Ambiens VR SRL – Via Marsala 29H 00185 – Rome (Italy) info@ambiensvr.com

Contents

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Intro

Thank you for buying AT+Explore! This plugin has been made for architects by architects to speed up the process of creating and building awesome interactive archviz projects presentations using Unity.

We are Ambiens VR, an Italian software company focused on helping architects and engineers to build advanced projects presentations for their design team and clients.

AT+Explore is only the first part of the ArchToolkit Suite, a series of plugins, software and cloud services aimed to solve any major problem encountered by professionals when switching from offline/static rendering to Real Time dynamic presentations.

Useful Links:

1. AmbiensVR YouTube Channel
2. ArchToolkit Facebook Group
3. ArchToolkit website

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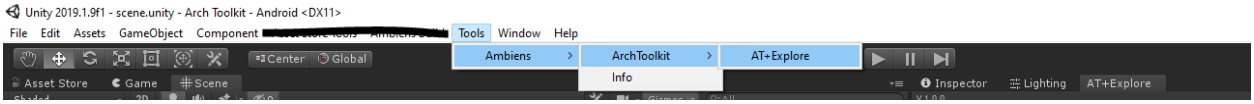
First steps

Open the AT+Explore panel

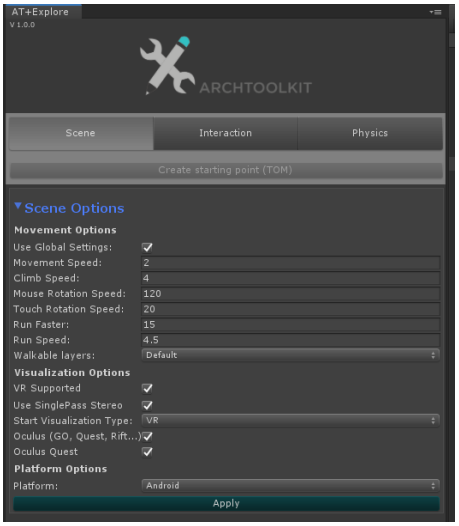


AT+Explore is a single panel in the Unity Editor containing every function.

To open the panel, click on the top menu: **Tools > Ambiens > ArchToolkit > AT+Explore**

Explore the panel options

The panel is composed of three main tabs:



Scene Tab: contains all movement and visualization options.

From the scene tab you can edit:

4. Movement and rotation speed
5. Visualization type (VR or 360)
6. Platform (Android, iOS, PC etc..)

Interaction Tab: once you have created the scene you can count on this tab to add the magic.

Here you can find all fast-interaction buttons that will let you create dynamic doors, drawers, dynamic material switches and so on.

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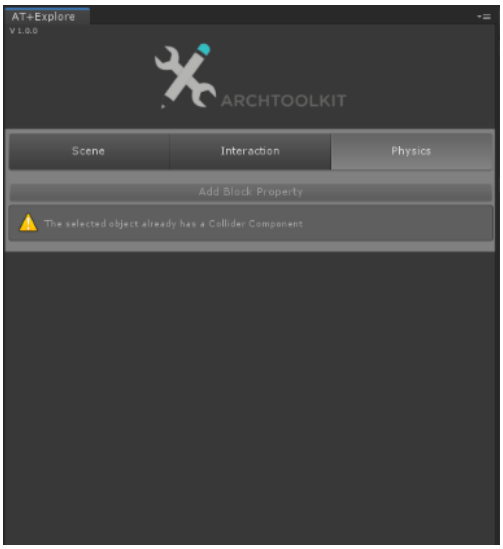

Physics Tab: here you have simple control over the physics of the scene.

