Implement OERA & achieve true productivity with GUI for .NET™ using SmartComponent Library.

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PUG Challenge Americas 2011, Westford, MA
Consultingwerk Ltd.

- Independent IT consulting organization
- Focusing on OpenEdge and .NET
- Located in Cologne, Germany
- Vendor of tools and consulting programs
- 21 years of Progress experience (V5 … V10)
- GUI for .NET early adaptor (since 10/2006)
- Just started with iPhone/iPad app development

http://www.consultingwerk.de/
Consultingwerk Ltd.

- Customers in Germany, Europe, USA
- Working with small to large Progress Partners and direct end users
- Supporting some of the largest Progress Partners in Germany, Belgium, The Netherlands, Austria and UK with application modernization and user interface technologies
- Network of partnering consultants, like ic4b for Web UI’s, Whitestar Software, DBAppraise

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Solutions for the OpenEdge GUI for .NET

- WinKit
- SmartComponent Library
- Dynamics4.NET

- Tools can be used together or separately
- Share common code base
Agenda

- Overview
- Architectural Overview
- Connectivity to existing frameworks
- Business Logic Design Process
- User Interface Design Process
- License model
- SmartComponent Library and WinKit
- Review
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- Overview
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  - Review
Overview

- The out of the box productivity with GUI for .NET is far behind the AppBuilder.

- The *SmartComponent Library* is our answer to a developers demand for a productive and rich design time experience when using the OpenEdge GUI for .NET.
Overview

- A **Component** is a class that provides rich design time experience in the context of a .NET Visual Designer, like the OpenEdge Architect

- Our components are **Smart** by functionality, interoperability and extensibility
At a glance

- Designed to make OpenEdge GUI for .NET developers productive
  - *UI Design* and *Business Logic* development
- Minimum to no manual code for repetitive tasks
- No constraints in GUI design capabilities
- Rapid prototyping as well as real-world development
- Support past, current and future of OpenEdge
- Part of our *GUI for .NET adoption strategy*
At a glance

- 99.9% of source code ABL, 0.1% C#
- C# source code required for Visual Designer enhancements
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Backend Overview

- The SmartComponent Library provides a flexible OERA Backend Architecture
- Applied OpenEdge Reference Architecture
- Business Entities, Data Access Objects
- Business Tasks, scheduled or async processing
- Common Infrastructure Components
- OERA Backend used for GUI for .NET, ABL and .NET clients, Sonic ESB, Web Services, batch processing, ...
  - write Business Service once, use multiple
OpenEdge Reference Architecture

Presentation

Enterprise Services

Business Components

Data Access

Data Sources

Common Infrastructure
Alternative frontends for OERA backend

- Alternative frontends (used in production)
  - Web Services
  - ESB
  - Web
- Savvion / OpenEdge BPM
- Mobile devices (native UI, prototype)
  - iPhone, iPad, Android, Windows Phone
  - SmartComponents.Mobile Framework
Frontend Overview

- GUI for .NET client infrastructure
- Extension to OpenEdge UltraControls / Infragistics NetAdvantage for .NET Controls
- Other Control sets may be used
- Integrated into the .NET Visual Designer
  - configuration of behavior and design in a single and intuitive place
  - no restrictions to the way .NET Controls are used
  - wizards and property sheets for repetitive tasks
Frontend Overview

- Specialized application foundation components
  - SmartViewerControl
  - SmartDataBrowser, SmartUpdatableBrowser
  - SmartLookupControl, SmartComboBox
  - SmartToolbarController, SmartPanels
  - SmartWindowForm
  - SmartBindingSource
  - SmartBusinessEntityAdapter
  - Service Adapter, Infrastructure Components
Frontend Overview

- Flexible communication between components
- Defined using Interface types (object orientation)
- Alternative .NET Controls can be integrated with ease
Demo

- Customer Explorer Sample application
- Toolbar / Ribbon
- Customer Detail screen
- Dynamic SmartViewerControl
- Charts, Google Maps
- Various Drag and Drop operations
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Connectivity to existing frameworks

- Designed to co-operate with existing frameworks or applications – rather than to compete
- Connectivity by implementation of adapters, Interfaces or hooks
- Proven in customer projects
Connectivity to existing frameworks

