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3-1 Designing a Level

5CM503 Virtual Environment Development

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(Special thanks to Jon Pledger for the pictures and information)

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Blockout

Levels with cubes

What is a blockout?

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- A minimal representation of the gameplay environment.

- Entirely composed of primitives

- Designed to give a basic structure to the environment.
  - Platform for basic implementation of the gameplay
  - Refined later into the greybox.

Why do a blockout?

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- Allows a fail-fast approach. We can throw 10 blockouts away and have not invested any time.

- Big changes can be made without wasting significant effort on high-quality assets.

- Creates a platform to start testing gameplay right away.

Why do you need to learn to blockout?

- This is an artist's job, right?

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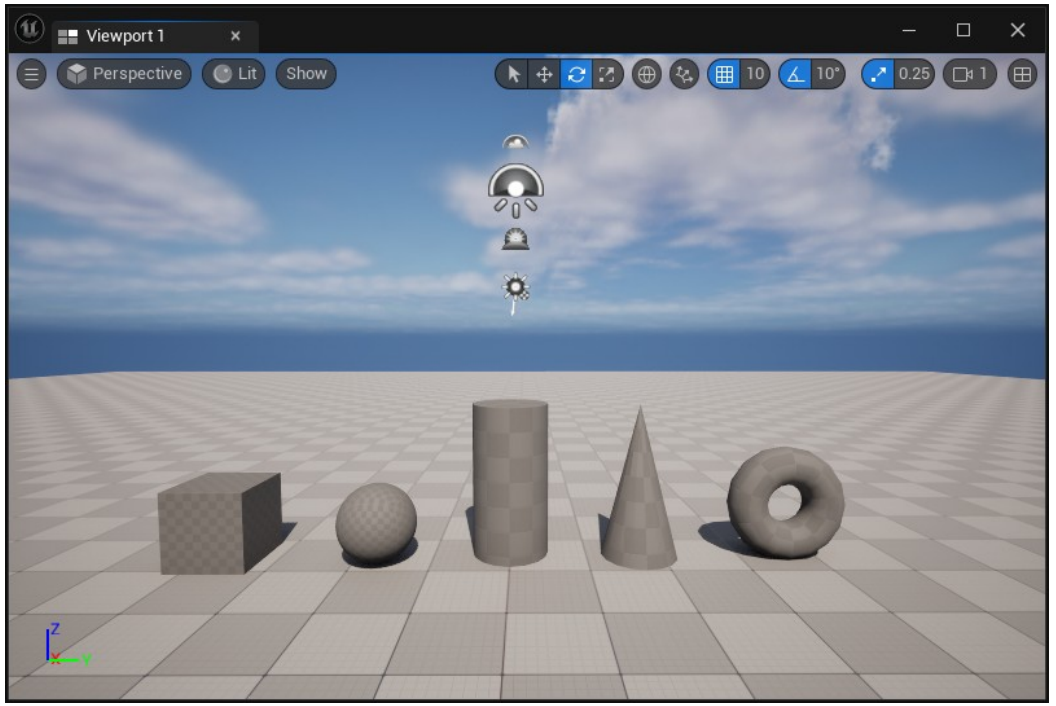
- If you can make a basic shape for something, you can start testing.
  - The artist can then make a more detailed representation later.

- If you are sitting saying, I cannot do this as I am waiting for X from an artist. You are doing it wrong, knock up a primitive model.
  - Or a simple model, but that comes in graphics 2 ;)

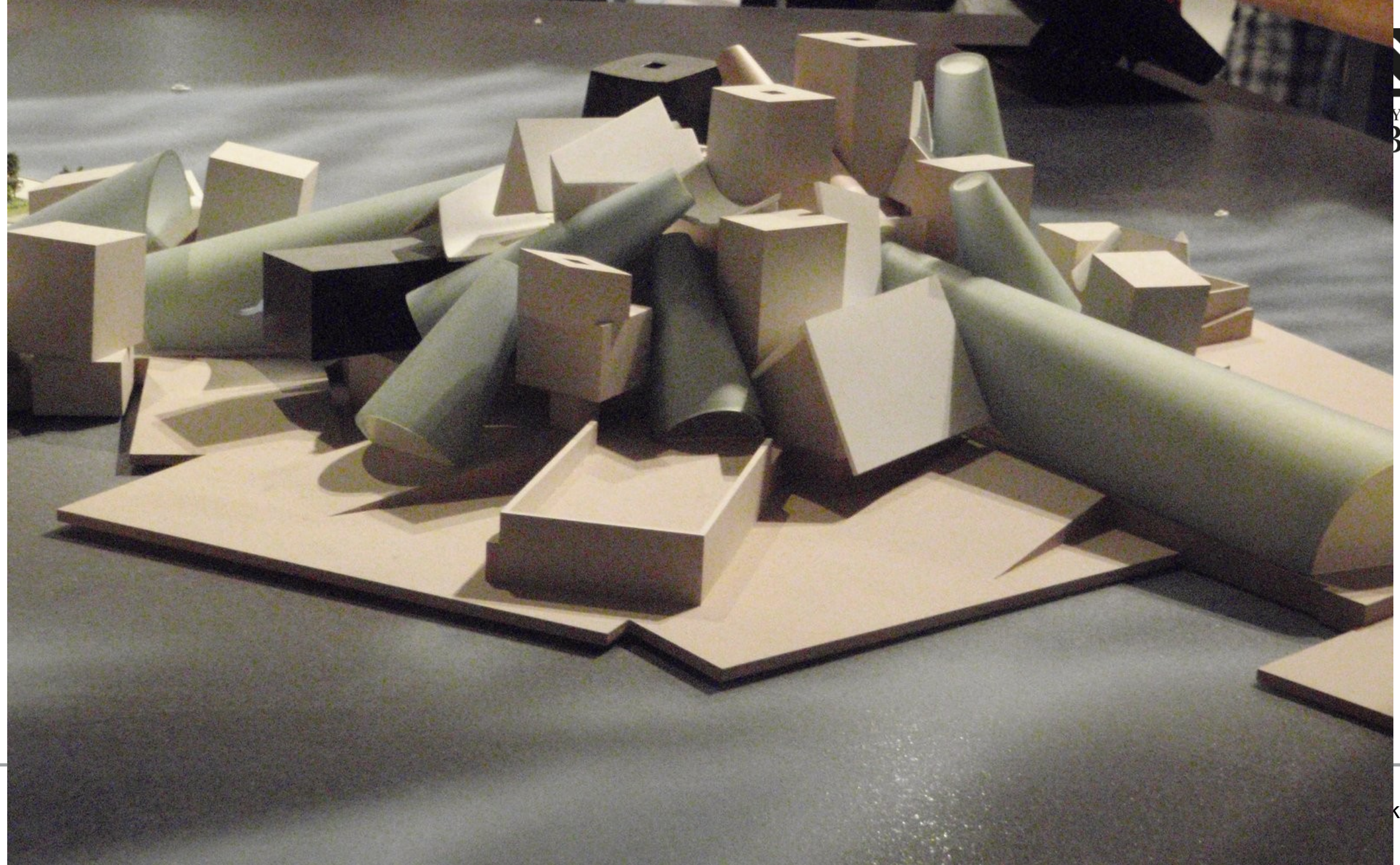
What's a primitive?

- Primitives are simple geometric shapes.
  - Any basic drag-and-drop shape from the create menu.
    - The arrow is pushing it in my opinion...
  - No editing of shapes!
- Using these we create basic forms to represent the level.



Similar process to set design

- Create basic forms to represent the core framework of the “set”
- We can then add more detail iteratively to move towards the final level design.



