eFace
XAML for Java

Declarative UI Programming

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Needs

- Visual UI Editor
- UI Modeler
- UI Code Generator
- Visual UI Editor

- Business Analyst
- Final User
- Application designer
- Domain developer
- Component developer
Needs

- Execution environment
  - Web/Ajax
  - Eclipse
  - Swing
- Tools
  - Visual Editor
  - MDA UI Modeler
  - Advanced UI Resource Editor
- Agile system
Needs

- Business Analyst
- Application designer
- Domain developer
- Component developer

- Visual UI Editor
- UI Modeler
- UI Code Generator

Final User
1. Meta model
2. Abstract and generic model
3. Programming API
4. Event management
5. Data binding
XAML Fundamentals

Hello, world!

```xml
<Window
    xmlns="http://schemas.microsoft.com/winfx/2006/xaml/presentation"
    Title="Appearance">
    <Button FontSize="20" FontWeight="Bold">Hello world!</Button>
</Window>
```

```java
Window window = new Window();
Window.setTitle("Appearance");

Button button = new Button();
Button.setFontSize(20);
Button.setFontWeights(FontWeights.BOLD);
Window.getChildren().add(button);
Window.show();
```

"Hello world!"
XAML Fundamentals

**Event Handling**

```xml
<Window
    xmlns="http://schemas.microsoft.com/winfx/2006/xaml/presentation"
    x:Class="tutorial.event.handling.Handler"
    Title="Event handling">
    <Button Click="onClick">Click here!</Button>
</Window>
```

```java
package tutorial.event.handling;

import com.soyatec.eface.upf.actions.RoutedEventArgs;

public class Handler {
    public void onClick(Object sender, RoutedEventArgs args) {
        System.out.println("Hello world!");
    }
}
```
Data Binding

- Event notification
  - Control event
  - Data event
- Data context management
- Data Binding expression
- Data conversion
- Data validation
  - Regular expression
- Customizable error handling
- Automatic update in two directions
  - Data source object to GUI
  - GUI modification to data source object
<Window
    xmlns="http://schemas.microsoft.com/winfx/2006/xaml/presentation"
    Title="Data binding" Width="235" Height="90">
    <Canvas>
        <Label Canvas.Top="5" Canvas.Left="5" Content="First name:"/>
        <TextBox Canvas.Top="5" Canvas.Left="70" Width="150"
            Text="{Binding Path=FirstName}"/>
        <Label Canvas.Top="30" Canvas.Left="5" Content="Last name:"/>
        <TextBox Canvas.Top="30" Canvas.Left="70" Width="150"
            Text="{Binding Path=LastName}"/>
    </Canvas>
</Window>
Presentation Modeling Framework – MDA

1. EMF Business modeling

2. Data Presentation modeling

3. Generation and execution

Component Templates on JET2
Presentation Modeling Framework – MDA

Extensible and high productivity MDA solution for EMF

- Customizable template mechanism
- Flexible component-based architecture
- Separation of Data Presentation Modeling with UI framework
- Executable code generation

Demo

http://www.soyatec.com/eface/webdemo#PMF
**Advanced Features**

- Default value resolution – Dependent Property
- Style
  - Named Style and Style override
- Data binding
  - Binding, MultiBinding and PriorityBinding
- Trigger
  - DataTrigger, EventTrigger and MultiTrigger
- Template for dynamic GUI
  - Control template and Data template
- Collection View
  - Sort and filter
- XAML Editor on top of Eclipse XML editor
- Eclipse RCP integration
Roadmap

- Q2 2008
  - EMF PMF - V1
- Q3 2008
  - Visual Designer V1 – VEX for eFace
- Q4 2008
  - Advanced Eclipse integration – V1
    - Wizard, Property sheet, Preference, editor, etc.
Our project manager/designer mastered very quickly the framework and made our application very user friendly in no time! Above my expectation, the end user experience was fluid, easy and intuitive. This tool is already becoming a significant productivity tool in our environment.

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