Разработка iOS приложений

Лекция 4.

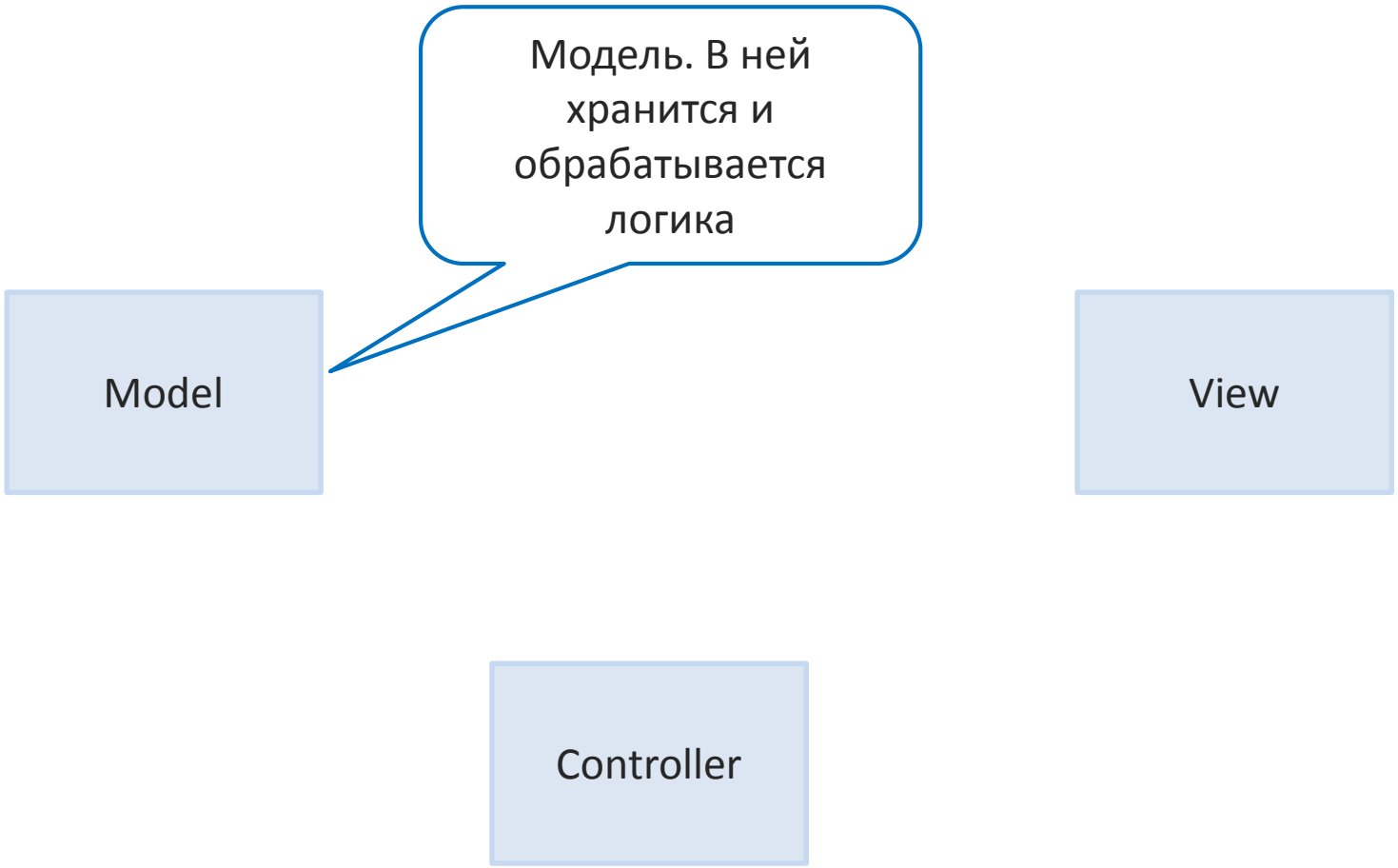
Графический интерфейс пользователя

Сегодня

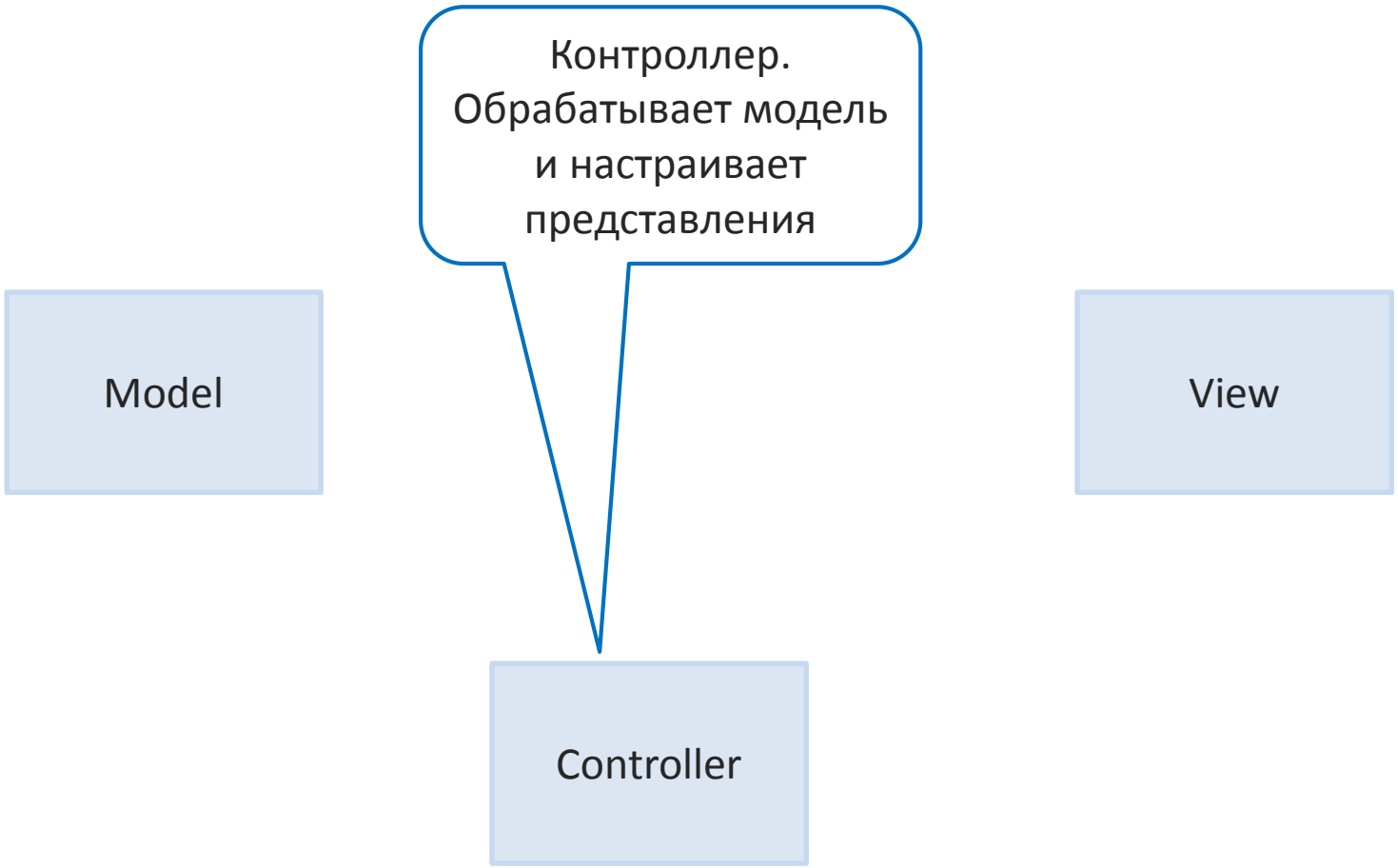
- Паттерн Model View Controller
- UIView, UIViewController
- InterfaceBuilder

