

EE443 / EE593
Mobile Application Development

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Lecture 4: Chapter 4: Outlets

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Outline

- Chapter 4: Outlets (not the electrical kind!)



Programming To-Do List

Chapter 4 App Demo

~~(Ch. 3) Put the app in landscape orientation~~

~~(Ch. 3) Put UI controls on the Storyboard including UILabels “Score”, UIButtons “Start over”, and UISlider~~

~~(Ch. 3) Read the value of the slider after the user presses the Hit Me button~~

(Ch. 4) Fix slider initial value bug

(Ch. 4) Generate a random number at the start of each round and display it on the screen. This is the target value.

(Ch. 4) Compare the value of the slider to that random number and calculate a score based on how far off the player is. You show this score in the alert popup.

Fix the Initial Slider Value Bug

- If we set the initial value of the slider to something other than 50, currentValue is wrong because it is hard-coded to 50

```
override func viewDidLoad() {  
    super.viewDidLoad()  
    currentValue = lroundf(slider.value)  
}
```

- `viewDidLoad()` does not know of anything named “slider” hence **Compiler Error**
- We need a reference (outlet) to the slider

Outlets

- “slider” in sliderMoved() is an input parameter and local to the method—we could have named this anything e.g. “myBullsEyeSlider”
- Solution: store a reference to the slider as a new instance variable, just like currentValue. Not really a regular instance variable but a special one called an **outlet**

```
@IBOutlet weak var slider: UISlider!
```

- Interface Builder now has a variable named **slider** that can be connected to a **UISlider** object
- We need to connect the outlet to the slider, i.e. we create a new referencing outlet and connect it to the ViewController

Generate Random Number

- Create a place to store the random variable

```
var targetValue: Int = 0
```

- Generate the random variable in viewDidLoad()

```
targetValue = 1 + Int(arc4random_uniform(100))
```

Display Random Number in UIAlert

- In showAlert()

```
let message = "The value of the slider is: \(currentValue)" +  
              "\nThe target value is: \(targetValue)"
```

- Why does the random number never change?

Start a New Round

- We need to generate a random number at the start of each new round

```
func startNewRound() {  
    targetValue = 1 + Int(arc4random_uniform(100))  
    currentValue = 50  
    slider.value = Float(currentValue)  
}
```

- Where do we start a new round?
- Call startNewRound in viewDidLoad() and showAlert()

Display Random Number in UILabel

- 1) Create an outlet for the label so we can send it message
- 2) Give the label new text to display

- Step 1: Create the outlet (new reference) and connect it up

```
@IBOutlet weak var targetLabel: UILabel!
```

- Step 2:

```
func updateLabels() {  
    targetLabel.text = String(targetValue)  
}
```

- When should we be updating the targetValue label?