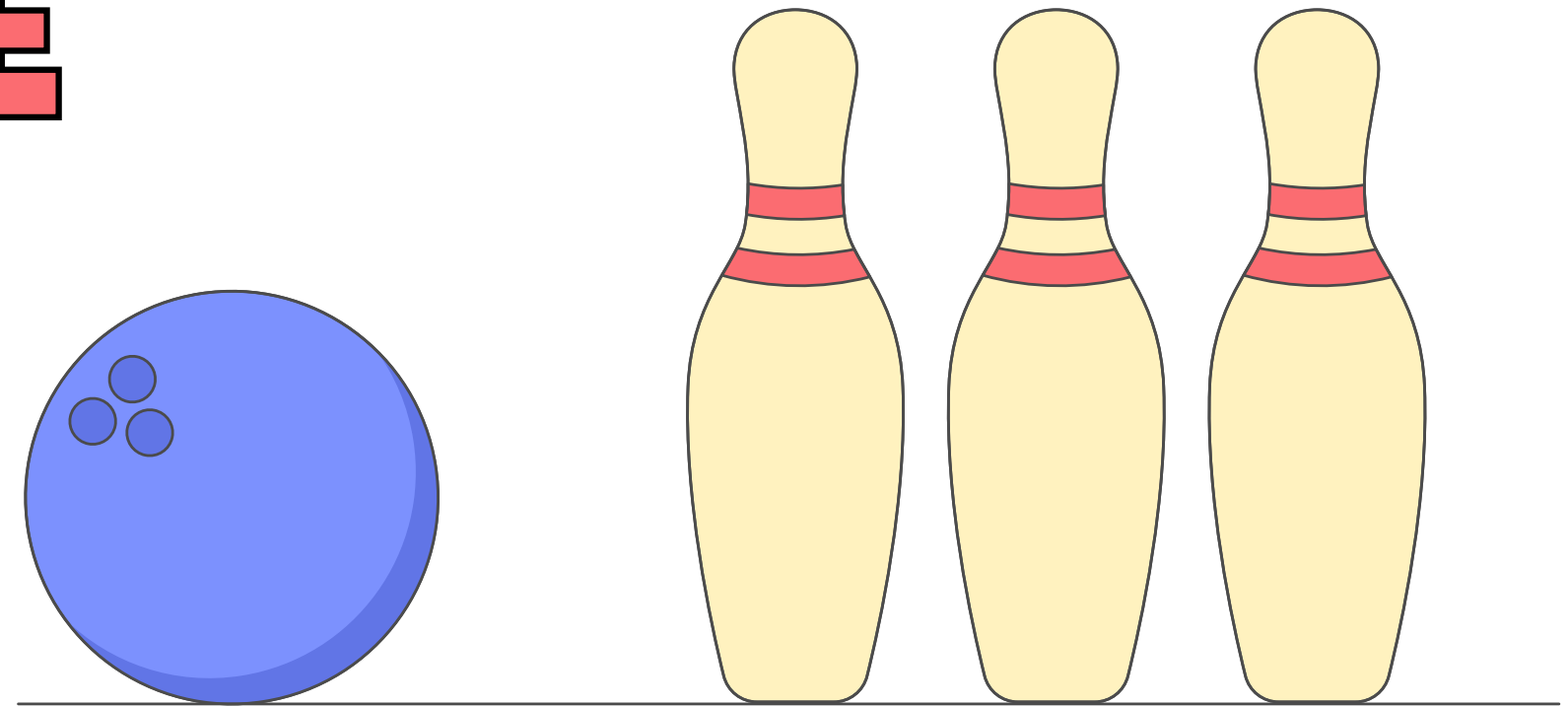


Computer Graphics Introduction Project
2023/2024 - Project 1

GUAX STRIKE **BOWLING**

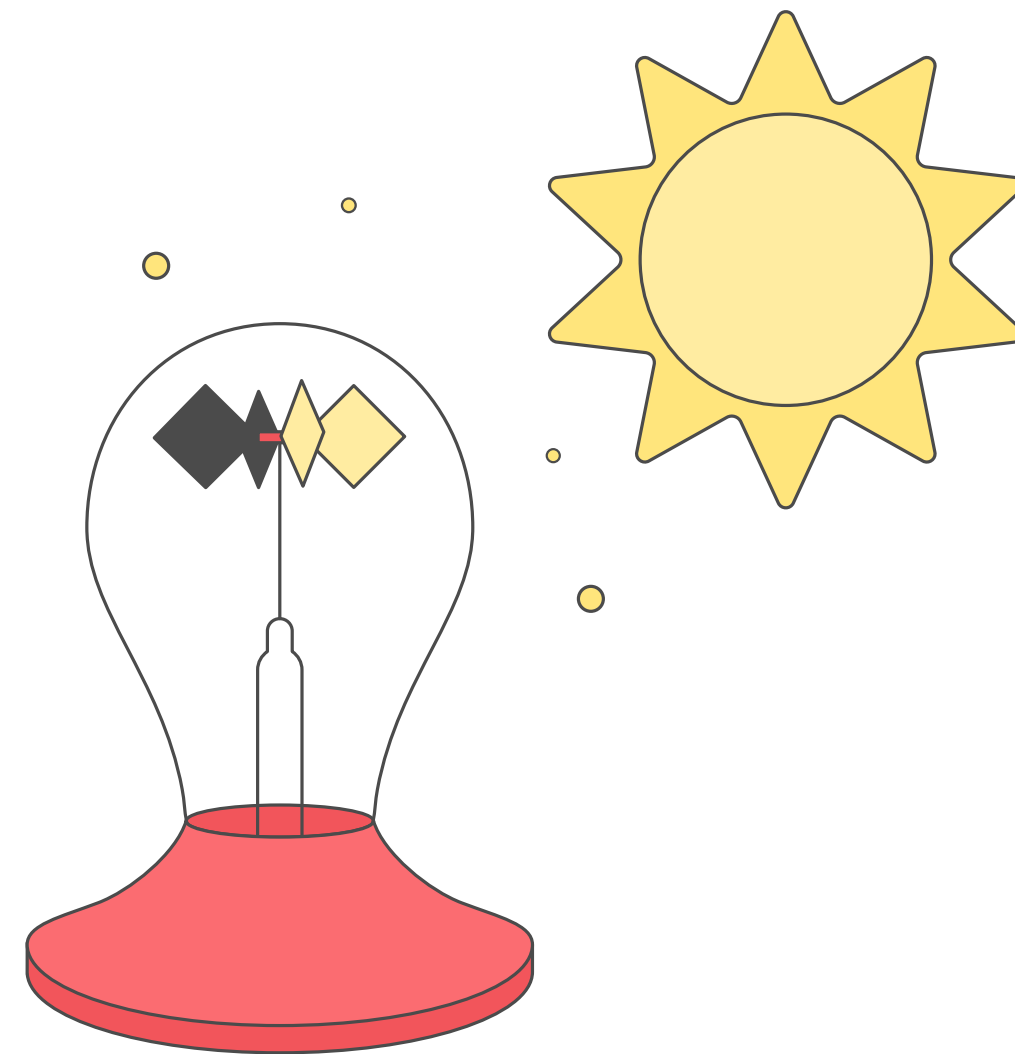
Sara Almeida 108976



INITIAL PROPOSAL

The main goal was to create the **dynamics** of a bowling game, allowing **user interaction** for playing the game.

Add more interactivity with the user by having a customizable **avatar**.