ModelViewController

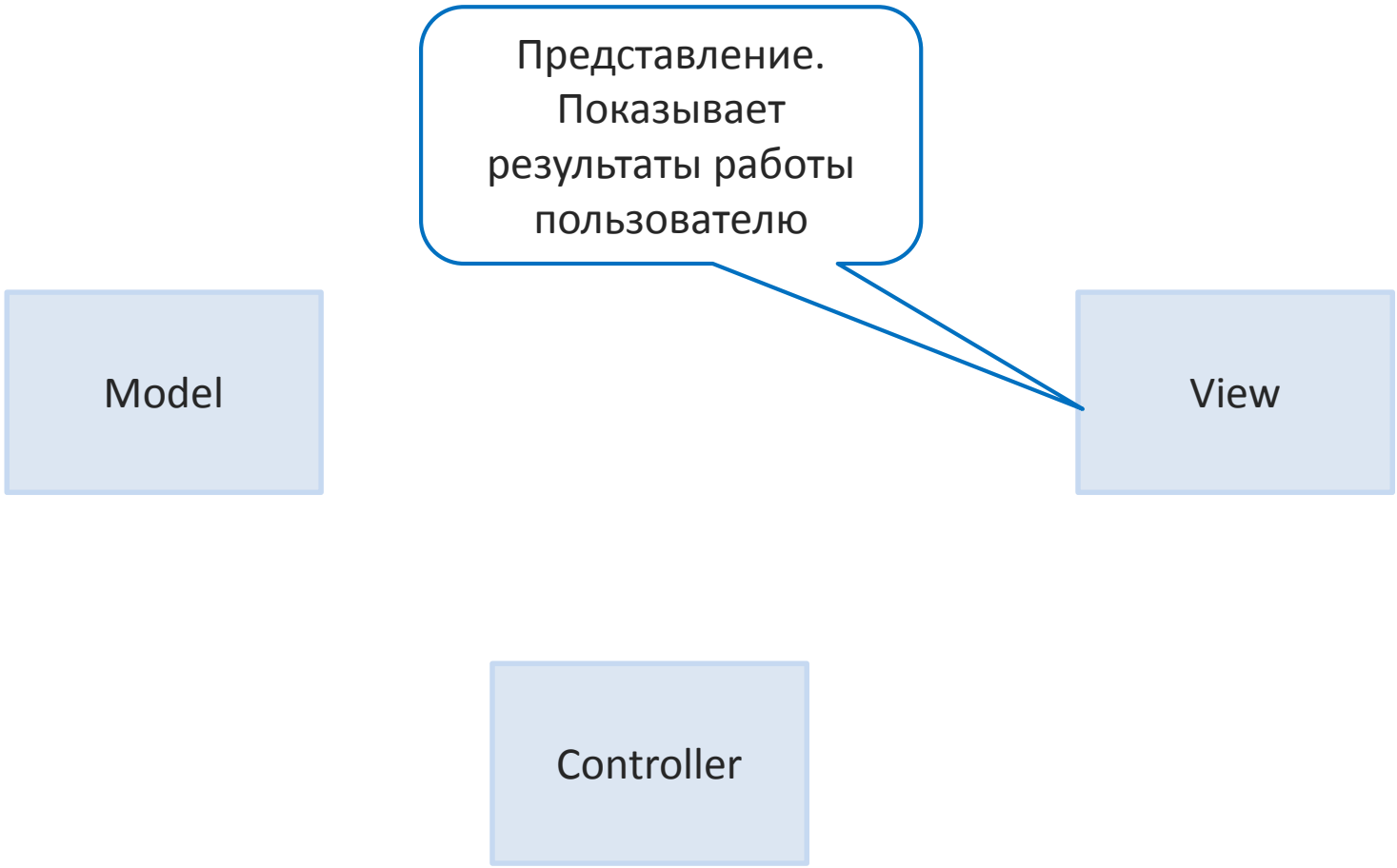
ModelViewController



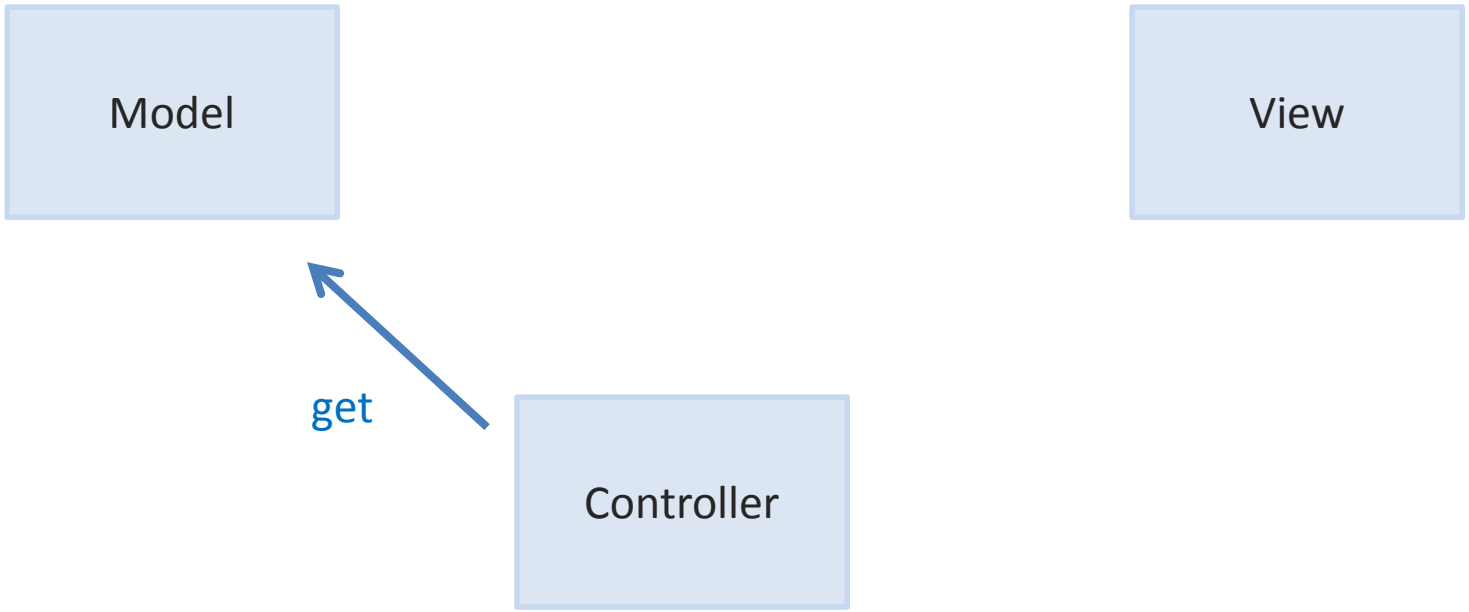
ModelViewController



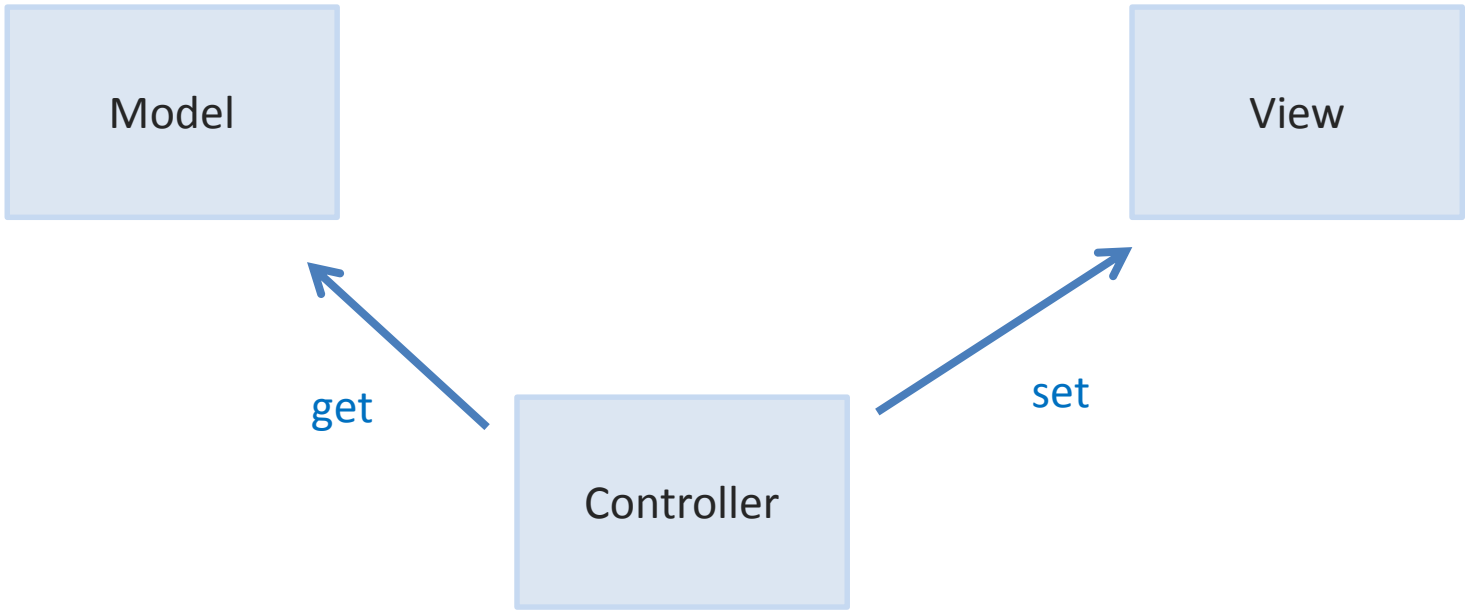
ModelViewController



ModelViewController

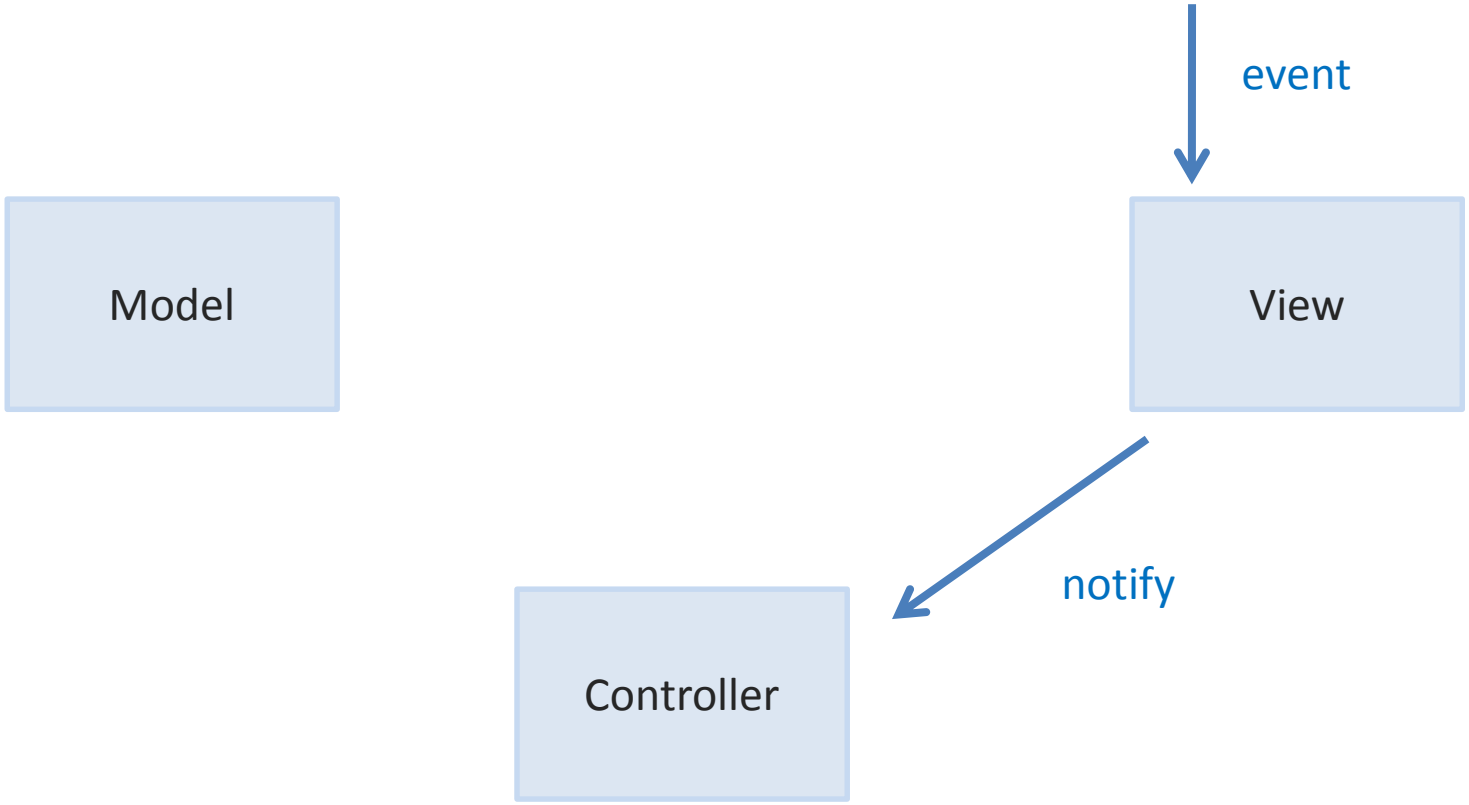


ModelViewController

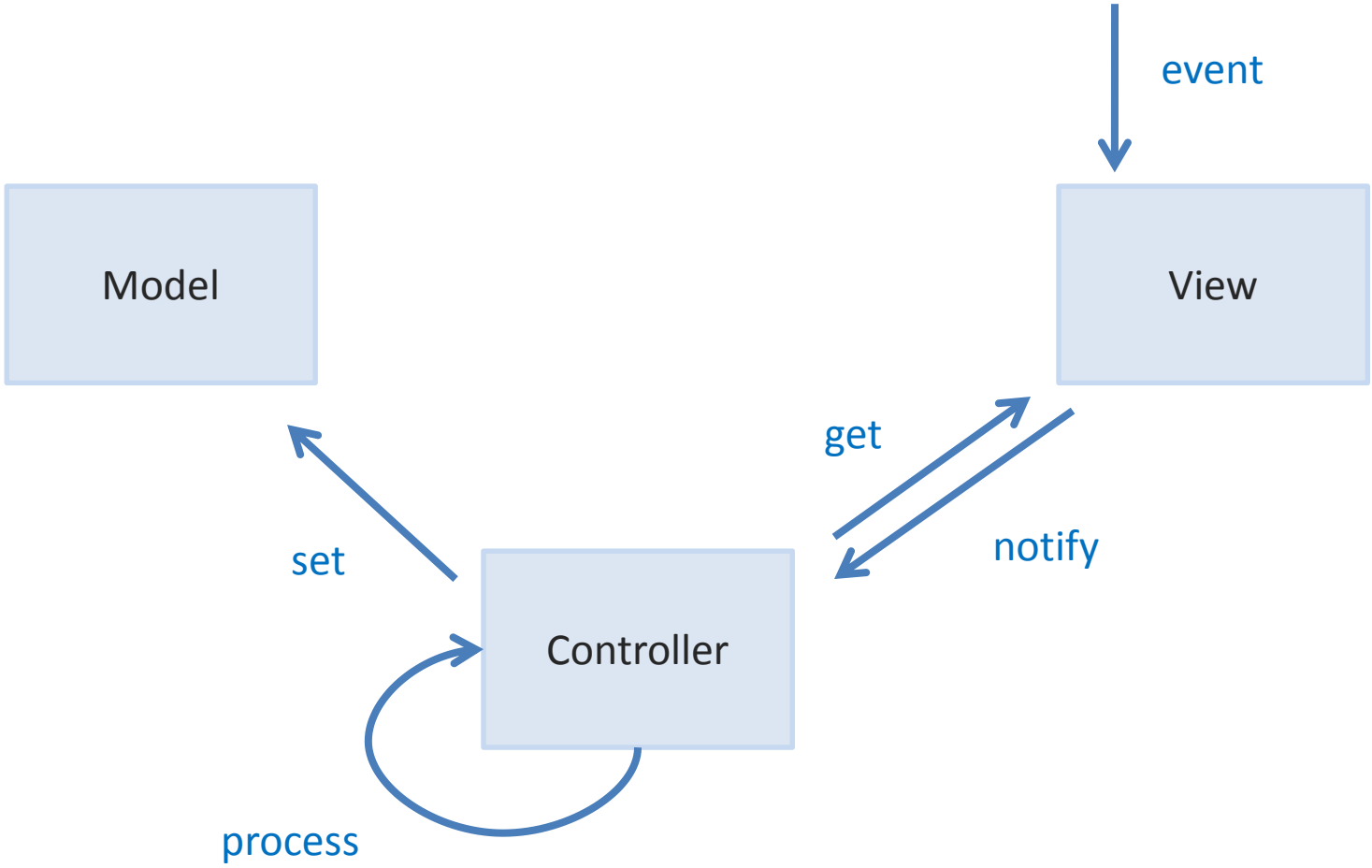


ModelViewController

ModelViewController

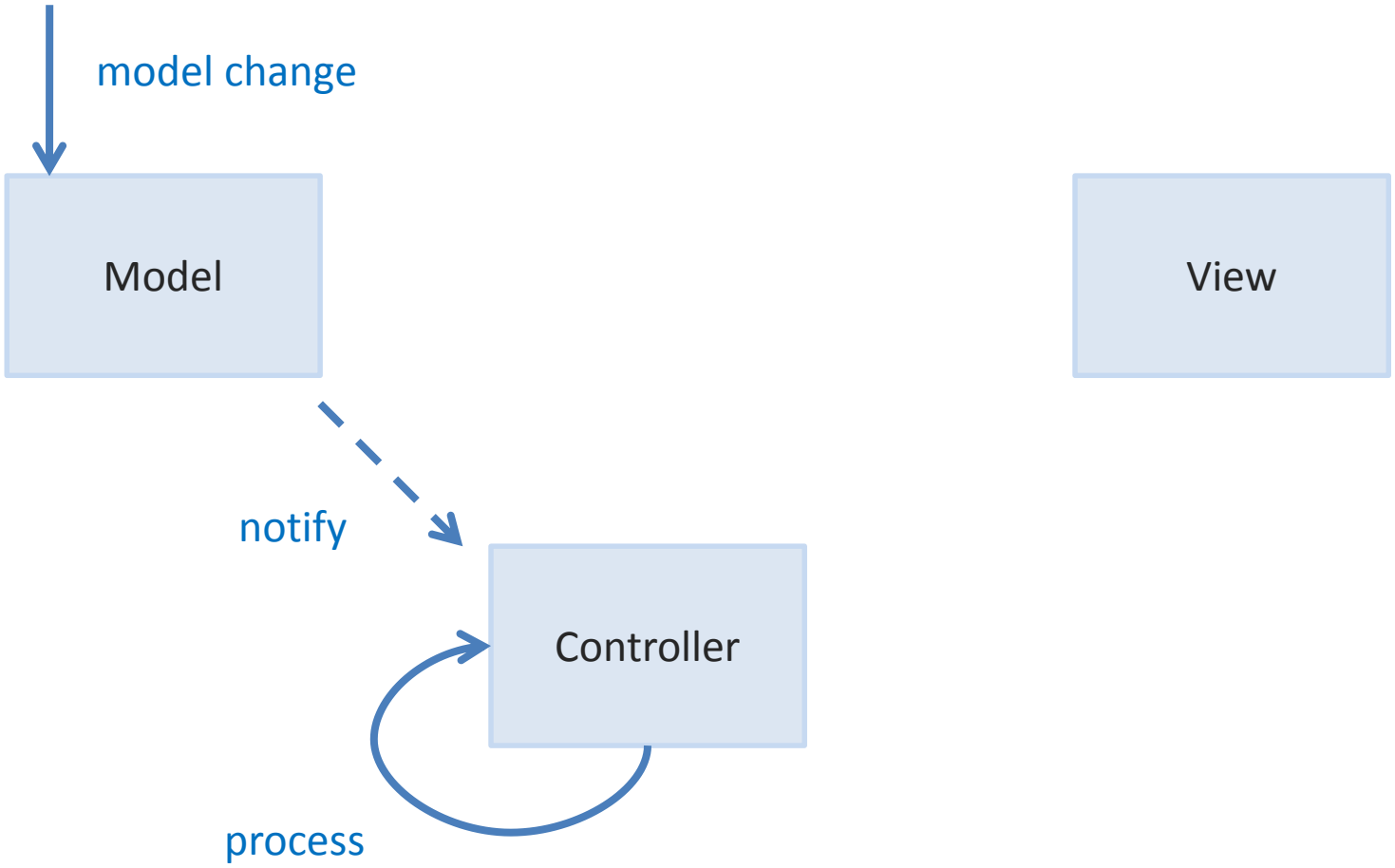


ModelViewController

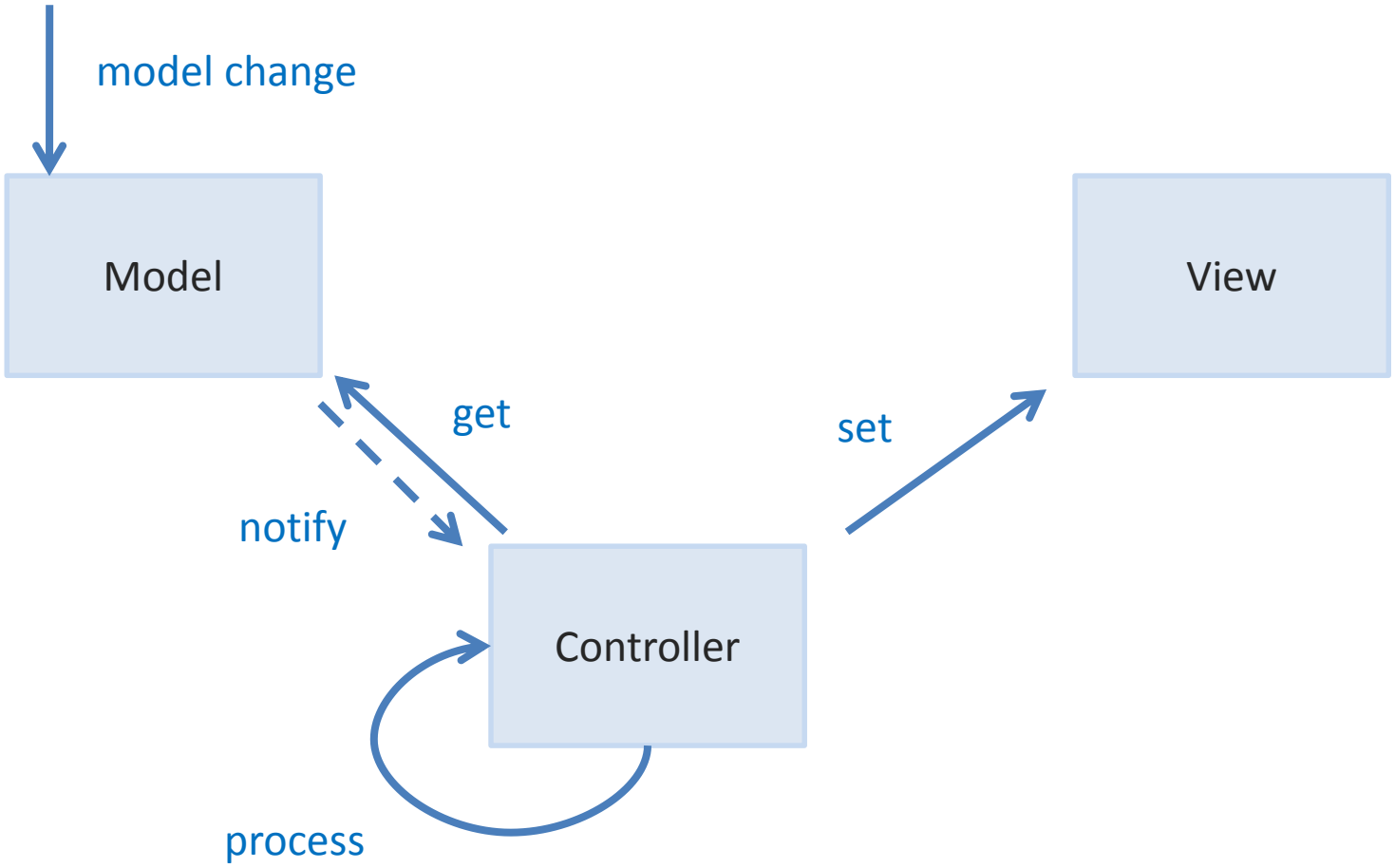


ModelViewController

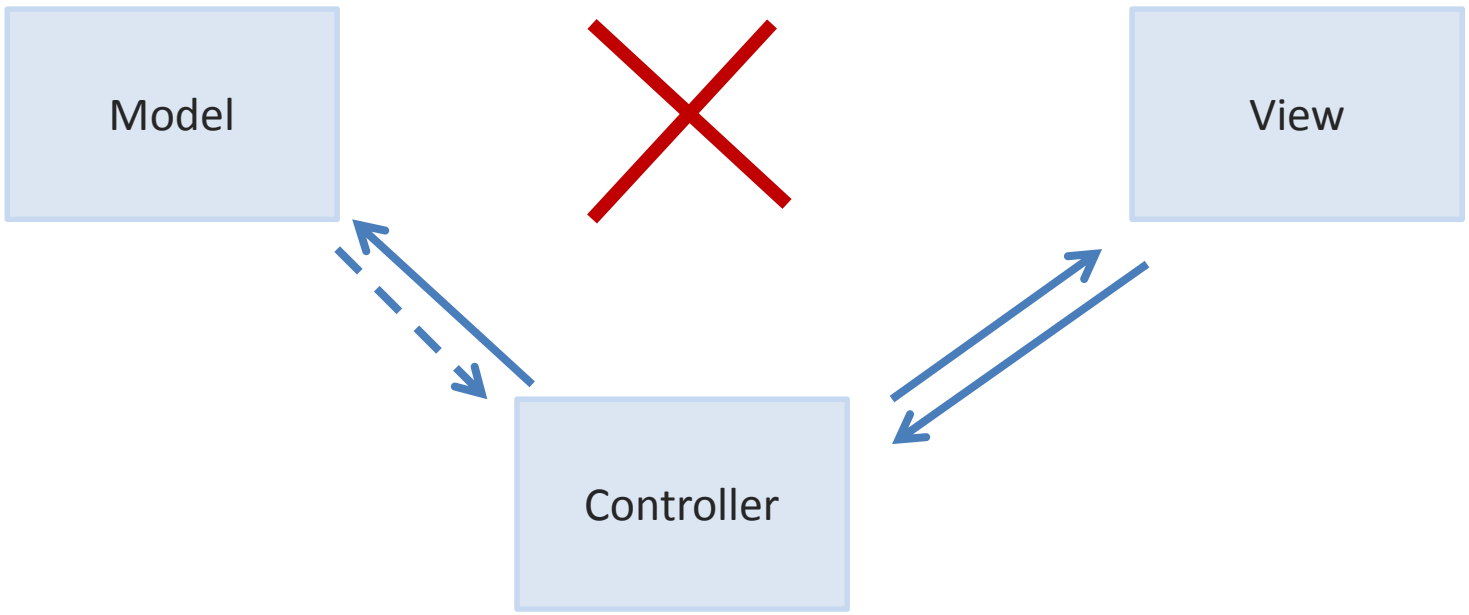
ModelViewController



ModelViewController



