Introduction to Xamarin.Forms

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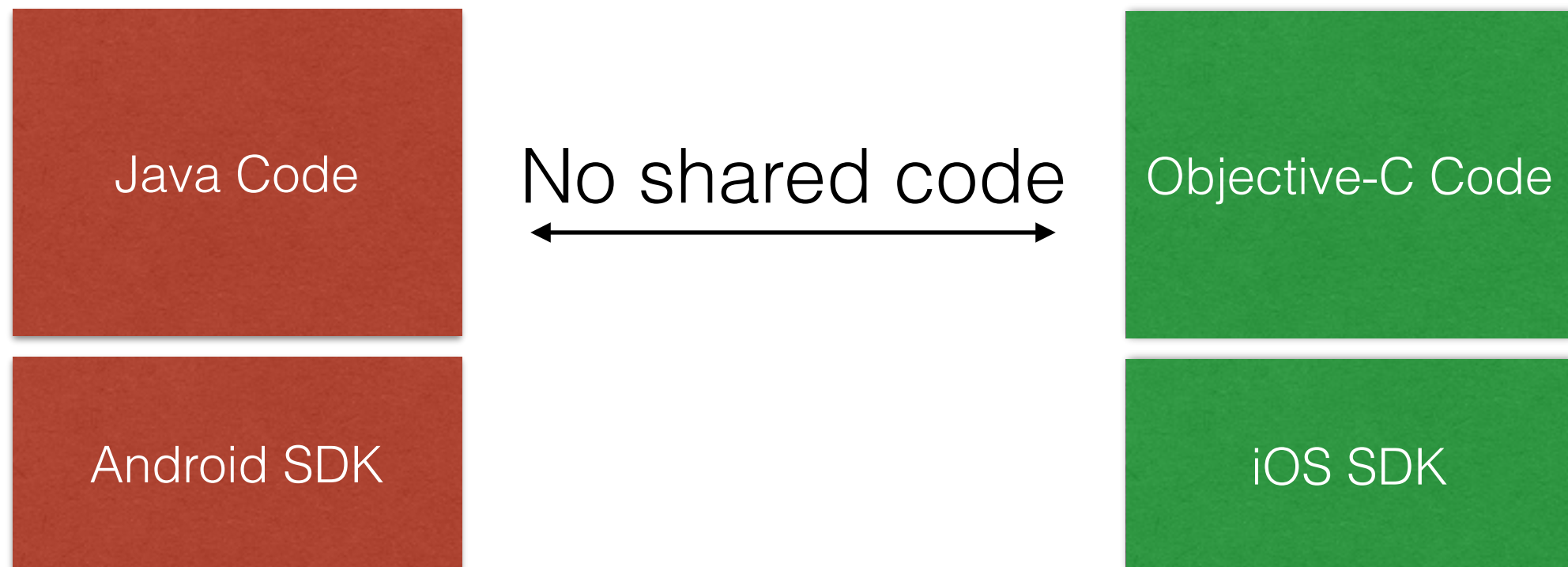
What is Xamarin.Forms?

