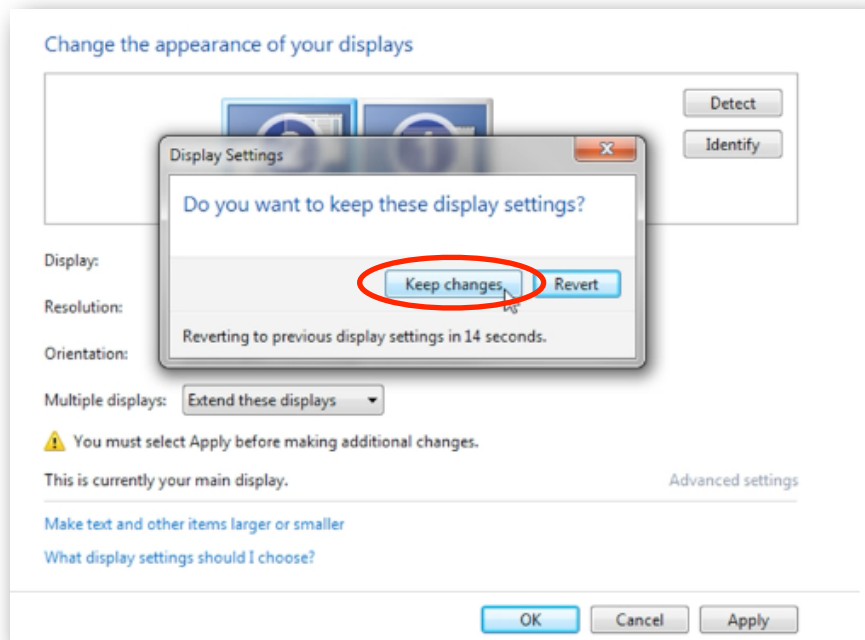
3. Click the drop-down list next to **Multiple displays** and select **Extend these displays**.



4. Then click **OK**.



5. On the **Display Settings** confirmation popup, click **Keep changes**.



**Your monitors are now setup to work properly with Zukor’s Grind and EEGer.**

**When you start EEGer it should appear on Monitor 1, the “Clinician Monitor,” and when Zukor’s Grind launches it should appear on Monitor 2, the “Game Monitor”.**

**If it does not, then please review the above steps again.**

**If it’s still not working correctly, then please contact whomever you purchased Zukor’s Grind.**

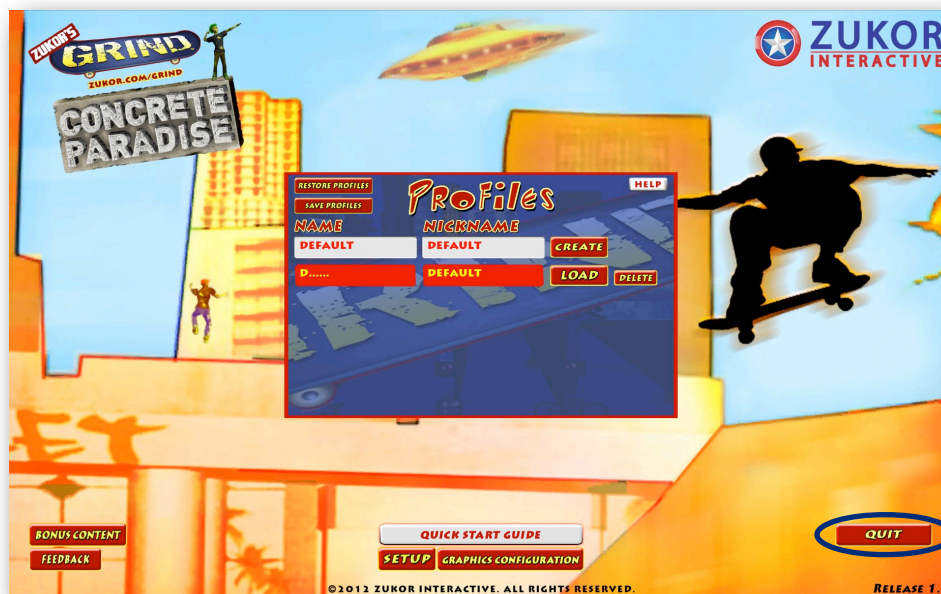


# Linking Zukor's Grind & EEGer (1 computer setup)

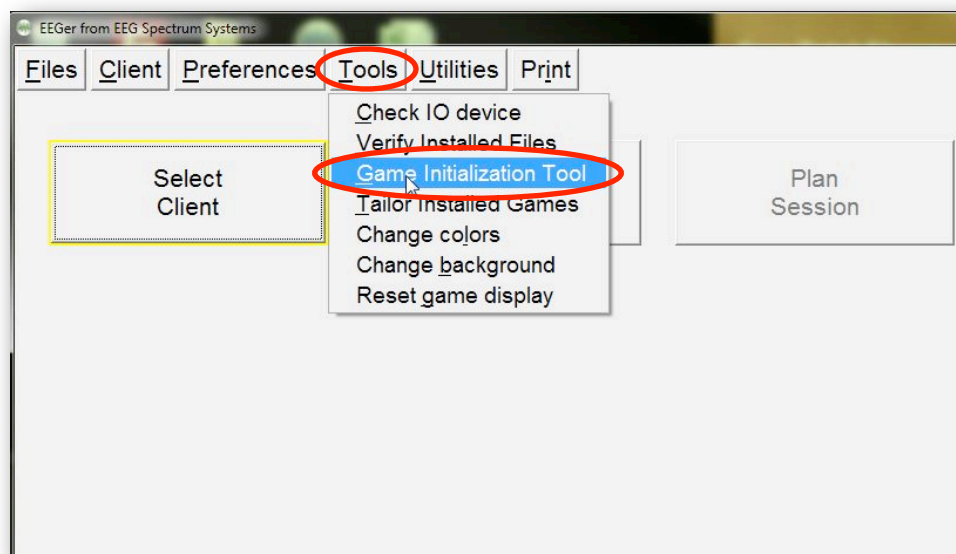
Once the installation of Zukor's Grind is completed, the following steps will ensure that EEGer can locate and communicate with Zukor's Grind via the Zukor Launcher.

