What can BIRT do for you? Building Interactive Information Applications with BIRT

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Agenda

- Introduction
- Creating interactive information applications with BIRT
- Interactive Viewing
- Features for the Application Developer
  - Flash Objects
  - Chart Interactivity
  - Parameters
  - Data-driven Hyperlinks
  - Scripting
- Summary
The Catch-22 of Developing Information Applications

User Experience is the most important success criteria of most enterprise information applications.

... but in most applications, the user experience is compromised in the quest to deliver more features.

... often rendering the applications static, inflexible and uninspiring.
The Dangers of Hastily-Delivered Information Applications:
Static and Inflexible Information Applications

Static and inflexible information applications are bad for business since they:

• Produce dissatisfied users
• Prohibit adoption of your application by customers
• Force users to cut-and-paste report data into Excel
• Cause rapid obsolescence and high costs to continually create new applications
The Dangers of Hastily-Delivered Information Applications:
Dull and Uninspiring Information Applications

Static information applications are dull and uninspiring because they:
• Are unintuitive and hard to read
• Use few visual elements
• Fall far short of modern web applications delivered by Google, Yahoo and others
User Expectations of Web Interactions Are Changing

“I want my information application to work like…”
Moving from Unalterable to Adaptable:  
**Giving Users What They Need to Succeed**

To make information applications adaptable, put users in the driver’s seat:-

- Enable users to modify, personalize and reuse data
- Enable users to navigate using bookmarks, hyperlinks and a TOC
Moving from Dreary to Compelling: Making Applications Interesting and Meaningful

BIRT empowers developers to build rich, intuitive information applications by letting them:

• Start with a wide range of out-of-the-box layouts
• Customize and create new layouts
• Use images, styles and conditional expressions to add richness
• Use Charts, Images and Flash to deliver compelling effects
Creating Interactive Content with BIRT

BIRT content is natively interactive

- End users use Interactive Viewer to personalize and manipulate content

- Application developers can add more interactivity
  - Flash, parameters, hyperlinks, drilldowns
Interactive Viewing: End-User Personalization

Flexible environment for answering ad hoc questions

- Toolbar
  - Table of contents
  - Page navigation
  - Grouping
  - Sorting
  - Filtering
  - Printing

- Simple and advanced filters
- Hide/show elements
- Sort columns
- Reformat text and currencies
- Custom calculations
- Export data
Creating Rich Content Using BIRT: Adding Custom Interactivity

- **Wide range of layouts**
  - List, group, crosstab, charts...

- **Flash objects**
  - Include Flash content for greater interactivity.

- **Chart interactivity**
  - Wide range of chart interactivity options plus an API to extend and create charts

- **Parameters**
  - Enable users to filter and then view only relevant data.

- **Data-driven hyperlinks**
  - Enable users to analyze relationships between data.

- **Scripting**
  - Write custom scripts to extend product functionality.
**BIRT Layouts**

**Many Web 2.0 Styles**

- Lists and grouped lists
- Charts
- Crosstabs
- Dashboards
- Letters and documents
- Top and bottom n reports
  
  *Based on rankings or percentages*

- Compound reports
  
  *Combine multiple report types into one report*

**Rich, highly interactive, navigable pages with formatting, graphics and conditional display options**
Flash Objects

- Library of Flash charts/gadgets available out-of-the-box
- Combine interactivity of Flash with BIRT designs

- Available Flash Objects:-
  - Flash Charts
    - Commonly-used chart types
    - Column, Bar, Line, Pie, Doughnut
  - Flash Gadgets
    - Gauges and charts for specific applications
    - Linear, Meter, Spark Line, Bullet, Cylinder, Thermometer
  - Flash Object Library
    - 266 different visualizations
    - Includes Radar Charts, Bulb Charts, Geographical Maps
Flash Object Gallery
Chart Interactivity

- Hyperlink / Drill-Through
- Tooltips
- Highlight / Hide Swing / SWT / SVG
- SVG Zoom / Pan
- Custom Interactivity

Click

Report or web page

Click / Values

Click / Hover

Ctrl or Alt-Click

Any Event

Script, click, or other event
BIRT’s Simple Chart API

Report design includes easy programmatic control of chart elements
Parameters – Auto-Suggest parameter

- Displays a list of possible values as the user begins to type.
- Enables the user to quickly navigate to the desired option.
### Parameters – Cascading Parameter

#### Office Location:
- **Country**: USA
- **State**: CA
- **City**: San Francisco

- **Filters next set of parameter values**
- **Dynamic values enhance user experience**

![Dynamic values enhance user experience](image)
Data-driven Hyperlinks

- Robust
  - Link to web pages, internal bookmarks or drill-through to other reports

- Data-driven
  - Pass dynamic parameter values to destination

- Flexible
  - Open target in same / new window
  - Open target report in HTML, PDF format etc.

- Conforms with Accessibility Guidelines
  - Specify Tool Tip for hyperlinks
Scripting

• What is it?
  ➢ Custom code to control various aspects of report creation.
  ➢ Used as custom event handlers.
  ➢ Java or JavaScript.

• Why do I need it?
  ➢ Maximum Flexibility.
  ➢ Data is rarely in the perfect format.
  ➢ Business rules are rarely an exact science.
  ➢ Use for Exception handling.
Scripting – Use Cases

• Create custom data sets
  ➢ Data from Java Objects
  ➢ Computed columns
  ➢ Fix/combine data – parts of a field (reg exp, substr)

• Modify report based on parameters or data
  ➢ Show/hide/resize/drop controls (tables, columns, charts)
  ➢ Conditionally change labels and images

• Highlight chart elements based on data

• Instantiate/Iterate global variables
  ➢ Custom counts/sums
Resources
BIRT Exchange Community Site

Centralized knowledge hub for BIRT developers
- Access demos, tutorials, tips and techniques, documentation…
- Easy for users to contribute content, share knowledge
- Enables developers to be more productive and build applications faster

Explore
- Search/sort
- Rate, comment
- Forums

Download
- Documentation
- Software
- Examples

Contribute
- Report designs
- Code samples
- Technical tips

www.birt-exchange.org
A New Generation of Data Visualization Technology

- Powerful, extensible data visualization technology
  - BIRT content is natively interactive through the Interactive Viewer.
  - Rich set of features to add and customize interactivity in information applications
  - Extend out-of-the-box functionality with custom scripting

- Active community to gain and share BIRT knowledge