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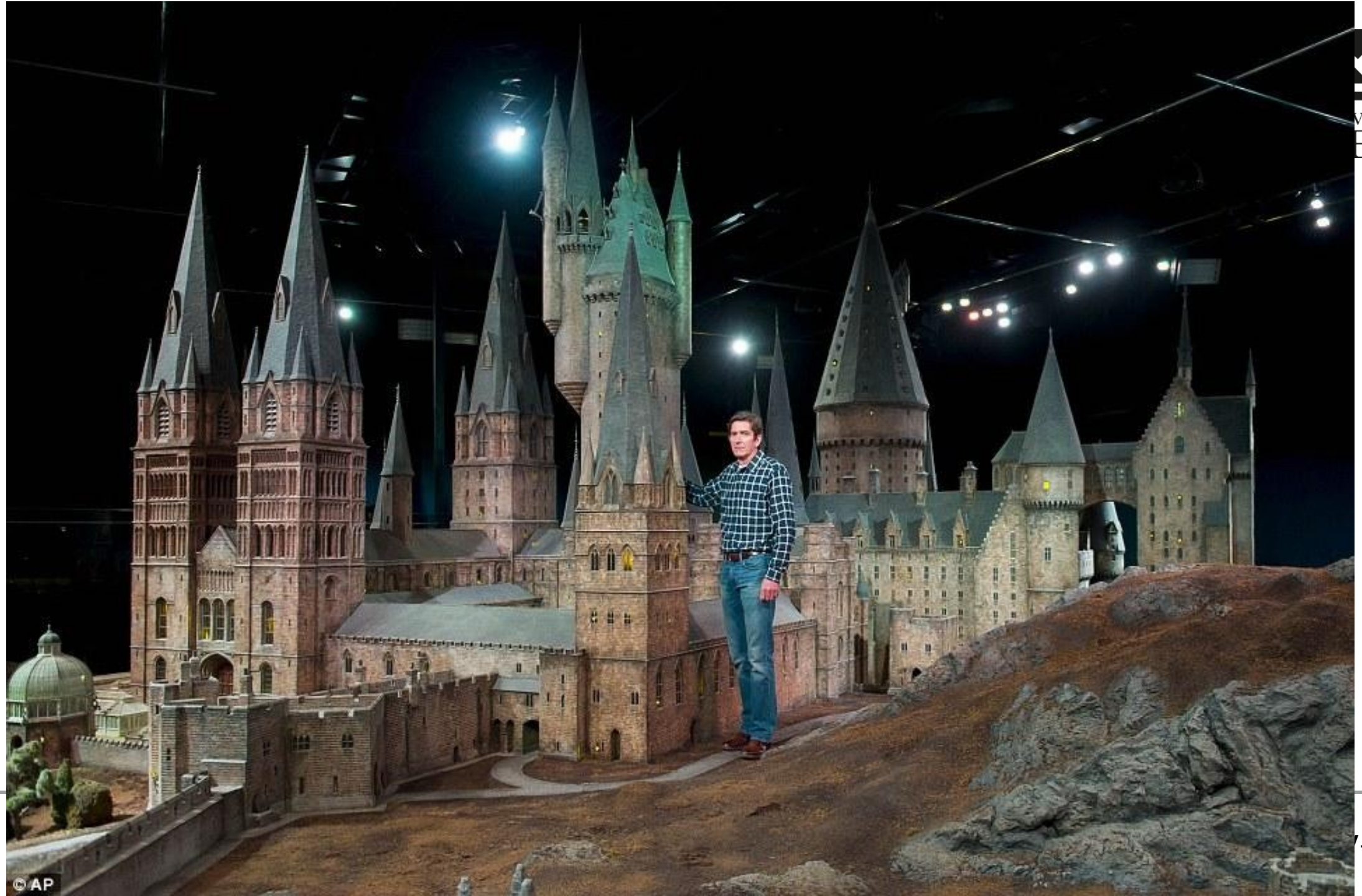
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