

MAKING APEX A RICH USER INTERFACE

Beyond "Out of the Box" with jQuery and AJAX

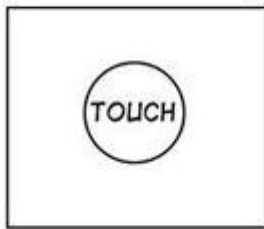
Jonathon Taylor
UTOUG Fall Symposium

Overview

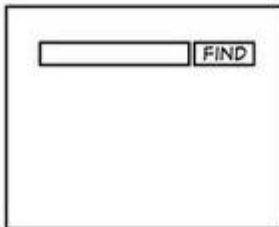
- ◎ Rich User Interface
- ◎ APEX – What comes “Out of the box?”
- ◎ Going Beyond
 - Dynamic Actions
 - jQuery, AJAX, Styling Enhancements
 - Plugins!
- ◎ Questions

Rich User Interface

TYPICAL APPLE PRODUCT...



A GOOGLE PRODUCT...



YOUR COMPANY'S APP...

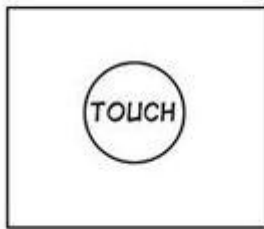
FIRST NAME: <input type="text"/>	TYPE CD: <input type="text"/>	4 - K
LAST NAME: <input type="text"/>	TQP STAT: <input type="checkbox"/>	AA2-
SSN: <input type="text"/>	FT/PT: <input type="checkbox"/>	DK9B
ID: <input type="text"/>	VER: <input type="text"/>	KKA?
PHONE 1: <input type="text"/>	CAT CD: <input type="text"/>	CN3
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ADDR 1: <input type="text"/>	STATE: <input type="text"/>	NEW
ACCT #: <input type="text"/>	ZIP: <input type="text"/>	DEL
ORD #: <input type="text"/>		

OKAY APPLY SAVE UNDO HELP DELETE EDIT
SELECT BROWSE ERRORS

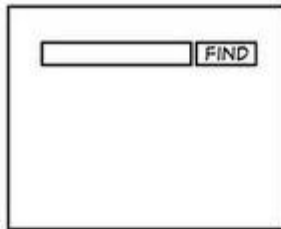
STUFFTHATHAPPENS.COM BY ERIC BURKE

what makes a web application or website “rich”?

TYPICAL APPLE PRODUCT...



A GOOGLE PRODUCT...



- Interactive
- Faster Responses
- Stylized
- Clean & Organized
- Usable
- Not Complex

what makes a web application or website “rich”?

web 1.0

- ⦿ Static Pages
- ⦿ Page Re-loading

web 2.0

- ⦿ Dynamic Pages*
- ⦿ AJAX**

**JavaScript – Scripting language used client-side for enhancing user interfaces and creating dynamic websites.*

***Asynchronous JavaScript and XML (AJAX) – Client side techniques to send and retrieve data in the background without interfering with display or existing page.*

what makes a web application or website “rich”?

what they say...

- Can it be more snazzy?
- It needs to have that look and feel...
- Can it do Drag & Drop?
- Can you just make it so all of it is on the same page... just hide what's not in use?

what we hear...

- Can you add at least one “cool” thing to make it really neat?
- I probably won't ever be able to describe what I'm really looking for because I don't even know...I just know that's not it...
- I saw another app with a cool feature and I want ours to do it...
- Uh oh, we've added too many things and made it too complex

what makes a web application or website “rich”?

what they say

what we hear

Can it be

It needs to
and feel...

Can it do

Can you
of it is on the same page...
just hide what's not in use?

YOUR COMPANY'S APP...

FIRST NAME:	<input type="text"/>	TYPE CD:	<input type="text"/>	4 - K
LAST NAME:	<input type="text"/>	TQP STAT:	<input type="checkbox"/> <input type="checkbox"/>	AA2-
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ADDR 1:	<input type="text"/>	STATE:	<input type="text"/>	NEW
ACCT #:	<input type="text"/>	ZIP:	<input type="text"/>	DEL
ORD #:	<input type="text"/>	...	<input type="text"/>	

OKAY APPLY SAVE UNDO HELP DELETE EDIT

SELECT BROWSE ERRORS

“cool”
t?

able to
oking
now...!

cool
do it...

