

# Chameleon

Getting your iOS app onto the Mac





# What is it?

- UIKit for Mac OS X
- Implements same API as iOS
- Written by Sean Heber – @BigZaphod
- I'm the first guinea pig – @chockenberry



# Why did we do it?

- Twitterrific for Mac
- About 50K lines of iOS code to rewrite
- And new code to maintain in parallel
- Started doing that...
- Then Sean got lazy... sort of.



# Where are we now?

- Nine months later
- 90% of our code base is platform agnostic
- Simultaneous releases for Mac and iOS
- UI consistency across products
- 2x revenue from same code



# How can you use it?

- <http://chameleonproject.org/>
- Source code available on github
- API coverage about 60%
- No documentation
- Buy an expensive T-shirt



# Documentation

- This talk is the starting point
- Thanks to @VTM\_iPhone for video
- Not going to cover internals
- Talk about things we learned
- Porting guide for Mac

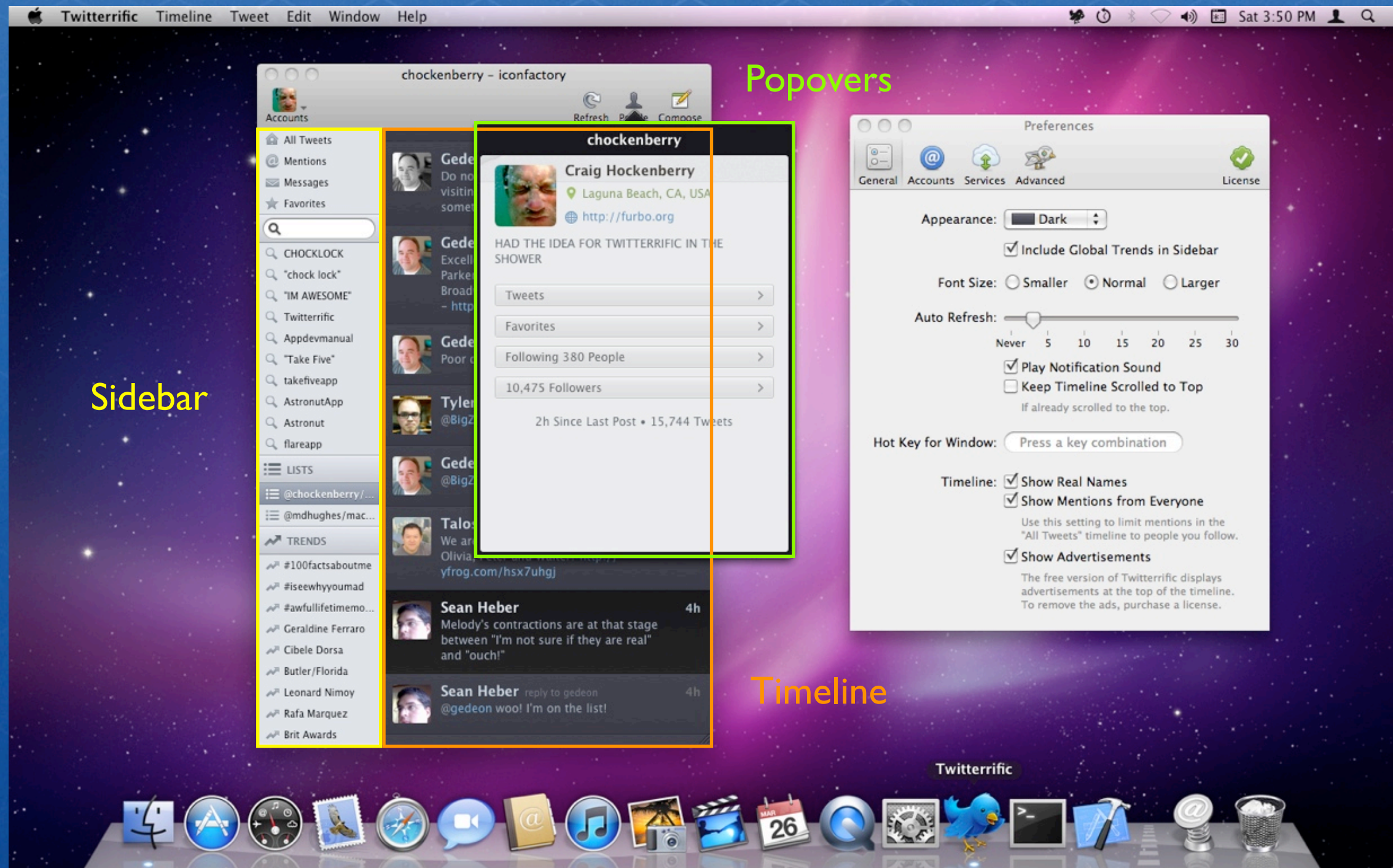


# Make it Mac!





# Where is UIKit?



Popovers

Sidebar

Timeline



# Refactoring

- It has to happen
- Multiple windows
- Menubar
- Application delegates differ
- Section 6.4 – “Apple sets a high bar”



# “Epic refactor is epic”

- 100+ files changed
- 1,100 word commit message for rev 3896
- Implemented application controller
- Actions & state managed by controller
- Controller is subclassed per platform