**NOTE:** If you have a 2 computer EEGer setup, please contact Zukor Interactive for assistance.

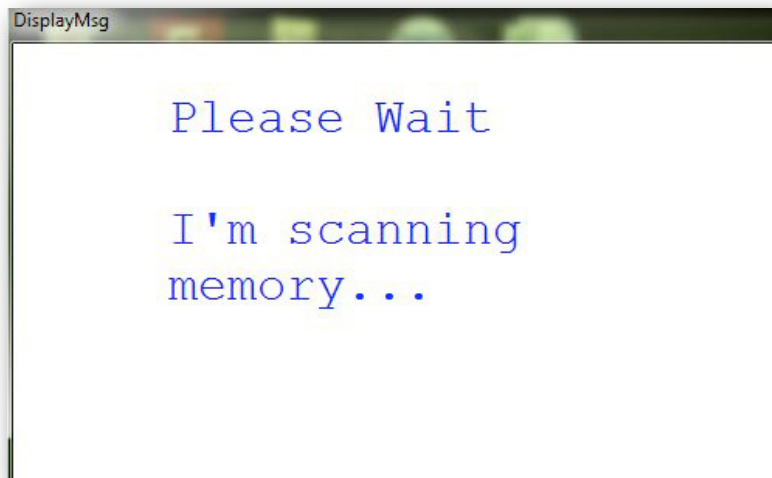
1. Quit Zukor's Grind by clicking **QUIT** on the Main Menu.



2. Start EEGer in the normal manner.
3. Make sure your EEGer preferences are set to **Dual Monitor**. (If needed, please see the EEGer manual for instructions.)
4. Next, go to **Tools** and click on **Game Initialization Tool** in the drop-down menu.



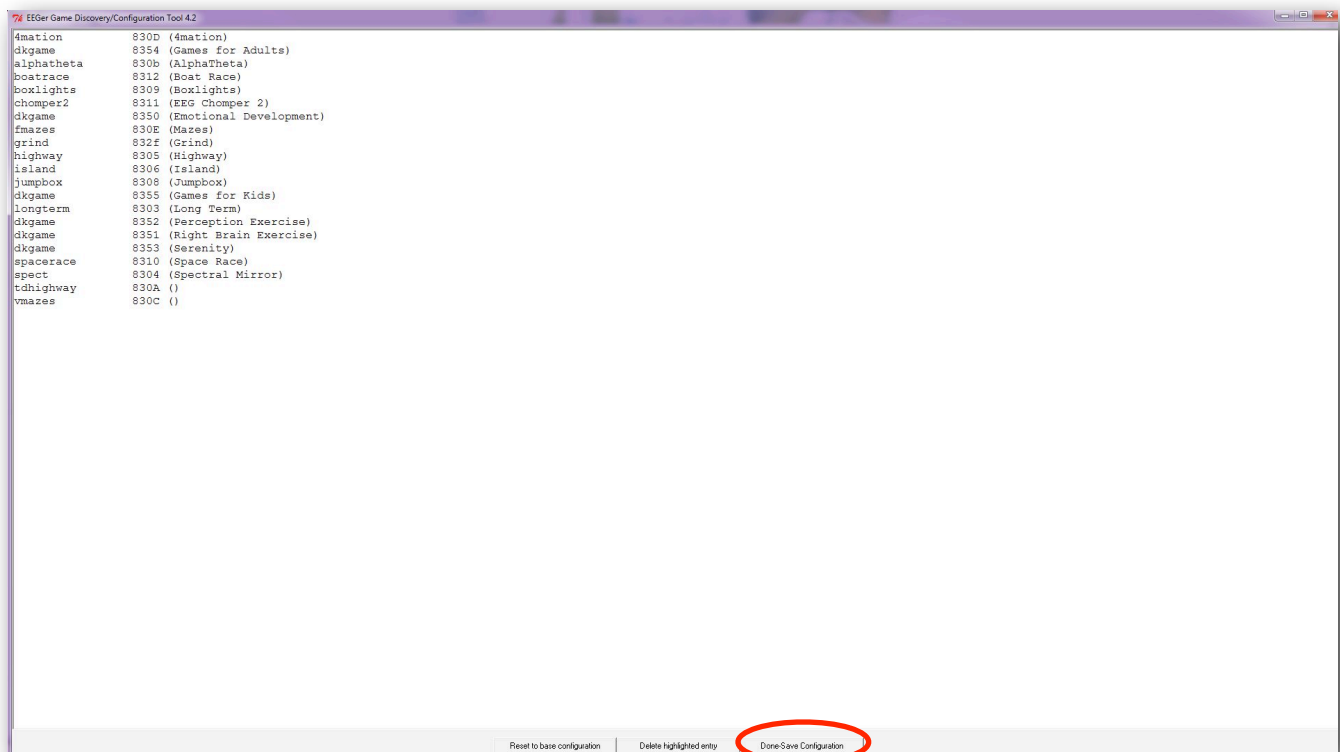
5. The screen below will appear.



When the above screen goes away...

