



Mobilize Your Notes and Domino Applications Today!



Instructor



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#XPages



TLCC XPages Offerings

- Seven XPages Courses!

- **NEW!** Rapid XPages Development using Application Layout and Dojo UI Controls
- **FREE !!** Introduction to XPages Development
- JavaScript for XPages Development
- Developing XPages Using Domino Designer 8.5
- XPages Development 2 for Notes and Domino 8.5
- Mobile XPages for Domino 8.5
- Java 1 for XPages Developers

- Self Paced Training

- Learn anywhere!
- An Instructor is a click away

- Instructor Led (Private)

- TLCC Mentoring Services

Filter a Data View based on a Selection Control

One approach to filtering the contents of a Domino view is to provide a selection control to the mobile user to set the criteria for filtering the contents of the view.

This is a lesson from TLCC's Mobile XPages course!

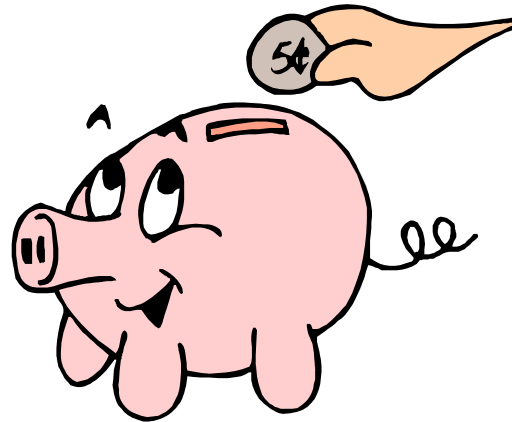
Planning Sketch for Demonstration Application

There are two mobile pages in this demonstration. The two images on the left are of the same view page, before and after the user selects a customer from a Combo Box control. The dataView on the view page is rendered after a customer is selected, and is filtered to display only the sales orders for the selected customer. When an order is selected on the view page, the details for the order are displayed on the document page.

Number	Part ID/Qty	Part Name	Unit Price	Sub-total
1	GSdeluxLR	Golf Set Complete Deluxe Ladies Right	755.00	755.00
2	GSdeluxMR	Golf Set Complete Deluxe Mens Right	730.00	2,190.00

Special Offer for Attendees

- Special offer for Entwickler Kamp Attendees
 - 20% off on all TLCC courses
 - 5% off on any course on sale
- Go to www.tlcc.com/entwickler to get this offer



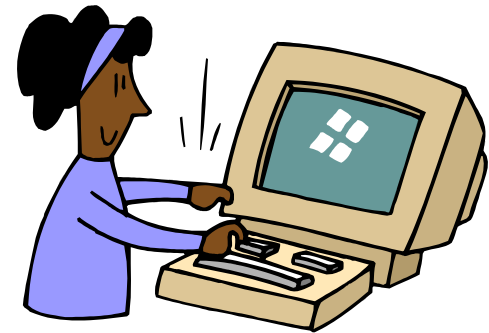
Agenda

- Understand the Mobile Development Landscape
- What does IBM Upgrade Pack 1 provide?
- What does the Extension Library provide?
- Testing Mobile Web Apps.
- Introduce the Mobile controls
- Display views and documents in mobile devices
- Convert a Notes application to mobile



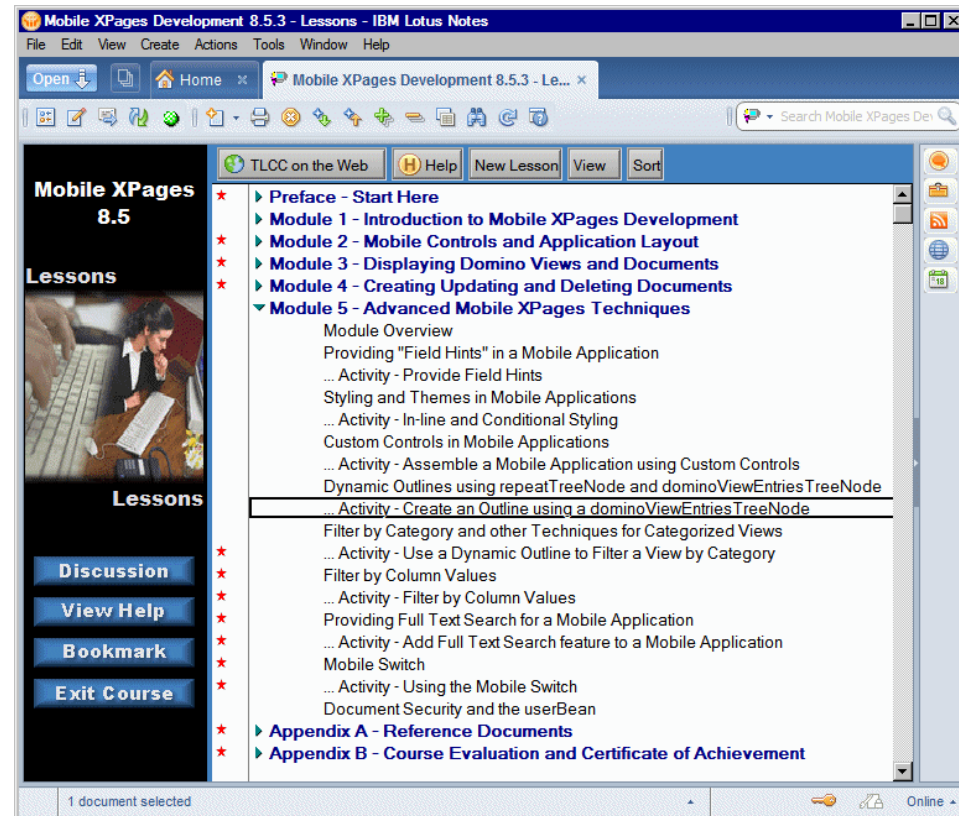
Prerequisites

- Experienced Notes/Domino Developers
- Some experience with XPages
- To do the activities:
 - Domino Designer 8.5.3
 - Either:
 - Upgrade Pack 1
 - Extension Library
 - Browser – Safari or Chrome