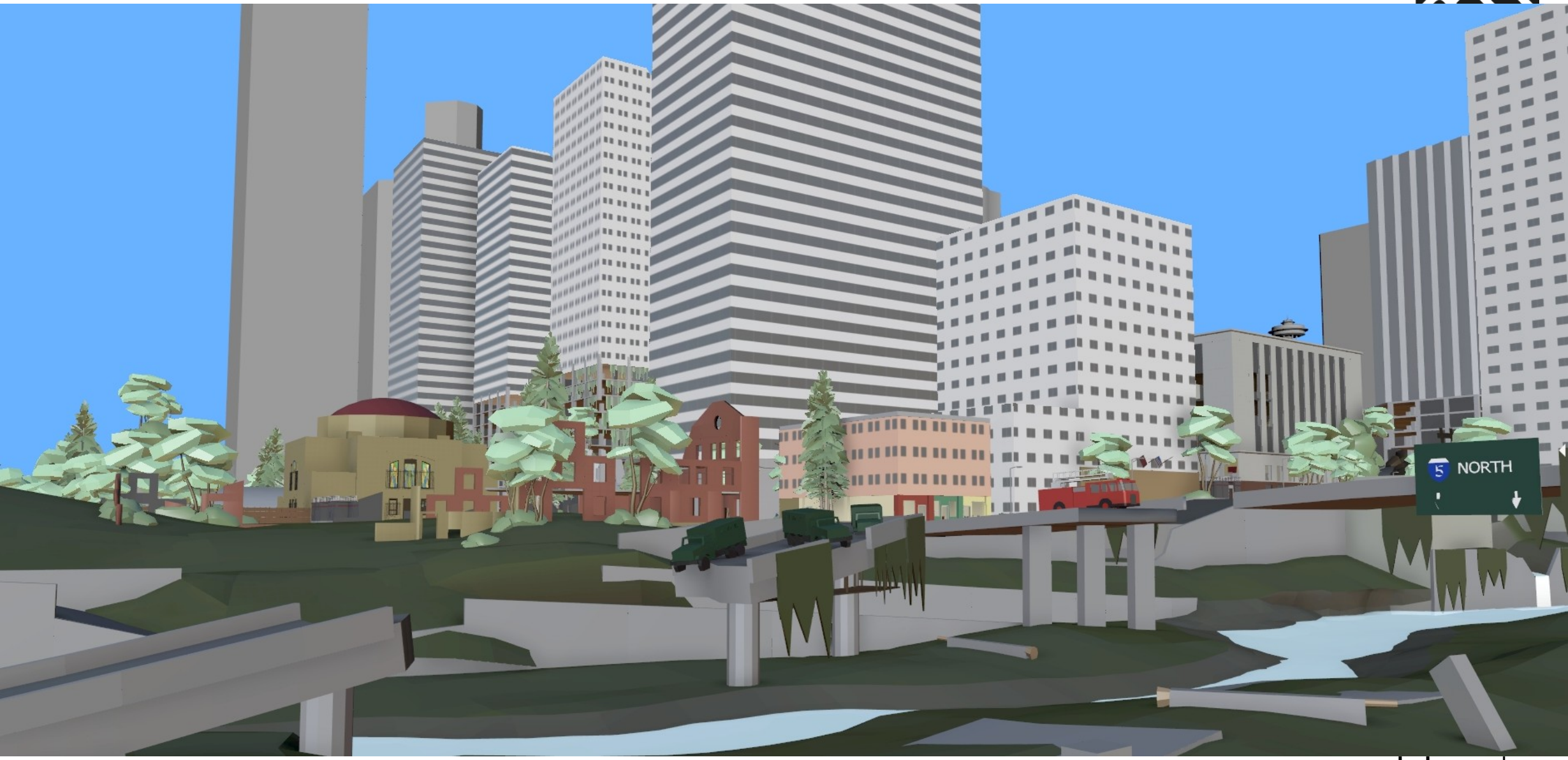
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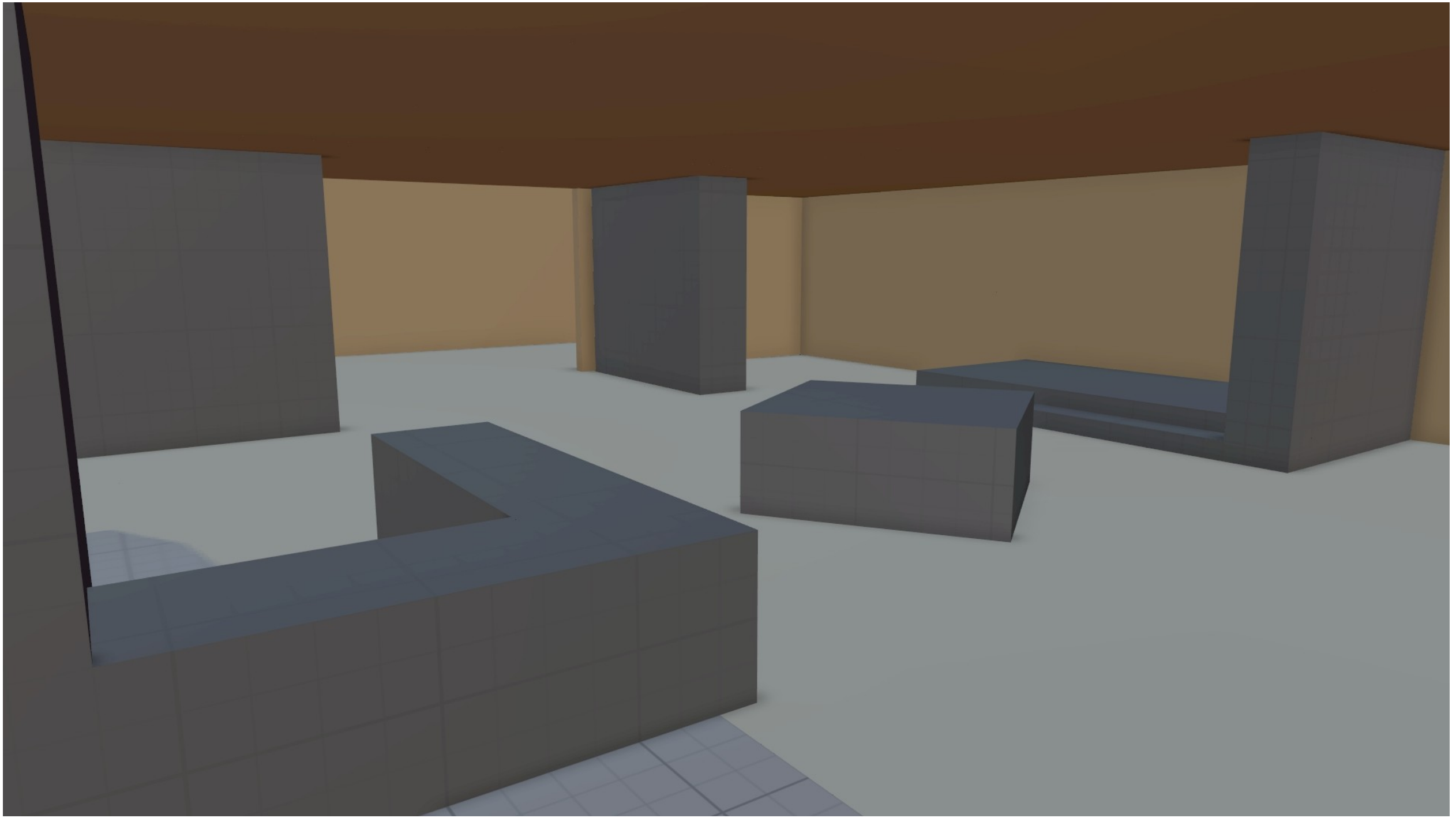
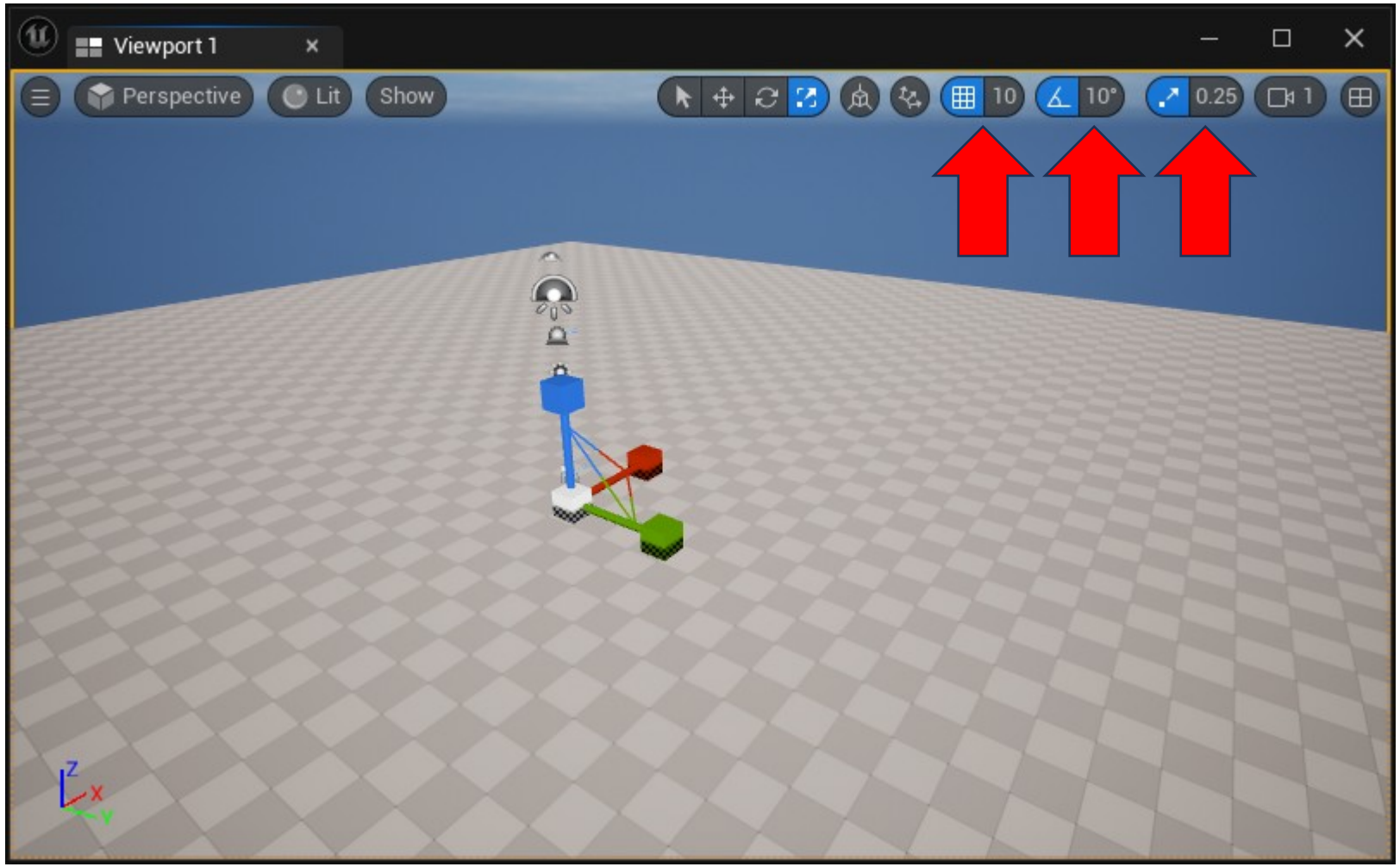