- A cross-platform UI framework for mobile platforms

  - Android
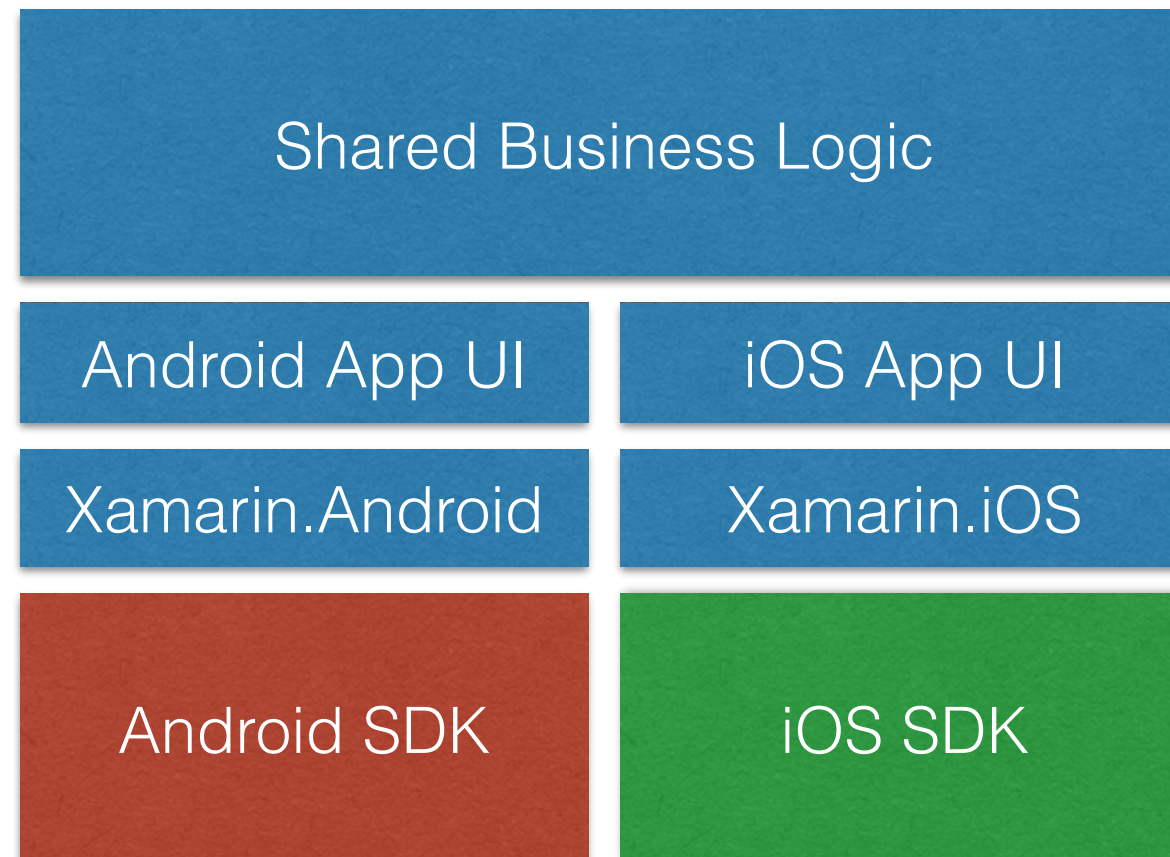
  - iOS

  - Windows Phone

What is Xamarin.Forms?

- An extensible platform abstraction layer
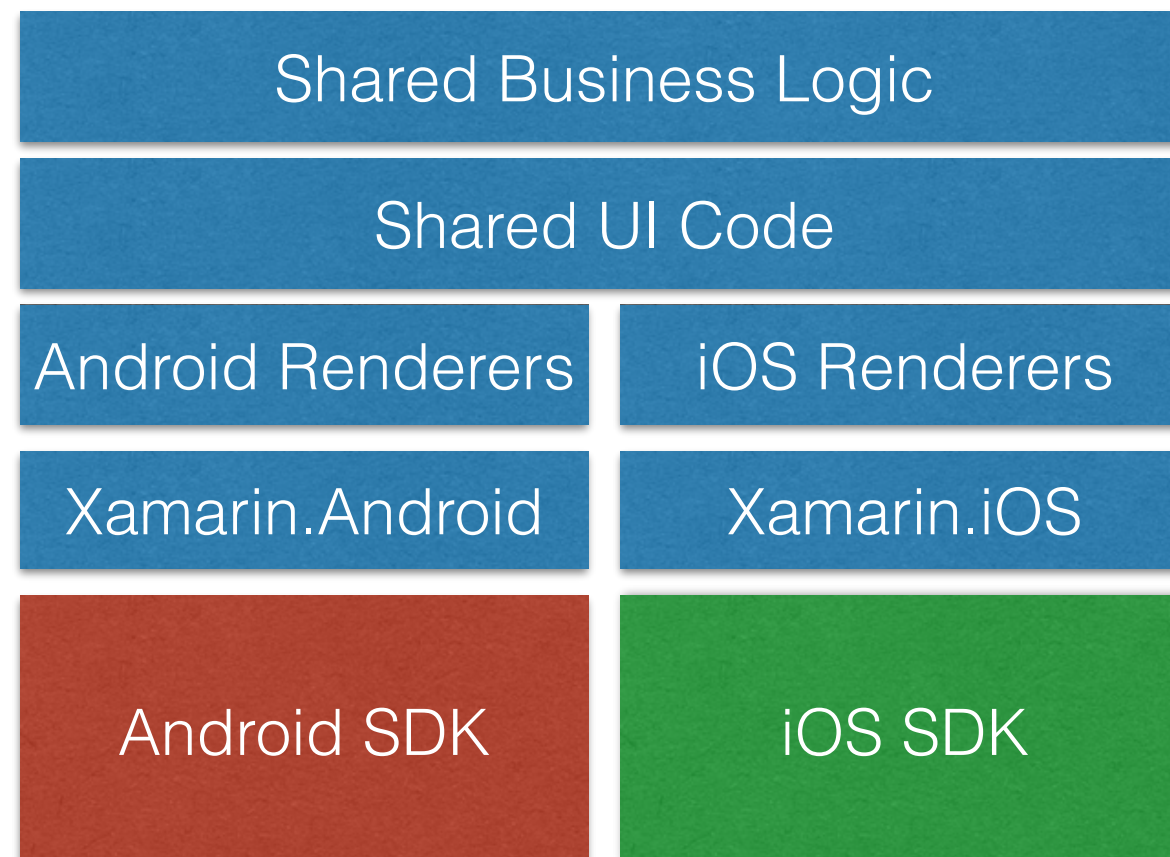
- MVVM architecture