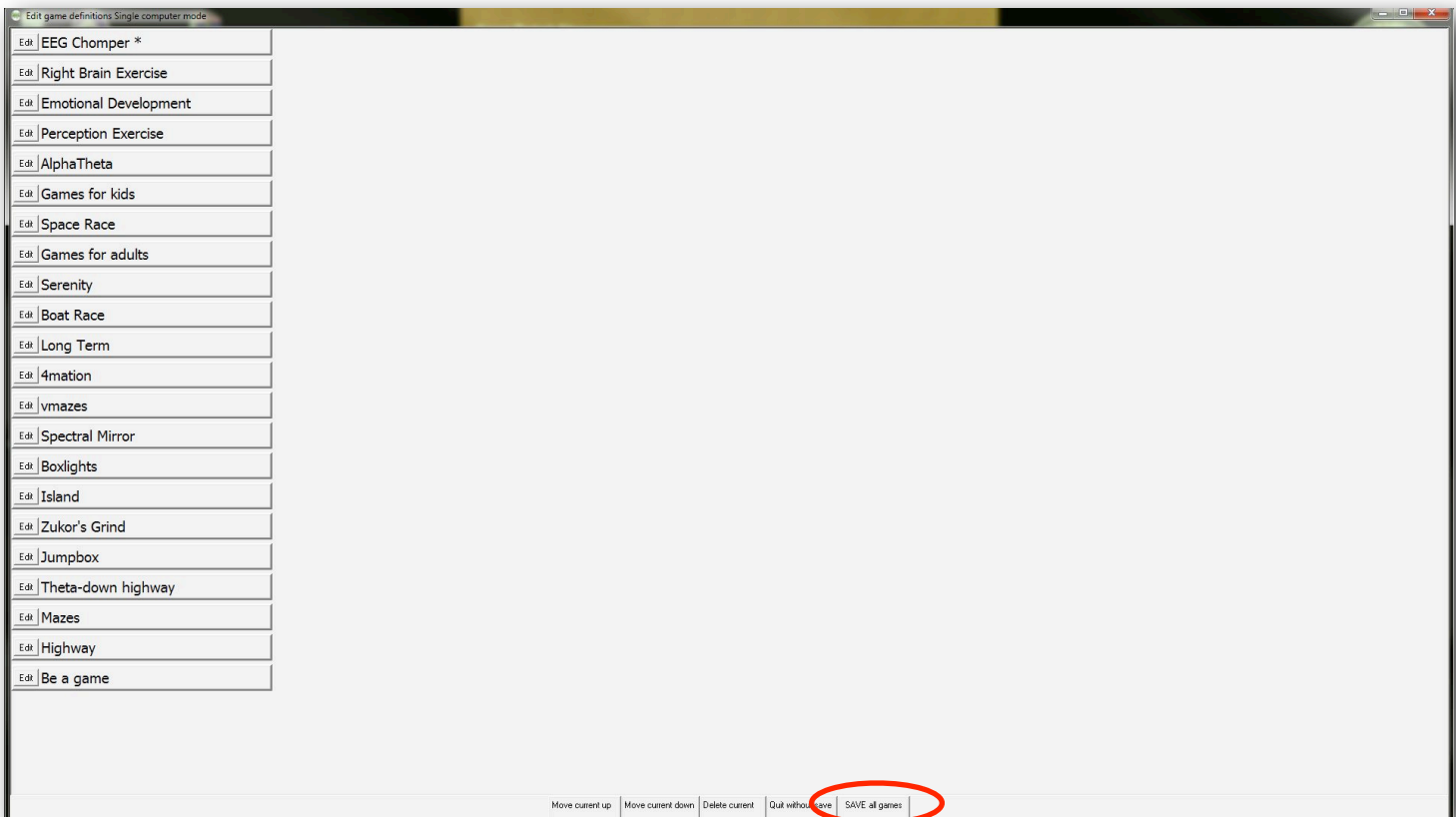
A new screen like the one below will appear with a list of the feedback games found on your computer. You should see the **Zukor Launcher** somewhere in this list. This means that EEGer has successfully linked to Zukor Launcher which will allow selection of Zukor's Grind.

6. Click the **Done - Save Configuration** button at the bottom of the screen.





7. A new screen like the one below will appear. Click the **SAVE all games** button at the bottom of the screen.



**You have now successfully linked Zukor's Grind via the Zukor Launcher with EEGer!**

**Next, you need to install your EEGer dongle keyfile for Zukor's Grind in EEGer.**

**Note: If you don't have this dongle keyfile you can obtain one from whomever you purchased Zukor's Grind.**

**To install the dongle keyfile follow these steps:**

1. Start EEGer in the normal manner.
2. Pull down the **Files** menu and select "**Read EEGer keyblock files.**"

**Next, we suggest you try using Zukor's Grind and EEGer with stored data (page 14) to familiarize yourself with the basics.**

# Using Zukor's Grind with Stored Data

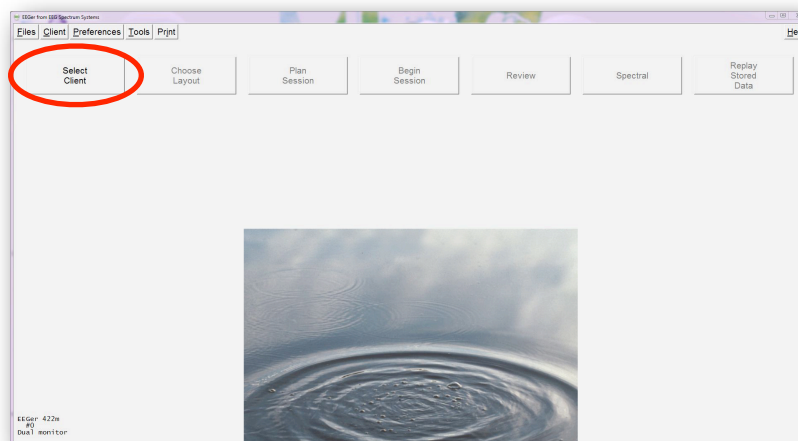
This section explains how to use Zukor's Grind and EEGer with stored data. We highly recommend you try Zukor's Grind and EEGer with stored data before you try it with live data.

For using Zukor's Grind and EEGer with live data, please see the next section.

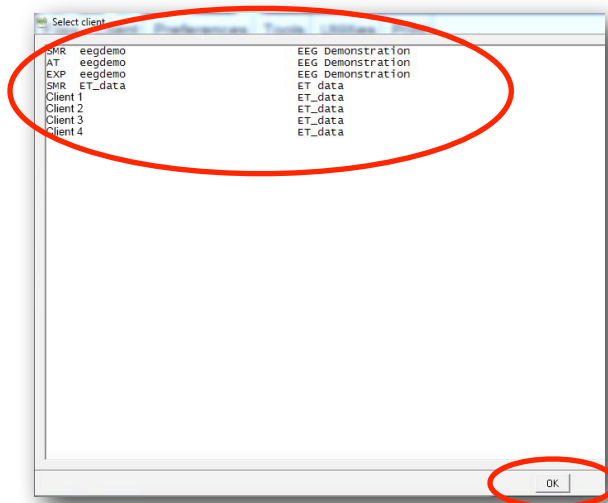
1. **Start EEGer** from the desktop icon or however you normally start the application.

