



Lotusphere

Connect2013

Get social. Do business.

BP206 It's Not Herculean: Twelve Tasks Made Easier with IBM® Lotus Domino® XPages

Mike McGarel | Collaborative Solutions Developer
Czarnowski Display Services Inc

Paul Withers | IBM Collaboration Solutions Consultant
Intec Systems Ltd



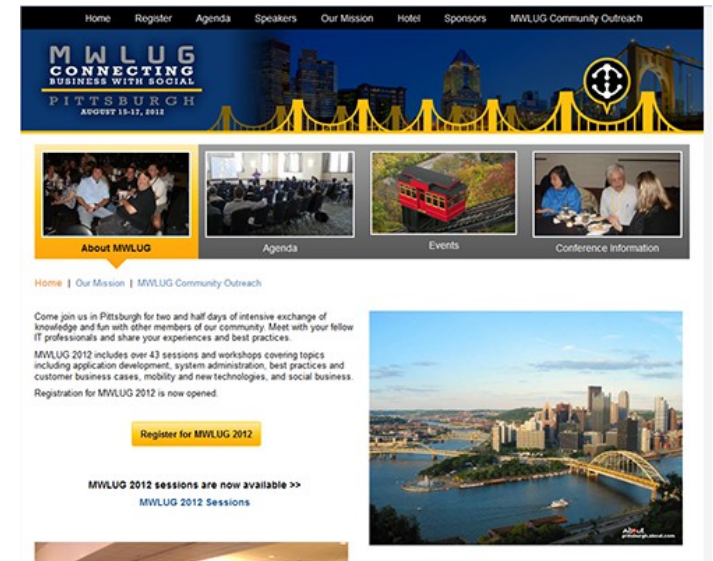
Agenda

- Introduction
- The Twelve Tasks
- Bonus
- Summary



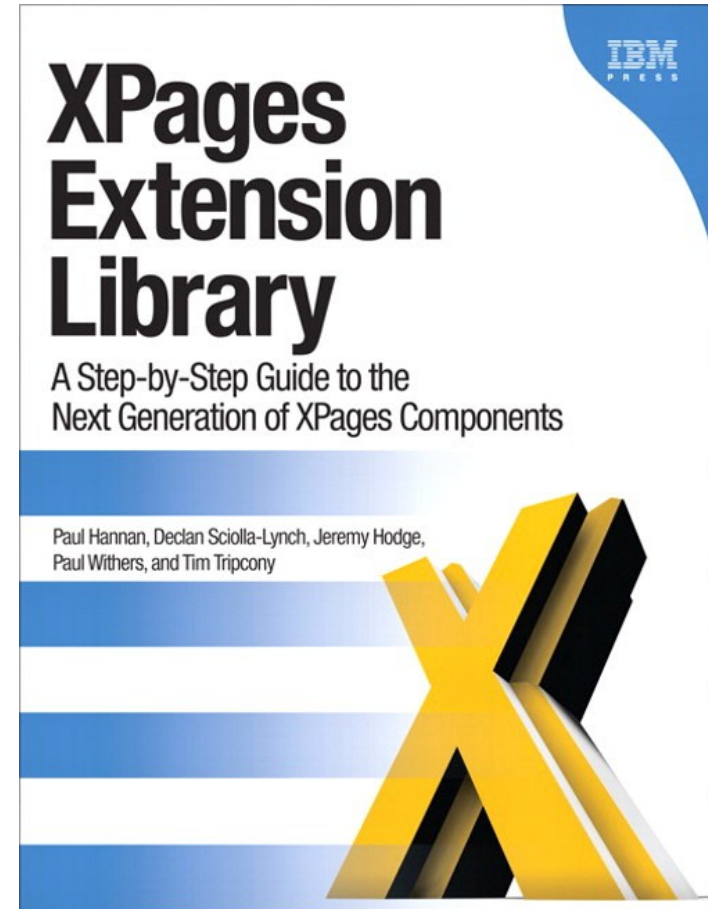
Mike McGarel

- Working with web technologies for over 13 years
- Working with Notes/Domino since version 4.6
- Corporate developer
-
- Site developer for MWLUG and SkiLUG



Paul Withers

- IBM Champion 2011-2012, 2013
- Co-Host The XCast
- Co-Author XPages Extension Library



Why This Session?

- XPages is renowned for:
 - faster web development
 - modern Web 2.0 user interface
 - pre-built controls
 - UI can be separated from business logic
 - greater flexibility of development interface
 - gateway to Java™
 - extensibility of development platform
-
- But what's in it for you?



