

## wayne23

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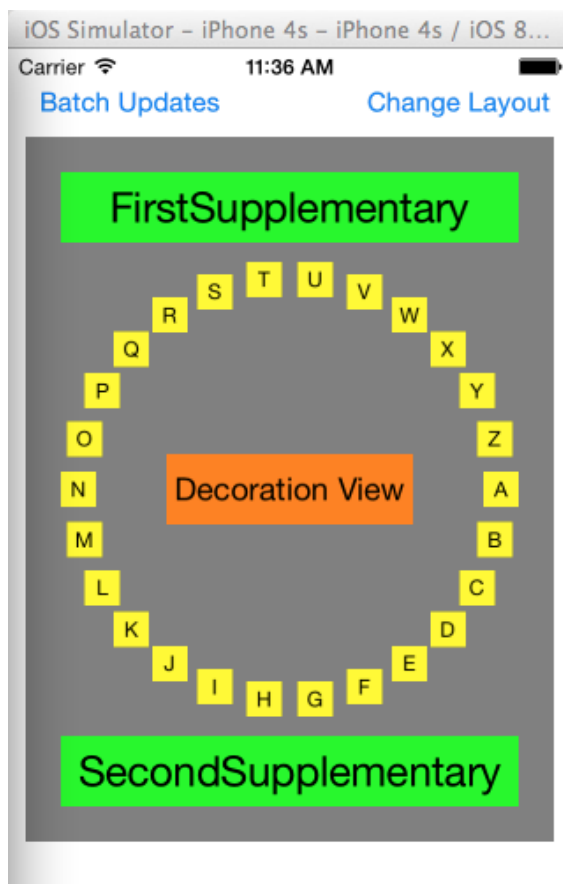
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1. Re:一个UICollectionView自定义layout的实现  
O(∩\_∩)O谢谢

## 一个UICollectionView自定义layout的实现



📄



```
#import <UIKit/UIKit.h>

@interface AppDelegate : UIResponder <UIApplicationDelegate>

@property (strong, nonatomic) UIWindow *window;

@property (strong, nonatomic) NSMutableArray *letterArray;

@end
```



📄



```
#import "AppDelegate.h"

@interface AppDelegate ()
```

--星红

## 2. Re:三种ViewController跳转的异同

不加注释。。。表示有点混乱

--Mr\_Deng

## 3. Re:一个UICollectionView自定义layout的实现

太感谢了，帮大忙了

--小雨点软件

## 4. Re:CocoaPods安装和使用

学习了， thx

--柴禾

## 5. Re:AS3 CookBook学习整理(四)使用ascb的

Pen.drawStar(x,y,points,innerRadius,outerRadius,rotation)，这句话怎么理解。看了，还是没能自己画出一个星形，求解，急需。谢谢！

--石准

@end

@implementation AppDelegate

```
- (BOOL)application:(UIApplication *)application
didFinishLaunchingWithOptions:(NSDictionary *)launchOptions
{
    self.letterArray = [NSMutableArray array];
    for(int i=0; i<26; i++)
    {
        [self.letterArray addObject:[NSString
stringWithFormat:@"%C", (unichar) (65+i)]];
    }

    return YES;
}
```



#import &lt;UIKit/UIKit.h&gt;

@interface ViewController : UIViewController

@end



```
#import "ViewController.h"
#import "AppDelegate.h"
#import "CollectionViewDataSource.h"
#import "DraggableCircleLayout.h"
#import "LSCollectionViewHelper.h"
```

```
@interface ViewController ()
{
    UICollectionView *collectionView;
    UICollectionViewDataSource *cvDataSource;
}
@end
```

