

# Custom View Controller Transitions

Simon Blommegård, Tictail



Which transitions can be customized?



# Which transitions can be customized?

- Presentations and dismissals



# Which transitions can be customized?

- Presentations and dismissals
- UITabBarController



# Which transitions can be customized?

- Presentations and dismissals
- UITabBarController
- UINavigationController



# Which transitions can be customized?

- Presentations and dismissals
- UITabBarController
- UINavigationController
- UICollectionView layout-to-layout transitions



# Snapshot API

- (UIView \*)**snapshotViewAfterScreenUpdates**: (BOOL)afterUpdates
- (UIView \*)**resizableSnapshotViewFromRect**: (CGRect)rect  
                                  **afterScreenUpdates**: (BOOL)afterUpdates  
                                  **withCapInsets**: (UIEdgeInsets)capInsets
- (BOOL)**drawViewHierarchyInRect**: (CGRect)rect  
                                  **afterScreenUpdates**: (BOOL)afterUpdates



# Presentations & dismissals

```
UIViewController *vc = ...  
id <UIViewControllerTransitioningDelegate> aTransitioningDelegate;  
  
vc.modalPresentationStyle = UIModalPresentationCustom  
vc.transitioningDelegate = aTransitioningDelegate;  
[self presentViewController:vc animated:YES completion:nil];
```



# UIViewControllerTransitioningDelegate

- (id <UIViewControllerAnimatedTransitioning>)animationControllerForPresentedC  
presentingC  
sourceC
- (id <UIViewControllerAnimatedTransitioning>)animationControllerForDismissedC
- (id <UIViewControllerInteractiveTransitioning>)interactionControllerForPrese
- (id <UIViewControllerInteractiveTransitioning>)interactionControllerForDismi



# UIViewControllerTransitioningDelegate

```
onning>)animationControllerForPresentedController:(UIViewController *)presented  
presentingController:(UIViewController *)presenting  
sourceController:(UIViewController *)source;
```

- (id <UIViewControllerAnimatedTransitioning>)animationControllerForDismissedC
- (id <UIViewControllerInteractiveTransitioning>)interactionControllerForPrese
- (id <UIViewControllerInteractiveTransitioning>)interactionControllerForDismi



# UIViewControllerTransitioningDelegate

- (id <UIViewControllerAnimatedTransitioning>)animationControllerForPresentedC  
presentingC  
sourceC
- (id <UIViewControllerAnimatedTransitioning>)animationControllerForDismissedC
- (id <UIViewControllerInteractiveTransitioning>)interactionControllerForPrese
- (id <UIViewControllerInteractiveTransitioning>)interactionControllerForDismi



# UIViewControllerTransitioningDelegate

- (id <UIViewControllerAnimatedTransitioning>)animationControllerForPresentedController:sourceController:presentingController;
- (id <UIViewControllerAnimatedTransitioning>)animationControllerForDismissedController:(UIViewController \*)dismissed;
- (id <UIViewControllerInteractiveTransitioning>)interactionControllerForPresentedController:sourceController:presentingController;
- (id <UIViewControllerInteractiveTransitioning>)interactionControllerForDismissedController:(UIViewController \*)dismissed;



# UIViewControllerTransitioningDelegate

- (id <UIViewControllerAnimatedTransitioning>)animationControllerForPresentedC  
presentingC  
sourceC
- (id <UIViewControllerAnimatedTransitioning>)animationControllerForDismissedC
- (id <UIViewControllerInteractiveTransitioning>)interactionControllerForPrese
- (id <UIViewControllerInteractiveTransitioning>)interactionControllerForDismi



# UIViewControllerTransitioningDelegate

- (id <UIViewControllerAnimatedTransitioning>)animationControllerForPresentedC  
presentingC  
sourceC
- (id <UIViewControllerAnimatedTransitioning>)animationControllerForDismissedC
- (id <UIViewControllerInteractiveTransitioning>)interactionControllerForPresentation:(id <UIViewControllerAnimatedTransitioning>)an
- (id <UIViewControllerInteractiveTransitioning>)interactionControllerForDismi



# UIViewControllerTransitioningDelegate

- (id <UIViewControllerAnimatedTransitioning>)animationControllerForPresentedC  
presentingC  
sourceC
- (id <UIViewControllerAnimatedTransitioning>)animationControllerForDismissedC
- (id <UIViewControllerInteractiveTransitioning>)interactionControllerForPresent
- (id <UIViewControllerInteractiveTransitioning>)interactionControllerForDismi