So how do I do this?

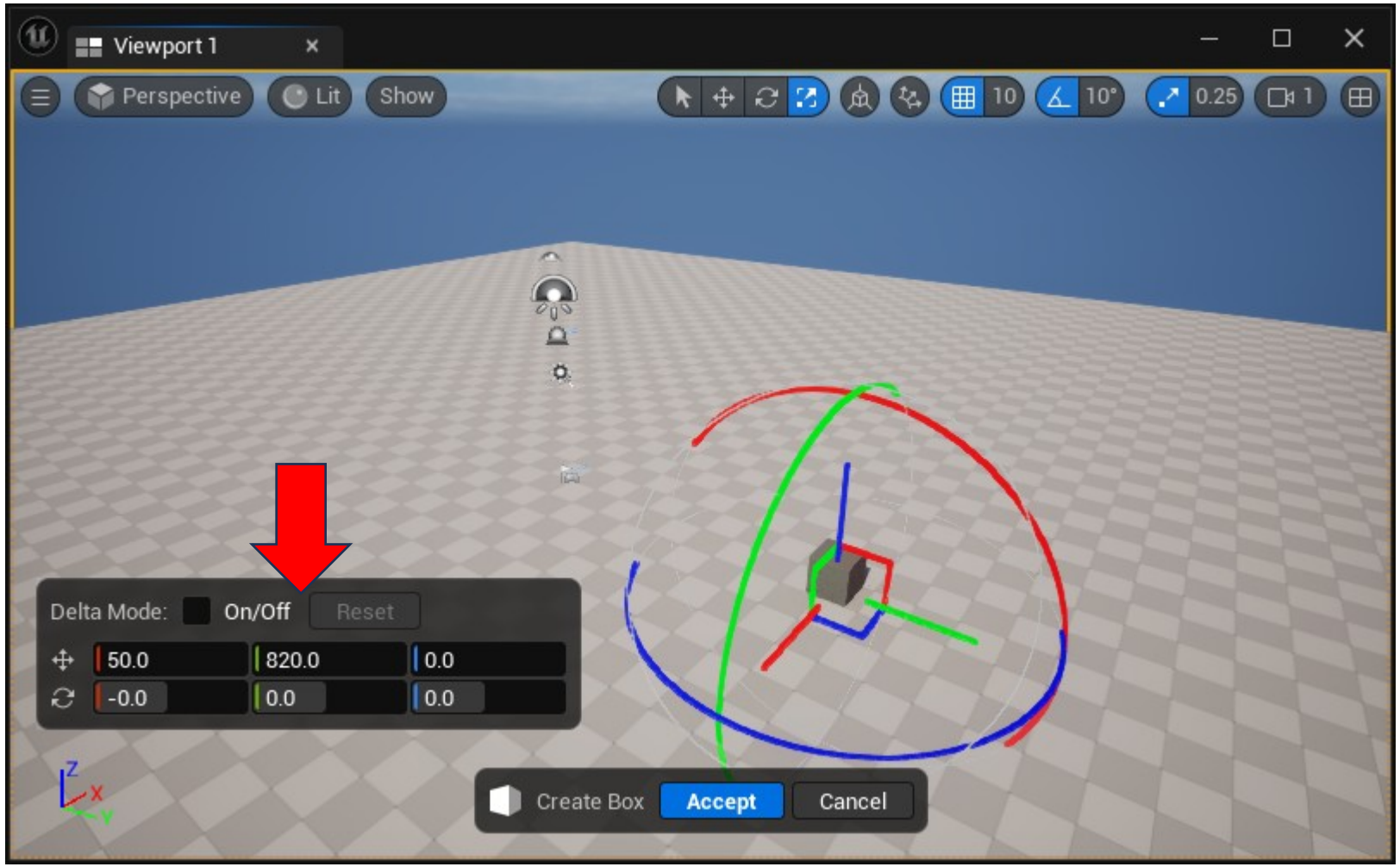
- Quickly!
  - Seriously don’t spend huge amounts of time just block the space out.

- Mistakes are fine but there's a few things to pay attention to

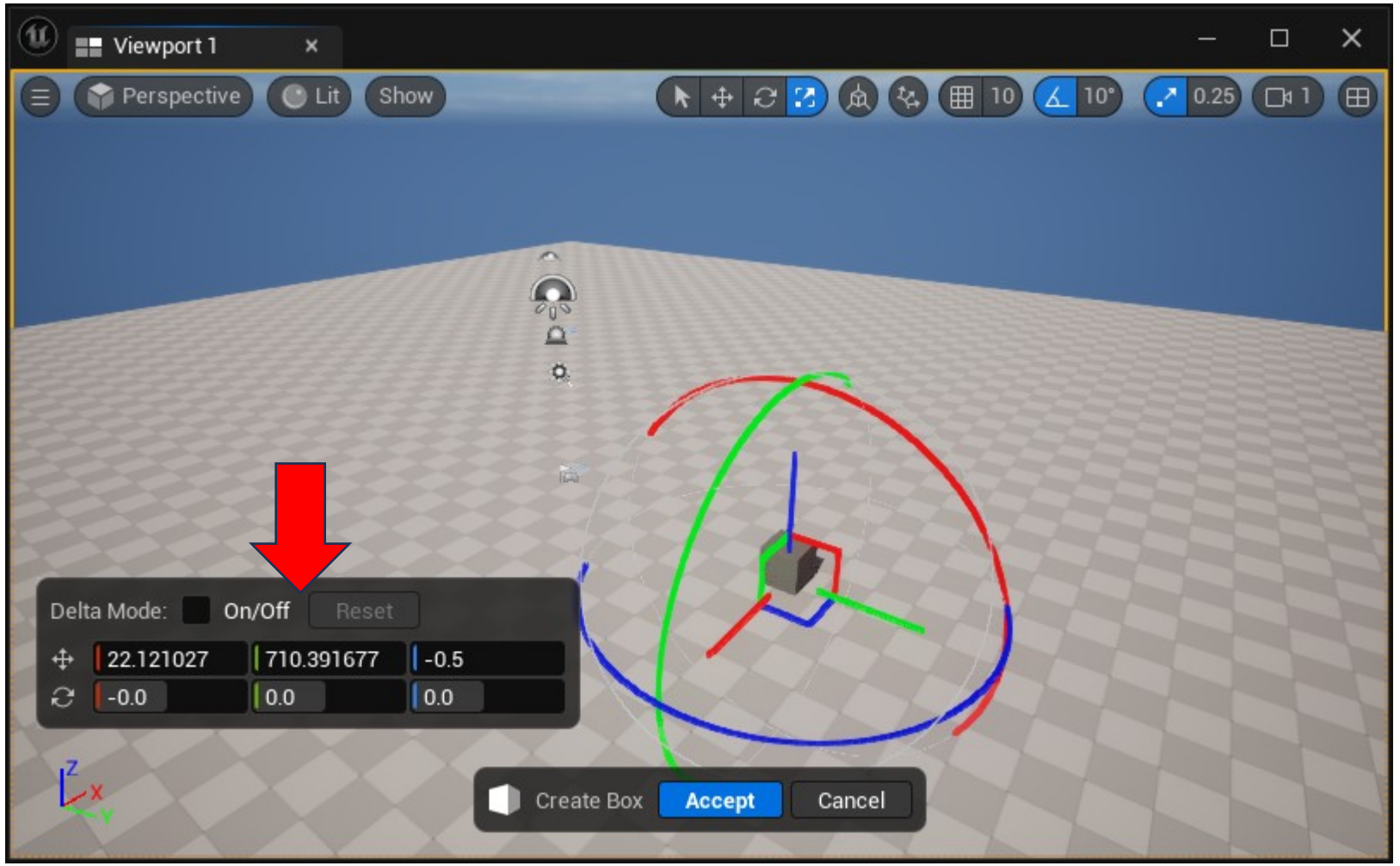
Turn on the snap!