@implementation ViewController

```
- (IBAction)ChangeLayoutClickHandler:(id) sender
{
    if([collectionView.collectionViewLayout isKindOfClass:
[CircleLayout class]])
    {
        UICollectionViewFlowLayout *layout =
[[UICollectionViewFlowLayout alloc] init];
        collectionView.collectionViewLayout = layout;
    }
}
```

```
    }
    else
    {
        CircleLayout *layout = [[CircleLayout alloc] init];
        collectionView.collectionViewLayout = layout;
    }
}

- (IBAction)BatchUploadClickHandler:(id)sender
{
    //这里有个细节需要注意，最好是将删除操作放在添加操作前面，因为无论顺序如何，始终都会先执行删除操作。
    //如果代码顺序是先添加后删除，但实际执行顺序是先删除后添加，可能会因为索引不对影响代码逻辑。
    [collectionView performBatchUpdates:^(
        NSMutableArray *letterArray = [self getLetterArray];
        //删除四个元素
        NSIndexPath *path1 = [NSIndexPath indexPathForItem:0
        inSection:0];
        NSIndexPath *path2 = [NSIndexPath indexPathForItem:1
        inSection:0];
        NSIndexPath *path3 = [NSIndexPath indexPathForItem:2
        inSection:0];
        NSIndexPath *path4 = [NSIndexPath indexPathForItem:3
        inSection:0];

        NSIndexSet *indexSet = [NSIndexSet
        indexSetWithIndexesInRange:NSMakeRange(0,4)];

        [indexSet enumerateIndexesUsingBlock:^(NSUInteger
        idx, BOOL *stop){
            NSLog(@"%lu", (unsigned long)idx);
        }];

        [letterArray removeObjectAtIndex:indexSet];

        NSArray *array = [NSArray arrayWithObjects:path1,
        path2, path3, path4, nil];
        [collectionView deleteItemsAtIndexPaths:array];

        //添加一个元素
        [letterArray addObject:@"1"];

        [collectionView insertItemsAtIndexPaths:[NSArray
        arrayWithObject:[NSIndexPath
        indexPathForItem:letterArray.count-1 inSection:0]]];
    } completion:nil];
}

- (void)viewDidLoad
{
    [super viewDidLoad];

    //    UICollectionViewFlowLayout *layout =
```

```
[[UICollectionViewFlowLayout alloc] init];
// CircleLayout *layout = [[CircleLayout alloc] init];
DraggableCircleLayout *layout = [[DraggableCircleLayout
alloc] init];

collectionView = [[UICollectionView alloc]
initWithFrame:CGRectMake(10, 50, 300, 400)
collectionViewLayout:layout];

collectionView.backgroundColor = [UIColor grayColor];
collectionView.draggable = YES;

[collectionView registerClass:[UICollectionViewCell
class] forCellWithReuseIdentifier:@"LetterCell"];
[collectionView registerClass:[UICollectionViewReusableView
class] forSupplementaryViewOfKind:@"FirstSupplementary"
withReuseIdentifier:@"ReuseID"];
[collectionView registerClass:[UICollectionViewReusableView
class] forSupplementaryViewOfKind:@"SecondSupplementary"
withReuseIdentifier:@"ReuseID"];

cvDataSource = [CollectionViewDataSource alloc];
collectionView.dataSource = cvDataSource;
collectionView.delegate = cvDataSource;

[self.view addSubview:collectionView];

UITapGestureRecognizer *tapRecognizer =
[[UITapGestureRecognizer alloc] initWithTarget:self
action:@selector(tapGestureHandler:)];
[collectionView addGestureRecognizer:tapRecognizer];
}

- (void)tapGestureHandler:(UITapGestureRecognizer *)sender
{
    CGPoint point = [sender locationInView:collectionView];
    NSIndexPath *tappedCellPath = [collectionView
indexPathForItemAtPoint:point];

    NSMutableArray *letterArray = [self getLetterArray];
    if(tappedCellPath)
    {
        //删除点击的cell
        [letterArray
removeObjectAtIndex:tappedCellPath.item];
        [collectionView deleteItemsAtIndexPaths:[NSArray
arrayWithObject:tappedCellPath]];
    }
    else
    {
        //如果点击空白处, 在末尾添加一个随机小写字母
        unichar asciiX = (unichar)[self getRandomNumber:97
to:97+26];
        [letterArray addObject:[NSString
stringWithFormat:@"%C", asciiX]];
    }
}
```

```
        NSIndexPath *path = [NSIndexPath
indexPathForItem:letterArray.count-1 inSection:0];
        [collectionView insertItemsAtIndexPaths:[NSArray
arrayWithObject:path]];
    }
}

- (NSMutableArray *)getLetterArray
{
    AppDelegate *appDelegate = (AppDelegate
*)[[UIApplication sharedApplication] delegate];

    return appDelegate.letterArray;