**IMPORTANT: You MUST ALWAYS start EEGer BEFORE starting Zukor's Grind and ONLY start Zukor's Grind from INSIDE EEGer.**

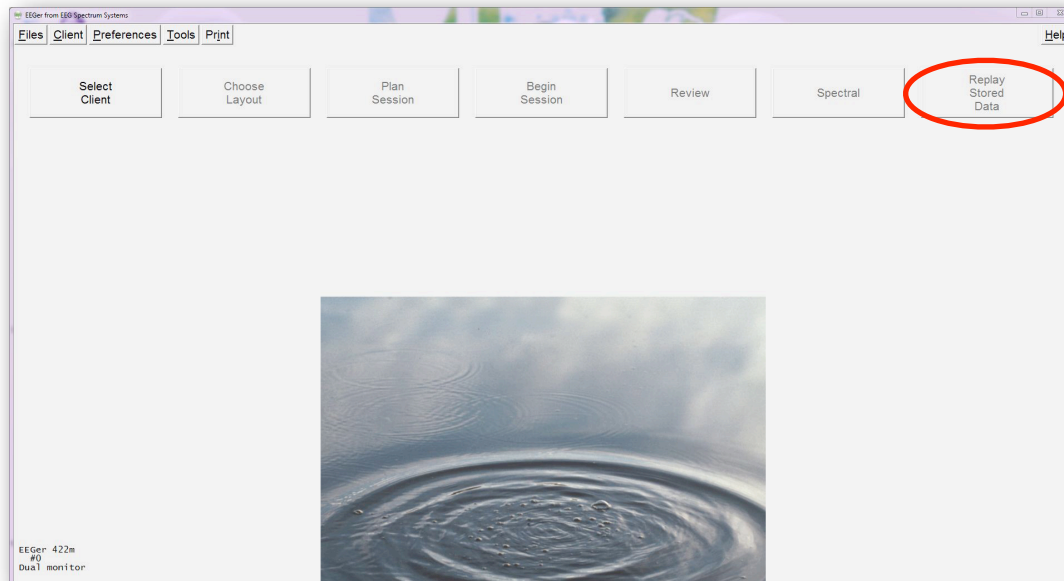
2. In EEGer main window, click **Select Client**.



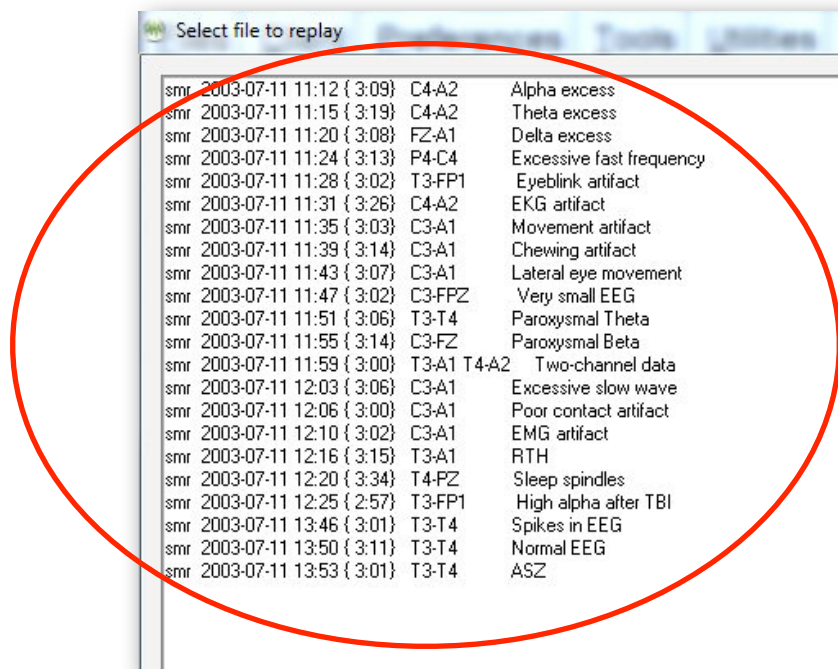
2. In the **Select client** window, select your client, then click **OK**.



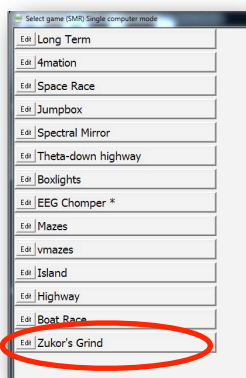
3. In EEGer main window, click **Replay Stored Data**.



4. In **Select file to replay**, double click on the desired file.



5. In **Select game (SMR) Single computer**, double click on **Zukor Launcher**.



This will launch the Zukor Launcher on the game monitor (Monitor 2). Then click the Zukor's Grind logo.

**Note:** It can take up to 15 seconds for the game to launch.



## ZUKOR LAUNCHER



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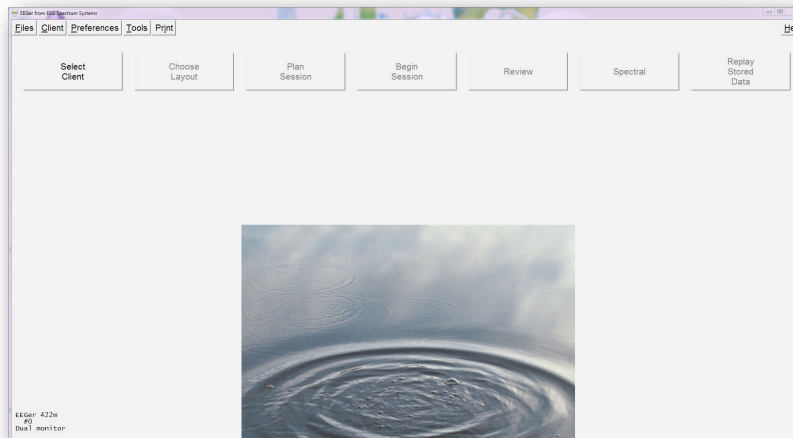
Now, proceed to "Basic Usage: Zukor's Grind & EEGer" on page 32.

# Using Zukor's Grind with Live Data

**This section explains how to use Zukor's Grind and EEGer with live data. We highly recommend you try Zukor's Grind and EEGer with stored data before you try it with live data.**

*For using Zukor's Grind and EEGer with stored data, please see the previous section.*

1. If you have not done so already, please install the EEGer dongle keyfile for Zukor's Grind. This enables EEGer and Zukor's Grind to work together with live data. The EEGer dongle keyfile is available from whomever you purchased Zukor's Grind.
2. **Start EEGer** from the desktop icon or however you normally start the application.  
**IMPORTANT: You MUST ALWAYS start EEGer BEFORE starting Zukor's Grind and ONLY start Zukor's Grind from INSIDE EEGer.**

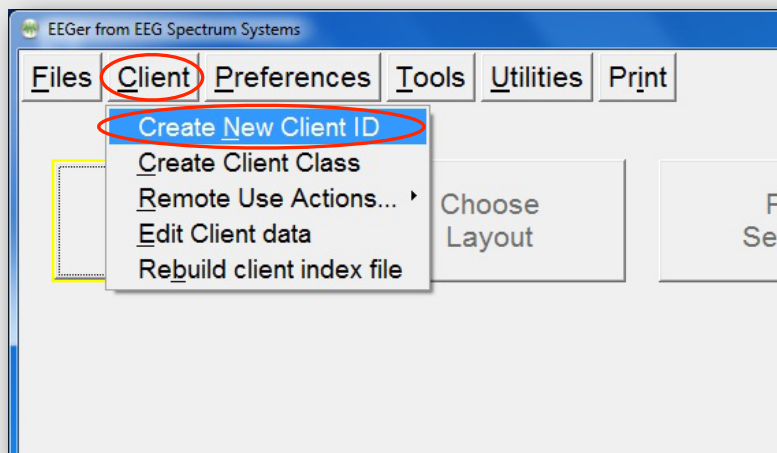


On the EEGer main window you need to either:

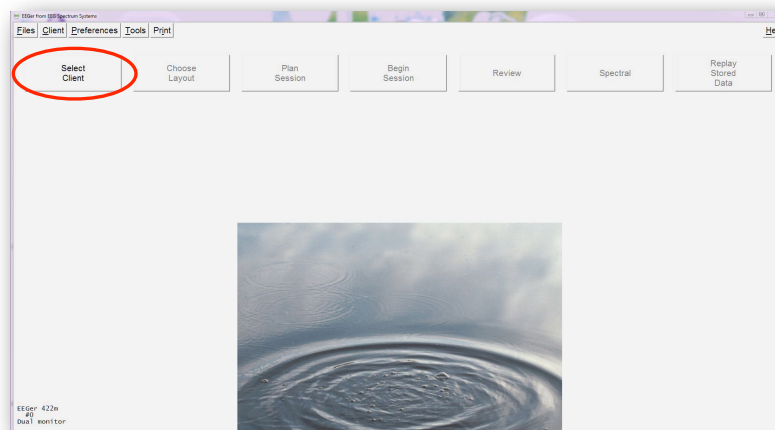
- A. Create a new client (start with “Create a New Client” in grey box below).**
- B. Select an existing client (go to Step 3 below).**

## Create a New Client

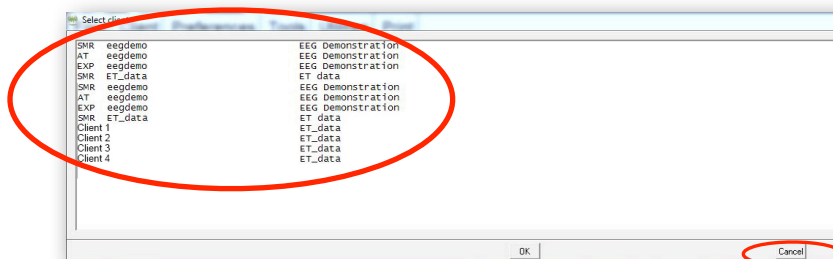
Under the **Client** drop down menu, click on **Create New Client ID** and then fill in all the required new client information. Once finished, proceed to Step 3.



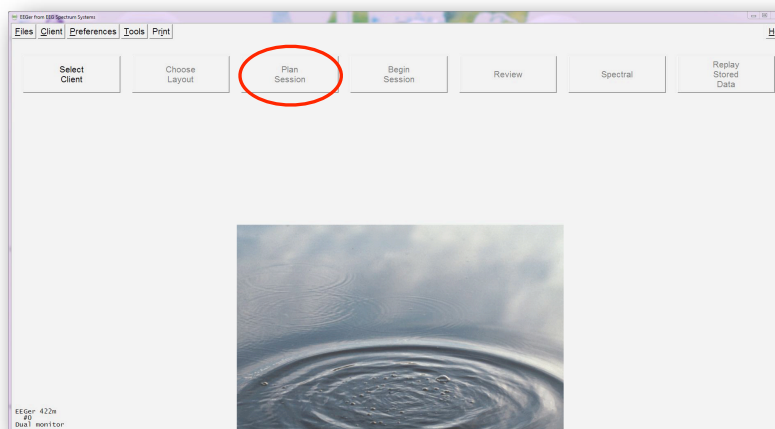
3. On the EEGer main window, click **Select Client**.



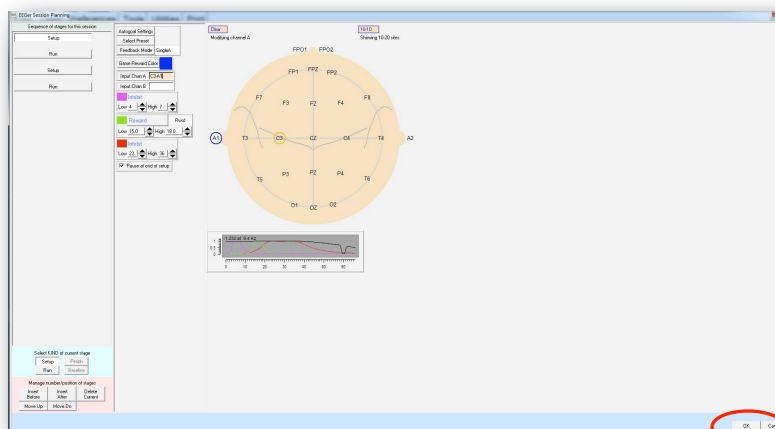
4. On the **Select client** window click on the desired client, then click **OK**.



