



RAISE: Rasing environmental knowledge & awareness through an innovative virtual environment



User Manual

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Executive Summary

This document serves as the user manual for the RAISE Viewer software, designed to provide a unique 3D virtual gaming experience. Users are meticulously guided through the installation process to ensure a smooth transition into the game's environment. Once inside, players are introduced to the world, earned by conquering challenges, which allow interactions with non-player characters and progress in the storyline. The game boasts a four-lingual interface, offering choices among English, Greek, Italian and Portuguese. Additionally, the RAISE Viewer offers diverse scenarios to engage, where players can choose a game scenario. While the software promises a seamless experience, the manual provides solutions for potential technical issues and outlines both the minimum and recommended system requirements for optimal performance. This manual aims to ensure every user has a comprehensive understanding and can enjoy all the features the RAISE Viewer offers.





List of abbreviations

Abbreviation	Definition
VW	Virtual World





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1. Installation and setup

To view video instructions for installing, setting up the viewer, and creating an account click [here](#). The video should be used in conjunction with the manual.

1.1 Viewer Installation

To access a 3D VW, first, you have to download a viewer. To ensure maximum compatibility, the suggested viewer is Firestorm viewer. Open or copy and paste the following URL in your browser to open the download page:

<https://www.firestormviewer.org/os-operating-system/>

Select the appropriate distribution depending on your operating system (Windows, Mac or Linux, Figure 1). For Mac follow the instructions on this [link](#) under the “Step 3: Install Firestorm” tab of the page.

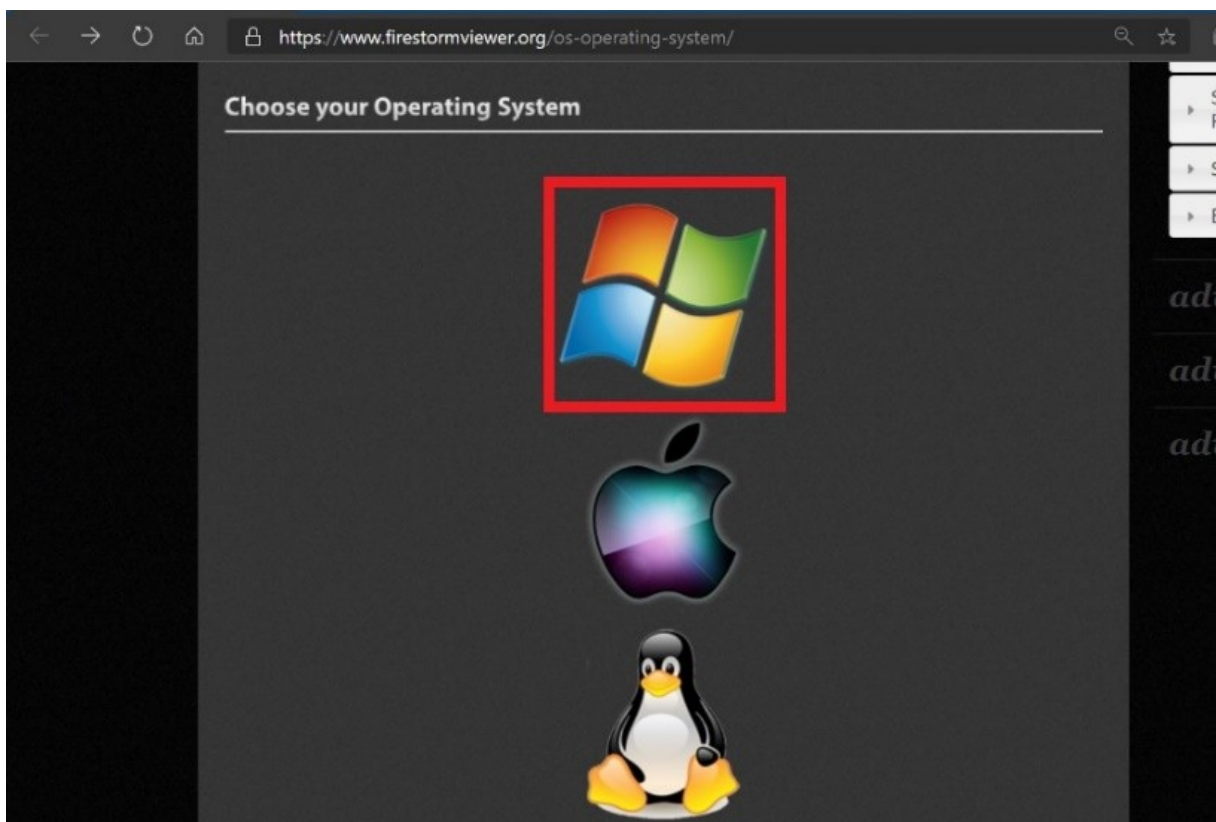


Figure 1: Firestorm download page, select operating system.

In the next page (for windows) there will be 2 download buttons, select the 64bit version ([Figure 2](#)).

