**Day 1: Ninject, XAML / WPF, MVVM**

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| **Introductions and brief Q&A** | **5 minutes** |

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| **Inversion of Control in .NET with Ninject** | | **65 minutes** |
| *Module* | *Components* | |
| Introduction | What is IoC and DI?  Why use IoC and DI?  How do IoC and DI differ, and how do they complement each other? | |
| Inversion of Control | Interface inversion  Flow inversion  Creation inversion | |
| Dependency Injection | Constructor Injection  Setter Injection  Interface Injection | |
| IoC Containers | What is an IoC Container?  Registration  Resolving Dependencies  Lifetime control | |
| IoC with Ninject | Overview of Ninject  Setting up Ninject  Registering types  Using the Ninject container  Controlling object lifetime | |
| Labs | Setting up a project to use Ninject  Registering and resolving objects  Constructor injection  Controlling object lifecycle | |

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| **Break** | **15 minutes** |

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| **Introduction to WPF and XAML, part 1** | | **65 minutes** |
| *Module* | *Components* | |
| Introduction | What is XAML?  Why XAML?  Demonstration | |
| Panels | Panels  Canvas  Stack Panel  Grid  Layout Properties  The Layout System  The Visual Tree | |
| Basic elements and events |  | |
| User controls and templates | Overview  Separation of behavior and visual content  Control templating  Routed Events | |
| Labs | Layout with Canvas, Grid and StackPanel  Placing elements on the page  Responding to mouse and button events | |

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| **Break** | **60 minutes** |

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| **Introduction to WPF and XAML, part 2** | | **75 minutes** |
| Resources and Styles | Overview of resources  Resource Dictionaries  Resource Scope  Styles  Style inheritance | |
| Data Binding | Overview  The DataContext  Binding Modes  Converters  Update trigger controls  ICommand processing | |
| Item Controls | Overview  Structure of items controls  ItemsPanelTemplate and DataTemplate  DataTemplateSelector  UI Update | |
| Labs | Creating and applying styles  2-way binding of an object to a user control  Binding a list of objects to a listbox | |

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| **Break** | **15 minutes** |

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| **Introduction to MVVM with XAML and Caliburn** | | **60 minutes** |
| *Module* | *Components* | |
| MVVM Concepts | MVVM History  Design goals of MVVM  Views and View Model Responsibilities  Data binding with MVVM  Command Binding  Behaviors  View Model Location  View Model Navigation | |
| Labs | Creating an app using MVVM in XAML  Creating an app using Caliburn.Micro  Creating a basic Caliburn.Micro MVVM App | |