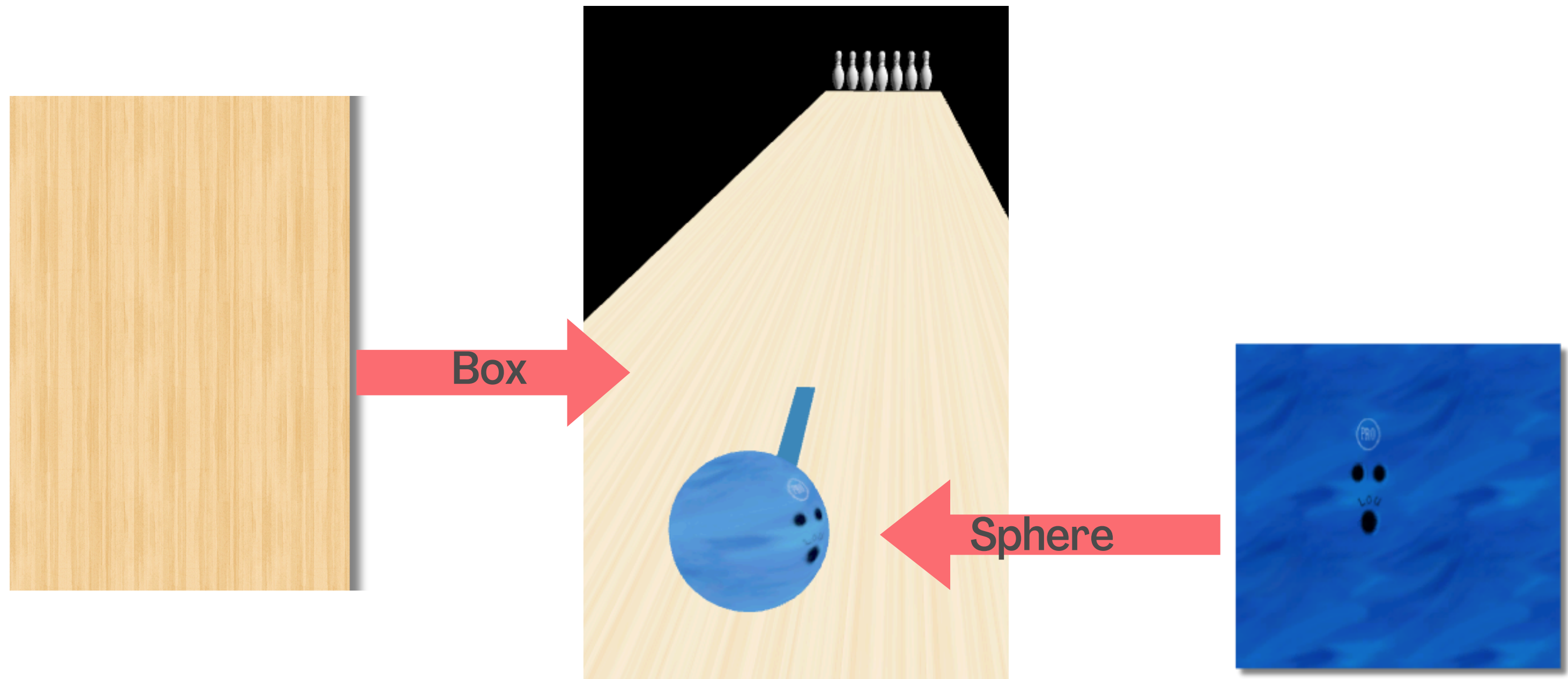


LIBRARIES AND MODULES

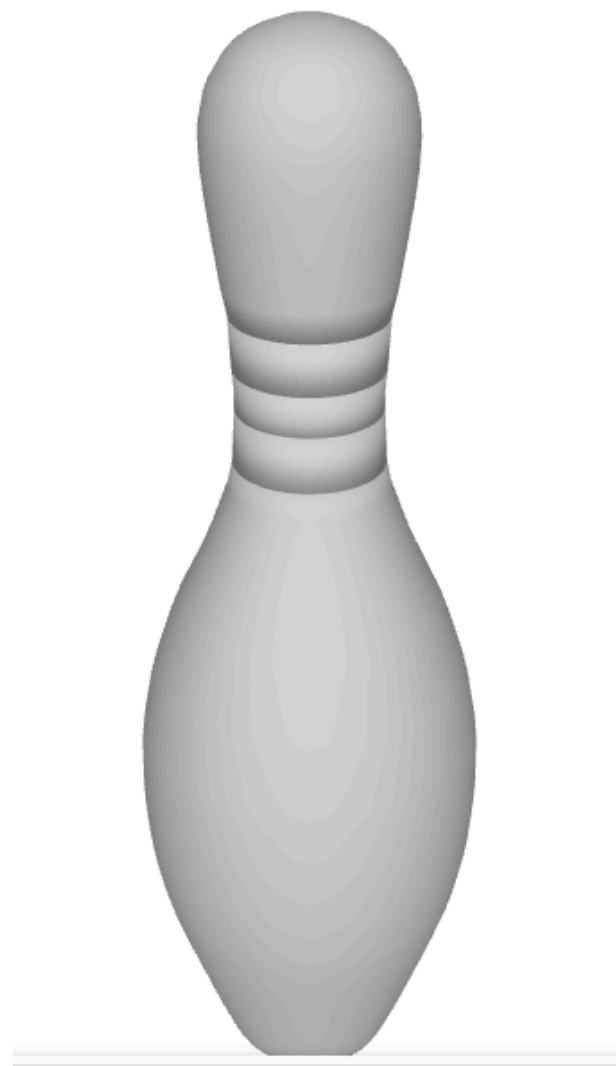
- > **Three.js**
- > Cannon
- > OBJLoader
- > GLTFLoader
- > GUI
- > OrbitControls