ModelViewController



Cocoa Touch

- Модель – Weather, Forecast, Time, NSDictionary, …
- Контроллер - UIViewController
- Представление - UIView

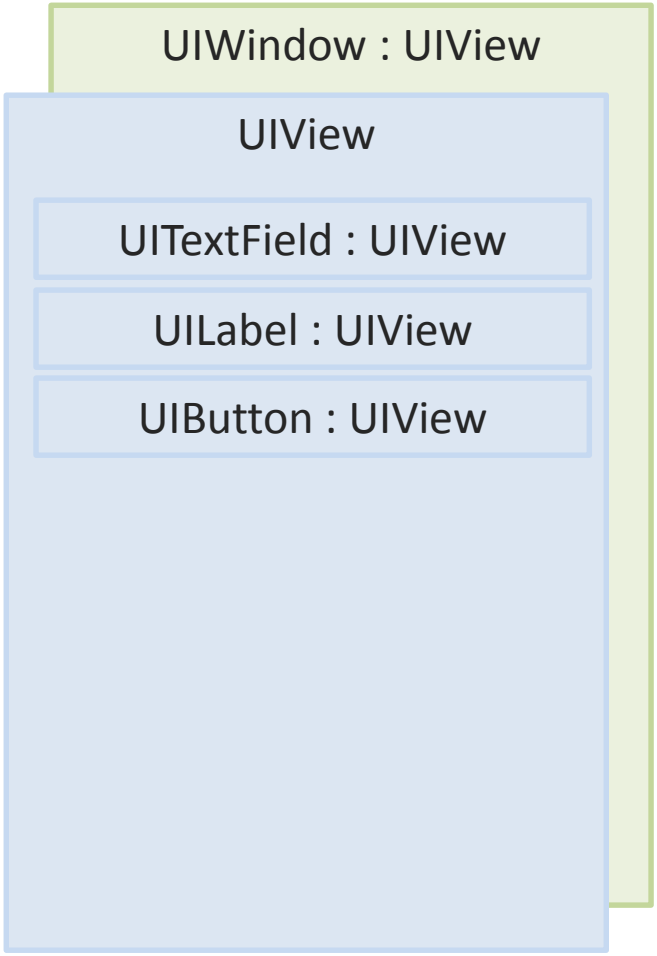
Представление (UIView)

UIView
- NSArray* subviews
- UIView* superview

- -(void) addSubview: (UIView*)view
- -(void) removeFromSuperview

UIWindow : UIView

Контролы – см. MobileHIG



Представление – управление памятью

- superview всегда делает retain на своих subviews

- При удалении view имейте ввиду то, что при removeFromSuperview вызывается release. Поэтому если view Вам нужна – сделайте себе retain.