# UIViewControllerTransitioningDelegate

- (id <UIViewControllerAnimatedTransitioning>)animationControllerForPresentedC  
presentingC  
sourceC
- (id <UIViewControllerAnimatedTransitioning>)animationControllerForDismissedC
- (id <UIViewControllerInteractiveTransitioning>)interactionControllerForPresent

)interactionControllerForDismissal:(id <UIViewControllerAnimatedTransitioning>)anima



# UIViewControllerTransitioningDelegate

- (id <UIViewControllerAnimatedTransitioning>)animationControllerForPresentedC  
presentingC  
sourceC
- (id <UIViewControllerAnimatedTransitioning>)animationControllerForDismissedC
- (id <UIViewControllerInteractiveTransitioning>)interactionControllerForPresent
- (id <UIViewControllerInteractiveTransitioning>)interactionControllerForDismiss



# UIViewControllerTransitioningDelegate

- (id <UIViewControllerAnimatedTransitioning>)animationControllerForPresentedC  
presentingC  
sourceC
- (id <UIViewControllerAnimatedTransitioning>)animationControllerForDismissedC
- (id <UIViewControllerInteractiveTransitioning>)interactionControllerForPresent
- (id <UIViewControllerInteractiveTransitioning>)interactionControllerForDismiss
- (id)initWithBitmapDataPlanes:(unsigned char \*\*)planes pixelsWide:(NSInteger)



# UIViewControllerTransitioningDelegate

- (id <UIViewControllerAnimatedTransitioning>)animationControllerForPresentedC  
presentingC  
sourceC
- (id <UIViewControllerAnimatedTransitioning>)animationControllerForDismissedC
- (id <UIViewControllerInteractiveTransitioning>)interactionControllerForPresent
- (id <UIViewControllerInteractiveTransitioning>)interactionControllerForDismiss

bitmapFormat bytesPerRow:(NSInteger)rowBytes bitsPerPixel:(NSInteger)pixelBits;



# UIViewControllerTransitioningDelegate

- (id <UIViewControllerAnimatedTransitioning>)animationControllerForPresentedC  
presentingC  
sourceC
- (id <UIViewControllerAnimatedTransitioning>)animationControllerForDismissedC
- (id <UIViewControllerInteractiveTransitioning>)interactionControllerForPresent
- (id <UIViewControllerInteractiveTransitioning>)interactionControllerForDismiss



# UI(Navigation|Tab)BarControllerDelegate

- (id <UINavigationControllerAnimatedTransitioning>) navigationController: (UINavigationController)  
animationControllerForOperation: (UINavigationController)  
fromViewController: (UIViewController)  
toViewController: (UIViewController)
- (id <UINavigationControllerInteractiveTransitioning>) navigationController: (UINavigationController)  
interactionControllerForAnimationController: (id <UINavigationControllerInteractiveTransitioning>)
- (id <UITabBarControllerAnimatedTransitioning>) tabBarController: (UITabBarController)  
animationControllerForTransitionFromViewController: (UIViewController)  
toViewController: (UIViewController)
- (id <UITabBarControllerInteractiveTransitioning>) tabBarController: (UITabBarController)  
interactionControllerForAnimationController: (id <UITabBarControllerInteractiveTransitioning>)



# UI(Navigation|Tab)BarControllerDelegate

```
ansitioning>)navigationController:(UINavigationController *)navigationController  
animationControllerForOperation:(UINavigationControllerOperation)operation  
fromViewController:(UIViewController *)fromVC  
toViewController:(UIViewController *)toVC;
```

- (id <UINavigationControllerInteractiveTransitioning>)navigationController:(UINavigationController \*)navigationController  
interactionControllerForAnimationController:(id <UINavigationControllerAnimationController>)animationController
- (id <UITabBarControllerAnimatedTransitioning>)tabBarController:(UITabBarController \*)tabBarController  
animationControllerForTransitionFromViewController:(UIViewController \*)fromVC  
toViewController:(UIViewController \*)toVC
- (id <UITabBarControllerInteractiveTransitioning>)tabBarController:(UITabBarController \*)tabBarController  
interactionControllerForAnimationController:(id <UITabBarControllerAnimationController>)animationController



# UI(Navigation|Tab)BarControllerDelegate

- (id <UINavigationControllerAnimatedTransitioning>) navigationController: (UINavigationController)  
animationControllerForOperation: (UINavigationController)  
fromViewController: (UIViewController)  
toViewController: (UIViewController)
- (id <UINavigationControllerInteractiveTransitioning>) navigationController: (UINavigationController)  
interactionControllerForAnimationController: (id <UINavigationControllerInteractiveTransitioning>)
- (id <UITabBarControllerAnimatedTransitioning>) tabBarController: (UITabBarController)  
animationControllerForTransitionFromViewController: (UIViewController)  
toViewController: (UIViewController)
- (id <UITabBarControllerInteractiveTransitioning>) tabBarController: (UITabBarController)  
interactionControllerForAnimationController: (id <UITabBarControllerInteractiveTransitioning>)