}

- (int)getRandomNumber:(int)from to:(int)to
{
    return (int)(from + (arc4random() % (to-from)));
}

- (void)didReceiveMemoryWarning {
    [super didReceiveMemoryWarning];
    // Dispose of any resources that can be recreated.
}

@end
```



```
#import <UIKit/UIKit.h>
#import "UICollectionView+Draggable.h"

@interface CollectionViewDataSource :
NSObject<UICollectionViewDataSource_Draggable,
UICollectionViewDelegate>

@end
```



```
#import <Foundation/Foundation.h>
#import "AppDelegate.h"
#import "CollectionViewDataSource.h"

@implementation CollectionViewDataSource

- (NSInteger)numberOfSectionsInCollectionView:
```

```
(UICollectionView *)collectionView
{
    return 1;
}

- (NSInteger)collectionView:(UICollectionView
*)collectionView numberOfItemsInSection:(NSInteger)section
{
    return [self getLetterArray].count;
}

- (UICollectionViewCell *)collectionView:(UICollectionView
*)collectionView cellForItemAtIndexPath:(NSIndexPath
*)indexPath
{
    UICollectionViewCell *cell = [collectionView
    dequeueReusableCellWithIdentifier:@"LetterCell"
    forIndexPath:indexPath];

    //先移除可重用cell里面的子元素 (否则会出现新旧交叠)
    [cell.subviews
    makeObjectsPerformSelector:@selector(removeFromSuperview)];

    cell.backgroundColor = [UIColor yellowColor];

    UILabel *label = [[UILabel alloc] init];
    label.text = [[self getLetterArray]
    objectAtIndex:indexPath.row];
    label.font = [UIFont systemFontOfSize:12];
    [label sizeToFit];
    label.center = CGPointMake(cell.bounds.size.width/2,
    cell.bounds.size.height/2);
    [cell addSubview:label];

    return cell;
}

- (UICollectionViewReusableView *)collectionView:
(UICollectionView *)collectionView
viewForSupplementaryElementOfKind:(NSString *)kind
atIndexPath:(NSIndexPath *)indexPath
{
    UICollectionViewReusableView *view = [collectionView
    dequeueReusableCellWithIdentifier:@"ReuseID" forIndexPath:indexPath];

    view.backgroundColor = [UIColor greenColor];

    UILabel *label = [[UILabel alloc] init];
    label.text = kind;
    label.font = [UIFont systemFontOfSize:24];
    [label sizeToFit];
    label.center = CGPointMake(view.bounds.size.width/2,
    view.bounds.size.height/2);
```

```
[view addSubview:label];

return view;
}

- (void)collectionView:(UICollectionView *)collectionView
didSelectItemAtIndexPath:(NSIndexPath *)indexPath
{
    NSLog(@"你选择了");

    // [self.myArray removeObjectAtIndex:indexPath.row];
    //
    // [collectionView deleteItemsAtIndexPaths:[NSArray
    arrayWithObject:indexPath]];
}

- (BOOL)collectionView:(UICollectionViewHelper
*)collectionView canMoveItemAtIndexPath:(NSIndexPath
*)indexPath
{
    NSLog(@"canMoveItemAtIndexPath");
    return YES;
}

- (void)collectionView:(UICollectionViewHelper
*)collectionView moveItemAtIndexPath:(NSIndexPath
*)fromIndexPath toIndexPath:(NSIndexPath *)toIndexPath
{
    NSLog(@"moveItemAtIndexPath");

    NSMutableArray *data = [self getLetterArray];

    NSInteger *index = [data
objectAtIndex:fromIndexPath.item];
    [data removeObjectAtIndex:fromIndexPath.item];
    [data insertObject:index atIndex:toIndexPath.item];
}

- (NSMutableArray *)getLetterArray
{
    AppDelegate *appDelegate = (AppDelegate
*)[[UIApplication sharedApplication] delegate];


    return appDelegate.letterArray;
}


@end
```



```
#import <UIKit/UIKit.h>
```

```
@interface MyCollectionReusableView :  
UICollectionViewReusableView  
  
@end
```

```
  
  
#import "MyCollectionReusableView.h"  
  
@implementation MyCollectionReusableView  
  
- (instancetype)initWithFrame:(CGRect)frame  
{  
    self = [super initWithFrame:frame];  
  
    if (self)  
    {  
        self.backgroundColor = [UIColor orangeColor];  
  
        UILabel *label = [[UILabel alloc] init];  
        label.text = @"Decoration View";  
        label.font = [UIFont systemFontOfSize:18];  
        [label sizeToFit];  
        label.center = CGPointMake(frame.size.width/2,  
frame.size.height/2);  
        [self addSubview:label];  
    }  
  
    return self;  
}  
  
@end  