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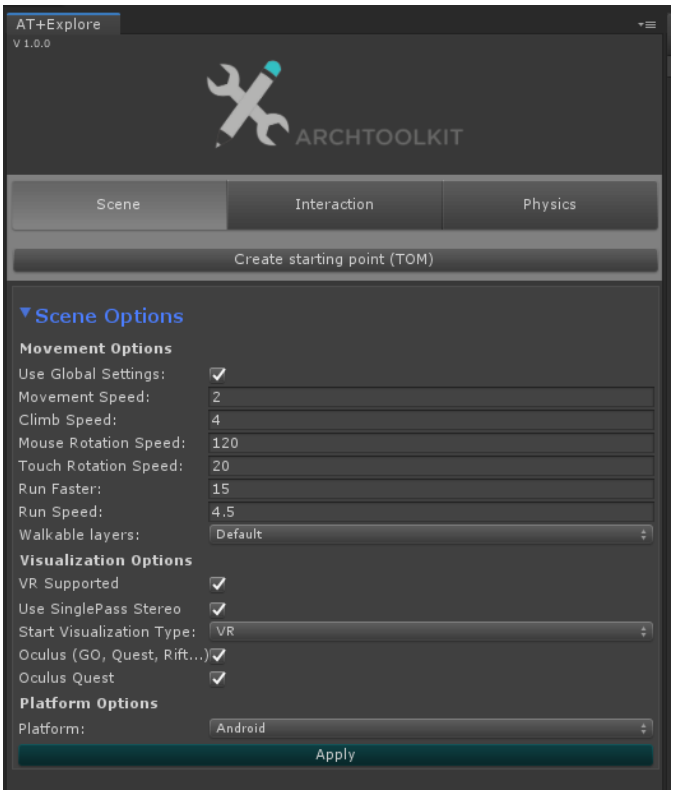
Your first interactive scene

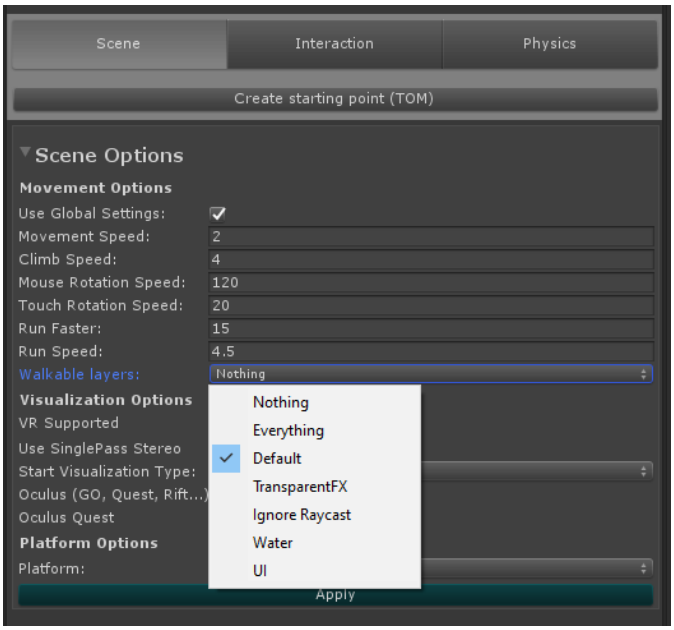


STEP 1 - add Tom: Tom corresponds to the starting point of the real time experience. In the editor it is represented by a humanoid figure with ~1.70mt of height.
We experienced some problem with import scales working with various imported files, especially during first times using Unity: once you put Tom inside your scene you can automatically understand if the units of your input file are correct.

To add Tom in the scene simply click on "Create starting point (TOM)" in the *Scene Tab.*

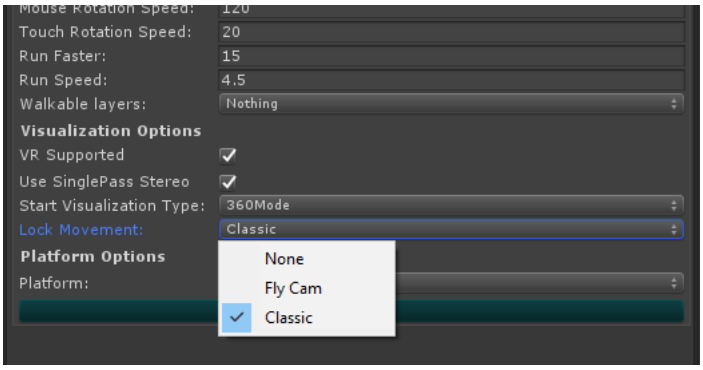
Move and rotate Tom on the floor.

Don't worry about placing Tom precisely on the floor. The system will automatically set the height of the character once you play your scene.



