

SmartComponent Library

***The Framework for the GUI for .NET, OE Mobile,
Open Edge Reference Architecture, BPM and Web***

On premise and in the Cloud

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Consultingwerk Ltd.

- Independent IT consulting organization
- Focusing on **OpenEdge** and **.NET**
- Located in Cologne, Germany
- Vendor of tools and consulting programs
- 23 years of Progress experience (V5 ... OE11)
- GUI for .NET early adaptor (since 10/2006)
- Just started with iPhone/iPad app development

OpenEdge® application modernization solutions

- WinKit
- **SmartComponent Library**
- Dynamics4.NET
- Tools can be used together or separately
- Share common code base
- **SmartComponents.Mobile,**
SmartComponents.Web
- **SmartBPMAdapter for OpenEdge BPM/Savvion**

Agenda

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

Overview

- The out of the box productivity with GUI for .NET is far behind the AppBuilder
- **Successful** and **flexible** OERA implementation needs a framework that is easy to implement and that adopts to your needs
- The ***SmartComponent Library*** is our answer to a developers demand for a productive and rich design time experience when using 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 design time and runtime

Customer quote

- Previous framework: Progress Dynamics, demand to move away from Dynamics because of complexity

“We were excited to get started with the SmartComponent Library and expected a lot. The design, the ease of use and flexibility of the framework have exceeded our expectations by far!”

Simon Prinsloo, Dovetail, South Africa

At a glance

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

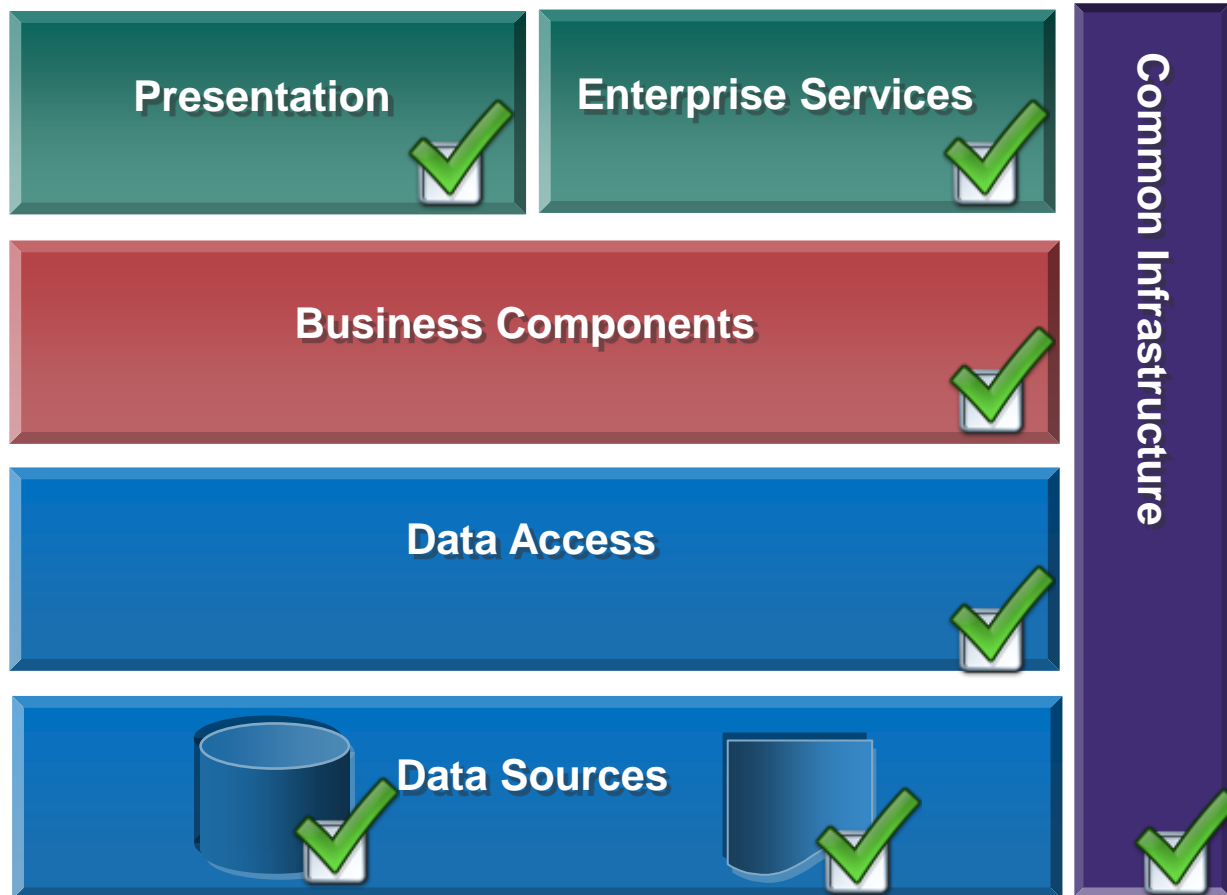
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Backend Overview