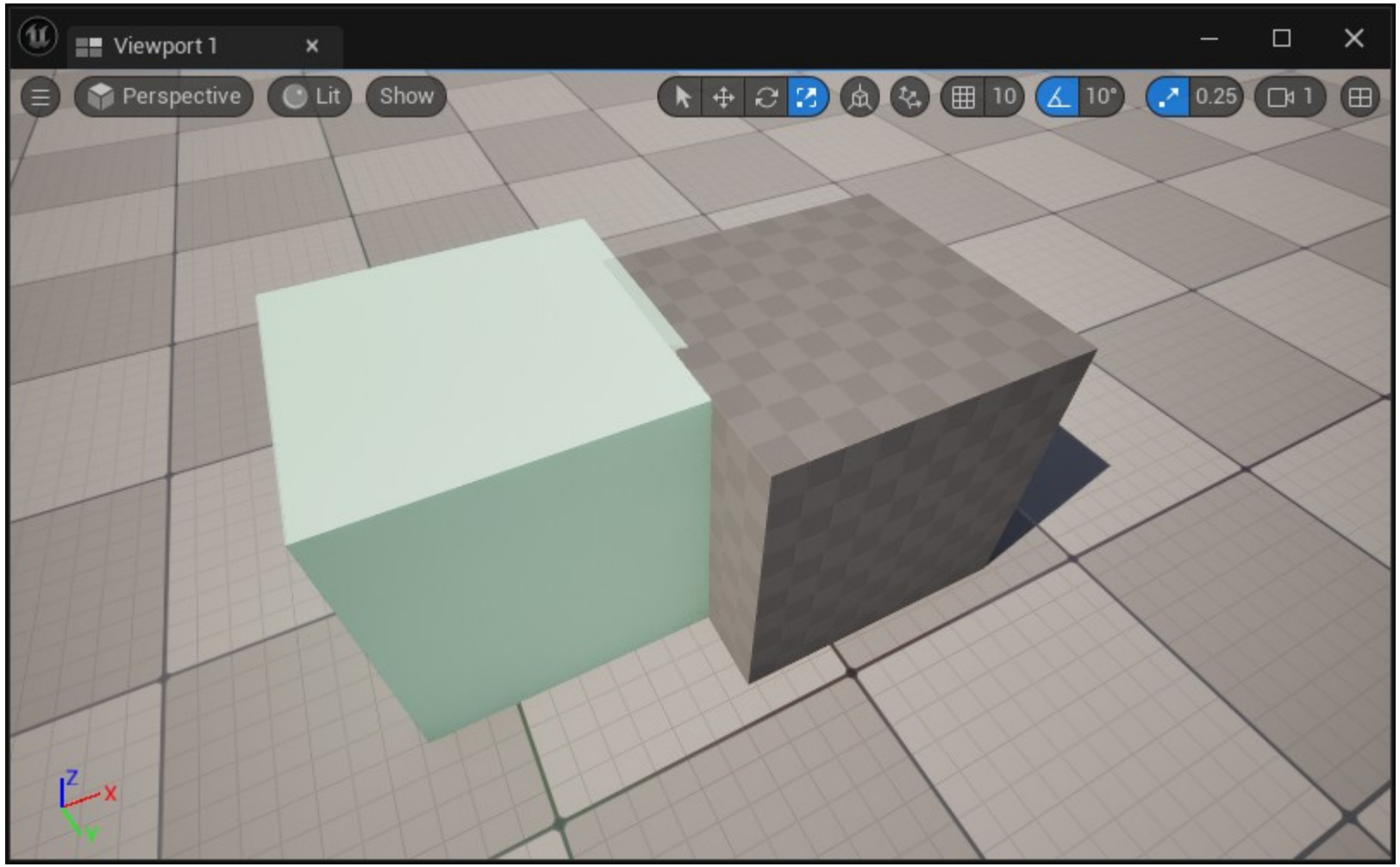
Snapping helps align things correctly



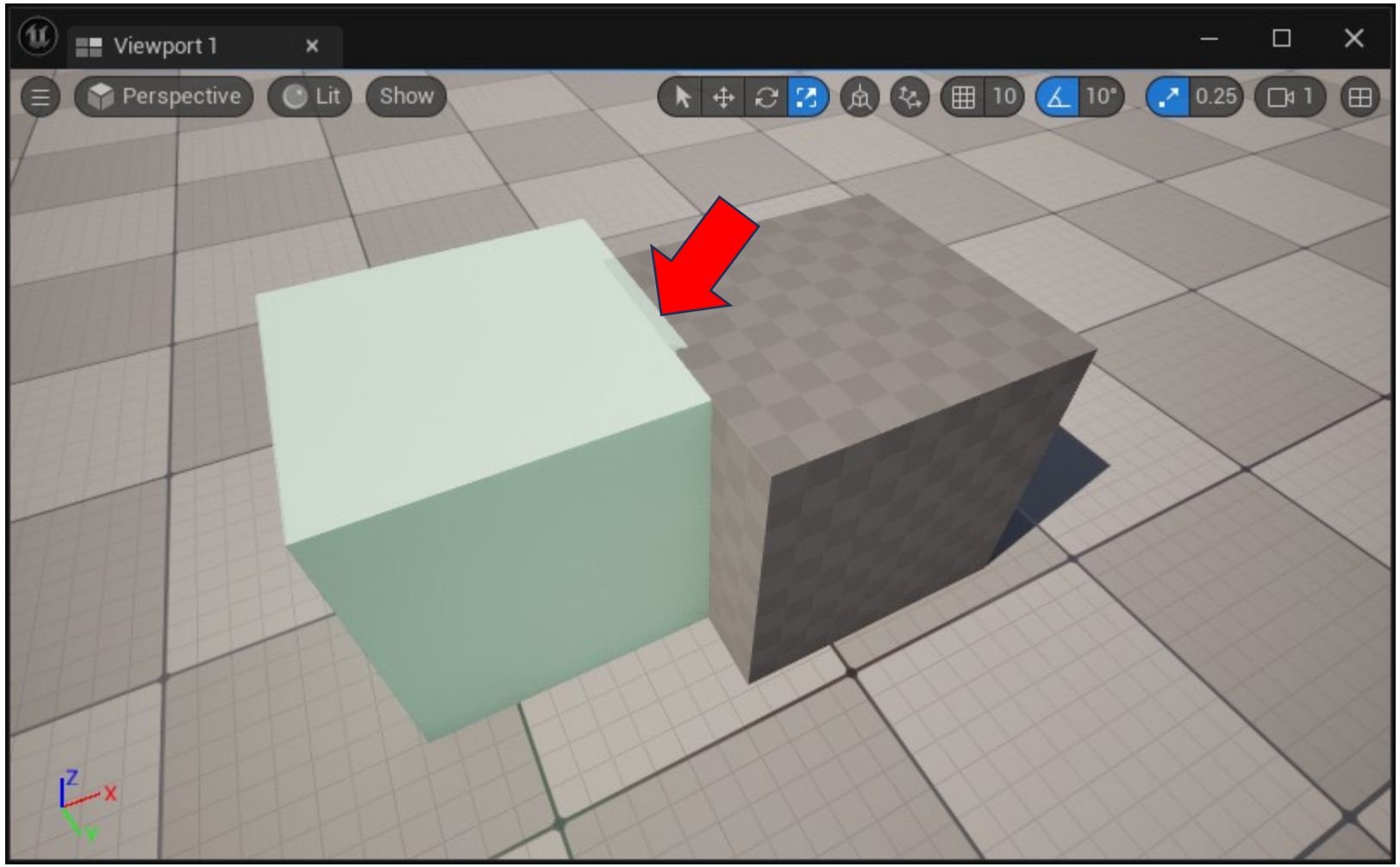
Not a big deal right?