```

```
  
#import <UIKit/UIKit.h>  
  
@interface CircleLayout : UICollectionViewLayout  
  
@end
```

```
  
  
#import "AppDelegate.h"  
#import "CircleLayout.h"  
#import "CollectionViewDataSource.h"  
#import "MyCollectionReusableView.h"  
  
@interface CircleLayout()  
{  
    CGSize cvSize;  
    CGPoint cvCenter;  

```



```
        CGFloat radius;
        NSInteger cellCount;
    }

    @property (strong, nonatomic) NSMutableArray
    *indexPathsToAnimate;

@end

@implementation CircleLayout

- (void)prepareLayout
{
    [super prepareLayout];

    [self registerClass:[MyCollectionReusableView class]
    forDecorationViewOfKind:@"MyDecoration"];

    cvSize = self.collectionView.frame.size;
    cellCount = [self.collectionView
    numberOfItemsInSection:0];
    cvCenter = CGPointMake(cvSize.width / 2.0, cvSize.height
    / 2.0);
    radius = MIN(cvSize.width, cvSize.height) / 2.5;
}

- (CGSize)collectionViewContentSize
{
    return self.collectionView.bounds.size;
}

- (NSArray *)layoutAttributesForElementsInRect:(CGRect)rect
{
    NSMutableArray *array = [NSMutableArray array];

    //add cells
    for (int i=0; i<cellCount; i++)
    {
        NSIndexPath *indexPath = [NSIndexPath
        indexPathForItem:i inSection:0];

        UICollectionViewLayoutAttributes *attributes = [self
        layoutAttributesForItemAtIndexPath:indexPath];

        [array addObject:attributes];
    }

    //add first supplementaryView
    NSIndexPath *indexPath = [NSIndexPath indexPathForItem:0
    inSection:0];
    UICollectionViewLayoutAttributes *attributes = [self
    layoutAttributesForSupplementaryViewOfKind:@"FirstSupplementa
    ry" atIndexPath:indexPath];
    [array addObject:attributes];
}
```

```
//add second supplementaryView
attributes = [self
layoutAttributesForSupplementaryViewOfKind:@"SecondSupplement
ary" atIndexPath:indexPath];
[array addObject:attributes];

//add decorationView
attributes = [self
layoutAttributesForDecorationViewOfKind:@"MyDecoration"
atIndexPath:indexPath];
[array addObject:attributes];

return array;
}

- (UICollectionViewLayoutAttributes
*)layoutAttributesForItemAtIndexPath:(NSIndexPath *)indexPath
{
    UICollectionViewLayoutAttributes *attributes =
    [UICollectionViewLayoutAttributes
    layoutAttributesForCellWithIndexPath:indexPath];

    attributes.size = CGSizeMake(20, 20);
    attributes.center = CGPointMake(cvCenter.x + radius *
    cosf(2 * indexPath.item * M_PI / cellCount),
    cvCenter.y + radius *
    sinf(2 * indexPath.item * M_PI / cellCount));

    return attributes;
}

- (UICollectionViewLayoutAttributes
*)layoutAttributesForSupplementaryViewOfKind:(NSString
*)elementKind atIndexPath:(NSIndexPath *)indexPath
{
    UICollectionViewLayoutAttributes *attributes =
    [UICollectionViewLayoutAttributes
    layoutAttributesForSupplementaryViewOfKind:elementKind
    withIndexPath:indexPath];

    attributes.size = CGSizeMake(260, 40);
    if([elementKind isEqual:@"FirstSupplementary"])
    {
        attributes.center = CGPointMake(cvSize.width/2, 40);
    }
    else
    {
        attributes.center = CGPointMake(cvSize.width/2,
    cvSize.height-40);
    }

    return attributes;
}
```

```
- (UICollectionViewLayoutAttributes
*)layoutAttributesForDecorationViewOfKind:(NSString
*)elementKind atIndexPath:(NSIndexPath *)indexPath
{
    UICollectionViewLayoutAttributes *attributes =
    [UICollectionViewLayoutAttributes
    layoutAttributesForDecorationViewOfKind:elementKind
    withIndexPath:indexPath];

    attributes.size = CGSizeMake(140, 40);
