

Part III

USABILITY

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Enterprise Applications



- What is an Enterprise?
 - “A group of people with a common goal and resources at its disposal to achieve this goal”
 - A business as small as a grocery store or as large as a telecommunications company
- What are Enterprise Applications?
 - “... generally serve various purposes in an enterprise’s functional business areas such as accounting, finance, etc.”
 - Examples: Enterprise Resource Planning (ERP), Customer Relationship Management (CRM), etc.

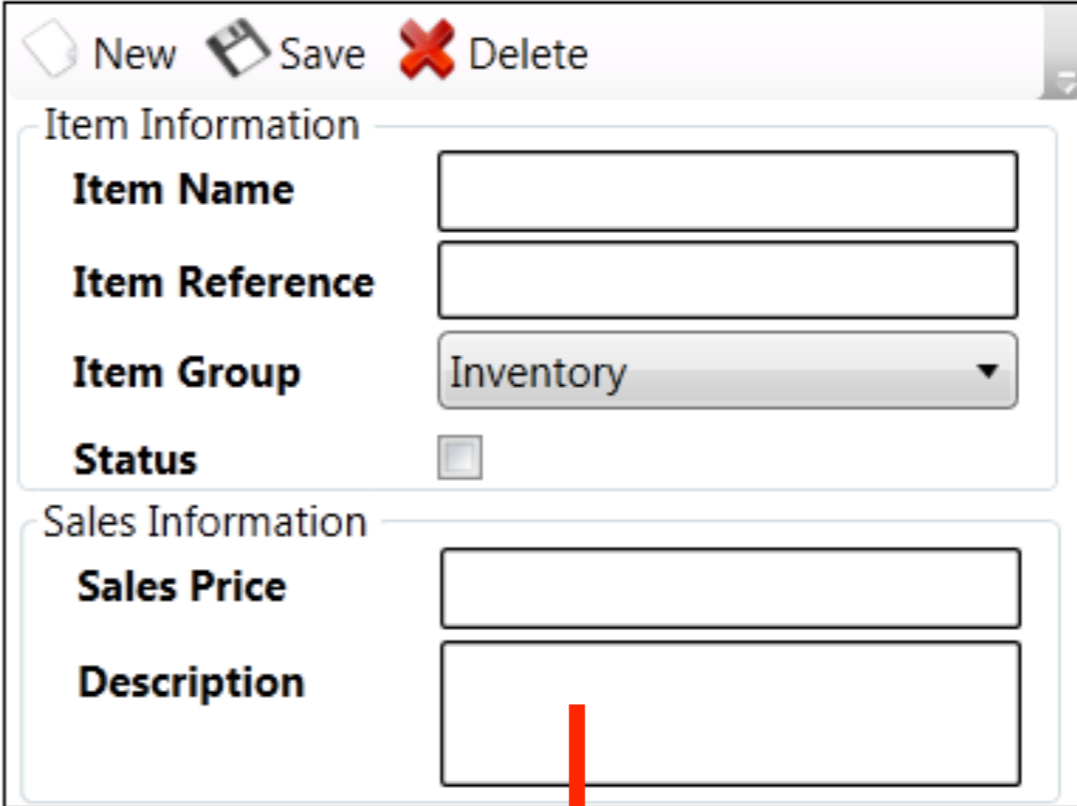
Problem and Objective

- What is the main research problem?
 - **Users find enterprise applications hard to use**
 - E.g., **Survey conducted in the Nordic Countries** showed that 40% of its participants found enterprise applications somewhat, very, or extremely hard to use
- What is the problem's main cause?
 - **One user interface does not fill all**
- What is the main research objective?
 - **Maximize enterprise application usability**

Role-Based UI Simplification

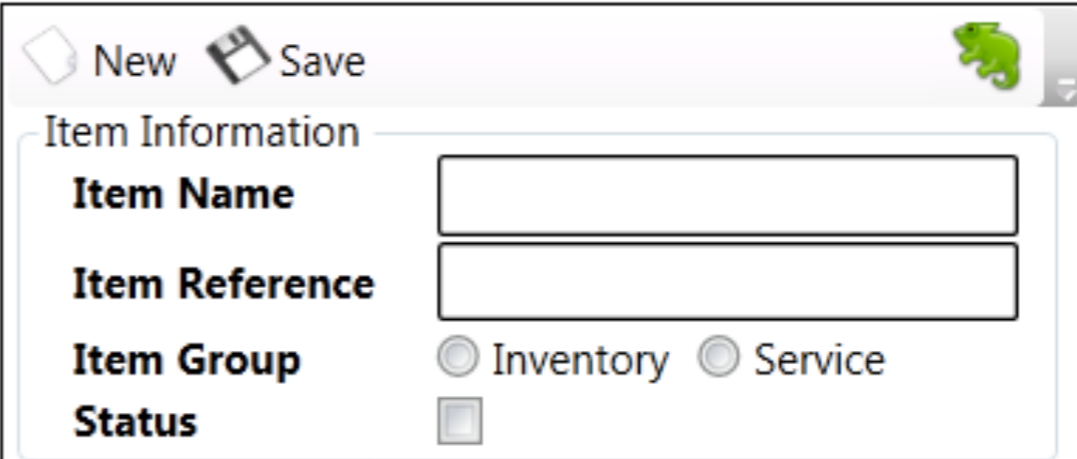
Role-Based User Interface Simplification (RBUIS) is a mechanism for increasing usability through **adaptive UI behavior** by providing users with a **minimal feature-set** and an **optimal layout** based on the context-of-use (user, platform, and environment)