- 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, Web, OE Mobile, Sonic ESB, Web Services, batch processing, ...
 - write Business Logic once, use anywhere

OpenEdge Reference Architecture



Frontend Overview

- GUI for .NET client infrastructure
- Extension to OpenEdge UltraControls / Infragistics NetAdvantage for .NET Controls
- Other Control sets may be used
- Tightly 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

- Flexible communication between components
- Defined using Interface types for flexibility
- Alternative/additional .NET Controls can be integrated with ease
- Customizable without loosing compatibility

UI Demo

- Customer Explorer Sample application
- Customer Detail screen, Parent Child Data
- Navigating in large data sets (200.000 Customer) Dynamic Viewer Control
- Charts, Google Maps
- Various Drag and Drop operations
- Localization

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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 “services”
- Regularly proven in customer projects

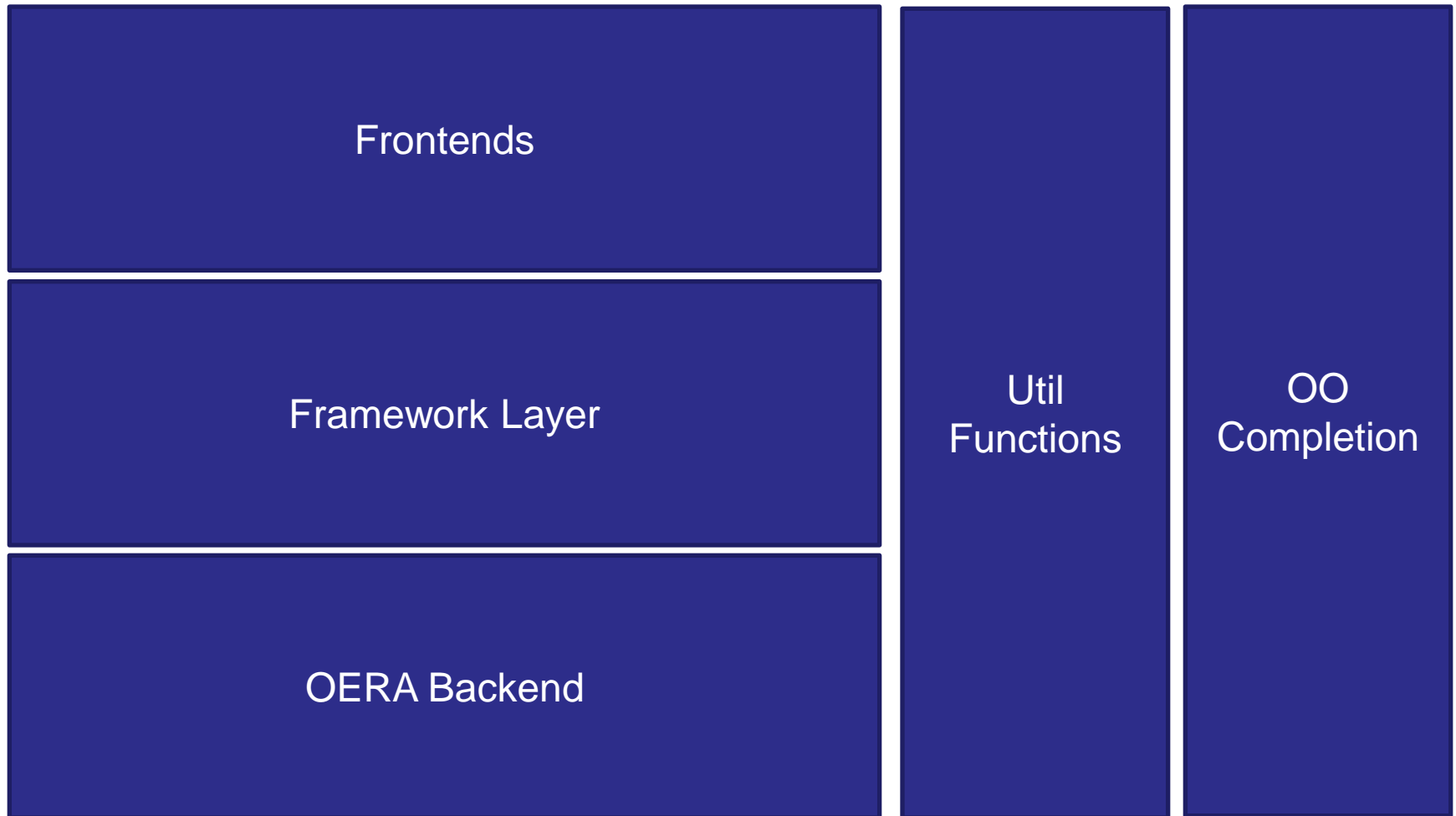
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Architecture rules everything



