ATLS 4120/5120: Mobile Application Development
Week 4: Adaptive Layout

Let's try to get our beatles app to look good on different size screens.
Move the UI controls to where you'd like them.
Select the View Controller and click the right Resolve Auto Layout Issues and under All Views in View Controller chose Add Missing Constraints.
This works for simple apps but if it doesn't work go back into the same menu and chose Clear Constraints.
Let's work on one UI control at a time.

Image
To center horizontals chose the left icon for Align and check Horizontal Center in Container, Add 1 constraint.
Horizontal orange line is solid. Dotted lines for vertical shows we need a vertical constraint.
Middle icon to Pin to the top, take the current value (25). (or control click drag up and chose Top Space to Top Layout Guide from the popup menu).
Now the constraints for the image are blue meaning they're correct.
You can view constraints in the document outline and in the size inspector for each control (you can edit them here)
Use Preview to check it in a small and large iPhone.

Snapshot: image constraint

Title Label
Align Horizontal Center in Container
Pin Top Space to Nearest neighbor by unchecking Constrain to margins
Lines are blue but there's an orange dotted box around Beatles
In the document hierarchy click on the yellow arrow next to View Controller Scene
The size of the label is not what's expected.
Click the yellow triangle.
Update the frame to match the constraints.

Many of the views that UIKit provides, including UILabel, are capable of having Auto Layout set their size based on their actual content. They do this by calculating their natural or intrinsic content size. At its intrinsic size, the label is just wide enough and tall enough to completely surround the text that it contains. When we run the application and click one of the buttons, the label's text will be set and its intrinsic content size will change. Try it.

Snapshot: title label constraint

Segmented Control
The constraints should be the same as on the title label.
Align Horizontal Center in Container
Pin Top Space to Nearest neighbor
Update the frame to match the constraints.

Snapshot: segmented control constraint

Capitalization label
Leading space to margin (view) = 70
Trailing space to margin (view) <=150
Trailing space to switch = 25
Align Vertical Centers (Center Y) with Switch
(there will still be errors at this point)

Switch
Top Space to segmented control (vertical)= 45

Snapshot: switch constraint

Font label
Align (left) Leading to Capitalization
Align Center Y to slider

Slider
Align vertical spacing to Switch = 40
Align trailing to Switch
Pin width 150

Snapshot: slider constraint

Now run it in the simulator.
Notice that the image view changes height and when you change the text size, everything else moves.

Pin the height for the image and the label so the height doesn't change and the other controls don't move.

Snapshot: portrait constraints

If you rotate to landscape it doesn't look good. You can either change the layout to work in both or I'm going to use size classes to change the layout for landscape.

Now let's change it so in iPhone portrait the bottom buttons are stacked
Change the size class to w Any h Compact
Notice the bottom bar turns blue meaning we are only editing for this size class.

Image
Drag the image to the left. Update constraints to match.
We no longer need the center X alignment to the top so go into that constraint and click the + next to Installed and chose Any width | Compact Height (current). When that gets added uncheck Installed. This will leave it for portrait but remove it for this size class.
Add a new leading space constraint = 45 (you'll notice this one is installed for this size class but not the base size class

Title Label
Drag the title to the left. Update constraints to match.

We no longer need the center X alignment to the top so do the same thing we did for the image. Instead add a center X alignment to the image.

Snapshot: image and title landscape constraints 2

Segmented Control
Drag the segmented control to the top of a second column on the right. Update constraints to match. You will have lots of errors for the other elements, but in Preview the image, label, and segmented control should look good.

Snapshot: segmented control landscape constraint 3

Capitalization label
Move the label to the right column, about half way down. Update constraints to match.
I ended up changing the leading constraint to 250 for wAny hCompact
(I also had to update frame for the width of the label)

Switch
Move the switch next to its label. Update constraints to match.

Snapshot: switch and label landscape constraint 2

Font label and slider
You might not be able to see these anymore. Use your document hierarchy to select them and drag them under the switch and its label. Update constraints to match.
Note that the slider has a trailing alignment constraint to the switch, but they aren't lined up there.
Go into the constraint and notice it has Constant = 0 and wAny hC = 83. That's why it's not lined up.
You can either change it or hit the x to delete it. This is how this constraint is different for this size class.
I change it to 10 .

Snapshot: slider and label landscape constraint 2

Look at the launch screen.
I changed one label to say The Beatles in a large font and deleted the other.
I added an image view and selected the abbey road image, mode=aspect fit.
For constraints I went to resolve auto layout issues and under All Views in View chose Add Missing Constraints and it worked!

Snapshot: final w/launch screen