Initial UI



The Initial UI form is a standard web form with a toolbar at the top containing 'New', 'Save', and 'Delete' buttons. It is divided into two sections: 'Item Information' and 'Sales Information'. The 'Item Information' section includes fields for 'Item Name', 'Item Reference', 'Item Group' (a dropdown menu currently showing 'Inventory'), and 'Status' (a checkbox). The 'Sales Information' section includes fields for 'Sales Price' and 'Description'. A red arrow points from the 'Description' field down to the 'Simplified UI'.

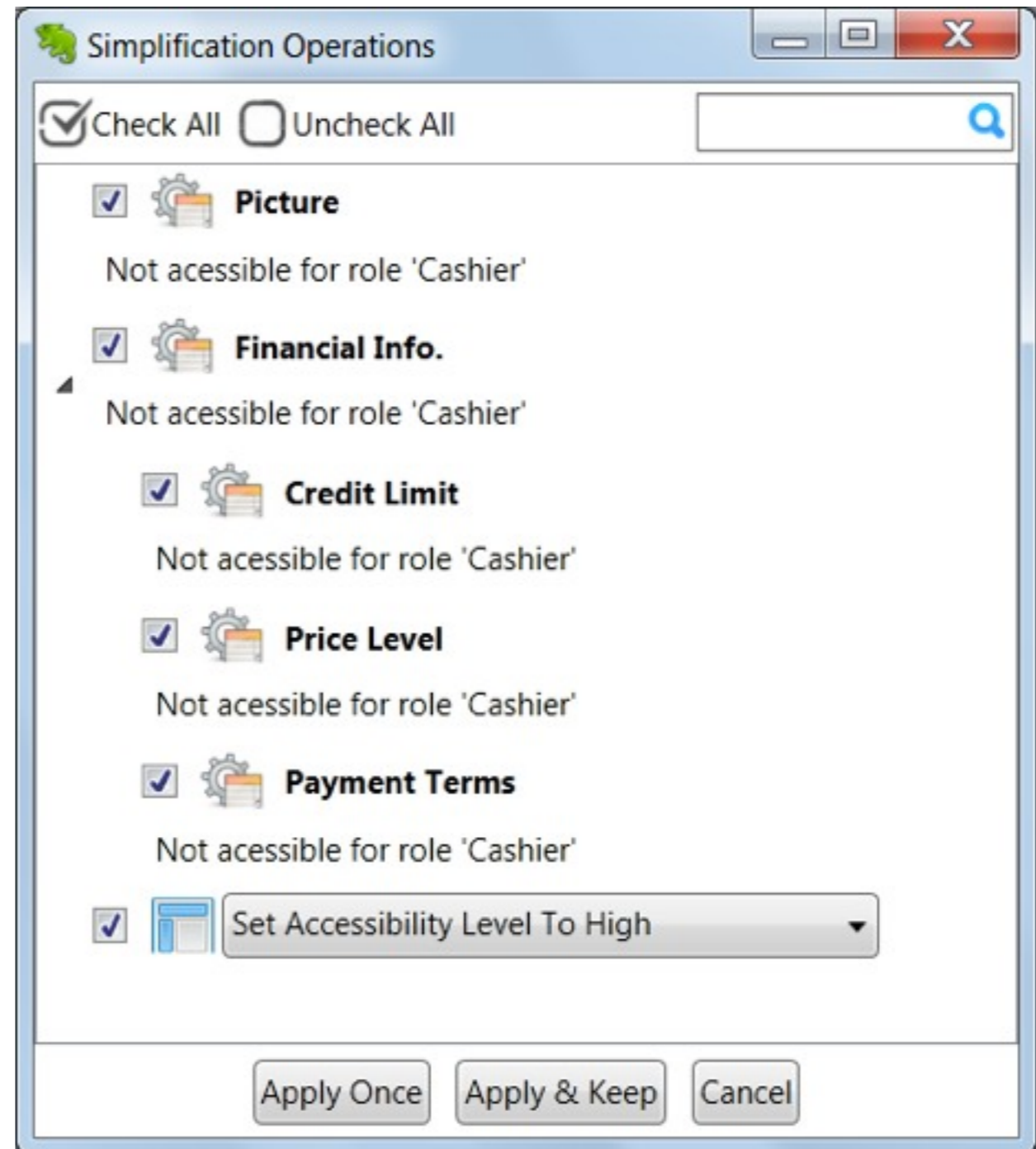
Simplified UI