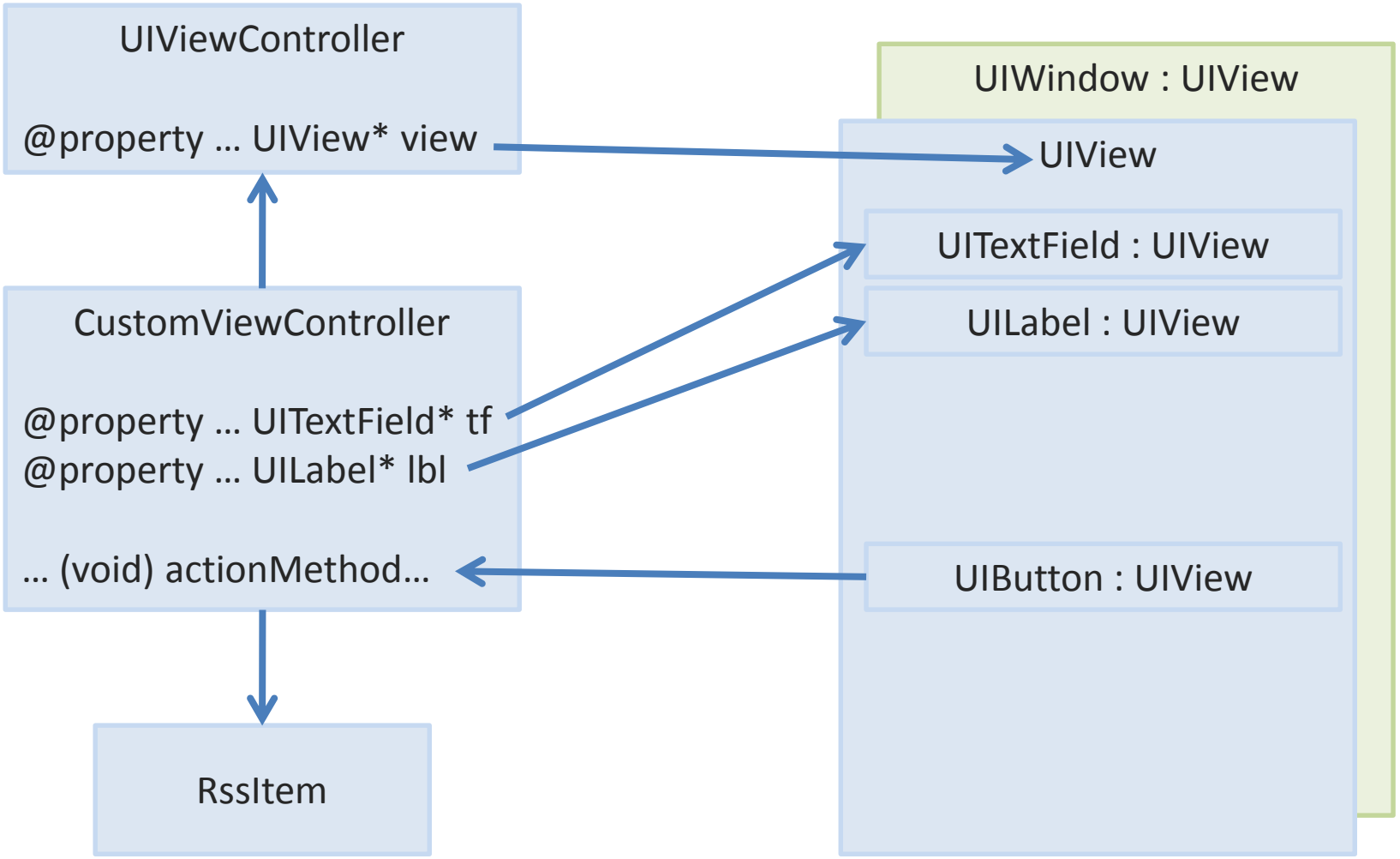
- IBOutlet’ы retain’яться. Однако мы должны сделать им release в нашем dealloc

- IBOutlet’ы лучше делать @property нежели переменными экземпляра

Что должен делать контроллер

- Создать View
- Создать еще View и поместить их в subviews
- Получить доступ к модели, получить из нее необходимые данные
- Проинициализировать элементы управления в View необходимым образом
- Подписаться на события во View и корректно их обрабатывать
- При обработке события соответствующим образом актуализировать содержание контролов

Контроллер (UIViewController)



Важные методы UIViewController

- viewDidLoad – представление загружено
- viewDidUnload – представление выгружено
- viewDidAppear:animated: – представление показано на экране
- viewDidDisappear:animated: – представление убрано с экрана

- viewWillAppear:animated: - представление будет показано на экране
- viewWillDisappear:animated: - представление будет убрано с экрана

