Software Development and Design Using MVVM

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Agenda

• MVVM Explained
• Simple example
• Simple example with MVVM
• Discussion
What is MVVM?

- **Model**
- **View**
- **ViewModel**
Why MVVM?

• Is there a designer on your team?
• Do you use unit testing in your development?
• Is code reuse important?
• Are you building a large system?
Model

- Business objects, domain objects
- The actual data that your application is working with
- Examples: Customer, Polygon, GPS Location
View

- What the user sees and interacts with
- The presentation layer
- Manages input
- The view is composed of controls
ViewModel

- The logic of the application
- Maintains the state of the application
- Translates the Model for use by the View
- Exposes methods and properties to which the View connects
- Manipulates the Model
Model-View-ViewModel

View

ViewModel

Data Binding

Model
MVVM Organizes the team

UX Designers

Graphic Designers

Test Engineers

Developers
Demo – Simple mapping app
Traditional Approach – Drawbacks

• Can it be tested?
• Can the user interface be changed without changing the application logic?
• How easy would it be to add new features?

• The UI is tightly intertwined
• Unicorns are rare
Demo – MVVM mapping app
MVVM Approach

- Testable
- “Blendable”

- The UI has been decoupled (View + ViewModel)
Drawbacks with MVVM Approach – so far

- Lots of code
- Some fragile aspects (NotifyPropertyChanged)
- ICommand

- MVVM Frameworks can help address these issues
Demo – Leveraging Some Framework
Please fill out your Session Surveys

- Offering ID - 266

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10:30 – 11:30
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Understanding our world.