GEOMETRIES + TEXTURES



MODELS



model.obj



RobotExpressive.glb

ANIMATIONS



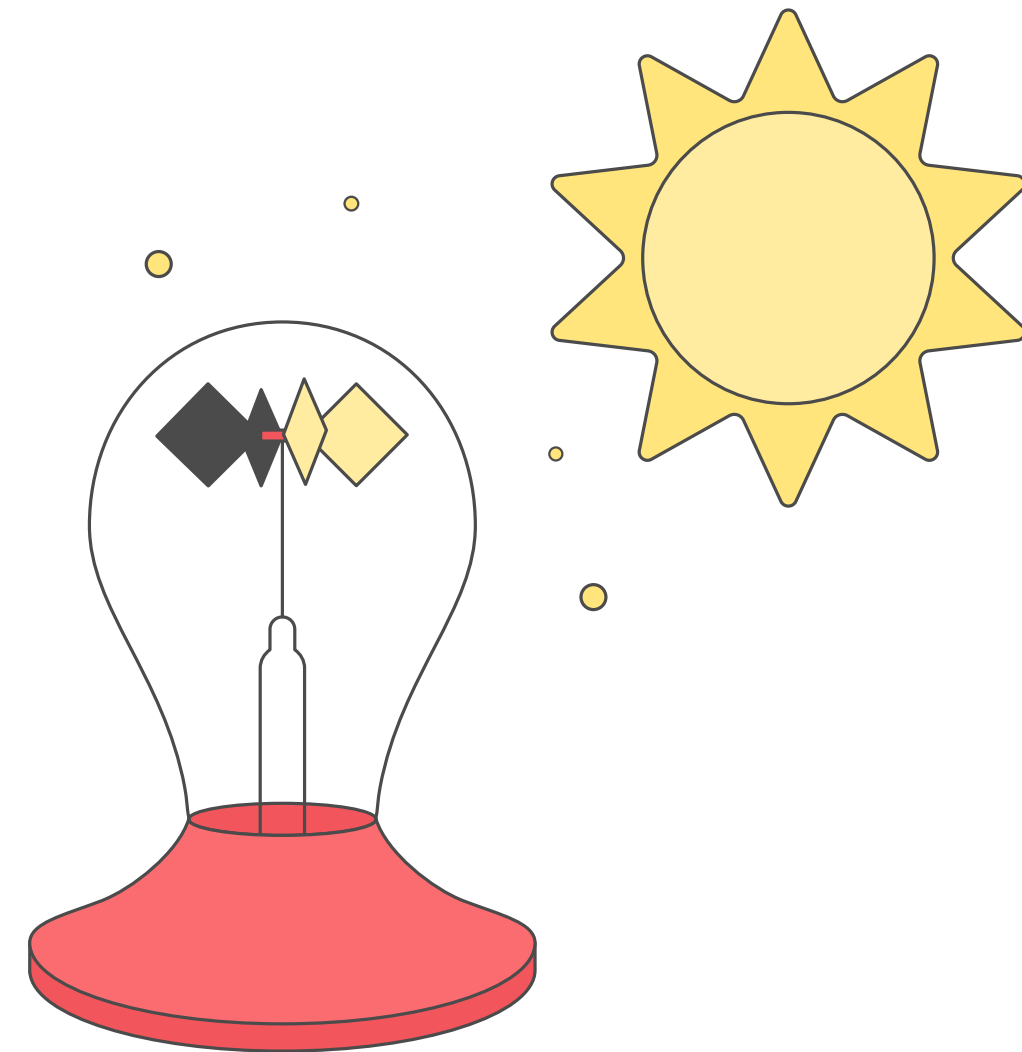
- States
- Emotes
- Expressions



- Ball rotation

ILLUMINATION AND CAMERA

- > Ambient Light
- > Directional Light
 - Ball
 - Avatar
- > Perspective Camera
- > OrbitControls

