Game Development Game 1 Final Version

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GitHub Link:
https://github.com/selinbilen/gameHW

YouTube Link:
https://www.youtube.com/watch?v=zZKo_k1B9tw

My game is basically a car game, I have a splash screen, how to play screen, main screen and my game screens. In my main screen the users can see their best scores, they can choose the game difficulty, and they can tap start game button to start the game. I have two difficulty option one is easy and the other one is hard (obviously). Adding a difficulty option was not written in my first report, because I came up with this idea this Monday. I added two more labels to the GameMenu they are both for difficulty option, when user touches the "Press to Change Difficulty" the difficulty the other label's text will be change.
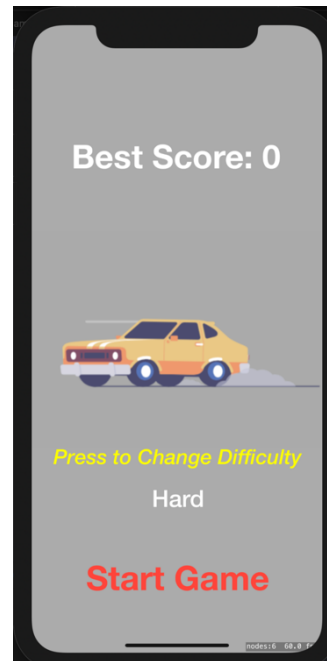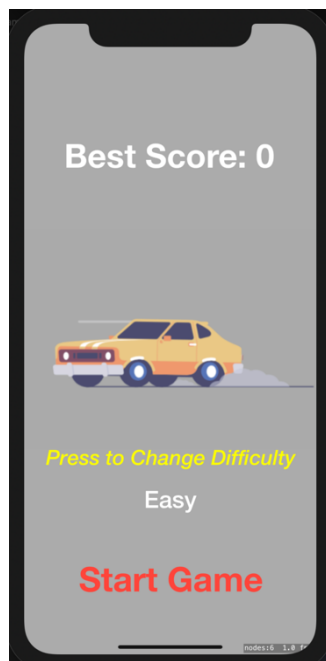
```swift
override func touchesBegan(_ touches: Set<UITouch>, with event: UIEvent?) {
    for touch in touches{
        let touchLocation = touch.location(in: self)
        if atPoint(touchLocation).name == "diff"{
            if current_diff.text == "Easy"{
                current_diff.text = "Hard"
            }
            else{
                current_diff.text = "Easy"
            }
        }
        if atPoint(touchLocation).name == "startGame" && current_diff.text == "Easy"{
            let gameScene = SKScene(fileNamed: "GameScene")!
            gameScene.scaleMode = .aspectFill
            view?.presentScene(gameScene, transition: SKTransition.doorsOpenHorizontal(withDuration: TimeInterval(2)))
        }
        if atPoint(touchLocation).name == "startGame" && current_diff.text == "Hard"{
            let gameScene = SKScene(fileNamed: "GameScene_harder")!
            gameScene.scaleMode = .aspectFill
            view?.presentScene(gameScene, transition: SKTransition.doorsOpenHorizontal(withDuration: TimeInterval(2)))
        }
    }
}
```

When the user touches the "Press to Change Difficulty" label the code checks if the current_diff.text is Easy or Hard, if it is Hard, it changes the label as Easy and if it is Easy it changes to Hard. After that when user pressed the start game label the code checks the current_diff.text to call the right game scene. I have 2 game scenes (swift files and sks files) for easy and hard version. I also used different icons to make some difference in the game.

This is how my main storyboard looks like, I have my splash screen, my how to play screen and my GameViewController, in my GameViewController I load the SKScene from GameMenu.sks.

```swift
class GameViewController: UIViewController {

    override func viewDidLoad() {
        super.viewDidLoad()

        if let view = self.view as! SKView? {
            if let scene = SKScene(fileNamed: "GameMenu") {
                // Set the scale mode to scale to fit the window
                scene.scaleMode = .aspectFill
```

