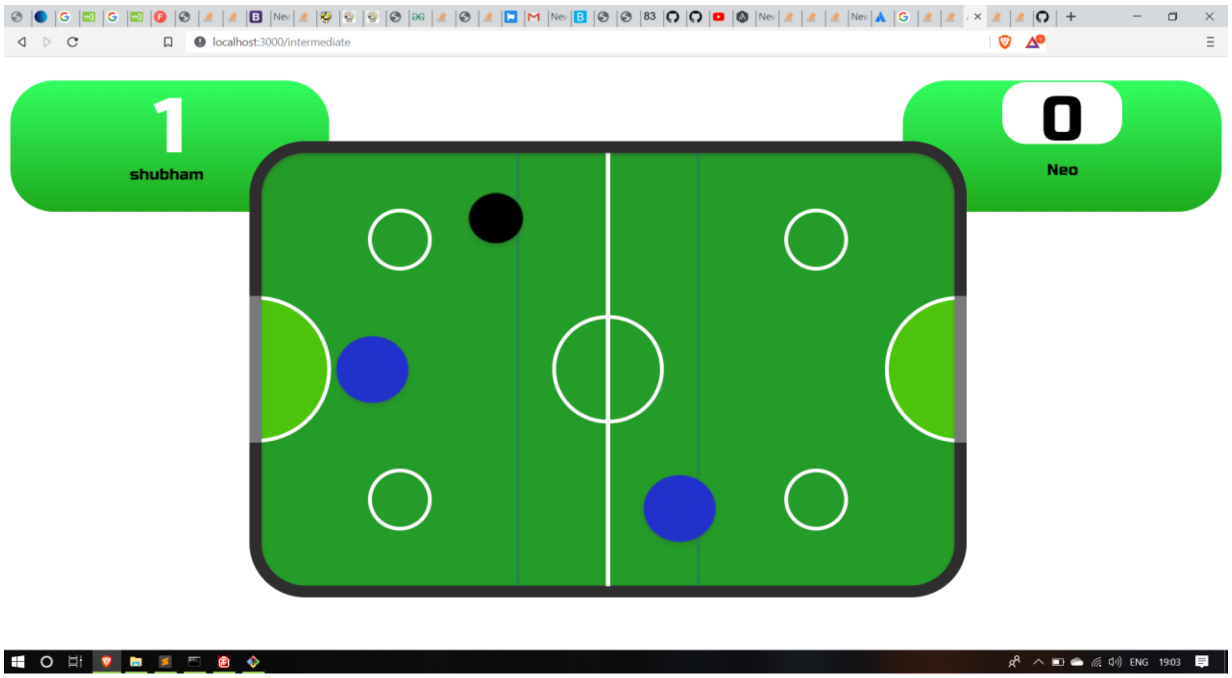
Brief About the Game:

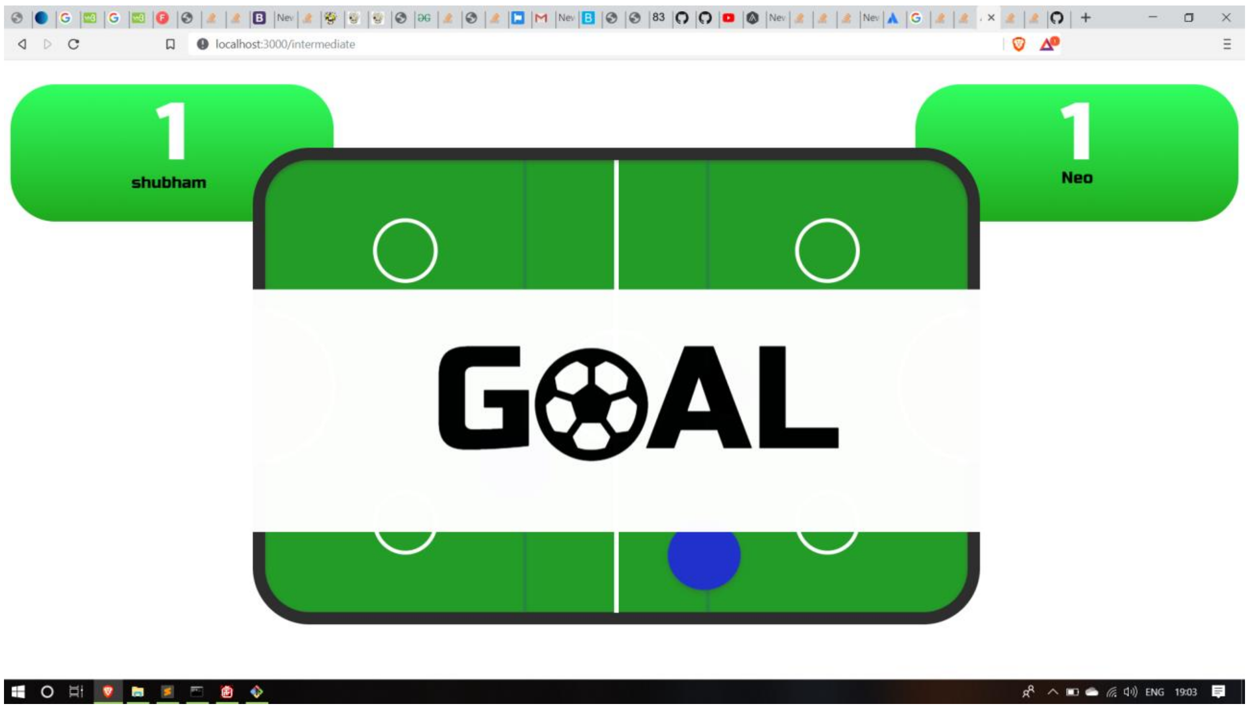
1. Versus COM

It’s like most games everyone would have played in their childhood where you have to control the player 1 movement through Arrow Keys and the second player will be dependent upon the ball movement. Have to score goal by striking the ball into scoring area.



