

"BSF Web Scripting with Rexx - Architecture and Application Examples"

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Agenda

- Stating the problem
- A possible solution
- The parts
- An example
- Roundup and URLs

▼ Stating the Problem, 1

- Scripting of HTML text
 - Possible with Java/ECMAScript on any browser
 - But practically no other scripting language, although the specifications have never been restricted to Java/ECMAScript
 - Hence, neither Rexx and Object Rexx can be employed!
 - Possible with any ActiveX scripting language on Microsoft Windows Explorer
 - Java/ECMAScript (MS "JScript")
 - MS Visual Basic Script
 - Object Rexx qualifies!

▼ Stating the Problem, 2

- Rexx and Object Rexx have no built-in GUI, nor graphical printing capabilities
 - If it was possible to use Web browsers from Rexx, then
 - HTML and CSS could be used for creating portable GUIs for Rexx
 - Rexx could use the WWW browser for rendering and printing output on any supported printer
 - It would be desirable to circumvent lock-in effects into specif browsers (like MS Internet Explorer)

BSF Web Scripting (BWS)

Ski-seminar of December 2002

- Ski-seminar of December 2002
 - Tobias Specht, a student at the University of Augsburg, presented a possible solution
 - Employs one Java Script, two Java programs and BSF to create a solution
 - DOM (Document Object Model) with LiveConnect (Netscape, Sun's JRE)
 - » Microsoft Internet Explorer (Windows)
 - » Netscape/Mozilla (tested on Linux, Windows)
 - » Opera (problem in Opera at this time, 2003/05)
 - Using BSF4Rexx allows Rexx and Object Rexx to be used in addition as a scripting language for HTML!

BSF Web Scripting (BWS)

The Parts, 1

- HTML needs to possess
 - HTML-tag
 - "id" attribute needs to have a value of "the_document"
 - HEAD-tag
 - A <SCRIPT>-tag embedding the Javascript named "BSFWSInterfaceScript.js"
 - BODY-tag
 - "id" attribute needs to have a value of "the_body"
 - An "onload" attribute calling the Javascript function named "initBSFWS ()"
 - Invocation of scripts via ``

BSF Web Scripting (BWS)

The Parts, 2

- BWS supplies
 - **"BSFWSInterfaceScript.js"**
 - A Javascript program
 - Retrieves all scripts and sets up an environment which allows to invoke BSF with the help of "bsfWSInterfaceApplet.java" to execute them
 - **"bsfWSInterfaceApplet.java"**
 - A Java program
 - Executes the scripts with the help of BSF
 - **"JSNode.java"**
 - A Java program
 - Makes accessing the most important DOM functions easy

BSF Web Scripting (BWS)

The Parts, 3

- BWS uses
 - "Live Connect"
 - Originally developed by Netscape
 - » Allows interfacing Javascript with Java applets and Java plugins
 - » Allows Javascript to access fields (attributes) and invoke methods of Java programs
 - » Allows Java programs to invoke functions (methods) of Javascript programs
 - Sun took it over and re-distributes it via its Java runtime environment *since Java 1.3*

▼ BSF Web Scripting (BWS)

The Parts, 4

- BWS uses (continued)

- "Live Connect" (continued)

- .. \jre\lib\jaws.jar

- using

- netscape/javascript/*

- sun/plugin/connect/*

- Supports also OLE and the like

- Possibly needs to be copied on to non-Windows systems

- BSF4Rexx

- Bean Scripting Framework with the support for Rexx and Object Rexx

- Available for version 2.2 (IBM) and for version 2.3 (Apache)

▼ An Example

HTML

- Showing the HTML text

- Discussion

- Showing the demo

- Microsoft Internet Explorer

- Discussion

- Netscape

- Discussion

▼ Work in Progress

- Microsoft Internet Explorer
 - Some styles cannot be set (yet?)
- Irregularities with Netscape under Windows
 - Cannot read a stream from Object Rexx
- Irregularities with Mozilla under Linux
 - Sometimes BSF is not pre-registered
 - Made fail safe in "BSF4Rexx"
- Student is still working on finalization
 - Hopes to finish by the end of the 2003 symposium

▼ Roundup, URLs

- Application of BSF4Rexx
 - Allows (Object) Rexx to be used as a scripting language for WWW browsers
- WWW Browsers can be used
 - For creating portable GUIs for Rexx
 - For printing formatted data on graphics printers

<http://bsfws.berlios.de/>

– Home of BSF Web Scripting (BWS)

– Links and hints, FAQ

<http://sourceforge.net/projects/bsf4rex>