Работа через Interface Builder

Code

CustomViewController

IBOutlet … firstTextView
IBOutlet … secondTextView

Interface Builder

File’s Owner

View

firstTextView

SecondTextView

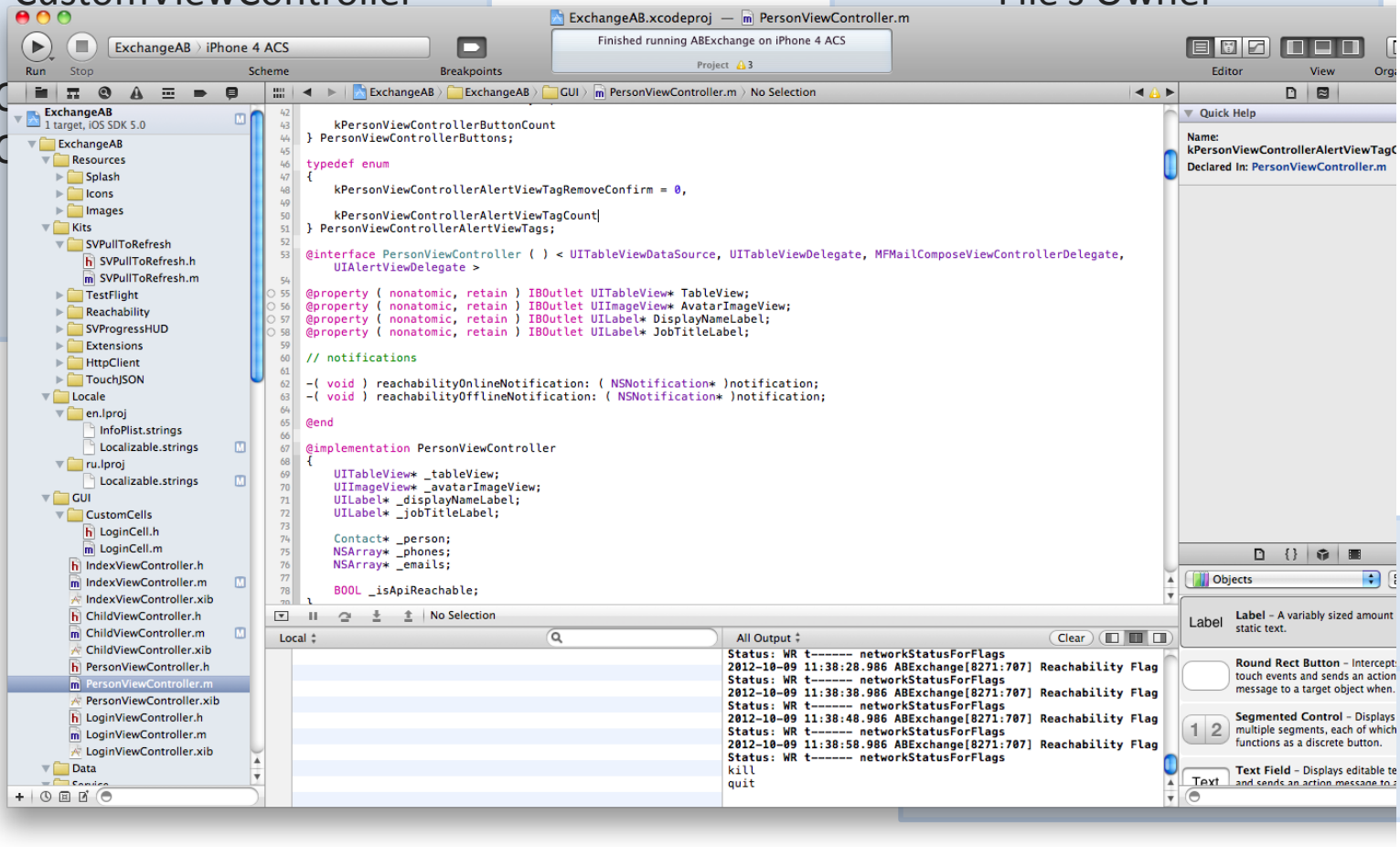
Работа через Interface Builder

Code

Interface Builder

CustomViewController

File's Owner



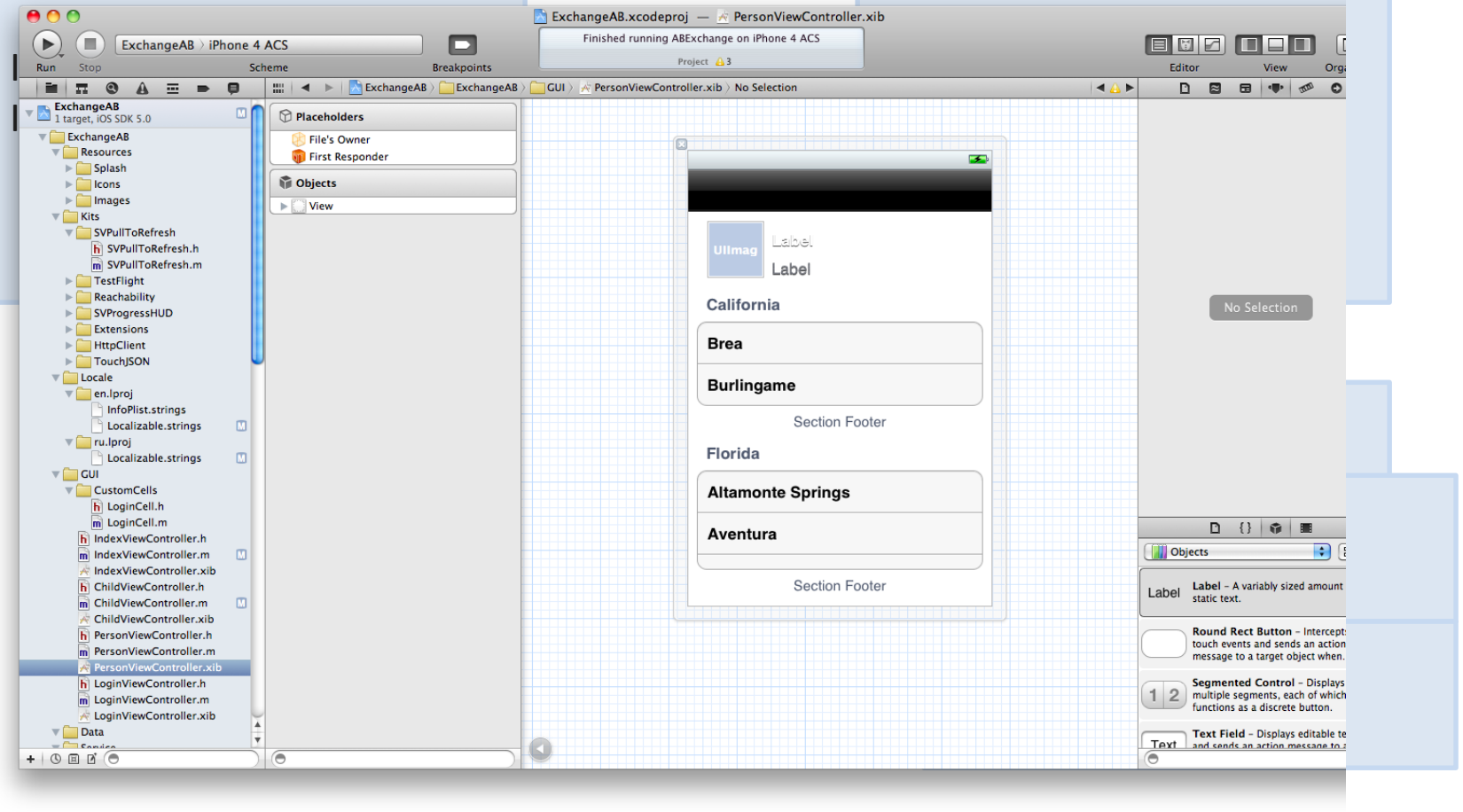
Работа через Interface Builder

Code

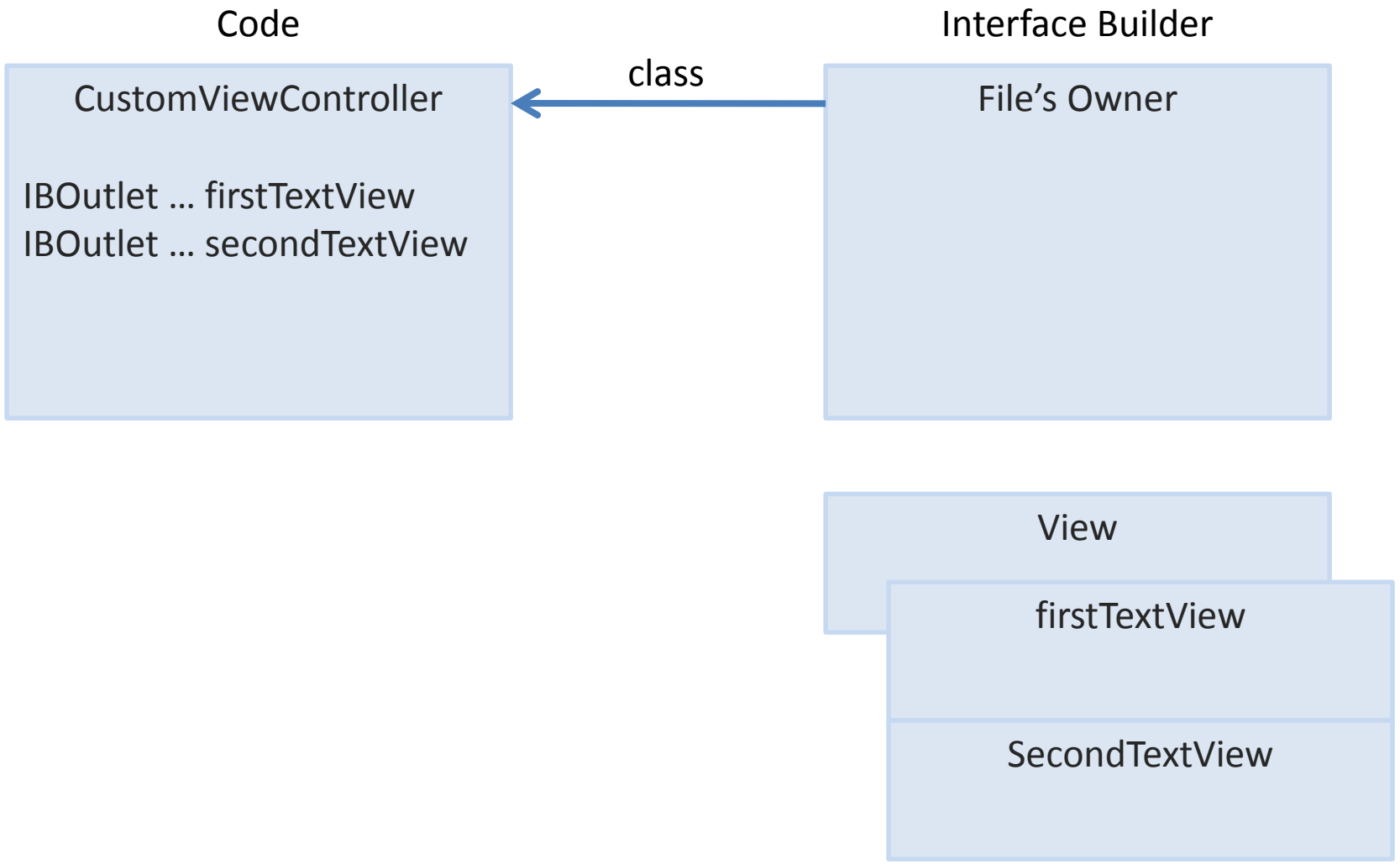
Interface Builder

CustomViewController

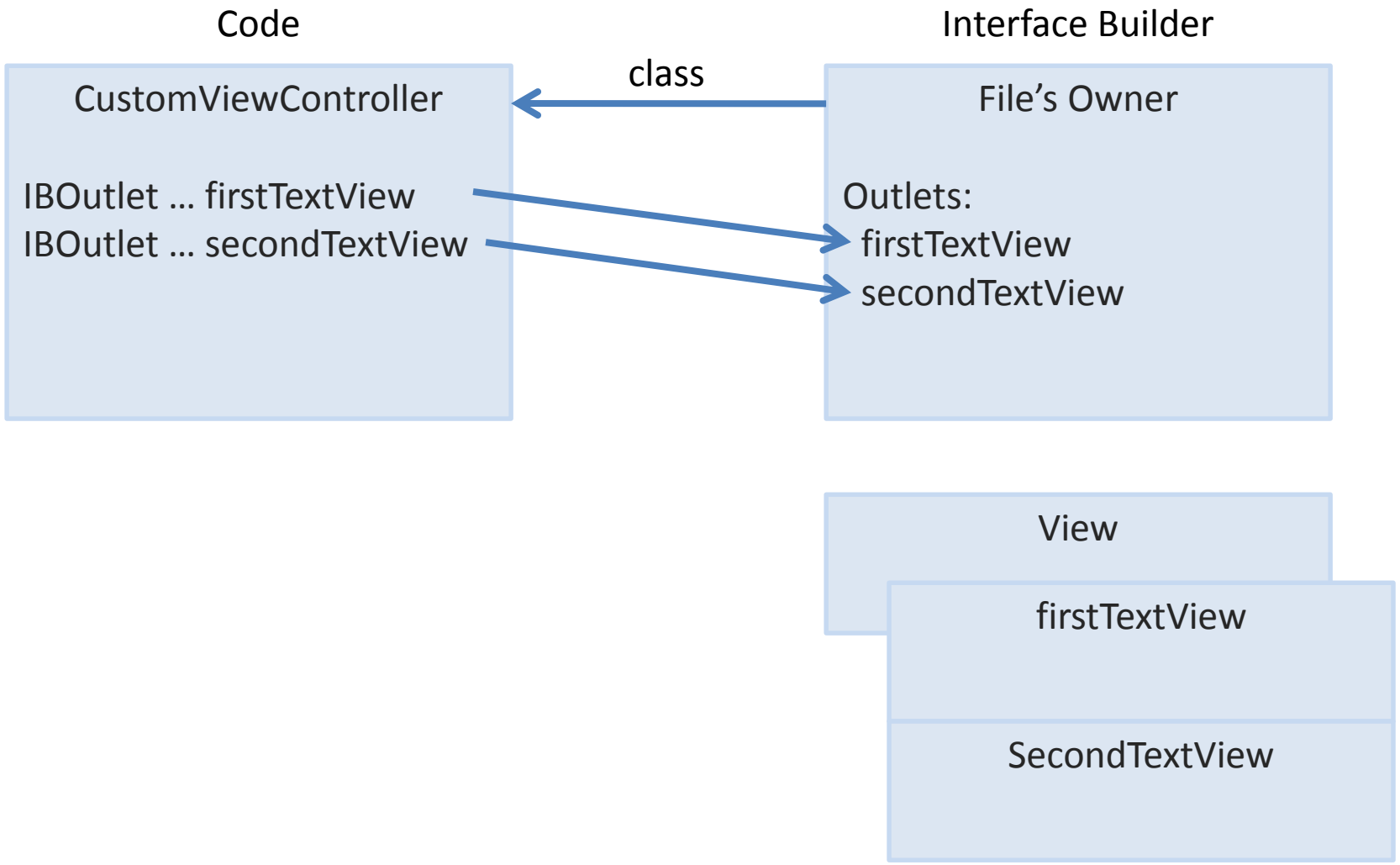
File's Owner



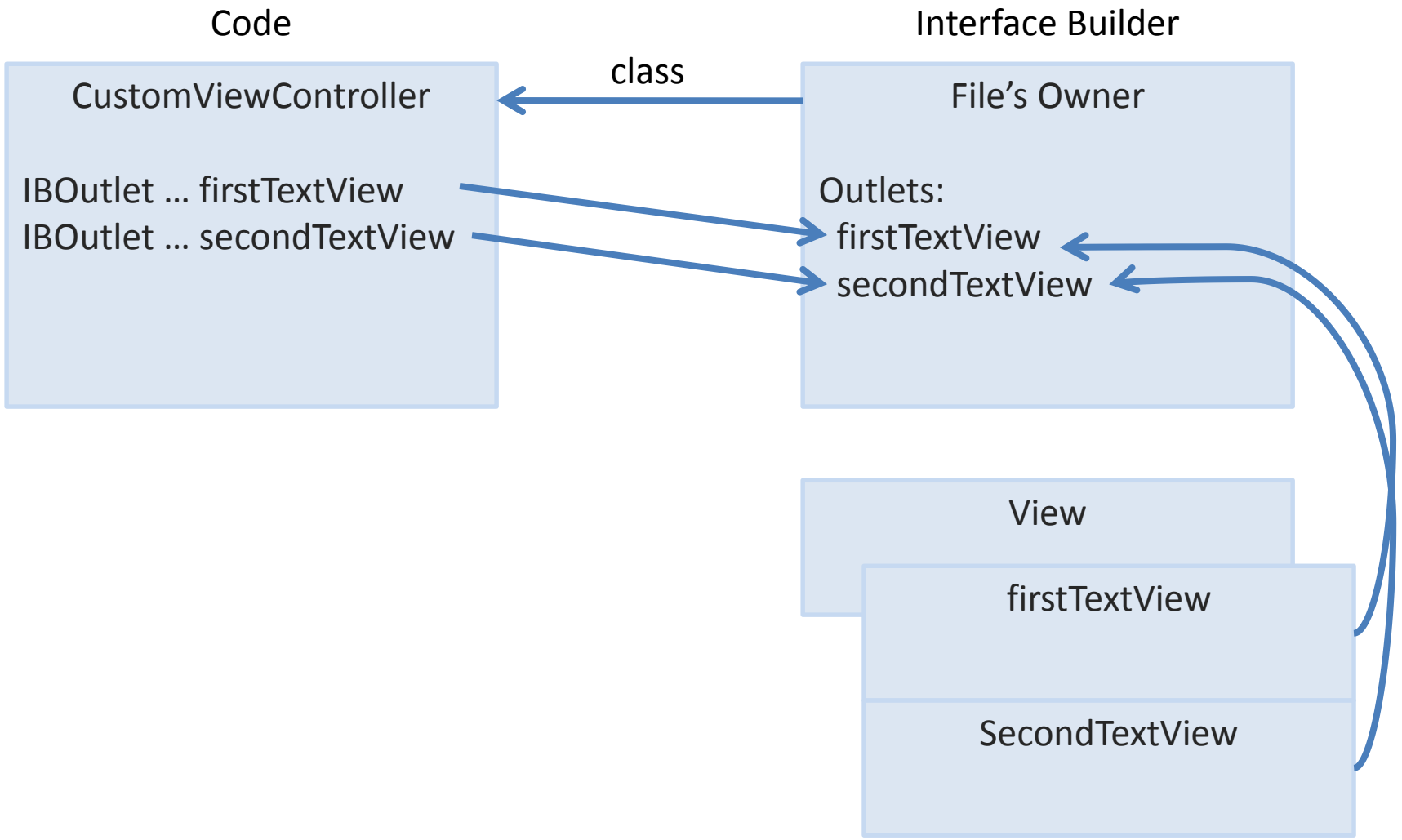