2.Versus PLAYER

It's like most games everyone would have played in their childhood where you have to control the player 1 movement through Arrow Keys and the second player will be assigned other key values but on the same keyboard. Both players will have separate control and no player is bound to any movement done.



SOCCER-STRIKERS

```
var p2score=0;
var p1score=0;
let hit = new Audio();
let wall = new Audio();
let userScore = new Audio();
let comScore = new Audio();
let stadium= new Audio();

hit.src = "sounds/hit.mp3";
wall.src = "sounds/wall.mp3";
comScore.src = "sounds/comScore.mp3";
userScore.src = "sounds/userScore.mp3";
stadium.src="sounds/stadium.mp3"




var p2=document.querySelector('.scorecardp2');
var p1=document.querySelector('.scorecardp1');


var board = document.getElementById("canvas"),
    boardContext=board.getContext('2d'),
    boardWidth = 770,
    boardHeight = 520,
    boardCenterX = boardWidth / 2,
    boardCenterY = boardHeight / 2,
    controllers = [],
    goal = document.getElementsByClassName('table__goal-crease'),
    goalHeight1=goal[1].clientHeight,
    goalPosTop1=(boardHeight-goalHeight1)/2,
    goalHeight2 = goal[0].clientHeight,
    goalPosTop2 = (boardHeight - goalHeight2) / 2,
    score = [];





board.width = boardWidth;
board.height = boardHeight;
board.focus();
```

```
function updateplayer2(b){
    p2.textContent="\xa0\xa0\xa0\xa0\xa0\xa0"+b;
         p2.style.transition="0.6s";
          p2.style.transitionTimingFunction = "ease-out";

          p2.style.color="white";
          p2.style.font=" 100px Russo One";
          p2.style.objectFit="cover";
}
function updateplayer1(a){

    p1.textContent="\xa0\xa0\xa0\xa0\xa0\xa0"+a;
         p1.style.transition="0.6s";
          p1.style.transitionTimingFunction = "ease-out";
          p1.style.marginTop='30px';
          p1.style.color="white";
          p1.style.font=" 100px Russo One";
          p1.style.objectFit="cover";
}
function goalscreen(){
    $('.goal-celebration').addClass('goal-celebration-active');
    $('.fa-futbol').addClass('rotateme');
    setTimeout(function(){
        $('.goal-celebration').removeClass('goal-celebration-active');
        $('.fa-futbol').removeClass('rotateme');

    },2000)

}
function p1screen(){
    $('.player1').addClass('player1-active');

    setTimeout(function(){
        $('.player1').removeClass('player1-active');



    })

}
function p2screen(){
    $('.player2').addClass('player2-active');

    setTimeout(function(){
        $('.player2').removeClass('player2-active');
    })

}
function Disc() {

        this.startingPosX = boardCenterX;
        this.startingPosY = boardCenterY;
        this.x = this.startingPosX;
        this.y = this.startingPosY;
        this.radius = 30;
        this.mass = 15;
        this.velocityX = 0;
        this.velocityY = 0;
        this.maxSpeed = 10;
        this.frictionX = 0.997;
        this.frictionY = 0.997;
        this.acceleration = 1;
        this.color = '#000000';




        this.keepControllerInBoard = function() {


                if (this.x > (boardWidth - this.radius) || this.x < this.radius) {

                    if (this.x < this.radius) {
                            this.velocityX = 2;
                        } else {
                             this.velocityX = -2;
                        }
                }


                if (this.y > (boardHeight - this.radius) || this.y < this.radius) {

                        if (this.y < this.radius)
                         {
                            this.velocityY = 2;
                        } else
                        {
```

```
                this.velocityY = -2;
            }

        }


        if (controller.x > (boardCenterX - controller.radius) && controller.x < boardCenterX) {

            controller.velocityX = -3;
        }


        if (controllerTwo.x > boardCenterX && controllerTwo.x < (boardCenterX +
(controllerTwo.radius / 2))) {

            controllerTwo.velocityX = +3;
        }
    },


    this.keepPuckInBoard = function() {



        // Determine if disc is to far right or left
        // Need to determine if goal scored on x axis as well
        if (this.x > (boardWidth - this.radius) || this.x < this.radius) {

            // Stop puck from getting stuck