The Simplified UI form is a streamlined version of the initial form. It has a toolbar with 'New' and 'Save' buttons, and a small green icon in the top right corner. It only contains the 'Item Information' section, which includes fields for 'Item Name', 'Item Reference', 'Item Group' (radio buttons for 'Inventory' and 'Service'), and 'Status' (checkbox). The 'Sales Information' section has been removed.

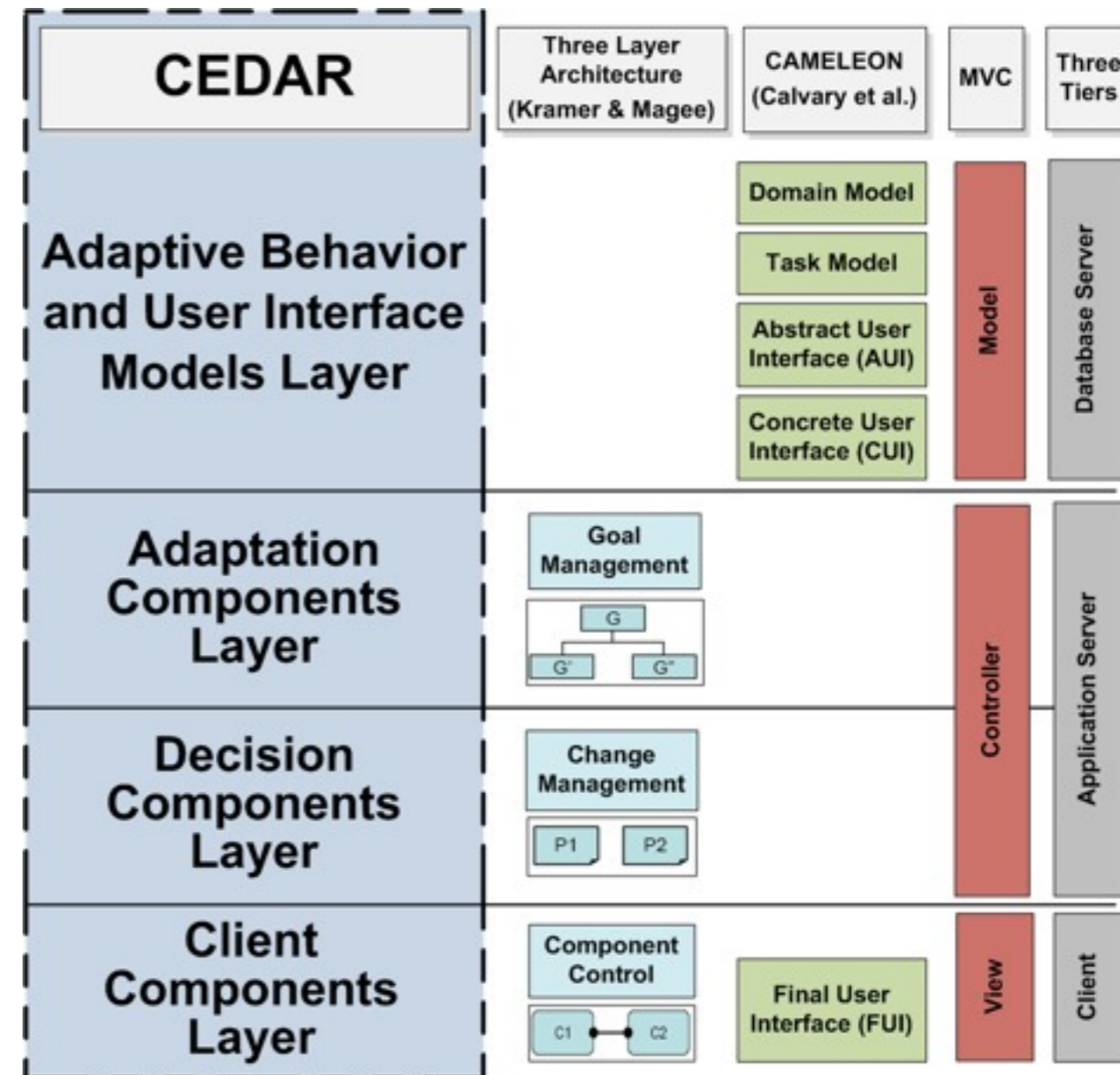
User Feedback in RBUIIS

- Keeps users involved and in control
- Helps in maintaining feature awareness
- Reverse feature-set minimizations
- Choose possible alternative layout optimizations

