

Panel: Custom Development

xTuple, Partner and Customer Perspectives on Scripting

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I don't always customize xTuple ERP



**But when I do, I zip my files in a package
and manage them on github**

Introduction

- ▶ What are we talking about?
 - ▶ Light customization to deep modification
 - ▶ Embedded scripting environment
- ▶ Scripts and Screens and MQL, oh my
 - ▶ The anatomy of a modification
- ▶ What I've learned in five years
 - ▶ Read the code
 - ▶ Prepare (a lot) for updates
 - ▶ Just because you can, doesn't mean you should
 - ▶ Put it in a package



Perspectives

- ▶ xTuple
 - ▶ Keep the product simple
 - ▶ Customer-driven development
- ▶ Partner
 - ▶ On-site specialist
 - ▶ Reports and queries
- ▶ Customer
 - ▶ Needs vs. Wants
 - ▶ Customize with a view for the future
 - ▶ Understand the spec



Keith Rauseo, EMSEAL



Bill-of-Accessories Calculator

- ▶ Needed: a way to calculate the correct order quantities of accessory items that are:
 - ▶ Used with multiple items on an order
 - ▶ Have variable quantities per item unit-of-measure
 - ▶ May be configurable
 - ▶ May be optional and may have a price
 - ▶ Are shipped as separate items
- ▶ Functionality for this doesn't exist within xTuple Bill-of-Materials or Kit processes



Functionality

- ▶ **Bill-of-Accessories similar to Bill-of-Materials**
 - ▶ Accessory items linked to a main item
 - ▶ Quantity-per-uom and maximum order quantity
 - ▶ Effective and expiration dates
 - ▶ Linkage to configuration characteristics
 - ▶ Flags for Standard accessory and to Include Price
- ▶ **Quirk: the Combination Item!**



Other Functionality

- ▶ Copy a Bill-of-Accessories from one item to another
- ▶ Delete a Bill-of-Accessories
- ▶ Added option on the Mass Expire and Mass Replace BOM Component screens to extend these actions to Bill-of-Accessories data

Calculation Process

- ▶ Run from Sales Order screen
- ▶ All accessories items processed for each sales order line item
- ▶ Accessories may have accessories of their own
- ▶ Order quantities totaled and accessory line items presented – user may edit price
- ▶ Accessory line items added to sales order
- ▶ Accessory line items can be deleted/re-added



Design and Development

- ▶ Design done in-house
- ▶ Development contracted to xTuple partner John Trainor, Touchstone Technologies, Alliston, ON - <http://www.touchstonetech.ca>
- ▶ Excellent collaborative effort with Touchstone to fine-tune the specification throughout the development process
- ▶ Separate scripted module and schema



Timeframes

- ▶ Design: about 6 weeks
- ▶ Development: about 12 weeks
- ▶ Development phased to allow testing of basic processing during further development
- ▶ Testing and Debugging: about 4 weeks
- ▶ Setup: about 8 weeks
 - ▶ Determining proper accessories and quantities
 - ▶ Building CSV files for import



boa Module Details

- ▶ 33 SQL functions
- ▶ 3 tables
- ▶ 7 screens
- ▶ 15 scripts



Accessory Setup

X Accessory [?] [X]

Main Item Number: [Search]

Accessory Item Number: [Search] UOM:

Combination Item: [Search]

Combination Item Cut-off Fraction:

Effective Date: [Calendar] Quantity per UOM: Characteristic Type:

Expiry Date: [Calendar] Maximum Quantity: Characteristic Value:

Standard Include Price

Cancel Save

Accessory Selection

Accessory Line Items Selection

Accessory Item #	Standard?	Line Item Qty	Line Item Price	Include?
ACC-PACK-THERM	Yes	1.00	0.00	Yes
NOS-EMC-PRIMER-QT	Yes	6.00	0.00	Yes
NOS-EMC-UNIT	Yes	53.00	0.00	Yes

Buttons: Cancel Processing, Add Line Items, Edit Price

Stuff you might not know

- ▶ **Scripts**
 - ▶ Multiple scripts can run
 - ▶ The set() function
- ▶ **MetaSQL**
 - ▶ Only one query can run
 - ▶ Use params variable for mql
- ▶ **Quality Assurance**
 - ▶ “debugger;”
 - ▶ Break your query to test it

Packages

▶ Directory Structure

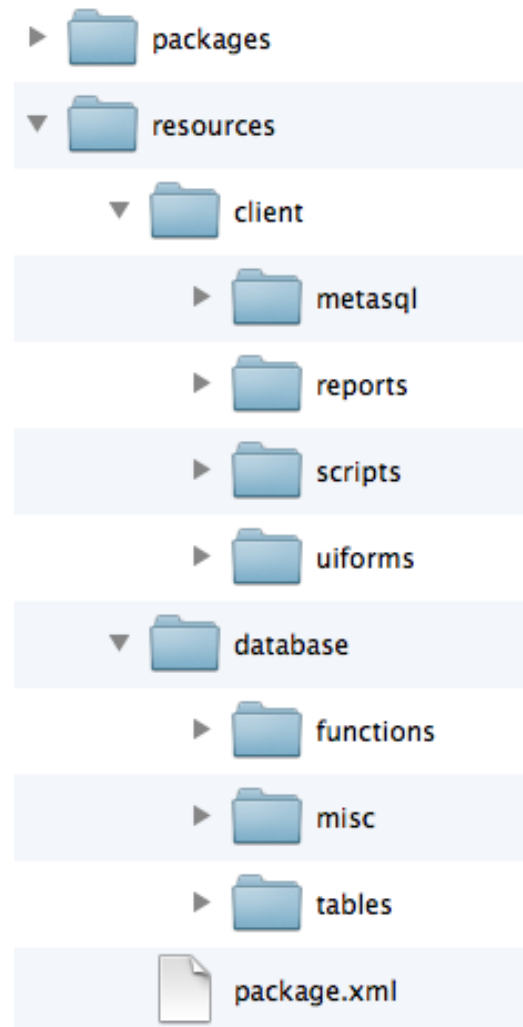
- ▶ Resources
- ▶ scripts/uiforms/metasql/etc

▶ Package.xml

- ▶ header
- ▶ body

▶ Versioning

- ▶ Main package
- ▶ Version-to-version updater



Links and Resources

- ▶ Developer Zone

<http://www.xtuple.org/developer-zone>

- ▶ Packaging info

<http://www.xtuple.org/CreateUpdaterPackages>

- ▶ Sample Spec

<http://www.xtuple.org/ExampleSpec>

- ▶ Github

<https://github.com/xtuple>



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