Cavalo3

Introduction to Computer Graphics - 2024/2025
Project 1
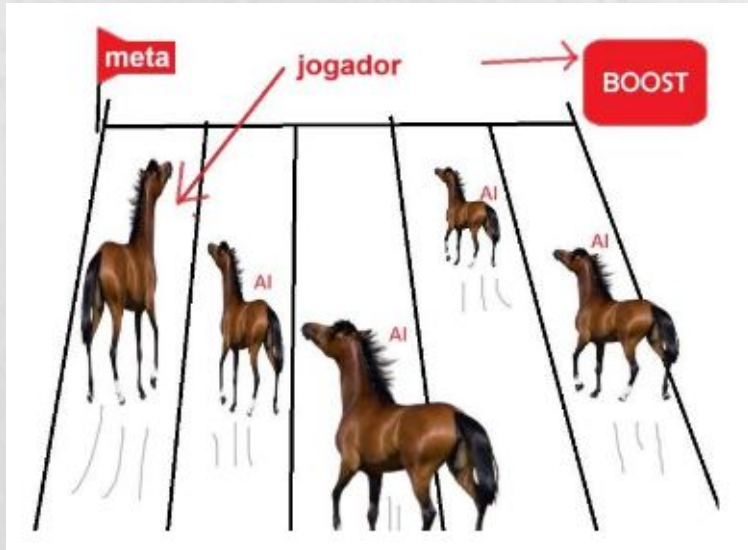
António Alberto - 114622
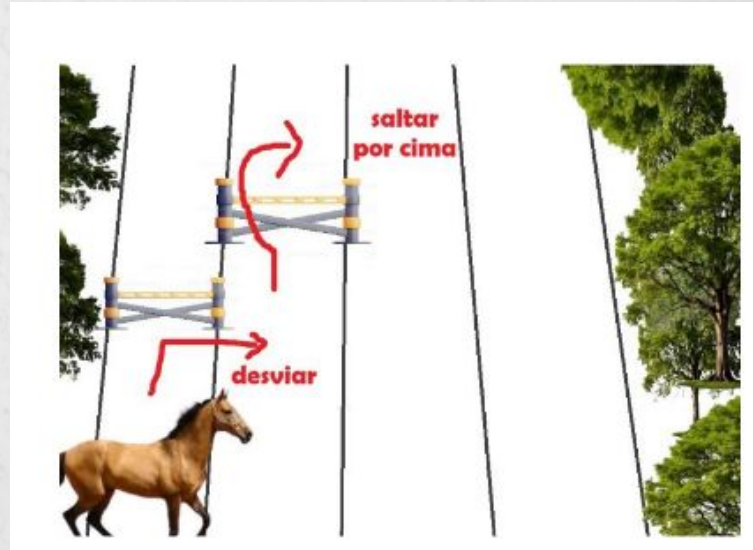https://antoniocsh.github.io/cavalo-3/
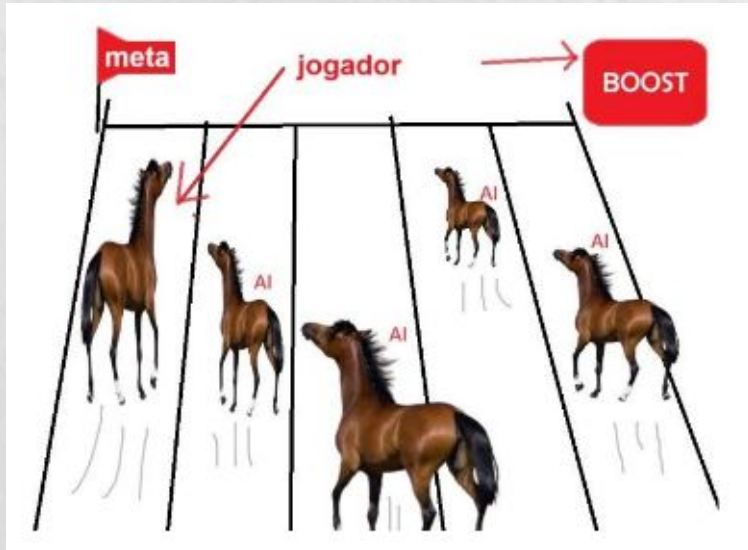
Game Modes: Expectation
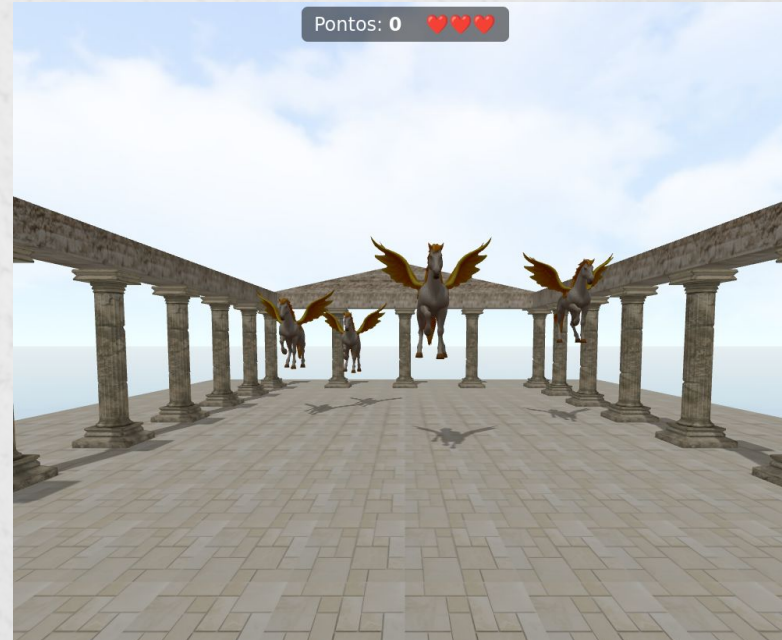

