CS 148 Project Submission - Ana Nguyen "Retro Barcade"

Reference Photo

Final Image

Variant A

Variant B

Meeting Project Requirements

1. Leveraging the power of ray tracing

Using cycles allowed me to create a retro vibe in the arcade by balancing the amount of shadows with the reflections from neon signs, LED tubelights on the ceiling, emissions from the arcade, slot, and pinball machines, and also low hanging lamp lights to create a nostalgic cozy feel. I was able to make the illumination of the machines more subtle and there are a lot of reflections in the tile ceiling, checkerboard floor, metal tables, glass panel for pinball machines, etc. I could showcase a lot of color bleeding that was common in old arcades at the time with an ambush of bright neon lights, rather than one main subtle illumination in modern rooms today. There was more appreciation for darkness.

This is an example of the scene rendered in eevee.

The lighting and textures were more harsh and less realistic than the final ray traced image.

2. Main geometry from scratch

The arcade machines, including the buttons and joysticks were made from scratch through extruding and manipulating cube, sphere, and torus geometry. The pool table was also made from scratch and I used boolean properties to cut out the circular holes for the billiard balls.
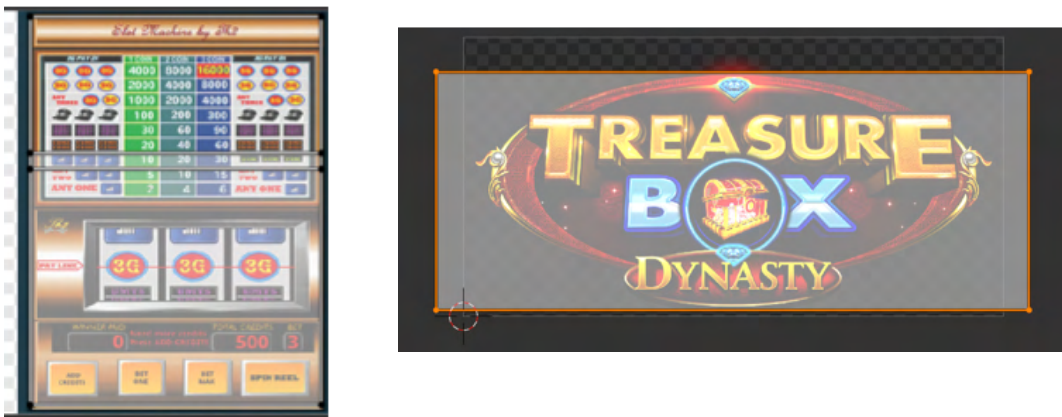
3. UV mapping and texturing from scratch

For UV mapping, I unwrapped each side of the arcade machines and slot machines to add the game sticker decals.
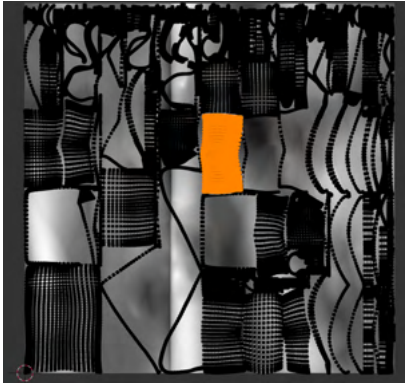
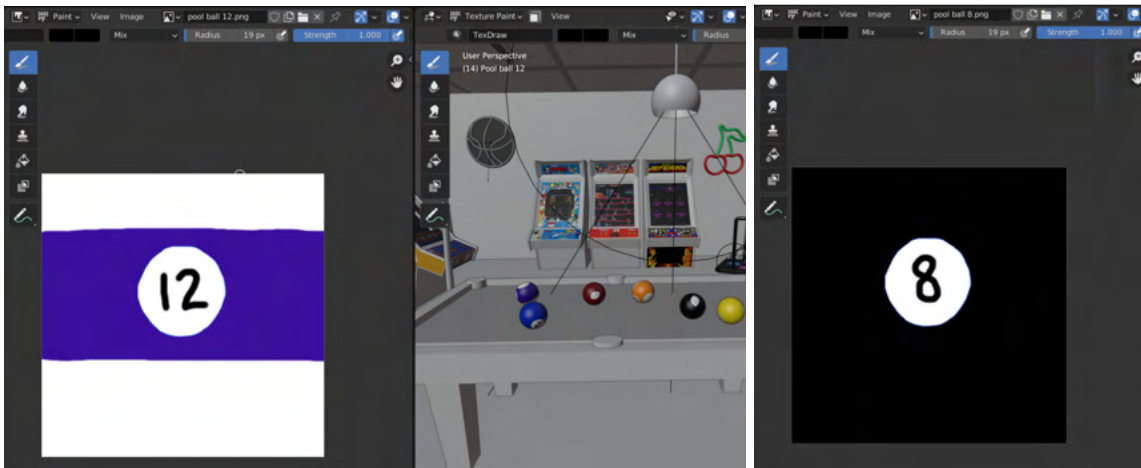Example of pac man arcade machine
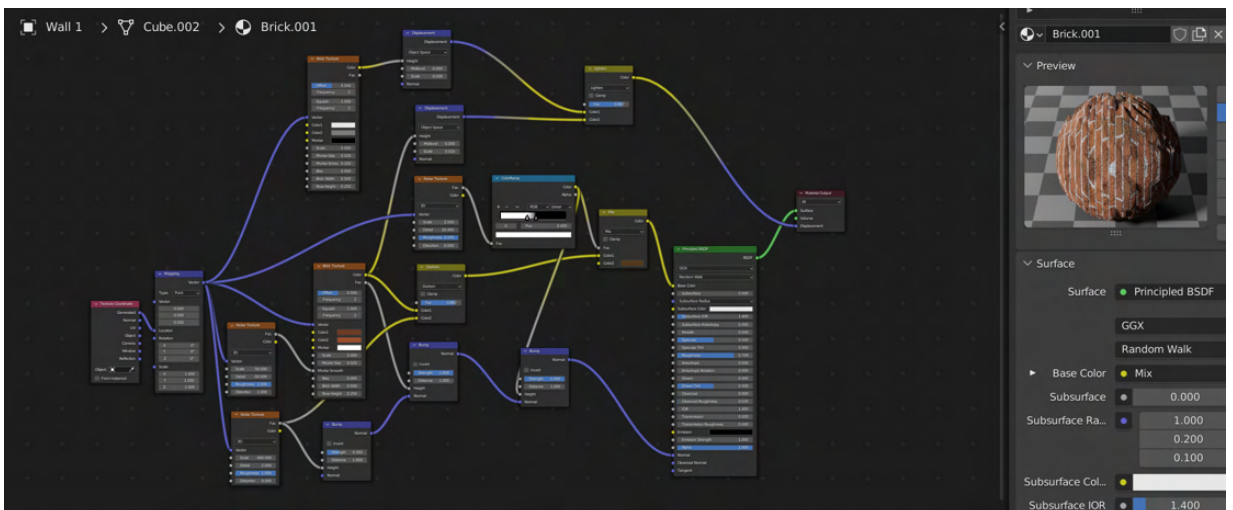

