

## CS 148 Final Project

### Lily Freer and Mia Crisera

#### Inspiration:

For our project, we wanted to recreate a scene from the LEGO movie. Our inspiration came from one of Lily's favorite movies growing up (The LEGO Movie):

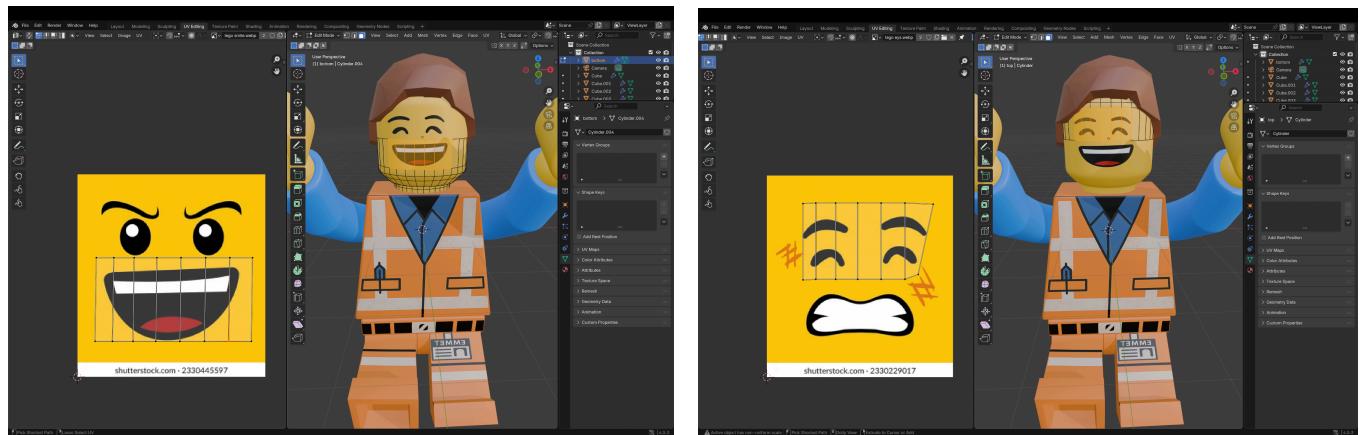


#### Requirements Met:

1. Leveraging the Power of Ray Tracing: We utilized the power of ray tracing within Blender Cycles to create a realistic 3D recreation of a LEGO scene movie. We used a variety of lights in attempts to replicate the scene.
  - a. Area light: We used strong, warm colored, area lights to light the window from the outside, making the windows glow from inside. We also used area lights inside the scene to help achieve our desired brightness .
  - b. Spot lights: Warm colored spot lights were used to light up specific areas. For example, we wanted areas like the floor, plant, and croissant to have extra shine and bounce the light. This also allowed us to create a subtle color bleed.



2. Main Geometry from Scratch: All of the objects in our image were modeled from scratch. We used our reference photo and modeled our objects from basic geometry using the tools available in Blender's Edit Mode.
3. UV Mapping and Texturing from Scratch: We UV unwrapped the lego man's outfit and face with images found online(linked at the bottom). Specifically, for the face, we like the smile of one image and the eyes of another. So, we cut the head in half so we could apply different images. We generated textures using Blender's material nodes. For our texture, we created a basic, scratched plastic material following a Youtube tutorial and applied it to all of our LEGO objects. We also create the fogged glass from scratch.



4. Blender/Cycles Advanced Feature: Depth of Field: We used depth of field to keep the focus on the LEGO man like the reference photo. By doing this, the table in the form blurred.
5. Compositing and post-processing is NOT allowed: No compositing or post-processing was performed.

### Contributions:

- Lily
  - LEGO man: modeling, UV mapping
  - Lamp: modeling, UV mapping
  - Mug(s): modeling
  - Croissant: modeling
  - Walls: modeling
  - Windows: modeling
  - Cabinet: modeling
  - Lighting
- Mia
  - Couch: modeling, texturing
  - Plant: modeling, texturing

- Table: modeling, texturing
- LEGO man: texturing
- Lamp: texturing
- Mug(s): texturing
- Croissant: texturing
- Walls: texturing
- Windows: texturing
- Cabinet: texturing

**References:**

- LEGO texture Tutorial: <https://www.youtube.com/watch?v=lW3bEspNjtY>
- UV Unwrapping Tutorial: <https://www.youtube.com/watch?v=XleO7DBm1Us>
- LEGO Man tutorials: <https://www.youtube.com/watch?v=KoiZhVeARdk>,  
[https://www.youtube.com/watch?v=vjG3\\_Xww2rY](https://www.youtube.com/watch?v=vjG3_Xww2rY)
- Lego faces image: <https://www.shutterstock.com/search/lego-face>
- LEGO poster image:  
<https://www.worshipthebrand.com/gallery/item/6-illustrations/775-a-popular-band-poster>