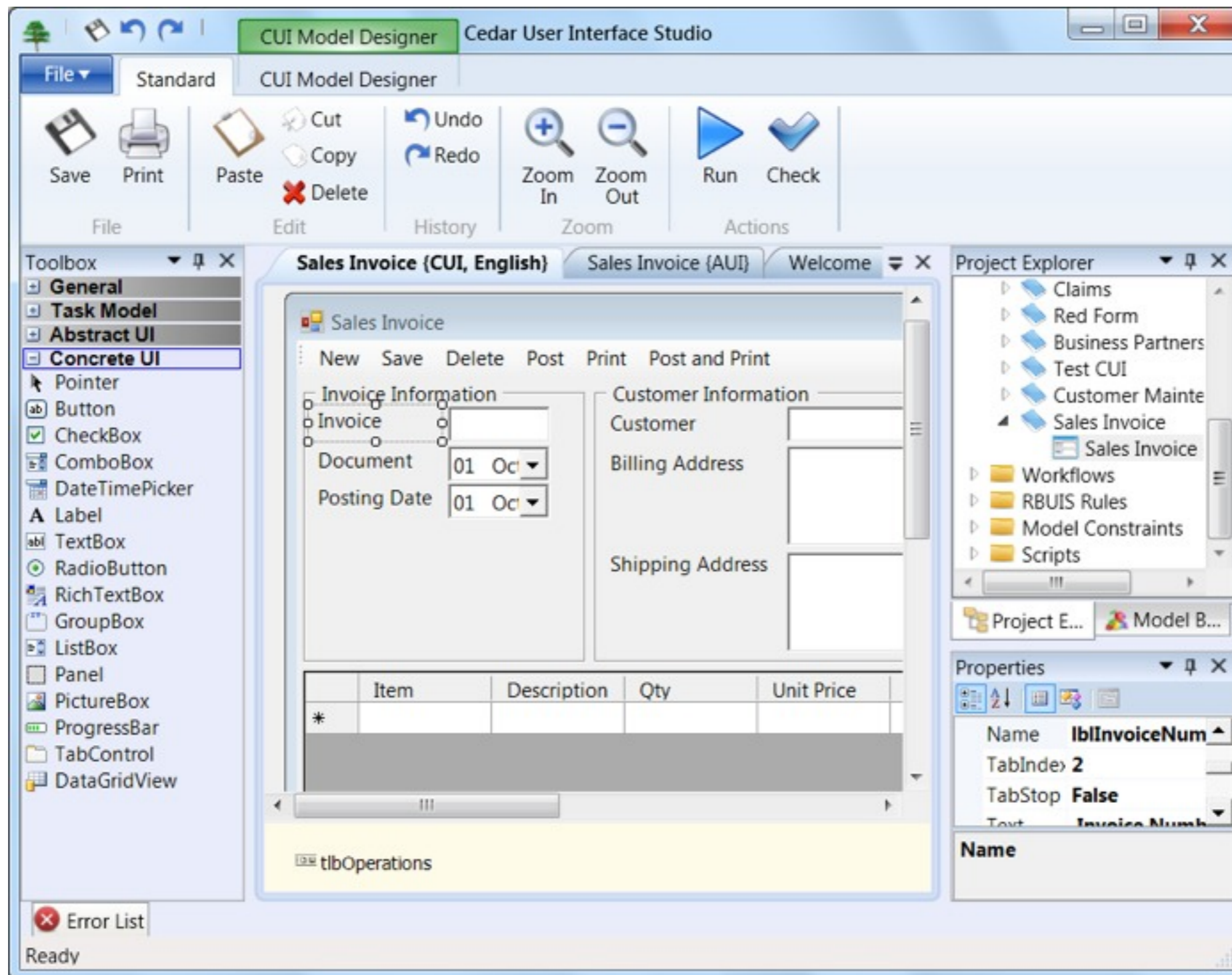


CEDAR Architecture

- **Reference** for developing adaptive UIs (Akiki et al. 2012)
- **Based on existing work**
- **Model-driven**
- **Interpreted runtime models**
- **Service-oriented**
- Can be used with **different presentation technologies**
- **Database-driven**



Cedar Studio



Cedar Studio



- Visual design tools
 - Task models
 - Abstract UI (AUI) models
 - Concrete UI (CUI) models
- Automatic generation between UI models
- Integrated testing
- Visual design and coding tools
 - Adaptive behavior workflows
 - Task role assignments
 - Model constraints
 - Dynamic scripts