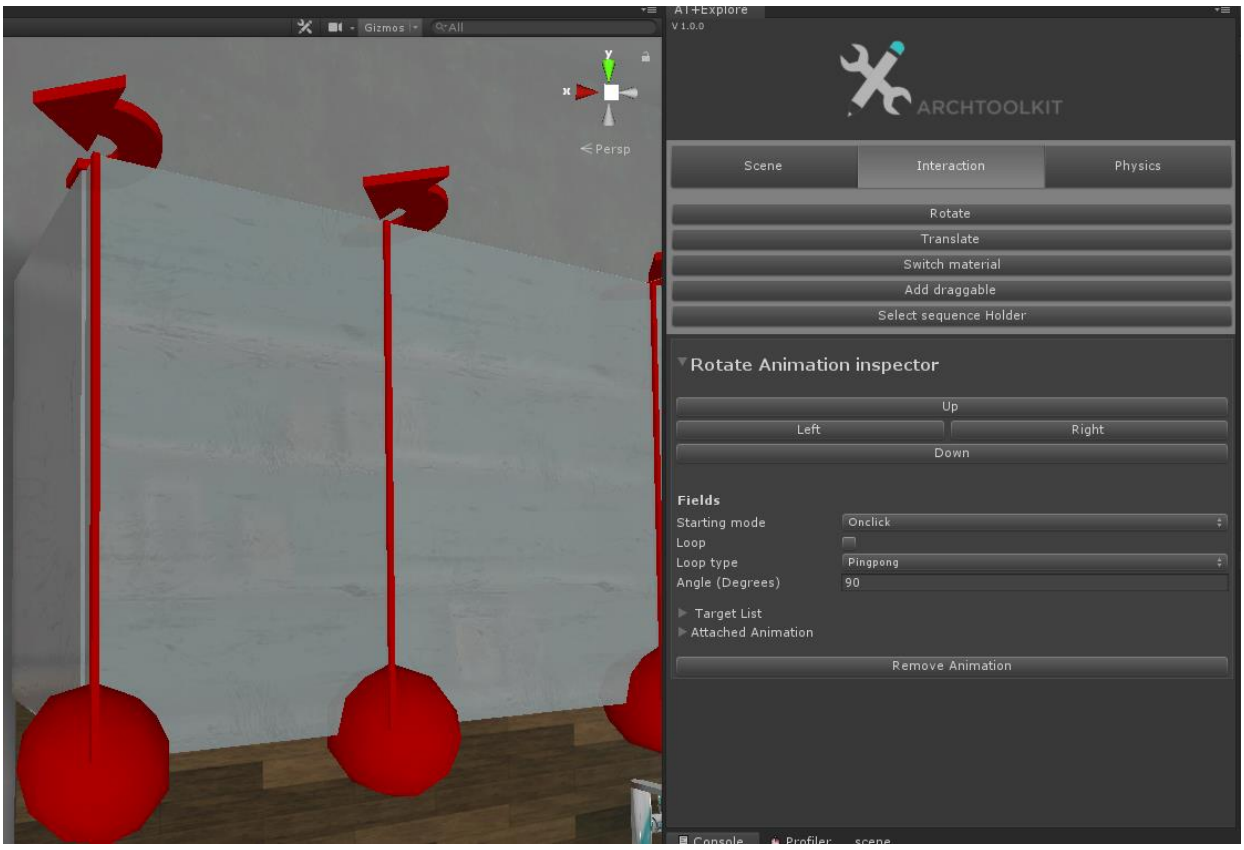
NB: Tom can walk automatically on every surface that has the Default Layer. If your scene has multiple layers and you want to walk on one of them you can add it in the Walkable Layer mask.

That's it! you can now just hit play and move freely in your scene.



STEP 2 – choose the visualization type: in the Visualization Type option, you can choose between VR or 360 view.
When you <u>are</u> creating a 360 view, you can choose what kind of experience you want: switch between WalkCam or FlyCam directly in the scene or lock it selecting "None".

STEP 3 - add interactions



Once we set our starting point and visualization type, we can start adding dynamicity to our scene. AT+Explore has a **prebuilt set of interactions** available directly on the *Interaction tab.*

The process to add a prebuilt interaction is the same for each one:

7. Select the mesh/object to animate
8. Select the interaction to add
9. Edit the interaction options using the inspector available below the interaction buttons

In the figure above we have just added some rotation to the doors of kitchen, you can try this on the demo scene available in the package.

