



Vortals Game Build Tutorial

In this Tutorial you will learn the basics steps to creating a game in Vortals. This tutorial will result in a “greybox” prototype of a puzzle game.

THE BASICS

1. Click New Vortal

- When you first start Vortals you will be greeted with this screen. Click the “New Vortal” button

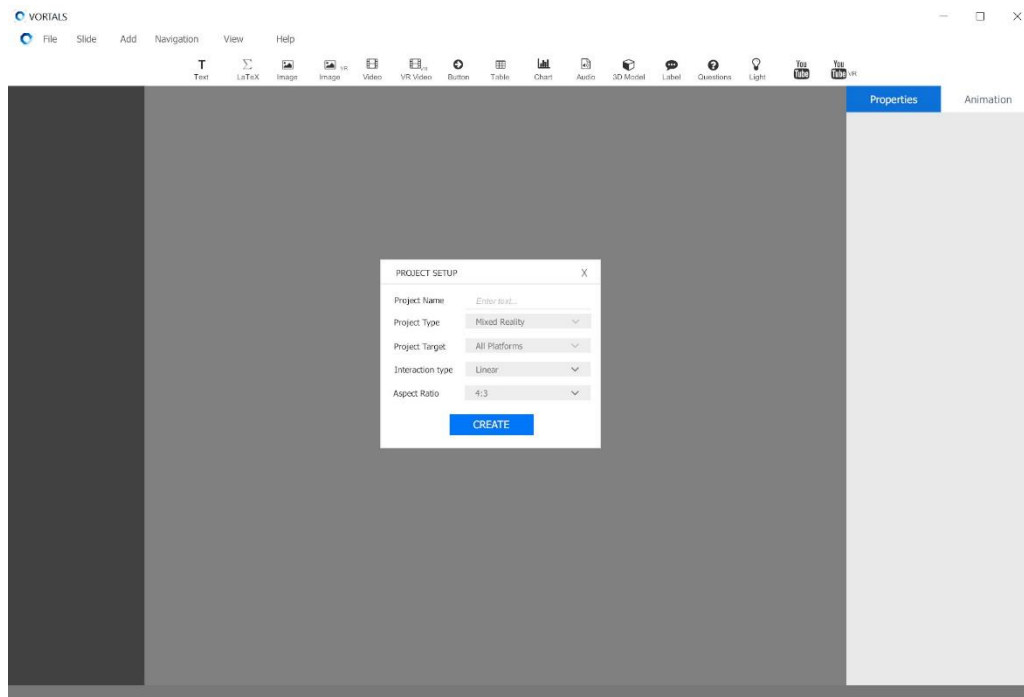


2. Choose your Project Settings

- Give your Project a name
- Leave everything else as default and click create

NOTES

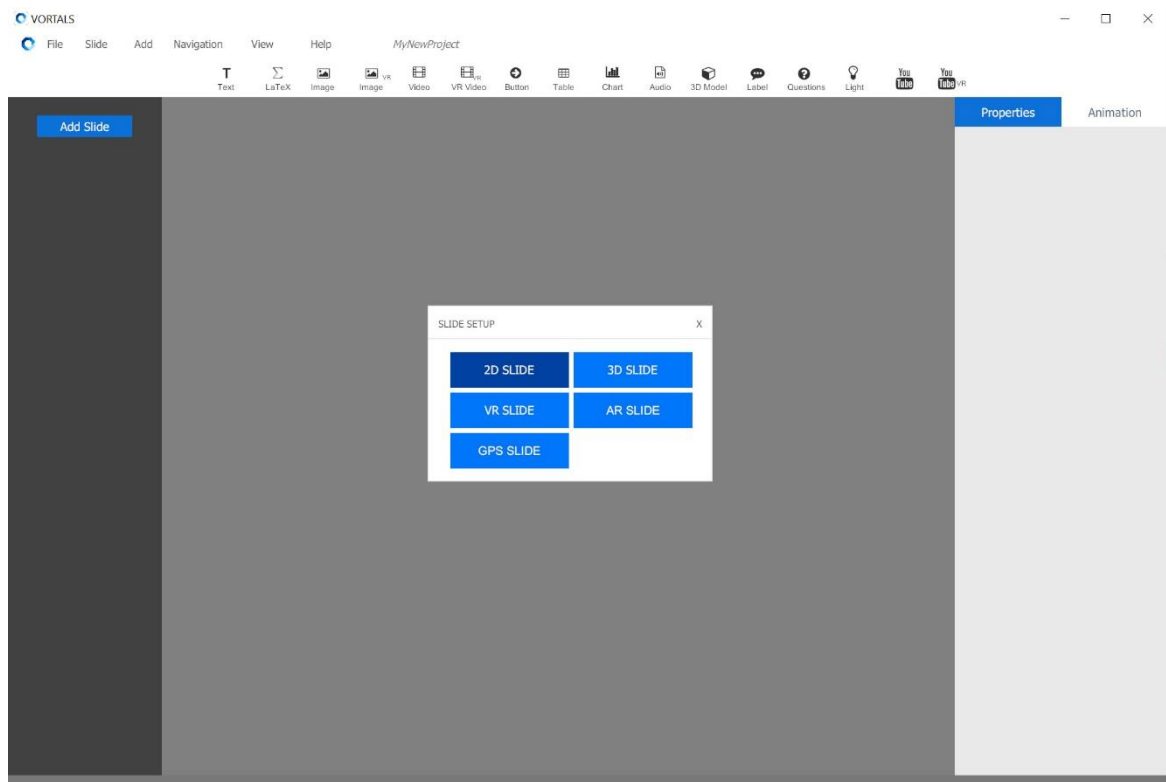
Mobile phones are limited to image/texture sizes under 4096x4096 (some phones are limited to 2048x2048). Any bigger and the application will crash. A “Mobile Only” project will automatically resize any images that are over this resolution. Targeting “All Platforms” will result in saving of both a resized and original resolution image – it will still be safe for mobiles, but the overall filesize will be larger. “PC only” will result in no resizing.



3. Create a Slide

Once you have clicked “create” you will be shown an option list of different slide types.

- Click 2D slide.

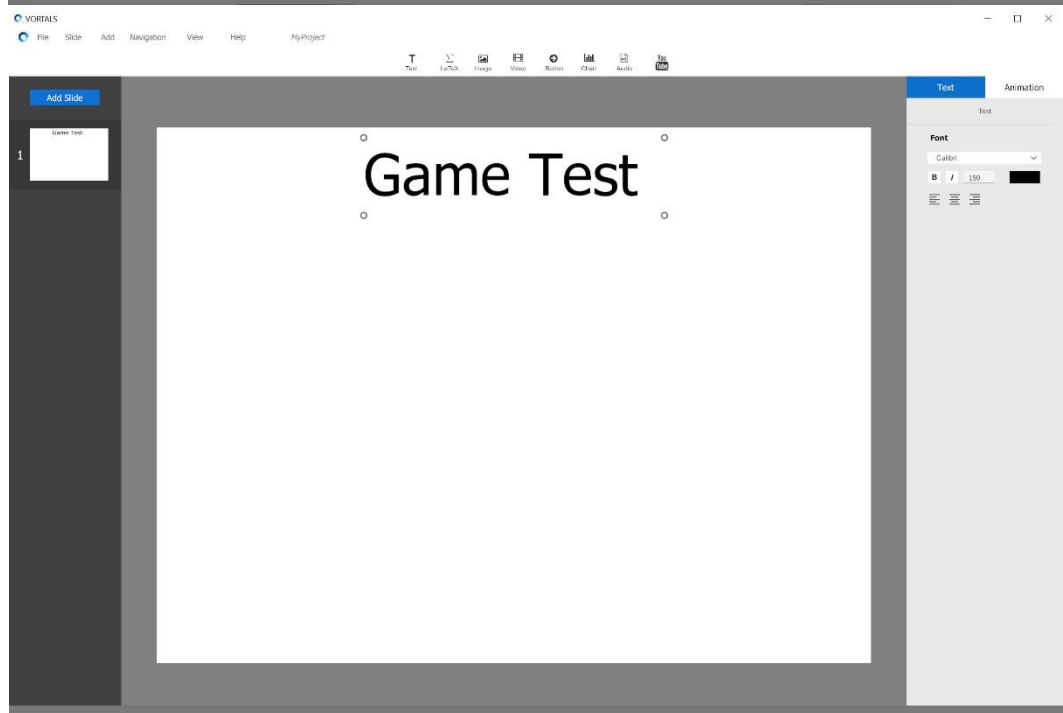
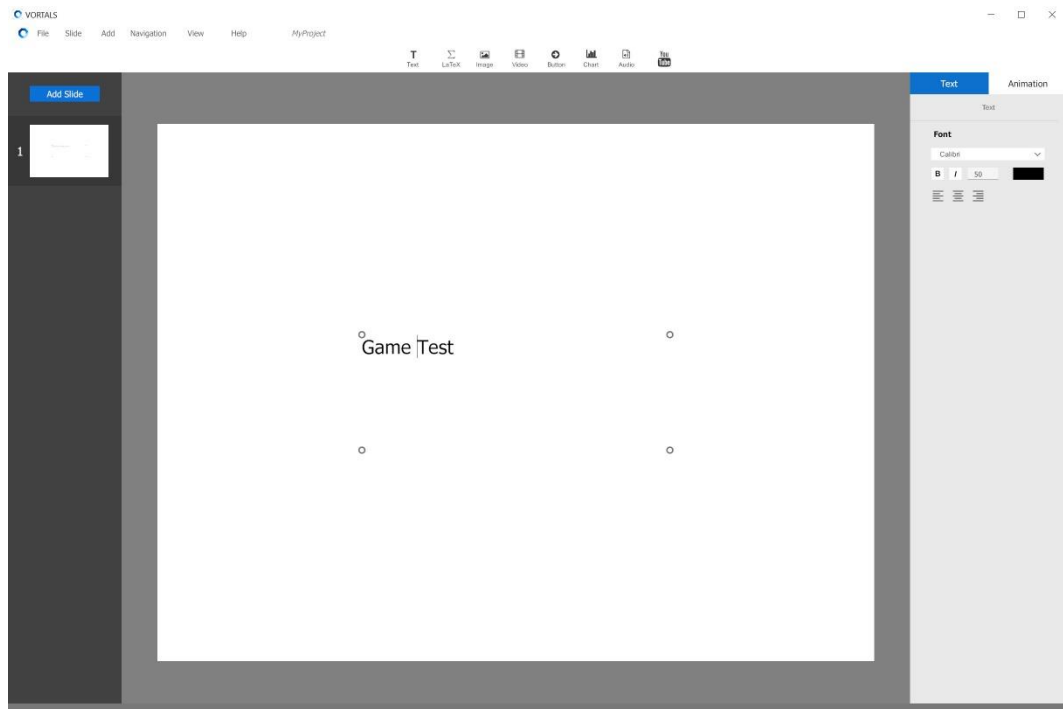


4. Add a Title

Once you have chosen your 2D slide, you will be greeted with a white 2D Slide with options above it to add content.