            if (this.x > (boardWidth - this.radius)) {
                this.x = boardWidth - this.radius;
            } else {
                this.x = this.radius;
            }

            // Check to see if goal scored
            if (this.y > (goalPosTop1 + puck.radius) && this.y < (goalPosTop1 + goalHeight1) -
puck.radius && this.x >= (boardWidth-2*puck.radius))
             {  if(p1score<11) {
                userScore.play();
                   p1score++;
                updateplayer1(p1score);

                  goalscreen();
                   puck = new Disc(boardCenterX, boardCenterY);
```

```
                        }
                        else{
                           p1screen();

                        }

                }
                else if(this.y>(goalPosTop2 + puck.radius) && this.y < (goalPosTop2 + goalHeight2) -
puck.radius)
                {  if(p2score<11){
                      comScore.play();
                      p2score++;
                       updateplayer2(p2score);
                     goalscreen();
                    puck = new Disc(boardCenterX, boardCenterY);
                   }
                   else{
                       p2screen();

                   }
                }
                else {
                        // Reverse X direction
                        this.velocityX = -this.velocityX;
                }
            }

            // Determine if disc is to far up or down
            if (this.y > (boardHeight - this.radius) || this.y < this.radius) {

                // Stop puck from getting stuck
                if (this.y > (boardHeight - this.radius)) {
                        this.y = boardHeight - this.radius;
                } else {
                        this.y = this.radius;
                }

                // Reverse direction
                this.velocityY = -this.velocityY;
            }

        }

    // i took help From Github and Youtube to configure exact formulae for Collision for 2D objects.
```

```
this.discCollision = function() {


    for (var i = 0; i < controllers.length; i++) {


        var distanceX = this.x - controllers[i].x,

            distanceY = this.y - controllers[i].y,
            // Multiply each of the distances by this
            // Squareroot that number, which gives you the distance between the two disc's
            distance = Math.sqrt(distanceX * distanceX + distanceY * distanceY),
            // Add the two disc radius together
            addedRadius = this.radius + controllers[i].radius;

        // Check to see if the distance between the two circles is smaller than the added radius
        // If it is then we know the circles are overlapping
        if (distance < addedRadius) {
            hit.play();



            //calculate angle, sine, and cosine
            var angle = Math.atan2(distanceY, distanceX),
                sin = Math.sin(angle),
                cos = Math.cos(angle),
                //rotate controllers[i]'s position
                pos0 = {
                    x: 0,
                    y: 0
                },
                //rotate this's position
                pos1 = rotate(distanceX, distanceY, sin, cos, true),
                //rotate controllers[i]'s velocity
                vel0 = rotate(controllers[i].velocityX, controllers[i].velocityY, sin, cos, true),
                //rotate this's velocity
                vel1 = rotate(this.velocityX, this.velocityY, sin, cos, true),
                //collision reaction
                velocityXTotal = vel0.x - vel1.x;

            vel0.x = ((controllers[i].mass - this.mass) * vel0.x + 2 * this.mass * vel1.x) /
                (controllers[i].mass + this.mass);
            vel1.x = velocityXTotal + vel0.x;

            //update position - to avoid objects becoming stuck together
```

```
                var absV = Math.abs(vel0.x) + Math.abs(vel1.x),
                    overlap = (controllers[i].radius + this.radius) - Math.abs(pos0.x - pos1.x);

                pos0.x += vel0.x / absV * overlap;
                pos1.x += vel1.x / absV * overlap;

                //rotate positions back
                var pos0F = rotate(pos0.x, pos0.y, sin, cos, false),
                    pos1F = rotate(pos1.x, pos1.y, sin, cos, false);