Agenda

- Introduction
- The Twelve Tasks
- Bonus
- Summary



Hercules

- Most popular classical Greco-Roman hero
- Hercules is Latinized form (Heracles or Herakles in Greek)
- Son of Zeus and the Alcmene (a mortal)
- Originally called Alcaeus. Herakles means “famed because of Hera” (Hera-kleos)
- Given “12 Labours” as punishment



Image by Bayreuth2009 (Own work) [CC-BY-3.0 (<http://creativecommons.org/licenses/by/3.0>)], via Wikimedia Commons



First Labour: Nemean Lion



Themes

- Contain resources for entire application, for example:
 - style sheets
 - JavaScript files
- Can inherit from other themes
- Help to standardize user interface (UI)



Benefits Over Classic Notes/Domino

- Easier to build consistent interfaces and business logic
- Single source of control
- Fewer inline styles means less code
- **GOTCHA** – cannot set properties required prior to rendering
 - e.g. value property for a repeat control
- **GOTCHA** – can only override runtime bindings
 - i.e. `#{javascript:...}` only, not `${javascript:...}`



Sample Theme Code

```
<theme extends="oneuiv2.1_gold">  
  <resource>  
    <content-type>text/css</content-type>  
    <href>corporate.css</href>  
  </resource>  
  <control override="true">  
    <name>Button.Submit</name>  
    <property>  
      <name>style</name>  
      <value>background-color: #0000FF; color: #FFF;</value>  
    </property>  
  </control>  
</theme>
```



Benefits Over Classic Notes/Domino

- More consistent interfaces
- Single source for controlling formatting
- Fewer inline styles means less code
- **GOTCHA** – cannot set properties required prior to rendering
 - e.g. value property for a repeat control
- **GOTCHA** – can only override runtime bindings
 - i.e. `#{javascript:...}` only, not `${javascript:...}`



Themes



DEMO



Second Labour: Lernean Hydra



Repeat Controls

- Set datasource
 - dominoView
 - NotesDocumentCollection
 - NotesViewEntryCollection
 - Multi-value field
 - JavaScript array
 - Java collection
- Set number of iterations
- Set “var” and create template for a single iteration
 - Compute rendered property for flexibility



Benefits Over Classic Notes/Domino

- Easier than outputting HTML with @Transform, more flexible than HTML in view columns
- Drag and drop to build up a complex layout
- Easier to build and debug than a LotusScript agent
- Allows greater flexibility for data model
- Pagination can easily be added
- **GOTCHA** – nothing shows if content is a single string



Repeat Controls



DEMO

Third Labour – Ceryneian Hind



In View Edit



DEMO

In View Edit

- Build “view” as normal
- Add link / button to edit a row, pass UNID / NoteID to scoped variable and refresh
- Render read only version if UNID / NoteID **is not** for this document
- Render editable version if UNID / NoteID **is** for this document
- Look at In Place Form in Extension Library