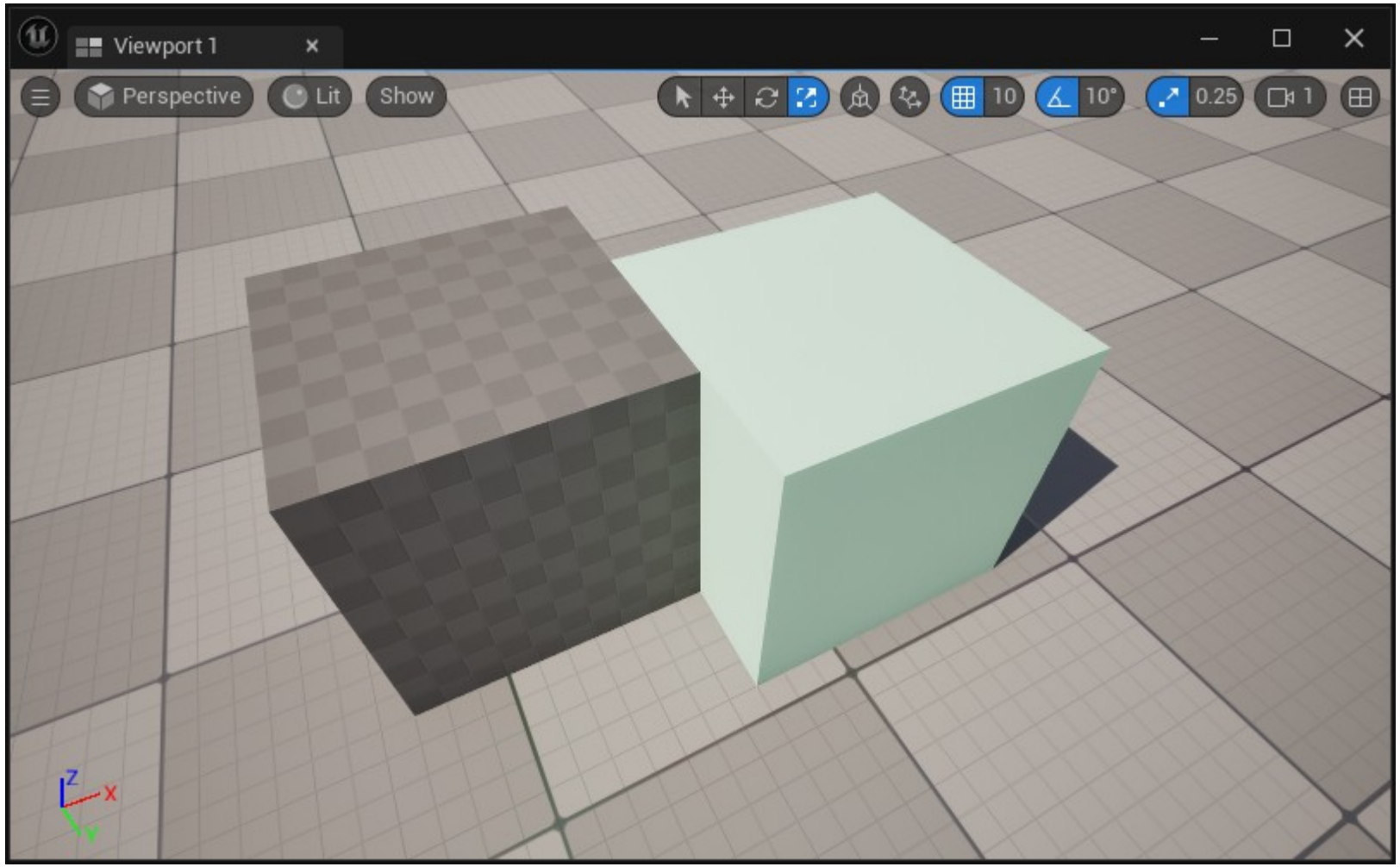
No Snap =(



Z fighting…



With Snap ᴍ



Scale

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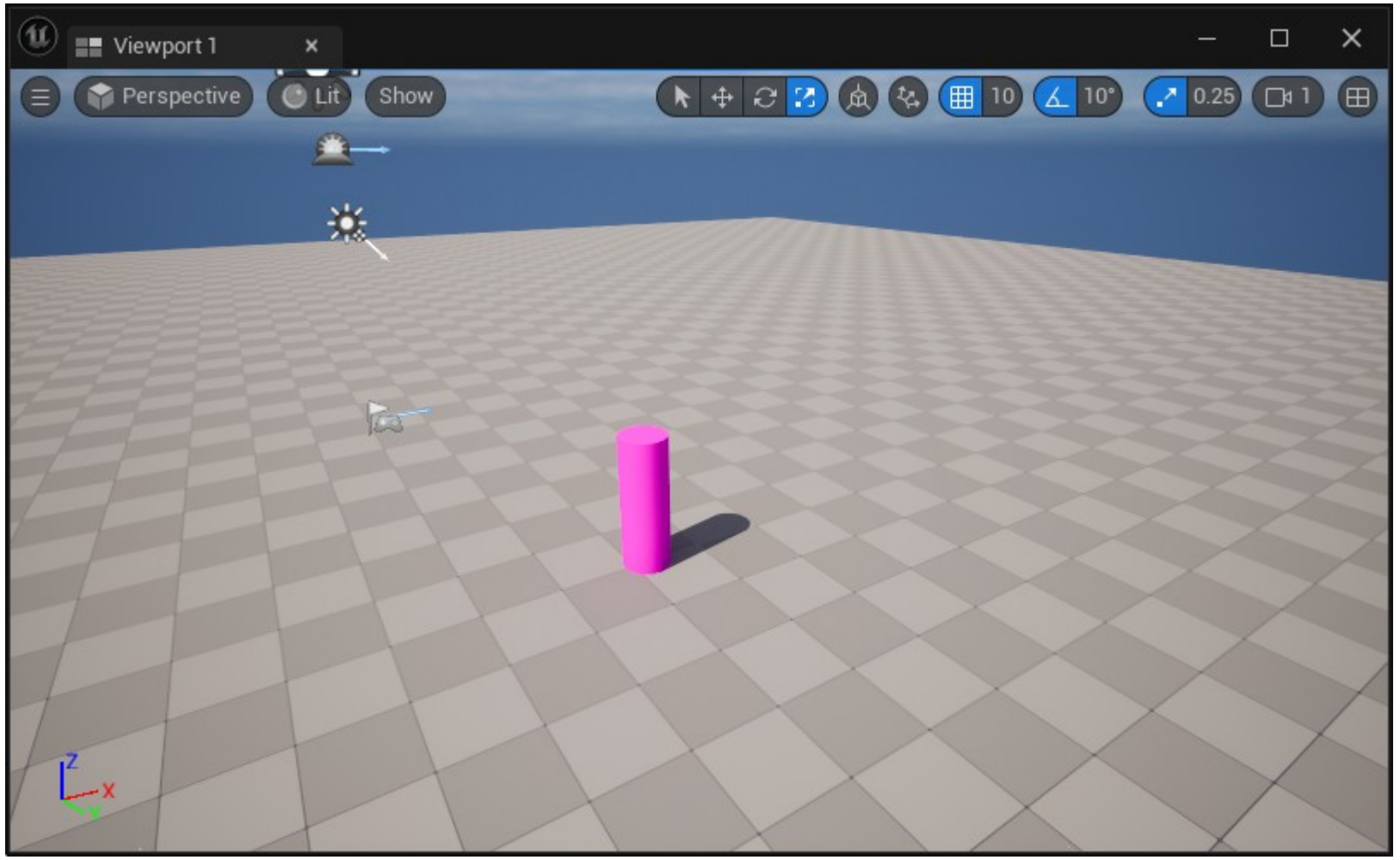
- Everything must be scaled “reasonably”
  - Google real life sizes for a good starting point.

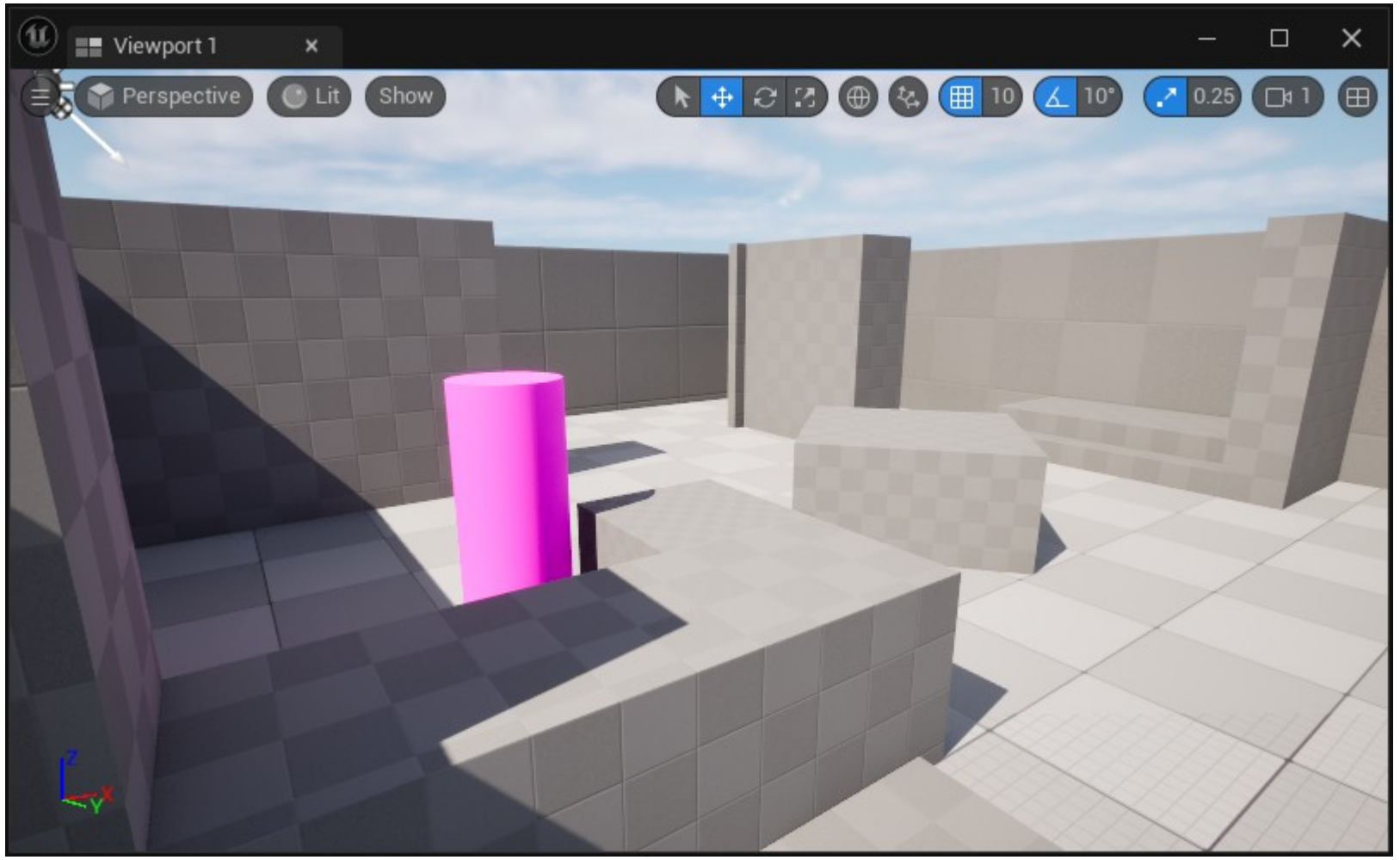
- At this point adjustments can be made, but the closer you are the easier it is.

