AUTO LAYOUT IN 10S 7



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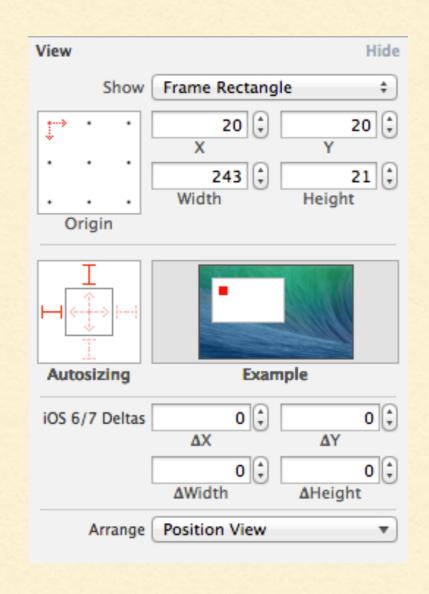
ABOUT ME - CLAIRE CHANG



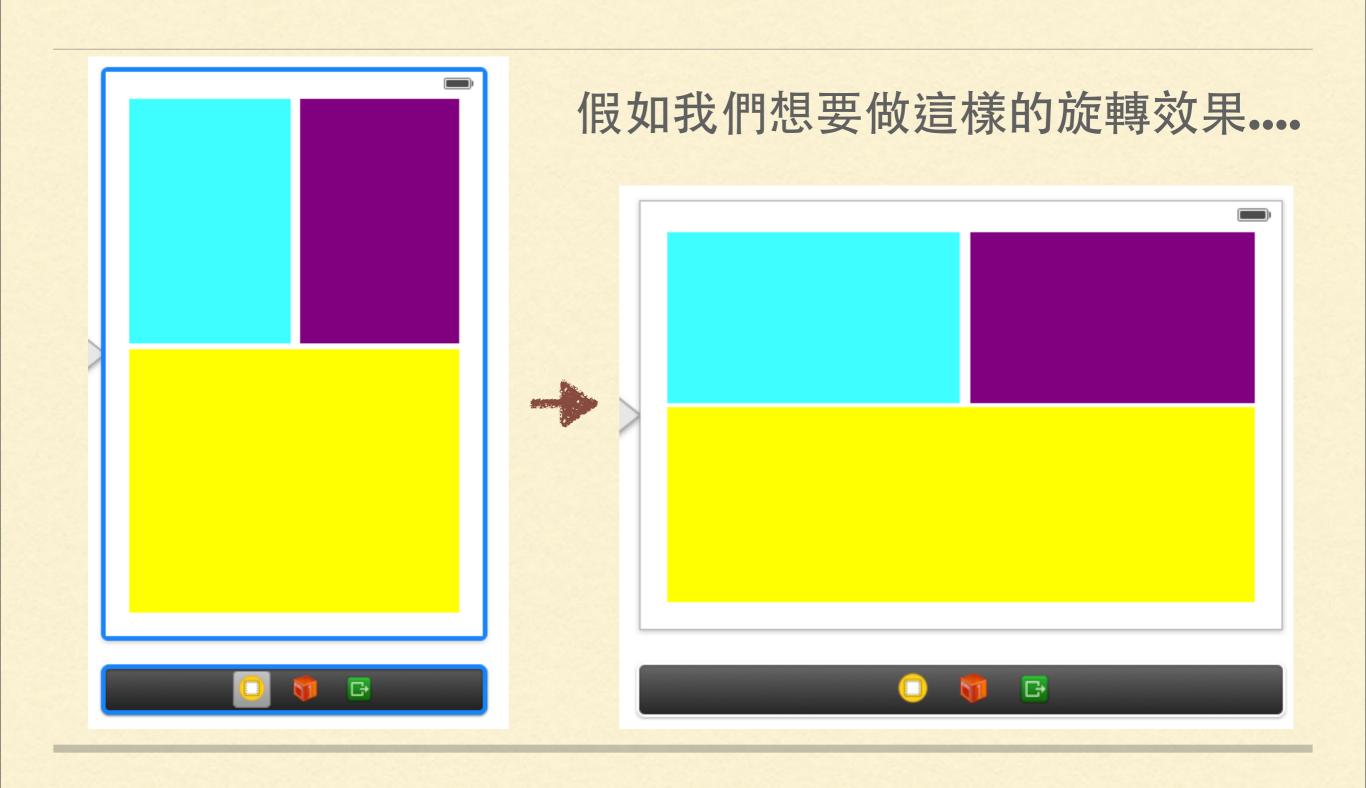
- BLOG http://claire-chang.com/
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- Email cochia0318@hotmail.com
- SKILL Action Script 3 \ FLEX 4 \ PHP \ Objective-C
- DREAM Develop a game that everyone loved it!