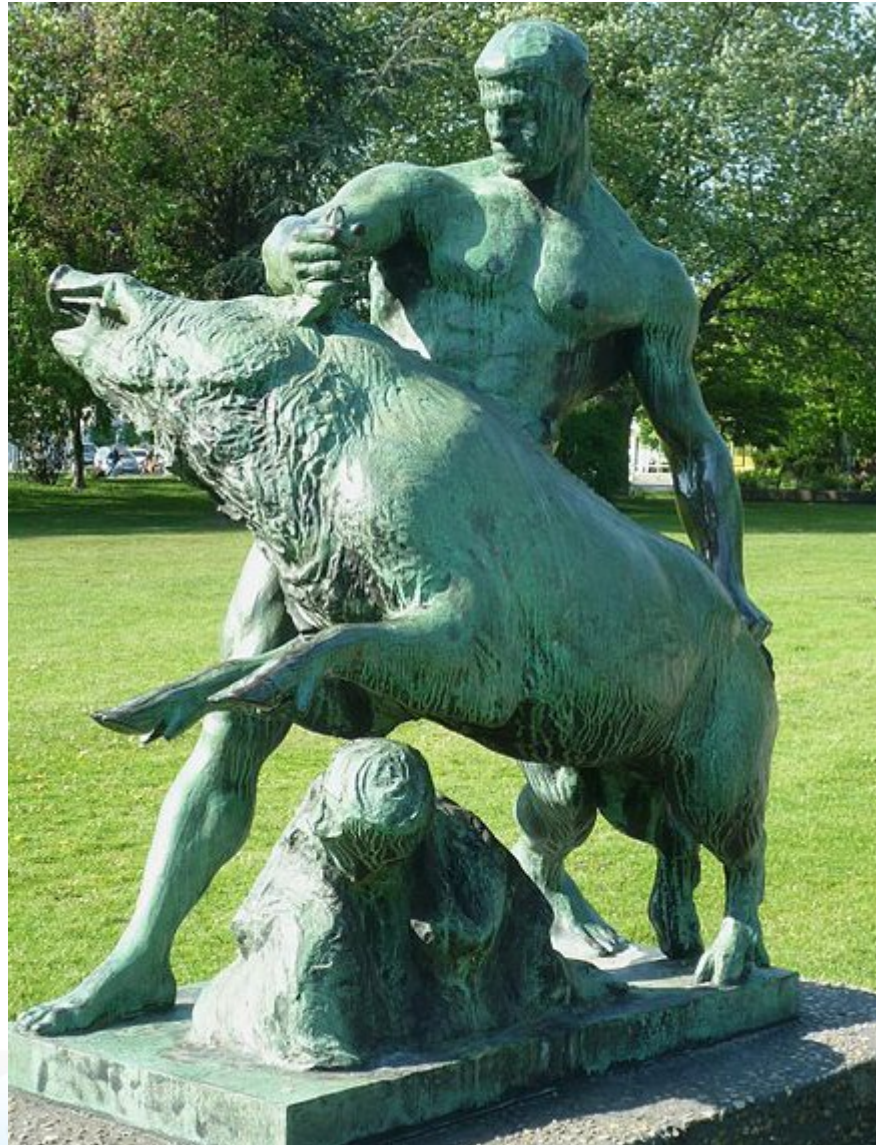


Benefits Over Classic Notes/Domino

- Web 2.0 style editing for small documents
- Less code than InViewEdit in Notes Client
- Easier than classic web (lots of AJAX, iFrames, JavaScript)
- With Repeat Controls, View Panels etc. quick to implement
- **GOTCHA** – NotesXspViewEntry cannot be edited. Use the NotesDocument
- **GOTCHA** – for new documents set scope to request where possible
 - Otherwise second edit updates the same NotesDocument



Fourth Labour – Erymanthian Boar



Design Properties

The image displays two screenshots of the IBM Design Properties tool interface, illustrating various features and annotations.

Top Screenshot:

- Properties Panel:** A sidebar on the left lists categories: Application Layout, Banner, Application Links, Utility Links, Title Bar, Search, Place Bar, Footer, Legal, and All Properties. A callout points to the 'All Properties' tab, stating: "One or more 'pretty panels'".
- Events Panel:** Contains a checkbox "Show title bar area for main title and/or tabs and search controls" with a callout: "Simple checkboxes for boolean properties". Below it, the "Title text" is set to "{Computed}" with a callout: "All properties can be computed (blue diamond)". The "Tabs" section shows a text input "#{database.title}" with a callout: "Hover text shows value". Below the tabs are buttons: "Add Item", "Add Child", and "Remove". A callout points to these buttons: "Wizards for some complex properties".
- Links Panel:** A table with a header "Links" and two empty rows, with up and down arrow buttons to the right.

Bottom Screenshot:

