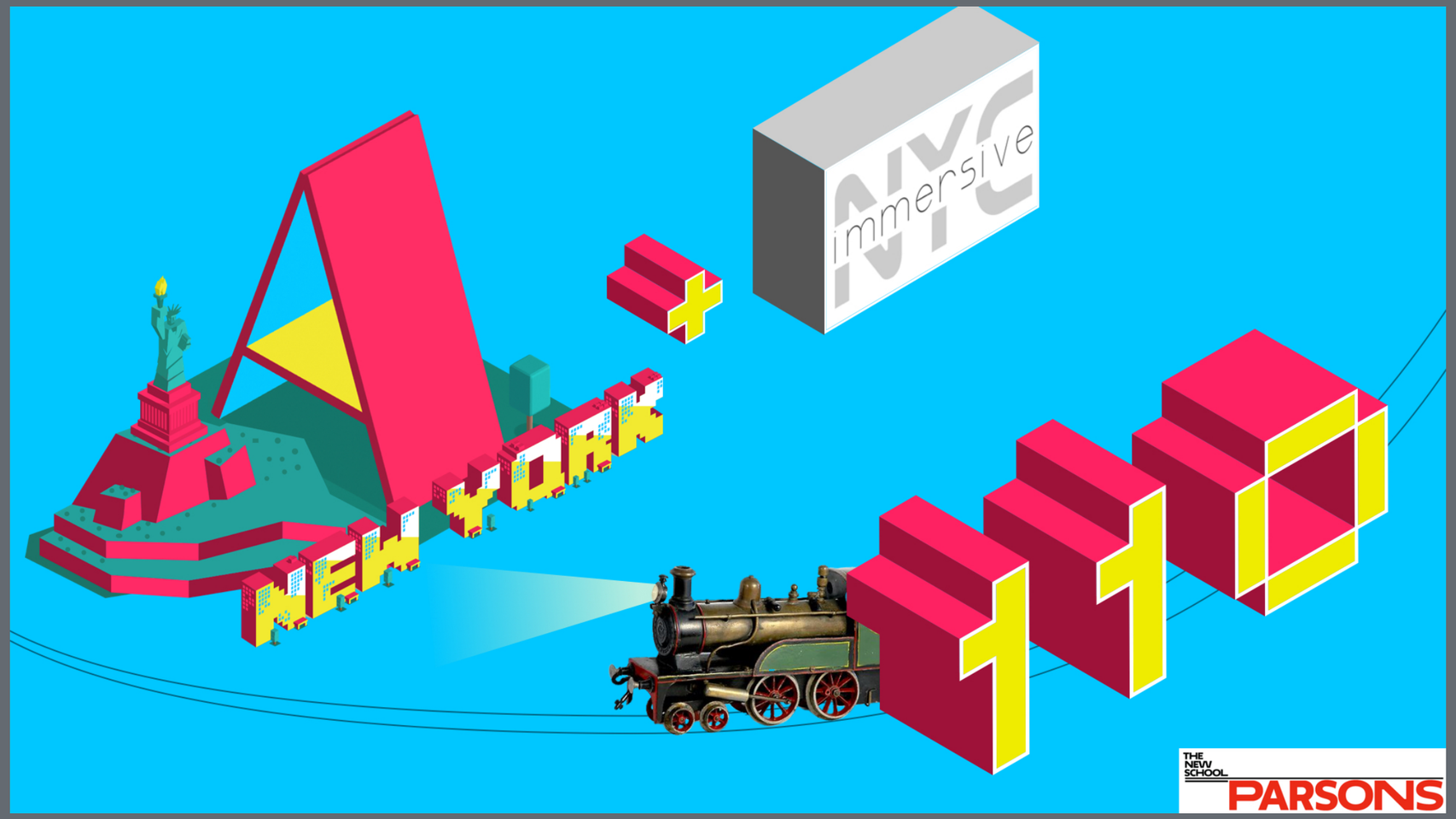
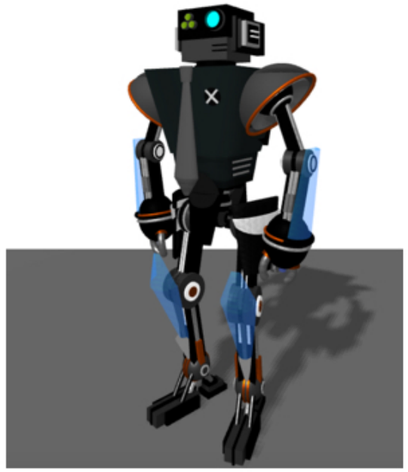
Welcome to A-Frame NYC

