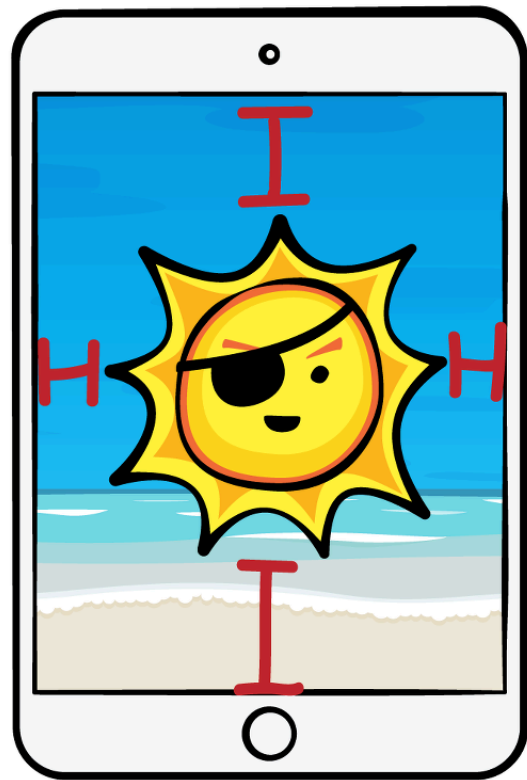


BEGINNING

AUTO LAYOUT



HANDS-ON CHALLENGES

Beginning Auto Layout

Jerry Beers

Copyright ©2016 Razeware LLC.

Notice of Rights

All rights reserved. No part of this book or corresponding materials (such as text, images, or source code) may be reproduced or distributed by any means without prior written permission of the copyright owner.

Notice of Liability

This challenge and all corresponding materials (such as source code) are provided on an "as is" basis, without warranty of any kind, express or implied, including but not limited to the warranties of merchantability, fitness for a particular purpose, and noninfringement. In no event shall the authors or copyright holders be liable for any claim, damages or other liability, whether in action of contract, tort or otherwise, arising from, out of or in connection with the software or the use of other dealing in the software.

Trademarks

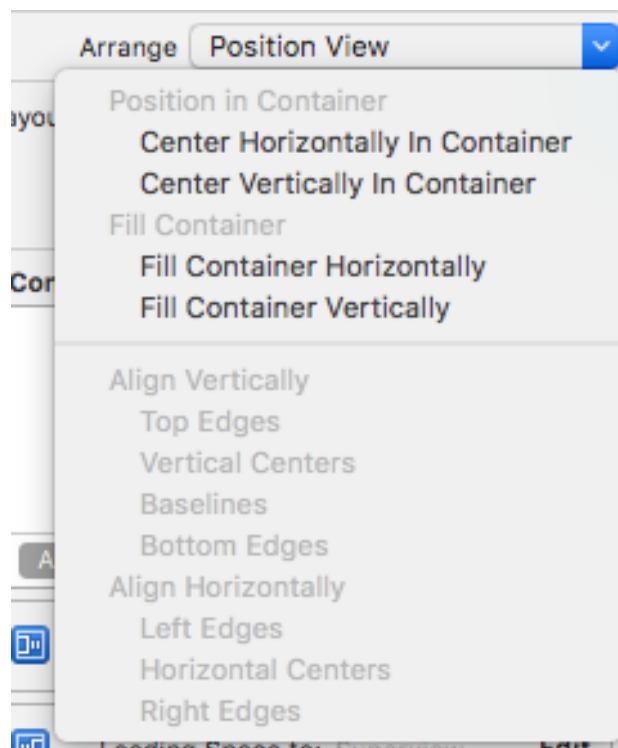
All trademarks and registered trademarks appearing in this book are the property of their own respective owners.

Challenge #7: Creating Constraints

By Jerry Beers

In this challenge, you'll convert the stack view from using autosizing masks to using constraints and move it to the center of the view.

First, I want to show you a tip that you can use to help when positioning views. With the stack view selected, in the size inspector, click the drop down next to the word **Arrange**

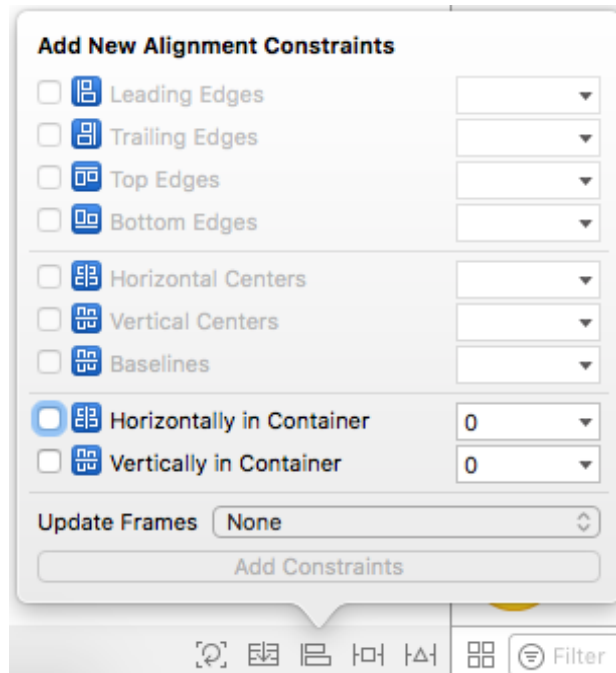


These options do **not** create constraints, they just move the frames of views to make it easier when you are creating constraints. You could create centering constraints on the stack view first and then update the frames to match the constraints, but often it's easier to create and visualize the constraints you need if

the frames are set first. Click the option for **Center Vertically In Container**. You can use the horizontal option too if your stack view isn't already horizontally centered.

Now, you'll want to create two constraints on your stack view, horizontal center in container and vertical center in container. You don't have to do anything first to remove the autosizing mask. Interface builder knows that if you define constraints on a view, it shouldn't use the autosizing mask for that view.

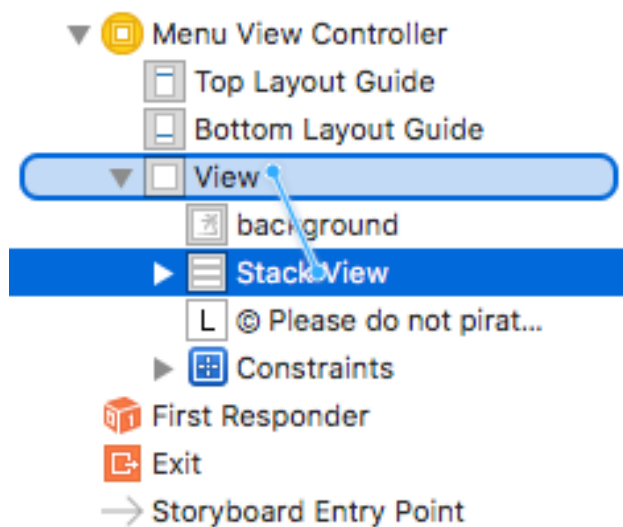
You could click the align button at the bottom to quickly create both constraints:



But let's take a look at using control-drag to create these constraints. If you control drag from the stack view to the area outside of the stack view, you end up creating constraints between the stack view and the background image, which is not what you want:



Instead, in the document outline to the left, control drag from the stack view to its superview:



This method lets you be very clear about the views you're trying to create constraints between.

Then, in the popup, hold down the Shift key and click **Center Horizontally in Container** and then **Center Vertically in Container**. Holding down the Shift key lets you pick multiple constraints. Then be sure to click on **Add Constraints** to create them.

Congratulations, your stack view is now centered using constraints!