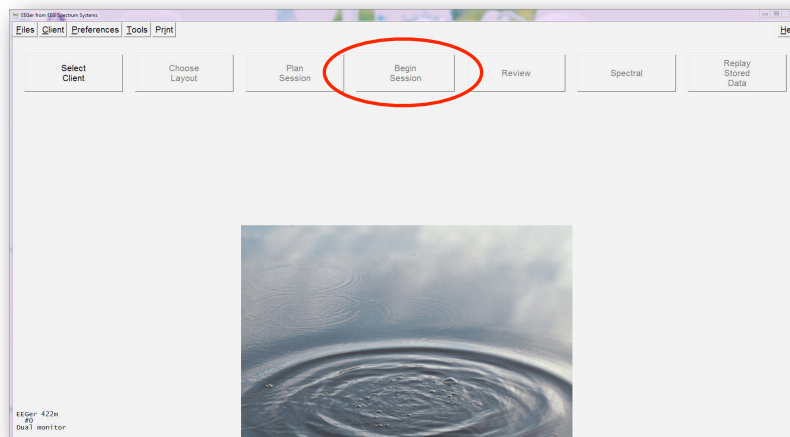
5. Back on the EEGer main menu, click on **Plan Session**.



6. Select your client settings, then click **OK**.



7. On the EEger main menu, click **Begin Session**.



8. In **Select game (SMR) Single computer**, double click on **Zukor Launcher**.



This will launch the Zukor Launcher on the game monitor (Monitor 2). Then click the Zukor's Grind logo.



Now, proceed to “Basic Usage: Zukor’s Grind & EEger” on page 32.



# Basic Usage: Zukor's Grind & EEGer

This section covers the basic usage of Zukor's Grind and EEGer. It is intended for first time users doing standard SMR "reward" and "inhibit" training.

1. Start **EEGer** from the desktop icon or however you normally start the application.

**IMPORTANT: You MUST ALWAYS start EEGer BEFORE starting Zukor's Grind. And, Zukor's Grind MUST ALWAYS be started from INSIDE EEGer.** Failure to do this will cause many problems with Zukor's Grind and EEGer functionality.

2. Setup EEGer for a stored data session or live data session in the normal manner. (See previous sections for details.)
3. When you get to the EEGer window titled "**Select game (SMR) Single computer mode**" then double click on **Zukor Launcher**, which should be at the bottom of the list of games.
4. After you select Zukor Launcher, the EEGer clinician screen will load on your main monitor and the Zukor Launcher will automatically start up on Monitor 2, the "game monitor." On the Zukor Launcher then click on Zukor's Grind.

**IMPORTANT: It can take up to 15 seconds for EEGer to launch Zukor's Grind.**

5. After the Zukor's Grind startup animation, the **Profiles** popup will appear over the Main Menu.
  - A. Enter the patient's first and last name into the **NAME** field.
  - B. Enter a nickname into the **NICKNAME** field.
  - C. Click the **CREATE** button.
  - D. Click the **LOAD** button.
  - E. Click the **START NEW SESSION** button to load this profile and go to the Main Menu.

**NOTE:** If the NICKNAME box is left blank, the system will fill the NICKNAME box with the full name from the NAME box. If you prefer not using Nicknames we suggest you simply put a period "." in the nickname box.



For more information on **Profiles**, press the **HELP** button in Zukor's Grind or go to page 16.



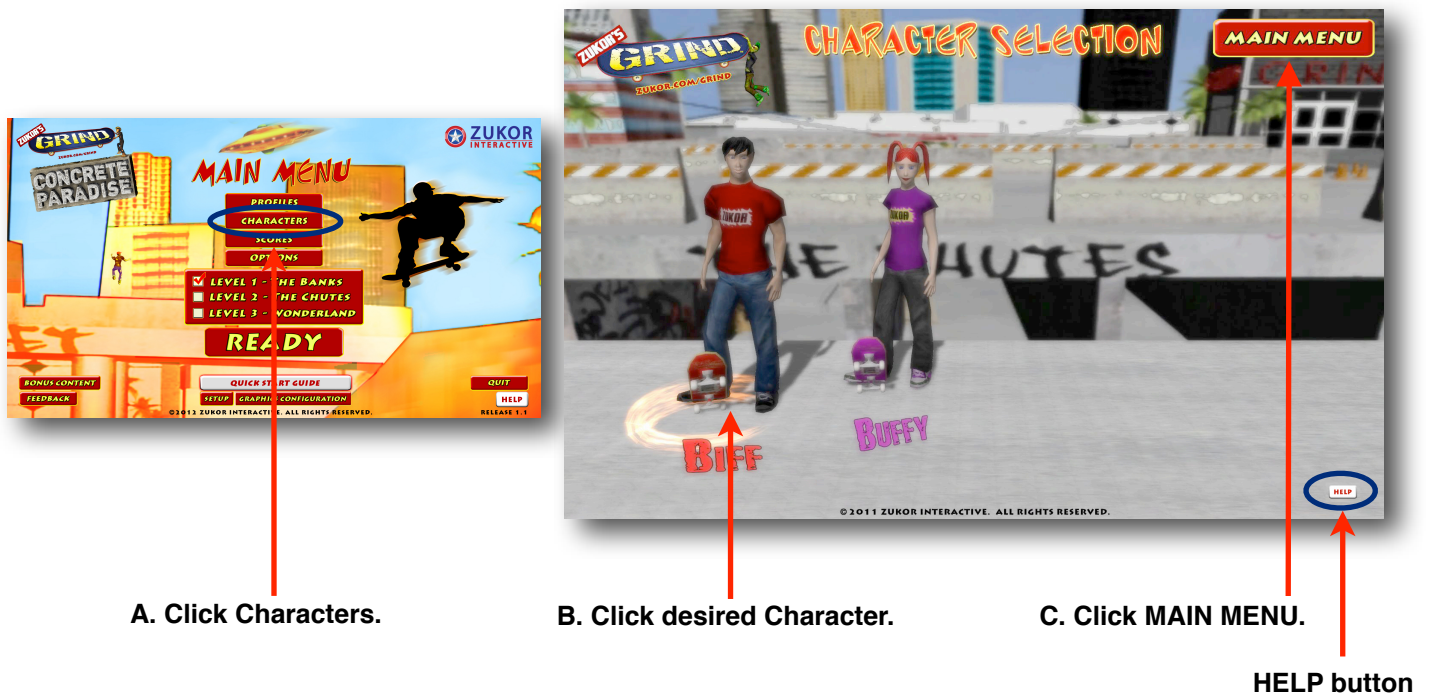
6. If desired, click **OPTIONS** to make changes to the settings of the game.