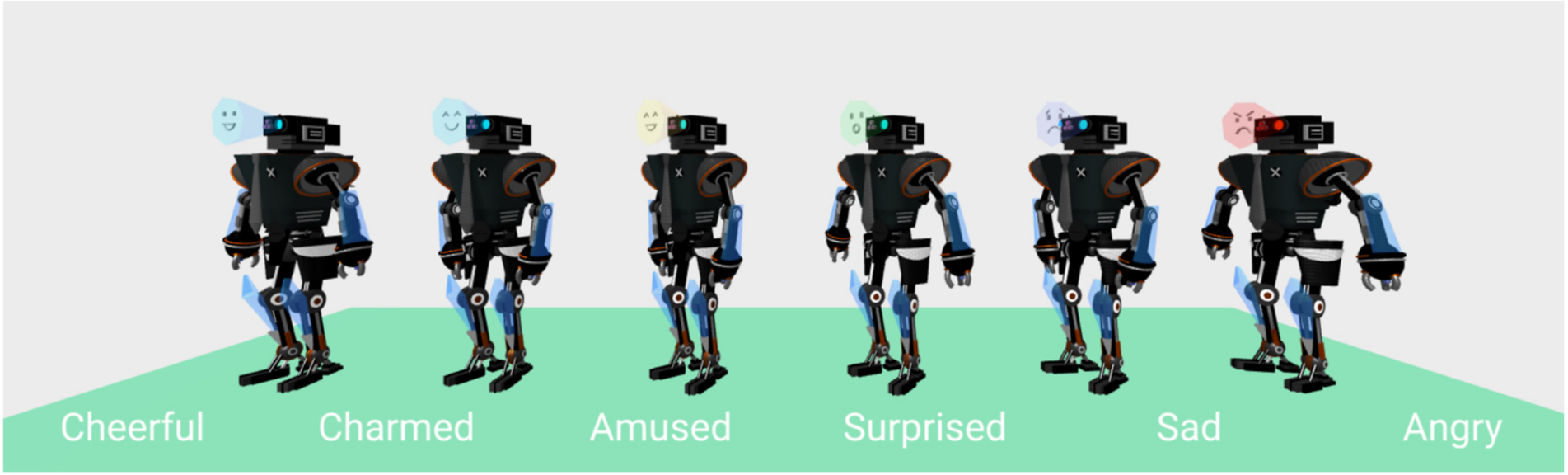


Agenda

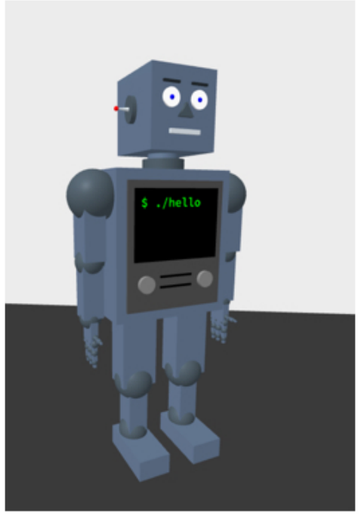
- Show & Tell (30 minutes total)
  - We now have a dedicated Youtube Channel!
  - Members talk about their progress on "A-Robots"
- Presentation (20 minutes)
  - Creating Ambience: Lights, Materials, and Animation
- Formation of workshop groups (10 minutes)
- Workshop (60 minutes)