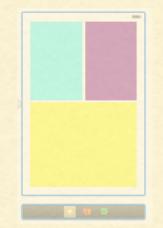
過去的作法...

- 使用frame和bounds去決定物件的 位置和大小。
- 使用autosizing masks
 - 設定當畫面大小變動時,要固定 那些值(struts)。
 - 在view的大小改變時,可以偵測 super view的大小改變去改變物 件的寬和高的值(springs)。

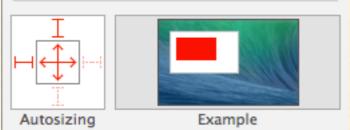


THE PROBLEM WITH SPRINGS AND STRUTS





藍色方塊的設定 紫色方塊的設定 黃色方塊的設定

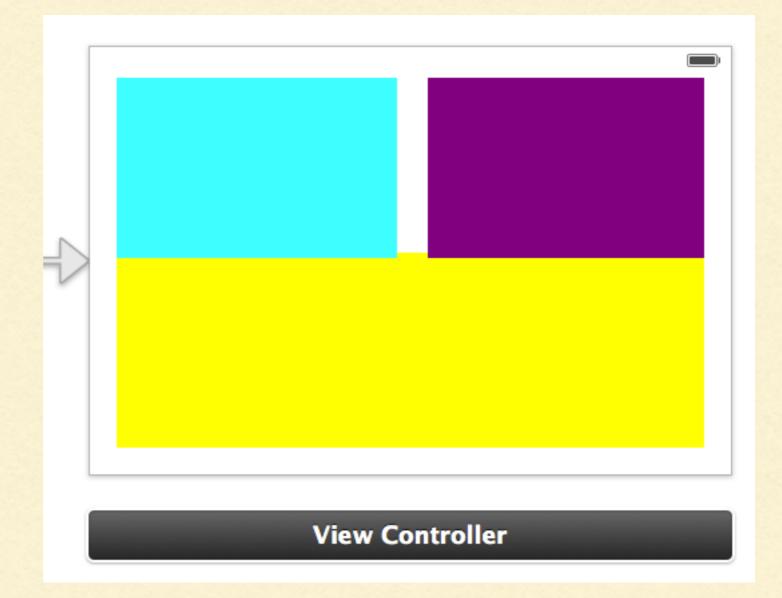






真實的旋轉後狀況

Autosizing masks在view的 大小改變時,可以改變物 件的寬和高的值 (springs),但是幾乎不可 能精確設置如20-points的 距離在三個view之間。





我該怎麼解決這個問題?

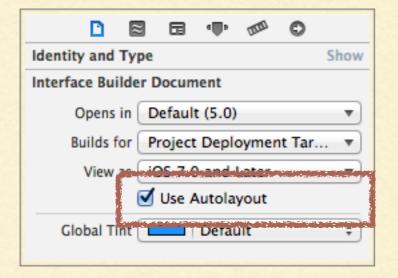
AUTOLAYOUT和AUTORESIZING MASK的區別

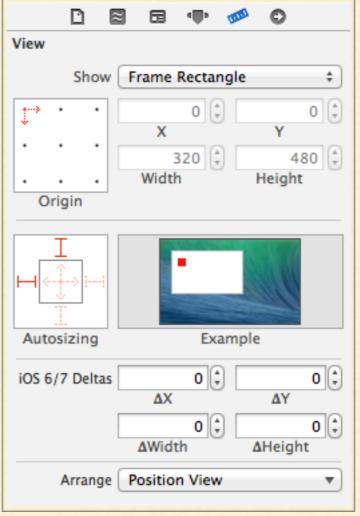
- Autoresizing Mask是AutoLayout的子集。
- AutoLayout更多的功能
 - ■指定任意兩個view的相對位置
 - 可指定非相等約束(大於或者小於等)
 - 可以設定約束的優先級

太棒啦~!