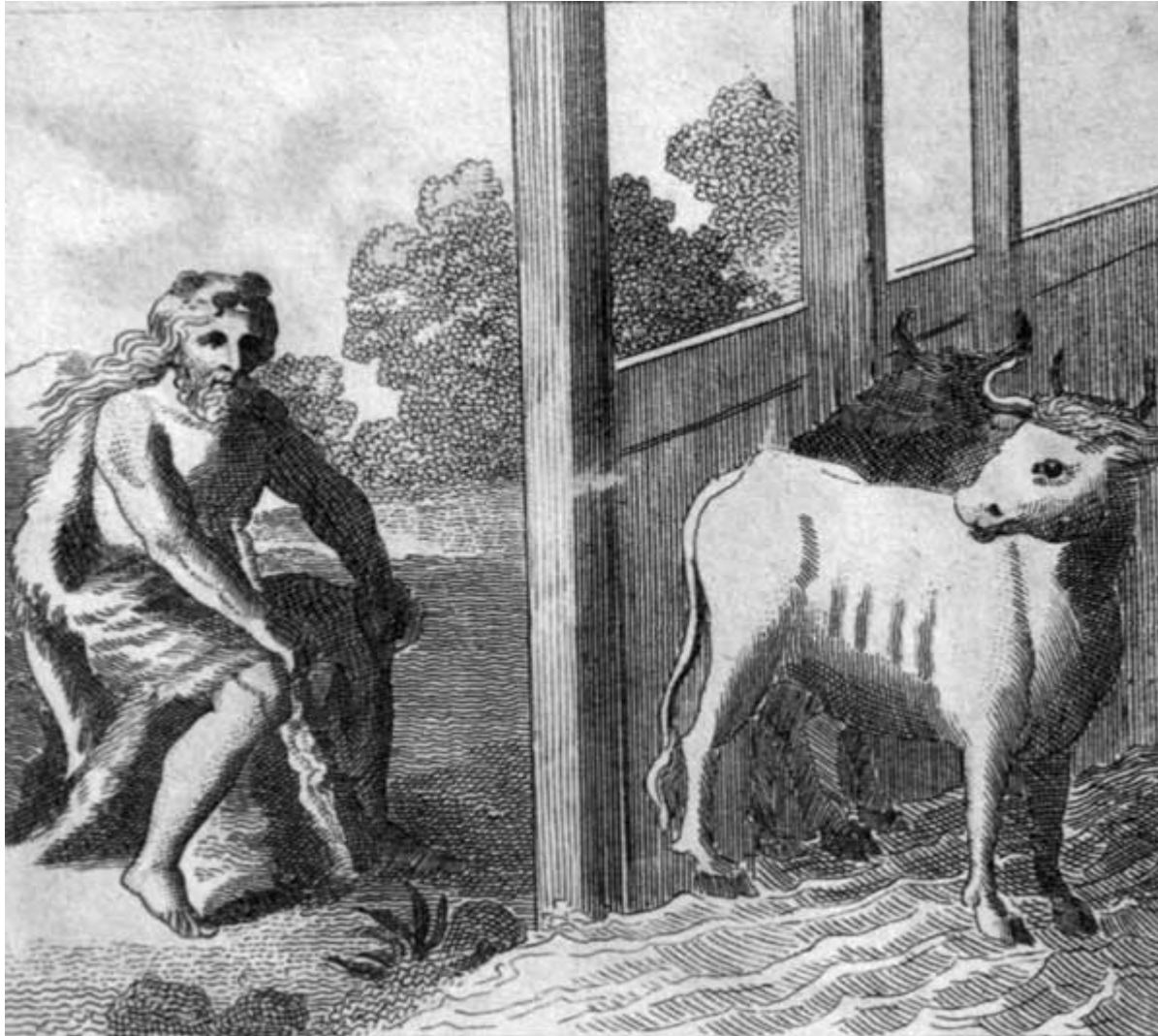
- Properties Panel:** The "All Properties" tab is selected. A callout points to it: "All Properties tab".
- Property List:** A table listing properties grouped under "basics", "binding", "configuration", and "banner". A callout points to the "configuration" group: "All available properties grouped".
- Value Column:** A callout points to the "Value" column: "Set (or compute) values for simple and complex properties".
- Application Links:** A callout points to the "Application Links" property: "Hover on properties for detailed descriptions". A detailed description is shown in a yellow box: "Application links in the banner. From library com.ibm.xsp.extlib.library. Since initial version".

Benefits Over Classic Notes/Domino

- All Properties panel on any control
- Copy and paste in Source pane
- Any property can be computed, for maximum flexibility
 - Avoids code duplication
 - Use dataContexts for further avoidance of code duplication
- **GOTCHA** – for eventHandler properties, need to use Outline / Source



Fifth Labour: The Auguean Stables



AJAX Partial Page Refresh

- Implemented with a single tick and selecting partial refresh ID
- “Changes” managed in design of XPage
 - Rendered properties
 - Computed properties
 - Data definitions
- Minimal additional coding required
- For additional functionality, look at eventHandler properties – onStart, onError, onComplete, execMode, execId



Benefits Over Classic Notes/Domino

- Classical Domino would need a form with passthru HTML (div and button) and JavaScript for an Ajax refresh.
- An alternate would be to call a LotusScript agent
- Notes Client has no *partial* refresh option
 - NotesUIDocument methods can change specific components
- **GOTCHA** – validation triggers, be aware of JSF lifecycle
 - Know what is sent to server, what runs on server, what is sent back



Ajax Partial Page Refresh



DEMO



Sixth Labour: Stymphalian Birds



Pager Controls

- Many standard options and easily customizable
 - Show page number easily with *Page {0} of {1}*
 - Can allow users to select number of items per page
 - Can calculate link to last page (starting with version 8.5.2)
 - Pager Add Rows control
 - Pager Save State control (easily returns to same page)
-
- Built into
 - View Panels
 - Repeat Controls
 - Data Tables
 - Dynamic View Panel (Extension Library)
 - Data View (Extension Library)
 - iNotes ListView (Extension Library)



Benefits Over Classic Notes/Domino

- Traditional Domino web has nothing out of the box
- Better user experience
- More flexibility for developers