    attributes.center = CGPointMake(cvSize.width/2,
    cvSize.height/2);

    return attributes;
}

//当边界更改时是否更新布局
- (BOOL)shouldInvalidateLayoutForBoundsChange:
(CGRect)newBounds
{
    CGRect oldBounds = self.collectionView.bounds;

    if (CGRectGetWidth(newBounds) !=
    CGRectGetWidth(oldBounds))
    {
        return YES;
    }

    return NO;
}

//通知布局, collection view里有元素即将改变, 这里可以收集改变的元素
indexPath和action类型。
- (void)prepareForCollectionViewUpdates:(NSArray *)updateItems
{
    [super prepareForCollectionViewUpdates:updateItems];

    NSMutableArray *indexPaths = [NSMutableArray array];

    for(UICollectionViewUpdateItem *updateItem in
    updateItems)
    {
        //UICollectionViewUpdateActionInsert,
        //UICollectionViewUpdateActionDelete,
        //UICollectionViewUpdateActionReload,
        //UICollectionViewUpdateActionMove,
        //UICollectionViewUpdateActionNone

        NSLog(@"before index:%d,after index:%d,action:%d",
        updateItem.indexPathBeforeUpdate.row,updateItem.indexPathAfterUpdate.row,updateItem.updateAction);

        switch (updateItem.updateAction) {
            case UICollectionViewUpdateActionInsert:
                [indexPaths
                addObject:updateItem.indexPathAfterUpdate];
        }
    }
}
```

```
        break;
        case UICollectionViewUpdateActionDelete:
            [indexPaths
 addObject:updateItem.indexPathBeforeUpdate];
            break;
        case UICollectionViewUpdateActionMove:
            [indexPaths
 addObject:updateItem.indexPathBeforeUpdate];
            [indexPaths
 addObject:updateItem.indexPathAfterUpdate];
            break;
        default:
            NSLog(@"unhandled case: %@", updateItem);
            break;
    }
}

self.indexPathsToAnimate = indexPaths;
}

//当一个元素被插入collection view时, 返回它的初始布局, 这里可以加入一些动画效果。

- (UICollectionViewLayoutAttributes
*)initialLayoutAttributesForAppearingItemAtIndexPath:
(NSIndexPath *)itemIndexPath
{
    UICollectionViewLayoutAttributes *attr = [self
layoutAttributesForItemAtIndexPath:itemIndexPath];

    if([self.indexPathsToAnimate
containsObject:itemIndexPath])
    {
        attr.transform =
CGAffineTransformRotate(CGAffineTransformMakeScale(10,10),M_PI);

        attr.center =
CGPointMake(CGRectGetMidX(self.collectionView.bounds),
CGRectGetMidY(self.collectionView.bounds));
        [self.indexPathsToAnimate
removeObject:itemIndexPath];
    }

    return attr;
}

- (NSArray *)getLetterArray
{
    AppDelegate *appDelegate = (AppDelegate
*)[[UIApplication sharedApplication] delegate];

    return appDelegate.letterArray;
}

@end
```



```
#import "CircleLayout.h"
#import "UICollectionViewLayout_Warpable.h"

@interface DraggableCircleLayout : CircleLayout
<UICollectionViewLayout_Warpable>

@property (readonly, nonatomic) LSCollectionViewLayoutHelper
*layoutHelper;

@end
```



```
#import "DraggableCircleLayout.h"
#import "LSCollectionViewLayoutHelper.h"

@interface DraggableCircleLayout()
{
    LSCollectionViewLayoutHelper *_layoutHelper;
}
@end

@implementation DraggableCircleLayout

- (LSCollectionViewLayoutHelper *)layoutHelper
{
    if(_layoutHelper == nil) {
        _layoutHelper = [[LSCollectionViewLayoutHelper
alloc] initWithCollectionViewLayout:self];
    }
    return _layoutHelper;
}

- (NSArray *)layoutAttributesForElementsInRect:(CGRect)rect
{
    return [self.layoutHelper
modifiedLayoutAttributesForElements:[super
layoutAttributesForElementsInRect:rect]];
}

@end
```



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