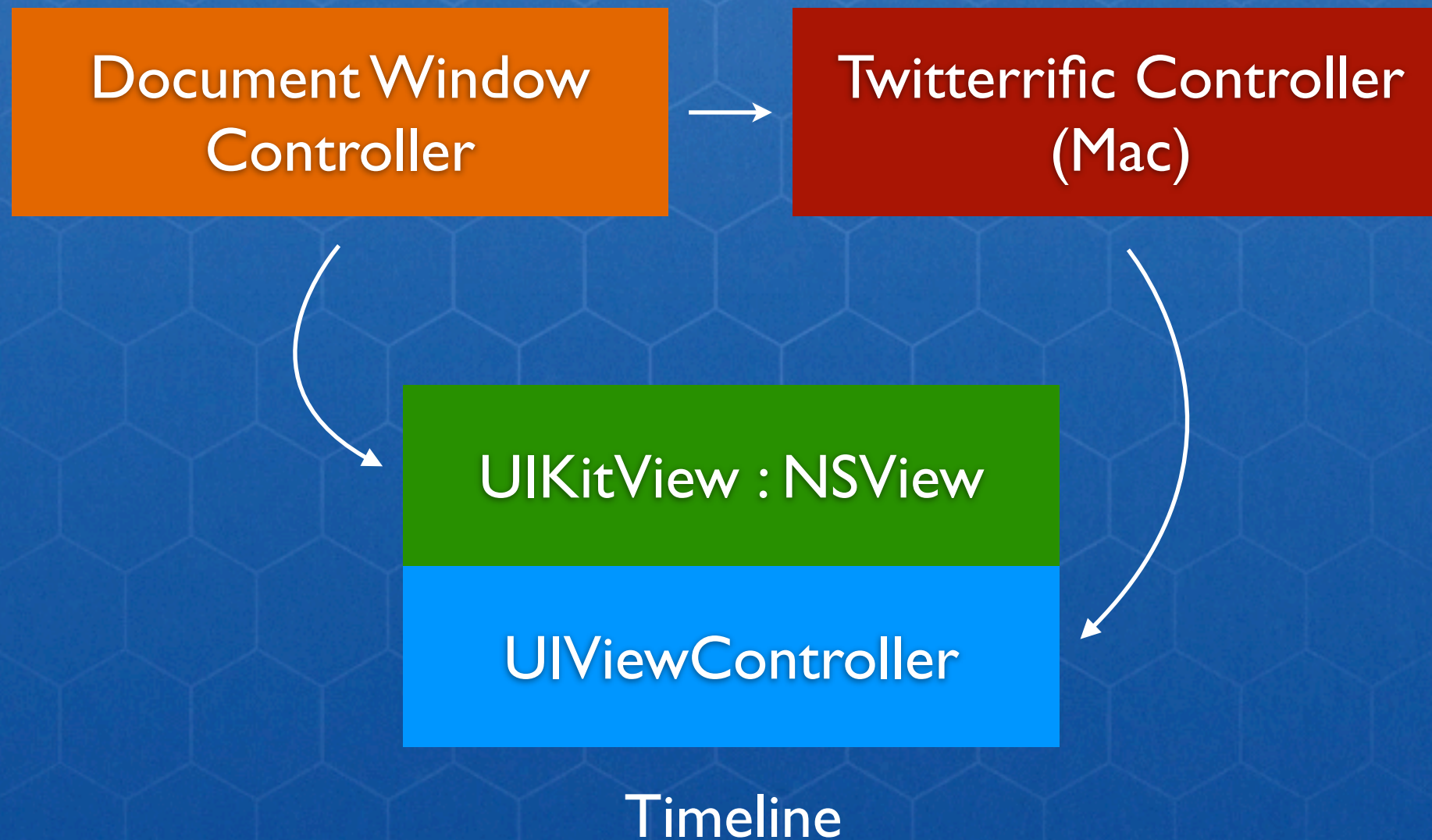


# TwitterrificController

- TwitterrificController base class
  - TwitterrificController\_iOS
    - TwitterrificController\_iPhone
    - TwitterrificController\_iPad
  - TwitterrificController\_Mac



# Document Window





# Application Delegate

Application Delegate



Twitterrific Controller  
(iOS)



UIViewController

Timeline



# UIKitView

- Every UIView has a UIScreen
- 1:1 relationship with view and screen
- UIWindow accessor creates window
- Matches screen bounds
- Or do it yourself:

```
myUIWindow.screen = myUIKitView.UIScreen;
```