Pager Controls



DEMO



Seventh Labour: The Cretan Bull

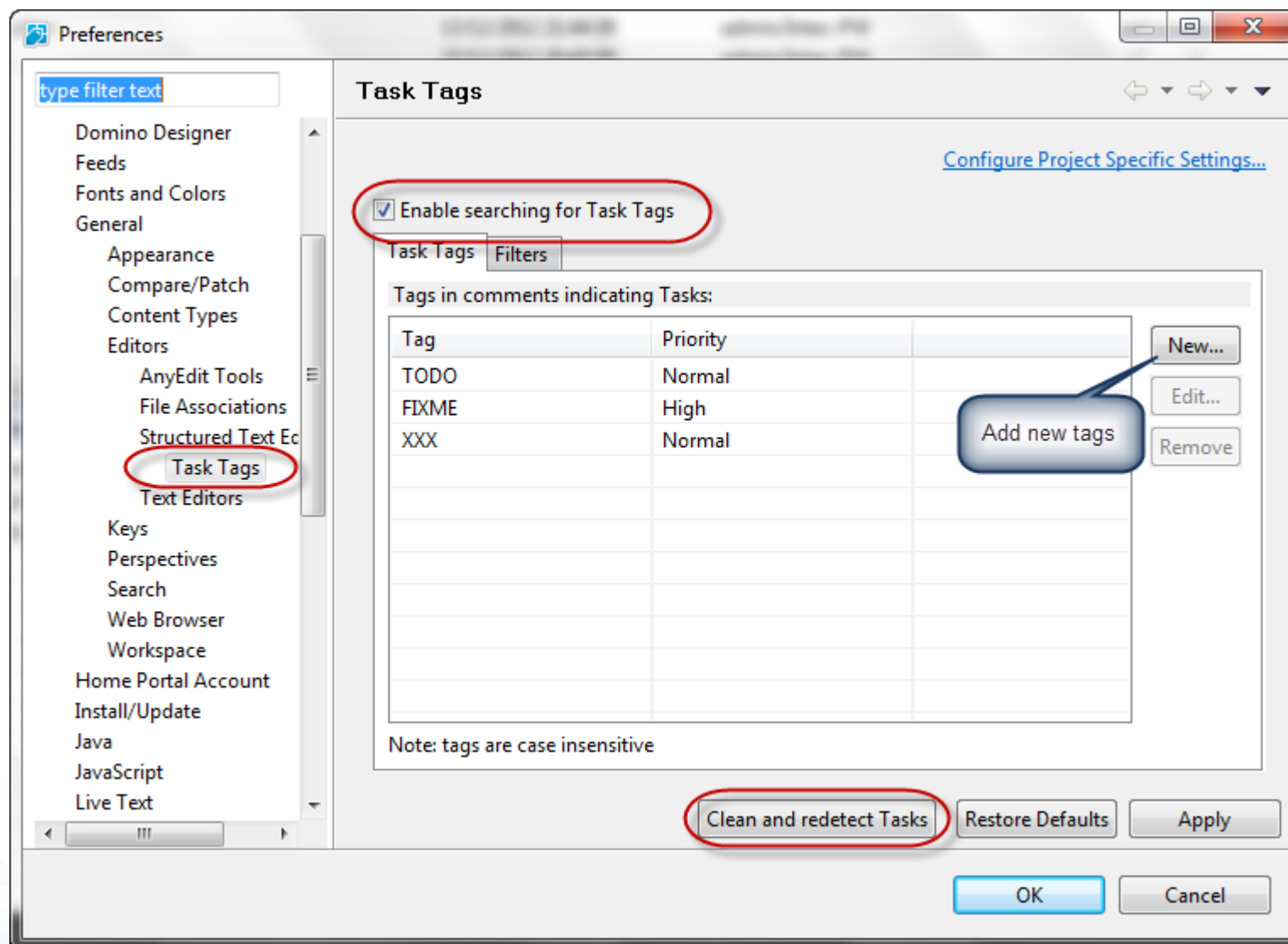


TODOs

- Eclipse editors allow managing of TODOs
- Window > Show Eclipse Views: Tasks
- Also can add FIXME or any other tag
- XPages, Custom Controls, Themes integrate
 - SSJS Script Libraries not supported
 - Style Sheets not supported
 - Java classes supported
- No easy way of doing this in traditional Notes / Domino



Enabling TODOs



TODOs



DEMO



Eighth Labour: The Horses of Diomedes



Labour 8.5.x: Rescue of Alcestis



Rescue Your Code From The Dead With Local History

- Eclipse-based functionality
-
- Restore From > Local History
-
- Compare With > Local History