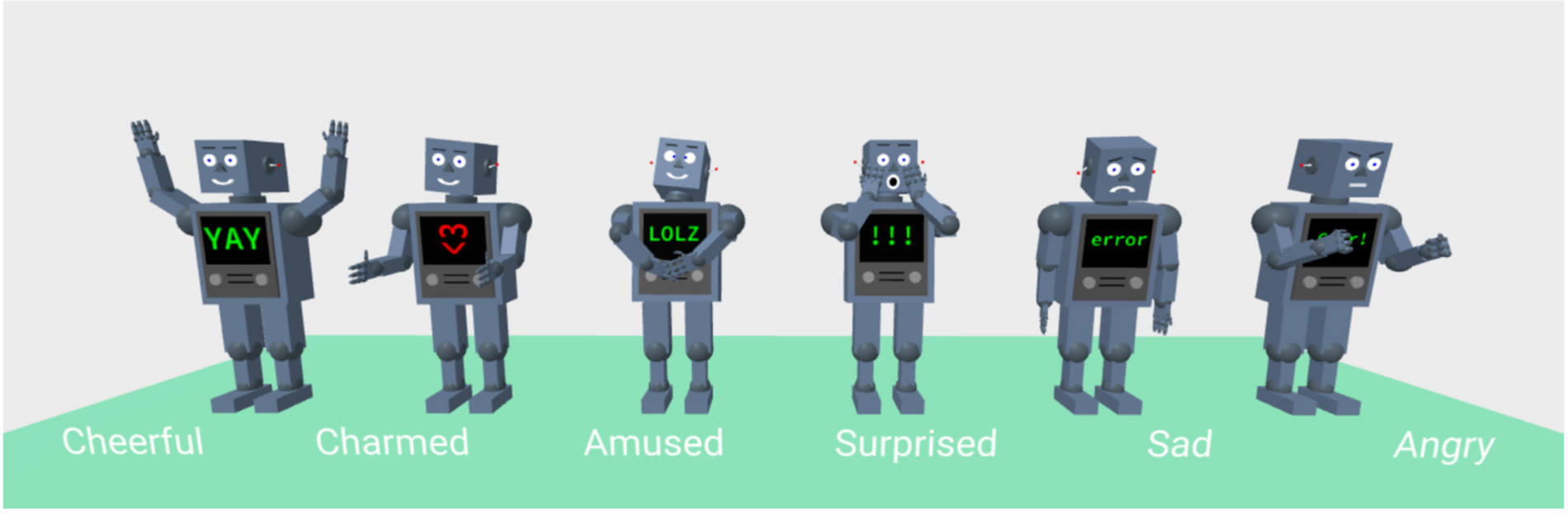
Nigel





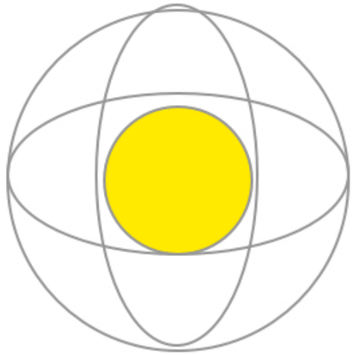
Dustin

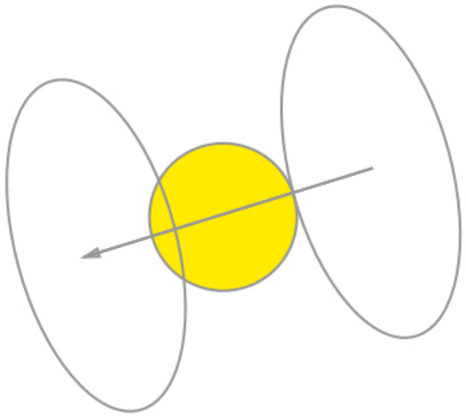




Creating Ambience: Lights, Materials, and Animation

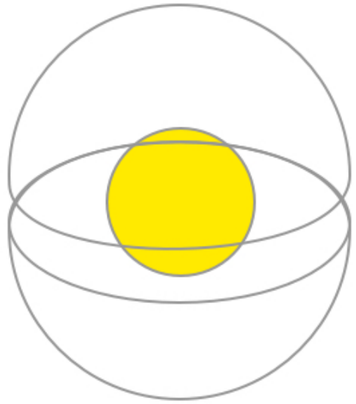
Point Light



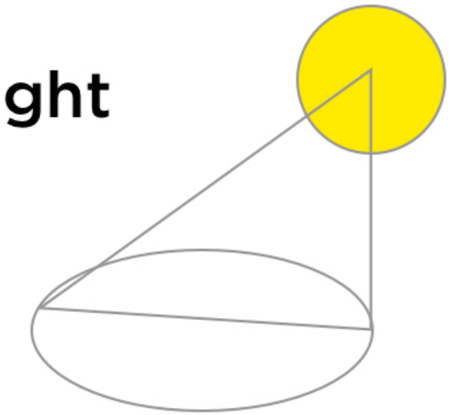


Directional Light

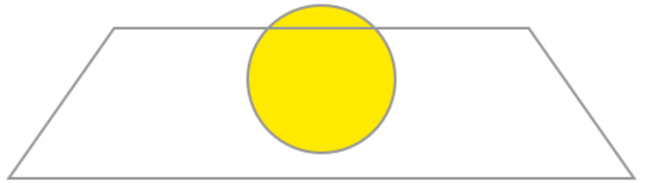
Hemisphere Light



Spot light



Ambient Light