- Click the “text” button. This will load a text box.
- To edit the text box, you must click on it to activate editing mode.
- ***To deactivate the text box, you must click outside the text box area.***
- Once you have activated the text box, type the title “Game Test”
- Choose a font and font size

To move the text box, click and drag the box. You must not be in editing mode. You can change the text box size by clicking and dragging the dots.



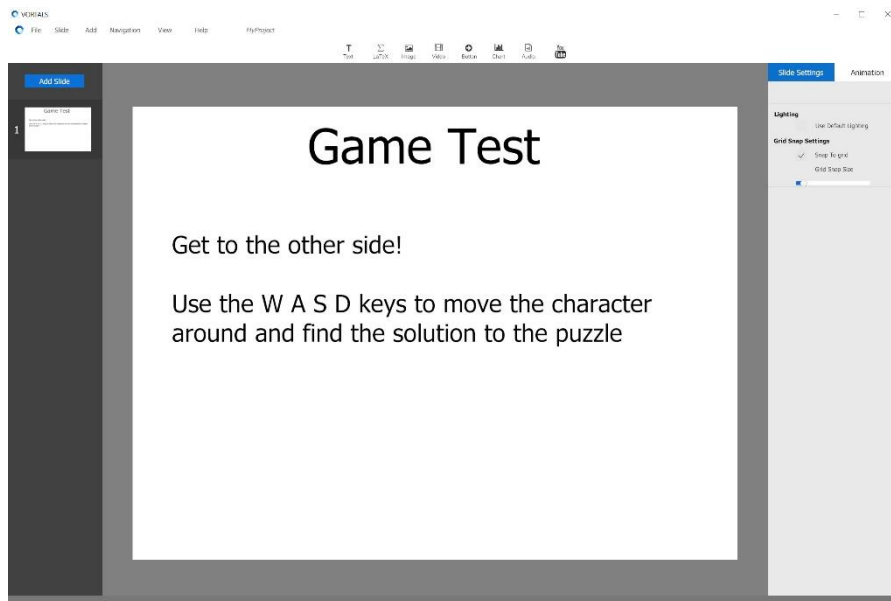
5. Add Explanation Text

- Add another text box.
- Type:

“Get to the other side!

Use the W A S D keys to move the character around and find the solution to the puzzle”.

- Move it into position by selecting the image and then clicking and dragging.

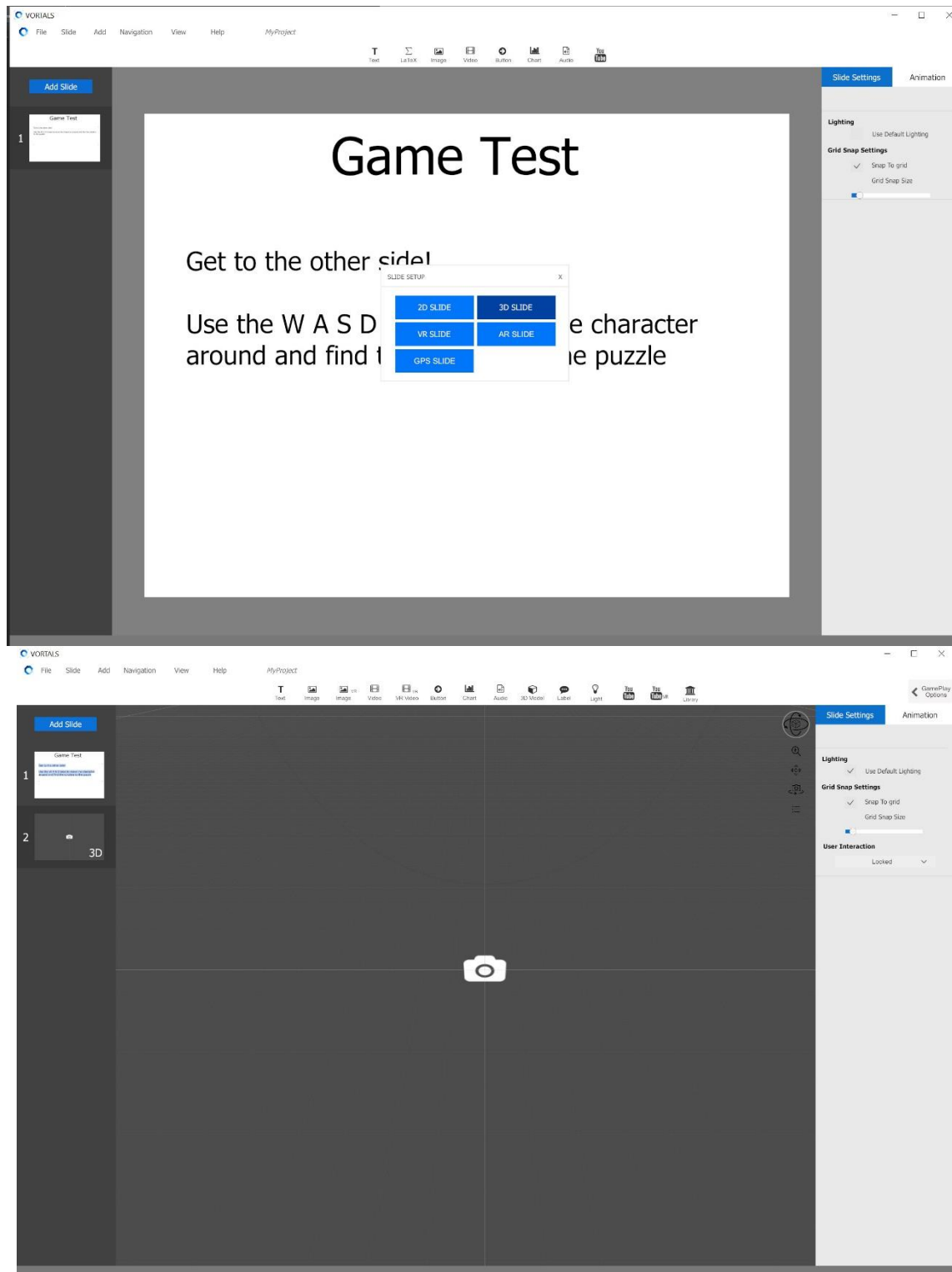


6. Add a New 3D Slide

The process for adding a 3D slide is the same as for a 2D slide.

- Click “add slide”, but this time choose “3D SLIDE”.

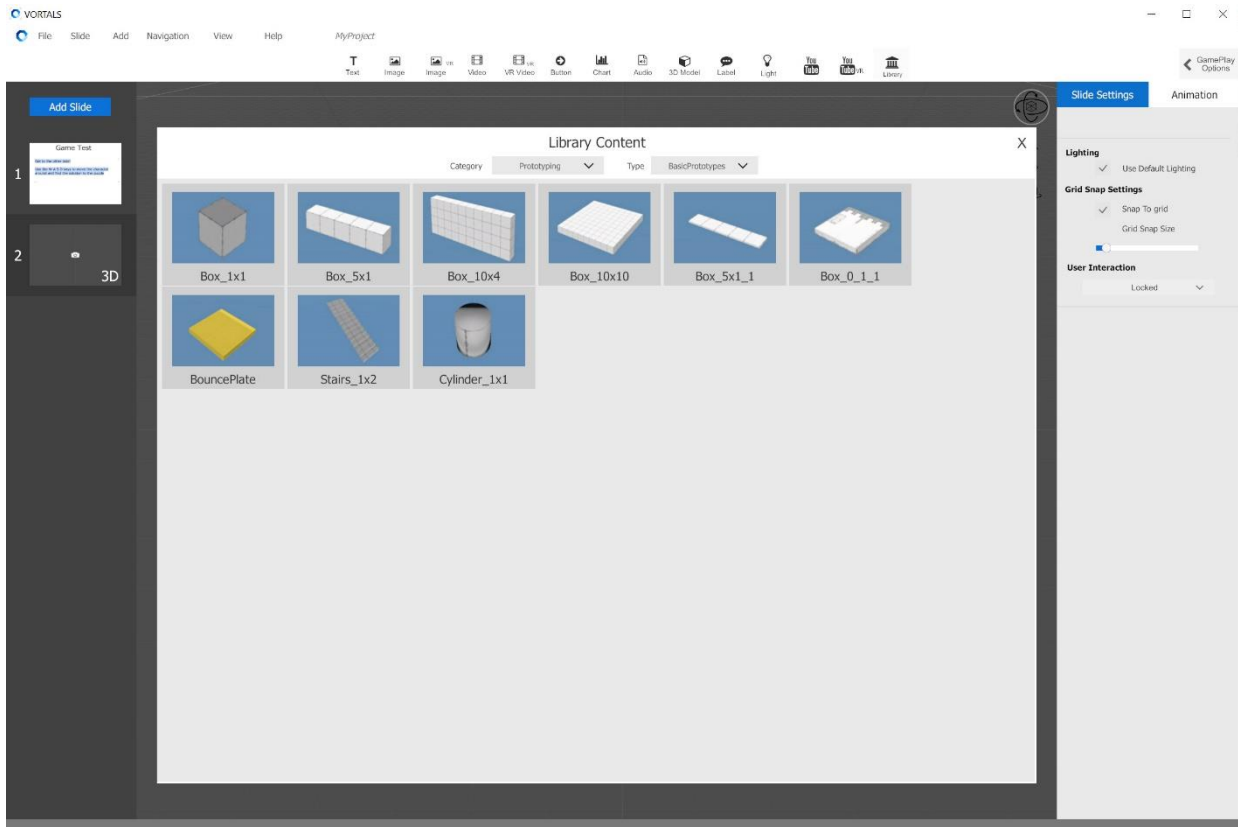
Once created you will be greeted with a grey slide with a grid. There will be a white camera icon in the middle.