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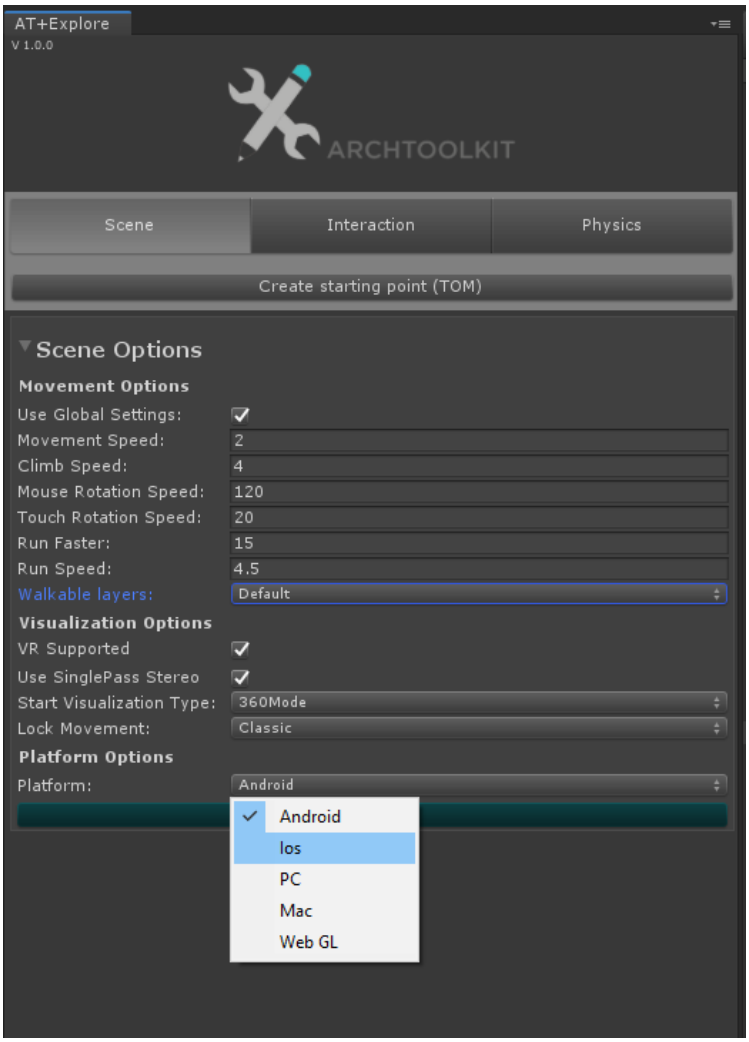
Building a full-screen experience for smartphones and PC



You can easily change the platform you want to create your build for.

For each platform we implemented an input type that is completely compatible with every interaction added to the scene.

For PC and Smartphone (without any VR Headset) you can select 360Mode from the **Start Visualization Type** menu.

AT+Explore will automatically manage input from touchscreen, mouse, keyboard and even Joystick if connected.

You can use the Unity play button to test the app in the editor or build the app using the standard Unity methods.

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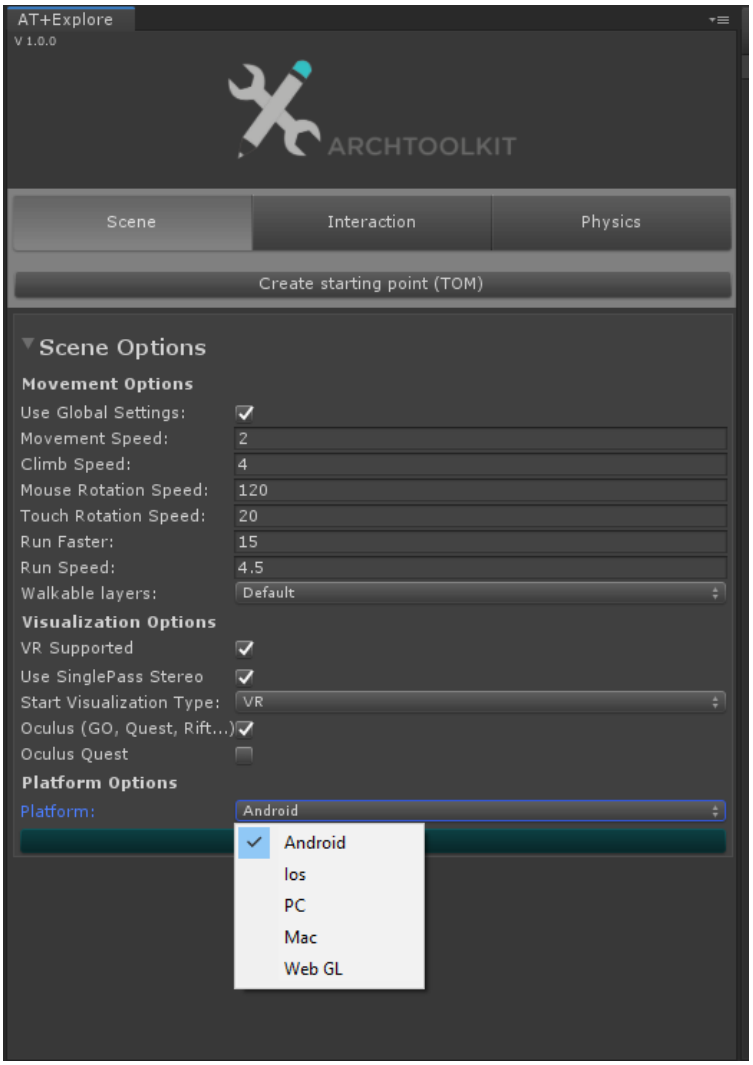
Building for VR headsets