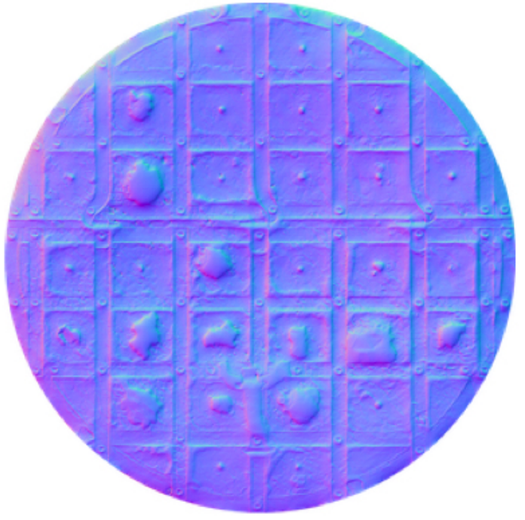


Syntax: Directional Light

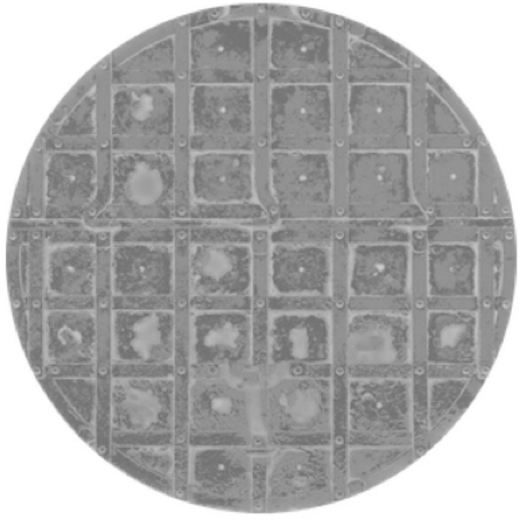
```
<a-entity
  light="type: directional; color: #EEE; intensity: 0.5"
  position="-1 1 0"
  ></a-entity>

<a-light
  type="directional"
  position="0 0 0"
  rotation="-90 0 0"
  target="#directionaltarget">

  <a-entity id="directionaltarget" position="0 0 -1"></a-entity>

</a-light>
```