**IMPORTANT:** The Period/Session options in Zukor's Grind must match your Period/Session options in EEGer.

7. Select the desired **Character**:

- A. Click the **CHARACTERS** button on the Main Menu.
- B. Click the desired character.
- C. Click **MAIN MENU** to go back to the Main Menu.



**NOTE:** There are two fun "Bonus Characters" available!

Please click the Help button on the Character's screen for information about how to activate them.

8. Select a **Level** by checking the white box next to the desired level, then click the **READY** button.



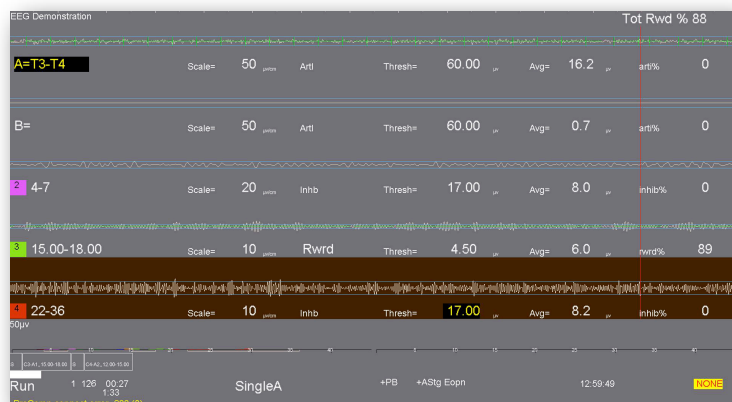
This will take you to the “Ready” screen.

**IMPORTANT:** There can a delay of a few second between the time you click **READY** and when the **Ready** screen loads. This delay depends on many factors, but primarily the “speed” of your computer.



9. To start the feedback session, use your mouse to move the cursor to the EEGer screen on the “Clinician Monitor” and click on the EEGer clinician screen to activate the EEGer clinician screen. Then press F5 on the keyboard to start the first period of the session.

**IMPORTANT:** There can a brief delay of a few second between the time you press F5 in EEGer and when the character starts moving. This delay depends on many factors, but primarily the “speed” of your computer.

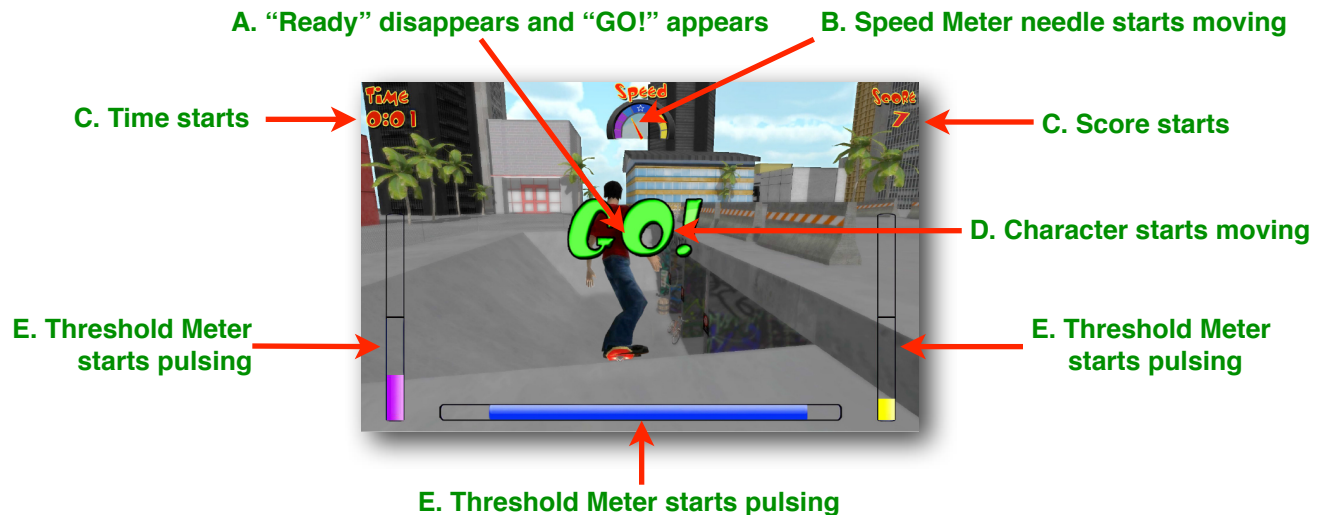


The character should then start moving and the threshold meters should pulse with data.