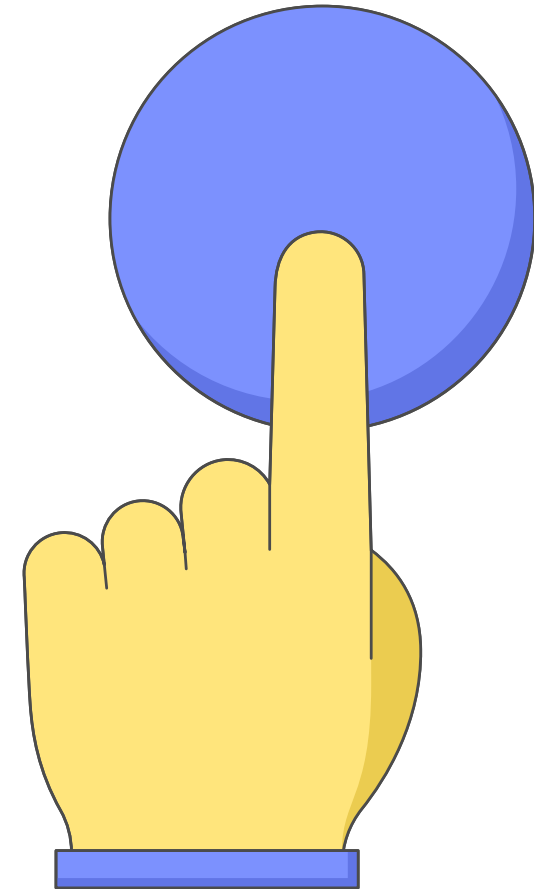
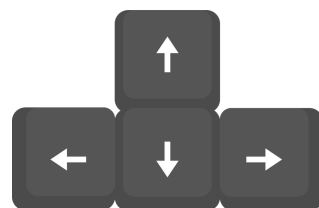


USER INTERACTION

Mouse: Customization and Interaction with the Avatar.

- Changing color;
- Changing states, emotes and expressions;

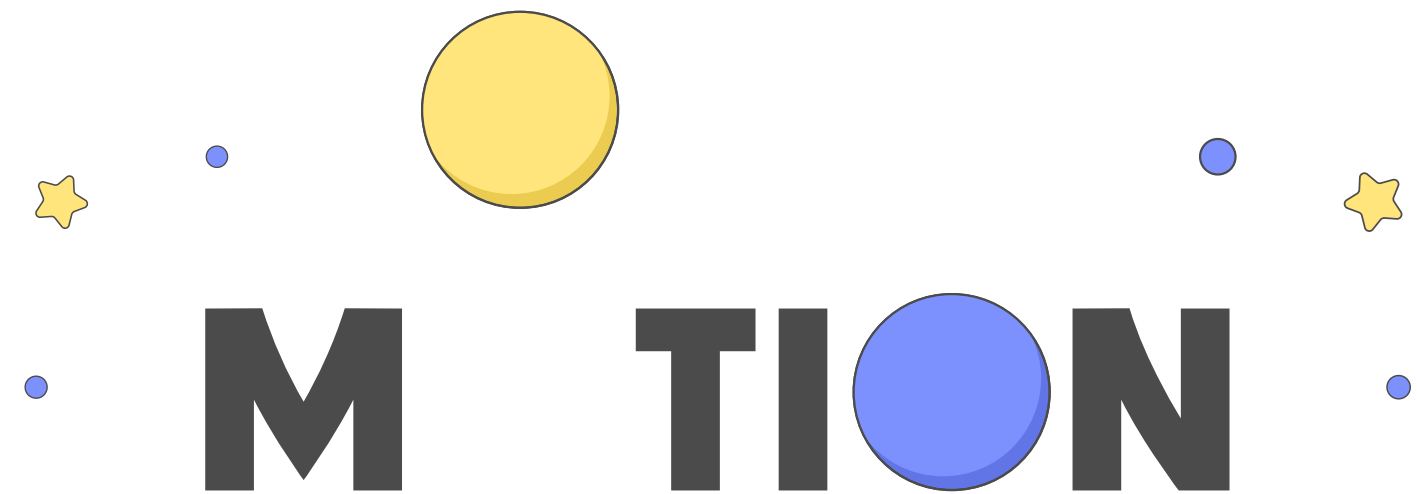
Keyboard: Change throw position and throw ball.