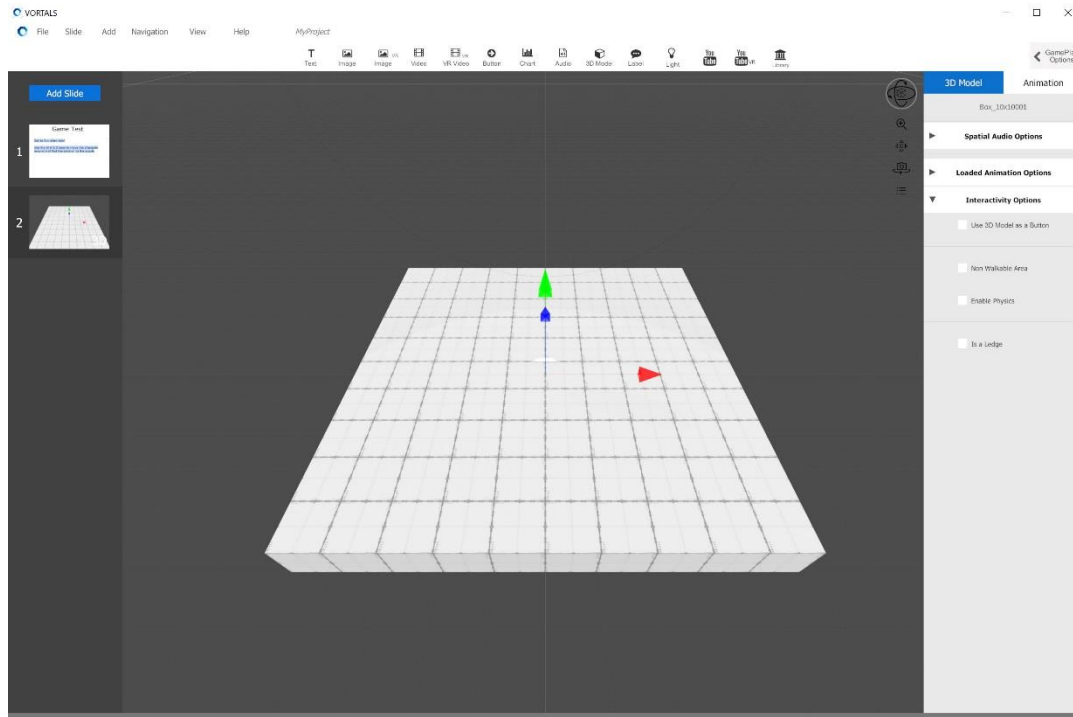


7. Add Library Content

Before we do anything else we'll add some content.

- Click the “Library” button on the top bar.
- Select the Box_10x10 3D Model
- A 3D model should appear!





PERFORMANCE NOTES

Vortals is built on gaming technology, which means you can increase or reduce the quality of the visuals being displayed. Reducing the quality of the visuals reduces the calculations the computer must do in order to display the content.

If at any time your computer struggles to display the content, you can reduce the quality in two ways. You can either click on the “View” on the main task bar and choose “Quality –”, or you can go to “File” and choose project settings. This will pop up a setting dialogue box where you can choose your quality settings.

NAVIGATION NOTES

Navigating and working in 3D is much trickier than working with 2D slides and will take a little getting used to.

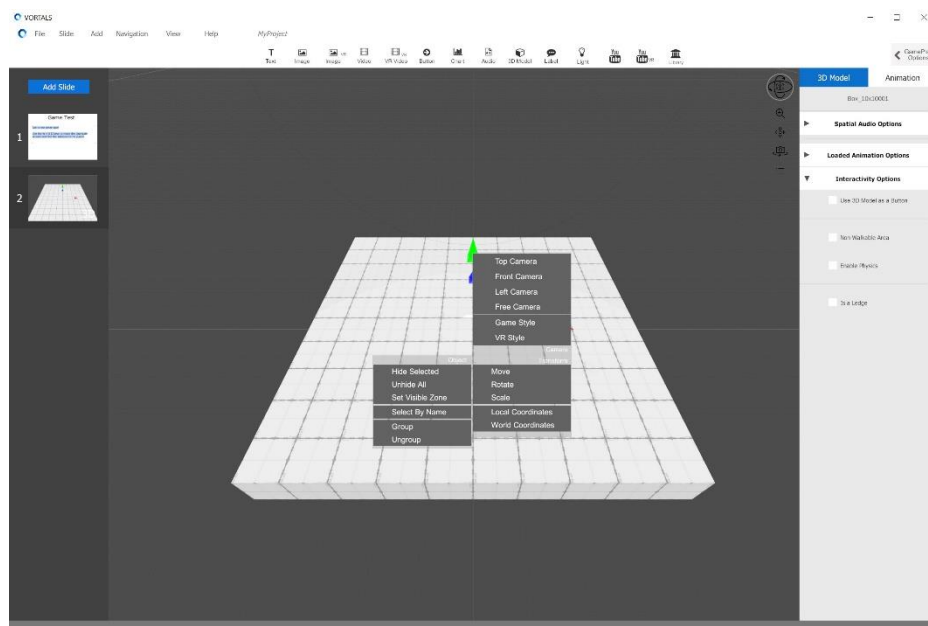
- Use the mouse scroll wheel to move the camera in and out
- Use “alt + click&hold the scroll wheel down” to rotate the camera. (cmd + left mouse Button on a mac)

- There are also helper buttons on the top right-hand side of the window, there can also be used to navigate around the interface. Holding your mouse over the icons will reveal their function



- Right clicking will reveal a menu system that will provide options for 3d.
 - If you get confused about your location, right click and choose “free camera” this will reset the camera position.
 - To move, rotate or scale an object in 3d, right click and choose move, rotate or scale.

For now, ignore all the other option in the right click menu.



8. Arrange Your Content

To select the stegosaurus left click on the model and you should see a number of arrows appear at the base of the model(or, if you have already interacted with the right click menu, circles or lines with square boxes at their ends).

This is a transform gizmo and will help you move, rotate or scale the object in 3D space. Each arrow shows you the axis the model will move on, so click and drag an arrow to move the model.

- This can take some getting used to, so first practice moving the box.

- Once you have gotten used to moving the model around in 3d space, right click and choose scale, but be careful when you choose to scale!
- *If you scale in a certain direction, you can squash or stretch the model which will ruin its appearance.*
- If you look carefully in the middle of the scale Gizmo, you will see a box. This will scale the model equally along all axes, click and drag on this box to scale the model to the size you wish.
- If you have accidentally scaled your model wrong, you can either delete it and reload or press “control + z” to undo the action.
- **Note that for this tutorial we don’t wish to do any scaling**

NOTES

The Model originally loads at a location called the “origin”. The origin is where the 3D camera is located when initially loading the scene. This means in the current setup, when we play this scene back, the viewer will be in the middle of the box. It is a good idea to move the camera to the location where it is easy to view it in 3D.

Another way to avoid this problem is to let the viewer move around using the keyboard. By default, the camera is locked in place, but you can change this if you wish:

- Deselect the model by clicking off the 3d Model.
- This will reveal Slide Settings options on the right hand properties panel.
- Change the camera to “FreeFly”

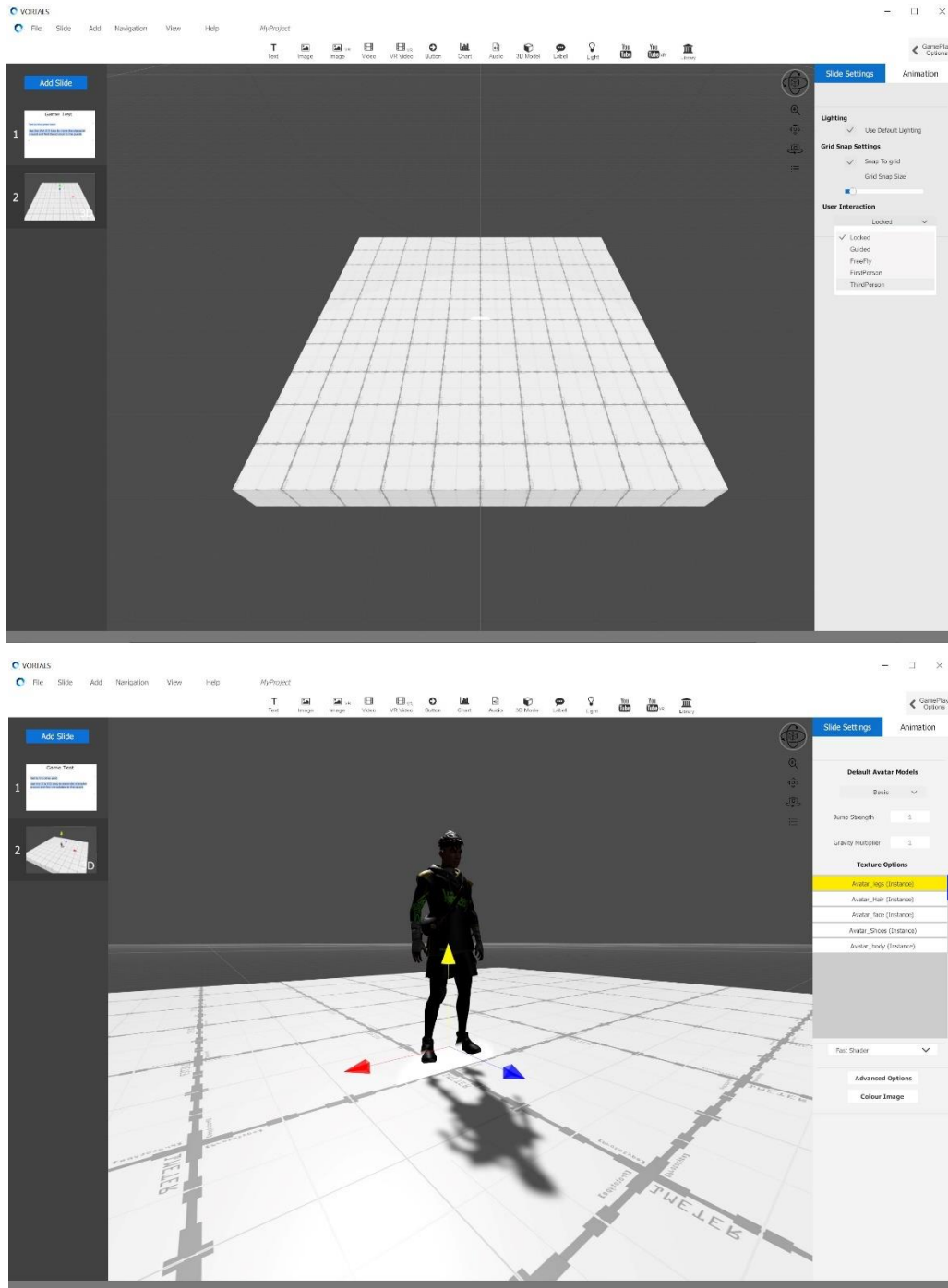
This will allow the user to control the camera position and fly around using either an Xbox Controller or “WASD” keyboard keys.