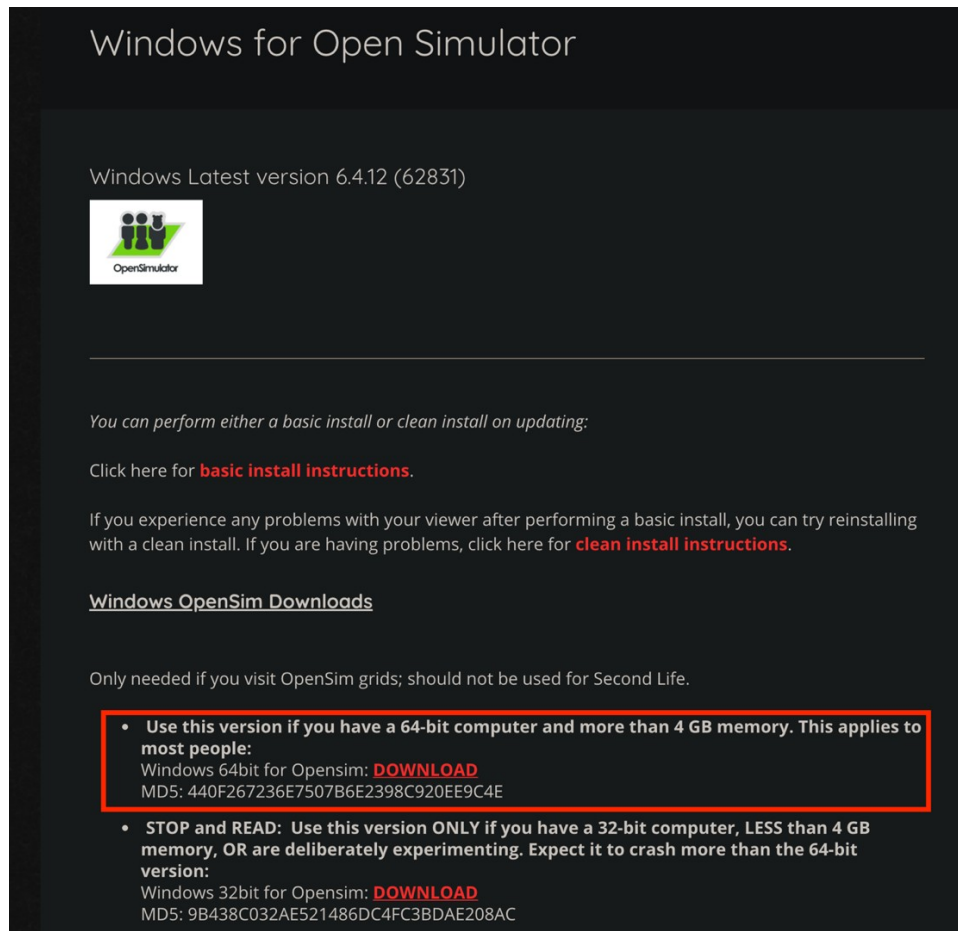


Figure 2: Firestorm download,select version.

When the download completes double click the downloaded file to start the installation process.

1.1.1 MacOS

MacOS users should take a few extra steps to complete the installation process. First, download the macOS version of Firestorm as shown in Figure 1 and then find the .dmg file you just downloaded and double-click it to mount it. Then drag the Firestorm app icon into your Applications folder. More detailed instructions can be found [here](#).

Note: Apple's Gatekeeper software may initially prevent your opening the viewer, depending on your Gatekeeper settings. If it does, there is a simple way to change it: See "How to open an app from a unidentified developer and exempt it from Gatekeeper" [on this page](#). Once you have allowed Firestorm to open via this method, Gatekeeper will not flag it on subsequent launches (until you reinstall Firestorm again).





1.2 Setting up the viewer for the first time

When the installation completes, run the viewer by double clicking the Firestorm's icon created on the desktop. Once the viewer opens, follow the steps depicted in Figure 3.

Step 1: Click the Viewer button on the top left corner

Step 2: Click the Preferences button

Step 3: Click the OpenSim button

Step 4: Enter the RAISE login URI:

<http://opensim.ceid.upatras.gr:9003/> (Right click on the URI and press copy hyperlink, be careful to not include any spaces after the URI)

Step 5: Click the “Apply” button

Step 6: If all the previous steps were followed correctly the Grid will now be showing: “RAISE”.

Step 7: Click the “Ok” button



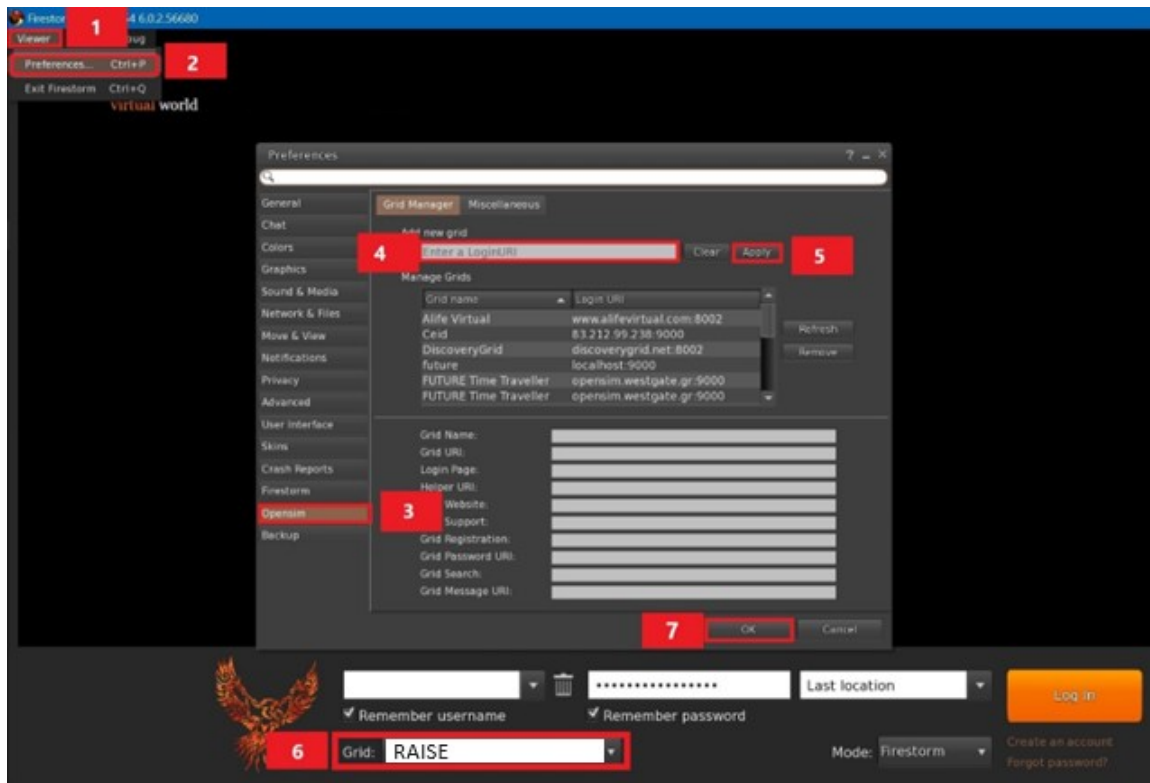


Figure 3: setting up the viewer

Next select “RAISE” from the Grid menu if not already selected (Figure 4). After successfully selecting the grid, the RAISE logo will appear in the central section of the screen.