Rescue Your Code With Source Control Management (SCM)

- Via plug-in on OpenNTF.org with Domino Designer 8.5.2
-
- Built into Domino Designer 8.5.3
- Your choice of Eclipse-based source control system
 - Git
 - Mercurial
 - SVN



Benefits Over Classic Notes/Domino

- Only available via third-party products
- Third-party tools may offer alternative functionality
- **GOTCHA** – local history specific to PC
- **GOTCHA** – be careful with round-tripping of DXL for traditional Notes Client design elements



Rescue Code From The Dead



DEMO



Ninth Labour: The Belt of Hippolyte



Custom Controls

- Reusable within the same XPage
- Custom properties can control instances of the control
- Keep design clean by using Design Definition
- Use Editable Areas as placeholder for content *within* the Custom Control



Benefits Over Classic Notes/Domino

- More powerful than subforms
-
- Can contain other custom controls
- Properties are defined on Custom Control
 - Cleaner design
 - Easier to support



Custom Controls



DEMO



Custom Control Property Definition Example

Submit Cancel

Design Source

Properties x Events x Problems (0 items) x

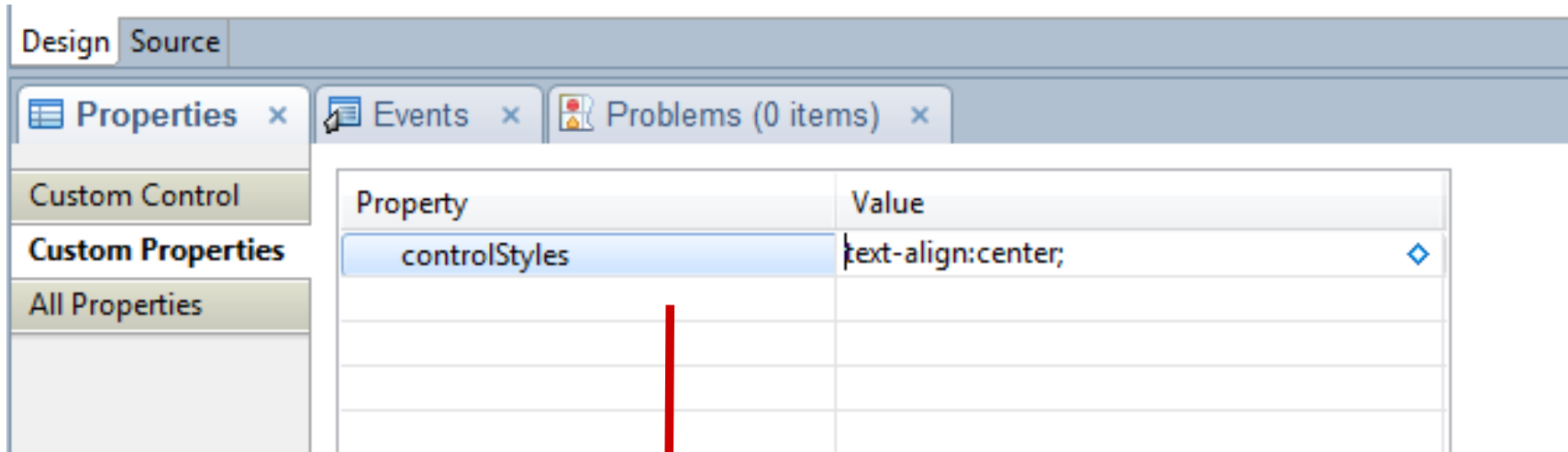
Custom Control
Data
Style
Font
Background
Margins
Resources
Navigation
Dojo
Property Definition
Design Definition
All Properties

New Property New Group Delete Move Up Move Down

Properties:
Root
controlStyle:

Property	Validation	Visible
Name:	controlStyles	
Display name:		
Type:	string	
Editor:		
Parameters:		
Default Value:		
<input type="checkbox"/> Allow multiple instances		
Description:		

Using The Custom Control Property Definition



```
<xp:div id="divButtons" styleClass="divButtons"  
style="#{javascript:compositeData.controlStyles}">
```

...

```
</xp:div>
```

Tenth Labour: Geryon's Cattle



Joining Views and Multiple Datasources

- Merge content from multiple documents in a single view
- Merge content from multiple databases
- Display and *edit* multiple documents on one XPage



Benefits Over Classic Notes/Domino

- Minimize data stored on NotesDocuments
- Minimize views within the database
- More flexible reporting
- Better user-experience
- Build up complex layouts section by section
- **GOTCHA** – use ignoreRequestParams for secondary NotesDocuments