When building a game, you have to decide on what kind of experience do you want your user to have? Are you guiding them through some information or are they free to move around and discover information in their own way? Do you want them to be in first person, or third person mode?

For this tutorial, choose third person.

This will reveal a character.

- This model has been provided by Soheli

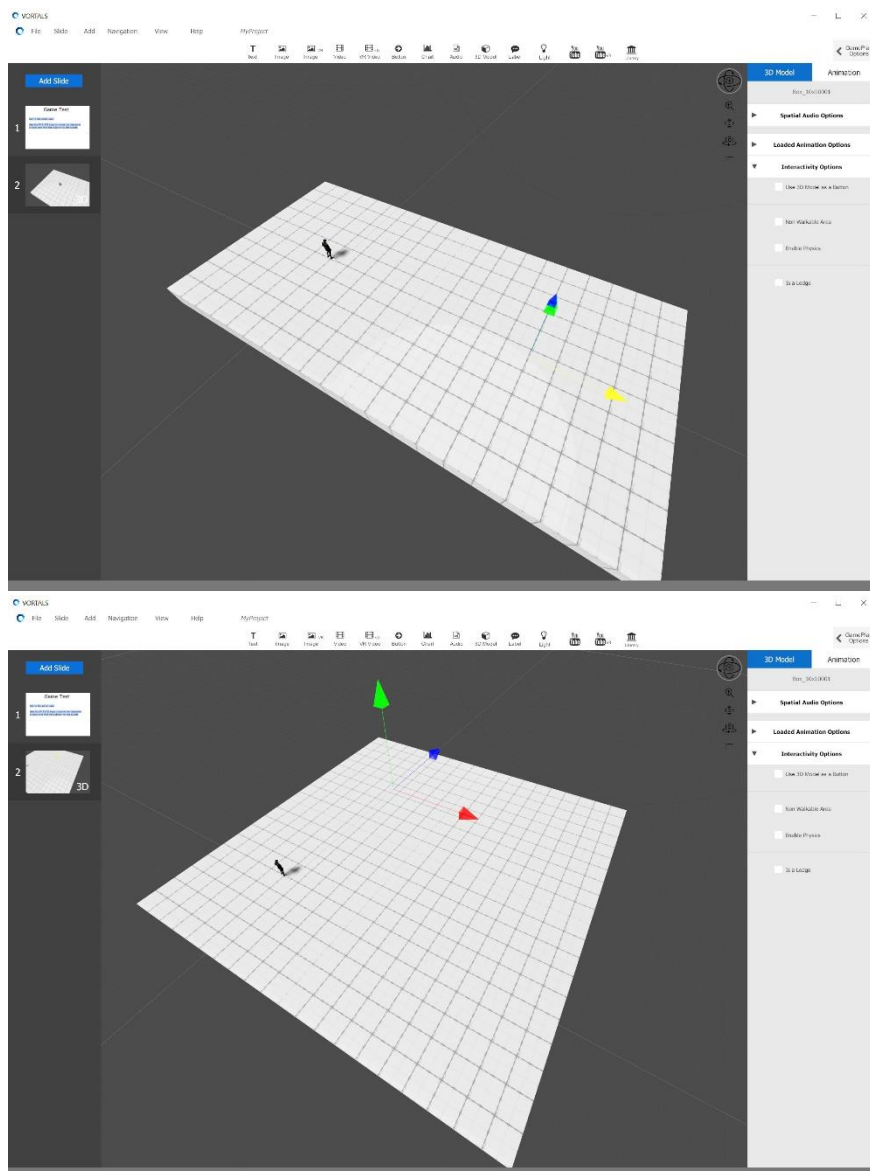


9. Build the Environment.

Select the Box again. Press Control+c and then Control+v to copy and paste the file. Move the box to the left or right, lining up the two edges of the box.

Repeat this again, moving the box back this time.

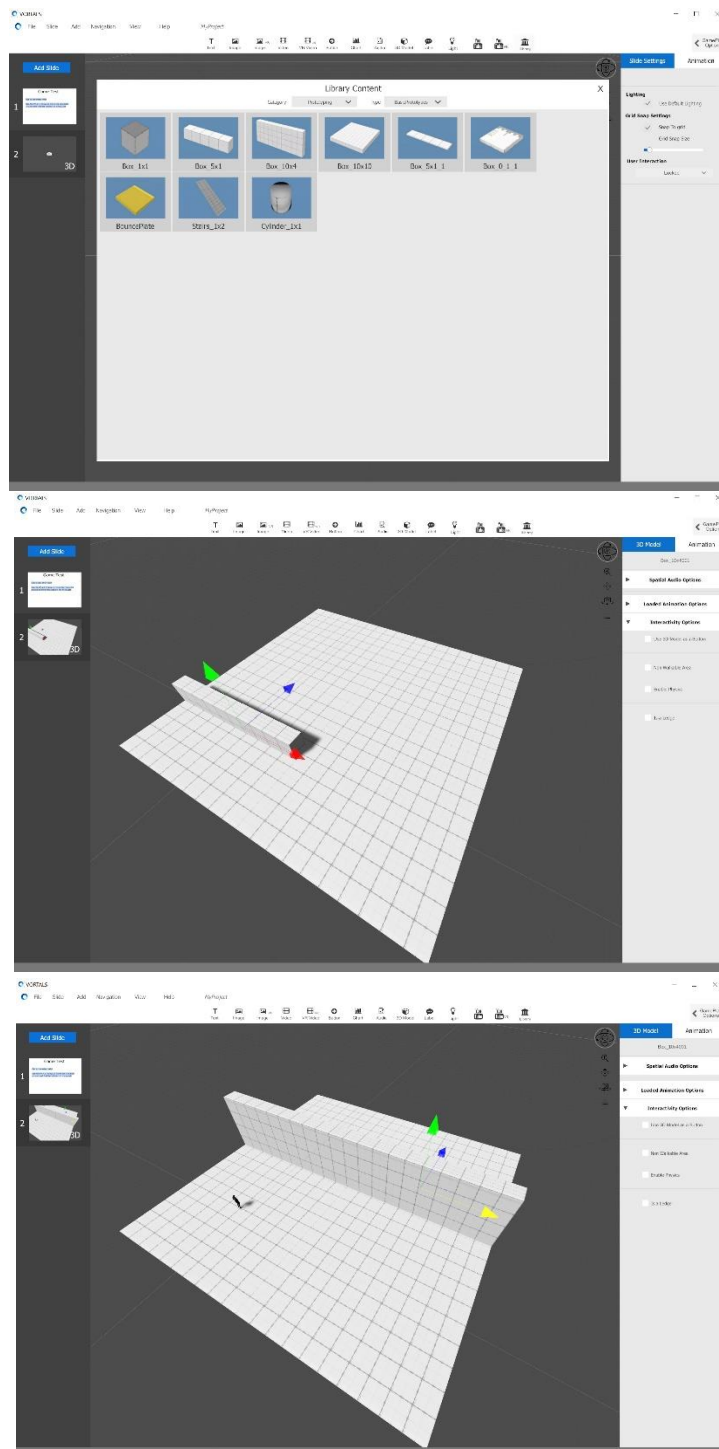
Repeat again to form a larger square.



Reopen the library, select Box_10x4.

Move the box wall backward and up to the centre of the ground.

Copy and paste the wall and move to complete the wall.



10. Add Interactivity

You now have a wall preventing the character from moving to one side of the ground. We need to add a way for our character to get there.

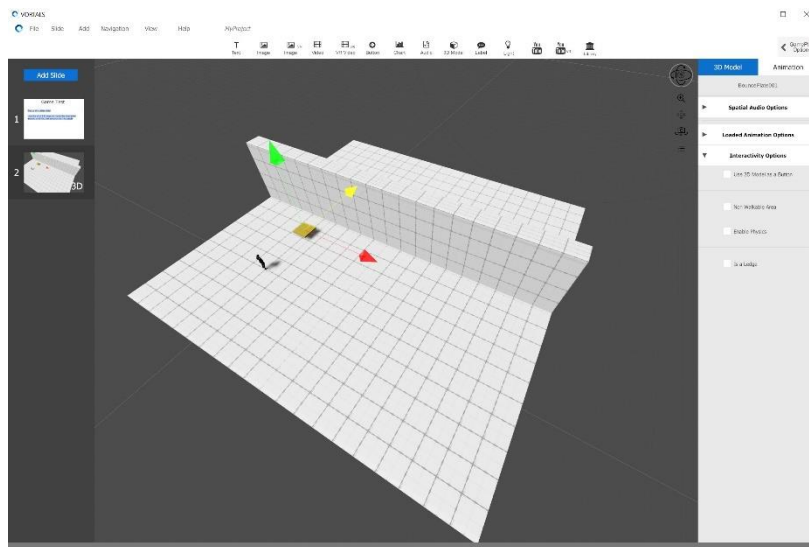
Load the library and add a bounce plate, moving it to a position on the ground in front of the character. A bounceplate is an object that will launch the character up into the air when they step on it.