Architecture picture



Business Logic Design Process

- Main Business Logic Components are
 - **Business Entities:** High level business rules
 - **Data Access Objects:** Data retrieval and update
 - **Business Task objects**
- Multiple programming paradigms
 - object-oriented
 - **ProDataset based or object-relational**
 - procedural

Business Logic Principles

- Built around ProDatasets or object relational
- 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 a possible foundation of Business Tasks
- ProDatasets: relational data container
- Alternative: Entity Classes for ORM

Business Logic Design Process

- Template based, Visual Design using Diagrams
- Flexible source code generator
 - Customizable templates
 - Customizable code generator (ABL class)
 - Plugin Infrastructure
- Ad-hoc based Business Entity Test utility

SmartComponent Library

The screenshot displays the Business Entity Designer interface. The main workspace shows three entities: **eOrder**, **eOrderLine**, and **eltem**. Each entity has a list of fields and an index. **eOrder** has fields like Ordernum, CustNum, OrderDate, ShipDate, PromiseDate, Carrier, Instructions, PO, Terms, SalesRep, and BillToID. **eOrderLine** has fields like Ordernum, Linenum, Itemnum, Price, Qty, Discount, ExtendedPrice, and OrderLineStatus, with an index named **Orderline**. **eltem** has fields like Itemnum, ItemName, Price, Onhand, Allocated, ReOrder, OnOrder, CatPage, CatDescription, Category1, and Category2. Relationships are shown between **eOrder** and **eOrderLine**, and between **eOrderLine** and **eltem**.

The **Data-Relation** pane at the bottom left shows a data relation named **eOrdereSalesrepRelation** between **eOrder** and **eSalesrep**, with the relation field **SalesRep_SalesRep**. The **Field Properties** pane shows the **Ordernum** field with data type **INTEGER** and initial value **0**. The **Overview** pane lists the entities: **eOrder**, **eCustomer**, **eOrderLine**, **eltem**, and **eSalesrep**.

Demo 1

- Creation of a Customer-Order-OrderLine-Item Business Entity using the Designer
- Review generated source code
- Review generated Entity Classes
- Ad-hoc Query using Business Entity Tester