Original

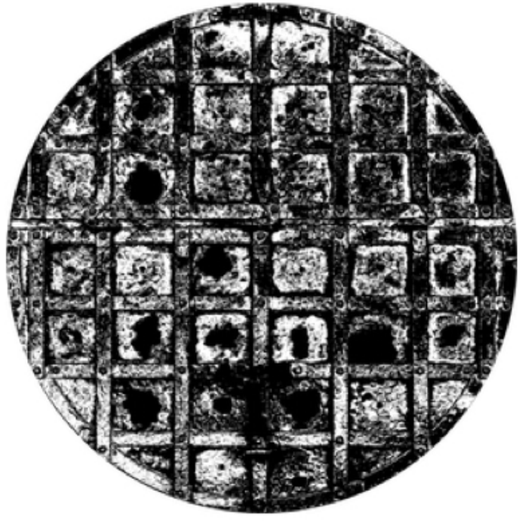
Base Color



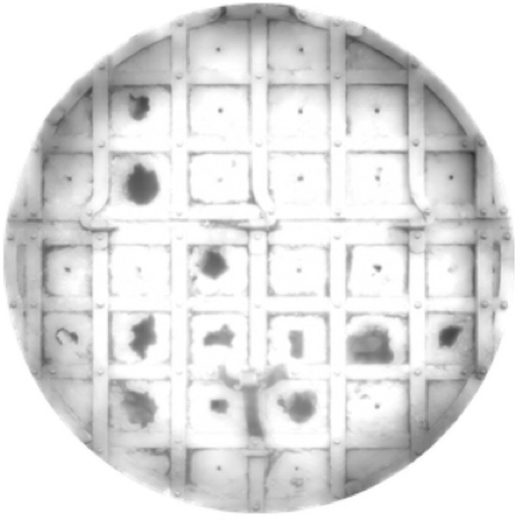
Normal Map



Roughness



Metallic



Ambient

Normal Map

A normal map is an image that stores a direction at each pixel. These directions are called normals. The red, green, and blue channels of the image are used to control the direction of each pixel's normal.

Roughness

Roughness controls the rate at which the diffuse component blends into the ambient component.
Increasing roughness makes the material have a flatter, more matte appearance.

Metalness

Metalness is a procedural map to control the reflection of a material.
White pixels in the map increase metalness. Black pixels reduce metalness to 0. Intermediate values adjust metalness accordingly.

Ambient

An ambient occlusion (AO) texture map is a greyscale image, with white indicating areas that should receive full indirect lighting, and black indicating no indirect lighting.

