

Esri Developer Summit

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Software Development and Design Using MVVM

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Overview

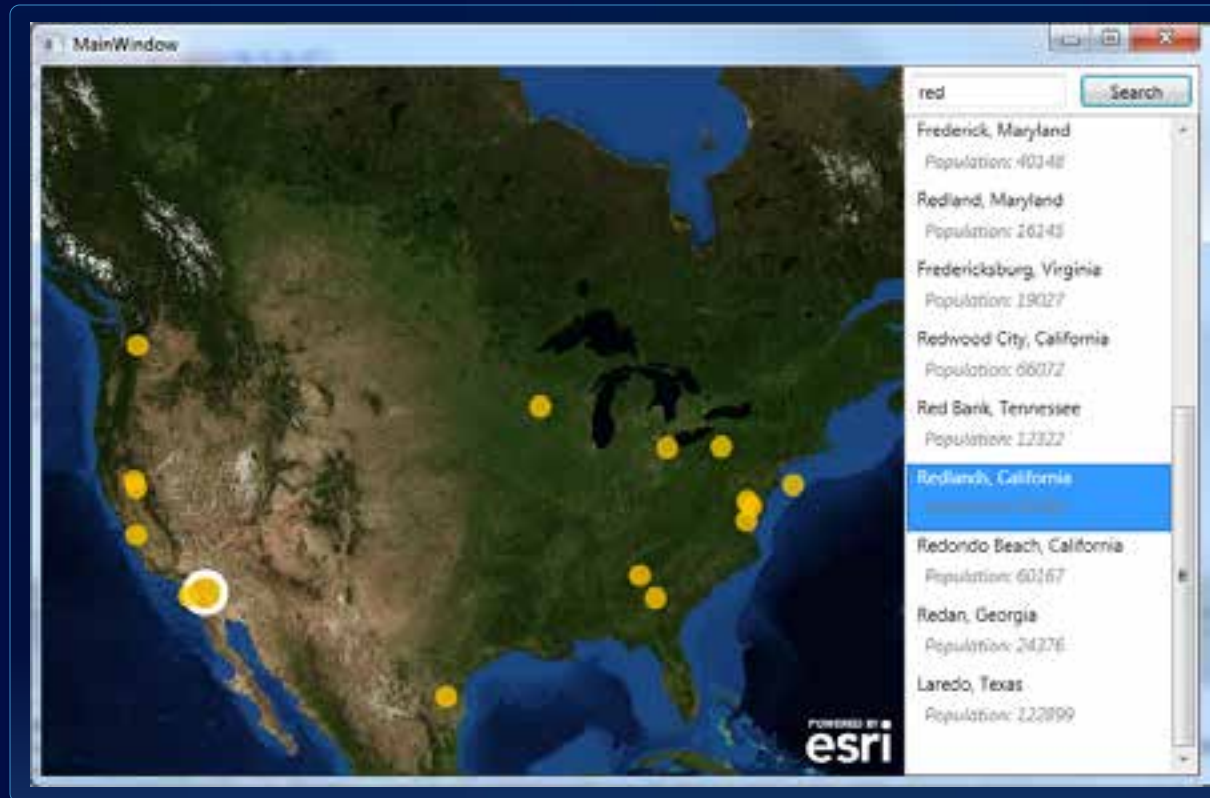
- **Why do we need MVVM?**
- **What is MVVM?**
- **Easy on slides, heavy on code**
- **MVVM in practice**
- **Questions**

- **Technologies**
 - **WPF, Silverlight, Windows Phone, WinRT (Metro)**

Traditional WPF Approach

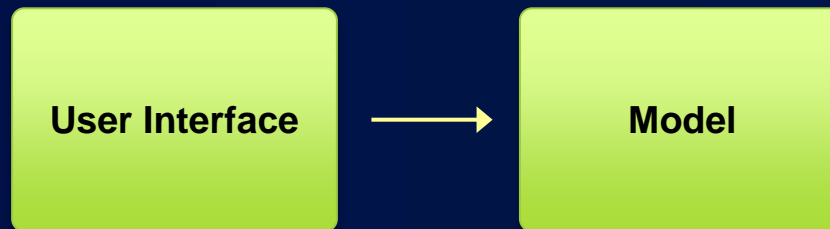
- **Resembles WinForms or VB**
- **Name all the UI controls**
- **Implement handlers for control events in code-behind**
- **Write code to populate the named controls**

