

Best Practice of using ZK with JSP

ZK & JSP, How to use them together

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- Nowadays Web App Requirements
- EX: Instant Message Board
- Workbench Structure
- Plain old JSP Page Design
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- Using JSP in ZK

Page-based web programming

- Native HTML
- SEO friendly
- Stateless Content

Native HTML

Web App is urging more from Browser.

- **Customization**

- CSS Styling .
- Native HTML structure.

- **Integration**

- HTML Objects
- 3rd Party JS Lib
- 3rd Party View

SEO Friendly

Make your web page “Crawlable”.

- **URL Decoration.**
 - Permanent Link for content.
 - Extra meta-info.
 - HTTP Head.
- **Content Arrangement.**
 - Title
 - Content
 - Meta-info of image.

Stateless Content

Fast & Simple.

- **Easy to design.**
 - No complicate lifecycle.
 - Close to final HTML result.
- **Better performance.**
 - N complex page processing need to perform.
 - No Session memory usage

Desktop application programming

- Richer Widgets
- Asynchronous Request ability

Richer Widgets

Components that HTML doesn't has.

- **Component Composition**
 - Grid & Listbox
 - Tabbox & Layout
 - Window(Dialog)
- **Event Composition**
 - Drag & Drop
 - Timer

Asynchronous Request Ability

The core value of Ajax technology

- Partial UI Lazy Load
 - Grid Paging
 - Tabbox
- Long Operation Handling
 - Blocking
 - None Blocking

Why JSP + ZK?

The reason of Combine these two technologies

- JSP is well-known to JEE Developers
- Page-flow is still required in your application
- Easy to train and find developer
- Good separation of Static & Dynamic content

EX: Instant Message board

- Message & Attendees will be updated instantly
- Highly customized View
- User can join and post new message



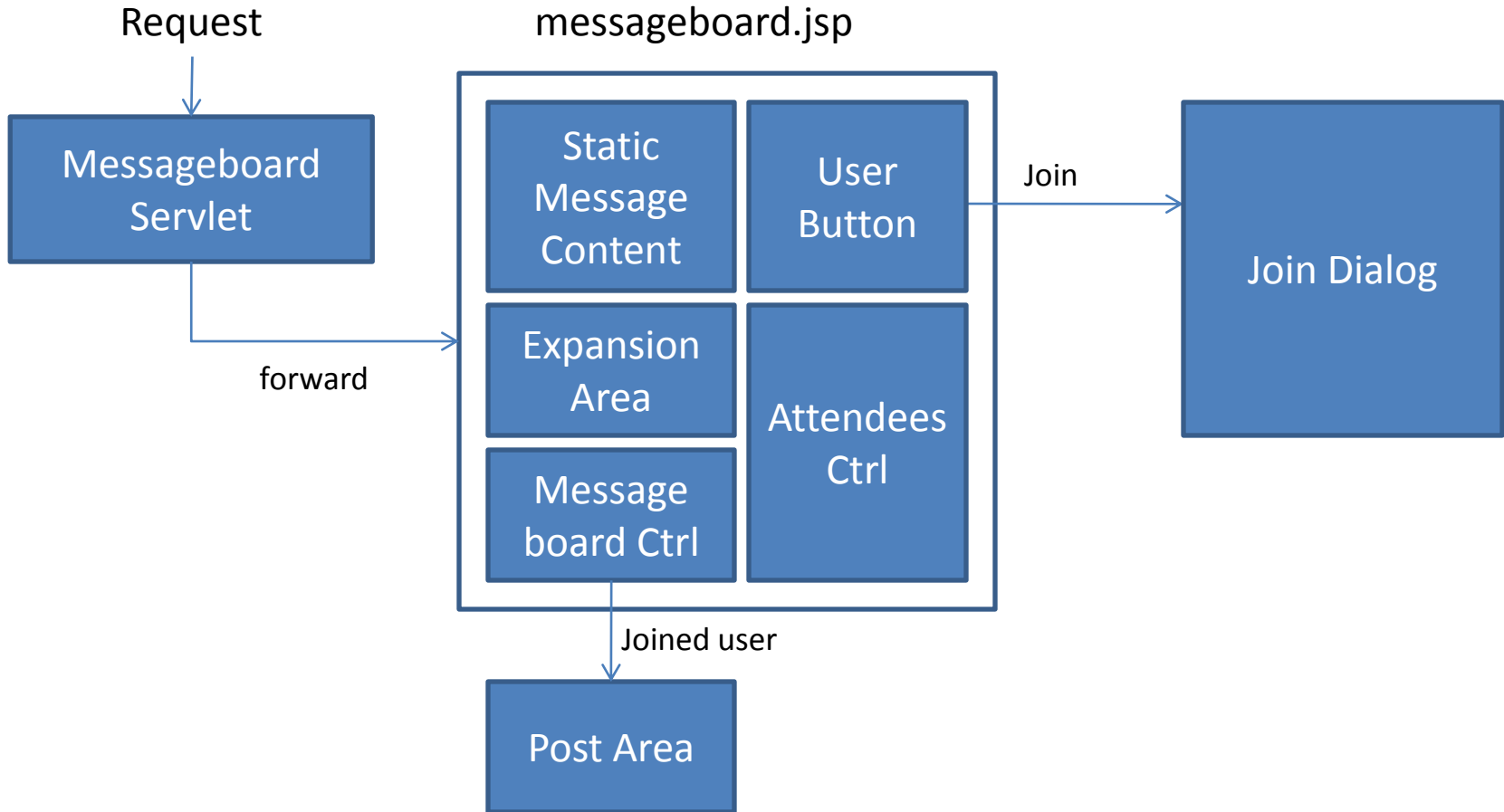
Instant Message Board

Tim C - tim@zkoss.org
*Hi, this is **Tim**, nice to see you!*
11:37, 01-Jun 2011

zanyking - zanyking@tt
*Hi this is **Zanyking**, glade to see everybody*
11:39, 01-Jun 2011