Horse Race vs Bot Opponents

Infinite horse course with obstacles

Game Modes: Reality

Horse Race vs Bot Opponents
with Keyboard

Eliminate the Pegasus with Mouse
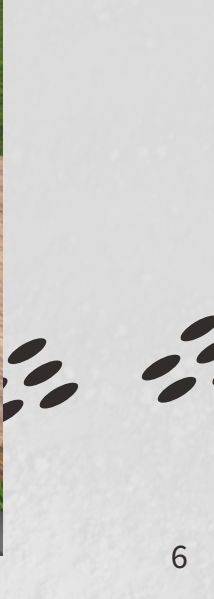
PLUS!

Horse Customization
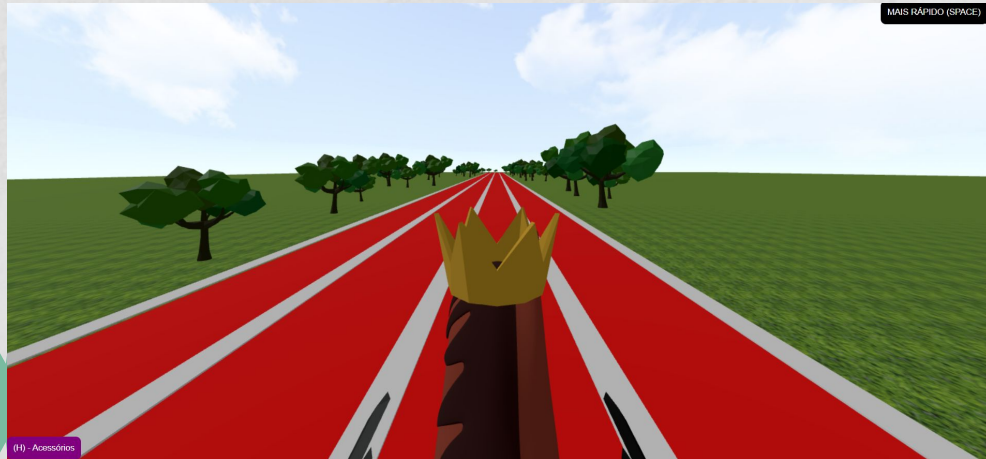

Main Lobby

Models (all links on README.md)

Models

Objets made by me, with properties and textures.