You can easily switch between a full screen and a VR experience.

In the image you can see the basic settings to enable a VR presentation.

VR Supported: it adds support for VR sdk and settings for the project. VR support doesn't mean that the project is VR but it may come handy if you plan to switch between fullscreen and VR very often as it includes all packages needed only once.

Use SinglePass Stereo: enables single pass stereo render that will increase performance in VR, if you want more information about singlepass stereo render please read this.

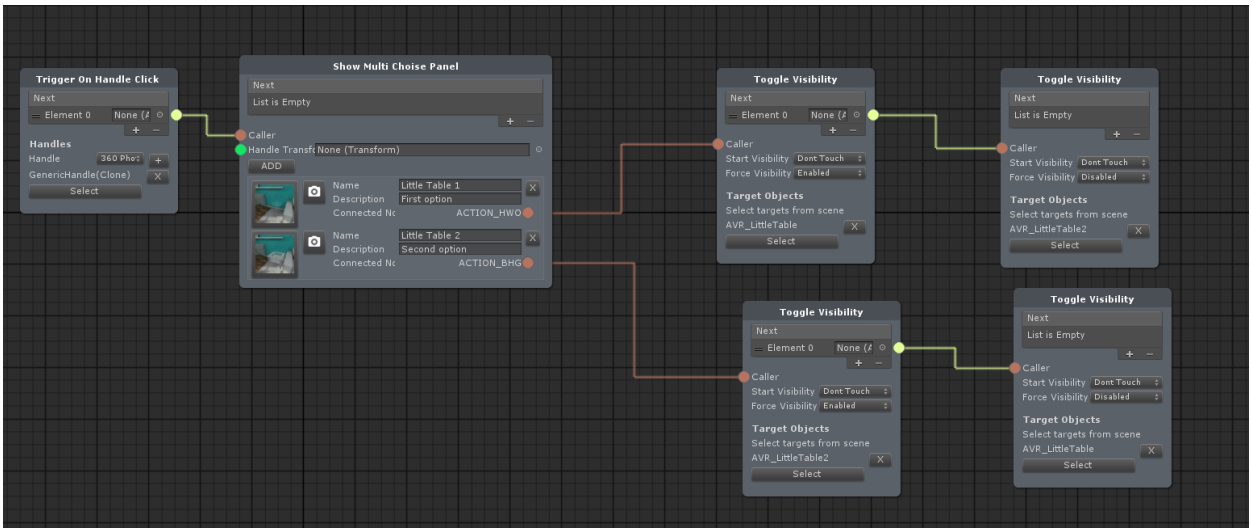
Start Visualization Type: if you select VR here, the scene will start as a Virtual Reality project.

Oculus (Go, Quest, Rift): will load only the oculus sdk for VR. Use this option if you are building the experience for Oculus GO, Quest or Rift.

Oculus Quest: it will add specific settings to easily build for Oculus Ques.

NOTE: if you are building for Oculus GO, Quest or Gear VR the application Platform must be Android.