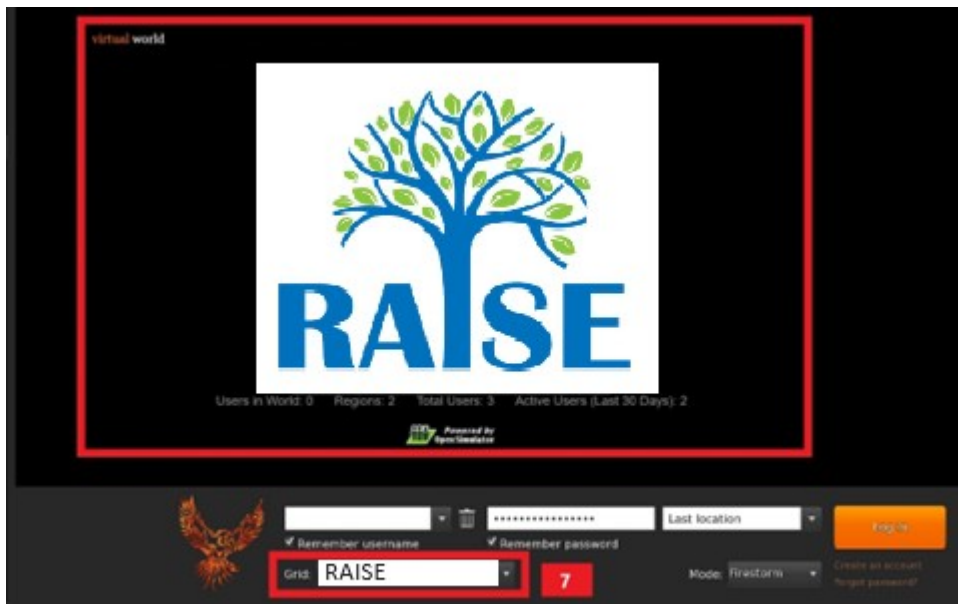


Figure 4

1.3 Create an account

After you have successfully set up the viewer in the previous step, you have to create your account. Click "Create an account" (Figure 5, step 1) and a pop up to create your account will appear. To protect your anonymity, it is advised to **not use your real information**.

In this step, you enter your information that includes: first name (step 2), last name (step 3), password (step 4), retype password (step 5), Type of avatar (step 6), and press "create" (step 7). Note that the **email is not required** for anonymity reasons.

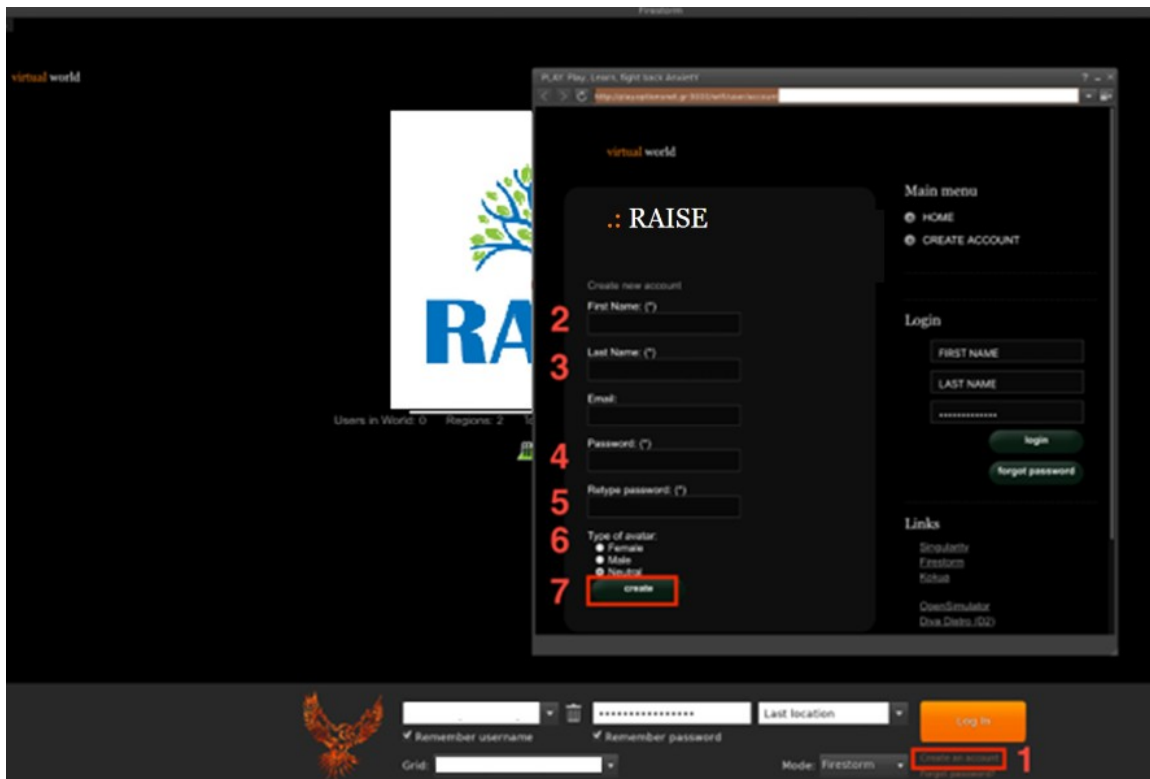


Figure 5: Create account page

1.4 Login to the platform

To login to the platform follow the steps of Figure 6:

Step 1: Enter your username (usernames are two words, first and last name) e.g.

simple user

Step 2: Enter your password

(You can check the options to remember username and password)

Step 3: Ensure that last location is selected (in order to continue from your last location, the next time you log in to the platform)