Session Overview

- Based on TLCC's new *Mobile XPages Development 8.5*
 - Self-paced course
 - 2 ½ days



Native Mobile Applications

- Stored locally on device
- Access data either stored locally or on web/intranet
- Deployed via Application Store (eg. iTunes)
- Program using device-specific SDK and specific language:
 - Objective C for iOS
 - Java for Android
- Can work offline when data is stored on device
- Can access hardware devices like camera and GPS

Mobile Web Applications

- Stored on web server and use device's web browser
- Access data stored on web/intranet
 - HTML5 allows for local device storage
- Deployed via a web server using a URL
- Developed using HTML, JavaScript and CSS
- Require connectivity
- Typically are not device dependent



Hybrid Mobile Web Applications

- Uses a development framework like PhoneGap or Titanium
- Web programming languages wrapped into native device application
- Deployed using app store
- Cross-platform compatible – framework handles device differences
- Frameworks allow access to device hardware features



Mobile Web Browsers

WebKit-based browsers and devices:

- Any iOS device from Apple
- Android devices
- Blackberry browsers from version 6 forward
- Google Chrome and Apple Safari desktop browsers

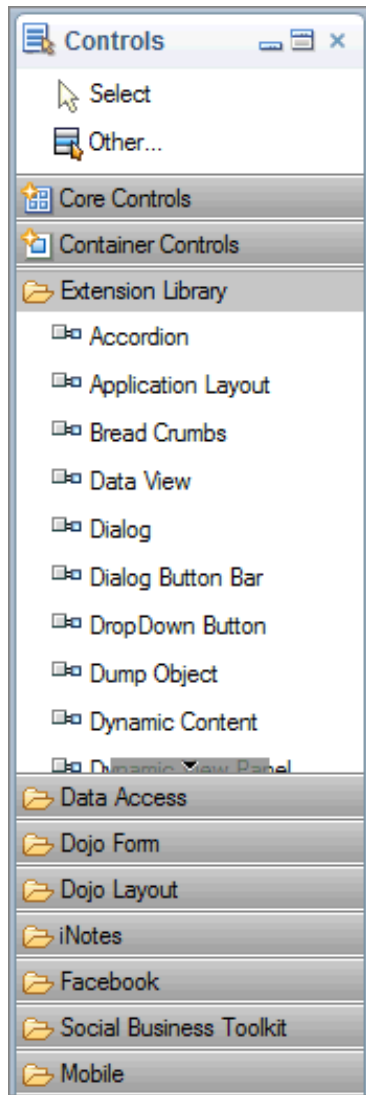


Domino Specific Native App Builders

- TeamStudio UnPlugged Mobile Controls
 - Free controls to mobilize a Notes application
 - On OpenNTF
- TeamStudio Unplugged
 - Creates Native Apps using XPages!
 - ❖ <http://unplugged.teamstudio.com/>
- Domino To Go
 - Uses JavaScript/Titanium to build native apps
 - Accesses Domino data and stores locally
 - ❖ From You At Notes - <http://youatnotes.com/dominotogo>
- See various Taking Notes Podcasts, index at:
 - ❖ <http://bruceelgort.com/2012/10/09/updated-ibm-notesdomino-mobile-solutions-podcast-roundup/>



Mobile XPages Requirements



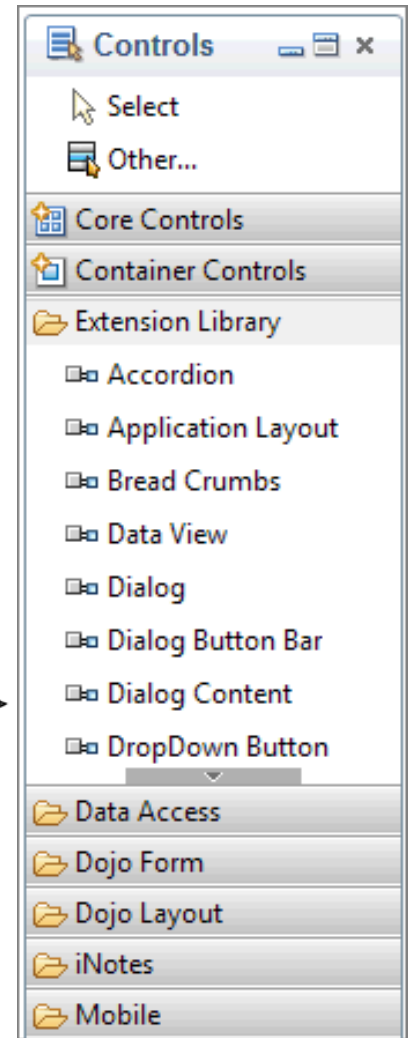
- **Domino Designer 8.5.3 and Domino Server 8.5.3**