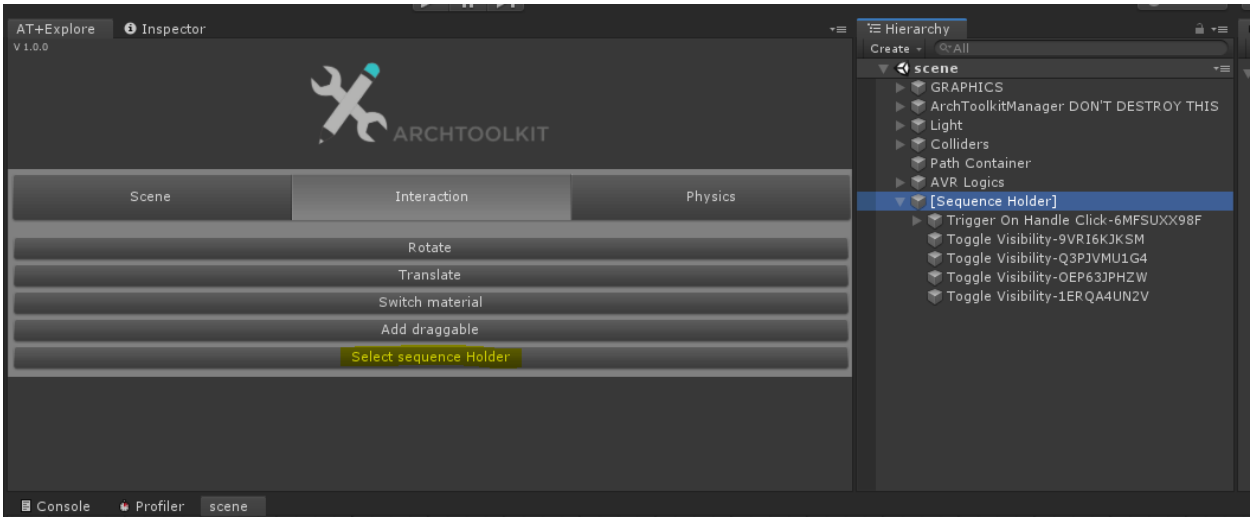
Action sequence (Advanced Interactions)



If you need more complex or different interactions in the scene you can easily add a custom one without coding. AT+Explore v.1.0.0 comes with the Action Sequence System, a visual scripting environment build on top of the basic interaction system.

You can easily create a custom action sequence by following the steps below, based on the Kitchen Demo Scene:

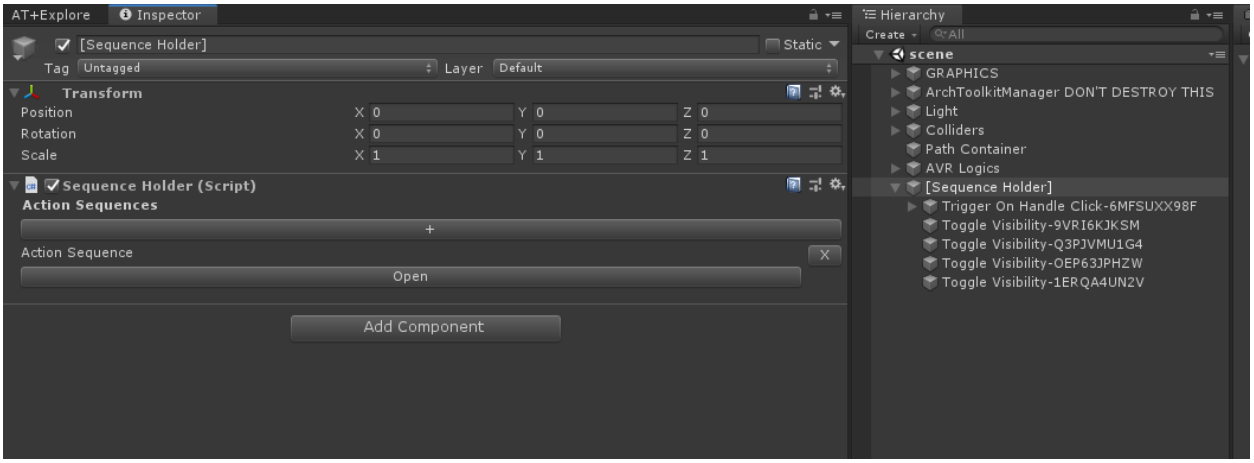
STEP 1. Create or select the sequence holder



The sequence holder is a special GameObject that links the action sequence to the scene, this means that you can re-use your action sequences in multiple scenes just using another Sequence Holder.