These are my two SKScene's for my game, the left one is the easy one because the user should control only one car, and the left one is the harder one cause the user should control two different cars.
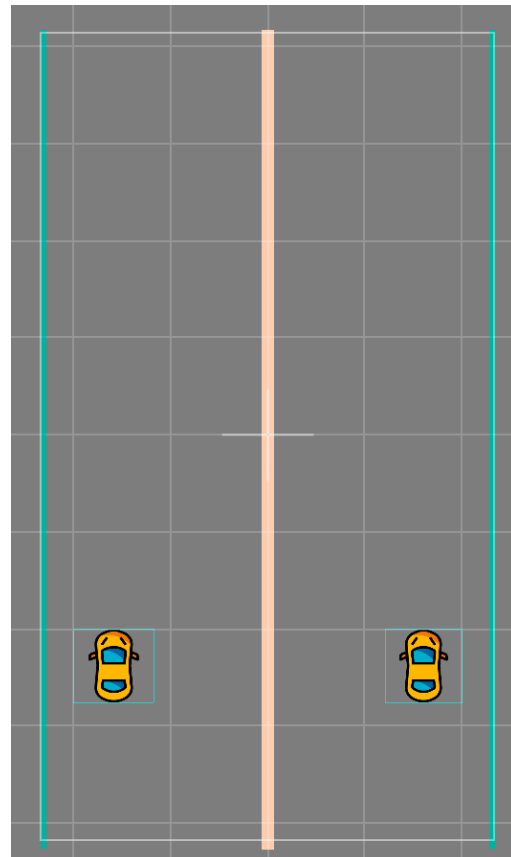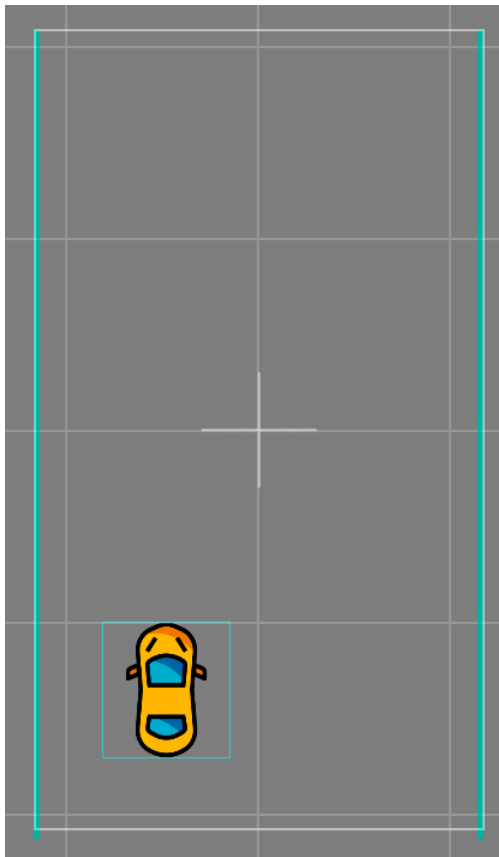
I indicate the Minimum X and Maximum X coordinates for 3 cars.

```
let CarMinimumX :CGFloat = -180
let CarMaximumX : CGFloat = 180
```

```
let leftCarMinimumX :CGFloat = -255
let leftCarMaximumX : CGFloat = -100

let rightCarMinimumX :CGFloat = 100
let rightCarMaximumX :CGFloat = 255
```

I have a function called touches began which checks the cars' current location and changes it as if the car is on left lane, it set CarAtLeft to false and set CarToMoveRight to right, does the opposite thing in the other circumstances.

```swift
override func touchesBegan(_ touches: Set<UITouch>, with event: UIEvent?) {
    for touch in touches{
        let touchLocation = touch.location(in: self)
        if touchLocation.x > centerPoint{
            if rightCarAtLeft{
                rightCarAtLeft = false
                rightCarToMoveRight = true
            }else{
                rightCarAtLeft = true
                rightCarToMoveRight = false
            }
        }else{
            if leftCarAtRight{
                leftCarAtRight = false
                leftToMoveLeft = true
            }else{
                leftCarAtRight = true
                leftToMoveLeft = false
            }

        }
        canMove = true
    }
}
```

When the Boolean value changed the move function recalculate the position and this way cars move.

```swift
func move(leftSide:Bool){
    if leftSide{
        leftCar.position.x -= 20
        if leftCar.position.x < leftCarMinimumX{
            leftCar.position.x = leftCarMinimumX
        }
    }else{
        leftCar.position.x += 20
        if leftCar.position.x > leftCarMaximumX{
            leftCar.position.x = leftCarMaximumX
        }
    }
}

func moveRightCar(rightSide:Bool){
    if rightSide{
        rightCar.position.x += 20
        if rightCar.position.x > rightCarMaximumX{
            rightCar.position.x = rightCarMaximumX
        }
    }else{
        rightCar.position.x -= 20
        if rightCar.position.x < rightCarMinimumX{
            rightCar.position.x = rightCarMinimumX
        }
    }
}
```