Работа через Interface Builder



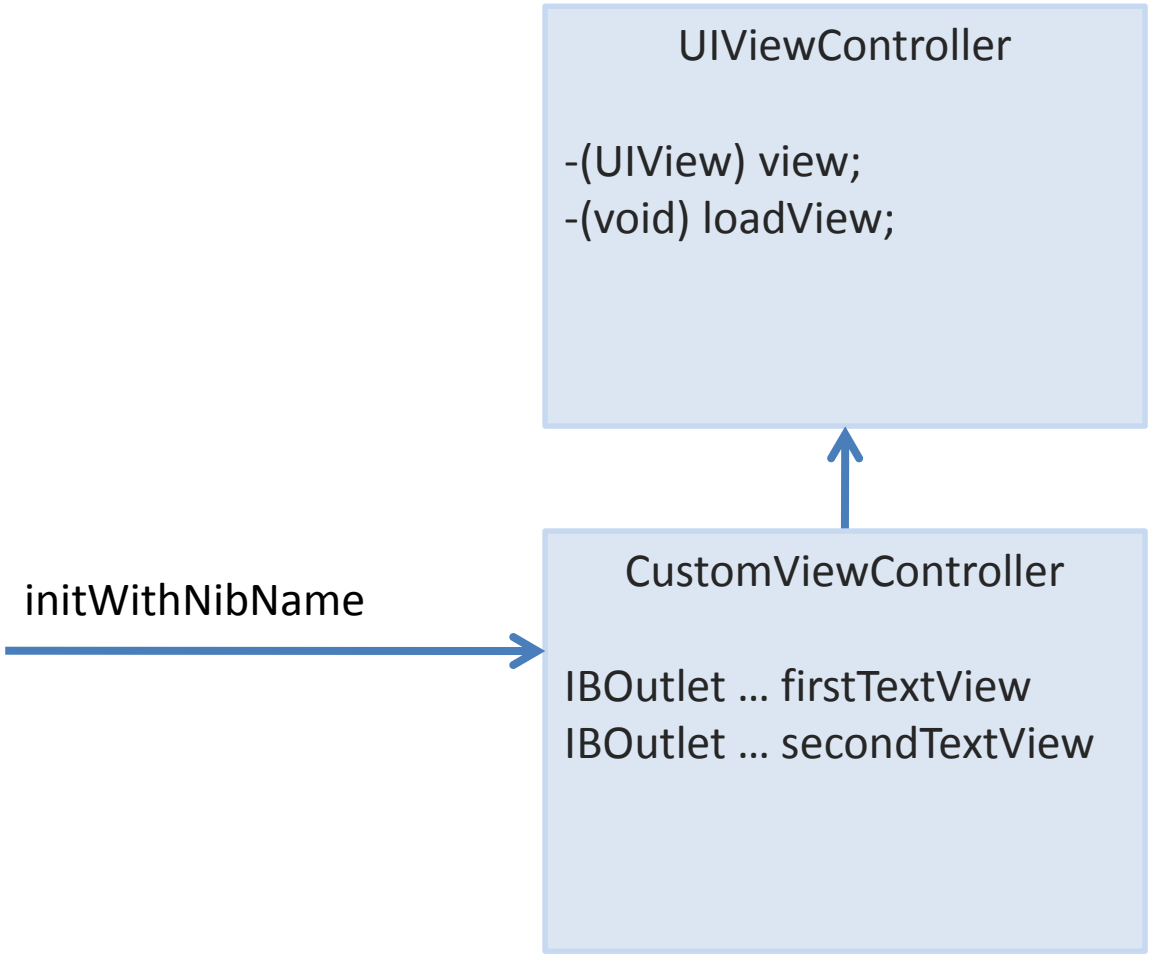
Работа через Interface Builder



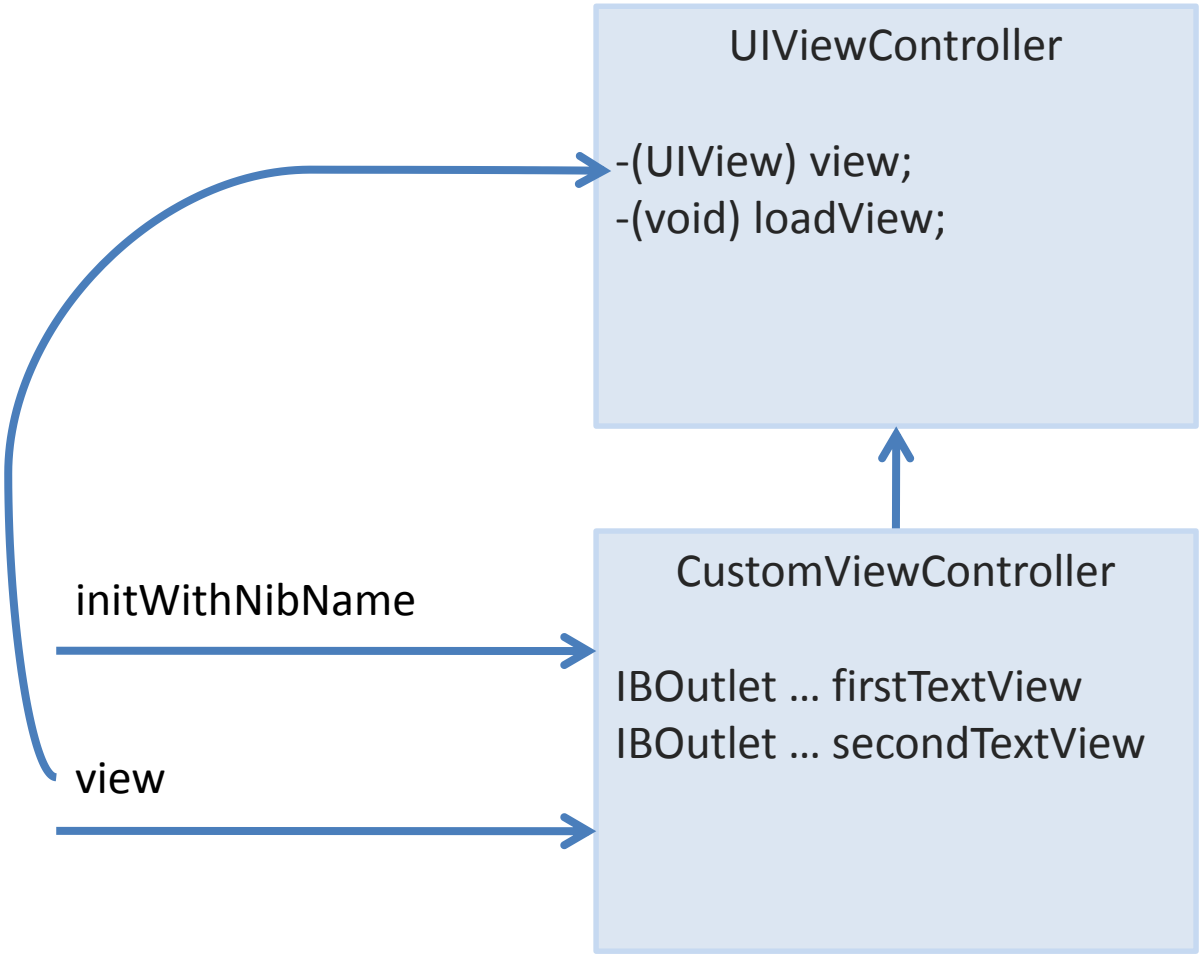
Работа через Interface Builder



loadView


UIViewController
-(UIView) view;
-(void) loadView;
CustomViewController
IBOutlet … firstTextView
IBOutlet … secondTextView
initWithNibName

loadView


UIViewController
-(UIView) view;
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CustomViewController
IBOutlet … firstTextView
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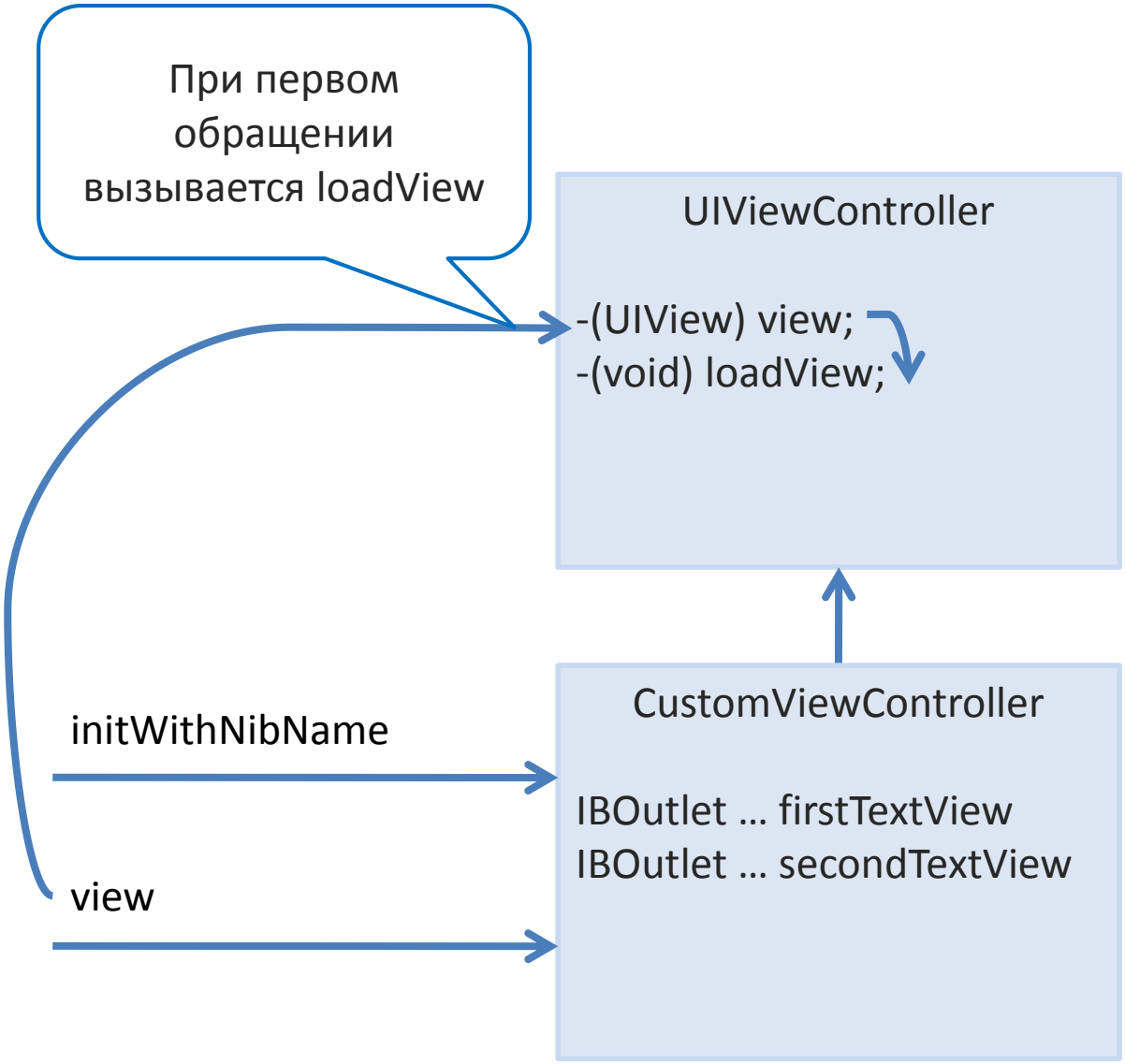
initWithNibName
view