Joining Views



DEMO



Eleventh Labour: Apples of The Hesperides



Display data on Mobile devices

- XPages can be displayed without any amendments on mobile devices
- Use responsive design for resolution-specific layout
- Use Extension Library mobile components for tailored content
 - New redirect control available
- Third-party products for leveraging XPages skills for offline development



Benefits Over Classic Notes/Domino

- Leverage existing skills
- Pre-built controls with OS-specific look and feel
- Access data sources as within normal XPages
- **GOTCHA** – connectivity is not necessarily the same as desktop browser
- **GOTCHA** – use reloadContent property judiciously
- **GOTCHA** – slide transitions only available within single XPage



Displaying on Mobile



DEMO



Twelfth Labour: Cerberus



Inspecting Tools

■ Debug Toolbar

- Displays variables and values
- Allows you to easily set timers
- In-built API inspector to test code
- Message logging
- <http://www.openntf.org/internal/home.nsf/project.xsp?action=openDocument&name=XPage%20Debug%20Toolbar>

■ XPages Log File Reader

- View console
- View logs
- <http://www.openntf.org/internal/home.nsf/project.xsp?action=openDocument&name=XPages%20Log%20File%20Reader>



Inspecting Tools

- XPages Toolbox
 - CPU Profiler
 - Runtime monitoring
 - Session dumps
 - And more...
 - <http://www.openntf.org/internal/home.nsf/project.xsp?action=openDocument&name=XPages%20Toolbox>
- Server-Side JavaScript Debugging*
- Java Debugging*

*Useful session: Debug Server Side Javascript, Java, and XPages Apps Using the SSJS Debugger (AD202) Wednesday 4:15pm - 5:15pm



Benefits Over Classic Notes/Domino

- LotusScript debugger, but nothing easy for formula language
- No easy debugging for traditional Domino web



Agenda

- Introduction
- The Twelve Tasks
- Bonus
- Summary



XPages and Social – With XPages You're Not Alone

- Community blog posts, books
- OpenNTF (<http://openntf.org>) resources
 - Sample Applications
 - Custom Controls
 - XSnippets (<http://openntf.org/XSnippets.nsf/home.xsp>)
 - OSGi plugins
 - Libraries to extend Domino Designer
- Import and Export for Domino Designer Plugin
 - Easily import resources from OpenNTF
 - Easily export to file system or package for OpenNTF



XPages and Social – With XPages You're Not Alone

- Social controls in Extension Library for easy integration with
 - IBM Connections
 - Sametime
 - Twitter
 - Facebook
 - Dropbox
- Social Plugins
 - Like a single control to start a Sametime chat with any editor of the current document



Coming soon...

Appathon

Social app dev contests

\$10,000 in contest prizes!

WebGate developerWorks.

TIMETOACT GROUP
SOFTWARE & CONSULTING

OpenNTF Org

appathon.openntf.org

Two Social App Dev Contests

- IBM Connections
- IBM XPages technology

Sponsored by

- TIMETOACT GROUP
- WebGate
- IBM developerWorks

Hosted by

- OpenNTF

Agenda

- Introduction
- The Twelve Tasks
- Bonus
- Summary



Summary

- Twelve examples of areas where XPages is
 - Quicker
 - Easier
 - More flexible
 - Extensible
- Build reusable skills within or beyond Domino
- The learning curve is worth it!



XPages Resources

- XPages.Info (<http://xpages.info>)
- XPages Forum (<http://www-10.lotus.com/ldd/xpagesforum.nsf>)
- Notes/Domino Application Development Wiki (<http://www-10.lotus.com/ldd/ddwiki.nsf>)
- YouAtNotes XPages wiki (<http://www.xpageswiki.com>)
- Notes in 9 (<http://www.notesin9.com>)
- Stack Overflow (<http://stackoverflow.com/questions/tagged/xpages>)
- *Mastering XPages* (IBM Press)
- *XPages Extension Library* (IBM Press)
- *XPages Portable Command Guide* (IBM Press)



References (Classical Mythology / Greek Literature)

- Timeless Myths (<http://www.timelessmyths.com>)
- Family tree of descendants of Perseus, including Hercules (<http://timelessmyths.com/classical/family3c.html>)
- Theoi Greek Mythology (<http://www.theoi.com>)
- Jason & Medea (<http://jasonmedea.net>)
- Euripides, *Heracles* – covers Hercules killing his wife Megara
- Euripides, *Alcestis* – covers Hercules rescue of Alcestis
- Sophocles, *Women of Trachis (Trachiniae)* – covers Hercules' death
- Seneca, *Hercules Furens* – Roman tragedy, covers Hercules killing his wife Megara
- Hercules' life also covered in works of Ovid (*Metamorphoses*), Apollodorus, Diodorus Siculus, Hesiod (*The Shield of Herakles*), Hyginus