Demo – Build a Simple Mapping App



Traditional Approach - Drawbacks

- **Can it be tested?**
- **Can it be maintained?**
- **Can the UX design evolve (Blendability)?**
- **Tightly coupled UI implementation (presentation + behavior)**



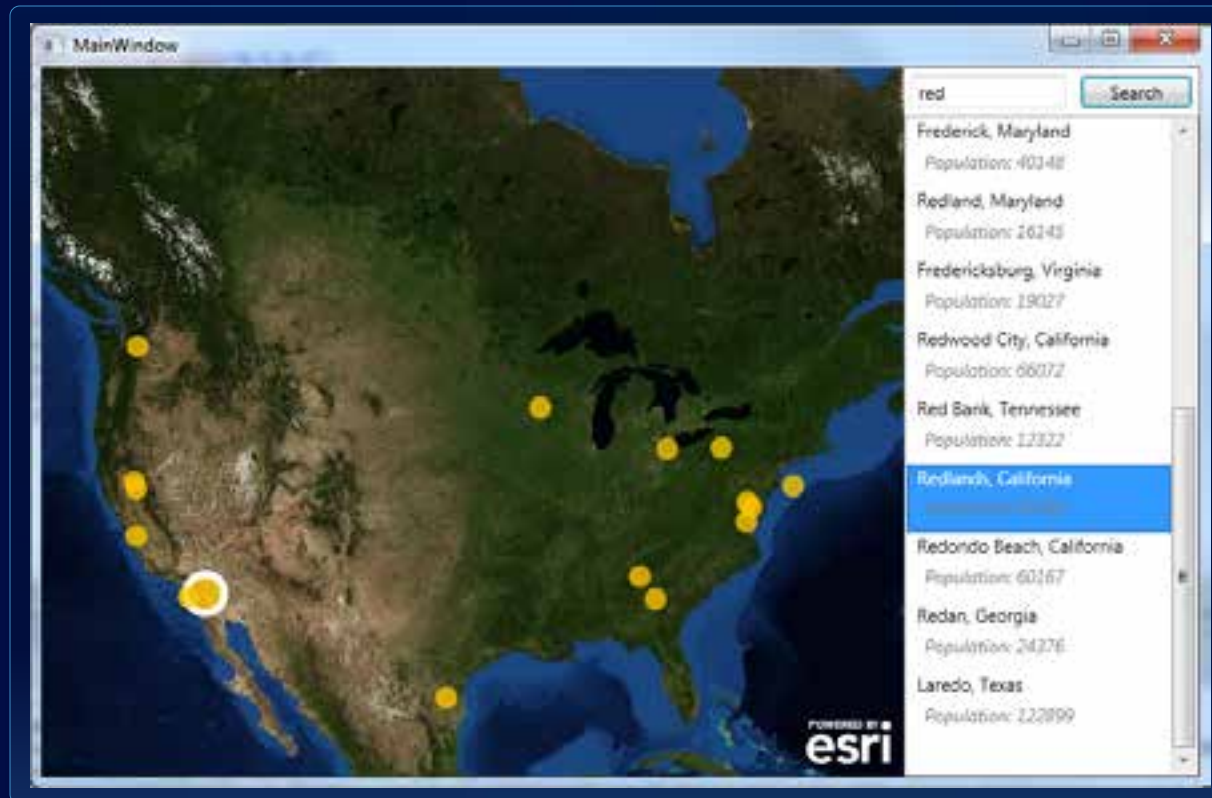
Introducing the MVVM Pattern

Separate the UI into two components

- **Model** – the business logic of the application
- **View** – the visual, what you see
- **ViewModel** – drives the user experience, supports the view