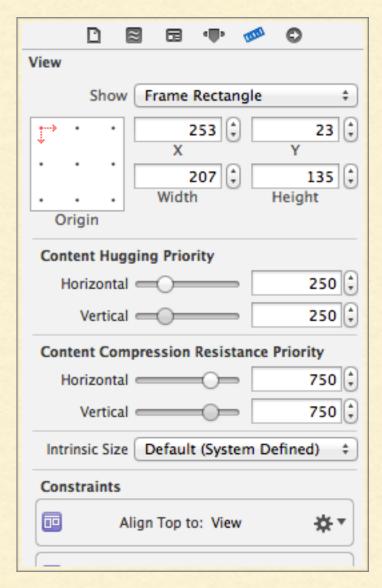


USE AUTO LAYOUT









WHAT IS AUTO LAYOUT

- 一種基於約束的,描述性的佈局系統。 Auto Layout Is a Constraint-Based, Descriptive Layout System.
 - 基於約束 以所謂相對位置的約束來定義的
 - 描述性 使用接近自然語言的方法來進行描述
 - 佈局系統 設計界面的各個元素的位置。
- 使用約束條件來描述佈局,view的frame會依據這 些約束來進行計算。

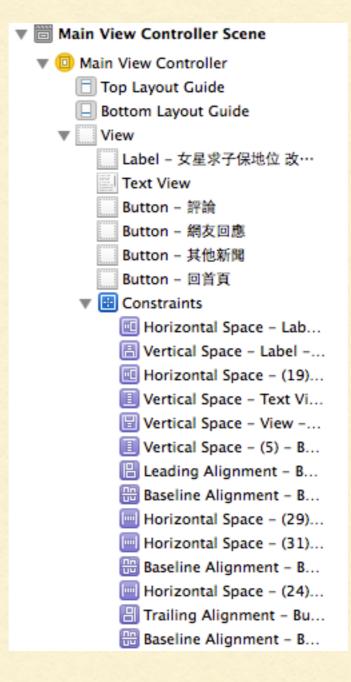
Describe the layout with constraints, and frames are calculated automatically.