# UI(Navigation|Tab)BarControllerDelegate

– (id <UINavigationControllerAnimatedTransitioning>) navigationController: (UINavigationController \*) navigationControllerForOperation: (UINavigationController \*) fromViewController: (UIViewController \*) toViewController: (UIViewController \*)

– (id <UITabBarControllerAnimatedTransitioning>) navigationController: (UINavigationController \*) navigationControllerForAnimationController: (id <UINavigationControllerAnimatedTransitioning>)

– (id <UITabBarControllerAnimatedTransitioning>) tabBarController: (UITabBarController \*) animationControllerForTransitionFromViewController: (UIViewController \*) toViewController: (UIViewController \*)

– (id <UITabBarControllerInteractiveTransitioning>) tabBarController: (UITabBarController \*) interactionControllerForAnimationController: (id <UITabBarControllerInteractiveTransitioning>)



# UI(Navigation|Tab)BarControllerDelegate

- (id <UINavigationControllerAnimatedTransitioning>) navigationController: (UINavigationController)  
animationControllerForOperation: (UINavigationController)  
fromViewController: (UIViewController)  
toViewController: (UIViewController)
- (id <UINavigationControllerInteractiveTransitioning>) navigationController: (UINavigationController)  
interactionControllerForAnimationController: (id <UINavigationControllerInteractiveTransitioning>)
- (id <UITabBarControllerAnimatedTransitioning>) tabBarController: (UITabBarController)  
animationControllerForTransitionFromViewController: (UIViewController)  
toViewController: (UIViewController)
- (id <UITabBarControllerInteractiveTransitioning>) tabBarController: (UITabBarController)  
interactionControllerForAnimationController: (id <UITabBarControllerInteractiveTransitioning>)



# UI(Navigation|Tab)BarControllerDelegate

- (id <UINavigationControllerAnimatedTransitioning>) navigationController: (UINavigationController)  
animationControllerForOperation: (UINavigationControllerOperation)  
fromViewController: (UIViewController)  
toViewController: (UIViewController)
- (id <UITabBarControllerInteractiveTransitioning>) navigationController: (UINavigationController)  
interactionControllerForAnimationController: (id <UIViewControllerAnimatedTransitioning>)
- (id <UITabBarControllerAnimatedTransitioning>) tabBarController: (UITabBarController \*)  
animationControllerForTransitionFromViewController: (UIViewController \*) fromVC  
toViewController: (UIViewController \*) toVC;
- (id <UITabBarControllerInteractiveTransitioning>) tabBarController: (UITabBarController \*)  
interactionControllerForAnimationController: (id <UITabBarControllerAnimatedTransitioning>)



# UI(Navigation|Tab)BarControllerDelegate

- (id <UINavigationControllerAnimatedTransitioning>) navigationController: (UINavigationController)  
animationControllerForOperation: (UINavigationControllerOperation)  
fromViewController: (UIViewController)  
toViewController: (UIViewController)
- (id <UINavigationControllerInteractiveTransitioning>) navigationController: (UINavigationController)  
interactionControllerForAnimationController: (id <UINavigationControllerInteractiveTransitioning>)
- (id <UITabBarControllerAnimatedTransitioning>) tabBarController: (UITabBarController)  
animationControllerForTransitionFromViewController: (UIViewController)  
toViewController: (UIViewController)
- (id <UITabBarControllerInteractiveTransitioning>) tabBarController: (UITabBarController)  
interactionControllerForAnimationController: (id <UITabBarControllerInteractiveTransitioning>)



# UI(Navigation|Tab)BarControllerDelegate

- (id <UINavigationControllerAnimatedTransitioning>) navigationController: (UINavigationController \*) navigationController; animationControllerForOperation: (UINavigationControllerAnimatedTransitioning \*) animationControllerForOperation; fromViewController: (UIViewController \*) fromViewController; toViewController: (UIViewController \*) toViewController;
- (id <UITabBarControllerInteractiveTransitioning>) navigationController: (UINavigationController \*) navigationController; interactionControllerForAnimationController: (id <UITabBarControllerInteractiveTransitioning>) interactionControllerForAnimationController;
- (id <UITabBarControllerAnimatedTransitioning>) tabBarController: (UITabBarController \*) tabBarController; animationControllerForTransitionFromViewController: (UIViewController \*) fromViewController; toViewController: (UIViewController \*) toViewController;
- (id <UITabBarControllerInteractiveTransitioning>) tabBarController: (UITabBarController \*) tabBarController; interactionControllerForAnimationController: (id <UITabBarControllerInteractiveTransitioning>) interactionControllerForAnimationController;