Demo 2

- Query Order using ORM

Demo 3

- Use Business Entity Designer to generate UI

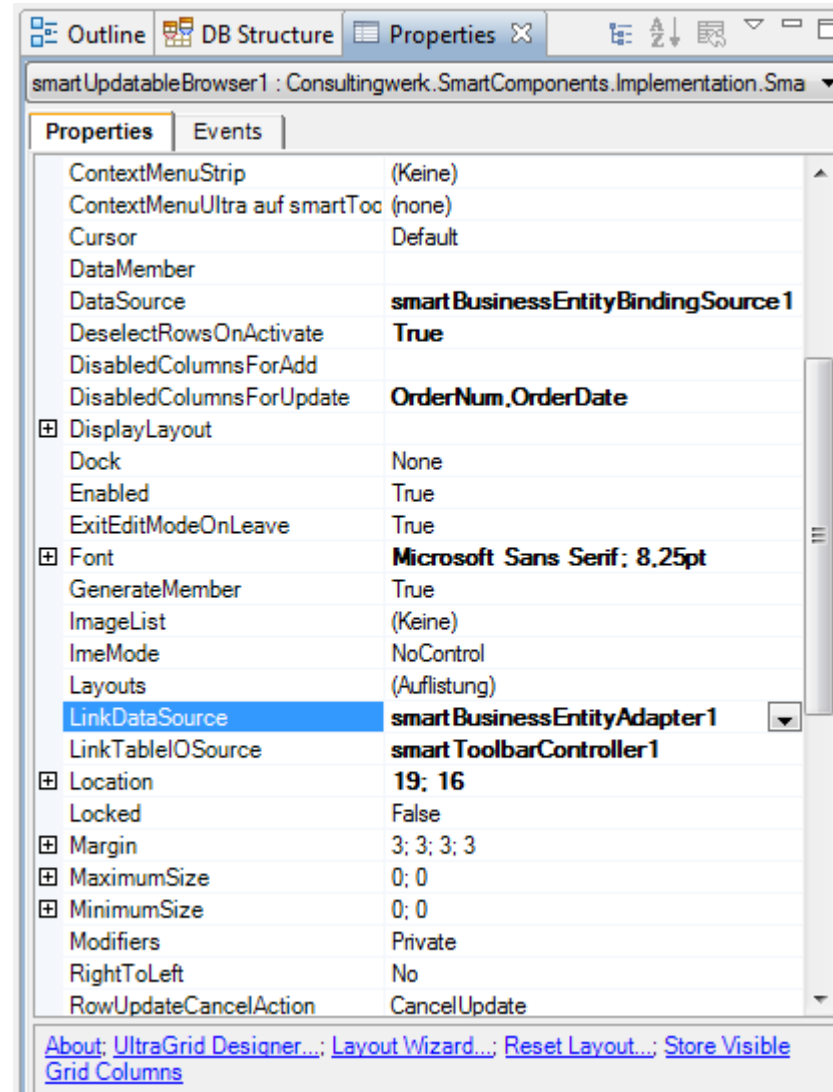
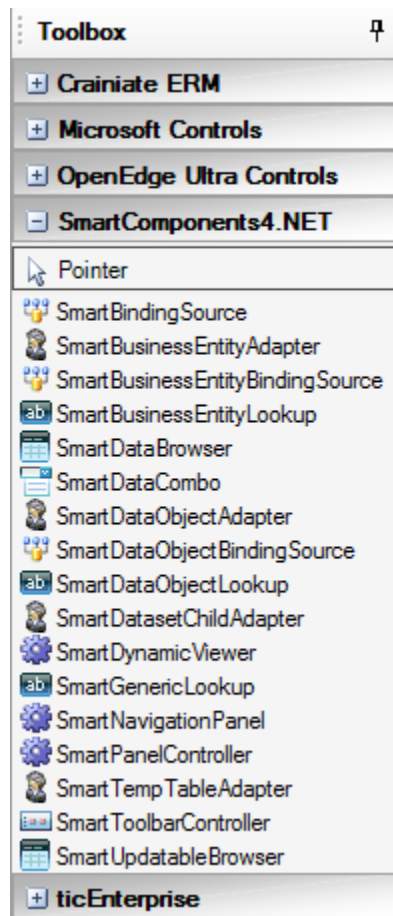
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User Interface Design Process

- 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



Demo

- „Complete“ Order maintenance in 5 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 (99.9% ABL, 0.1% C#)
- No runtime royalties
- Developer licenses
- First year maintenance is included
- Maintenance renewal from the second year on
- Training and consulting service offerings
- OpenEdge and UltraControls 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

Order Maintenance
_ □ X

File Navigate Maintenance View

← ← → → 👤 ✎ 🏠 ⌨ ✖

Order Num: 1 Ordered: 23/01/09

Order Status: Shipped

Shipped: 28/01/2009

Promised: 28/01/09

Cust Num: 53 Name: Offside Hockey

Carrier: FlyByNight Courier Terms: Net30 PO:

Orderlines Customer Detail

Handle with care

OrderLines

Line Num	Item Num	Item Name	Qty	Price	Extende
1	54	Canoe	30	4,86	
2	55	Surfboard	21	23,85	
3	53	Swimming Trunks	75	8,77	
4	28	Ski Gloves	39	23,00	
5	39	Baseball	75	34,00	2.
6	26	Catchers Mit	28	4,99	

Line Num: 1

Item Num: 54

Item Name: Canoe

Price: 4,86

Qty: 30 Extended Price: 131,22

Discount: 10%

Order Line Status: Shipped

Order Maintenance - Redesigned

File Start Options

Navigation

First Prev Next Last

Search

Search

Maintenance

Edit Save Delete Cancel

Order Num: Ordered:

Order Status:

Shipped: ..

Promised: ..