Button 1

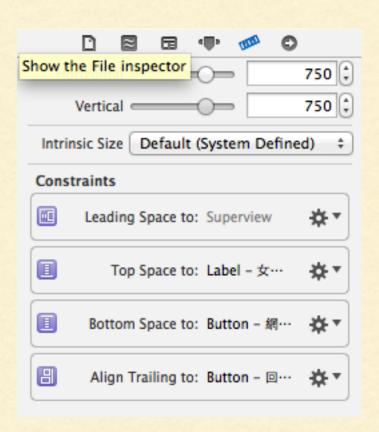
Button 2

AUTO LAYOUT相關面版

I. 左方元件列表可看到現有view所有的約束。



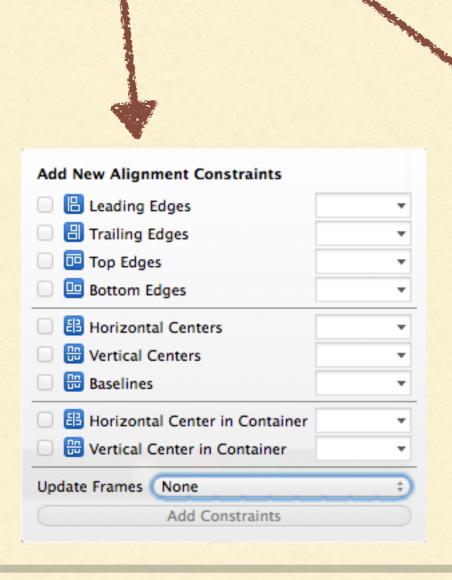
2. 右方面版可以檢視 所選擇元件的約束, 並可編輯刪除。

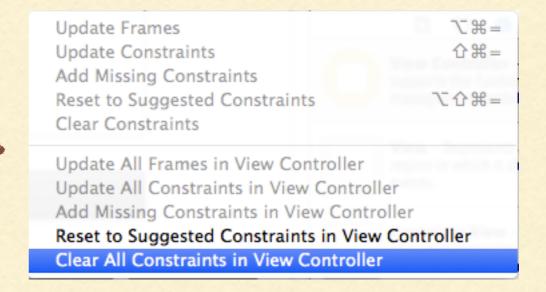


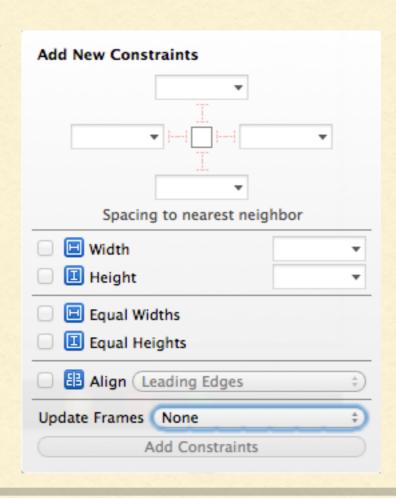
3. 新增修改view的約束屬性

| ++| | tel | □

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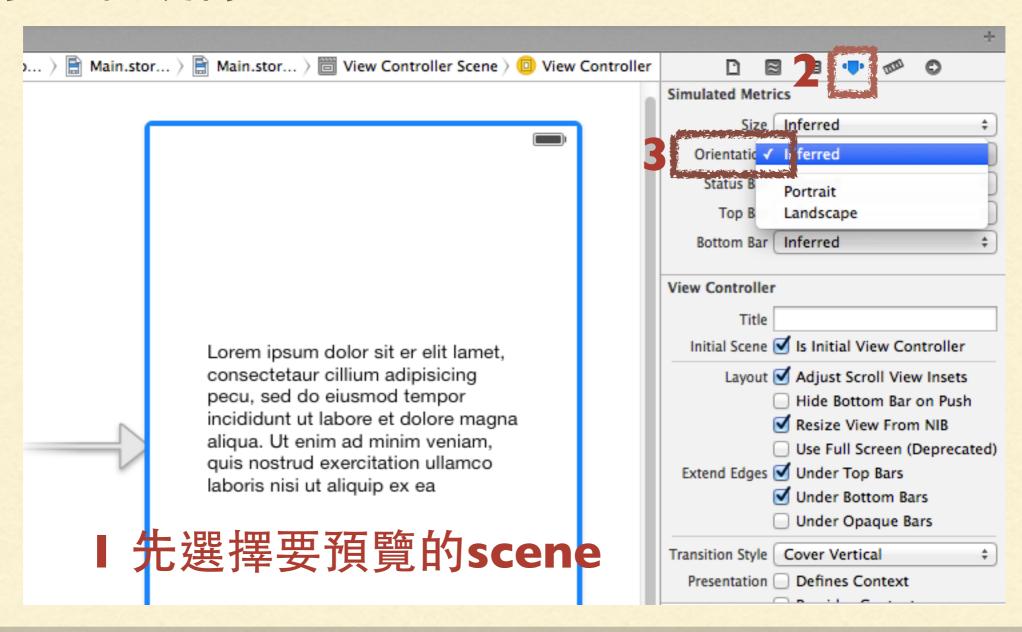






XCODE 5相關小技巧

• 預覽畫面旋轉

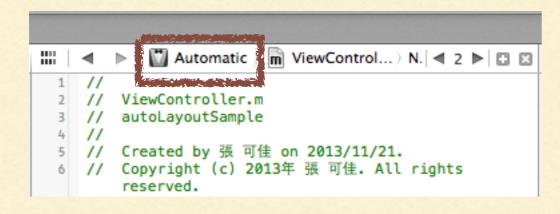


• 預覽在ios7之前版本的顯示樣式

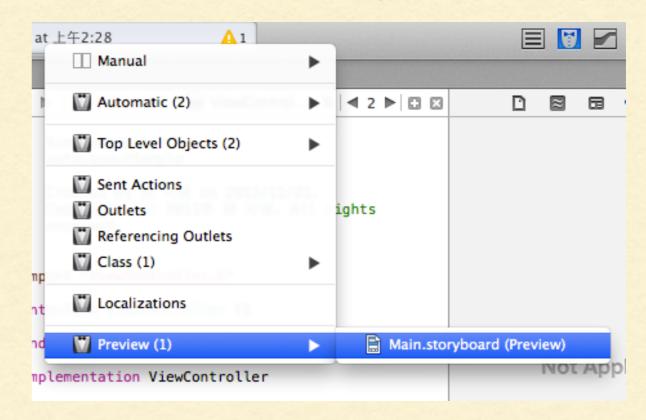
I. 開啟Assistant Editor視窗(西裝外套那個)