loadView


При первом обращении вызывается loadView
UIViewController
-(UIView) view;
-(void) loadView;
CustomViewController
IBOutlet … firstTextView
IBOutlet … secondTextView
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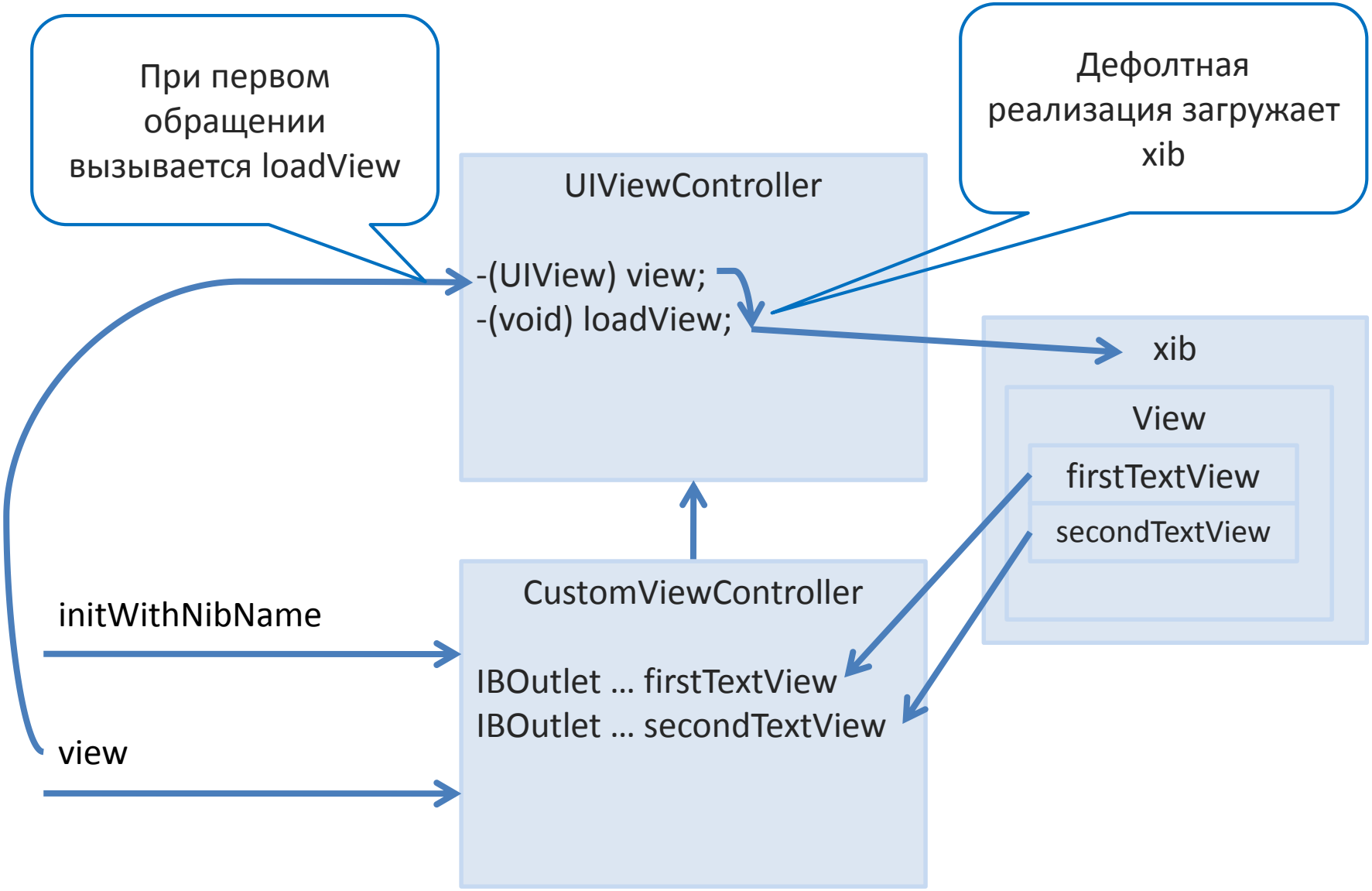
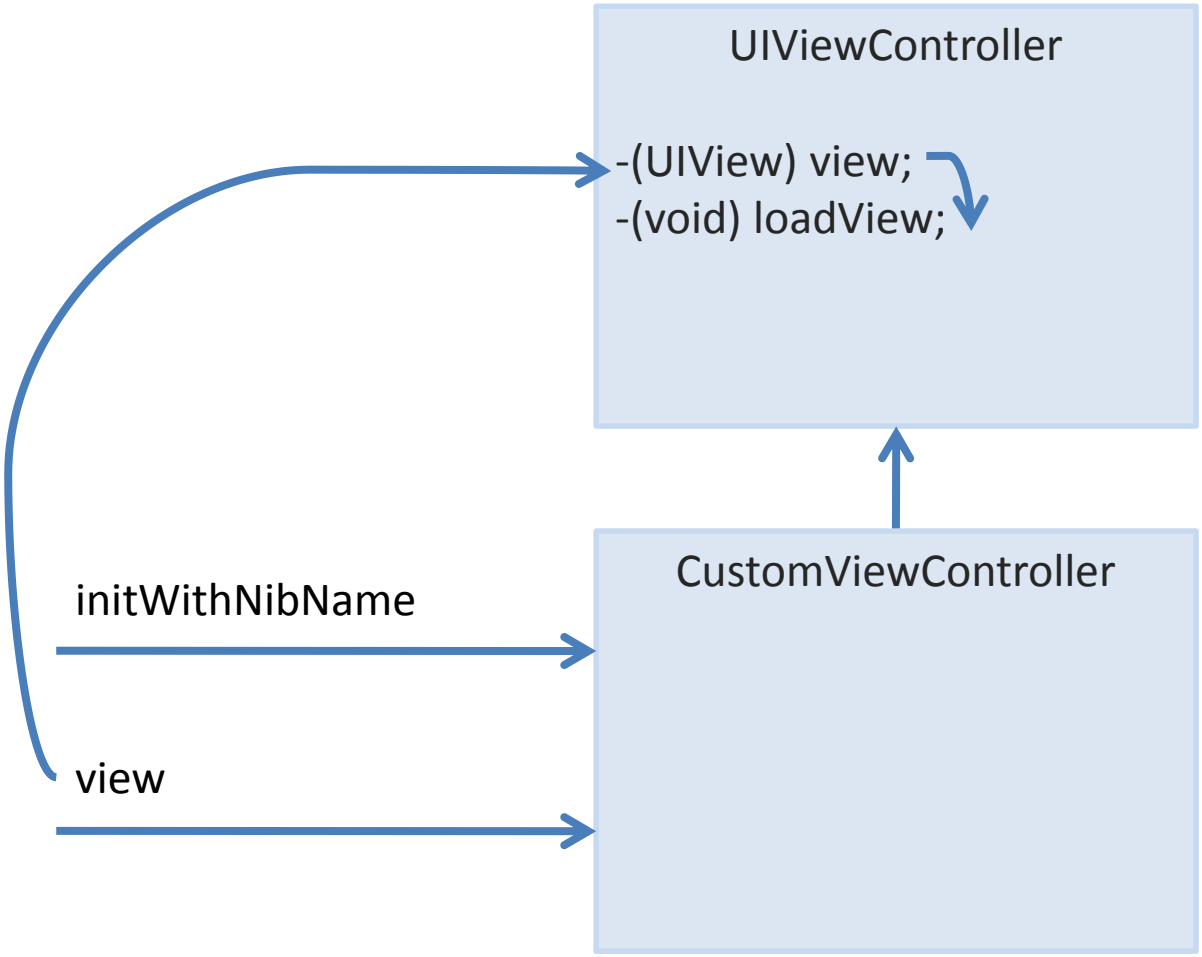
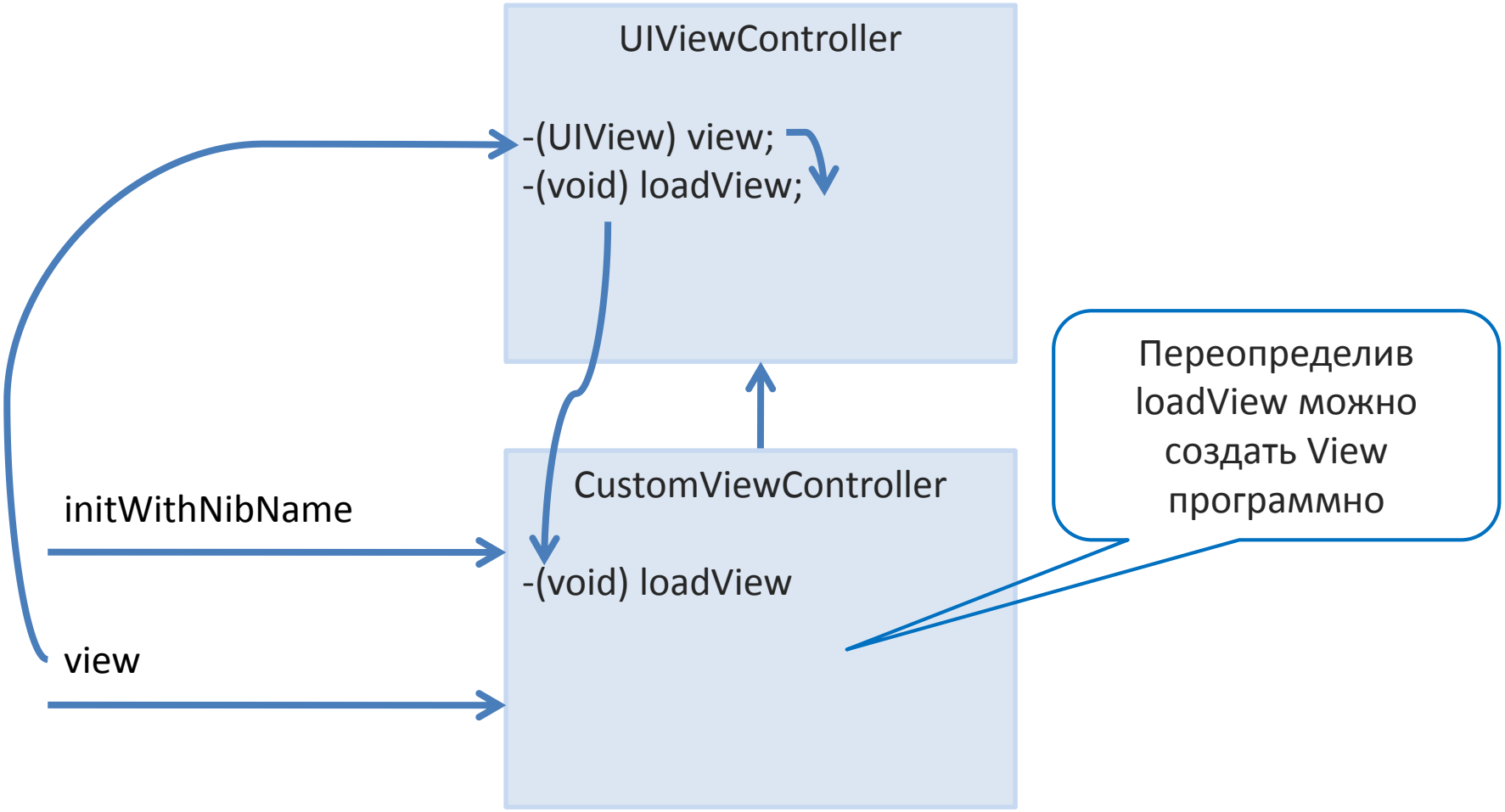
loadView


При первом обращении вызывается loadView
Дефолтная реализация загружает xib
UIViewController
-(UIView) view;
-(void) loadView;
xib
View
firstTextView
secondTextView
CustomViewController
initWithNibName
IBOutlet … firstTextView
IBOutlet … secondTextView
view

loadView


UIViewController
-(UIView) view;
-(void) loadView;
CustomViewController
initWithNibName
view

loadView


UIViewController
-(UIView) view;
-(void) loadView;
CustomViewController
-(void) loadView
initWithNibName
view
Переопределив loadView можно создать View программно

Как загружается xib

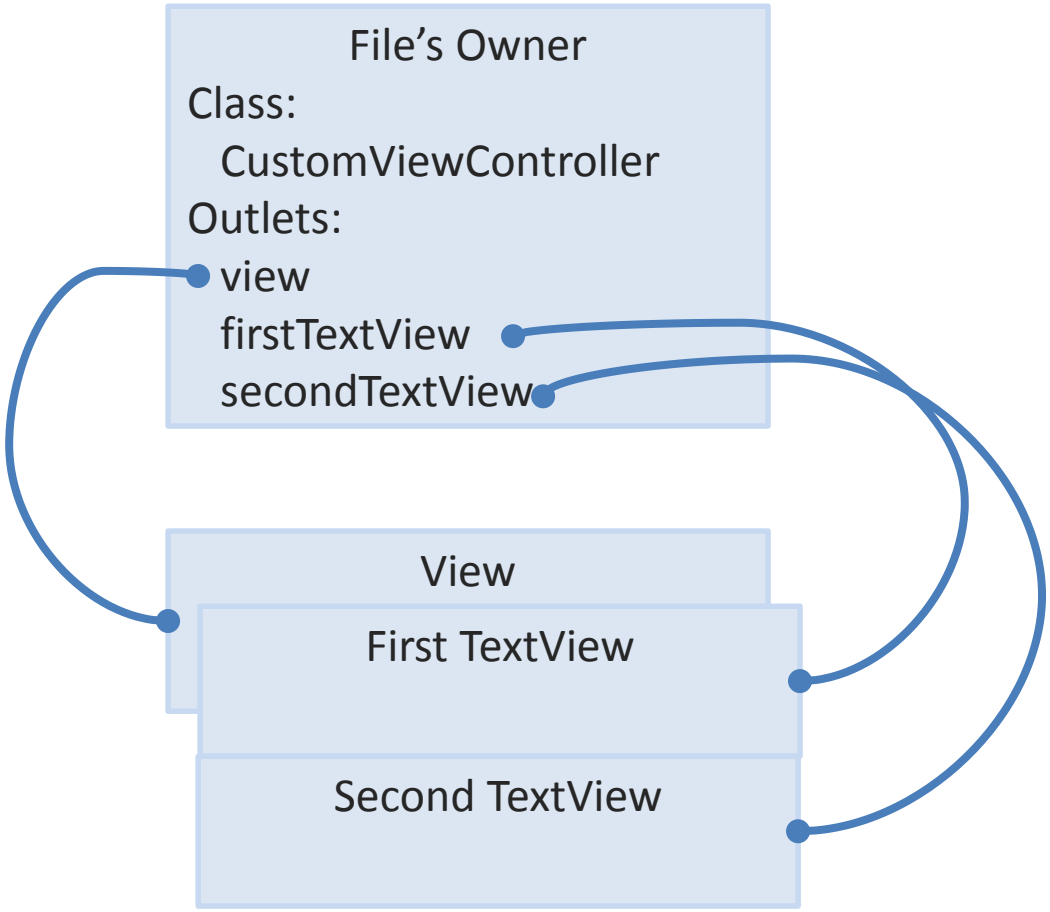
- NSBundle
  loadNibName:owner:

- [[NSBundle mainBundle] loadNibNamed: @”MyView” owner: self];

Как загружается xib (в два этапа)

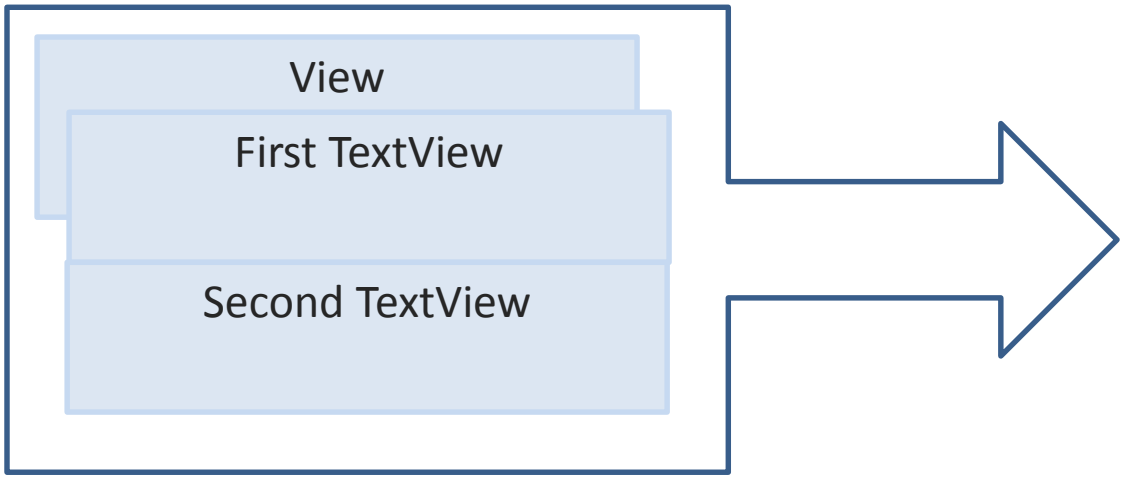
- Создание иерархии представлений (view) по xib
- Связывание Outlet’ов

Простой пример



Создание View

File's Owner
Class:
CustomViewController
Outlets:
view
firstTextView
secondTextView