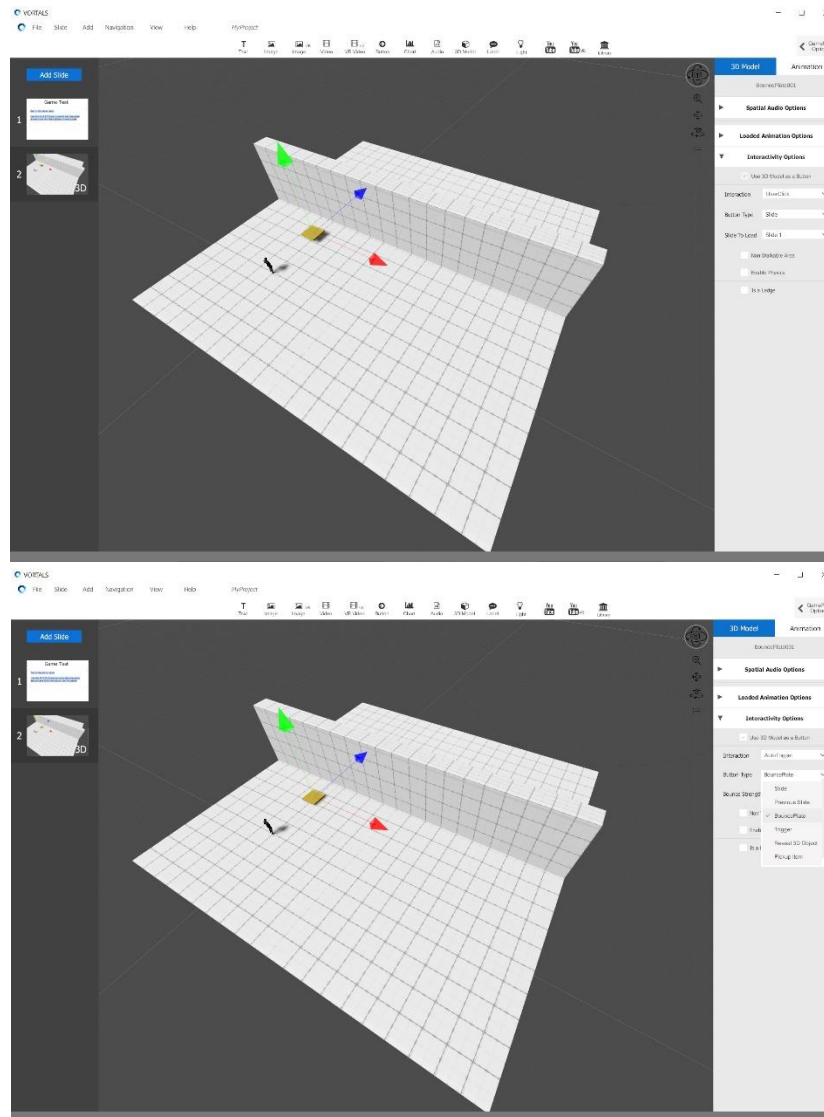
The bounceplate is not yet setup to work, however. To setup the bounceplate, make sure the Interactivity options panel is open on the right hand properties panel select “Use 3d model as a button”

This will reveal new options. We want this bounceplate to automatically launch us, so we change the interaction dropdown from “UserClick” to “AutoTrigger”. As the name suggests, this will now autotrigger an event when the character collides with it.

Next we select the type of event that occurs. In the “button type” dropdown change from “slide” to “bounceplate”.

Finally, below that change the bounce strength to 5.





11. Save

If you haven't tried already, now is a great time to save the presentation. Saving in Vortals is done in the same way as most other programs, you can go to the File menu button and choose Save.

However...

There will be more options to think about when saving your final presentation. For the moment:

- Go to The File menu button and choose Save.
- It is good practice to number your save files incrementally.***

- Call this yoursavefilename_1 and every time you save, increase the number by 1 e.g. yoursavefilename_2. As the file gets more and more complex you might want to go back to an old file and if you don't save in increments you might lose the chance. **You should adopt this practice for all digital files.**
- Tip: Never call a file “final” or “finished” or “complete” etc. When you do that you're almost certain to have to go back and change something. Then you end up with a file called “final_changed_final_superfinalversion_ipromisethisfinal_final_1”. Sticking with a number system will mean you know the highest number is the latest!

TEST PLAY THE GAME

Choose File -> Present, run your character around, and see what happens when you run into the bounceplate.

Depending on where you've placed the bounceplate you may find it difficult to get over the wall. And here you have a choice to make.

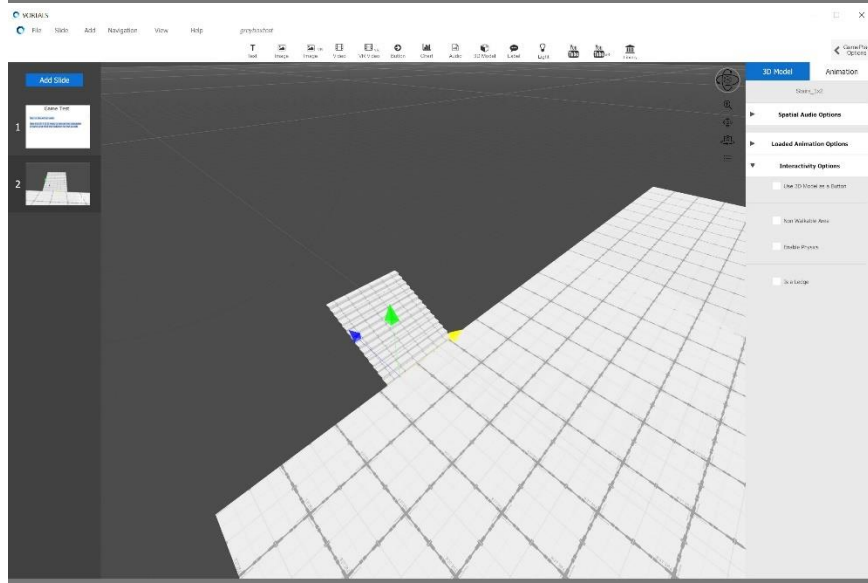
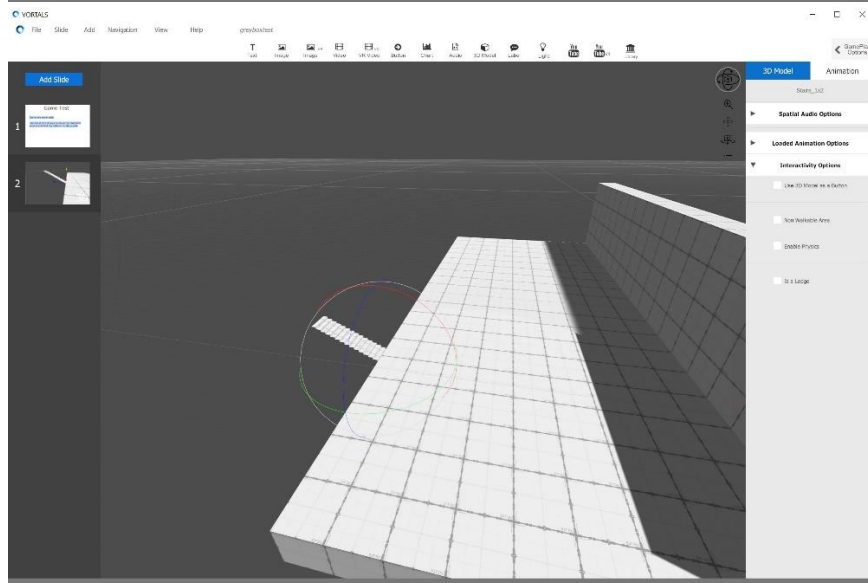
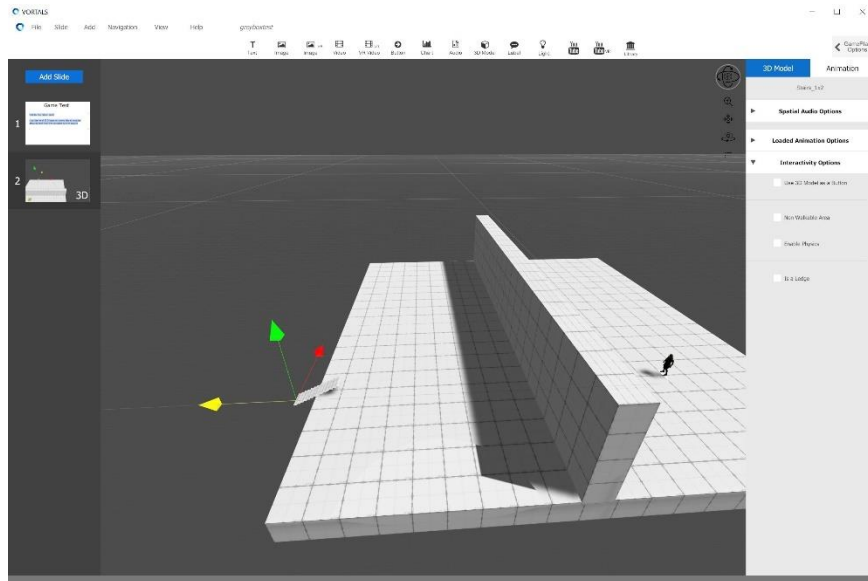
- You could slightly rotate the bounceplate, which will launch the character on the angle that you choose, instead of the current setup, which is straight up.
- You could also change the height of the jump, which will allow the character to have more time in the air.
- You could lower the wall height.
- This is why we [greybox](#) before actually going in to production for a game

Press escape to exit the playmode and then click X to return to the editor.