- Dedicated interfaces to existing frameworks:
  - Data Access, alternative (OERA) backends, i.e. ticEnterprise
  - Connection management, Service Management
  - Security: Authentication and Authorization, customer frameworks, Progress Dynamics
  - Internationalization

- Overridable functionality:
  - All user interface functionality can be adopted to existing frameworks by Interface implementation or Inheritance / overloading
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Business Logic Design Process

- Main Business Logic Components are
  - Business Entities: High level business rules
  - Data Access Objects: Data retrieval, update

- Multiple programming paradigms
  - object-oriented, new development based on 10.2B language features
  - procedural, based on PSDN best practices materials, preferred by some existing developers, still maintained
Business Logic Design Process

- Built around ProDatasets
- Use Data Source objects or your preferred way of populating the ProDataset
- Strict separation of layers:
  - UI design process separated from BL design process
- Business Entities are the foundation of Business Tasks
Business Logic Design Process

- Template based or Visual Design using “Diagrams”
- Flexible source code generator
  - Customizable templates
  - Customizable code generator (ABL class)
- Overridable ABL Business Entity Designer to adopt customer demands, like connection to a data relation repository
- Ad-hoc based Business Entity Test utility
Business Entity Designer
Demo

- Creation of a Customer-Order-OrderLine-Item Business Entity using the Designer
- Review generated source code
- Review templates / generator / batch generator
- Ad-hoc Query using Business Entity Tester utility
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User Interface Design Process

- Screen design based on rich foundation classes
- Compose Forms by adding rich SmartComponents and standard .NET Controls
- Connect and parameterize SmartComponents using property grid and Wizards
- Data centric design process: Achieving UI Design productivity similar to the AppBuilder
User Interface Design Process
User Interface Design Process

- Dataset Controller (generated by Business Entity Designer)
- client-side representation of the Business Entity
- optional to use
- ability to reuse client side logic in multiple screens
- key benefit: static access to the ProDataset, no need for dynamic queries on the user interface
Demo

- „Complete“ Order maintenance in 10 minutes
- Order Viewer Design
- Order Line Viewer Design
- Item Number Lookup
- Order Form Design, “putting it all together”
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License model

- Full source code (99% ABL, 1% C#)
- No runtime royalties
- Corporate license
- First year maintenance is included

- Maintenance renewal from the second year on
- Training and consulting service offerings
- OpenEdge and Infragistics Licenses not included
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SmartComponent Library and WinKit

- **SmartComponent Library** and **WinKit** are part of our GUI for .NET adoption and migration strategy
  - WinKit: Enhancement of existing screens
  - SmartComponent Library: New functionality
- Shared framework foundation classes
- Compatible directory and project structure
- Used side by side in customer projects already
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Mobile phone apps vs. web apps

- Mobile phone apps offer best „sizzle“ factor for mobile devices
- Gesture recognition (e.g. pull to refresh)
- Control all hardware resources (camera, GPS)
- Store data on devices, cache, offline operation
- Push notification
SmartComponents.Mobile

- SmartComponents.Mobile offers similar API’s to developer as on GUI for .NET
- Native UI’s on iPhone, iPad (Android, WP7 planned)
- Connected to OpenEdge AppServer using Web Services or FUSE, online or synchronized
- MVC UI Pattern
- Model and Controller platform independent
- View optimized for target device
Demo

- Sports2000 Demo HD
  - iPad App accessing OpenEdge AppServer
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Review

- The **SmartComponent Library** is our answer to a developers demand for a productive and rich design time experience when using the OpenEdge GUI for .NET
- Based on OpenEdge standard design patterns
- Complete OERA implementation
- Perfectly integrated into the Visual Designer
- **Dramatically reduces training requirements for GUI for .NET**
- Full source code available to developers
Questions

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The lucky winner will be announced at the end of the conference.

• Getting started with Embedded Windows,
  A practical introduction into WinKitLE (practical hands-on workshop),
  Mike Fechner & Marko Rüterbock, Sunday, June 5th, 1:30 – 4:30

• SmartComponent Library: GUI for .NET and OERA the productive way!
  (Commercial presentation), Mike Fechner & Marko Rüterbock,
  Monday, June 6th, 4:00 – 5:00

• Extending the OpenEdge Architect Visual Designer,
  Mike Fechner, Tuesday, June 7th, 4:00 – 5:00

• Extreme Windows Desktop Integration,
  Mike Fechner, Wednesday, June 8th, 11:15 – 12:15

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