Step 4: Click Log in



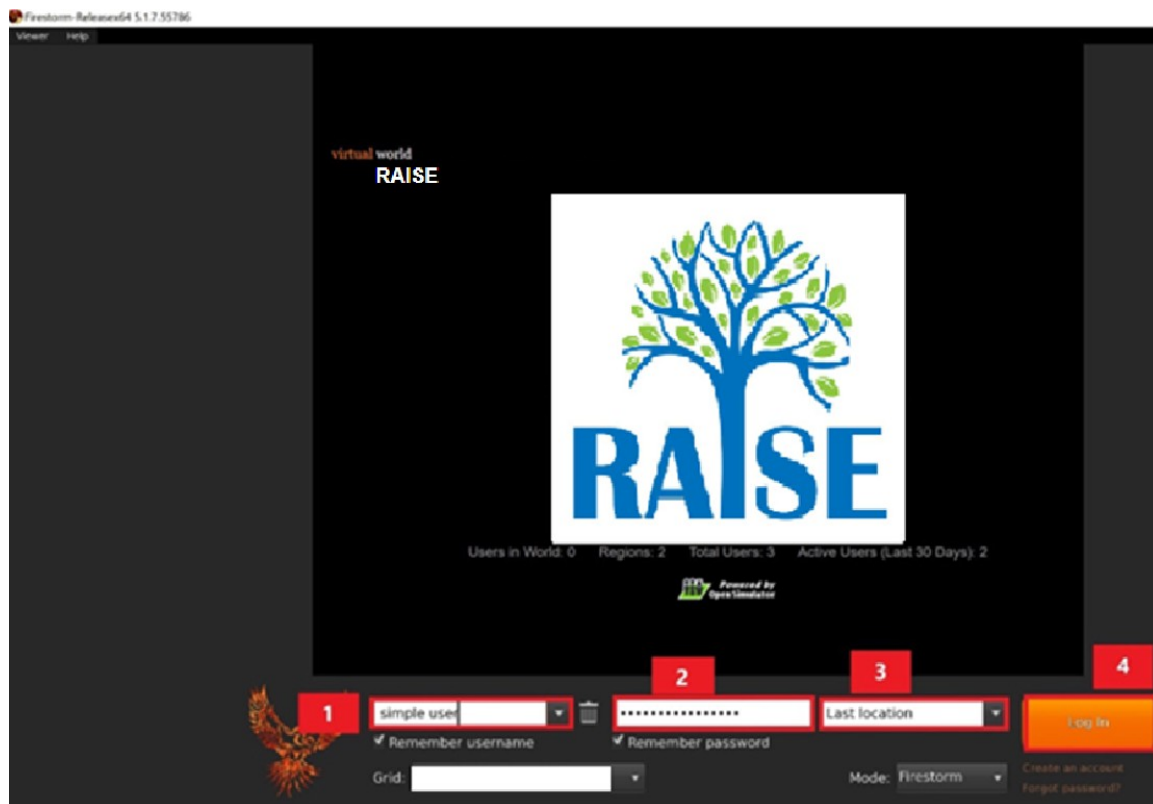


Figure 6: Login information



2 COMMUNICATION WITH REAL PLAYERS

This guide introduces the seamless integration of voice and text interactions, ensuring that every encounter with real players is as vivid and engaging as in the real world, from the very first login.

2.1 Enabling Voice

As a user, the first time that you open the Firestorm Viewer, you will be asked by your operating system to allow Vivox to access the internet, click allow to enable the service, failure to do so will result in voice communication to be disabled in your viewer.

Note: Recent platform updates have deprecated voice communication as a standard feature. The following instructions apply to users who may still have access to this legacy functionality.

2.2 Using Voice

To activate voice communication, you need to press the voice icon. It operates on a push-to-talk basis, requiring you to hold down the icon for your voice to be transmitted to others (as illustrated in Figure 7). For convenience, there's an option to alter this functionality; by selecting the small icon in the upper right corner of the voice icon, you can toggle it from a "press and hold" to a "tap to lock" mode, allowing for continuous speech without holding down the button (refer to Figure 8). When you are speaking, a green icon will display above your avatar and in the chat field, signalling to other avatars in proximity that you are audible.

Note: due to the platform's deprecation of voice communication, ensure to check for alternative communication methods or updates in future viewer versions.





Figure 7: Voice icon is pressed



Figure 8: The small is ticked

2.3 Written communication

In the lower-left corner of your screen, you'll find a feature known as the nearby chat, as shown in Figure 9. You can access this chat window by clicking the nearby chat button or using the Ctrl + H keyboard shortcut. To review previous conversations, scroll upwards within the chat window. Please note that any text you enter in this area is visible to all Avatars (actual players) in the virtual environment.



Figure 9: Chat windows

2.4 Instant Messaging (IM)

If you click on the right of a user or an NPC there is an IM option (Figure 10). This option is used for private conversations between users, regardless of their location in the virtual world.



Figure 10: Select IM option



3 CONTROLS

The interface provides a comprehensive suite of controls, from basic locomotion such as walking and turning to the dynamic actions of running, leaping, and soaring through the virtual space, ensuring that avatars can traverse the digital landscape with precision and ease.

3.1 Avatar Movement

- Walk forward/backward: ↑/↓
- Turn left/right: ←/→
- Run: Double-tap walk forward/backward key (some viewers: ctrl-R to turn run on/off)
- Jump or fly up: page up
- Crouch or fly down: page down
- Sit: Right-click on self/object/ground and select "Sit" (some viewers: ctrl-S to sit/stand)
- Stand: Right-click on self and select "Stand"

By selecting the movement icon (depicted as a person in motion, at the bottom of the screen, see Figure 11), a dialogue window will emerge displaying the camera controls (highlighted in red). Within this panel, you have the option to command your avatar to walk, run, or take flight, and to navigate freely in any direction.





Figure 11: Movement Controls

3.1.1 Enable WASD movement

For individuals accustomed to the WASD key configuration for navigation, an alternative to the arrow keys is available. This can be activated by adjusting a specific setting:

Avatar->Preferences->Move & View->Movement->Tick the “Pressing letter keys affects movement” option

3.2 Camera Controls

You can swivel the camera view by pressing the left and right arrow keys on your keyboard. To adjust the zoom, simply scroll the mouse wheel or use a two-finger vertical swipe on a trackpad. When you zoom in fully, the view switches to a first-person perspective.



3.3 Change Environment Time zone

To change the environment time zone in OpenSimulator via Firestorm and achieve the best lighting for your objects, follow these detailed steps:

- Begin by logging into your RAISE account using the Firestorm viewer.
- Click on the “World” menu at the top of the viewer interface (Figure 12).
- Select the “Environment Settings” options from the dropdown menu (Figure 13).
- In the popup window, you will see four options: sunrise, midday, sunset, and midnight. Select **Midday** for best lighting conditions to view and interact with objects in OpenSimulator.

By setting the environment time zone to midday, you will ensure the brightest and most neutral lighting, enhancing the visibility of your virtual objects.

