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Build Maintainable WPF Apps with



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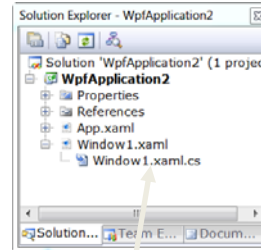
Agenda

- Prism Overview
- MVVM Overview
- Leveraging Prism MVVM
- Modularity and UI Composition



UI Separation Patterns Goals

- Architectural goals
 - Loose coupling
 - Separation of concerns
- Leads to
 - Maintainability
 - Testability
 - Extensibility

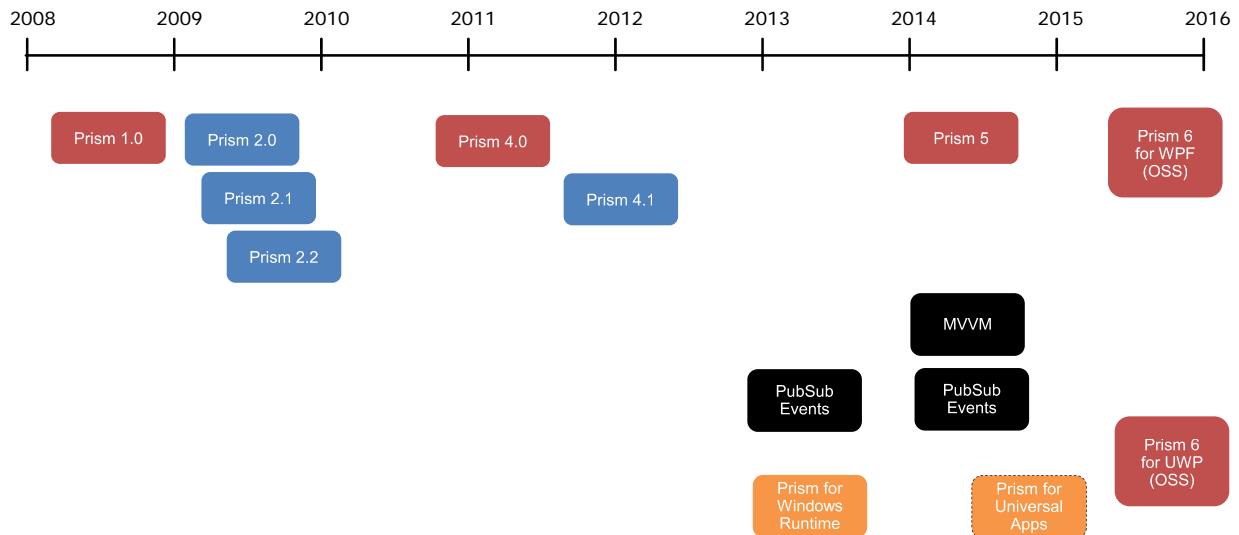


Prism Overview

- Framework for building XAML apps
 - Maintainable
 - Testable
 - Extensible
- OSS
- Current XAML Targets
 - WPF
 - Windows 10 UWP
 - Xamarin Forms



Prism Versions



Prism Key Features

- **MVVM + Extensible Application Structuring**
 - Well defined abstractions for different kinds of presentation layer code
 - Model-View-ViewModel, Application Controller, Bootstrapper, Modules, etc
- **Communications**
 - Loosely coupled communications with events and commands
- **Modularity**
 - Compose application of loosely coupled units of functionality
- **UI Composition**
 - Compose the user interface of loosely coupled UI parts
- **Navigation**
 - Well defined approach for switching and navigating through different views/screens in the application



Prism 6 Changes

- Changed namespaces (removed Microsoft.Practices.*)
- Re-organized libraries
 - Prism.Core – PCL
 - Prism.WPF
 - Prism.Windows (Win 10 UWP)
 - Prism.Forms (Xamarin)
- Removed everything that was deprecated in Prism 5



Prism 6 Changes

- Improved ViewModelLocator conventions and declarations
- Added Observer attributes for commands to handle CanExecute logic easier
- Improved Interaction Request customization (i.e. Window styling)
- Added support for Autofac, StructureMap, Ninject
- Lots of other little clean up items