Uh oh, we've added too many things and made it too complex

what changes has APEX made to incorporate web 2.0?

```
JavaScript
view plain copy to clipboard print ?
01. <script language="JavaScript1.1" type="text/javascript">
02.
03. function get AJAX_SELECT_XML(pThis,pSelect){
04.     var l_Return = null;
05.     var l_Select = $(pSelect);
06.     var get = new htmldb_Get(null,$x('pFlowId').value,'APPLICATION_PROCESS=otn_Select_XML',0);
07.     get.add("TEMPORARY_ITEM",pThis.value);
08.     gReturn = get.get("XML");
09.     if(gReturn && l_Select){
10.         var l_Count = gReturn.getElementsByTagName("option").length;
11.         l_Select.length = 0;
12.         for(var i=0;i<l_Count;i++){
13.             var l_Opt_Xml = gReturn.getElementsByTagName("option")[i];
14.             appendToSelect(l_Select, l_Opt_Xml.getAttribute("value"), l_Opt_Xml.firstChild.nodeValue)
15.         }
16.     }
17.     get = null;
18. }
19.
20.
21. function appendToSelect(pSelect, pValue, pContent) {
22.     var l_Opt = document.createElement("option");
23.     l_Opt.value = pValue;
24.     if(document.all){/* why is ie different ask bill */
25.         pSelect.options.add(l_Opt);
26.         l_Opt.innerText = pContent;
27.     }else{
28.         l_Opt.appendChild(document.createTextNode(pContent));
29.         pSelect.appendChild(l_Opt);
30.     }
31. }
32.
33.
34.
35. </script>
Application On Demand Process (otn_Select_XML)
view plain copy to clipboard print ?
01. declare
02.     l_counter number;
03.     l_o_name varchar2(2000);
04. begin
```

- Example:
 - Cascading Select List
- Tried this prior to 4.0?

Ajax Select List

P37 AJAX SELECT

P37 SELECT DROP XML

<http://apex.oracle.com/pls/otn/f?p=11933:37:571942073174901:::>

APEX – What comes “Out of the box?”

- Cascading Select Lists
- Dynamic Actions
- jQuery 1.6.2 and jQuery UI 1.8.14 Libraries
- Partial Page Refresh (AJAX)
- Plugins!

4.0

Going Beyond with Dynamic Actions

APEX's Client-side behaviors (JavaScript & AJAX)

- Based on User Events:

- Click, Change, Load, Focus
- Key Presses, Mouse Events, etc.

- Perform an Action:

- Hide, Show, Enable, Disable
- Set Value, Refresh, Style, Submit Page, Alert, etc.
- Execute JavaScript Code and PL/SQL Code

Interactive

Example: jQuery Messages

- Success messages stick (I hate clicking the X)
- Want them to disappear automatically

Add Dynamic Action: "clear_messages"

Event: "Page Load"

True Action: "Execute JavaScript Code"

Code:

```
$("#uSuccessMessage").delay(1000).fadeOut(1000);
```

Link to Example: <http://bit.ly/Ufa8RI>

Example: Report with AJAX

- User wants to change a report row
 - Without Re-loading, popup, form page, etc.

Add Hidden Item: "P4_SELECTED_ROW"

Source User: "Always Replace"
Source Type: "Item"
Source Value: "P4_SELECTED_ROW"

Add Dynamic Action: "set_id_to_selected"

Event: "After Region Refresh Employee Bonuses"
Event Scope: "Live"
True Action: "Execute JavaScript Code"
Code:

```
$('.approve').click( function(){  
    //fetch record id from the first column in row  
    id = $(this).parent().parent().siblings(":first").text();  
  
    //set page item to selected id  
    $('#P4_SELECTED_ROW').val(id);  
});
```

Link to Example: <http://bit.ly/N2tzNd>

Add Class to link column: ".approve"

Column Link Text:
Target: "URL"
URL: javascript:void(0);

Add Dynamic Action: "approve_and_refresh"

Event: "Click"
Event Scope: "Live"
Selection Type: "jQuery Selector"
jQuery Selector: ".approve"
True Action 1: "Execute PL/SQL Code"
Page Items to Submit: P4_SELECTED_ROW
Code:

```
begin  
    update bonus  
    set approved = 'Y'  
    where bonus_id = :P4_SELECTED_ROW;  
end;
```

True Action 2: "Refresh Region Employee Bonuses"

Example: Report jQuery Styling

- User wants to highlight the selected row

Add Hidden Item: "P8_SELECTED_ROW"

Source User: "Always Replace"
Source Type: "Item"
Source Value: "P8_SELECTED_ROW"

Add Class to Report Link Column: ".details"

Column Link Text:
Target: "URL"
URL: javascript:void(0);

Add Dynamic Action: "show_details"

Event: "Click"
Event Scope: "Live"
Selection Type: "jQuery Selector"
jQuery Selector: ".details"

Add Dynamic Action: "show_details" (Cont.)

