Spicing Up XPages with Classic Notes Development

Ben Langhinrichs

Introduction: Ben Langhinrichs

- President - Genii Software Ltd.
  - Founded in 1992 (OS/2 utilities)
  - First Notes product in 1995
  - IBM/Lotus Business Partner since 1995
  - Based in Cleveland, Ohio, U.S.A.
  - Customers in 49 countries

- Author, poet, book reviewer

Genii Software – Current Products

Coexistence Solutions
- CoexEdit: Notes/Web editing coexistence
- CoexLinks: Notes/Outlook e-mail coexistence

Rich Text Tools
- Midas Rich Text LSX
- Midas Rich Text C++ API
- @Midas Lookups (free)

Agenda

- Formula language – Why it's still relevant
- LotusScript – Not Dead Yet
- C API Extensions – Pining for the fjords
- @Formulas in XPages
- Formula language in XPages
- LotusScript agents in XPages
- C API with XPages

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Formula language

- Actions, buttons, action hotspots, popups, etc.
- Agents
- Column formulas
- Computed fields
- Computed images
- Computed section titles
- Computed text

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Formula language (continued)

- Default field values
- Hide/when formulas
- Input translation and validation formulas
- View Selection formulas
- Window titles

and on and on

Formula language – obsolete?

- Q: How many of these functions are no longer needed in an XPages-only environment?

- Q: How many of you believe that you will have even one XPages-only customer within five years?

- A: Formula language will be needed for a while

Formula language - strengths

- List manipulation features and functions
- Ease-of-use functions such as @Success/@Failure
- Powerful functions like @Sort and @Transform
- UI functions
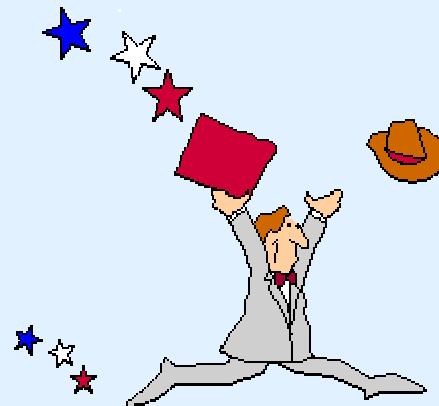- Nested function evaluation
- Built-in Notes understanding

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Formula language - lists

- List addition
- @Unique
- @Implode
- Put it together to build HTML

Demo: Building HTML with Lists

Formula language - validation

- @Success will allow a refresh or save to continue

- @Failure will cause a refresh or save to fail, and put the cursor in the failed field if it is not hidden.

- Validation of one field or several.

- @If (@ThisValue != ""; @Success; @Failure ("Please enter a value."))

Formula language - validation

- Either enter your @Formula in the input validation event for each field,

- Or validate several at once with:@If ((field1 = "" | field2 = "" | field3 = ""); @Failure ("Please enter all of the required fields."); @Success)

- This later avoids repeated prompts for the user who hasn't filled out any of a few different fields.

Formula language - validation

- @ThisValue can be used in field formula to get the value of that field

- @ThisName provides the name of the current field

Formula language - replacements

- @ReplaceSubstring performs find and replace on substrings, while @Replace replaces whole elements in an array

- @ReplaceSubstring (@ThisValue; "\" ; "/")

- @Replace (names; "Vince Schuurman"; "Ben Langhinrichs")

Formula language - @Transform

```
@Unique(@Trim(@Transform(Speaker; "S";
@If(S = "TBD":"" | @Contains(S; "TBD"); "TBD";
    @Do(R:=@Transform(@Explode(S; " "); "W";
    @If(@Matches(W; "{a-z}*");
W+@RightBack(S; W)+", "+@LeftBack(S; W);
@Nothing)); @If (@Trim(R) != ""; @Trim(R)[1];
@RightBack(S; " ")+", "+@LeftBack(S; " ")))))))
```
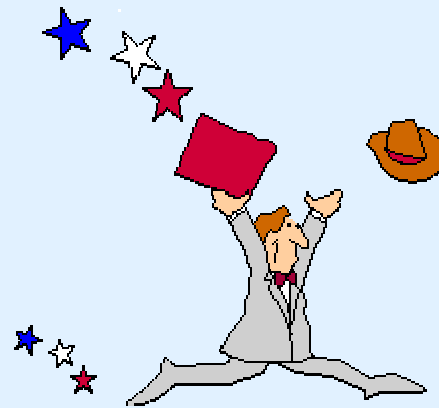
@Transform (a tiny bit) simpler

@Transform(names; "S";

@Do(R:=@Transform(@Explode(S; " "); "W";

@If(@Matches(W; "{a-z}*");
W+@RightBack(S; W)+", "+@LeftBack(S; W);
@Nothing)); @If (@Trim(R) != ""; @Trim(R)[1];
@RightBack(S; " ")+", "+@LeftBack(S; " "))))

Demo: Transforming Names

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@Random

- @Random generates random number between 0 and 1
- To get a random number between two others, use
  (y – x) * @Random + x

@Random

- @Text allows converting values to a string with a specified format.

- Dates, numbers, etc. The format value is powerful, if difficult to learn well.

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@Matches and @Contains

- @Matches is very handy for pattern matching as a way of validating format for a field entry

- Several wildcard characters are available for @Matches

- Lists can be passed in as both the parameter to be checked, and the parameter containing the pattern for which to check

- @Contains similar, but based on substrings

- Similar to @Replace/@ReplaceSubstring

@Formula in XPages

- Simulated versions of formula functions is included with server-side JavaScript in 8.5.2

- Syntax is slight different, but the functions that are included are very closely matched.

- Commas instead of semicolons

- Always need parentheses, as in @Random()

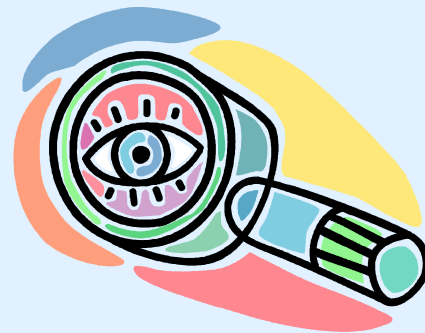- Lower learning curve for Notes developers

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@Formula in XPages

- Many functions missing, but mostly those having to do with UI

- No @Command or @DbCommand

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LotusScript – Not dead yet

- LotusScript is not available inside XPages, but can be used along with XPages

- Web doesn't understand LotusScript, but WQO and WQS agents could use LotusScript

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LotusScript – Not dead yet

- LotusScript can be used to create a web page using Print statement

- LotusScript can work with formula language using Evaluate

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LotusScript – inside XPages

- Web doesn't understand LotusScript, but WQO and WQS agents can use LotusScript
- LotusScript agents can be called using agent.runWithDocumentContext

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More information

- http://twitter.com/blanghinrichs

- http://GeniiSoft.com – Company website
- http://GeniiSoft.com/showcase.nsf/EC2011
- http://GeniiSoft.com/showcase.nsf/GeniiBlog

- http://MyComfyChair.blogspot.com – reviews of books for kids

My Sessions:EntwicklerCamp 2011

- #1: Web Editors - CKEditor and Others
  (Montag 13.45-15.15)

- #2: Spicing Up XPages with Classic Notes Development
  (Mittwoch 09.00-10.30)

Q&A: Are we done yet?

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