# UI(Navigation|Tab)BarControllerDelegate

- (id <UINavigationControllerAnimatedTransitioning>) navigationController: (UINavigationController)  
animationControllerForOperation: (UINavigationControllerOperation)  
fromViewController: (UIViewController)  
toViewController: (UIViewController)
- (id <UINavigationControllerInteractiveTransitioning>) navigationController: (UINavigationController)  
interactionControllerForAnimationController: (id <UINavigationControllerInteractiveTransitioning>)
- (id <UITabBarControllerAnimatedTransitioning>) tabBarController: (UITabBarController)  
animationControllerForTransitionFromViewController: (UIViewController)  
toViewController: (UIViewController)
- (id <UITabBarControllerInteractiveTransitioning>) tabBarController: (UITabBarController)  
interactionControllerForAnimationController: (id <UITabBarControllerInteractiveTransitioning>)



# UIViewControllerAnimatedTransitioning

- (NSTimeInterval)transitionDuration:(id <UIViewControllerContextTransitioning>)transitionContext
- (void)animateTransition:(id <UIViewControllerContextTransitioning>)transitionContext



# UIViewControllerAnimatedTransitioning

```
transitionDuration:(id <UIViewControllerContextTransitioning>)transitionContext;
```

```
– (void)animateTransition:(id <UIViewControllerContextTransitioning>)transitionContext;
```



# UIViewControllerAnimatedTransitioning

- (NSTimeInterval)transitionDuration:(id <UIViewControllerContextTransitioning>)transitionContext
- (void)animateTransition:(id <UIViewControllerContextTransitioning>)transitionContext



# UIViewControllerTransitionCoordinator

- (BOOL)animateAlongsideTransition:(void (^)(id <UIViewControllerTransitionCoordinatorAnimatedView>))completion:(void (^)(id <UIViewControllerTransitionCoordinatorAnimatedView>))
- (void)notifyWhenInteractionEndsUsingBlock: (void (^)(id <UIViewControllerTransitionCoordinatorAnimatedView>))



# UIViewControllerTransitionCoordinator

```
n:(void (^)(id <UIViewControllerTransitionCoordinatorContext>context))animation  
n:(void (^)(id <UIViewControllerTransitionCoordinatorContext>context))completion;
```

```
– (void)notifyWhenInteractionEndsUsingBlock: (void (^)(id <UIViewControllerTra
```



# UIViewControllerTransitionCoordinator

- (BOOL)animateAlongsideTransition:(void (^)(id <UIViewControllerTransitionCoordinatorAnimatedObject>))completion:(void (^)(id <UIViewControllerTransitionCoordinatorAnimatedObject>))
- (void)notifyWhenInteractionEndsUsingBlock: (void (^)(id <UIViewControllerTransitionCoordinatorAnimatedObject>))



# UIViewControllerTransitionCoordinator

– (BOOL)animateAlongsideTransition:(void (^)(id <UIViewControllerTransitionCoordinatorContext>context))handler:  
completion:(void (^)(id <UIViewControllerTransitionCoordinatorContext>context))handler;

ck: (void (^)(id <UIViewControllerTransitionCoordinatorContext>context))handler;



# UIViewControllerTransitionCoordinator

- (BOOL)animateAlongsideTransition:(void (^)(id <UIViewControllerTransitionCoordinatorAnimatedObject>))completion:(void (^)(id <UIViewControllerTransitionCoordinatorAnimatedObject>))
- (void)notifyWhenInteractionEndsUsingBlock: (void (^)(id <UIViewControllerTransitionCoordinatorAnimatedObject>))



# Protocols

- <UIViewControllerTransitioningDelegate>
- <UI(Navigation|Tab)BarControllerDelegate>
- <UIViewControllerAnimatedTransitioning>
- <UIViewControllerInteractiveTransitioning>
  
- <UIViewControllerContextTransitioning>
- <UIViewControllerTransitionCoordinator>
- <UIViewControllerTransitionCoordinatorContext>



Simon Blommegård

[simon@blommegard.se](mailto:simon@blommegard.se)

[@blommegard](#)

[github.com/blommegard](https://github.com/blommegard)