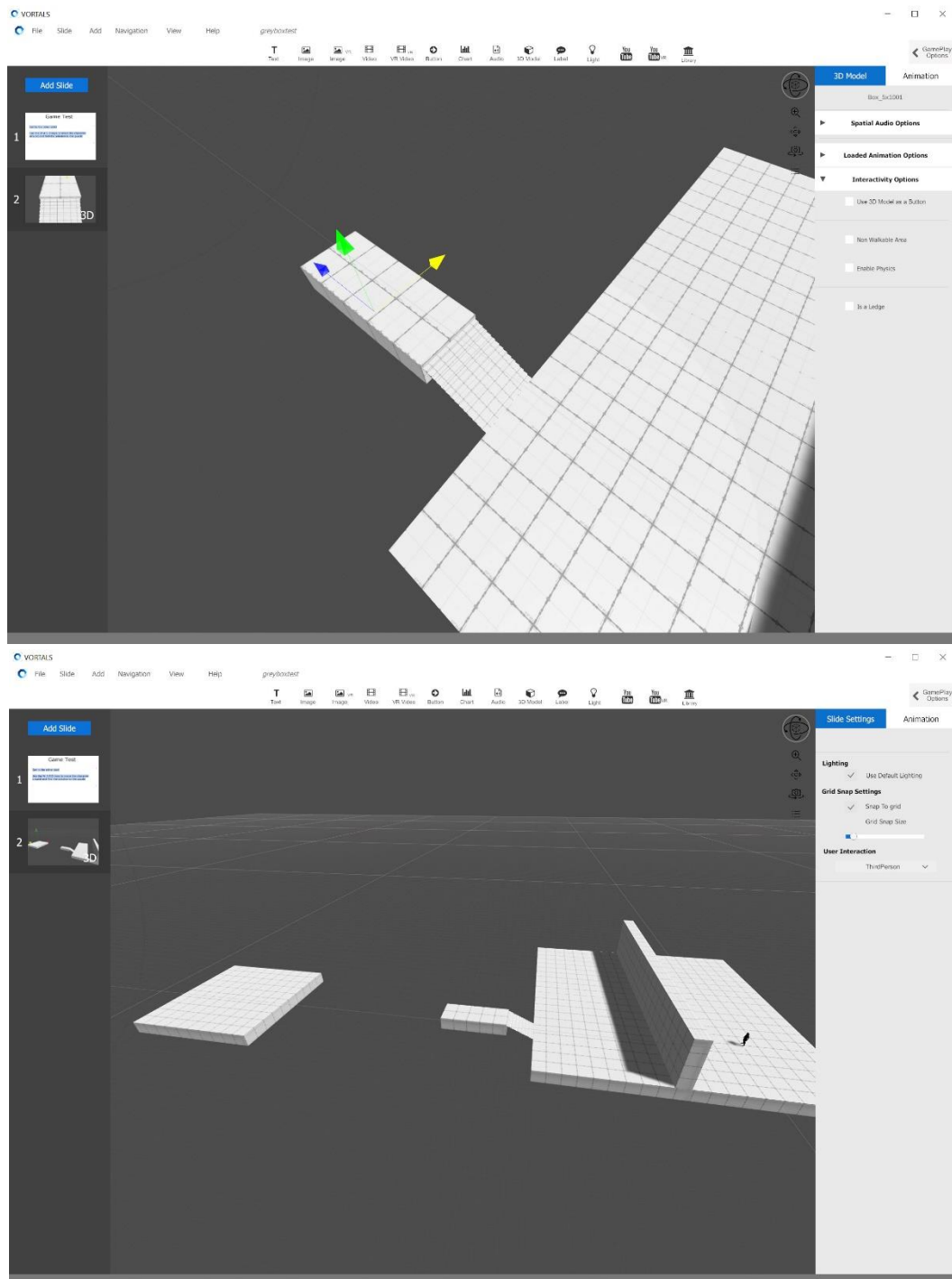
12. Create the Puzzle

Now that we have our wall in place, its time to build the basic puzzle.

- Open the library and add stairs.
- Move the stairs onto the opposite side of the wall, rotate them so the character could walk up them from the ground.
- Clone the stairs (copy & paste) and make the stairs wider.

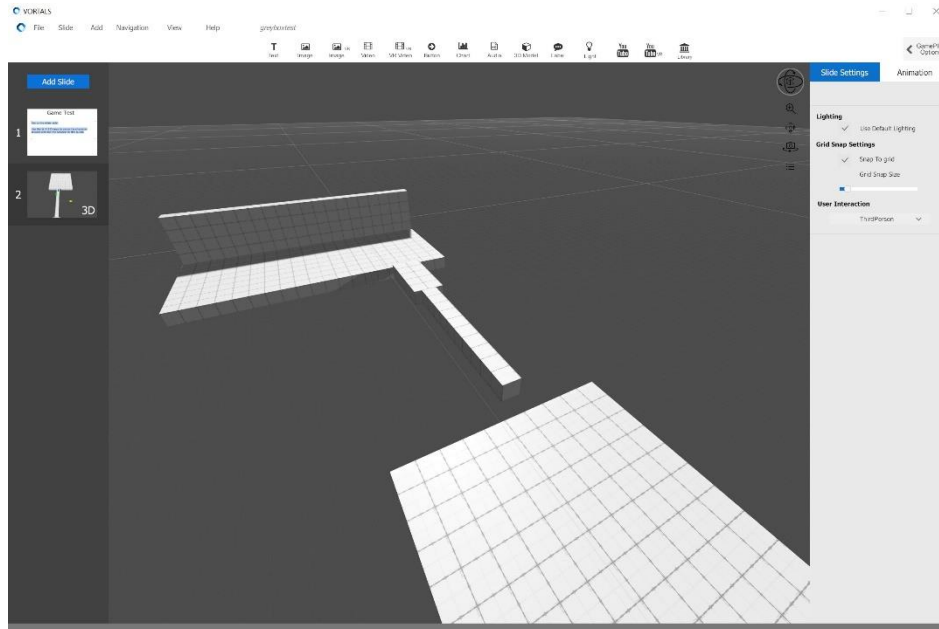


- Add a Box_5x1 and move it to the end of the stairs.
- Clone the 5x1 box so the boxes fit across the stairs.
- Copy one of the 10x10 boxes and move it a short distance away from the main ground area
- You should have something that looks like the images below.



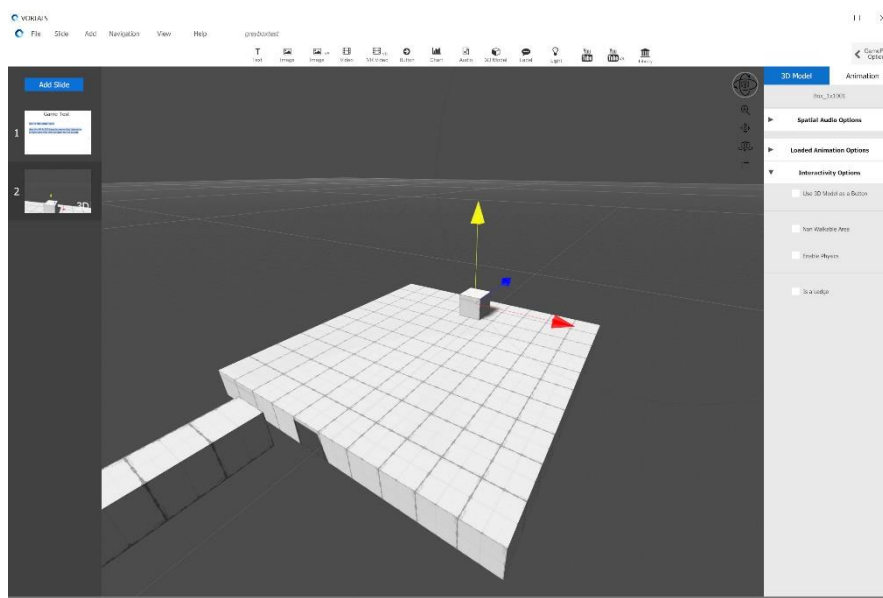
13. Walkway

- Add Another 5x1 box and move it to the end of the walkway area.
- Repeat and move so that you have a walkway that looks like the image below
- Your 5x1 walkway should end with the 10x10 box just below it.

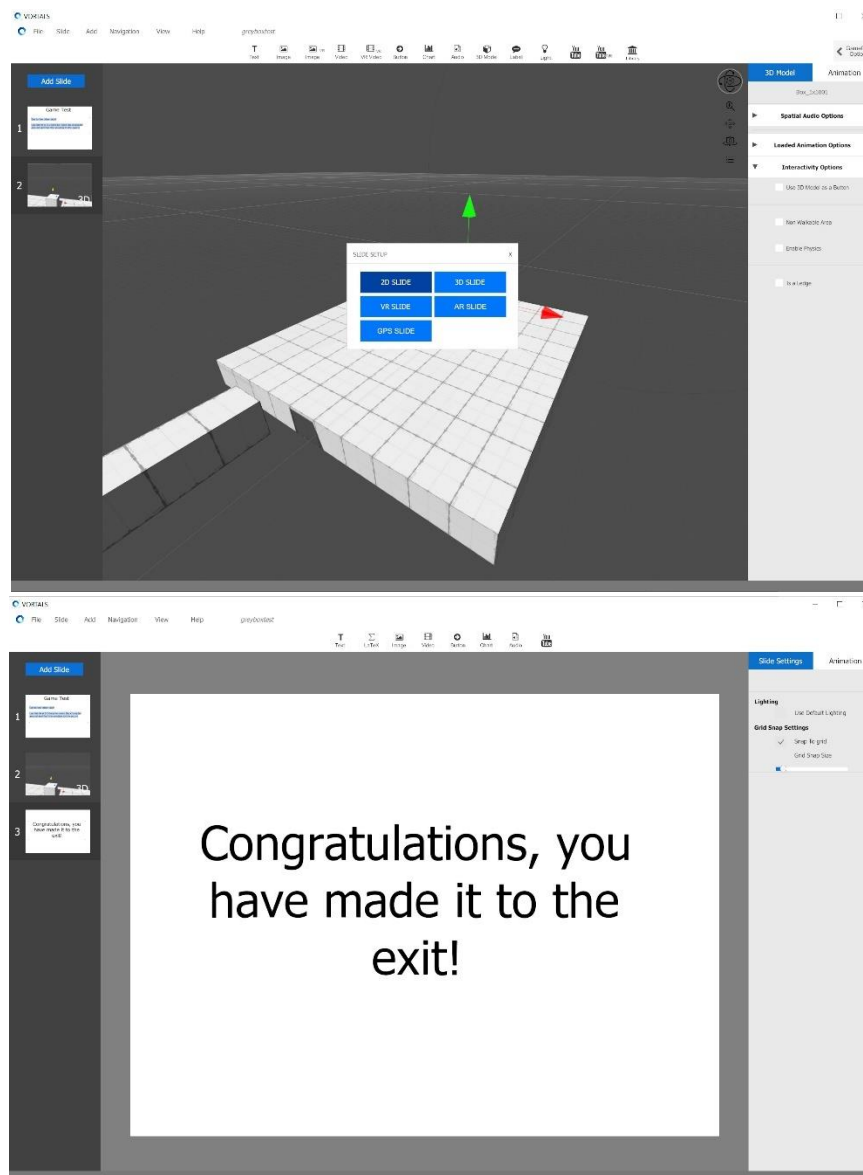


14. Interactive Button

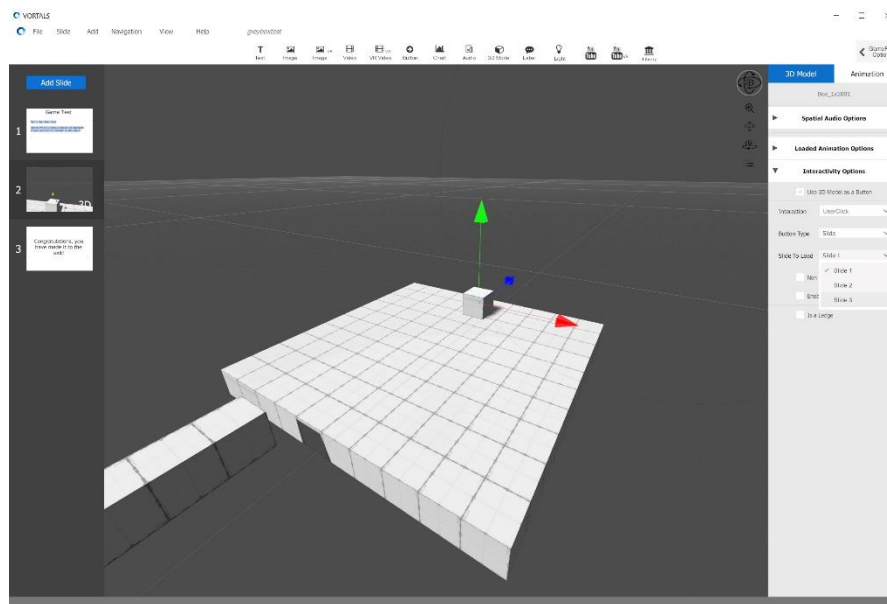
- Add a 1x1 box and move it to the end of the walkway ground area.



