

Washington State University
School of Electrical Engineering and Computer Science
Spring 2017

CptS 479 Mobile Application Development in iOS

Homework 11

Due: April 11, 2017 (11:59pm)

General Instructions: Put the entire app directory into one zip file and submit as an attachment under Content → Homework 11 for this course on the Blackboard Learn system by the above deadline. Note that you may submit multiple times, but only the most recent entry submitted before the above deadline will be graded.

For this homework you will add a few extra features to the Bounce app we developed in class. First, when you tap on a blank spot on the screen, a green ball should appear. Second, when the red ball collides with a green ball, the red ball should bounce as usual, but the green ball should disappear. See the screen shot below. Specifically,

1. Create a new project, choose the Game Application, and select SpriteKit for the Game Technology. Add images of a red ball and a green ball to your project. They should be the same size and no more than 100x100 pixels.
2. Use the SpriteKit Editor to add the label “Bounce” centered at the top, add the label “Start” centered at the bottom, and add a red ball somewhere on the screen. Give the red ball an appropriate physics body that will let it bounce off everything with no gravity or damping, and register contacts.
3. Add a zero-friction, edge loop physics body to the scene whose size is the same as the scene’s frame.
4. Implement the touchesEnded function that has two behaviors. First, if the tap was on the “Start” label, then the game should start, the red ball should receive an impulse, and the label should change to “Stop”. If the “Stop” label is tapped, then the game should pause, and the label should change to “Start”. Second, if there is nothing underneath where you tapped, then you should add a green ball positioned at the point of the tap. Configure the green ball so that it registers contacts.
5. Add the SKPhysicsContactDelegate to the GameScene class and set the scene’s physicsWorld.contactDelegate to self. Implement the didBegin function so that if either of the two bodies is a green ball, then the green ball node is removed from the scene.
6. You may assume the device will remain in the portrait orientation.

Screenshot:

