

Welcome

To Advance through Presentation
Use Page Up and Page Down Keys



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WebObjects



“This year’s Software Product of the Year is Apple Computer’s WebObjects 4.0... Along with substantial power and flexibility, WebObjects brings an ease of development rarely seen in industrial-strength development environments.”





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Reporting with WebObjects

Jeff Martin

Founder,
ReportMill Software

Reporting

- Dynamic document generation of well-formatted, printable content
- Invoices, order forms, financial statements, itineraries, business forms, catalogs, etc.



Web Content Trends

- WYSIWYG gaining relevance
- HTML goals contradictory
- Currently applicable for 20% or more of all dynamic web content



App Server Reporting

- Persistence layer maps objects to/from database
- Display layer maps objects to/from HTML pages and Java apps
- Reporting layer maps objects to well formatted, printable content



Object Reporting

- No data refetch
- No separate database connection/configuration
- No re-writing business logic
- Business logic not in template file



PDF Reporting

- The only open standard for page description on the Web
- No need to purchase, download, install and configure proprietary report readers



ReportMill

- Object Reporting
- PDF Reporting
- Ease of use



Customers

- Financial: Merrill Lynch, Fannie Mae, Morgan Stanley, H & Q, Chase Bank
- Telecom: MCI, Bell Atlantic
- Consumer: Apple Company Store, Consumer's Digest
- Government: DOD, Navy, TVA, Lockheed Martin
- Many more...





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Demo

ReportMill in Action

App Server Integration

- Design a template
- Add a submit button with one line of code:
Return a PDF page for these objects and
this template



Template Design

- Familiar page layout paradigm
- WYSIWYG cover/summary pages, page header/footers, etc.
- Departure from traditional (pronounced bizarre) “component” theory of reporting



Substitution Keys

- Familiar mail merge paradigm
- Keys to be replace are surrounded by “@” characters
- Text and keys can be intermingled



Built-in Keys

- Page numbering:
 - $@Page@$
 - $@PageMax@$
 - $@PageBreak@$
- Date
 - $@Date@$



Preview Report

- The preview button fetches a sample of objects from the database and generates a report
- On the fly previews assist in rapid template design
- Previews can also be run from a live application



Tabular Reports

- Tables iterate over arrays of objects
- Simple drag and drop interface:
 - Drag table in from gallery
 - Drag EOModel file in from filesystem
 - Drag a Java package in from filesystem (coming soon!)



Selecting a Root Class

- A class of objects must be chosen for the table
- Objects of this class are passed to table
- Key paths are defined relative to the root class



Tables

- Positioned and size to indicate the region of the page the table should fill
- One row template provided by default, which will be replicated for each object



Table Rows

- Table row has 4 columns by default
- Keys can be dragged from inspector into columns
- Column mode can be disabled, to provide free form layout



Adding Keys

- Keys are displayed prominently in inspector
- Keys are hierarchical for easy navigation
- Keys are context sensitive to the table or field currently selected



Formatting

- Keys can be formatted as money, percent, date, etc.
- Formatting inspector supports custom formats
- Individual keys in a text field can be formatted individually



Grouping

- Objects in a table can be broken down into groups based on the value of any key
- Keys can be dragged into the list of groups
- Adding a group add a default row to configure with information for the group



Aggregates

- Calculations performed on a group of objects are called aggregates
- Aggregate methods are available in the attributes inspector and can be dragged like any key
- Built-in Aggregates: total, average, min, max, etc.



Page Breaks

- Groups can be configured to start each group on a new page
- Click the page break button to the left of each group listing



Sorting

- Each group can be ordered according to the value of any key or keys
- Sort keys can be dragged into the list of sort orderings



TopN Sorting

- Constrained sort
- TopN is independent of sorting so you can have “Top 5 Grossing movies, listed alphabetically”



Building an App

- Use component wizard to configure a page to fetch and display a set of objects
- Design a report template and add to project's resources
- Add submit button with an action method to configure and return the RM component



The Code

```
public WOComponent submit()
{
    WOComponent page = pageWithName("ReportMillPage");
    page.takeValueForKey(displayGroup.allObjects(),
    "Objects");
    page.takeValueForKey("MyTemplate", "Template");
    return page;
}
```



Derived Attributes

- Grouping: Derive method ‘quarter’ from ‘dateReleased’
- Sorting: Implement myFavoritesFirstThenOthers
- Formatting: “movieTitleAllCaps”, “plotSummaryWithTalentInBold”



Table Row Versions

- Configure versions of a tablerow for different conditions
- Built-in:
 - Alternate
 - First Only
 - Reprint
 - Split Header



Custom Table Row Versions

- Have object provide name of version to be used
- Catalogs: “Quarter Page”, “Half Page”, “Full Page”
- Invoices: “SecondContactExists”



Relationship Flattening

- Iterate over relationships inside top level array
- Only applicable for one sub array
- Examples:

Invoice → LineItems

Studio → Movies



Table Groups

- Iterate over any number of relationships
- Have several tables appear back-to-back
- Example:



Orphan Control

- Groups can sometimes be separated across several pages
- Define minimum number of “children” for a group header/summary to “stay with”



Table Row Splitting

- Table rows can be separated across several pages
- Define minimum size for top part of row
- Define minimum size for bottom part of row



Autosizing Control

- Define how each field in a table row behaves when row grows
- Spring/Strut interface
- Define whether field is nail to top, bottom or center of row
- Define whether field grows along with row



Custom Aggregates

- Define an array category
- doubleTotal, weightedAverage, standardDeviation



Keys with Args

- Write category methods for NSValue/NSString
 - Clamp values:
'@revenue.between.10&50@'
 - Constrain length: '@title.trim.10@'
 - Yes/No Strings:
'@someFlag.yesNOString@'





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Drill Down



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1040EZ Tax Form



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Catalog

Image Substitution

- Substitute images as easily as text
- Commonly used for integration with packages such as ChartWorks



Table Alternatives

- Labels
- Graphs
- Forms



Dataset Archival

- Save dataset with convenient API to build a reproducible case of any problem



WebObjects Sessions

**Debugging Techniques
in WebObjects**

Hall B
Wed., 2:30pm

**Fine-Tuning the
Performance of
WebObjects**

Hall B
Wed., 4:00pm



WebObjects Sessions

**Complex WebObjects
Application Design**

Hall B
Thur., 9:00am

**WebObjects:
Tips from the Experts**

Hall B
Thur., 10:15am

**Advanced HTML/DHTML/
JavaScript Tips and Tricks**

Hall B
Thur., 4:00pm





Think different.TM



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