Basketball Game

Members:

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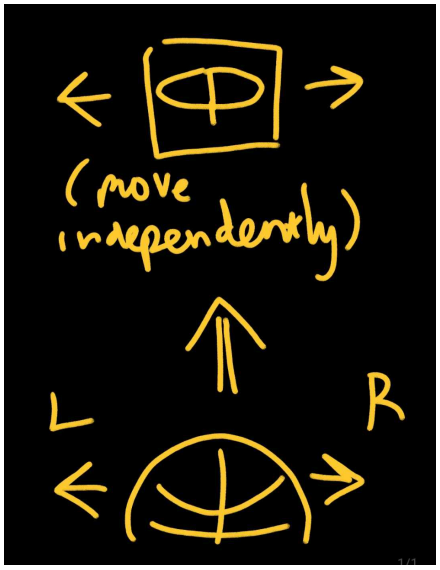
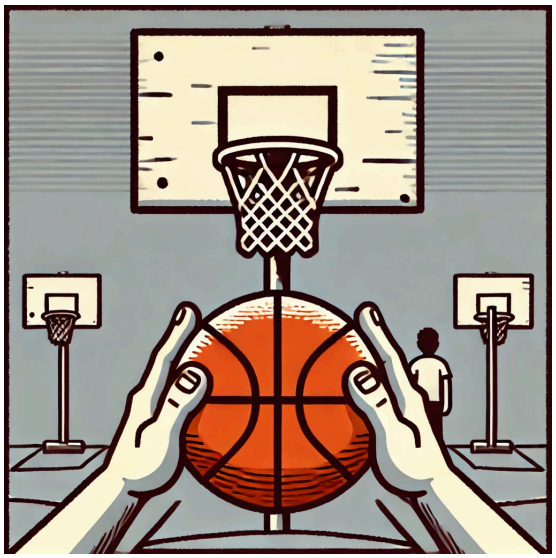
Theme:

- We create a game where the player tries to throw a basketball at moving hoops of varying distances.
- The player has an infinite amount of basketballs to throw at an infinite amount of hoops, but the time is limited to 2 minutes.
- The players wins 1 points for hoops that are closer to them, and 3 points for hoops that are further away
- If points scored, then that particular hoop despawned. New hoops spawned. Hoops will spawn in, limit the hoops that spawn if player keeps missing.
- Collision detection is implemented for both the hoops and the balls.
- The player could move right or left, and so does the hoop.





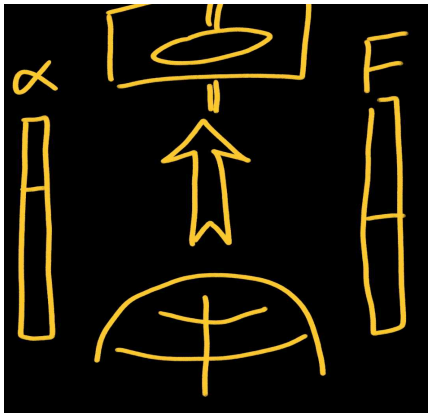
This is what our game could look like

Topics used:

- Modelling of the ball as a sphere that emits light that can change color upon collision
- Collision detection when dealing with shots hitting the rim and bouncing out
- Lighting of the basketball court and the hoops
- Affine transformation matrices for the balls, the camera, and the hoops
- Physics-based animation when launching a ball - projectile motion
- Camera following the ball during the last shot for dramatic effect

Interactivity

- The player can orient their mouse to determine direction, and hold it down to determine the amount of force they want to launch the ball with and the angle at which they want to launch it at. There will be 2 bars to help the player visualize the angle and the force.
- The player can move left/right with arrow keys or A/D keys



Other features: (if we have time)

- Scoring streak and accompanied visuals
- High score feature
- Obstacles/blockers
- Random power-ups (mirrored movement etc)

Technology: ThreeJS