



## Struts vs The Salmon Open Framework for Internet Applications

Feature by Feature Comparison Reference Guide

March 2002

Feature	SOFIA	Struts
Architecture	✓✓ JSP/J2EE Model/View/Controller framework for web application	✓✓ JSP/J2EE Model/View/Controller framework for web application
View Development	✓ Views can be created using JSPs with HTML + Salmon custom tags or with Java code using AWT like components.	✓ Views can be created in JSPs with HTML + Struts custom tags.
GUI Development	<p>✓✓ Dreamweaver and/or Dreamweaver UltraDev 4 have been customized by Salmon to provide full WYSWYG support for the Salmon Tag Library.</p> <p>✓ Dreamweaver is a "best of breed" tool that allows Drag and Drop WYSWYG HTML development while still allowing the developer the flexibility to manipulate the generated HTML directly.</p>	<p>Not supported in the Struts Core Package</p> <p>✓ Views can be created in Object Venture's Object Assembler (requires Borland JBuilder). Based on a Demo on the Object Venture site, The Object Assembler appears to be a code generator, but not a WYSWYG development tool.</p> <p>Dreamweaver integration exists only as a study and is not currently recommended for web application development.</p>
Smart View Components	✓✓ Grid style control with paging buttons, click sort and alternate row striping, Tree Control, Navigation Bar, Calendar Control, Search Form, Data Entry Form, Dynamically generated submit image buttons (GIFs), smart entry components (date, social security number, zip code, US states list, etc...).	<p>Not supported in the Struts core package</p> <p>✓ A third-party extension, Struts Layout by Improve, is available from the Struts resources page.</p>
Ability to create application specific custom tags. (Add new types of view components)	✓✓ AWT like components can be combined and or extended and made available as new tags by easily extending Salmon custom tag classes.	Custom tags have to be written more or less from scratch.

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In-Line Java needed in JSP	<p>No in-line Java is required.</p> <p>No logic is required in the view at all. All view manipulations can be done via Java code in the controller or occur automatically by changing the data in the model.</p> <p>✓✓</p> <p>For coding convenience and view encapsulation, logic can be added to the view via property expressions. Property expressions are Java-like one-line expressions that compute properties (color, font, visible, enable, etc...) for GUI components based on information in the model.</p>	<p>No in-line Java is required.</p> <p>✓</p> <p>Logic to control the presentation is coded in the view via Struts Logic tags.</p> <p>The controller has only indirect control of the view via items placed on the Http Session.</p>
Internationalization	<p>✓</p> <p>Supported.</p>	<p>✓</p> <p>Supported</p>
Controller Development	<p>✓✓</p> <p>Controllers are extended from a Salmon JSPController class.</p>	<p>✓✓</p> <p>Controllers are extended from a Struts Action class.</p>
Controller Access to User Entered Form Information	<p>✓✓</p> <p>Access to form information by the controller is done automatically by the framework and requires no additional coding. User entered values are automatically reflected in the GUI components that the controller has a handle to. In addition, user entered values can optionally be transferred directly to the model using "bound GUI components".</p> <p>This methodology frees the developer from a great deal of robotic and error prone code.</p>	<p>✓</p> <p>Access to form data is provided via an ActionForm bean component. The developer must code the ActionForm bean manually and then implicitly bind JSP form components to the bean by giving the form elements the same names as bean get and set methods.</p> <p>Transferring data from the ActionForm to the model must be either done manually via calls to get methods on the ActionForm and corresponding set methods on the Data Bean or by another scheme created by the developer (Struts does not support this directly, but leaves it up to the developer).</p>

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Routing of Events in the Controller	<p>An event listener, registration model (similar to the AWT and Swing Set) is used.</p> <p>✓✓ Listeners are registered via Java method calls. Once registered, events are automatically routed to the components that are interested in processing them (generally, but not necessarily the controller).</p>	<p>Routing is done via information in the Struts config.xml file. It specifies which JSPs should invoke which Action classes.</p> <p>✓ The Struts Action class has one event (perform) that occurs when a page is submitted. If multiple components or components that aren't Action objects need event notification, the developer must code that manually.</p>
RDBMS support	<p>✓✓ The Salmon JSP Framework provides a connection pooler and a database abstraction component as well as extended support for JDBC transactions.</p>	<p>Struts support a db connection pooler. (org.apache.common.dbpc)</p> <p>✓ There is no custom tags associated with Pooler.</p> <p>Also third-party component JExpresso (by Jcorporate Ltd.) can be used to extend Struts and provides database functionality.</p>
Model Component	<p>✓✓ The Salmon Framework provides a database abstraction component called the DataStore, which provides database encapsulation, and database independence as well as greatly reducing the amount of code a developer needs to write to perform database operations.</p>	<p>Struts support a db connection pooler. (org.apache.common.dbpc)</p> <p>✓ There is no custom tags associated with Pooler.</p> <p>The third party JExpresso framework provides components that perform operations similar to the DataStore in the Salmon Framework.</p>
Data Caching on the Application Server	<p>Not included by design.</p> <p>Caching of data on the application server improves performance, but makes clustering difficult and writing to the database via third party applications and/or direct SQL impossible.</p>	<p>Struts support a db connection pooler. (org.apache.common.dbpc)</p> <p>Supported via third-party component JExpresso.</p>



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EJB Support	✓ Indirect support only. Developer must manually link DataStore components to EJBs.	✓ Struts does not support EJBs directly. JExpresso supports deployment of their data objects as entity beans.
Validation	✓ Server Side Validation and Custom Tags Available.	✓✓ Client & Server Side Validation and Custom Tags Available. Client side validation automatically generates the javascript necessary to validate the field.
Page Layout Support	✓ Third party Tiles tag library would provide Page Layout functionality to Sofia.	✓✓ Struts provides Tiles tag library. Light integration between struts and tiles.