- Renders with native views

Old and Busted

Java Code	No shared code
Android SDK	

Objective-C Code

iOS SDK

New Hotness

New**er** Hotness

Shared Business Logic	
Shared UI Code	
Android Renderers	iOS Renderers
Xamarin.Android	Xamarin.iOS
Android SDK	iOS SDK

MVC

Model ← Controller → View
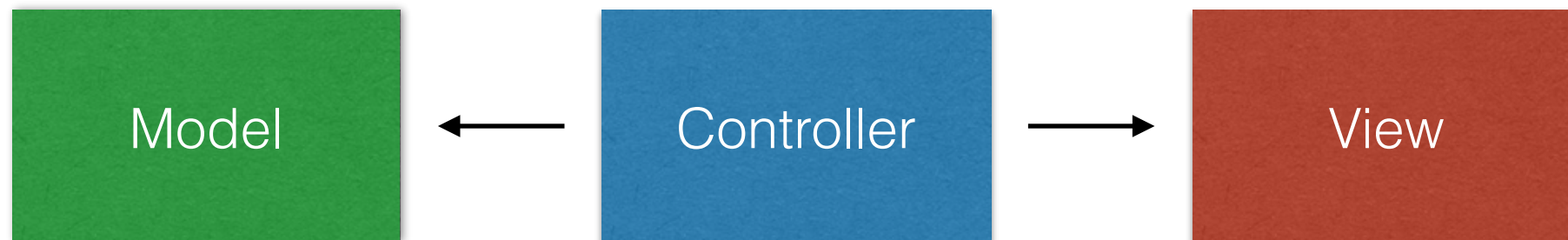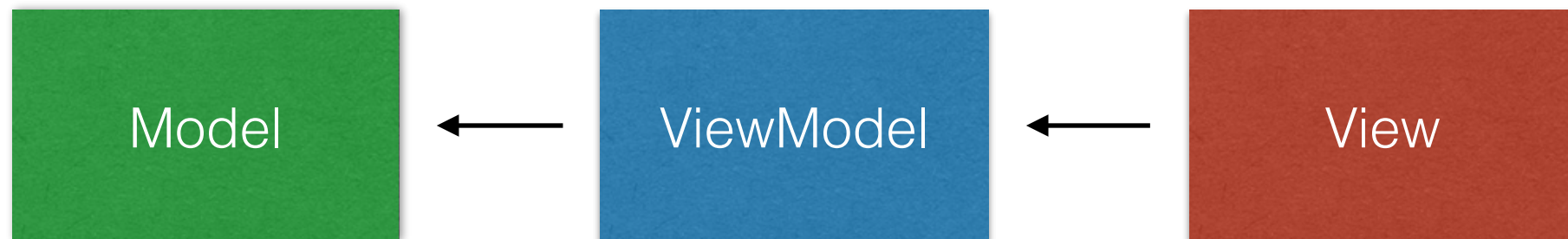
MVVM

MVVM

- **M**odel - Business logic

- **V**iew**M**odel - UX-specific logic to:

  - Transform model data into format needed for the view

  - Transform view input to format needed for the model

- **V**iew - Platform-specific code to display information and get user input
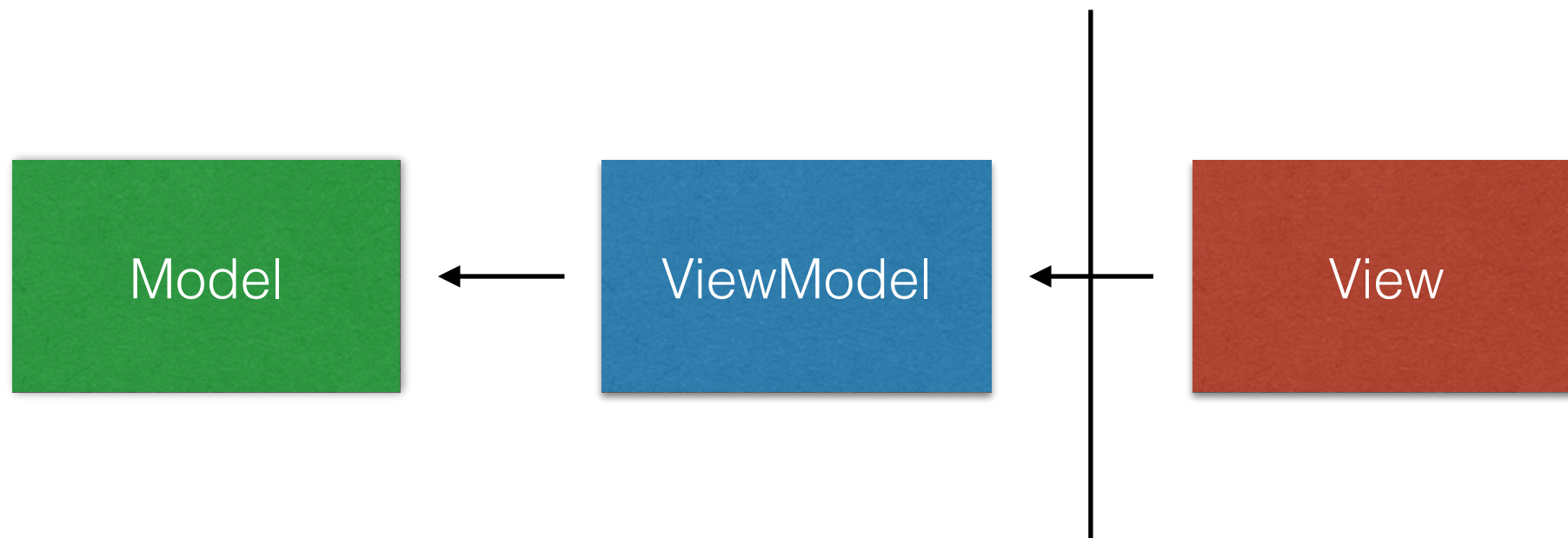
MVVMVR?

- **V**iew - Cross-platform code to describe UI

- **V**iew **R**enderer - Platform-specific code to convert cross-platform "view" into native view
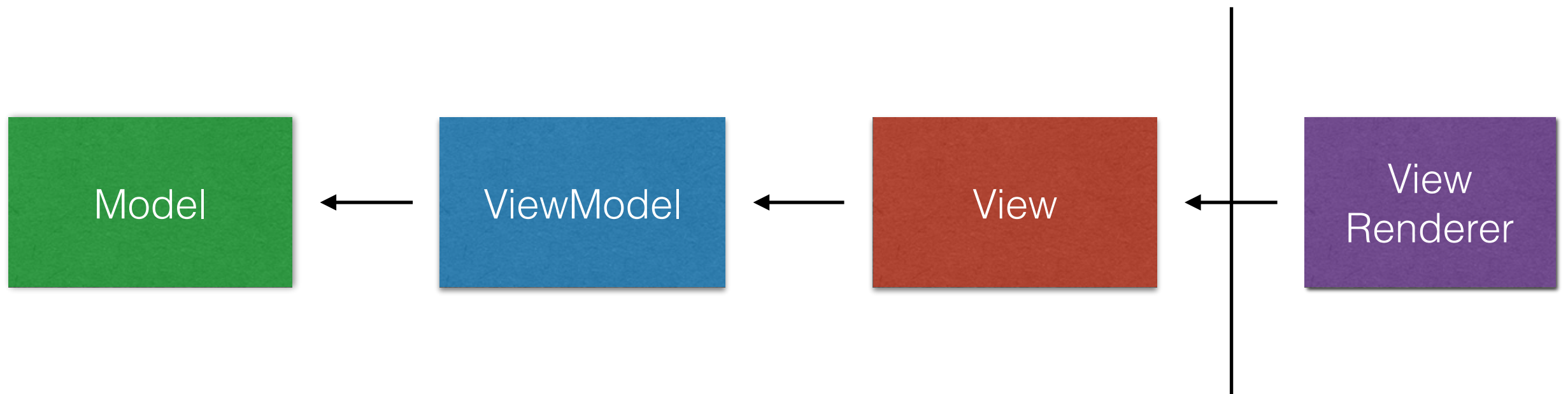
MVVM

Cross-platform   Platform-specific

Model ← ViewModel ← View

MVVMVR

Cross-platform   Platform-specific

Model ← ViewModel ← View ← View Renderer

Xamarin.Forms
App Components

Portable   Platform Specific

View Models ← BindingContext ← Pages ← MainPage ← App ← AppDelegate / Activity (glue)