Models

Models – Skybox

Animations

Light Sources

Basic light sources.

```javascript
const ambientLight = new THREE.AmbientLight(0xffffff, 0.6);
scene.add(ambientLight);

const directionalLight = new THREE.DirectionalLight(0xffffff, 1);
directionalLight.position.set(40, 50, 10);
directionalLight.castShadow = true;
directionalLight.shadow.mapSize.width = 2048;
directionalLight.shadow.mapSize.height = 2048;
directionalLight.shadow.camera.near = 1;
directionalLight.shadow.camera.far = 100;
directionalLight.shadow.camera.left = -50;
directionalLight.shadow.camera.right = 50;
directionalLight.shadow.camera.top = 50;
directionalLight.shadow.camera.bottom = -50;
scene.add(directionalLight);
```
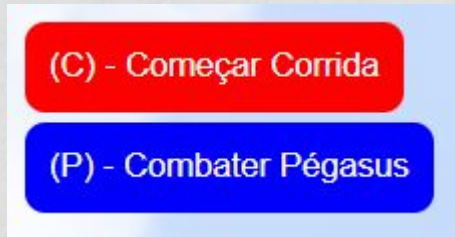
User Interaction

On the Lobby, the user can move with WASD, and look around moving the mouse.
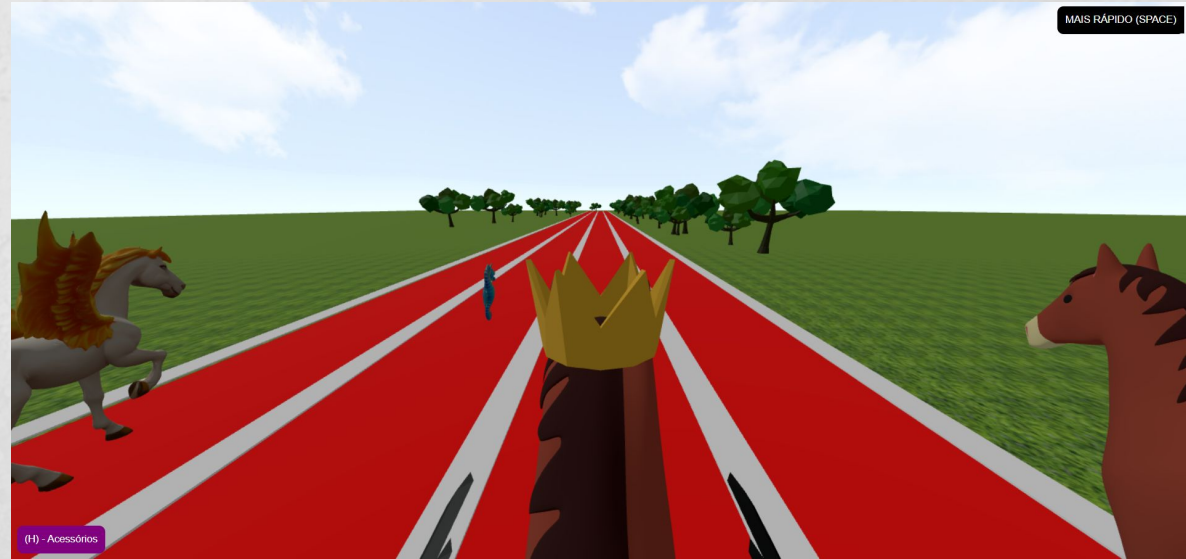
User Interaction