Создание View

File's Owner
Class:
CustomViewController
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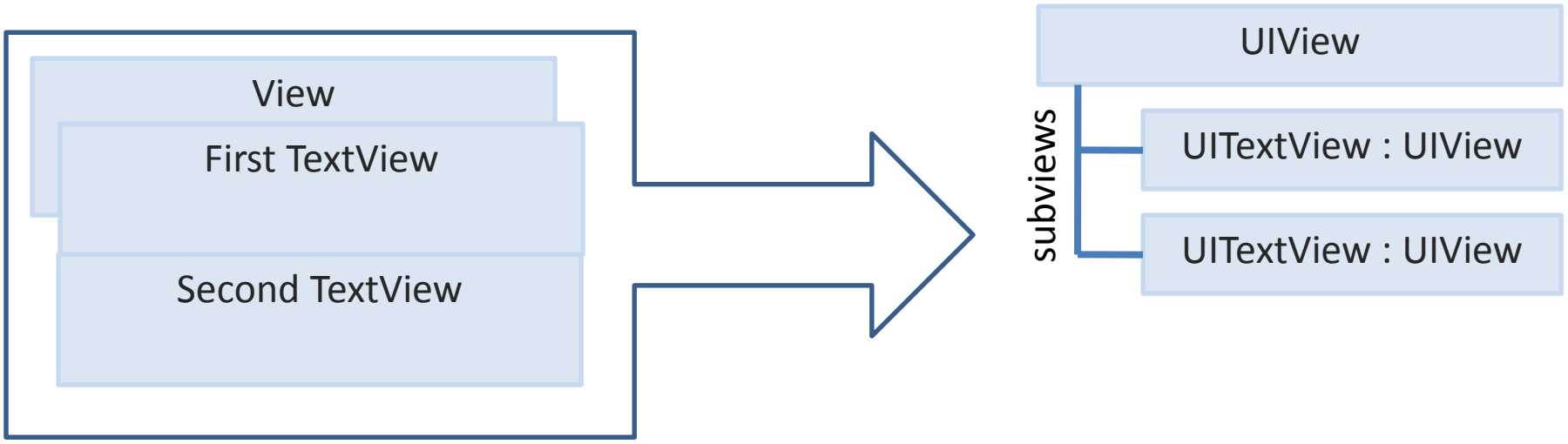
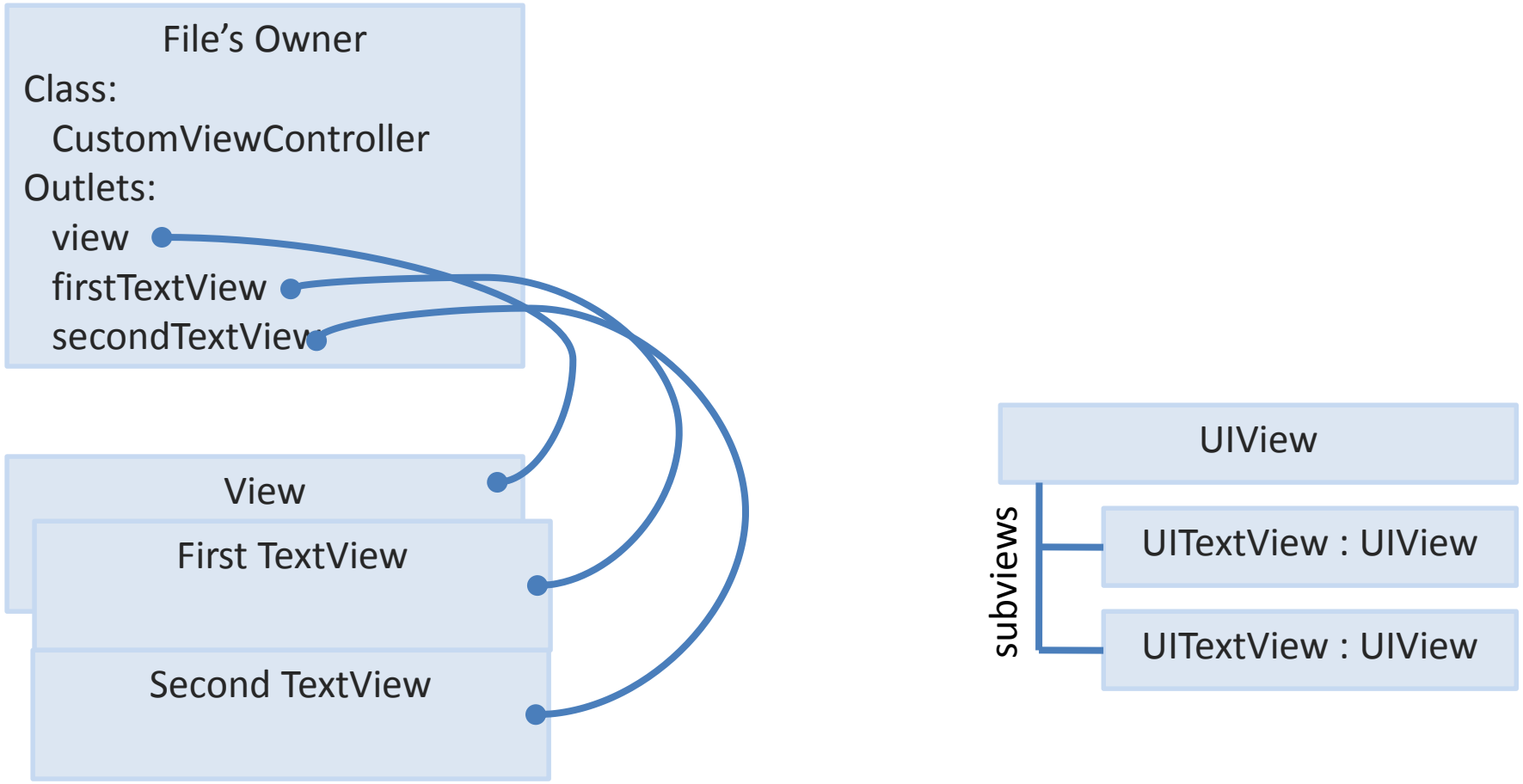
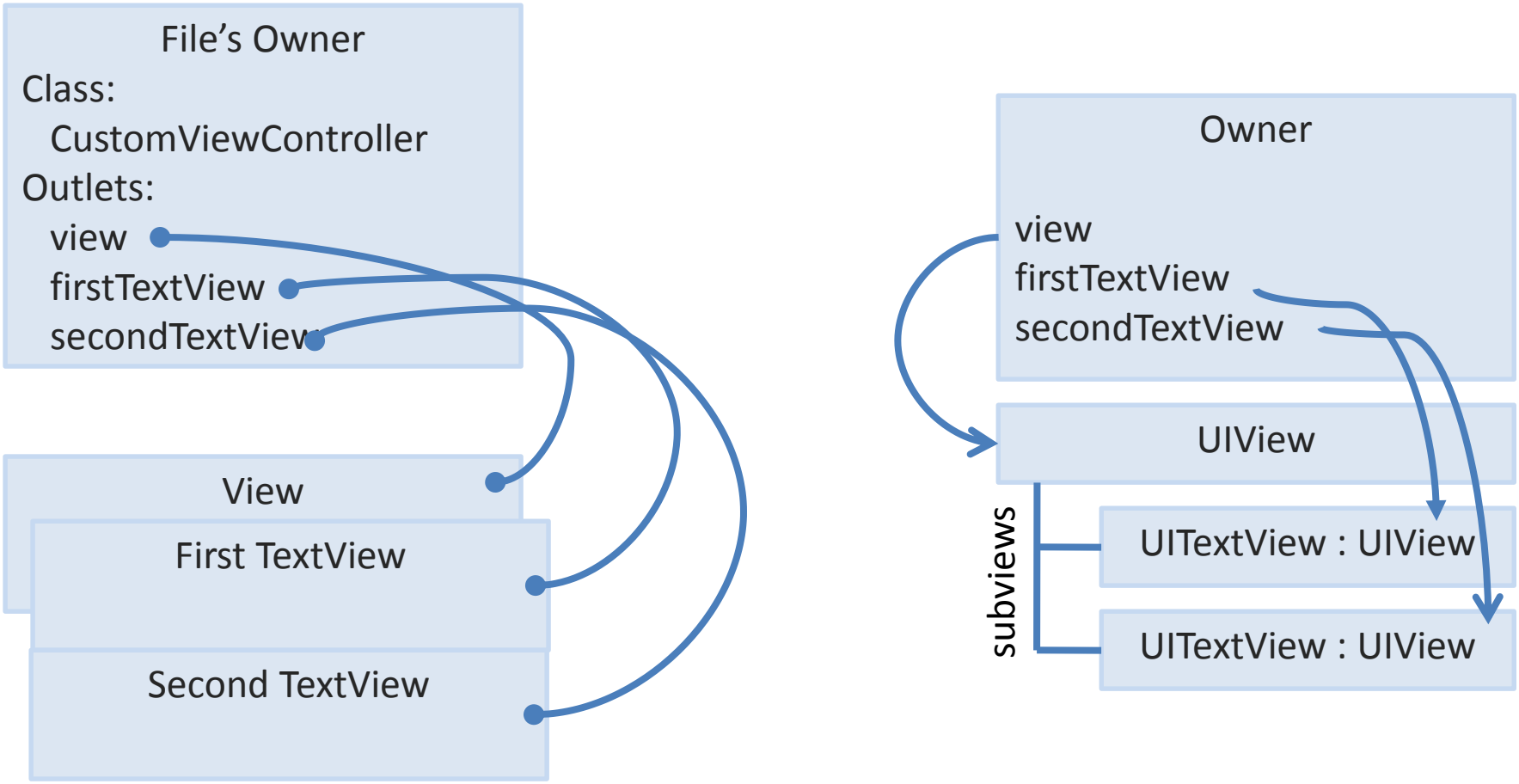
view
firstTextView
secondTextView



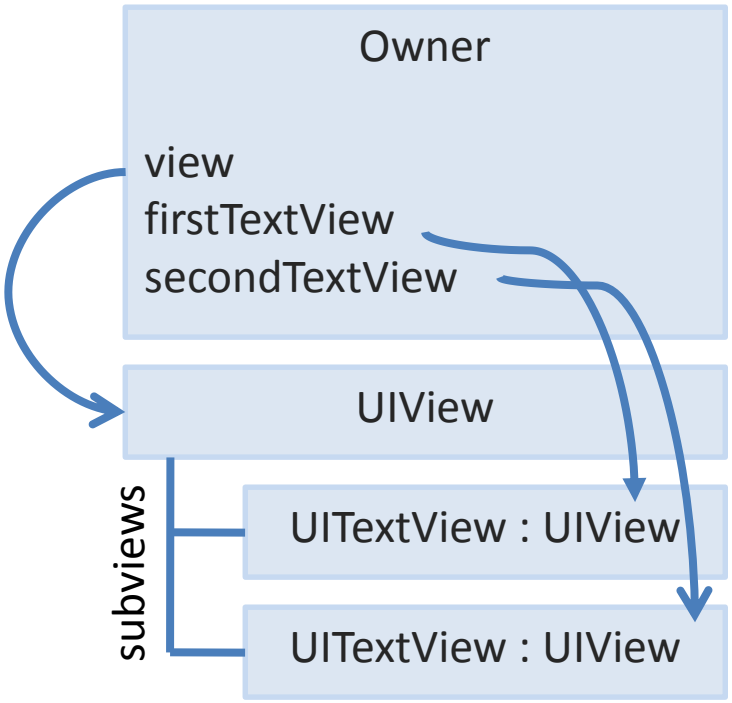
Связывание


File's Owner
Class:
CustomViewController
Outlets:
view
firstTextView
secondTextView
View
First TextView
Second TextView
UIView
subviews
UITextView : UIView
UITextView : UIView

Связывание


File's Owner
Class:
CustomViewController
Outlets:
view
firstTextView
secondTextView
View
First TextView
Second TextView
Owner
view
firstTextView
secondTextView
UIView
subviews
UITextView : UIView
UITextView : UIView

Связывание




```
-(id) loadNibNamed: (NSString*) nib
             owner: (id) owner
{
 [ owner setFirstNameView: view1 ];
 [ owner setSecondNameview: view2 ];
}
```

Делегат приложения (UIApplicationDelegate)

- application:didFinishLaunchingWithOptions
- applicationWillTerminate
- applicationWillResignActive
- applicationDidBecomeActive

Делегат приложения (UIApplicationDelegate)

- application:didFinishLaunchingWithOptions

```
-( BOOL ) application: ( UIApplication* )application
          didFinishLaunchingWithOptions: ( NSDictionary* )options
{
  self.Window = [ [ [ UIWindow alloc ] initWithFrame: [ [ UIScreen
mainScreen ] bounds ] ] autorelease ];

  CustomViewController* ctrl = [ [ [ CustomViewController alloc ]
initWithNibName: @"CustomViewController" bundle: [ NSBundle
mainBundle ] ] autorelease ];

  self.Window.rootViewController = ctrl;
  [ self.Window makeKeyAndVisible ];

  return YES;
}
```

Практическое задание

Практикуемся с UIView и UIViewController

1. Создать ForecastTimeViewController для отображения информации об одном времени прогноза (Weather->Forecast->Time)
2. В InterfaceBuilder сделать представление, для отображения
    1. От, До
    2. Символ (UIImageView) (тег <symbol> атрибут number)
    3. Описание (тэг <symbol> атрибут name)
    4. …
3. Воспользоваться UITextField и UILabel, UIImageView
4. Описание картинок здесь (<symbol number="…") http://openweathermap.org/weather-conditions

См. Apple Guides

- View Controller Programming Guide for iOS
- View Programming Guide for iOS