Users		
	Ian Tsai iantsai@zkoss.org	01-Jun 2011
	Tim C tim@zkoss.org	01-Jun 2011
	zanyking zanyking@tt	01-Jun 2011

Application Architecture



Workbench structure implementation

- Static Message Content
- Post Area
- Messageboard Control
- Expansion Area
- Join Dialog
- Attendees Control

Static Message Content

- JSTL + JSP include (/WEB-INF/_message.jsp)
- Using plan old Model 2 + EL for messages
- Extract Message HTML Structure to partial JSP

```
<c:forEach var="message" items="{requestScope.messageboard.messages}">  
  <c:set var="message" value="{message}" scope="request"></c:set>  
  <jsp:include page="/WEB-INF/_message.jsp"></jsp:include>  
  <c:remove var="message"/>  
</c:forEach>
```

Using ZK in JSP

- Configure web.xml & zk.xml
- Copy all necessary ZK Jars into /lib
- JSP tag library definition in JSP page
- Use ZK in JSP

```
<%@ taglib uri="http://www.zkoss.org/jsp/zul" prefix="z" %>
```

```
...
```

```
<head>
```

```
    <z:zkhead/>
```

```
</head>
```

```
...
```

```
<div>
```

```
    <z:page> .... </z:page>
```

```
</div>
```

Post Area Implementation

- Create MessageboardViewCtrl
- Composite Component Concept
 - extends ZK Component
 - Executions.createComponents()
 - Components.wireVariables()
 - Components.addForwards()

```
public PostArea(){  
    Executions.createComponents("/WEB-INF/_PostArea.zul", this, null);  
    Components.wireVariables(this, this);  
    Components.addForwards(this, this);  
}
```


Messageboard Control

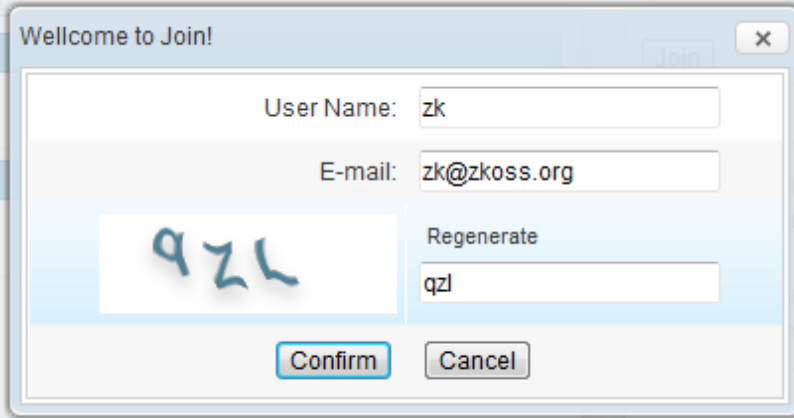
- Timer's onTimer Event
- Instant Messageboard Model
 - Use timestamp to identify if there are any changes
 - While onTimer, check if last update date is still equals
 - If not, refresh the current view

Expansion Area

- **Scoped Singleton pattern**
 - Declare a desktop Attribute with specific name
 - Give a static getInstance() method of this class
 - Get Instance from current desktop by name
- **Update method**
 - Get a copy of newest messages
 - Remove same messages in stored messages from the copy
 - Render differential Messages in the Expansion area
- **How to post? Using JSP in ZK**
 - ZK <include> Component

Join Dialog

- Create AttendeesPanelViewCtrl
- userBtn's onClick EventListener's implementation
- Composite Component Impl of Join Dialog



Wellcome to Join!

User Name: zk

E-mail: zk@zkoss.org

Regenerate
qzl

Confirm Cancel

Attendees Control

- **Render Attendees using Grid**
 - Get data from httpRequest
 - ListModel + RowRenderer
- **Instant Update of Attendees Grid**
 - Add trigger point while onTimer (MessageboardViewCtrl)
 - Scoped Singleton
 - Refresh Attendees Grid

Extra! How to use ZK Event Queue

- How did UserManager implement?
 - Another way of scoped Singleton
 - ZK EventQueue
- Render Post Area According to user state
 - While page request, render Post Area according to user
 - If user join, render Post Area
 - If user leave, detach Post Area

Technology Review

- How to use ZK in JSP
- How to use JSP in ZK
- Event Listen Model in ZK
- Design Pattern: Composite Component
- Design Pattern: Scoped Singleton
- ZK Event Queue(optional)

Q & A