- Upgrade Pack 1
- or
- 8.5.3 Extension Library

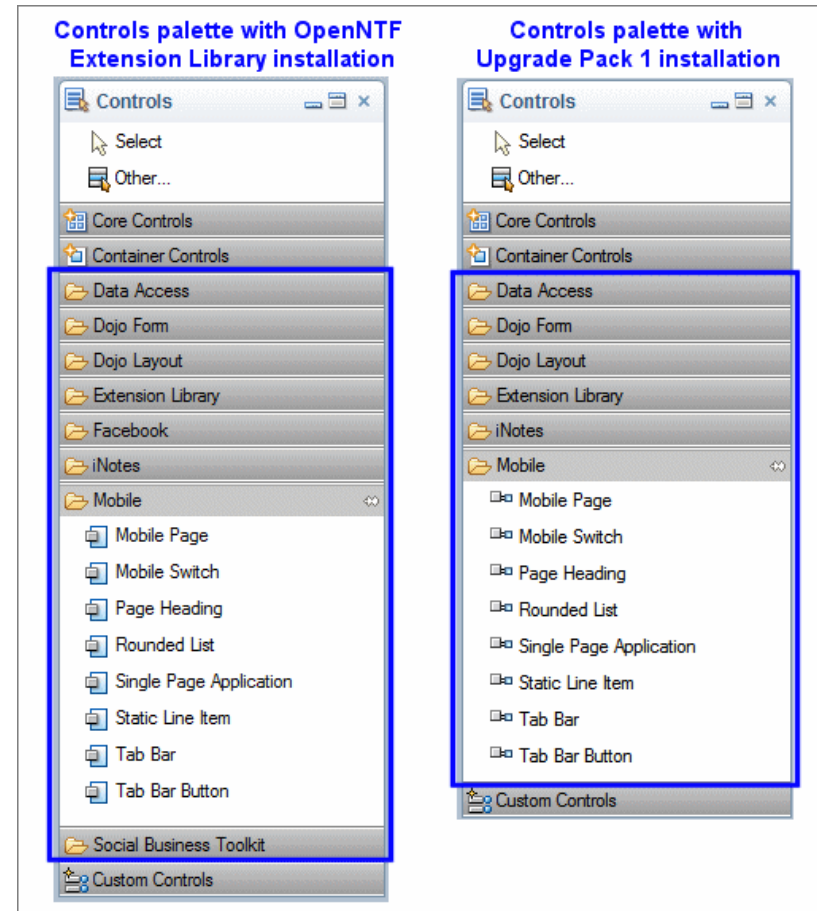
- **IBM Notes and Domino 9 beta**

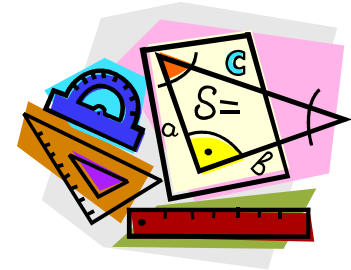
- Upgrade Pack 1+ Included
- All you need for Mobile XPages, nothing else required



Upgrade Pack versus OpenNTF XPages Extension Library

- Upgrade Pack 1
 - Official IBM release
 - Fully supported
 - Subset of Extension Library features
 - Available through IBM licensed software delivery channels (Passport Advantage - PartnerWorld)
- Extension Library
 - Obtained from OpenNTF
 - No IBM support
 - Will be updated more frequently
 - Example, Relational data controls are not in IBM version