- Drag out a character mesh to scale things.
  - If it’s not available create a scaling tool representing a character!
    - By default, characters are 180cm tall.
  - Paint it pink!
    - Pink things are meant to be removed later.

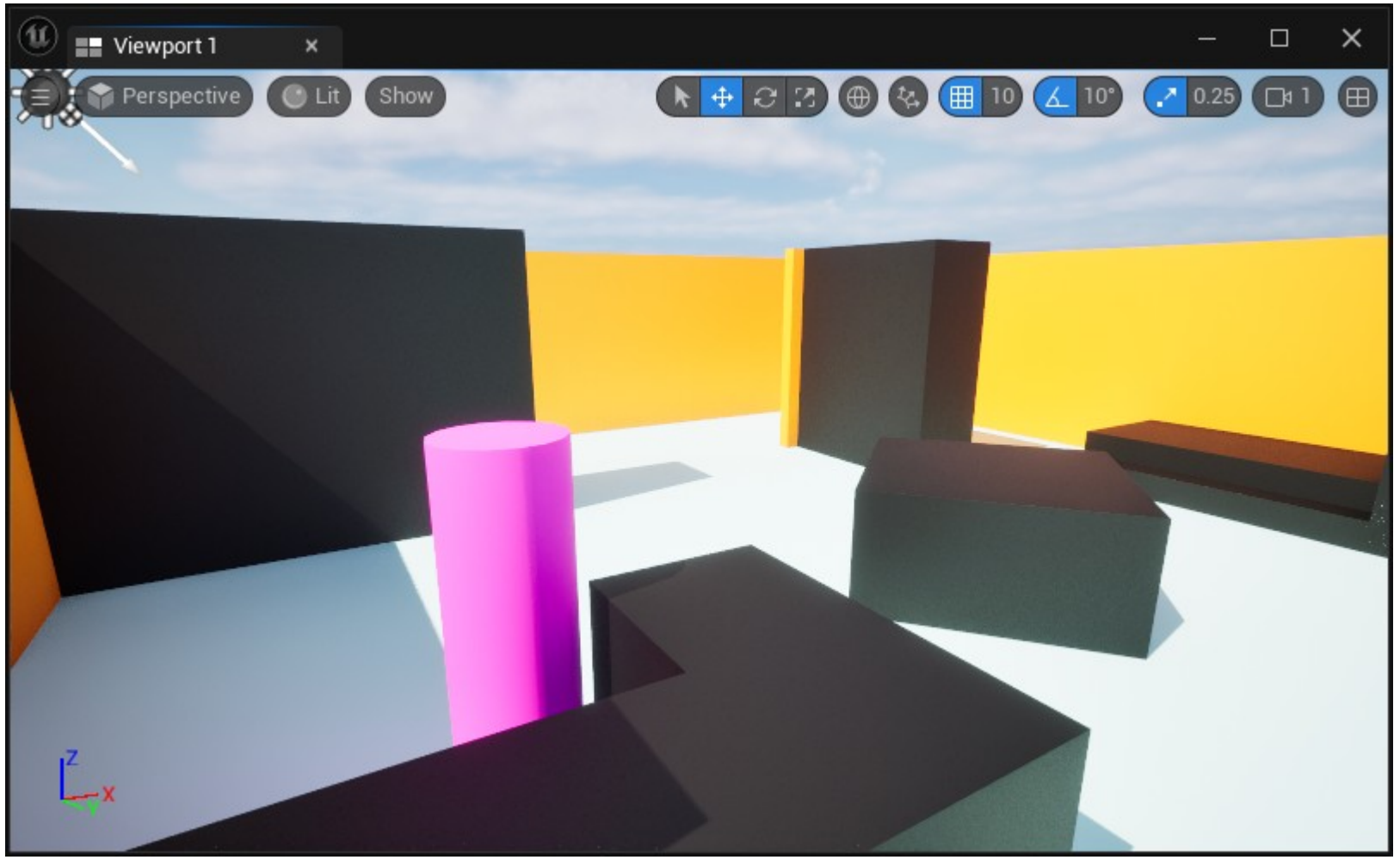
With this…



You can get this



You may also want to add simple colours.

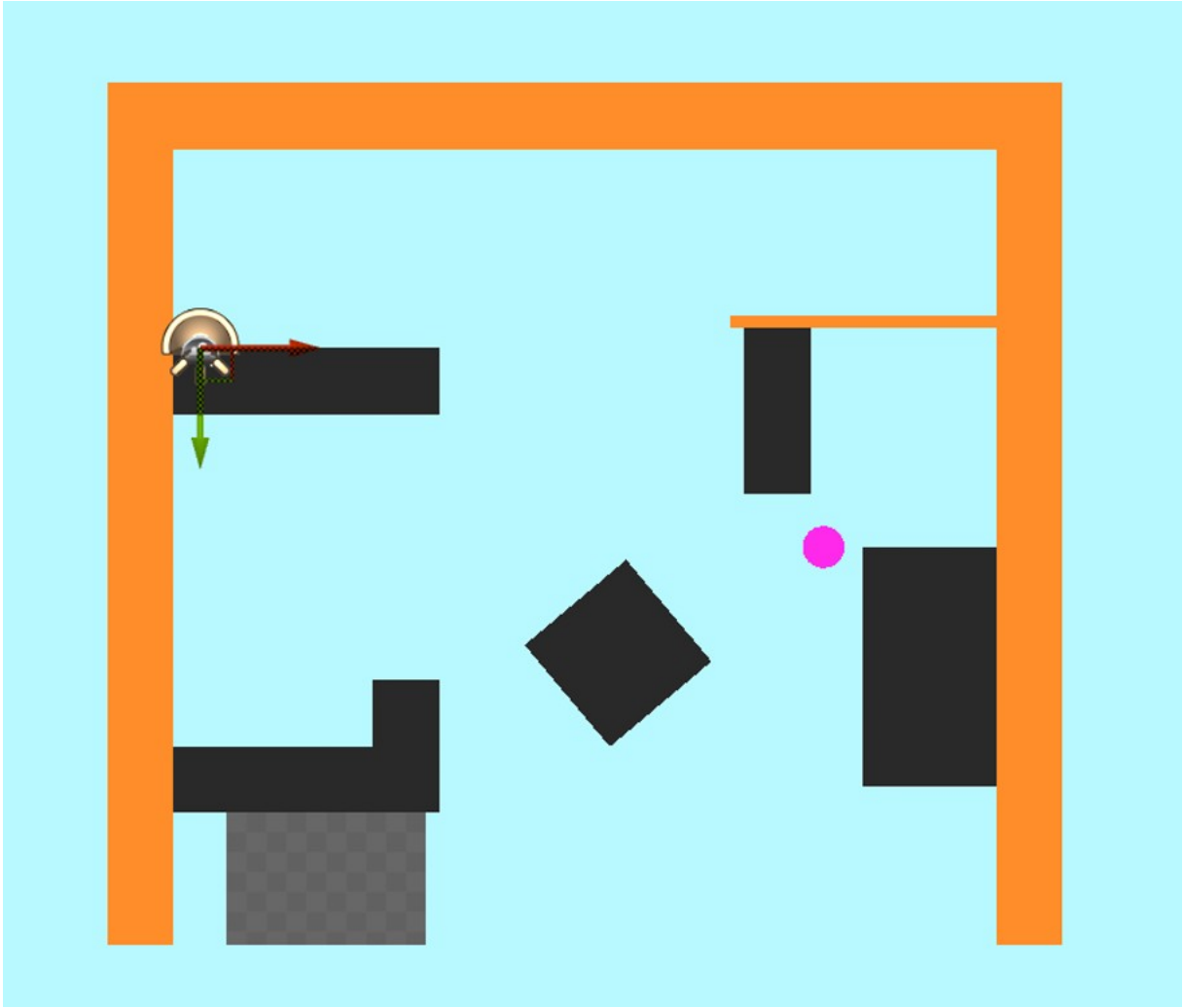


Once finished…

Set the camera to a top-down view.