The user can either click the buttons to start the game modes, or click the designed keys.
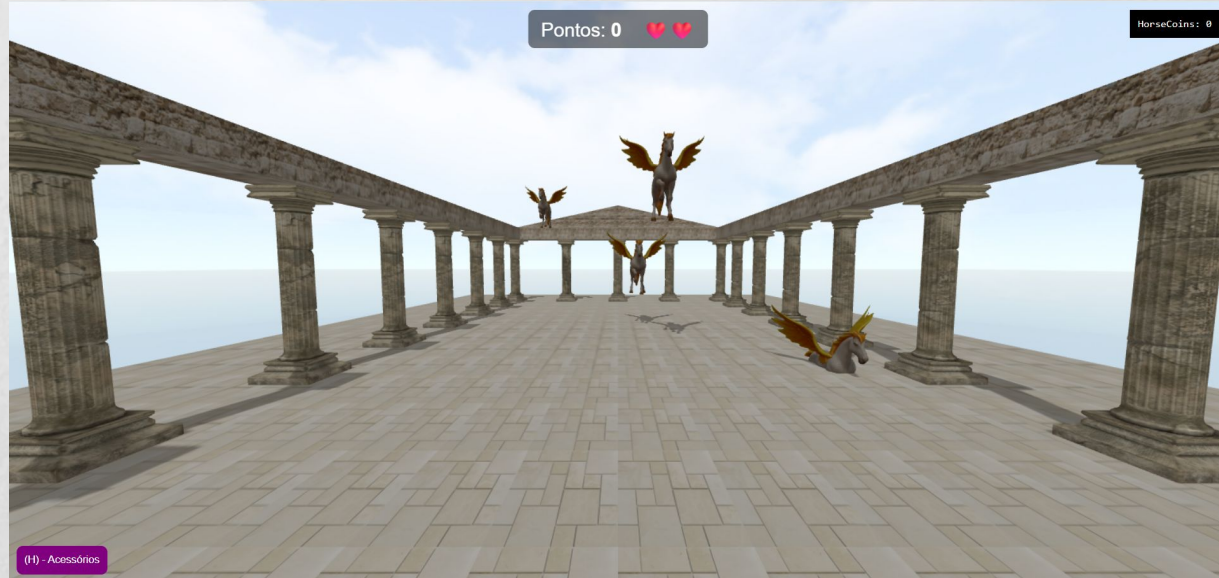
User Interaction

In the race mode, the user must click [SPACEBAR] to make their horse move faster.

User Interaction

In the Pegasus Elimination gamemode, the user must click with the mouse in each Pegasus to eliminate them and get points.

User Interaction

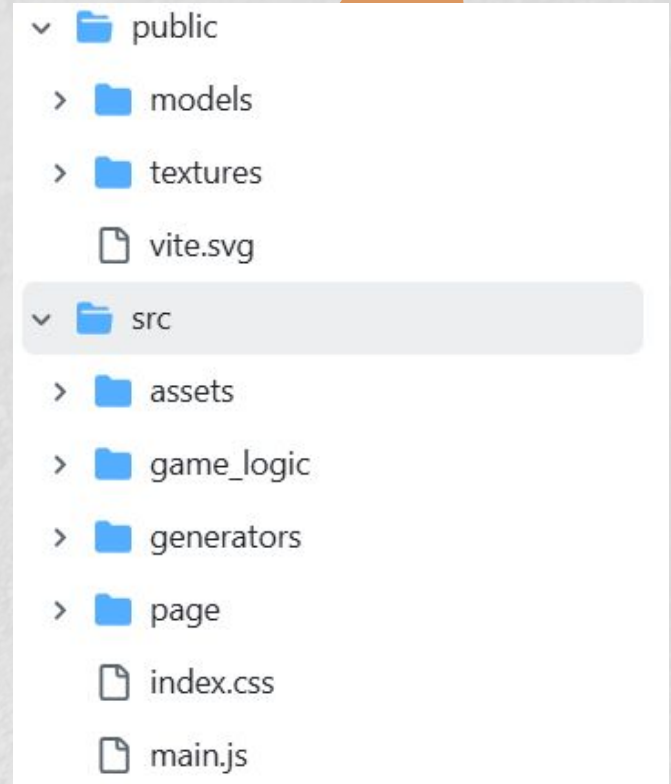The user can select accessories for their horse, in the accessories menu.

Development

Models: glb models taken from the internet
Textures: textures for the objects I made
Game_logic: game logic for the different game modes
Generators: scene and models generator functions

Conclusions

Very fun to develop
Wanted to polish more, but was not able due to time.

References

- 2015 Dirksen Learning Three js 2nd Ed
- https://discourse.threejs.org/
- https://www.youtube.com/watch?v=C3s0UHpwlf8
- Models' links on README.MD