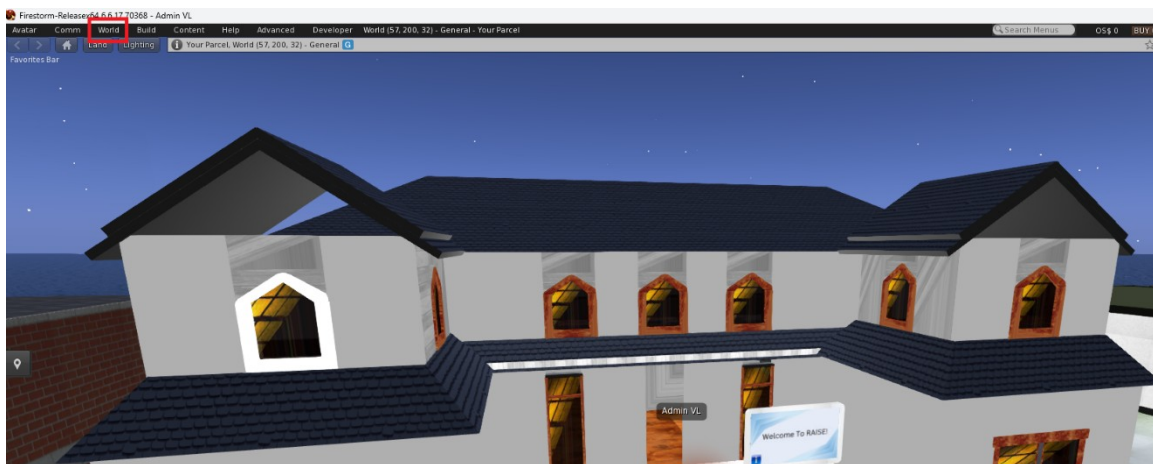


Figure 12: Select menu Option

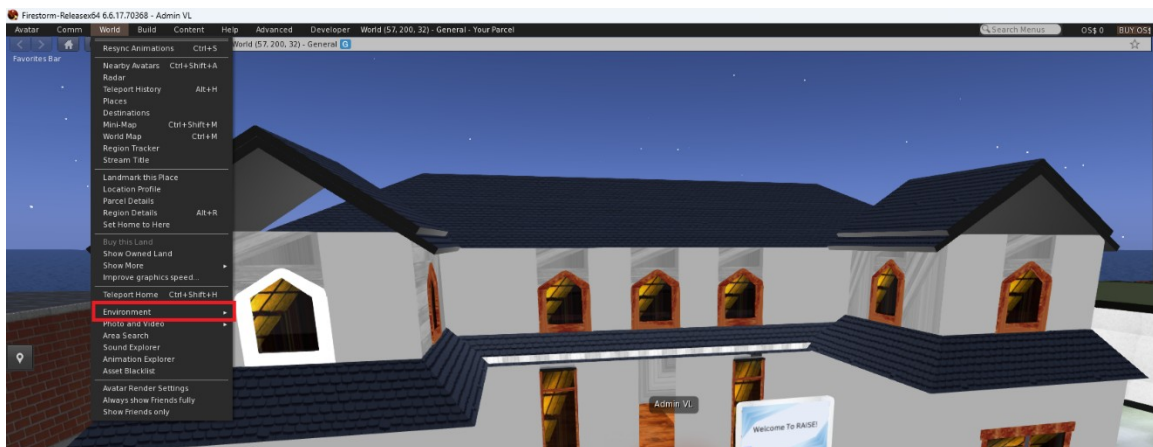


Figure 13: Select Environment Option

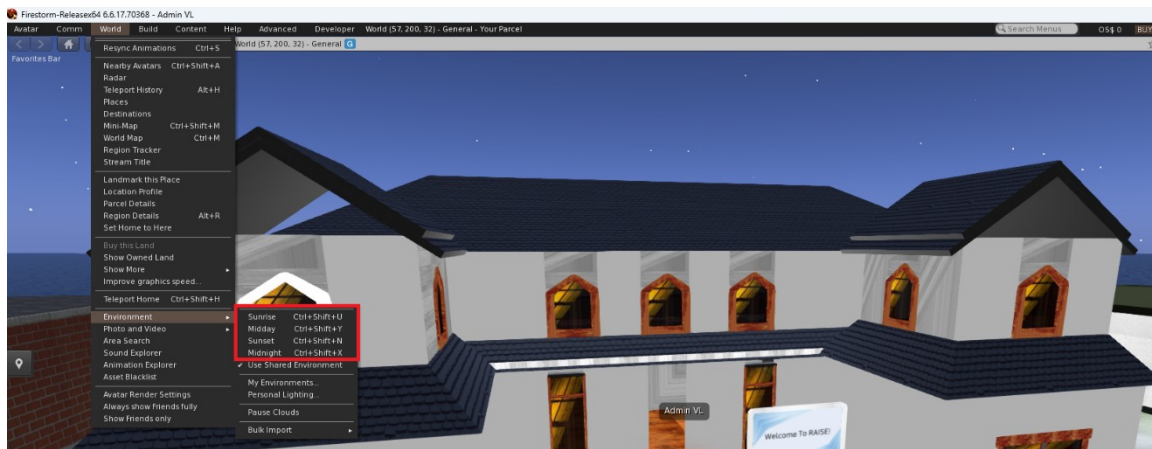


Figure 14: Select Midday Option

3.4 Change IM Message Color

During the beta version implementation teachers advised the developers that the messages given in the chat (IM object messages) on Firestorm were not visible enough to students while interacting with the virtual world learning environment. For that reason, we propose users to select a more suitable colour to make those type of messages more visible. This can be achieved by adjusting a specific setting:

Avatar->Preferences->Colors ->Object IMs->Select your Color preference -> Click OK

- Begin by logging into your RAISE account using the Firestorm viewer.
- Click on the “Avatar” menu at the top of the viewer interface.
- Select the “Preferences” options from the dropdown menu.
- Select the “Colours” option from the popup window.
- As we can see in Figure 18, this is the default colour of Object Instant messages (IMs).
- The colour palette will pop up, then select your colour of preference, preferably a shiny colour to contrast with the background.
- Click OK.



