# Lecture 2

Beginning iOS

MVC Paradigm

- M = model. Typically a data container. NSArray, NSString, Person object. In ObjC, some models have functions, while others are merely storage containers.

- V = view. UIView, UIButton, UISlider. Never interacts with data. Manages its own appearance, as well as subview appearance. Handles user interaction.

- C = controller. In beginning iOS, most often a ViewController. (a controller that has a view attached to it). Coordinates information between M & V.
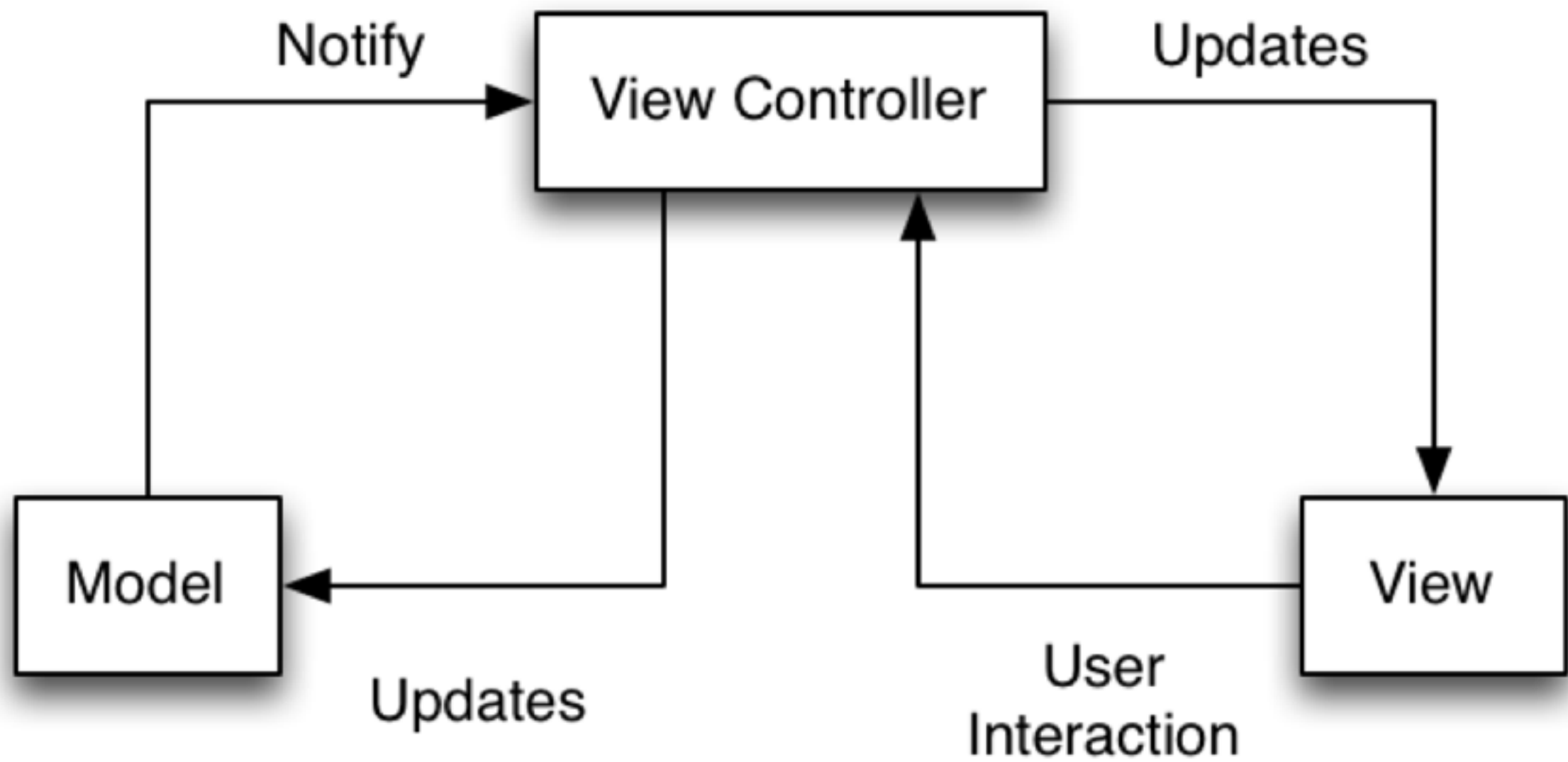
UIViewController

- iOS apps have one window.

- Each iOS "screen" is represented by a UIViewController

- MVC - Massive View Controller. Unfortunately lots of code goes here.

- Good iOS devs understand these inside & out

View Controller Lifecycle

- alloc - enough memory is "allocated" for this object.

- init - the name of the initialize method ("constructor" in Java)

- loadView - sets up the self.view

- viewDidLoad - after the view has been loaded into memory

- viewWillAppear - before the view will appear on the screen

- viewWillLayoutSubviews - before the view handles its subviews

- viewDidLayoutSubviews - after the view handles its subviews

- viewDidAppear - after the view has appeared to the user

Everything that has a beginning has an end…

- viewWillDisappear

- viewDidDisappear

- dealloc

Coordinate System

- Each visual element is represented by 4 points: x, y, width, height.

- 0,0 begins in the upper left, width is always horizontal, height is vertical

- CGPoint - x,y

- CGSize - width, height

- CGRect - CGPoint + CGSize smashed together.

- frame - CGRect. Position of the rectangle in its superview's coordinate system.

- bounds - CGRect. A rectangle within its own coordinate system. x,y coordinates are always 0,0.

- center - CGPoint. Center of the view in relation to its superview's coordinate system.

Laying Out Subviews

- Two ways: traditional coordinates & auto layout

- Traditional coordinates - using frame & bounds extensively

- Auto Layout - set up "rules" that describe the size and position of a view. Added in iOS6.

- As of now, we will use traditional layout for this class.

Set Background Color
Add Subviews
Add Subviews to Subviews
Position Subviews

Beginner Way