You can add or select the sequence holder using the last button in the *Interaction tab.*

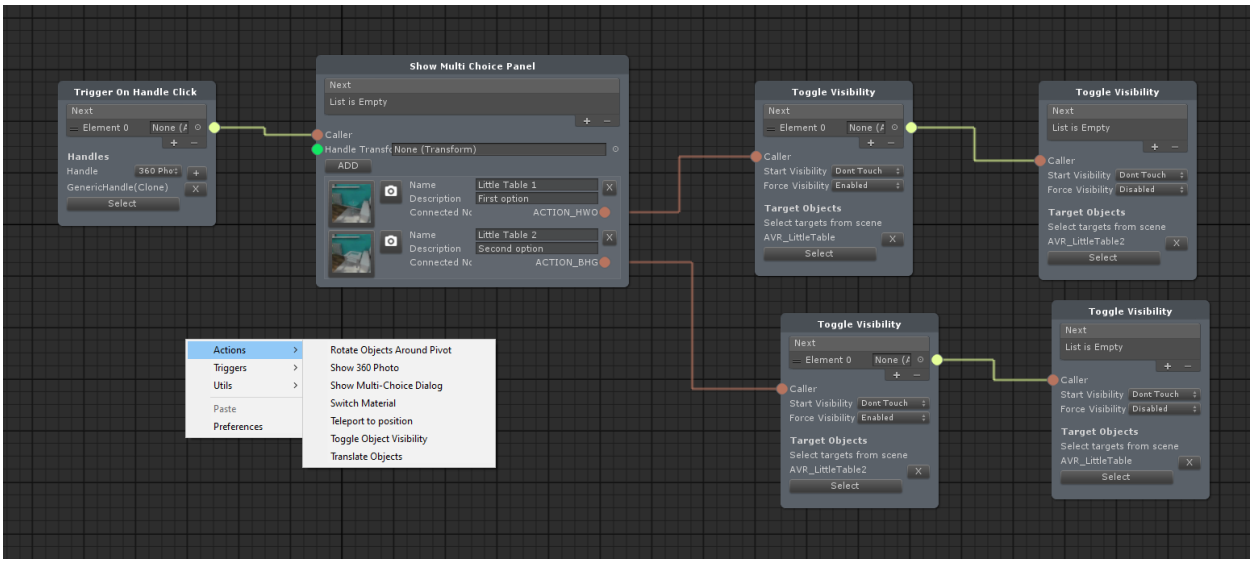
STEP 2. Add or select an Action Sequence Graph



The Sequence Holder Inspector let you open, add or remove action sequences linked to the scene.

If you click on the *Open* button it will open the selected Action Sequence.

STEP 3. Edit the Action Sequence Graph



As stated above, the Action Sequence Graph is a sequence of chained actions.

When creating a new Advanced Interaction for your scene you must think about these steps:

1. What **triggers** the sequence? A button, an object, or it must start at the beginning of the experience?
2. What is the sequence of events I need to present to the user? Is there any choice he can make?