Demo – Simple Mapping App Revisited



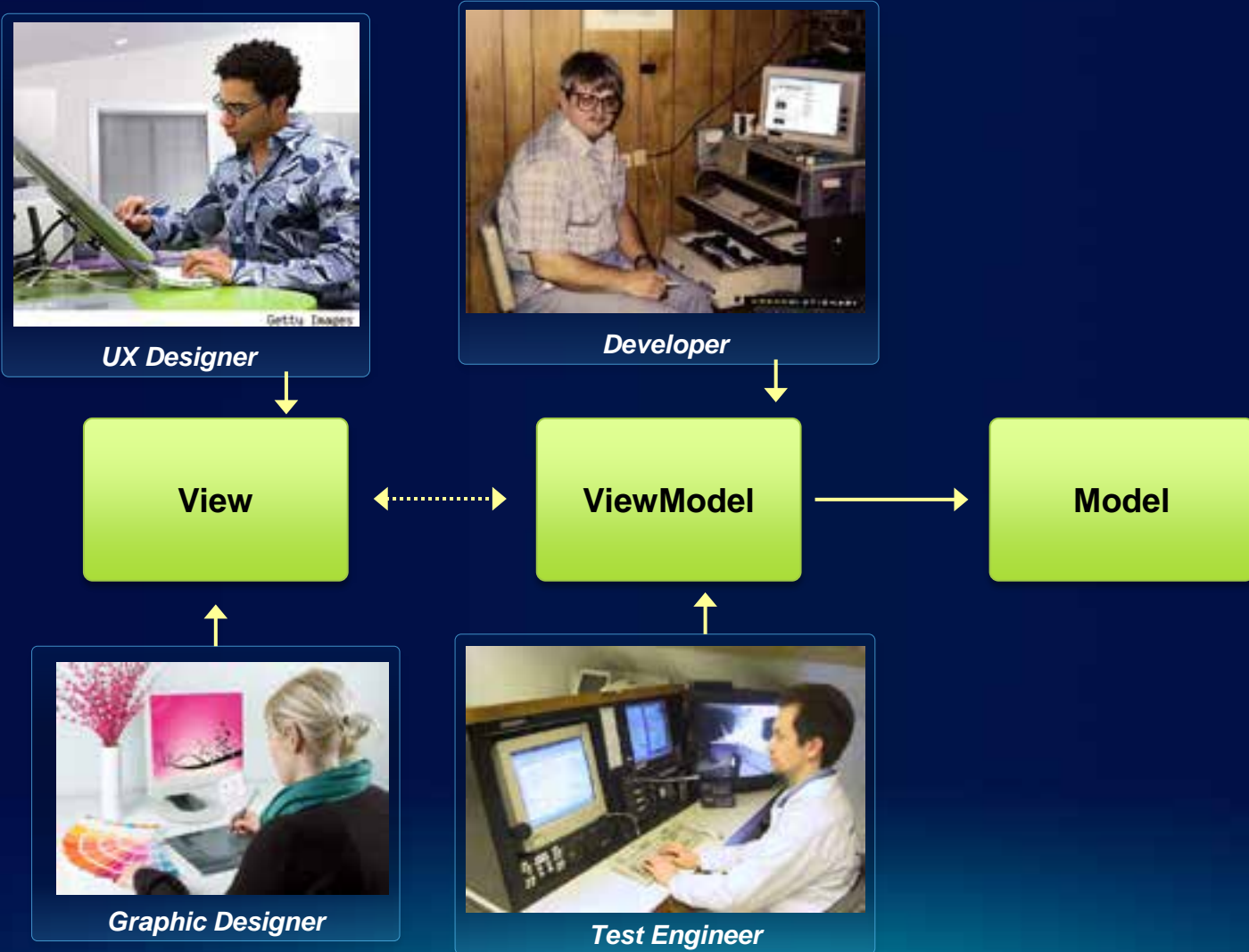
MVVM Implementation

- **ViewModel implements INotifyPropertyChanged**
- **View binds to properties on the ViewModel**
- **View executes methods on the ViewModel (Commanding)**
- **View and ViewModel are connected, usually through the View's DataContext**

MVVM Advantages

- **Maintainability**
- **Testability**
- **Designability**
- **Decomposition**

MVVM Organizes the Team



Questions?





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