

TableViewCell与SDWebImage之间的苟且

1.实验目的：降低内存消耗，提高滑动效率，提高用户体验度。

2.实验IDE：Xcode、Instrument、豆果美食App。

3.实验设计：滑动首页至底部即加载25页数据，利用Instrument中的TimeProfile工具查看耗时主要矛盾。修改主要矛盾，再重复TimeProfile操作，确定是否解决问题。

4.实验结果:

1.利用目前线上的代码查看耗时:

[illegible]

经过代码跟进，发现主要时间消耗是在SDWebImageView对图片做降质操作，对应位置是在SDWebImageDecoder.m文件中的CGContextDrawImage()方法。当然SDWebImage做了对MemoryWarning处理，即删除内存中图片缓存，但经过Instrument查证删除内存图片缓存时，内存会立刻回升，查找后发现每次tableView上拉加载更多时会刷新整个tableView，这样会导致每行都重新设置SDWebImage，当然耗时指向还是SDWebImageDecoder.m文件中的CGContextDrawImage()方法。

因此提高效率可以从两方面进行，第一：只为tableView显示的Cell设置SDWebImage，这样就会减少很多操作；第二：若服务器下发的图片不太大的话，就不做降质操作。

2.图片不降质

Symbol Name	Self Incl	Symbol Name
1659.0ms 83.0%	0.0	1659.0ms 83.0%
1671.0ms 83.0%	0.0	1671.0ms 83.0%
1683.0ms 83.0%	0.0	1683.0ms 83.0%
1695.0ms 83.0%	0.0	1695.0ms 83.0%
1707.0ms 83.0%	0.0	1707.0ms 83.0%
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1767.0ms 83.0%	0.0	1767.0ms 83.0%
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1791.0ms 83.0%	0.0	1791.0ms 83.0%
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1875.0ms 83.0%	0.0	1875.0ms 83.0%
1887.0ms 83.0%	0.0	1887.0ms 83.0%
1899.0ms 83.0%	0.0	1899.0ms 83.0%
1911.0ms 83.0%	0.0	1911.0ms 83.0%
1923.0ms 83.0%	0.0	1923.0ms 83.0%
1935.0ms 83.0%	0.0	1935.0ms 83.0%
1947.0ms 83.0%	0.0	1947.0ms 83.0%
1959.0ms 83.0%	0.0	1959.0ms 83.0%
1971.0ms 83.0%	0.0	1971.0ms 83.0%
1983.0ms 83.0%	0.0	1983.0ms 83.0%
1995.0ms 83.0%	0.0	1995.0ms 83.0%
2007.0ms 83.0%	0.0	2007.0ms 83.0%
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2139.0ms 83.0%	0.0	2139.0ms 83.0%
2151.0ms 83.0%	0.0	2151.0ms 83.0%
2163.0ms 83.0%	0.0	2163.0ms 83.0%
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2547.0ms 83.0%	0.0	2547.0ms 83.0%
2559.0ms 83.0%	0.0	2559.0ms 83.0%
2571.0ms 83.0%	0.0	2571.0ms 83.0%
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结果：和1操作时间节省了很多

3. 只为tableView显示的Cell设置SDWebImage

[illegible]

结果：和1操作时间节省了很多

4.图片不降质量且tableView显示的Cell设置SDWebImage

Running Time	Self (ms)	Symbols Name
5401.0ms	86.00	YMain Thread On10s250
5394.0ms	86.00	Ymain DoupuoRecipe5
2067.0ms	11.7%	1-1-[BGRequest send]_tblct_invoke189 DoupuoRecipe5
1786.0ms	3.8%	1-[DRRundAvatar drawFecc] DoupuoRecipe5
1325.0ms	2.4%	1-[GTablViewControllr tblViewWillDisplayCellerRowAtIndexFetc] DoupuoRecipe5
499.0ms	2.6%	1-[D66TablViewControllr scrollViewDidScroll] DoupuoRecipe5
335.0ms	1.8%	1-[D66HomeEdgesTablViewControllr tablView:selectForRowAtIndexFetc] DoupuoRecipe5
314.0ms	1.7%	1-[D66ViewControllr tablViewControllr tablView:scrollForRowAtIndexFetc] DoupuoRecipe5
313.0ms	1.1%	1-[D66ViewControllrImageDoupuoCell layOutSubviews] DoupuoRecipe5
242.0ms	0.4%	1-[D66AppManager appManager:tableView:scrollView:gesture] DoupuoRecipe5
214.0ms	0.4%	1-[D66HomeViewControllr viewDidEnd] DoupuoRecipe5
180.0ms	0.3%	1-[D66HomeEdgesTablViewControllr viewWillAppear] DoupuoRecipe5
111.0ms	0.2%	1-[D66Cell updateCustomSelectionStyleWithSelectedAnimated] DoupuoRecipe5
22.0ms	0.1%	1-[D66ReviewProposer propose] DoupuoRecipe5
21.0ms	0.1%	1-[D66RecipeSearchViewControllr tablView:scrollForRowAtIndexFetc] DoupuoRecipe5
11.0ms	0.0%	1-[D66HomeEdgesTablViewControllr scrollViewWillBeginDragging] DoupuoRecipe5
11.0ms	0.0%	1-[RCCountyCommunitGuns currentCountyFreshLoading] DoupuoRecipe5
7.0ms	0.0%	1-__ZT-__ZTInitilizer [aTtachment]_mock_mock_2 DoupuoRecipe5
6.0ms	0.0%	1-[D66AppManager appManager:tableView:scrollView:gesture] DoupuoRecipe5
5.0ms	0.0%	1-[D66TablControllr viewDidLayoutSubviews] DoupuoRecipe5

结果：和1、2、3操作时间节省了

5.个人想法：如果从最小改动 + 避免修改第三方内部代码，选择第三种方式优化；当然从极致出发采用第四种方法；还有可以优化点，就是在 tableView 上拉加载数据时，不要执行 reloadData，而是 insertRows，这样就会减少 cell 刷新，因为 cell 中的 Label 计算高度也是一个耗时项。

6.局限性：由于以上数据都以1次数据，并不太准确，但从代码逻辑上效率： $4 > 2$ 、 $3 > 1$