Example from slot machine
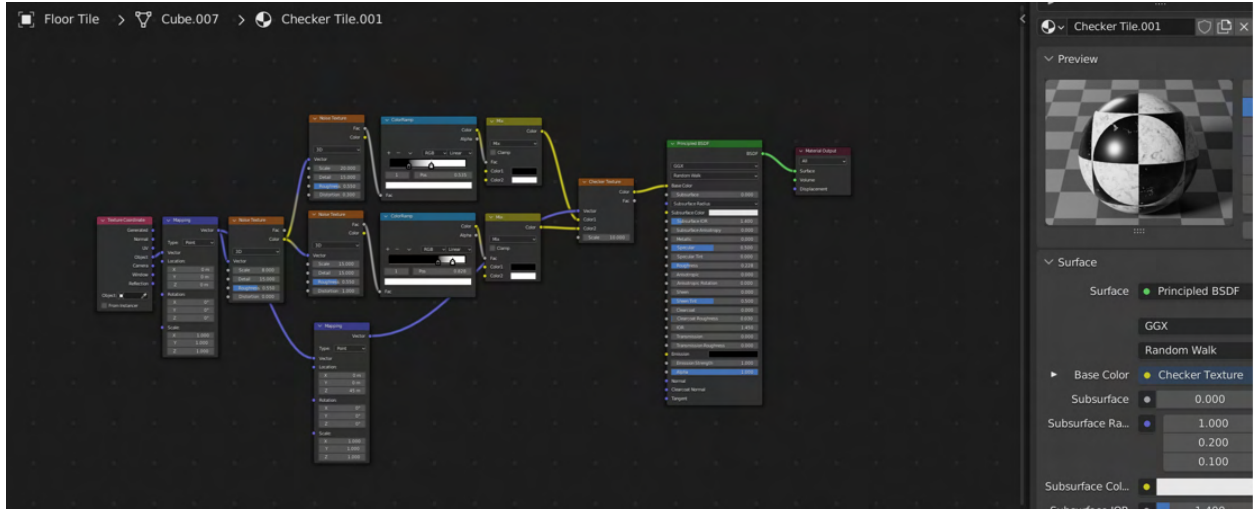
Example for bag