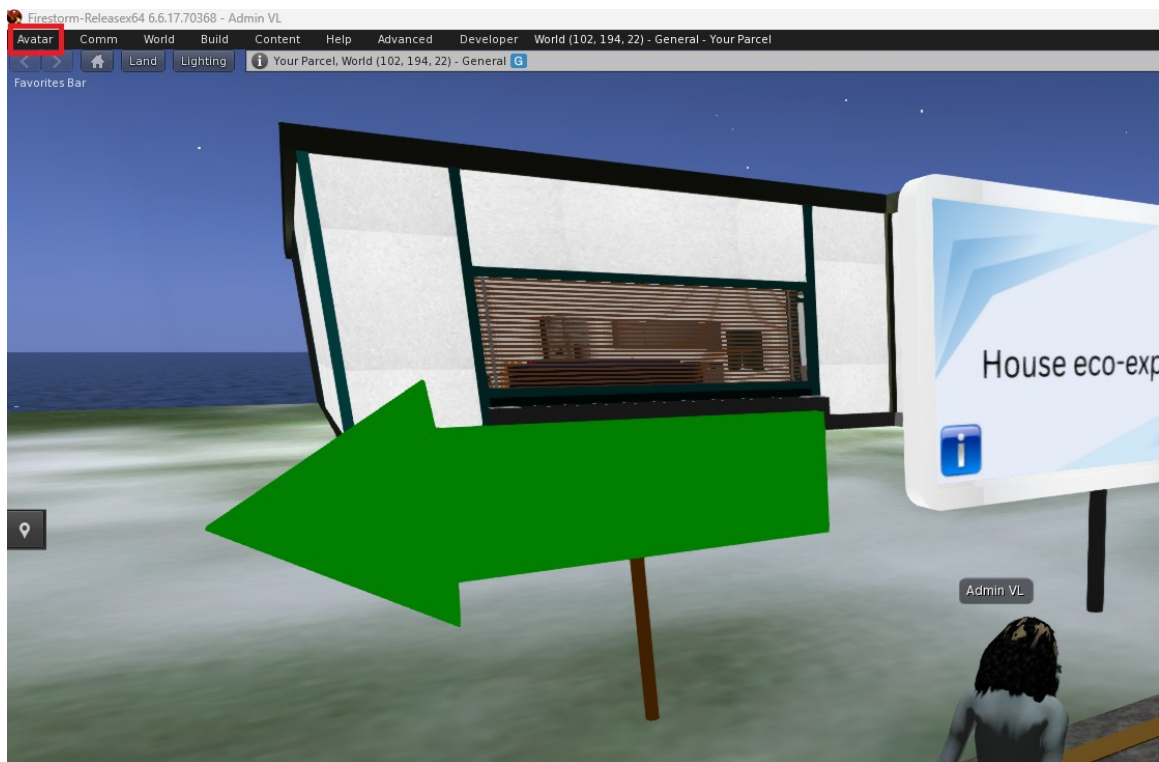


Figure 15: Click Avatar Option

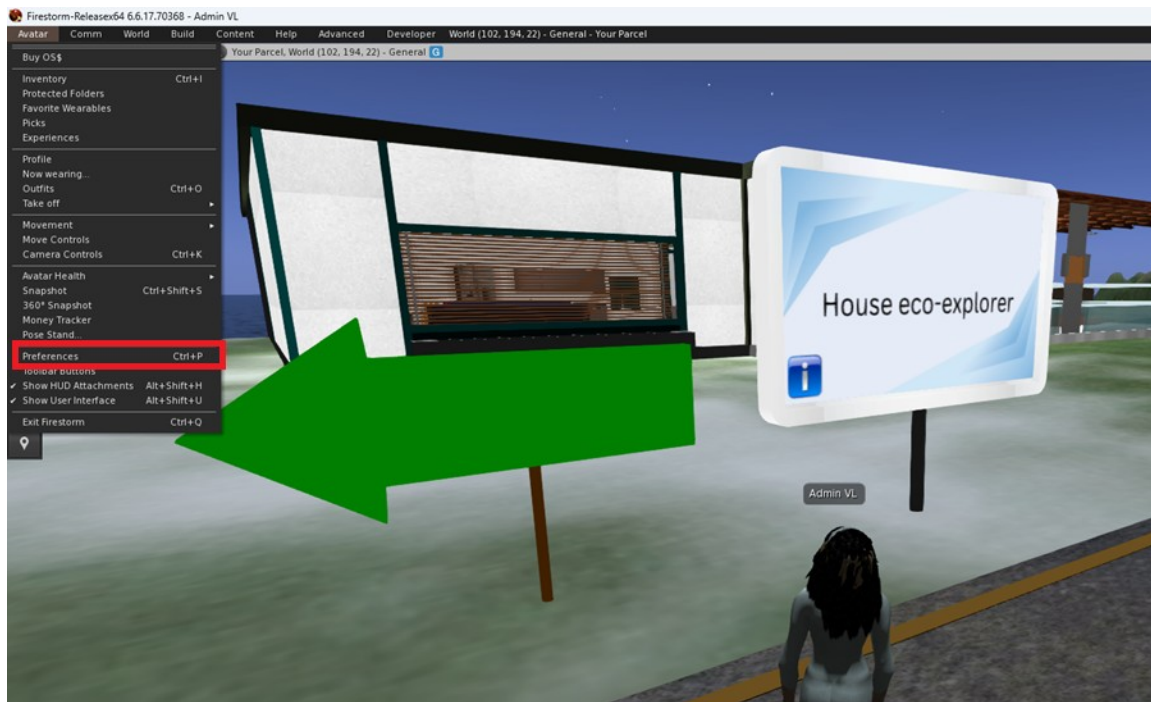


Figure 16: Click Preferences Option

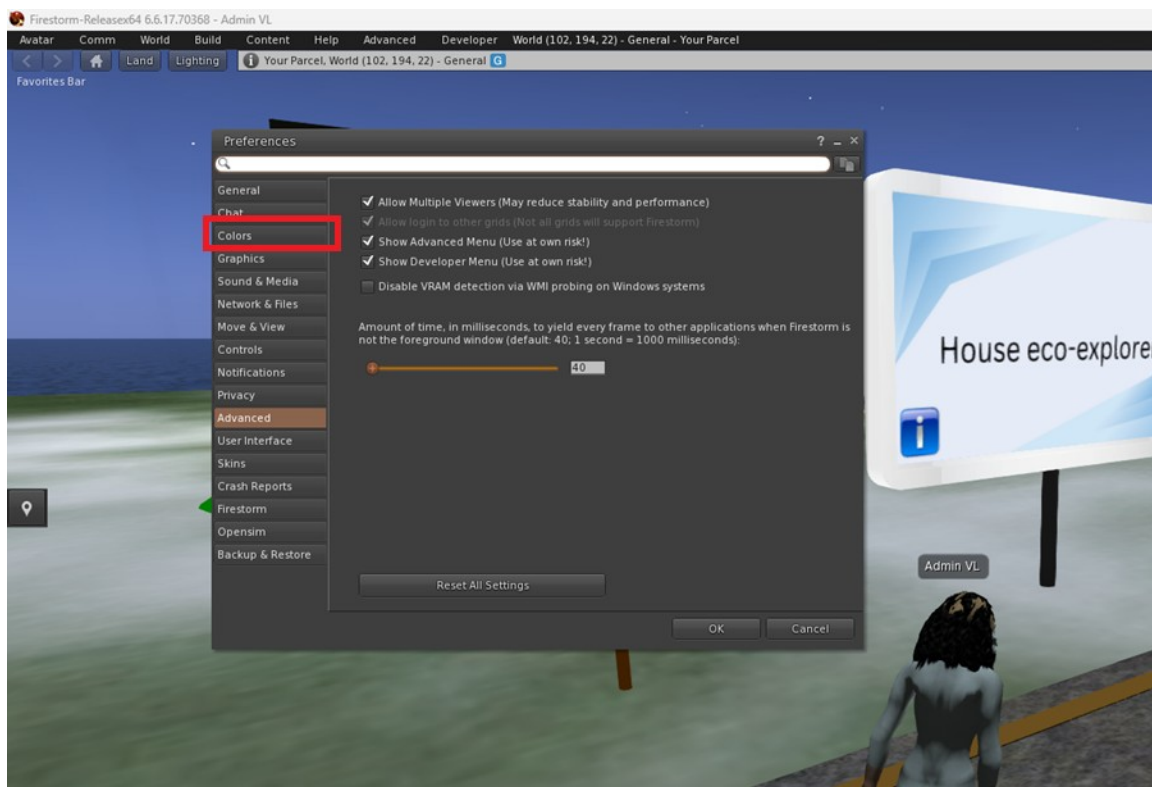


Figure 17: Click Colors option

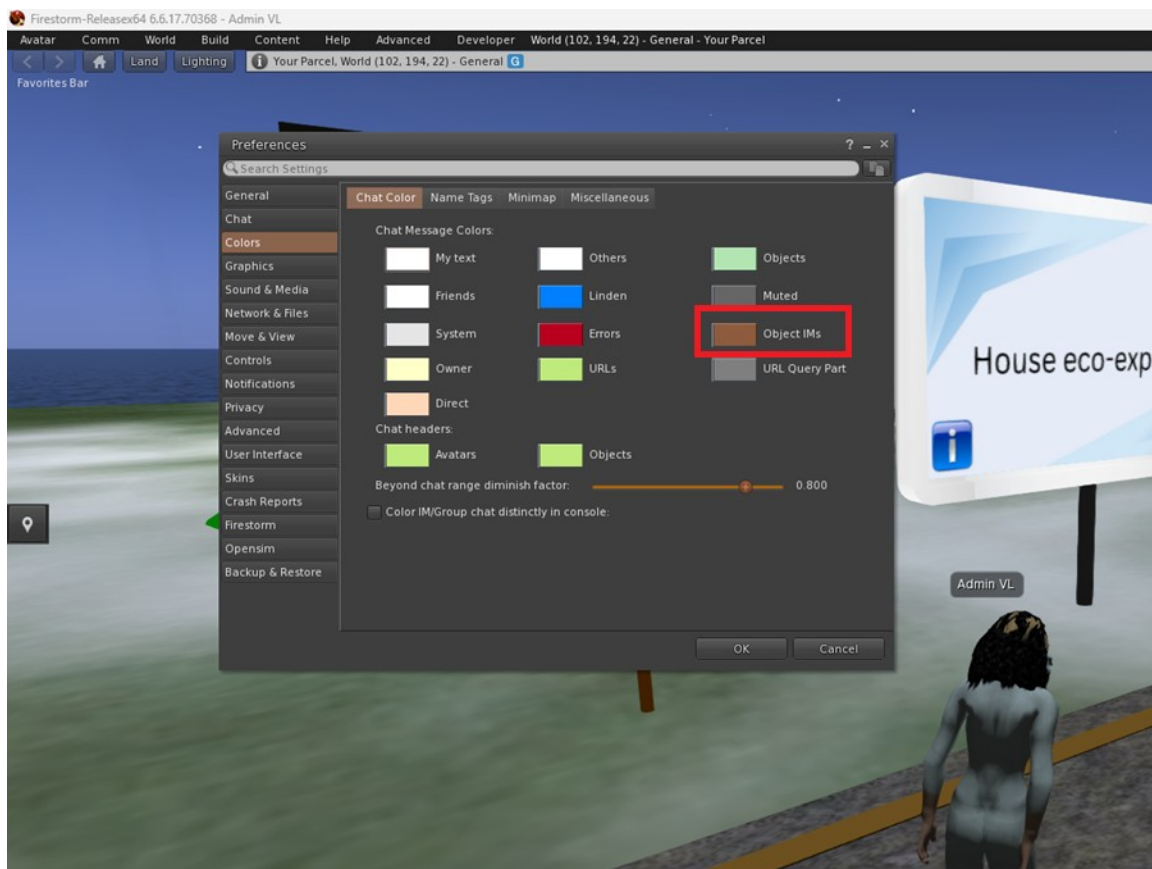


Figure 18: Click Object IMs option

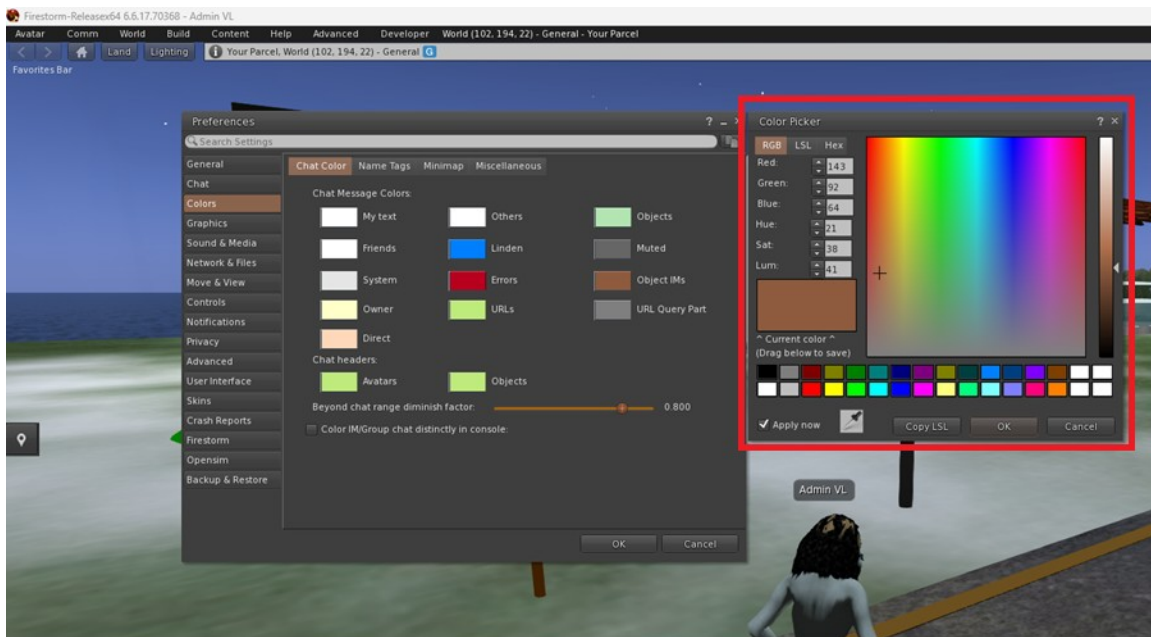


Figure 19: Select Color

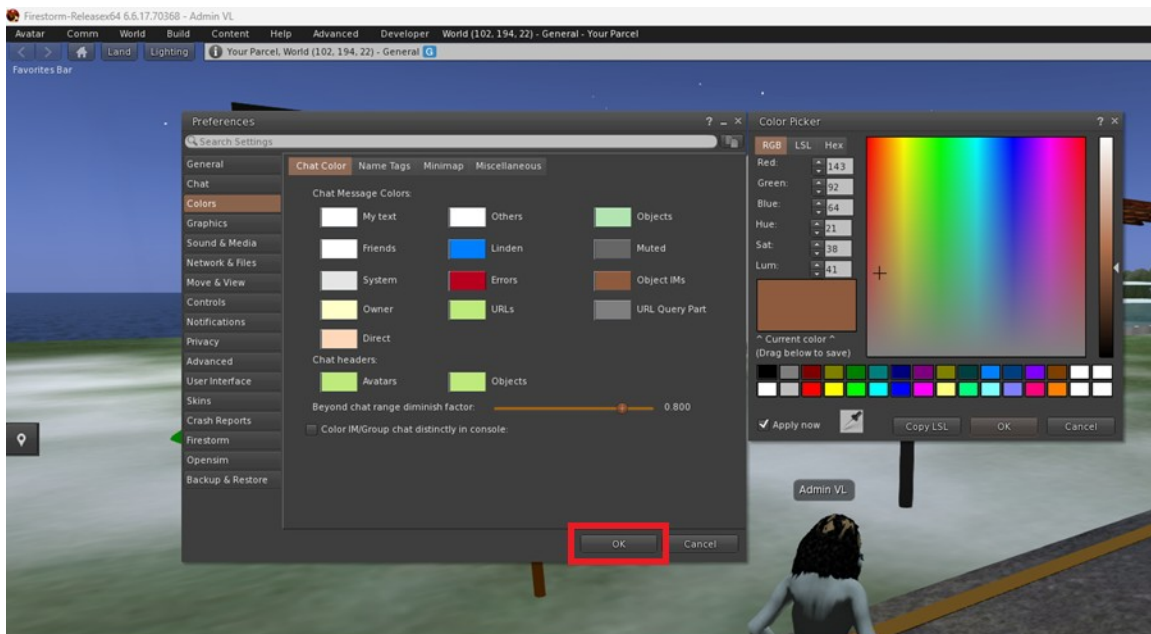


Figure 20: Click OK to finalize your color selection

4 INSTRUCTIONS FOR PLAYING

The RAISE 3D Virtual Learning Environment consists of a set of scenarios. Every new user is redirected in the beginning to the language selection room, where user will see a set of monuments.

4.1 Language selection

In order to select a language user must click a monument. Each monument represents the according language (Big Ben → English, Acropolis → Greek, Colosseum → Italian, Belem Tower → Portuguese). After selecting a language, user can click the exit box to enter the main world of the 3D virtual world environment.



Figure 21: Selection language room

4.2 Scenarios

In the scenario selection room (Figure 13), you can choose to play to play on of the available scenarios. There 2 multiplayer scenarios and the rest of the scenarios are single player scenarios. To start a scenario, click on the “play” button at the bottom right of each scenario