True Action 1: "Execute Javascript Code"

Code:

```
$('.details').click( function(){  
    // fetch the id of the row  
    id = $(this).parent().parent().siblings(":first").text();  
  
    // set page items to selected  
    $('#P8_SELECTED_ROW').val(id);  
});
```

True Action 2: "Execute Javascript Code"

Code:

```
$(".lastselected").removeClass("lastselected");  
  
$("[headers='BONUS_ID']")  
    .filter ( function() {  
        var id = $(this).text();  
        var selected =  
            $('#P8_SELECTED_ROW').val();  
        return parseInt(id) == parseInt(selected)  
    })  
    .parent().children().addClass("lastselected");
```

Link to Example: <http://bit.ly/ODp37D>

Going Beyond with Plugins

Extend Items, Regions, Processes, and Dynamic Actions, etc.

A few of the many sources out there:

- ◎ Oracle - <http://www.oracle.com/technetwork/developer-tools/apex/application-express/apex-plug-ins-182042.html>
- ◎ Community - <http://apex-plugin.com/>
- ◎ Other Sources - <http://skillbuilders.com/oracle-apex/Application-Express-APEX-Consulting-Training.cfm?tab=plug-ins>

Example: Notifications Plugin

- User wants custom notifications
 - Without submitting the page to get a success message

Add Dynamic Action: "clear_changes"

Event: "Click"

Selection Type: "Button"

Button: "CANCEL (Cancel Changes)"

True Action 1: "Refresh Region Update Employees"

True Action 2: "Notification Plug-in"

Add Dynamic Action: "save_notification"

Event: "Page Load"

True Action: "Notification Plug-in"

Condition: :REQUEST = 'SUBMIT'

In Page Branch: Add Request "SUBMIT"

In Page Branch: Do not include success message

Link to Example: <http://bit.ly/PTJUKL>

Oracle Plugin - <http://www.oracle.com/technetwork/developer-tools/apex/application-express/apex-plug-ins-182042.html>

Example: Modal Page Plugin

- User wants Modal Page Dialog Forms
 - Without navigating to a form page

Add Dynamic Action: "edit_employee"

Event: "Click"

Event Scope: "Live"

Selection Type: "jQuery Selector"

jQuery Selector: ".edit_employee"

(Add class to report link): class="edit_employee"

True Action 1: "SkillBuilders Modal Page Plugin"

True Action 2: "Cancel Event"

Add Dynamic Action: "refresh_after_change"

Event: "Auto Close [SkillBuilders Modal Page]"

Selection Type: "DOM Object"

DOM Object: "document"

True Action 1: "Refresh Employees Region"

True Action 2: "Notification Plugin"

Link to Example: <http://bit.ly/PRaL3r>

Skillbuilders Plugin - <http://skillbuilders.com/oracle-apex/Application-Express-APEX-Consulting-Training.cfm?tab=plug-ins>

Conclusions

- ⦿ Yesterday's web apps don't cut it!
- ⦿ Learn some jQuery/JavaScript/CSS
 - Just the basics is fine
 - See what other sites and apps are doing
- ⦿ “Out of the Box” includes much more now
 - Get familiar with Dynamic Actions
 - Use the new features in 4.0 and 4.1
- ⦿ Plugins – leverage community code!

Questions?

- **Jonathon Taylor**
- **jonathon.taylor@ldschurch.org**

Sources & Links

- Presentation Examples:
 - http://apex.oracle.com/pls/apex/f?p=BEYOND_OUT_OF_THE_BOX
- jQuery Documentation:
 - http://docs.jquery.com/Main_Page
- Notification Plugin Example & Source
 - <http://apex.oracle.com/pls/apex/f?p=654321:401:0>
 - <http://www.oracle.com/technetwork/developer-tools/apex/application-express/apex-plug-ins-182042.html>
- Skillbuilders Modal Page Plugin Example & Source
 - http://apex.oracle.com/pls/apex/f?p=46685:MODAL_PAGE:0
 - <http://skillbuilders.com/oracle-apex/Application-Express-APEX-Consulting-Training.cfm?tab=plug-ins>
- APEX 4.0 New Features App
 - <http://apex.oracle.com/pls/apex/f?p=34738:1:0>
- APEX 4.1 Documentation
 - http://docs.oracle.com/cd/E23903_01/welcome.html
- More jQuery and AJAX Examples
 - <http://actionet.homelinux.net/html/db/f?p=lspdemo:64:1141304507585801::NO:::>