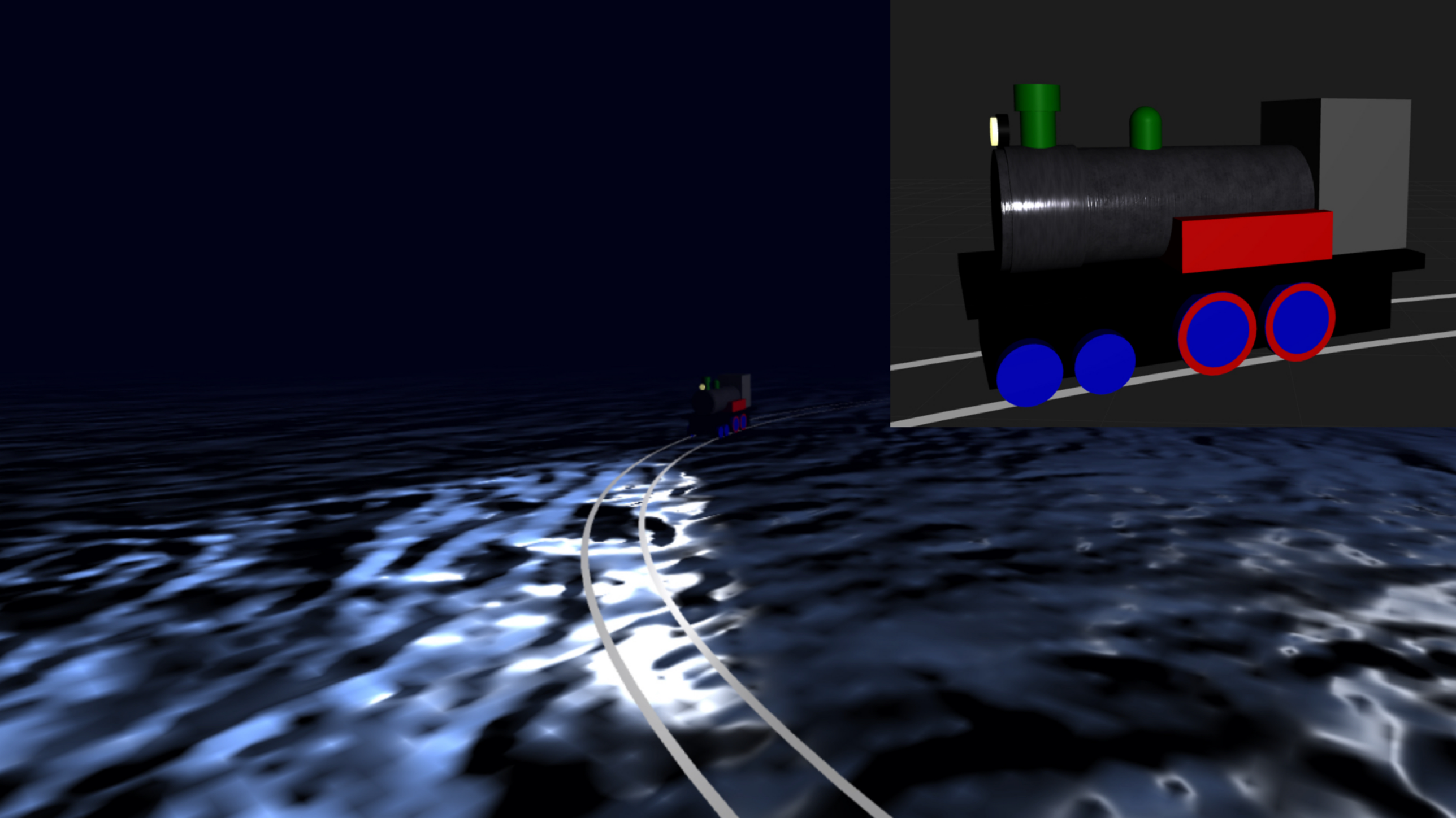
Syntax: Material

```
<a-scene>

  <a-assets>
    <img id="base-color" src="texture.png">
    <img id="normal-map" src="normal.png">
    <img id="roughness" src="roughness.png">
  </a-assets>

  <a-entity
    geometry="primitive: box"
    material="
      src: #base-color;
      normalMap: #normal-map;
      roughnessMap:#roughness;
      color: #fff;
      roughness: 1;
      metalness: 0
      "
  ></a-entity>

</a-scene>
```

A-Train by night demo
A-Train by night edit

Resources:

- https://3dtextures.me/
- https://www.textures.com/
- https://patternpanda.org/

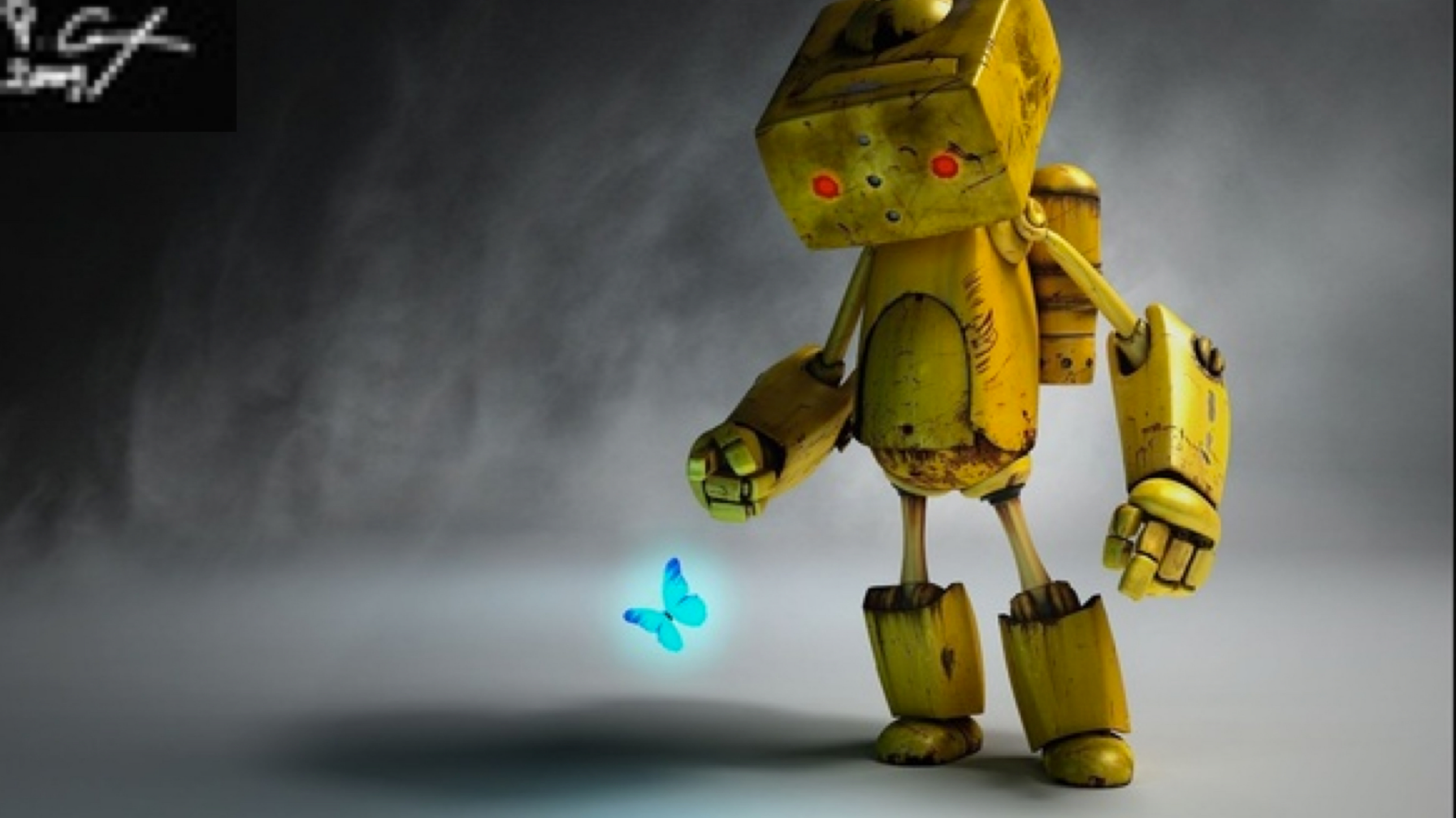



BRICK
TO
THE FUTURE

Take Home Project - Step 3

- Apply textures to your robot
- Pick one of your emotional states
- Create a dramatic scene (lights, textures, environment)
- Take a screenshot and create a cover poster for your Robot

Tip: Think about movie posters, it doesn't have to be complicated.



Discussion & Feedback

- **Members, bring your friends!** We need to grow our active members.
- **Take projects home** and send them in for feedback, we love to collaborate and help you learn. **Share** your projects and get important feedback.
- Catch up on older lectures: github.com/roland-dubois/aframe-meetup-nyc & Suggest topics to cover

@rolanddubois @debraeanderson