Cust Num: Name:

Carrier: Terms: PO:

Handle with care

Orderlines
Customer Detail

Legen Sie eine Spalte hier ab, um nach dieser zu gruppieren.

Line Num	Item Num	Item Name	Qty	Price	Ext
1	54	Canoe	30	4,86	
2	55	Surfboard	21	23,85	
3	53	Swimming Trunks	75	8,77	
4	28	Ski Gloves	39	23,00	
5	39	Baseball	75	34,00	
6	26	Catchers Mit	28	4,99	

Line Num:

Item Num:

Item Name:

Price:

Qty: Extended Price:

Discount:

Order Line Status:

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SmartBPMAdapter

- Instant integration of OpenEdge BPM
- Session and connection management
- Task list
- Desktop alerts and notifications
- Workflow Form Designer for end users
- Start new process instances from business logic or on users request
- Legacy code integration on the backend and the frontend
- OpenEdge 10

Experts in OpenEdge and .NET!



A new workitem is available in your tasklist.

Process Name: Sports2000OrderApproval

Workstep: ApproveOrder

Due date: 29.10.2011 19:15:47

Support for OpenEdge Mobile











- SmartComponent Library Backend and OE Mobile = perfect fit!
- Generation of fully functional Business Entity Service Interface from Business Entity Designer
- Demo: Generate Business Entity Service Interface and Query in Postman

SmartComponents.Mobile

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

Sports 2000 for iPad

Countries

Customers	 Australia Commonwealth of Australia, 1 Customer	>
by Country	 Austria Republic of Austria, 3 Customer	>
by SalesRep	 Finland Republic of Finland, 28 Customer	>
	 France French Republic, 7 Customer	>
Salesreps	 Germany Federal Republic of Germany, 0 Customer	>
	 Italia Italian Republic, 2 Customer	>
Order status	 Nederland The Netherlands, 3 Customer	>
	 Sverige Kingdom of Sweden, 2 Customer	>
	 United Kingdom United Kingdom of Great Britain and Northern Ireland, 12 Customer	>
	 USA United States of America, 1061 Customer	>



Customers	<input type="text" value=""/>
by Country >	2 Fun Sports Sales > USA / Boulder
by SalesRep >	71 Pawn Ctr > USA / Rogers
	A & A Athletic & Recreation > USA / Washington
Salesreps >	A & J Sports Inc > USA / North Smithfield
	A A Collegiate Pennant Co > USA / Chicago
Order status	A P Sports > USA / Chicago
	A To Z Sports > USA / Blackfoot
	Aaa Sporting Goods Inc > USA / Kenner
	Abbeville Sporting G > USA / Abbeville
	Abc Sports > USA / Newtown
	Academy Sports > USA / Layton
	Academy Sports & Outdoors > USA / Arlington
	Action Sports > USA / Arlington
	Action Sports > USA / Clinton

Customers
by Country >
by SalesRep >
Salesreps >
Order status >










<input type="text" value=""/>
L & M Athletic Goods USA / Aurora >
L A Gym Equipment USA / Los Angeles >
La Crosse Northwest USA / Bellevue >
Lacoma Golf Club USA / East Dubuque >
Lain's Sport Ctr & Motel USA / Big Piney >
Lancer Sports USA / Norton >
Larry Black Sporting Goods USA / Broken Arrow >



Customers
by Country >
by SalesRep >
Salesreps >
Order status >

<input type="text" value="Li"/>
Liddle Sport Shop Inc > USA / Blue Springs
Lids Ltd Partnership > USA / Washington
Life Sports > USA / Ellsworth
Life Style Sports > USA / Sioux City
Lift Tours > USA / Burlington2
Lighthouse Grocery & Liquor > USA / Ketchikan
Lithia Sports Ltd > USA / Ashland



Customers	 Brawn , Bubba B. East >
by Country >	 Pitt , Dirk K. Central >
by SalesRep >	 Donna Swindall Southern >
	 Gilles Ehrer Bretagne >
Salesreps >	 Harry Munvig Sverige >
	 Jan Loopsnel Noord >
Order status	 Kari Iso-Kauppinen Finland >
	 Robert Roller Austria >
	 Smith , Spike Louise West >