2. 按Assistant Editor上方的Automatic



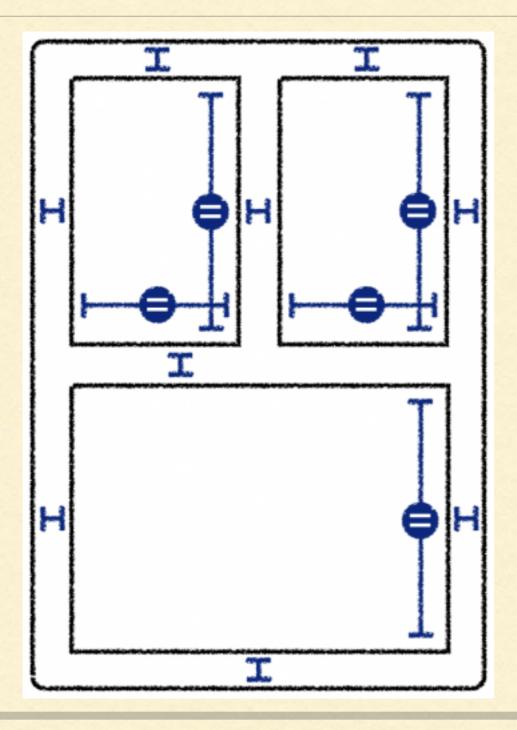
3. 選擇Preview > Main.storyboard(Preview)



4. 右邊的視窗會出現預覽畫面,此時可用右下的預覽控制選項來選擇

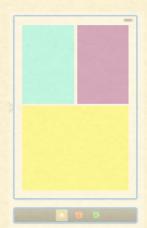


THINKING OF AUTO LAYOUT



使用Auto Layout,我們應該關心每個view之間的關連。這種設計方式我們叫做『通過目的來設計』,要表達的是要達到的目標是什麼,而不是如何來完成目標。

"這個按鈕的左上角的坐標是(20,230)", 現在你可以這麼表達了 "這個按鈕在它的superview中垂直居中,把 他放置在離它的superview左邊緣的一個固 定位置。"



BEFORE BEGINNING....

- 每一個維度都需要至少兩個條件。
- 當我們刪除一個Constraints,便需要增加另一個Constraints。
- 避免在尚未確認最後版面時,便開始建置Constraints。因為當我們更改版面上某一個物件的條件時,很可能導致其他的條件也需要手動增加條件,這很容易讓原有設定的畫面產生問題。
- 為了向後兼容,所有用程式產生的view,要記得關閉Autoresizing Masks。setTranslatesAutoresizingMaskIntoConstraints:NO;
- Forget that the frame property exists. Never set it directly. A view's frame is the result of the autolayout process, not an input variable. To change the frame, change the constraints. This forces you to change the way you think about your UI. Rather than thinking in positions and sizes, think of the rules that specify a each view's positioning in relation to its siblings and parents. It's not unlike CSS.

AUTO LAYOUT WARNINGS

- Ambiguous Frames:條件不足。如:有一個物件只給它長與 寬,但沒有指定元件應該所在的位置,便會出現此警告。
- Conflicting Constraint:條件衝突。如:螢幕寬度為320,但我們設左邊留白30、右邊留白30、物件寬度等於300。這時就會出現條件衝突的警告,因為無法同時滿足這些條件。
 - ▼ Main.storyboard
 ▶ △ Unsupported Configuration
 3 conflicting constraints
- Misplaced View: storyboard上元件的位置或大小被改變了, 但Constraints沒有變動。
 - ▼ Main.storyboard
 ► Misplaced View
 Frame for "Text View" will be different at run time.