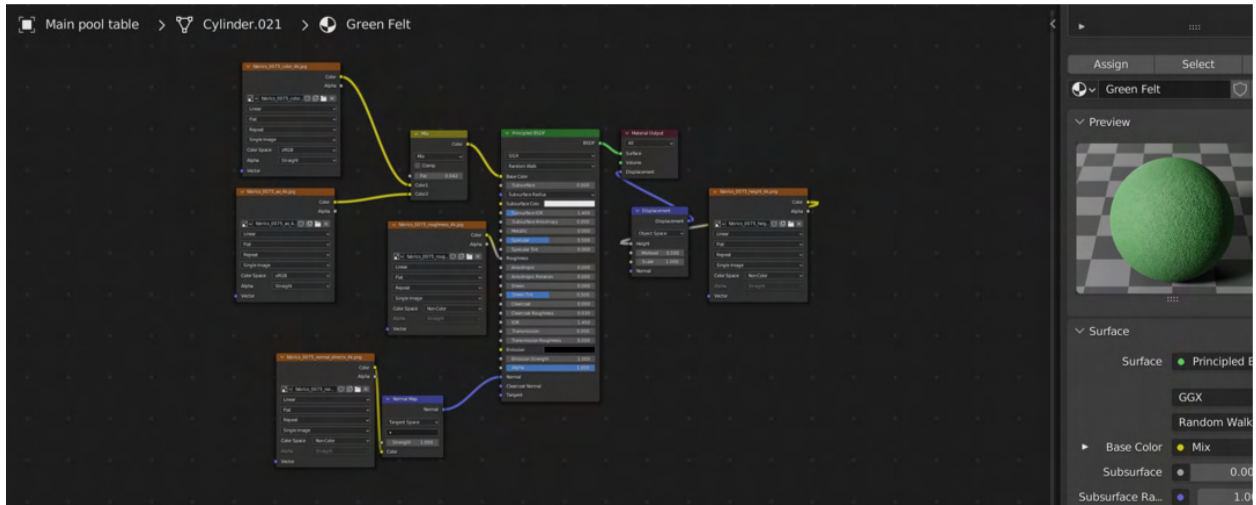I created the textures for the billiard balls from scratch by hand-painting.

I also used procedural generation to make the brick walls from scratch.
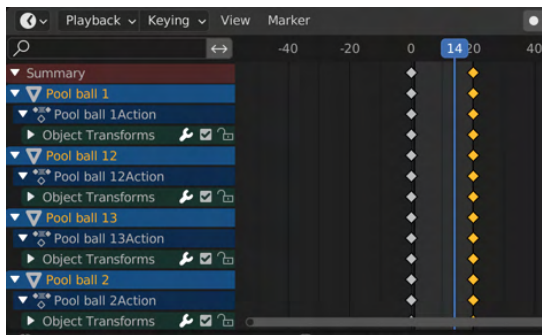
Same with the checker floor

And green felt for pool table

4. Blender/Cycles advanced feature

I used motion blur to make the billiard balls appear to be in play.

5. What each member of the group did

I did all :d

6. Assets / Cite resources

Made from scratch

Models

- Arcade Machines
- Slot Machines
- Pool table
- Cue stick
- Billiard balls (6)
- Hanging lights
- Metal table
- Bar stools
- Glass cup + water inside
- Walls, Floor, Ceiling (Room structure)

Textures

- Neon sign materials
- Grafitti birdstab on left wall (image texture + noise on brick wall texture) https://www.cleanpng.com/png-knife-chicken-as-food-t-shirt-kitchen-knives-6853311/download-png.html
- Brick wall
- Wood
- Green felt
- Checkerboard floor tile

Downloaded Online

Models

- Pinball Machine https://sketchfab.com/3d-models/pinball-final-2b6a4681b1bc4cb7956a6cb6361d9e13
- DDR (Dance Dance Revolution) Machine https://sketchfab.com/3d-models/dance-dance-revolution-80e09c2daea44bf38f22545b04532d74
- LED tubelight https://sketchfab.com/3d-models/fluorescent-light-ii-d0b108c17a2a4e2894bc90b91e72e150

- Backpack - https://www.turbosquid.com/3d-models/leather-backpack-3d-model-1986193
- Neon signs - https://www.cgtrader.com/free-3d-models/exterior/cityscape/cyberpunk-food-sign, https://www.cgtrader.com/free-3d-models/electronics/other/cc0-neon-sign-cherry, https://www.cgtrader.com/items/4303403/download-page, https://www.cgtrader.com/free-3d-models/exterior/street-exterior/game-ready-japanese-signs-set-sign-neon-24h

Textures
- Decal art for all the arcade machines http://vectorlib.free.fr/
- Pinball machine art https://onedrive.live.com/?authkey=%21AJ09yieMeJ0pWaE&id=D0B13AB5C8ABB0B5%21993&cid=D0B13AB5C8ABB0B5 https://www.vpforums.org/index.php?showtopic=26497
- Slot machine texture https://www.pngwing.com/en/free-png-ptygc https://www.freepik.com/premium-vector/gambling-slot-machine-winning-background-with-casino-symbols-777-game-jackpot-screen-with-flying-coins-cartoon-money-prize-vector-concept-banner-game-win-jackpot-illustration_21608951.htm
- Office ceiling tile - https://www.texturecan.com/details/131/#google_vignette
- Leather red - https://polyhaven.com/a/leather_red_02

7. **Tutorials (documents/videos) I referenced**
   Arcade machine - https://www.youtube.com/watch?v=8rbo0dg7TB0
   Brick texture - https://www.youtube.com/watch?v=isizIcxzseU
   Diner bar stool - https://www.youtube.com/watch?v=wUlw11QWRJM&t=62s
   Metal material - https://www.youtube.com/watch?v=YRKIAdMYcr0
   Tile floor - https://www.youtube.com/watch?v=r5rwaimsZs0
   Wood texture - https://www.youtube.com/watch?v=RVEy7Mb5HLg