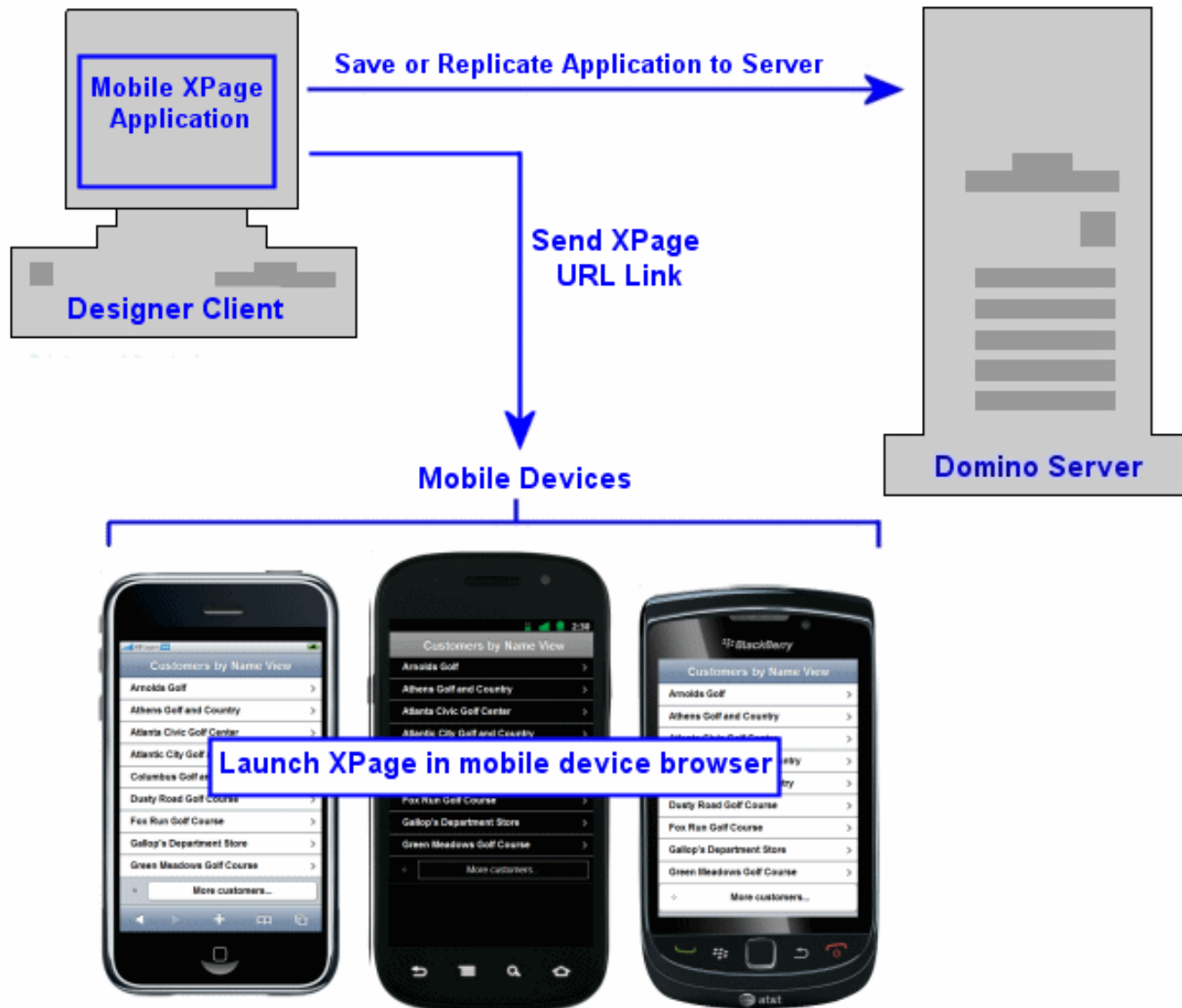




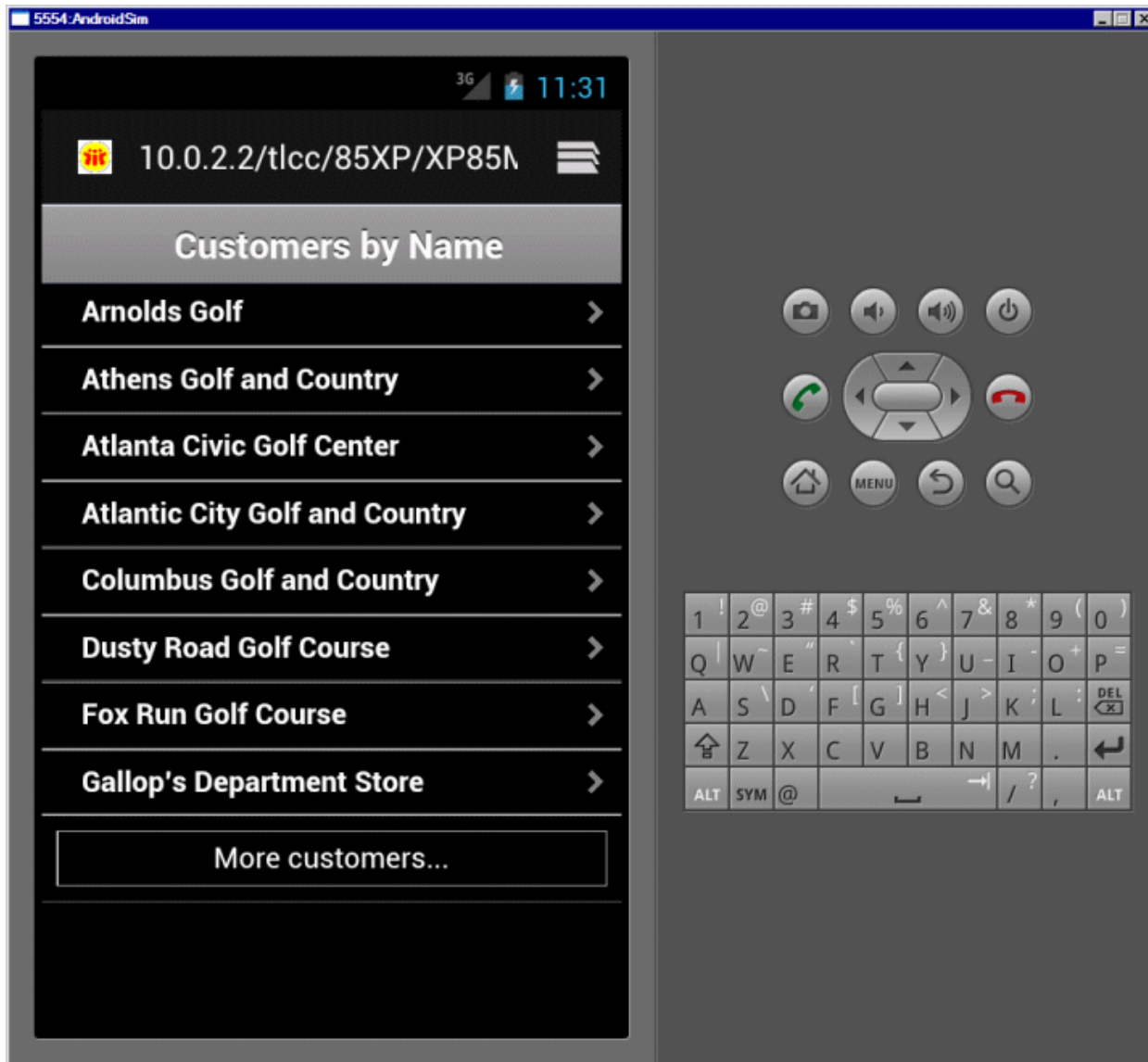
Four testing solutions:

- Use actual mobile devices
 - delivered from Domino server or Designer
- Use mobile device simulator/emulator
 - From Device SDK
- Use desktop browsers - “spoofing”
- XPages mobile simulator
 - modified from Extension Library demo app

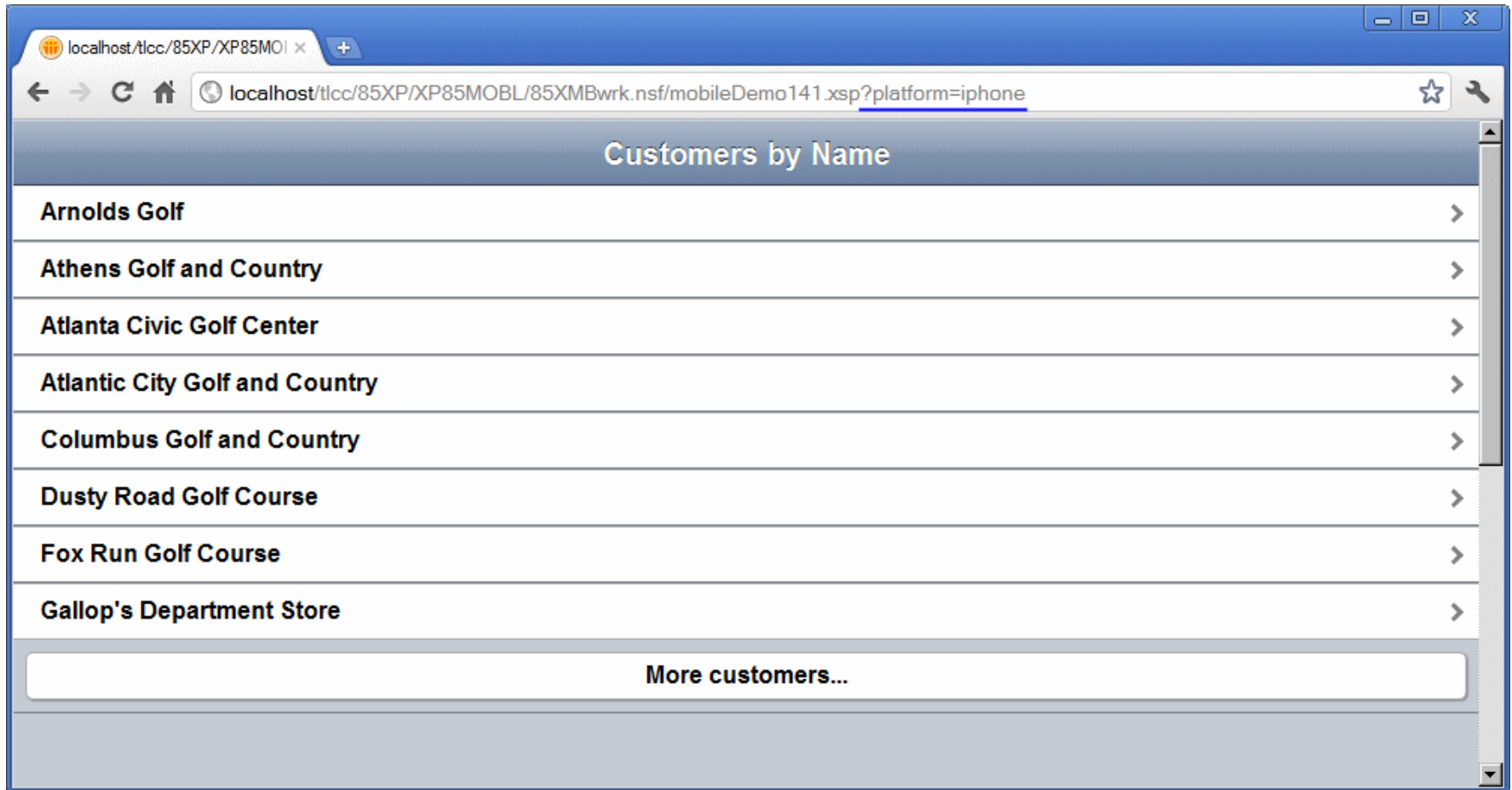
Solution 1: Use actual Devices and a Domino Server



Solution 2: Use Mobile Device Simulator/Emulator in an SDK



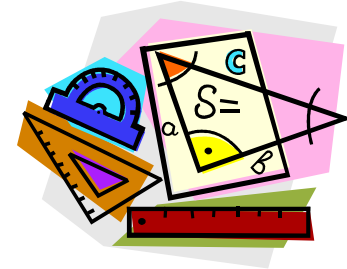
Solution 3: Use a Desktop Browser and “Spoof” the user-agent String



Solution 4: Use XPages Mobile Simulator to “Spoof” the user-agent String



Mobile XPages Controls



Single Page Application

Mobile Page

appPage1

actionFacet

Label

Label

Label

Label

Mobile Page

appPage2

actionFacet

Tab Bar

Back

Label

Design Source

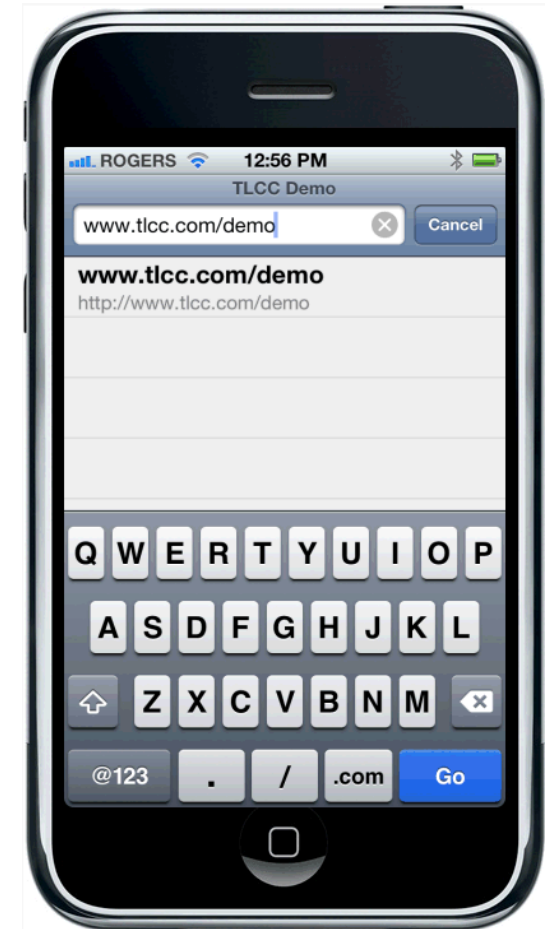
Controls

- Select
- Other...
- Core Controls
- Container Controls
- Mobile
 - Mobile Page
 - Mobile Switch
 - Page Heading
 - Rounded List
 - Single Page Application
 - Static line item
 - Tab Bar
 - Tab Bar Button

Hands-on Demo

- Try out the application we will discuss today
- Point your mobile browser to:

❖ www.tlcc.com/demo



Enable an Application for Mobile XPages Development

Advanced Properties

Unread Marks

Maintain unread marks
Replicate:

Space Savers

Compress database design
 Compress document data
 Use LZ1 compression for attachments

Features

Allow more fields in database
 Don't allow simple search
 Allow soft deletions
Permanent document deletion interval (hours):
 Support Response Thread History
 Don't support specialized response hierarchy
 Disable automatic updating of views

Advanced Options

Optimize document table map
 Don't overwrite free space
 Maintain Last Accessed property
 Disable transaction logging
Limit entries in \$UpdatedBy fields:
Limit entries in \$Revisions fields:

XPAGE Libraries

Select the libraries of extended XPage controls to use in this application.

Library ID
<input checked="" type="checkbox"/> com.ibm.xsp.extlib.library

When running on the Web, the libraries must be available on the server. When running on the Notes client, the library plug-ins must be installed on the client.

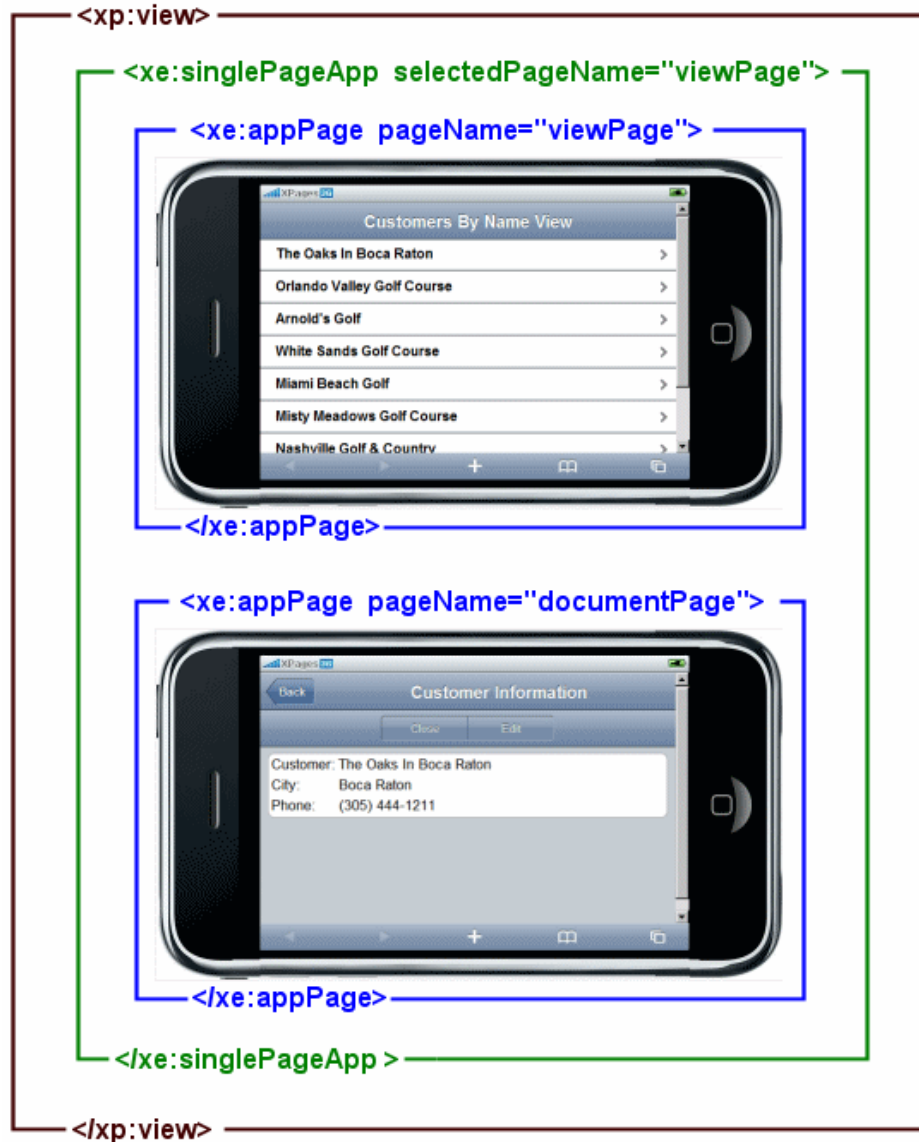
Basics Launch Design XPages **Advanced**