image. After you complete a scenario, there is an option to exit the scenario by clicking the exit box (Figure 14)



Figure 22: Select Play Button

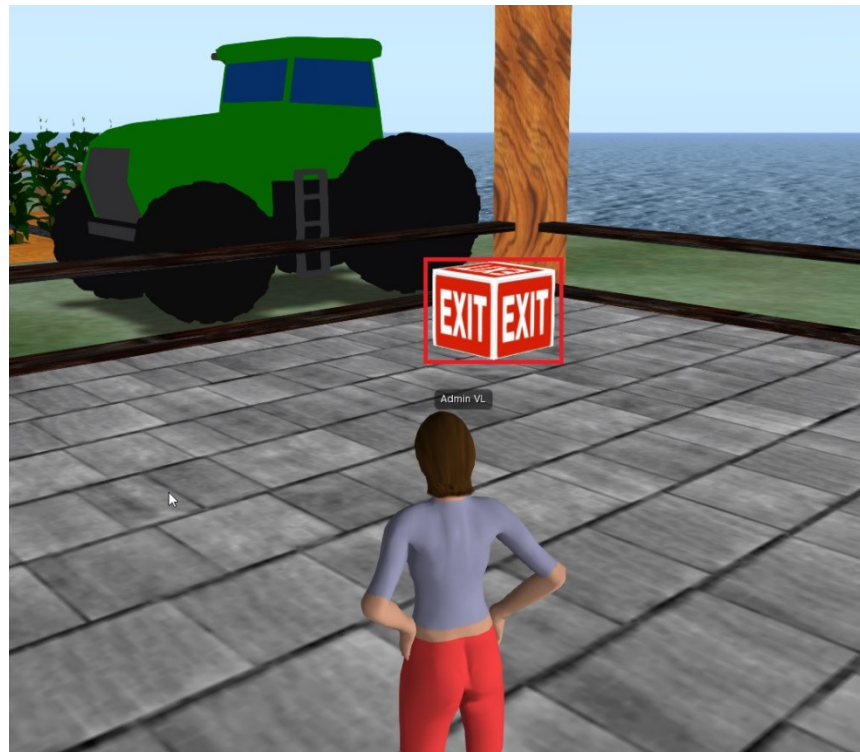


Figure 23: Select Exit Button

4.3 External Environment

To enhance the external environment of the RAISE virtual world learning environment, we have added several external objects. These additions were necessary due to the finite capacity of the scenarios, which are designed to accommodate a specific number of end users. To address this, we constructed objects that, while offering limited playable activities, serve as interactive and exploratory elements for students. These include features such as treehouse structures, a trophy room, and other engaging components that encourage students to explore and interact with the environment beyond the primary learning scenarios.



Figure 24: Treehouse structures



Figure 25: Trophy room



Figure 26: Environmental Maze with a minigame

5 Technical issues