Pages → Views

Views ← Element ← Renderers

View Models → Models
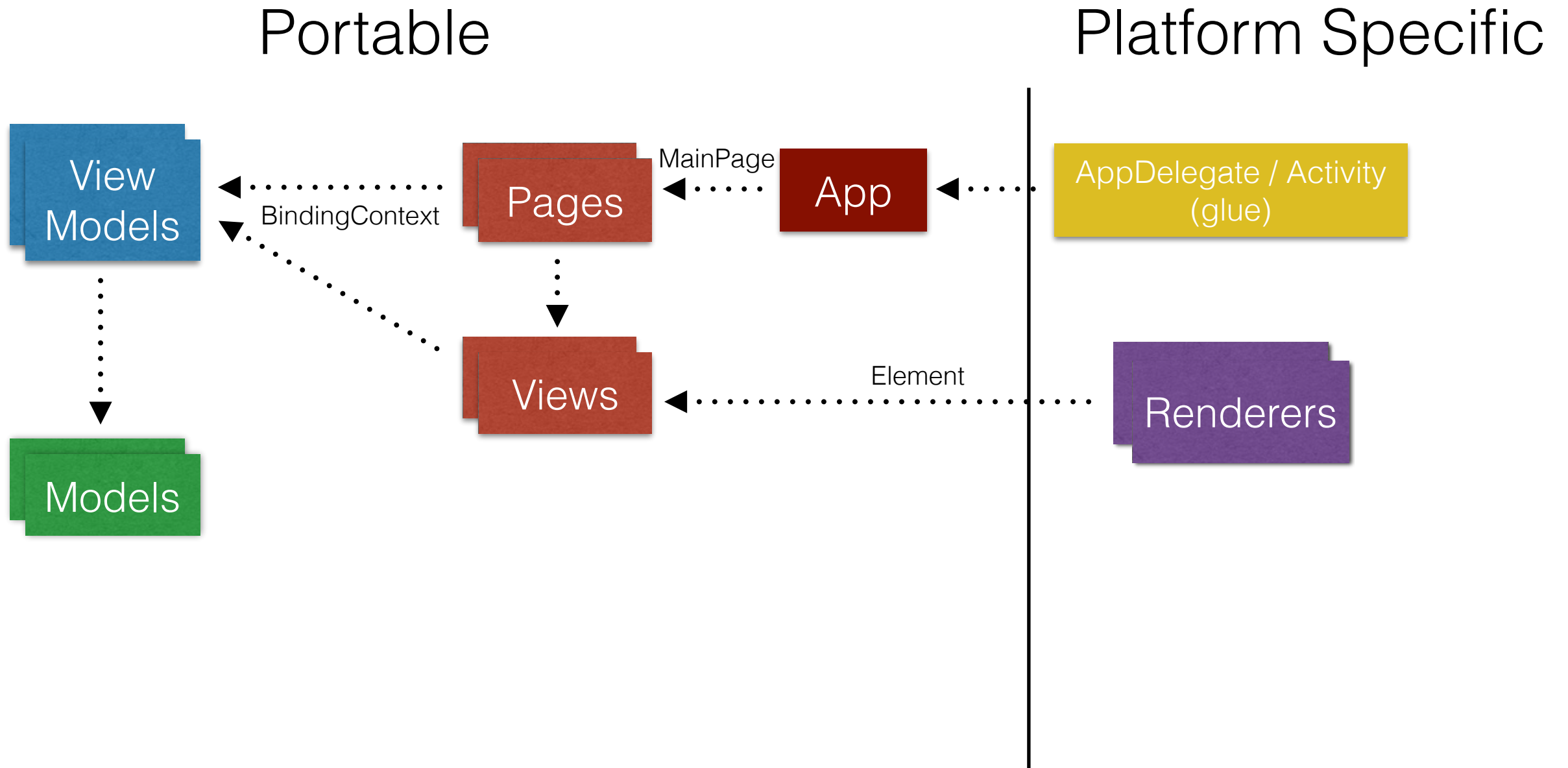
Key Concepts
Binding

- A mechanism for synchronizing data in one object with data in another object

- Can be one-way or two-way

Key Concepts
INotifyPropertyChanged

- An interface for notifying other objects about changes to properties

- The foundation of the binding system

- One event: PropertyChanged

  - Event args give the name of the property that changed

- **Objects that can be bound to should implement this**

Key Concepts
XAML

- eXtensible Application Markup Language

- Created by Microsoft

- Used for WPF, Silverlight, Windows Phone, Windows Runtime, and Xamarin.Forms

Key Concepts
XAML

- Declarative XML language for creating objects and setting properties

- Composable

- Mostly (but not exclusively) used for UI code