Take a screenshot.

Use it to plot the path through the level



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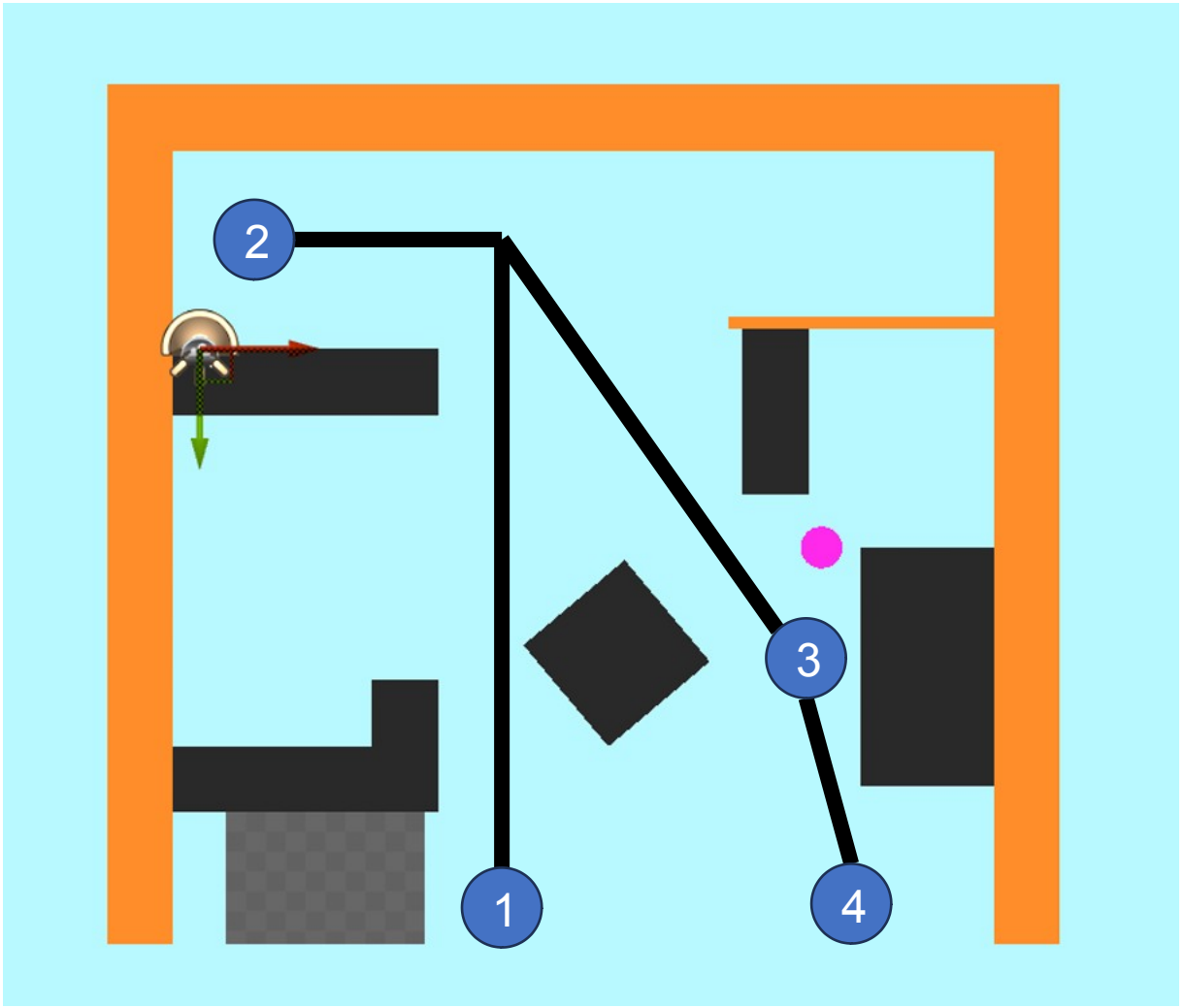
Quick and easy ^^



Once finished…

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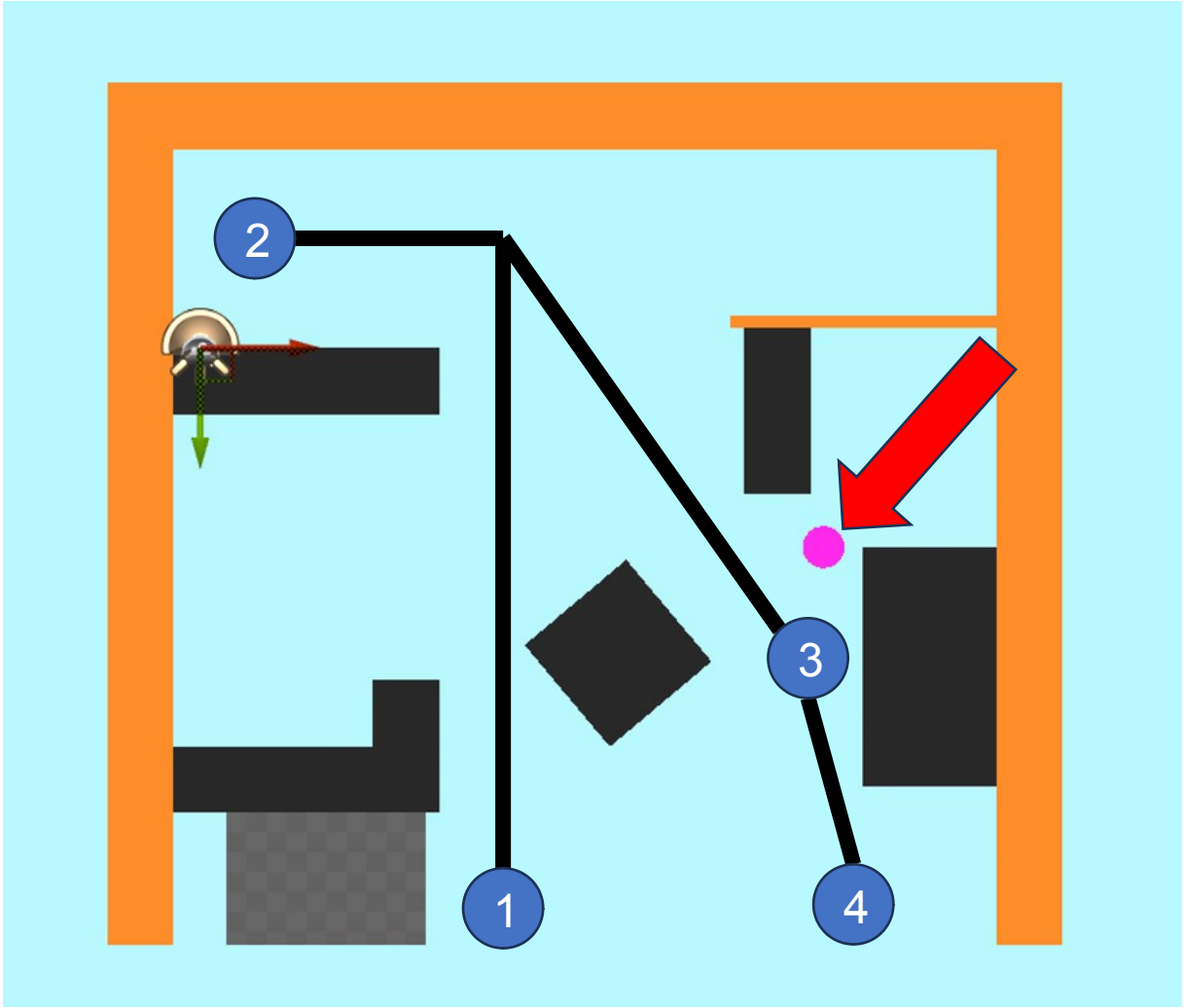
Don’t forget to remove the scaling actor!



This takes practice and imagination

- You don’t need to be perfect…
- Its fine to change your mind and adjust things
- Its also a good idea to name objects as to what you think they are…
  - Makes the replacement process easier.

https://cdn.artstation.com/p/video_sources/002/168/810/chapel-progress-render-01.mp4

Homework

- Go block out a level.

- Give it a go, standard process have a go bring it in, and we can review it.

- Keep it up. Work now is work you don’t have to do later.