- Click “Add Slide” to add a new 2D slide
- Add a text box to the slide and type “congratulations, you have made it to the exit!”
- Increase the font size and position the text like you want.



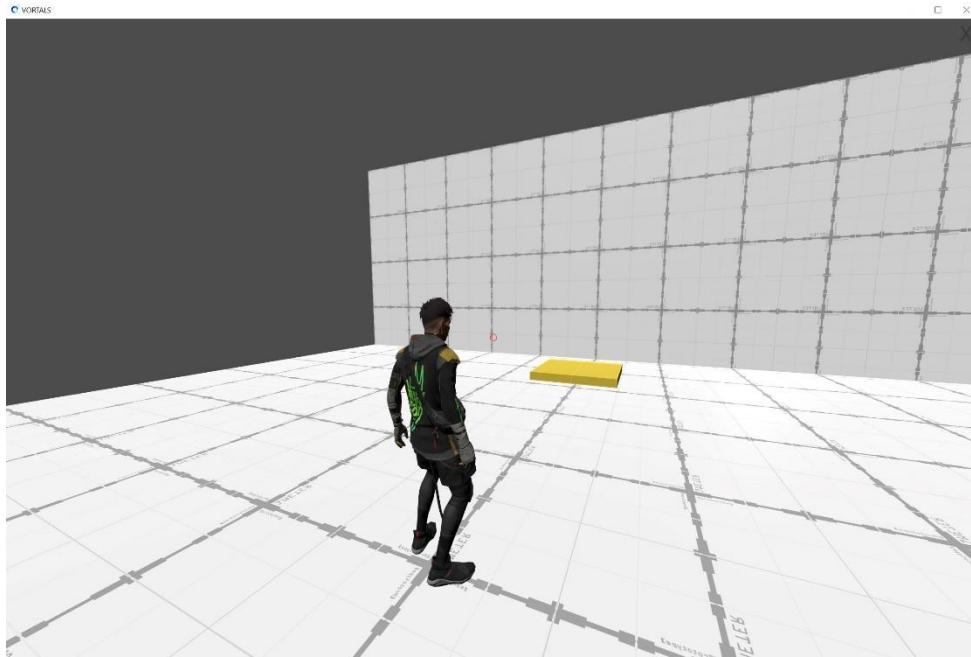
- Return to the 3D slide
- Select the 1x1 box again.
- Make the 1x1 box a button. (With the box selected open out the interactivity panel and select “Use 3D Model as a Button”)
- Keep the button type as slide button.
- Change the “slide to load” to “Slide 3”.
- Now when the character gets to the box and interacts with it, it will take them to the 2D slide explaining that they have succeeded.



15. Test Play the Game

If you're going to view this on a PC then simply go to File → Present Project and you will interact with the presentation in play more.

- Click File → Save Project
- Choose a relevant folder to save the file to, and a file called *"yoursavefilename.vrtl"* will be created.
- File → Present Project

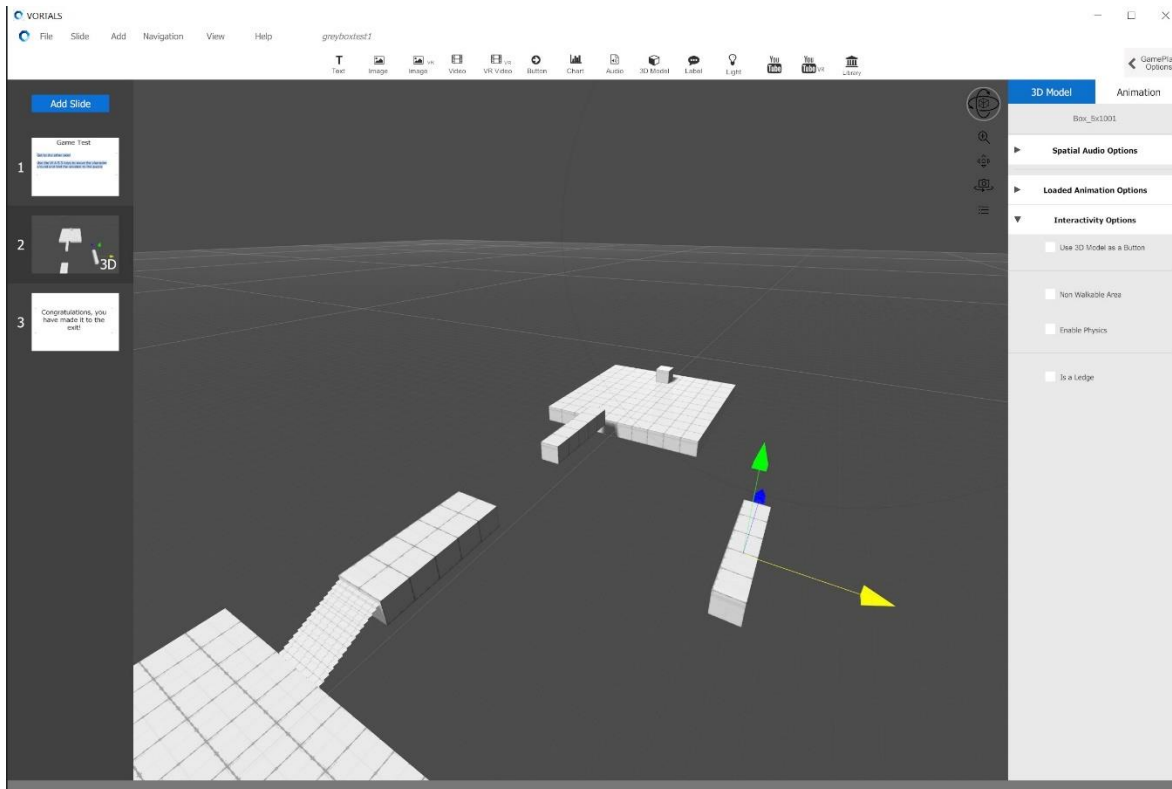


16. Add the Actual Puzzle Elements

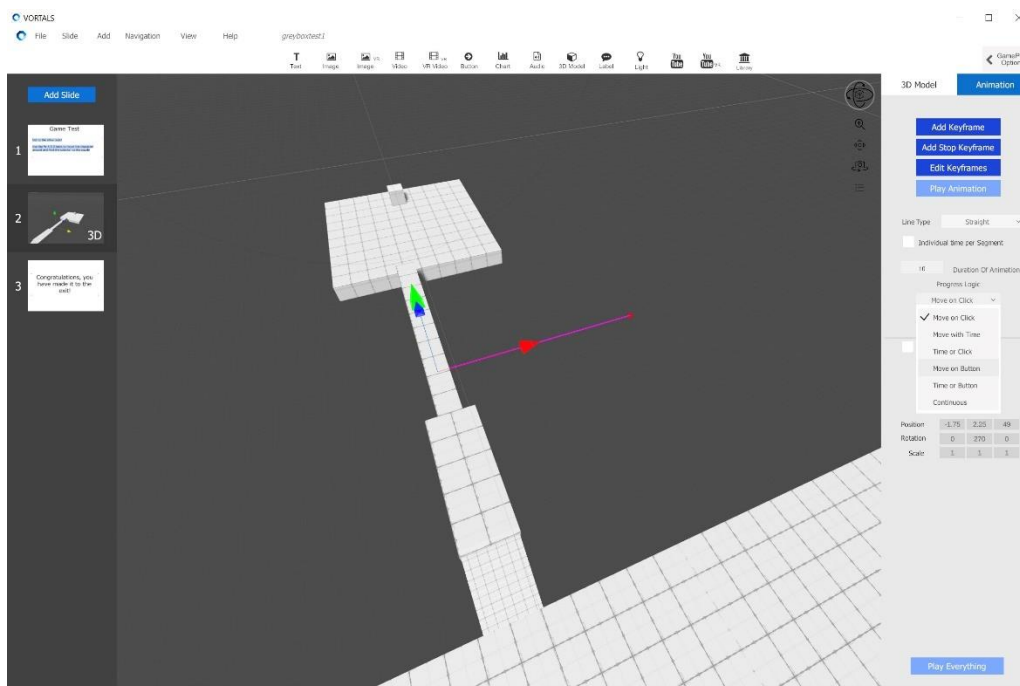
While you can now interact to the point that the character can get to the end of the game, this still doesn't have much in the way of a game to it, we need to add the solvable game element.

To do that we're going to make one of the walkway platforms movable, and that movement will be triggered by a button.

- Select the first single 5x1 box in the walkway.
- Move it to the right of the walkway.