                //adjust positions to actual screen positions
                this.x = controllers[i].x + pos1F.x;
                this.y = controllers[i].y + pos1F.y;
                controllers[i].x = controllers[i].x + pos0F.x;
                controllers[i].y = controllers[i].y + pos0F.y;

                //rotate velocities back
                var vel0F = rotate(vel0.x, vel0.y, sin, cos, false),
                    vel1F = rotate(vel1.x, vel1.y, sin, cos, false);

                controllers[i].velocityX = vel0F.x;
                controllers[i].velocityY = vel0F.y;

                this.velocityX = vel1F.x;
                this.velocityY = vel1F.y;

            }
        }

    }

    // Draw disc
    this.draw = function() {

        boardContext.shadowColor = 'rgba(50, 50, 50, 0.25)';
        boardContext.shadowOffsetX = 0;
        boardContext.shadowOffsetY = 3;
        boardContext.shadowBlur = 6;

        boardContext.beginPath();
        boardContext.arc(this.x, this.y, this.radius, 0, 2 * Math.PI, false);
        boardContext.fillStyle = this.color;
        boardContext.fill();
        }

        // Move disc with physic's applied
        this.move = function() {

                // Apply friction
                this.velocityX *= this.frictionX;
                this.velocityY *= this.frictionY;

                // Update position
                this.x += this.velocityX;
                this.y += this.velocityY;
        }

        // Play against a computer



};

// Run game functions
function updateGame() {
       stadium.play();
        // Clear board
        boardContext.clearRect(0, 0, boardWidth, boardHeight);
        // Draw & contain puck
        puck.draw();
        puck.move();
        puck.discCollision();
        puck.keepPuckInBoard();
        // Controllers
        controller.draw();
        controller.move();
        controller.keepControllerInBoard();
        controllerTwo.draw();
        //controllerTwo.computerPlayer();
        controllerTwo.move();
        controllerTwo.keepControllerInBoard();

        // Loop
        requestAnimationFrame(updateGame);


}
```

```
// Keyboard events
function moveController2(key) {

    // Up
    if (key === 38 && controllerTwo.velocityY < controllerTwo.maxSpeed) {
        controllerTwo.velocityY -= controllerTwo.acceleration;
    }

    // Down
    if (key === 40 && controller.velocityY < controller.maxSpeed) {
        controllerTwo.velocityY += controllerTwo.acceleration;
    }

    // Right
    if (key === 39 && controller.velocityX < controller.maxSpeed) {
        controllerTwo.velocityX += controllerTwo.acceleration;
    }

    // Left, decrease acceleration
    if (key === 37 && controller.acceleration < controllerTwo.maxSpeed) {
        controllerTwo.velocityX -= controllerTwo.acceleration;
    }

}
function moveController(key) {

    // Up
    if (key === 87 && controller.velocityY < controller.maxSpeed) {
        controller.velocityY -= controller.acceleration;
    }

    // Down
    if (key === 83 && controller.velocityY < controller.maxSpeed) {
        controller.velocityY += controller.acceleration;
    }

    // Right
    if (key === 68 && controller.velocityX < controller.maxSpeed ) {
        controller.velocityX += controller.acceleration;
    }

    // Left, decrease acceleration
    if (key === 65 && controller.acceleration < controller.maxSpeed ) {
```

```
		controller.velocityX -= controller.acceleration;
	}

}

function rotate(x, y, sin, cos, reverse) {
	return {
		x: (reverse) ? (x * cos + y * sin) : (x * cos - y * sin),
		y: (reverse) ? (y * cos - x * sin) : (y * cos + x * sin)
	};
}

// Events
document.addEventListener("keydown", function(e) {
	moveController(e.keyCode);
	moveController2(e.keyCode);

});

// Add puck
var puck = new Disc();

// Add contro
var controller = new Disc();
controller.color = '#2132CC';
controller.radius += 10;
controller.acceleration = 5;
controller.startingPosX = 125;
controller.mass = 50;
controller.x = controller.startingPosX;

var controllerTwo = new Disc();
controllerTwo.color = '#2132CC';
controllerTwo.radius += 10;
controllerTwo.mass = 50;
controllerTwo.startingPosX = (boardWidth - 155);
controllerTwo.acceleration = 5;
controllerTwo.x = controllerTwo.startingPosX;
controllers.push(controller, controllerTwo);

updateGame();
```