手動使用API建立CONSTRAINT

■ 創建NSLayoutConstraint

//這對應的約束是「button的底部(y) = superview的底部 - 10」。

[NSLayoutConstraint constraintWithItem:button

attribute: NSLayout Attribute Bottom

relatedBy:NSLayoutRelationEqual

toltem:superview

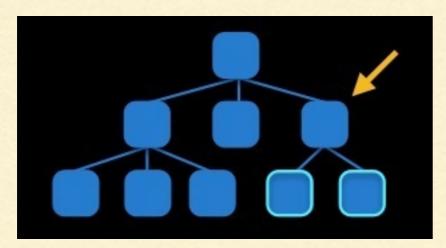
attribute: NSLayout Attribute Bottom

multiplier: 1.0

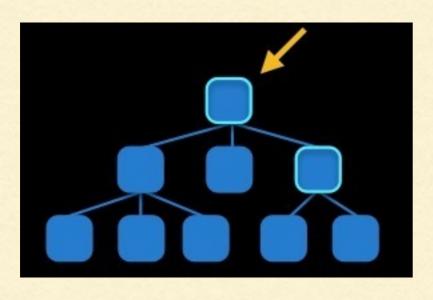
constant:-padding]

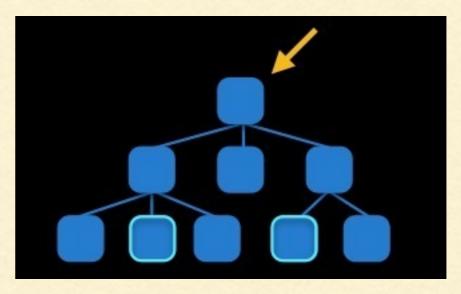
■將其添加到作用的view上

-(void)addConstraint:(NSLayoutConstraint *)constraint;



對於兩個同層級view之間的約束 關係,添加到他們的父view上





對於兩個不同層級view之間的約束關係,添加到他們最近的共同 父view上

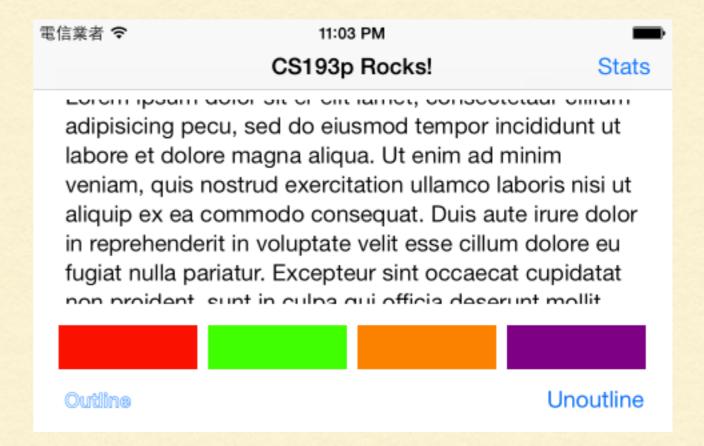
對於有層次關係的兩個view之間的約束關係, 添加到層次較高的父view上

範例實作(一)

電信業者 🗢 10:55 PM Stats

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範例實作(二)

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參考資料

- Beginning Auto Layout Tutorial in iOS 7
 http://www.raywenderlich.com/50317/beginning-auto-layout-tutorial-in-ios-7-part-1
- Auto Layout Guide
 https://developer.apple.com/library/ios/documentation/userexperience/conceptual/AutolayoutPG/
 Introduction/Introduction.html#//apple_ref/doc/uid/TP40010853-CH13-SW1
- I0 Things You Need To Know About Cocoa Autolayout http://oleb.net/blog/2013/03/things-you-need-to-know-about-cocoa-autolayout/
- WWDC 2012 Session筆記—202, 228, 232 AutoLayout(自動佈局)入門 http://onevcat.com/2012/09/autoayout/
- Auto Layout
 http://furnacedigital.blogspot.tw/2013/10/auto-layout.html
- Autolayout percentage widths
 http://www.rsaunders.co.uk/2013/08/autolayout-percentage-widths.html

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Q&A