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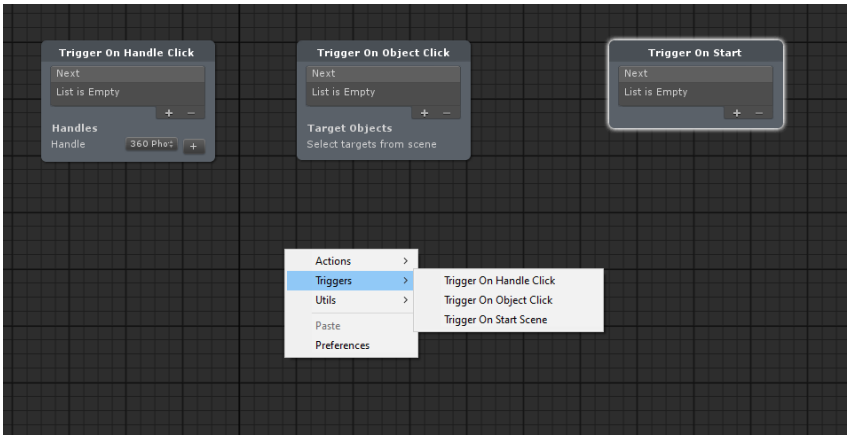
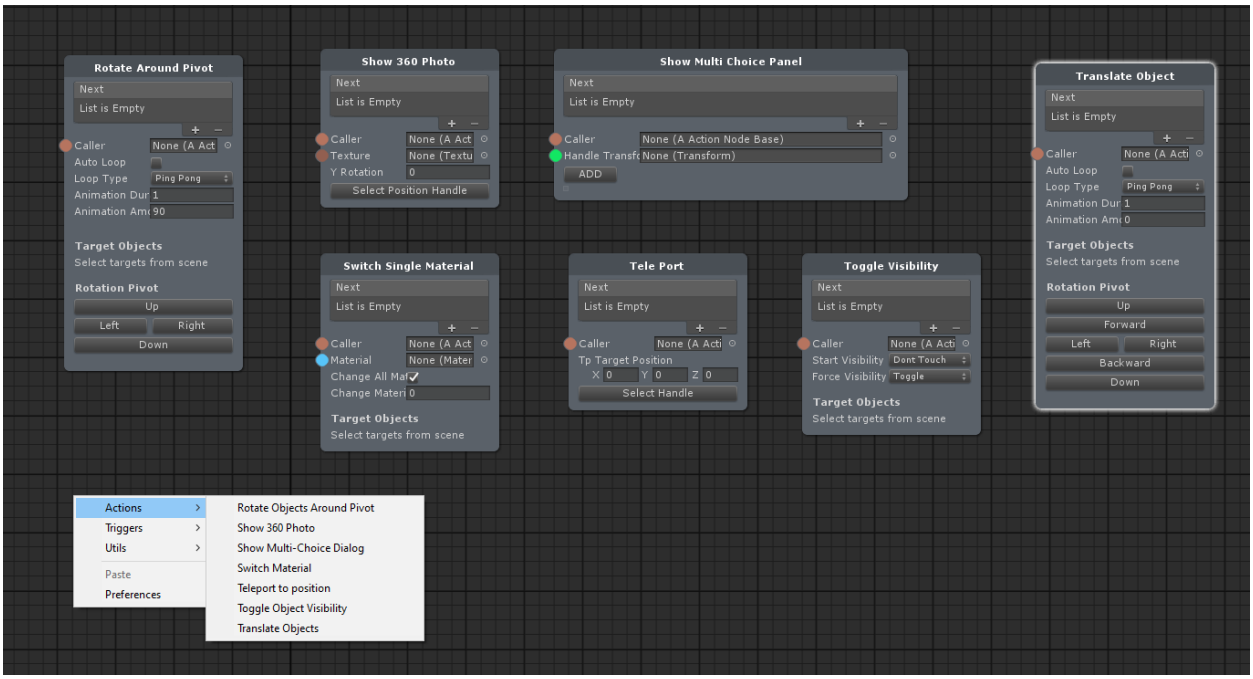


The first question is answered by the first node type, Triggers.

Every sequence starts with a trigger, there are 3 triggers right now, their names are self -explanatory.

- On Handle Click
- On Object Click
- On Start

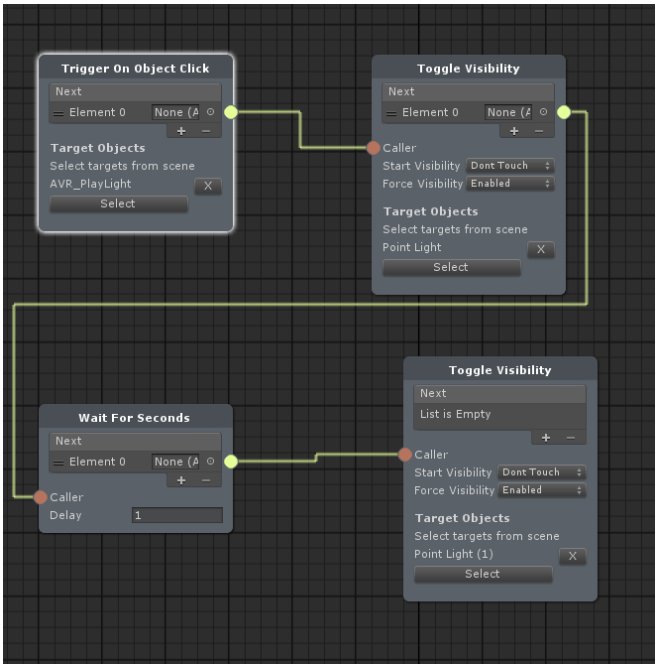
When the sequence has been triggered it's time to add Actions



In the image above you can see the list of available actions.

Every Trigger has a *Next* list, every action has a *Next* list and a *Caller attribute*, if you connect a *Next item* of a Node A to the *Caller attribute* of Node B, during play mode the Node A will call the execution of Node B.

Example: in the image below there is a nice Action Sequence that will light up a room by turning on one light at time.



The first node is the Trigger, in this case we want the user to click on a switch on the wall so we can use *Trigger On Object Click.*

When the action is triggered we do a chain of actions:

1. Turn on the first light
2. Wait for 1 second
3. Turn on the second light