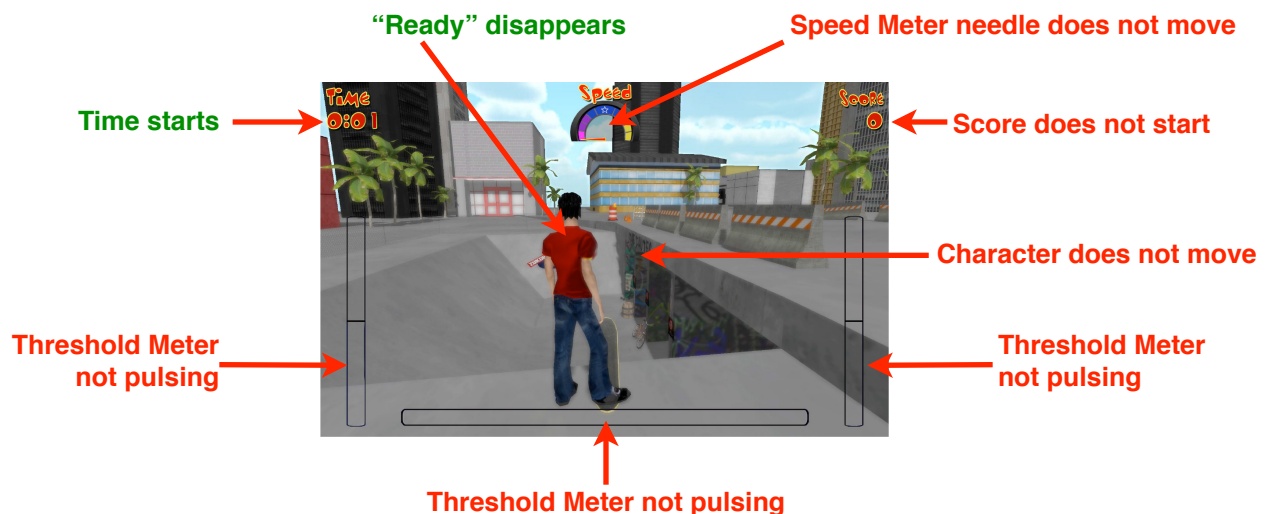
**NOTE:** The times displayed in Zukor’s Grind and EEGer can differ by a few seconds.

10. You will know the game period has started if:

- A. The word “**Ready**” disappears and the word “**GO**” appears.
- B. The **Speed** meter needle starts to fluctuate.
- C. The **Time** and **Score** begin to count.
- D. The **Character** starts to move.
- E. Colors start to pulse on some or all the **Threshold Meters**.



**IMPORTANT:** If the word “**Ready**” disappears and the **character does not move**, then the game correctly received the start signal from EEGer, but there is not sufficient meaningful threshold data to move the character. In this case there will also be little or no pulsing colors on the threshold meters. To correct this situation, adjust the threshold settings on EEGer clinician’s screen. Of particular importance is the SMR amplitude threshold setting.

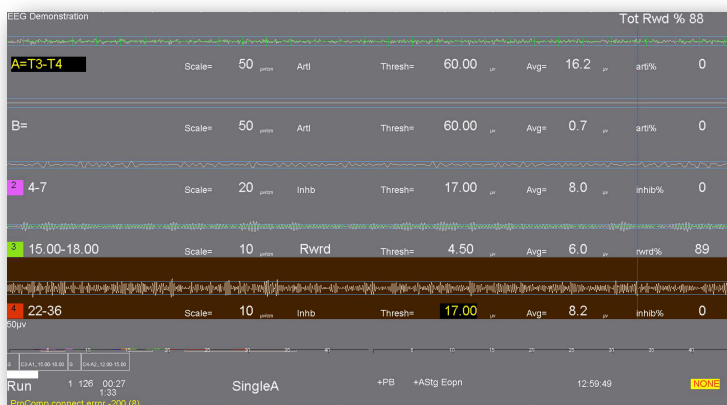


11. When the feedback game period ends the character will stop moving and raise his, her or its arms in the air and an end of period jingle (short music sound) plays. A few seconds later the Scores screen will appear.

**NOTE:** If the Scores screen does not come up, but instead a popup appears over the game that says PAUSED, then you need to change the Period/Session options in Zukor's Grind to match those settings in EEGer.



12. When the game period ends, click the F5 button on the EEGer clinician screen. The F5 button can be clicked while the game is on the “End of Period” screen or the Scores screen.



13. If you set the Period/Session options in Zukor's Grind to match EEGer, then the **NEXT PERIOD** button on the Scores screen will count down from 10 to 0 and then will then bring up the “Ready” screen. Then click the F5 button on EEGer, i.e. repeat Step 8.





# Uninstall Zukor's Grind

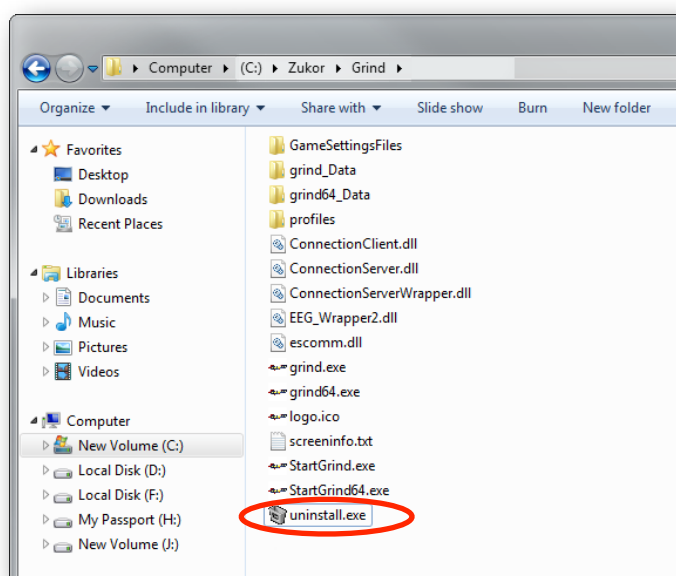
If you need to uninstall (remove) Zukor's Grind from your computer for any reason, please follow the below steps.

## Uninstall Steps

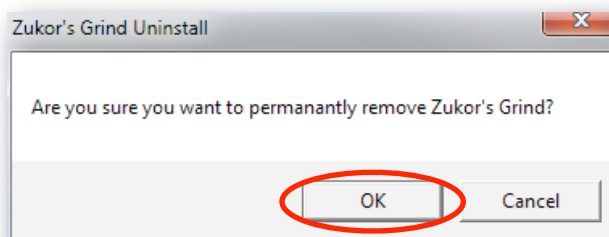
1. Locate and open the **Zukor** folder on your computer.

**Note:** If you followed the regular installation and did not change the installation location, then this folder should be located in: C:\Zukor.

2. Inside the Zukor folder, open the **Grind** folder.
3. Locate the and double click **uninstall** or **uninstall.exe**.



4. On the Zukor's Grind Uninstall confirmation popup, click **OK**.



**NOTE:** The patient Profiles, including Scores will not be deleted and can be used if you reinstall another Zukor's Grind again. Or, these Profiles can be moved to another computer running Zukor's Grind.