References (Popular Culture)

- “Hercules” (Disney animated movie 1997)
- “Hercules: The Legendary Journeys” (TV show 1995 – 1999)
- “The Three Stooges Meet Hercules” (Movie 1962)
- “Jason and The Argonauts” (Movie 1963)
- Countless other movies, TV shows, comic books, and video games



Other Related Sessions

- Debug Server Side Javascript, Java, and XPages Apps Using the SSJS Debugger (AD202)
- IBM Domino Designer: Tips and Tricks for Maximum Productivity (AD203)
- How To Develop Great Applications Using XPages Design Patterns (AD204)
- Successfully Delivering XPages Projects - All Things Considered (AD205)
- IBM Lotus Domino XPages: Embrace, Extend, Integrate (AD206)
- IBM Lotus Domino XPages: Beyond Domino Documents and Views (AD207)
- IBM Lotus Domino XPages Performance in a Nutshell (AD208)
- jQuery: The World's Most Popular JavaScript Library Comes to XPages (BP103)
- Deploying and Managing IBM Lotus Domino XPages Applications (BP201)
- XPages Development: Modernize Yourself! (BP202)
- Custom Controls: Powerful, But Not Rocket Science! (BP205)
- Meet the Java Application Server You Already Own - IBM Domino (BP207)
- XPages Blast (BP208)
- In The Land of Social Apps, the API is King (BP209)
-



Other Related Sessions (continued)

- Using a Mobile Approach: Strategies for Mobilizing Your IBM Domino Applications (BP210)
- Lessons Learned from the World's Largest XPage Project (BP211)
- Apps, Apps, and More Apps: Meet the Very Best Open Source Apps from OpenNTF (BP212)
- XPages Jumpstart (JMP101)
- Extending Your App Arsenal With OpenSocial (JMP102)
- Get the “Jump” on Mobilizing Your IBM Notes and Domino Applications Today! (JMP103)
- Master Class: XPages Performance - Inside Out (JMP401)
- Master Class: Managed Beans and XPages: Your Time Is Now (JMP402)
- Master Class: Reverse Engineering Notes Applications: Separating Truth from Fiction (JMP403)
- Buried Treasure: Finding the Hidden Gold in Lotus Notes Data (SHOW104)
- XPages: No Experience Needed (SHOW111)
- Building Your First Mobile Application Using XPages (SHOW112)



“It's Better with XPages” Index

1. Themes
2. Repeat Controls
3. In View Edit
4. Design Properties
5. AJAX Partial Page Refresh
6. Pager Controls
7. TODOs
8. Local History / Source Control Management
9. Custom Controls
10. Joining Views
11. Mobile
12. Inspecting Tools



Questions and Evaluations



Paul Withers

ICS Consultant

Intec Systems Ltd

pwithers@intec.co.uk

www.twitter.com/paulswithers

<http://www.intec.co.uk/blog>

Mike McGarel

Collaborative Solutions Developer

Czarnowski Display Services Inc

mcgarelgramming@gmail.com

www.twitter.com/mmcgarel

[www.bleedyellow.com/blogs/
McGarelGramming](http://www.bleedyellow.com/blogs/McGarelGramming)

Legal disclaimer

© IBM Corporation 2013. All Rights Reserved.

The information contained in this publication is provided for informational purposes only. While efforts were made to verify the completeness and accuracy of the information contained in this publication, it is provided AS IS without warranty of any kind, express or implied. In addition, this information is based on IBM's current product plans and strategy, which are subject to change by IBM without notice. IBM shall not be responsible for any damages arising out of the use of, or otherwise related to, this publication or any other materials. Nothing contained in this publication is intended to, nor shall have the effect of, creating any warranties or representations from IBM or its suppliers or licensors, or altering the terms and conditions of the applicable license agreement governing the use of IBM software.

References in this presentation to IBM products, programs, or services do not imply that they will be available in all countries in which IBM operates. Product release dates and/or capabilities referenced in this presentation may change at any time at IBM's sole discretion based on market opportunities or other factors, and are not intended to be a commitment to future product or feature availability in any way. Nothing contained in these materials is intended to, nor shall have the effect of, stating or implying that any activities undertaken by you will result in any specific sales, revenue growth or other results.

Java and all Java-based trademarks are trademarks of Sun Microsystems, Inc. in the United States, other countries, or both.

All references refer to fictitious companies and persons and are used for illustration purposes only.