Like many programs, operating a virtual world viewer can sometimes lead to technical difficulties. The Firestorm viewer, supported by an active and helpful community, offers an extensive range of online resources to address frequent technical challenges and their recommended fixes. Should you face any technical hiccups with the viewer, we advise consulting the Firestorm troubleshooting guide





(https://wiki.firestormviewer.org/firestorm_troubleshooting). If the information provided there doesn't resolve the issue, then reaching out to the RAISE project is the next recommended step.

5.1 Firestorm Viewer Requirement

	Minimum	Recommended
Operating system	Windows 8.1, 32-bit	Windows 10, 64-bit
	Linux 64-bit kernel 4.4	Linux 64-bit kernel 4.15 or newer (1)
	Mac OS 10.11 (El Capitan)	Mac OS 10.15 (Catalina)
Internet Connection	750 Kbps down, 100 Kbps up	10 Mbps down, 1 Mbps up
Display	1024×768 pixels	1920×1080 pixels
Memory	8 GB for 64-bit systems 4 GB for 32-bit systems	16 GB
Disk Space	1 GB application, 1 GB cache	1 GB application, 10 GB cache
Processor	Dual Core @ 2.70 GHz (3)	Quad Core @ 3.30 GHz (3)(4)
Graphics Card	Nvidia GTX 750Ti	NVidia GeForce GTX 980
		AMD Radeon R9 290X 1.12 GHz with 4 GB Memory (2)

In order to run Firestorm Viewer without any problems please ensure that your system meets at least the minimum system requirements.





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