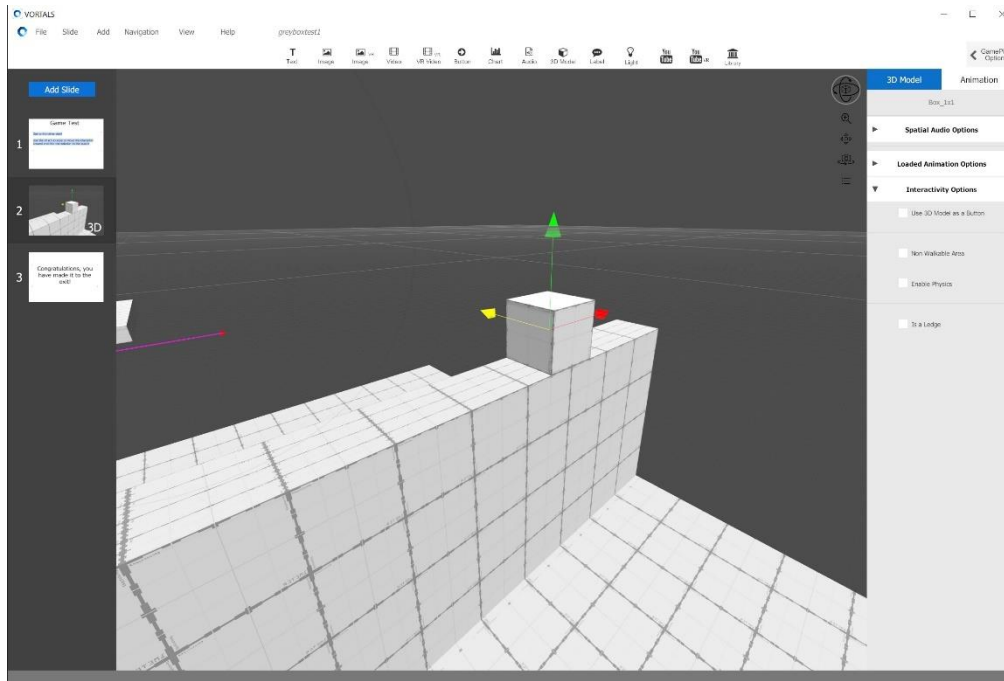
- Click the animation tab (on the top right of the properties panel)
- **Click “Add Stop Keyframe”**
 - Do NOT click “Add keyframe”.
- Move the box back to the original position.
- Click “Add Stop Keyframe”
- You should see a line appear and have two red markers where you have added the keyframes (the box will probably be hiding the second keyframe)



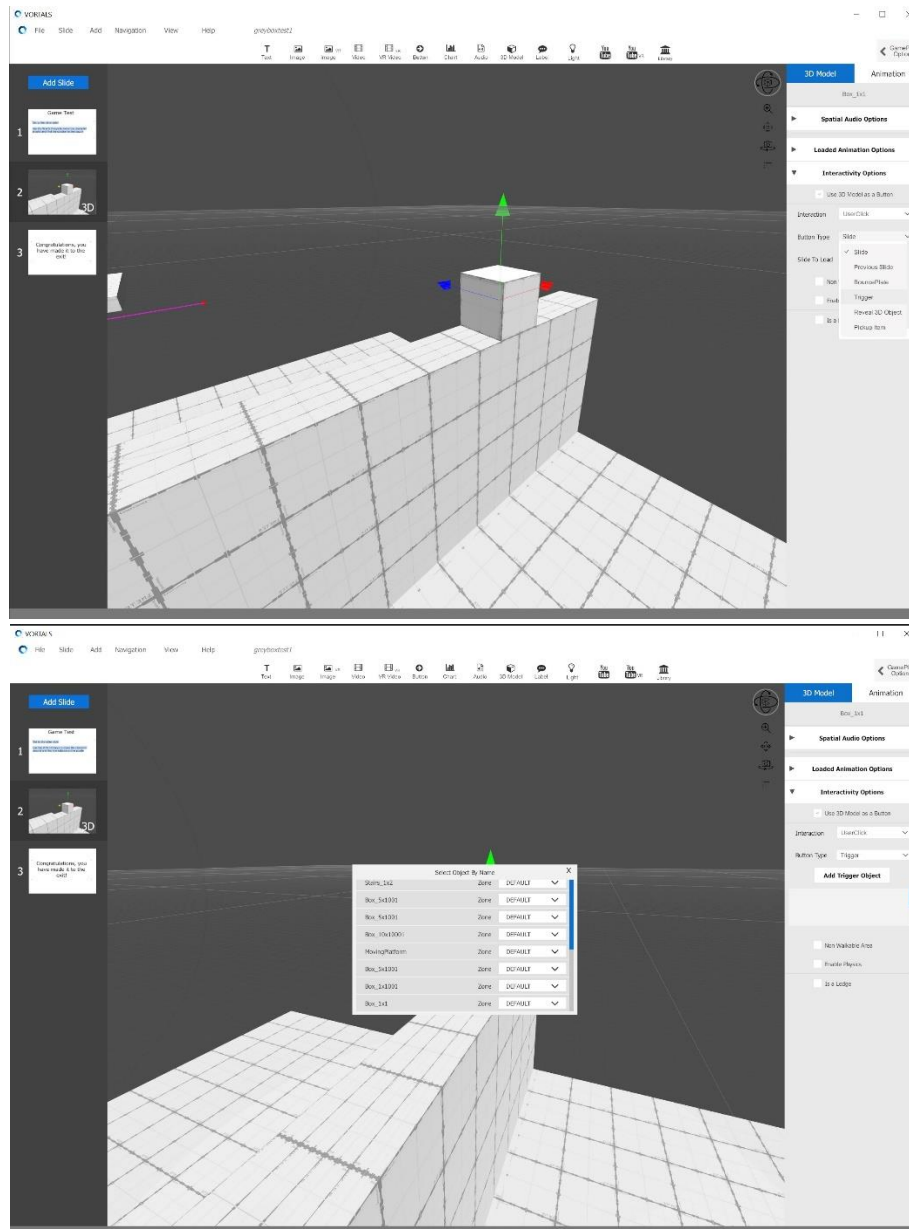
- Change the progress logic to “Move On Button”.
- This means the box will only start moving when a specific button is clicked in the scene.

17. Add the Trigger Button

- Add a 1x1 box and move it to the top of the wall on the opposite side to the character.



- Make the box a button.
- Change the button type to “Trigger”.
- Click the “Add Trigger Object” button that will appear when you choose the “Trigger” button type.
- Use the navigation box to select the MovingPlatform object



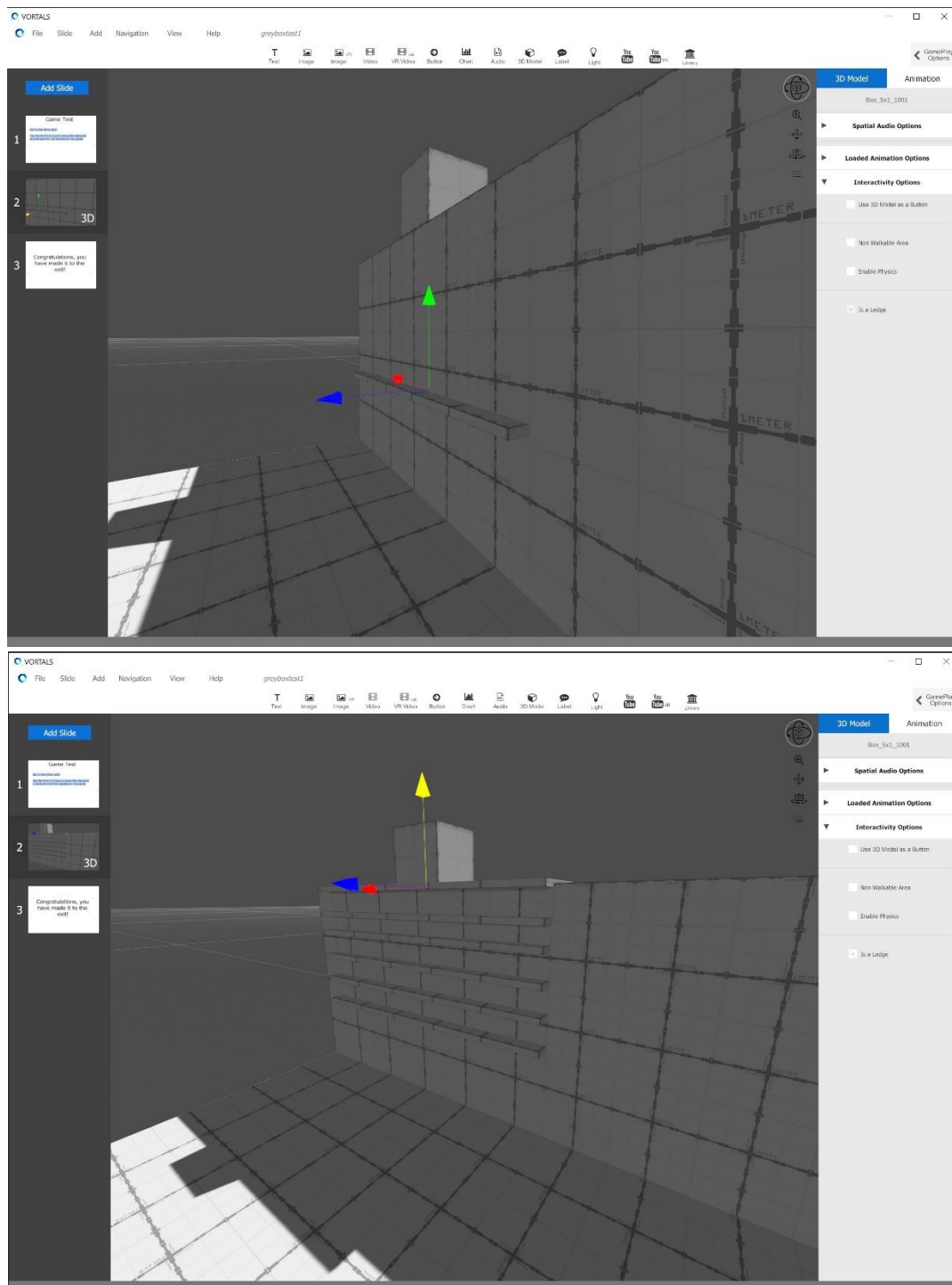
When clicked, this box will now trigger the moving platform to move to its new position.

Of course, now we need to give users the ability to get up to the top of this wall. Right now you could use the bounce plate, but that's a single chance, and if the user misses that chance, they end up stuck on the other side of the wall unable to finish the game.

18. Add the Climbing Ledges

- Add a Box_5x1_1 box and move it to the wall on the opposite side to the character and near the trigger box.
- Under the interactivity options panel, select "Is a Ledge".

- Clone the box and make a climbing path up to the top.



19. Ledge Issues

IMPORTANT: the ledge system has been designed to work with certain distances and parameters, you will need to put the ledge at a certain height and at certain heights apart from the next ledge for it to work.

You may find your ledges don't work properly initially. Based on where you've place the ledges, you may need to move the ledge around or scale it to work correctly.

When building games, the coders will fine tune these parameters to match the game design, but since we can't predict how you'll build your game, your design will need to match the parameters built in to Vortals.

20. Play the Game

Test the game to make sure the elements are working.

Once you can get to the other side successfully, you have completed the task.