MAIN DIFFICULTIES

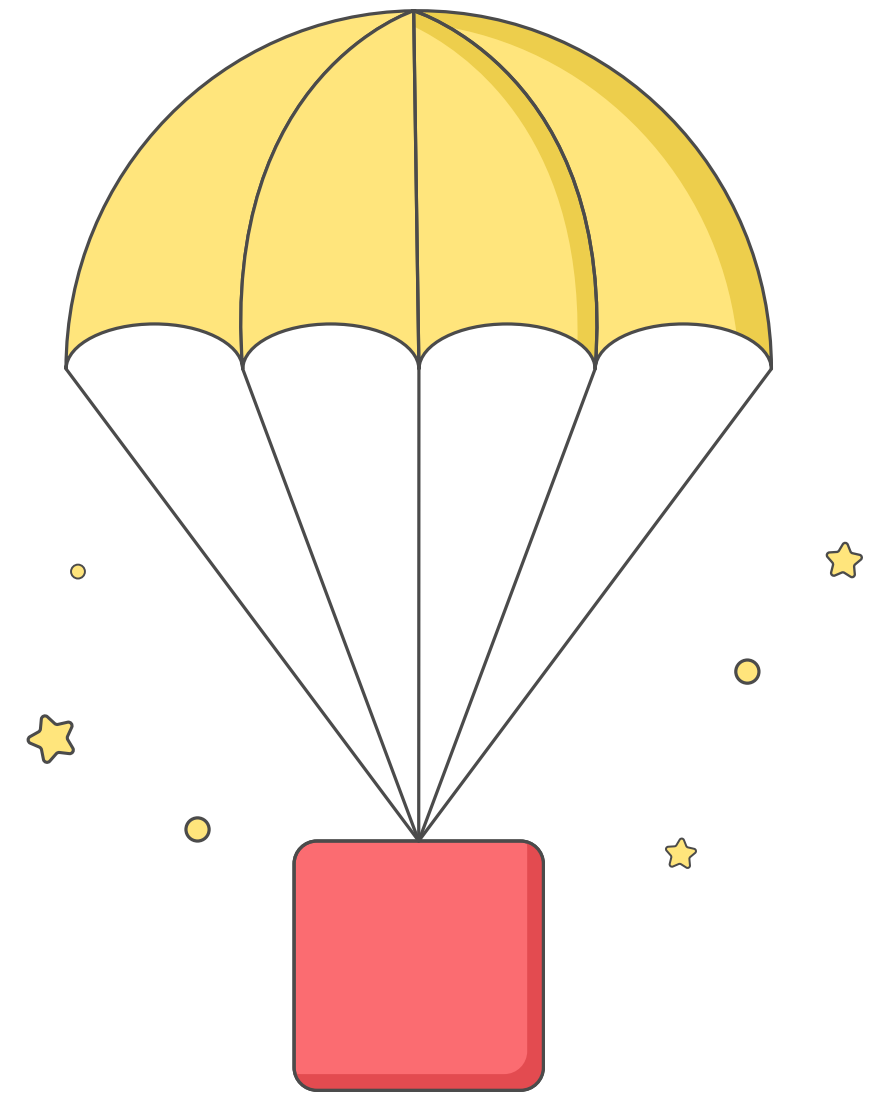
> Collisions and Physics:

- Pins falling when hit by the ball



TODO

- Avatar Dynamics ✓
- Keyboard User Interaction ✓
- ~~Diversify the main goal of the game~~
- Aesthetics Change ✓

