

UNIVERSITY
OF TWENTE.



VIRTUAL NATURE

USER DOCUMENTATION

THE
BMS
LAB
Tech4People

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Welcome to the Virtual Nature documentation!

This documentation has been created to support the University of Twente's Researchers, Teachers, and Students when using the Virtual Nature Application. The aim of this documentation is to provide you with all the information you need to use and get the most out of Virtual Nature. Based on this, the documentation is segmented into 2 main parts: (1) introduction and (2) directions and advice. The second part consists of 10 sections which are numbered in a logical order. So, please make sure to follow the modules in their numbered order.

At the end of this documentation, you should be able to know how to use the Virtual Nature application in a study.

If you have any questions, you can reach us via bmslab@utwente.nl.

1. Introduction

Virtual Nature is a desktop application created by The BMS Lab. Researchers at the University of Twente can use the application to study participants' well-being, social presence, and more.

Virtual Nature's objective is to:

- Enable the creation of various virtual nature scenes.
- Record the created virtual nature scenes.

2. Directions and advice

This chapter will look into the directions and advice of using Virtual Nature.

2.1 Opening a Virtual Nature Scene

1. Open the Virtual Nature application.
2. Once it opens, you will see three options that you can choose as your nature scene. "Hills" "No Hills" and "Load".

 *For load scene, you can access your previously saved scenes.*

3. Choose your nature scene.
4. Click on "start new session".

You have now opened a session.

2.2 Viewing the Map

1. On the right upper corner, you will see the map of your nature scene.

 *The white arrow symbol shows where you are on the map.*

2. You can zoom in the map by clicking the plus button.
3. Zoom out of the map by clicking the minus button.

2.3 Editing the Camera Viewpoint

1. To move **forward** press W on your keyboard.
2. To move **back** press S on your keyboard.
3. To move **left** press A on your keyboard.
4. To move **right** press D on your keyboard.
5. To move the camera **level up**, press Q on your keyboard.
6. And, to move the camera **level down**, press E on your keyboard.
7. If you want your camera to **zoom in**, press the up arrow on your keyboard.
8. And, if you want your camera to **zoom out**, press the down arrow on your keyboard.

You have now edited your Camera viewpoint.

2.4 Adding Objects

By expanding the upper box on the right, you can add different types of objects such as trees, benches, and flowers.

1. Click the nature background.
 - i.  *Make sure that you are at a specific point where you want to add the object*
 - ii.  *Make sure that the camera level is at the lowest point (E on your keyboard).*
2. Double click one object you would want to add.
3. You can also add multiple objects by expanding the lower box on the right.
 - i. To help you visualize the area better when placing mass objects, activate the toggle next to “visualize and place”.
 -  *If you hover the mouse in your nature scene, you will see a green dome highlighting the area. The green dome is also visible on your map.*
 - ii. Edit the density and range of the object you will add.
 - iii. Select the objects you would like to add.
 - iv. Then, press “space”.
 -  *All the objects you add, will also appear on the map, indicated as a yellow circle.*

You have now added objects.

2.5 Editing Objects

Once you have added an object, you can edit it.

1. First select the object by left clicking your mouse.
2. A box on the left bottom corner will appear showing the position, rotation, and scale of that specific object. Here you can edit your object’s rotation and scale by changing the number in the input field.
3. If you want to move the position of the object, you can hold the left click on your mouse and move it.
4. Release once you have found the position that you like.

5. You can also rotate the selected object using your keyboard. To rotate the object to the **left**, press H on your keyboard. To rotate the object to the **right** press J on your keyboard.
6. Another option is to resize the selected object using your keyboard. To make it **smaller** press U on your keyboard. To make it **bigger** press Y on your keyboard.
7. If you want to delete the selected object, simply press Escape on your keyboard.
8. For a complete overview of all the object and camera controls, simply click the settings symbol.
9. Then, press the “Controls” Tab.

You have now edited the object.

2.6 Editing the Audio

1. In the settings window, click on the “Audio” tab.
2. Here you can adjust the background music volume by using the slider.
3. Choose a specific background music from the list.
4. Or mute the background music by ticking the box next to “mute background music”.
5. The sound effects volume can also be adjusted by using the slider.
6. Or be muted by ticking the box next to “mute sound effects”.

The audio has now been edited.

2.7 Configuring the Sky and people in the Scene

1. Next, in the settings symbol, select the General tab.
2. To move the sky appearance, slide the bar under the “Sky Slider”.
3. If you would like to reset the sky to its original format, click “Reset Sky”.
4. Also, the time of the day can be changed. If you click “Morning view”, you will see a drop-down menu showing three options: “Morning view”, “Afternoon view”, and “Night view”.
5. To add people to your nature scene, enable the “toggle people” option. You will then see people walking on paths.

The sky and people in your scene have now been configured.

2.8 Saving your Scene

1. If we go back to the General tab, you can also save your scene, by writing the title of your file and then click “save”.
2. This saved scene will appear in “Load” on the start menu page.
3. Keep in mind to save your created scene with a different file name because if the file name is the same, it will overwrite the existing file name.

2.9 Recording the Scene

1. In the general settings you can also record the nature scene by first selecting the resolution and frame rate.
2. Enter the file name for your video.
3. Then, close the settings window.
4. Afterwards, press F1 on your keyboard. Your nature scene is now being recorded.
5. If you wish, you can use the camera controls that were showed earlier.
6. On the left side a menu will appear.
7. Here you will see different options and details of your recording.
8. The most important ones are that you can either pause and then resume the recording.
9. Cancel the recording.
10. Or stop the recording which would immediately store the video and audio to your device.
11. To leave the Virtual Nature application, press the settings symbol and click “Quit”.

You have now recorded your scene.

2.10 Access the Recorded Scene

1. If you would like to view your recording open the virtual nature folder.
2. And, open the “captures” folder.

3. Here you can see and rename your recorded video.
4. To view the load scenes, go back to the virtual nature folder.
5. Go to the data folder.
6. Open the "StreamingAssets" folder.
7. Then, open the "save" folder.
8. Here you will find all the saved load scenes.

You have now accessed your recorded scene.