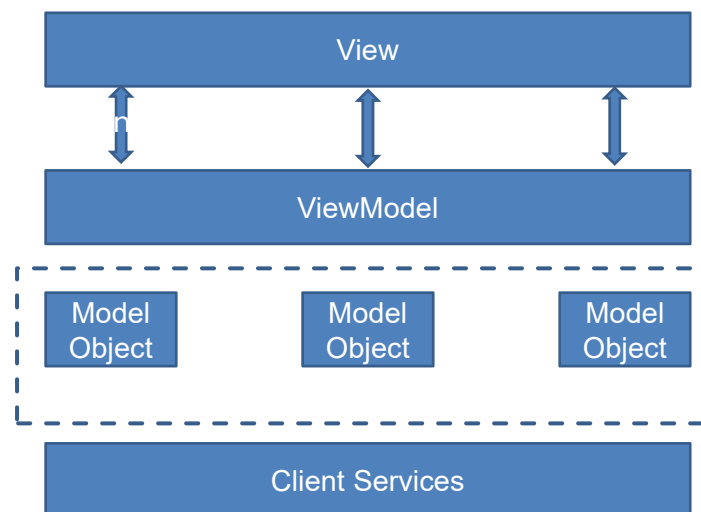


Prism Application Architecture

- Prism Library
- Shell Application
 - Bootstrapper
 - Shell
 - Shared resources
- 1..N Modules
 - Views / ViewModels
 - Controllers
 - Services



MVVM Structuring



MVVM Principals

- Model
 - Data structures and logic to support the presentation
- View
 - Just the structure of what the user sees on the screen
- ViewModel
 - Provides data to the view for binding / presentation
 - Interaction logic

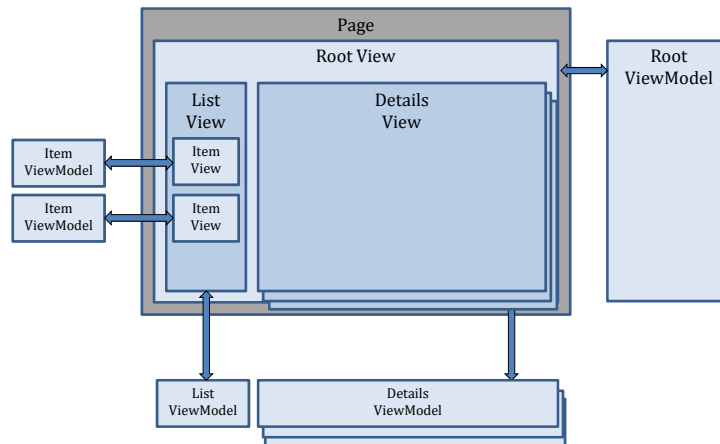


Prism MVVM Support

- Commands
- INotifyPropertyChanged support
- ViewModelLocator
- PubSubEvents
- InvokeCommandAction
- InteractionRequest



Hierarchical MVVM

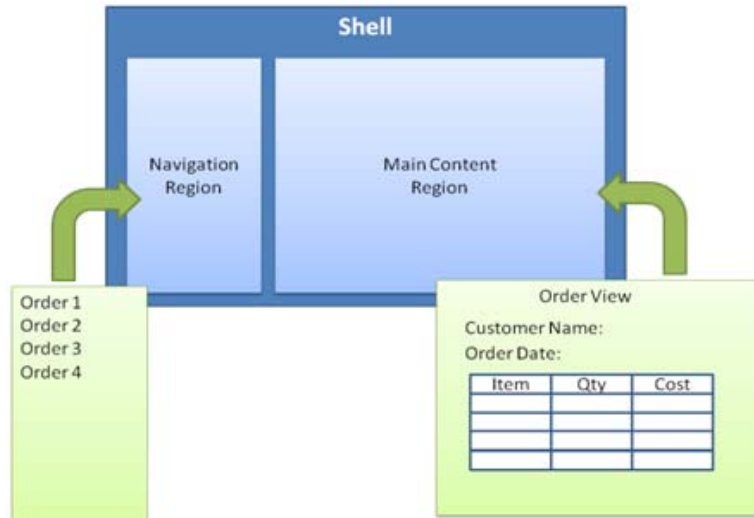


Modules

- Unit of composition for the application
 - As opposed to views as the unit of composition for the UI
- Modules contain the artifacts for a portion of your application
 - Self-contained
 - Decoupled
 - Reusable
- Typically defined as a Visual Studio project / assembly
- Can have more than one module per assembly
 - Avoid





Regions




References

- Prism book
 - <http://msdn.microsoft.com/en-us/library/gg406140.aspx>
- Pluralsight courses:
 - Prism Introduction
<http://www.pluralsight.com/courses/prism-introduction>
 - What's new in Prism 5
<http://www.pluralsight.com/courses/prism-50-whats-new>
 - Building Windows 8 MVVM XAML Apps –
<http://pluralsight.com/training/courses/TableOfContents?courseName=win8mvvm>
 - Building Windows Store Apps with Prism
<http://www.pluralsight.com/courses/building-windows-store-business-applications-prism>

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