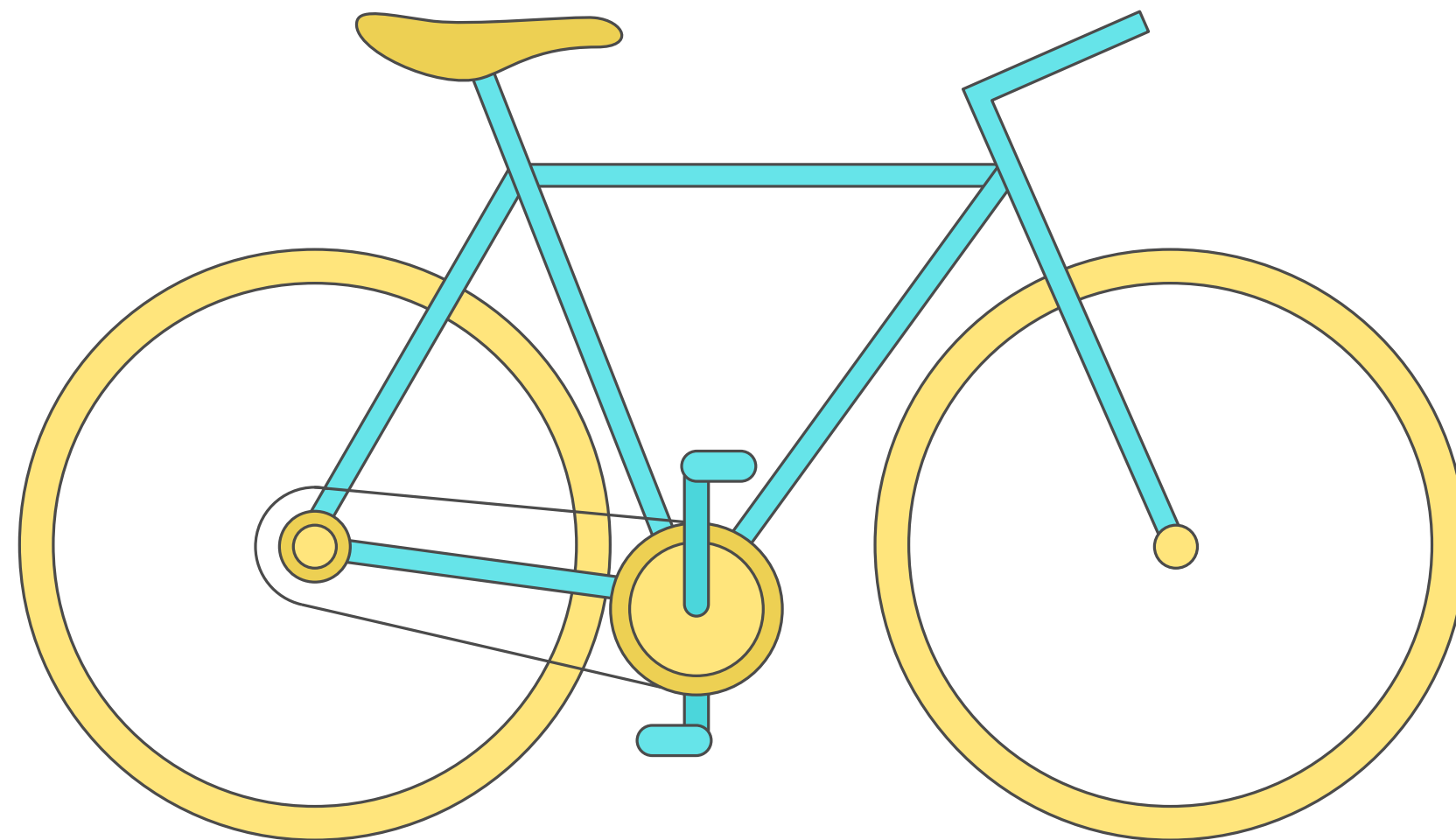


CODE ORGANIZATION

- app.js
- index.html
- public

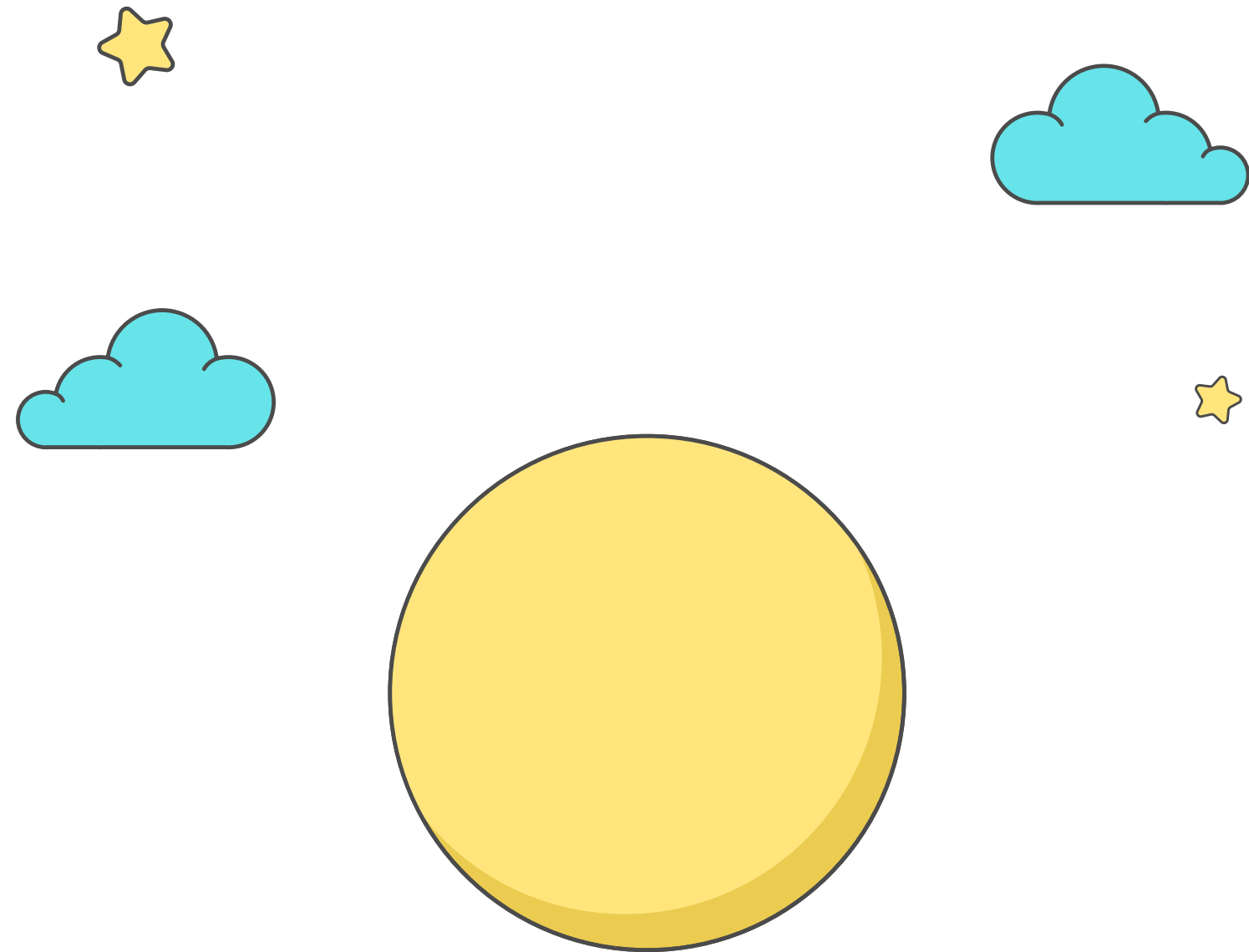
```
✓ public
  > css
  > model
  > textures
  🖼 wallpaper.jpg
  > src
  💎 .gitignore
  JS app.js
  <> index.html
```

LIVE DEMO



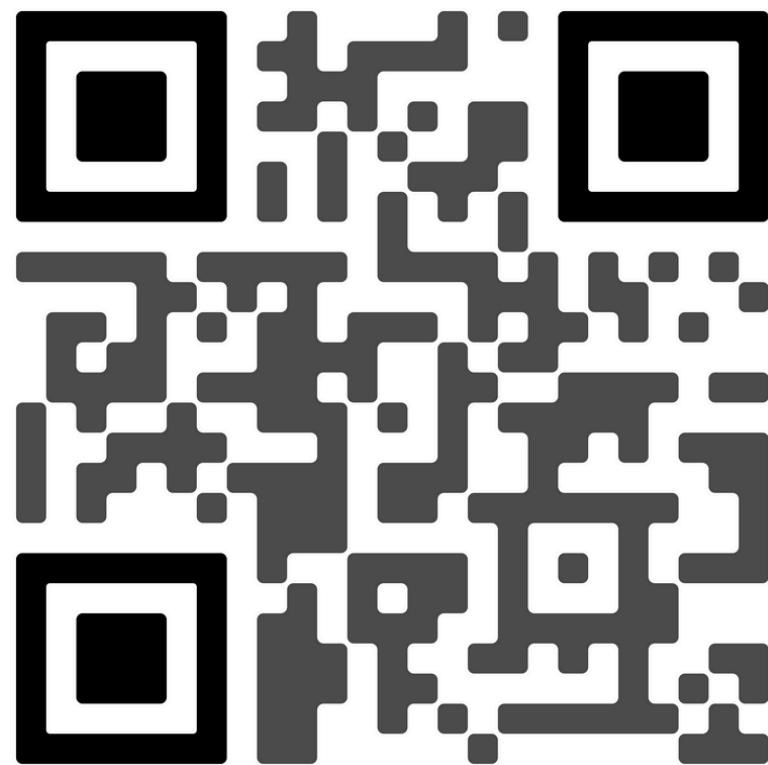
TODO

- Informative Messages
- Limit number of ball throws



THANKS!

ANY QUESTIONS?



https://sardinhaalmeida.github.io/ICG_Project/

- > <https://github.com/InSecker/three-js-bowling?tab=readme-ov-file>
- > https://github.com/mrdoob/three.js/blob/master/examples/webgl_animation_skinning_morph.html
- > Classes Material