# UIKitView

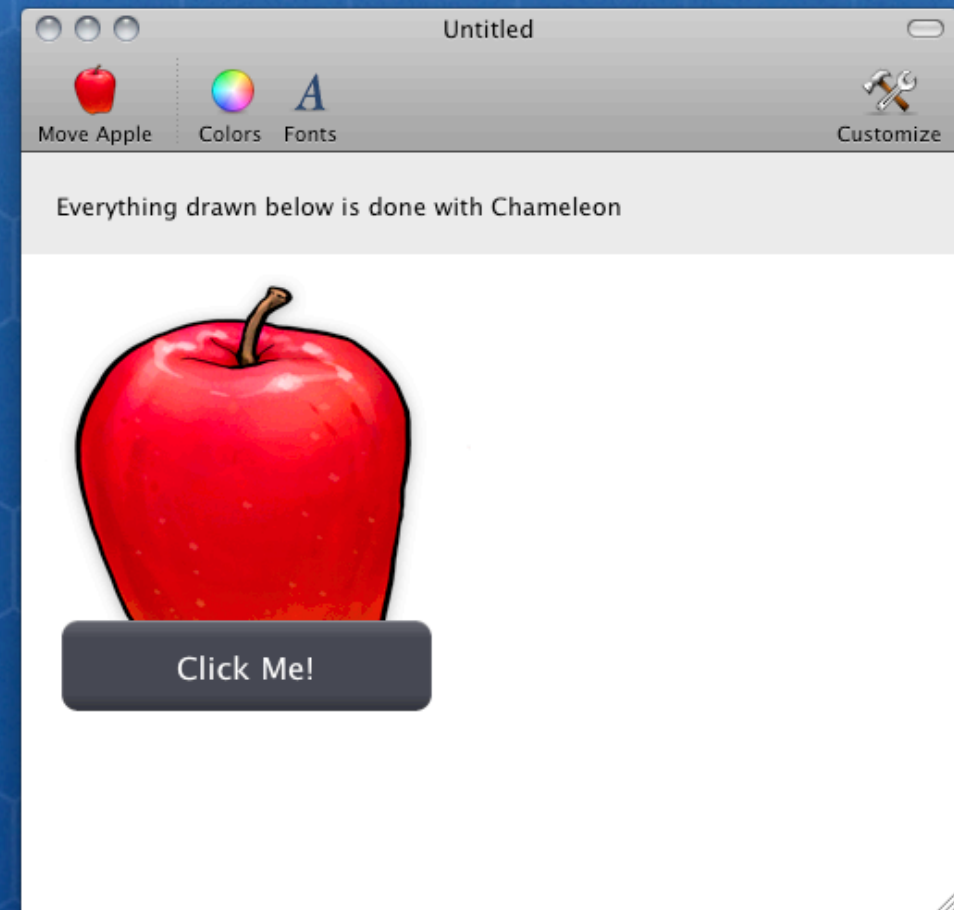
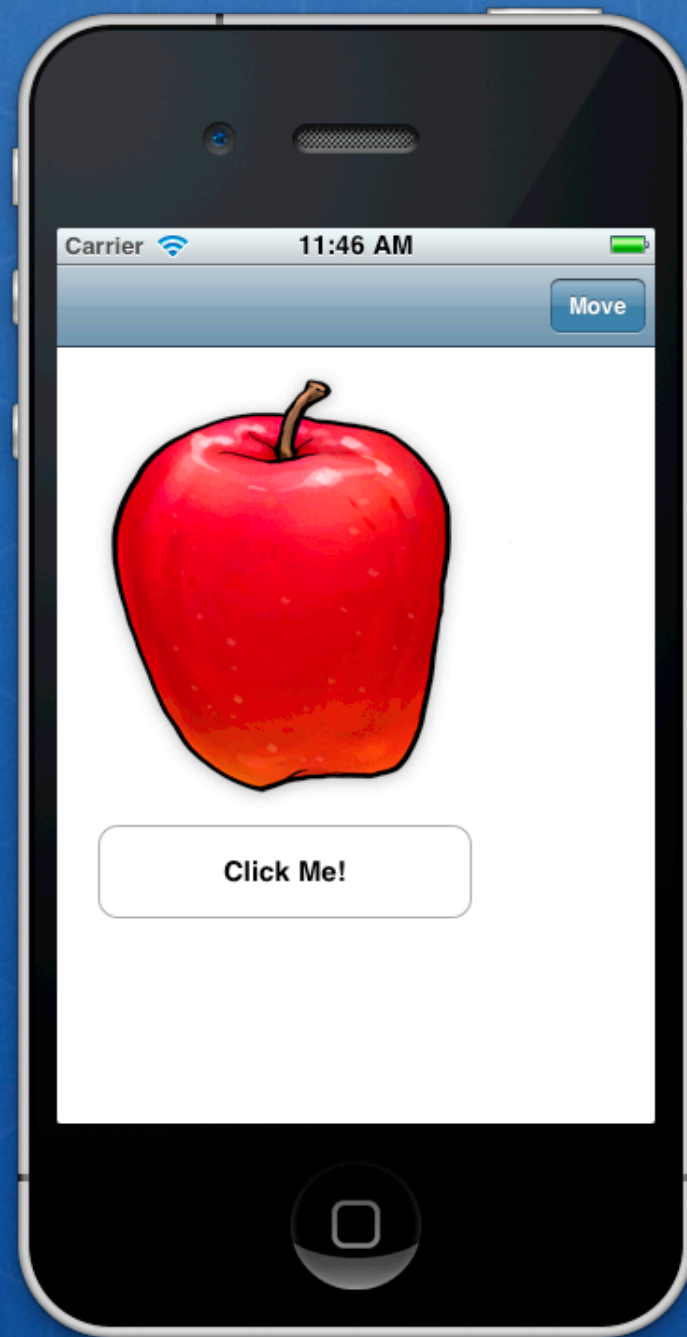
```
- (void)setViewController:(UIViewController *)newViewController
{
    if (newViewController != viewController) {
        [viewController.view removeFromSuperview];

        [viewController release];
        viewController = [newViewController retain];

        // unlike iOS, bounds can change often and radically
        viewController.view.autoresizingMask =
            UIViewAutoresizingFlexibleWidth |
            UIViewAutoresizingFlexibleHeight;
        viewController.view.frame = self.UIWindow.bounds;
        [self.UIWindow addSubview:viewController.view];
        // .. just like in iOS application delegate
    }
}
```



# Demo





# Deficiencies

- Partial implementation (table view editing)
- Missing classes (switch and tab view)
- Nib loading: use -loadView



# Deficiencies

- Accessibility
- Multi-touch and gesture recognizers
- WebView on 10.6 and Core Animation
- Subpixel anti-aliasing possible, but hard



# Q & A

<http://chameleonproject.org/>

<http://files.iconfactory.net/craig/MultiApple.zip>

**Buy a T-shirt before April 20th!**