Customers	<input type="text" value=""/>
by Country >	Abbeville Sporting G > USA / Abbeville
by SalesRep >	Action Sports > USA / Great Bend
	Adin Supply Co > USA / Adin
Salesreps >	Alfred Sports Ctr > USA / Alfred
	All American Sports > USA / Logan
Order status	All Seasons Sportarama > USA / Baldwin
	All Star Sport Ctr > USA / Bayonne
	Alta Sports > USA / Alta
	Anchor Angler > USA / Anchor Point
	Arkenstone Paint Ball Games > USA / Acworth
	B & M Gun Shop > USA / Abington
	Barry's Up North > USA / Aurora
	Bear Sporting Goods > USA / Bear
	Bell's Sporting Goods > USA / Lafayette

- Customers
 - by Country >
 - by SalesRep >
- Salesreps >
- Order status

Salesrep

Code	JAL
Name	Jan Loopsnel
Region	Noord

Monthly Quota

Quota	>
-------	---

- Customers**
- by Country >
- by SalesRep >
- Salesreps >
- Order status**

January	2200
February	2266
March	2334
April	2404
May	2476
June	2550
July	2627
August	2706
September	2787
October	2871
November	2957
December	3046

SmartComponents.Web







- OpenEdge Web Speed backend
- WebSpeed OO-Enabled
- Server side: similar object model as on the GUI for .NET
- SmartWeb Components
- Web Widgets (abstraction from HTML generation), stylable look and feel
- Design in code, graphical design in repository
- Client side: jQuery objects/HTML/AJAX/HTML5

Consultingwerk.SmartCompor x





localhost/cgi-bin/cgiip.exe/SmartWeb/Consultingwerk/SmartComponentsDemo/Web/CustomerList#

SmartComponents.Web

Start View Options

 Add Record
  Update Record
  Save Changes
  Cancel Update
  Copy Record
  Delete Record

Maintenance

 First Batch
  Previous Batch
  Next Batch
  Last Batch

Navigation

Cust Num	Name	Postal Code	City	Country	Sales Rep
1	Lift Tours	01730	Burlington	USA	JAL
2	Urpon Frisbe	45321	Oslo	GB	DKP
3	Hoops	02112	werq	DE	HXM
4	Go Fishing Ltd	HA8 bbb	Harr	GB	SLS
5	Match Point Tennis	02134	Boston	USA	JAL
6	Fanatical Athletes	48855	Montgomery	GB	RDR
7	Aerobics valine Ky	4567	Tikkurila	FI	DKP
8	Game Set Match	851 14	Deatsville	USA	RDR
9	Pihtiputaan Pyora	44800	Pihtipudas	FI	DKP
10	Just Joggers Limited	BLO 9ND	Ramsbottom	GB	SLS
11	Keilailu ja Biljardi	210	Helsinki	FI	DKP
12	Surf Lautaveikkoset	24240	Salo	FI	DKP
13	Biljardi ja tennis	4600	Mantsala	FI	DKP
14	Paris St Germain	75012	Paris	FR	DOS
15	Hoopla Basketball	08215	Egg Harbor	USA	HXM

Consultingwerk.SmartCompor x

localhost/cgi-bin/cgiip.exe/SmartWeb/Consultingwerk/SmartComponentsDemo/Web/CustomerDetails?CustNur

SmartComponents.Web

Start View Options

Maintenance: Add Record, Update Record, Save Changes, Cancel Update, Copy Record, Delete Record

Navigation: First Record, Previous Record, Next Record, Last Record

Cust Num:	<input type="text" value="8"/>	Sales Rep:	<input type="text" value="RDR"/>
Name:	<input type="text" value="Game Set Match"/>	Credit Limit:	<input type="text" value="15000"/>
Address:	<input type="text" value="Box 60"/>	Balance:	<input type="text" value="8254"/>
Address2:	<input type="text" value="løjøj"/>	Terms:	<input type="text" value="Net30"/>
City:	<input type="text" value="Deatsville"/>	Discount:	<input type="text" value="50"/>
State:	<input type="text" value="AL"/>		
Postal Code:	<input type="text" value="851 14"/>		
Country:	<input type="text" value="USA"/>		
Contact:	<input type="text" value="Tore Break"/>	Comments:	<input type="text" value="This customer is back on Credit Hold."/>
Phone:	<input type="text" value="Tore Break"/>		
Fax:	<input type="text" value="060-60 62 61"/>		
Email:	<input type="text"/>		

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- Based on OpenEdge standard design patterns
- Complete OERA implementation
- Perfectly integrated into the Visual Designer
- BPM / Mobile / Web
- **Dramatically reduces training requirements for GUI for .NET and OERA**
- Full source code available to developers

Questions