Mobile XPages x Package Explorer x Home x xsp.properties - 85XMBwrk.nsf x

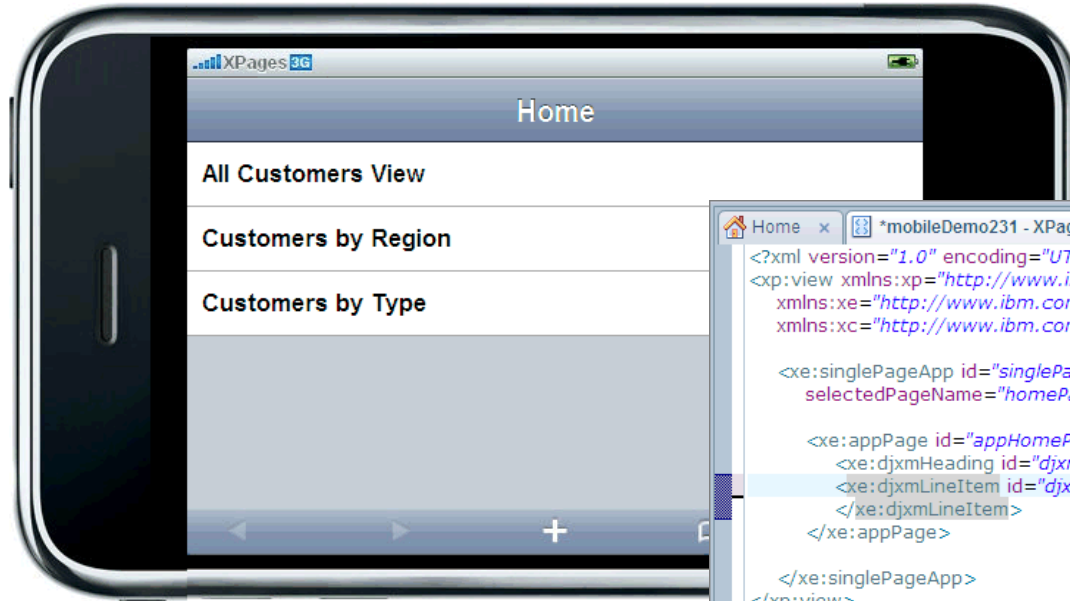
```
xsp.ajax.renderwholetree=false  
xsp.persistence.mode=file  
xsp.error.page.default=true  
xsp.library.depends=com.ibm.xsp.extlib.library  
xsp.theme=oneuiv2.1  
xsp.theme.mobile.pagePrefix=mobile
```

Set Mobile Page Prefix in xsp.properties

Single Page Application <xe:singlePageApp> ... Mobile Page <xe:appPage>



Page Heading <xe:djxmHeading> ... Static Line Item <xe:djxmLineItem>



```
<?xml version="1.0" encoding="UTF-8"?>
<xp:view xmlns:xp="http://www.ibm.com/xsp/core"
  xmlns:xe="http://www.ibm.com/xsp/coreex"
  xmlns:xc="http://www.ibm.com/xsp/custom">

  <xe:singlePageApp id="singlePageApp1"
    selectedPageName="homePage">

    <xe:appPage id="appHomePage" pageName="homePage">
      <xe:djxmHeading id="djxmHeading1" label="Home"></xe:djxmHeading>
      <xe:djxmLineItem id="djxmLineItem1" label="All Customers View">
      </xe:djxmLineItem>
    </xe:appPage>

  </xe:singlePageApp>
</xp:view>
```

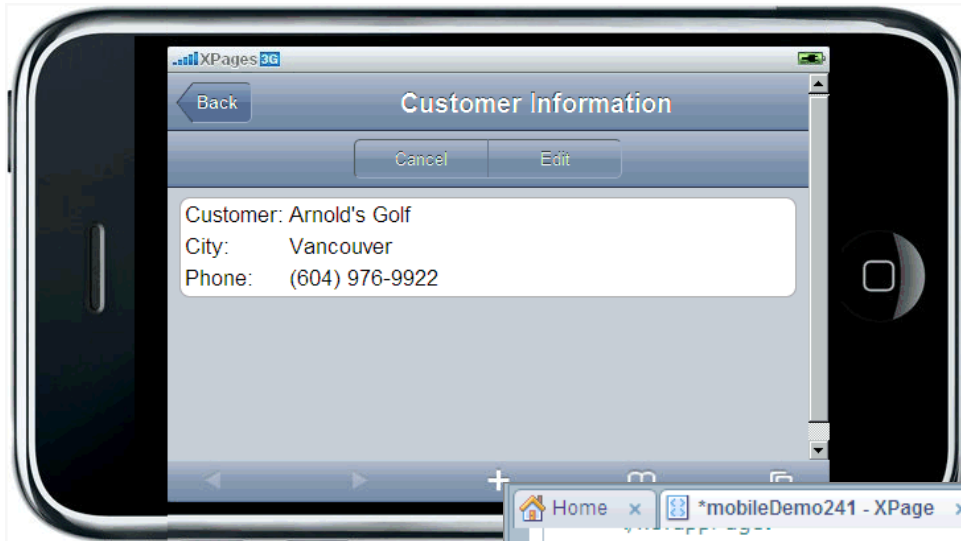
Properties window for Static line item:

Property	Value
accessibility	
title	
basics	
binding	
dir	
icon	
id	djxmLineItem1
label	All Customers View
lang	
loaded	
moveTo	
rendered	
rendererType	
rightText	
transition	
dojo	
styling	

Controls palette:

- Select
- Other...
- Core Controls
- Container Controls
- Mobile
 - Mobile Page
 - Mobile Switch
 - Page Heading
 - Rounded List
 - Single Page Application
 - Static line item
 - Tab Bar
 - Tab Bar Button

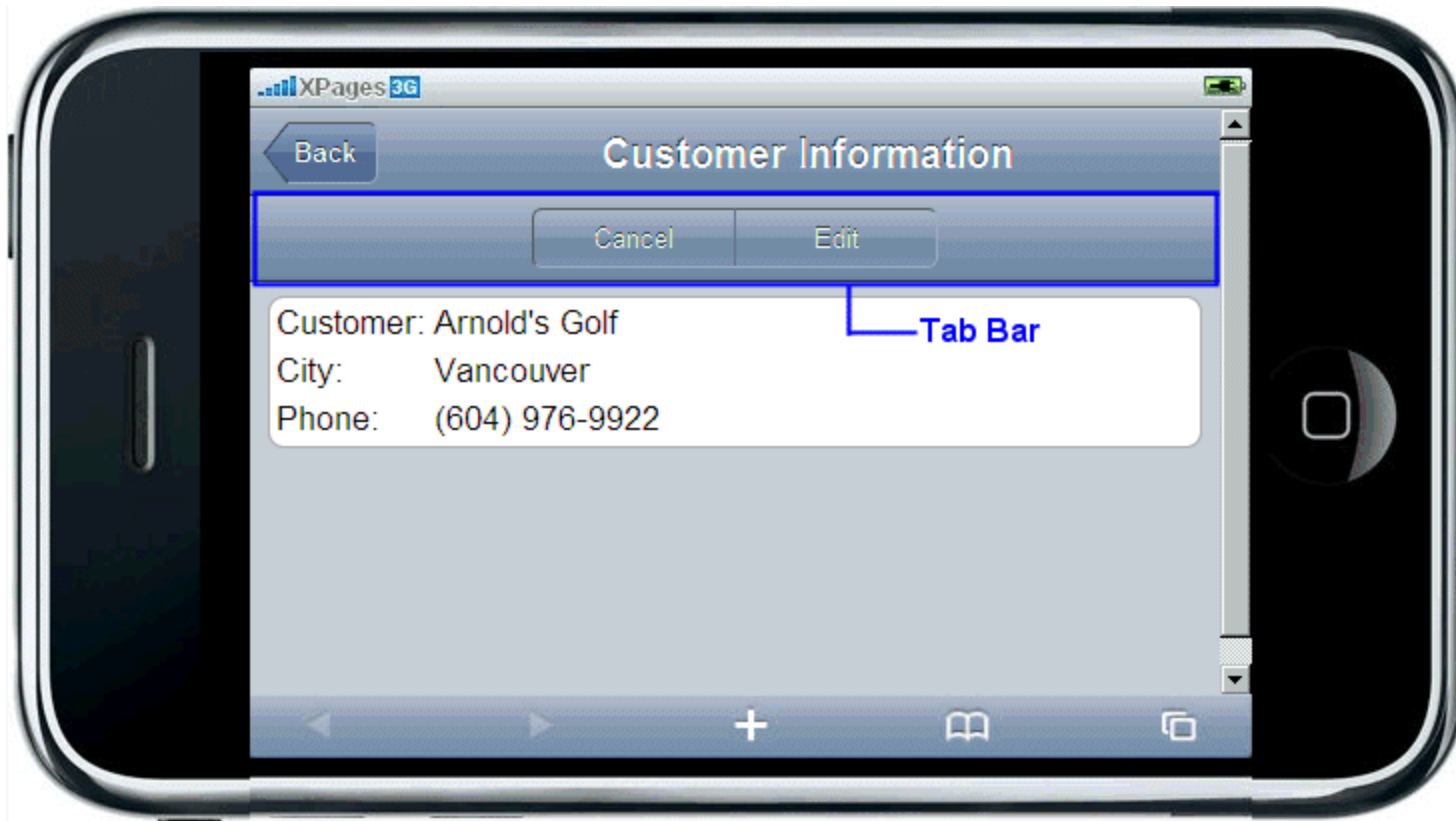
Rounded List <xe:djxmRoundRectList>

A screenshot of an IDE window showing XPage source code. The code is as follows:

```
<!-- Start of documentPage -->  
<xe:appPage id="appPage1" pageName="documentPage"  
  resetContent="true" preload="true">  
  <xe:djxmHeading id="djxmHeading2"  
    label="Customer Information" moveTo="#viewPage" back="Back">  
  </xe:djxmHeading>  
  <xp:panel>  
    <xp:this.data>  
      <xp:dominoDocument var="document1"  
        formName="CustomerForm">  
      </xp:dominoDocument>  
    </xp:this.data>  
  </xp:panel>  
</xe:appPage>  
</xe:singlePageApp>  
</xp:view>
```

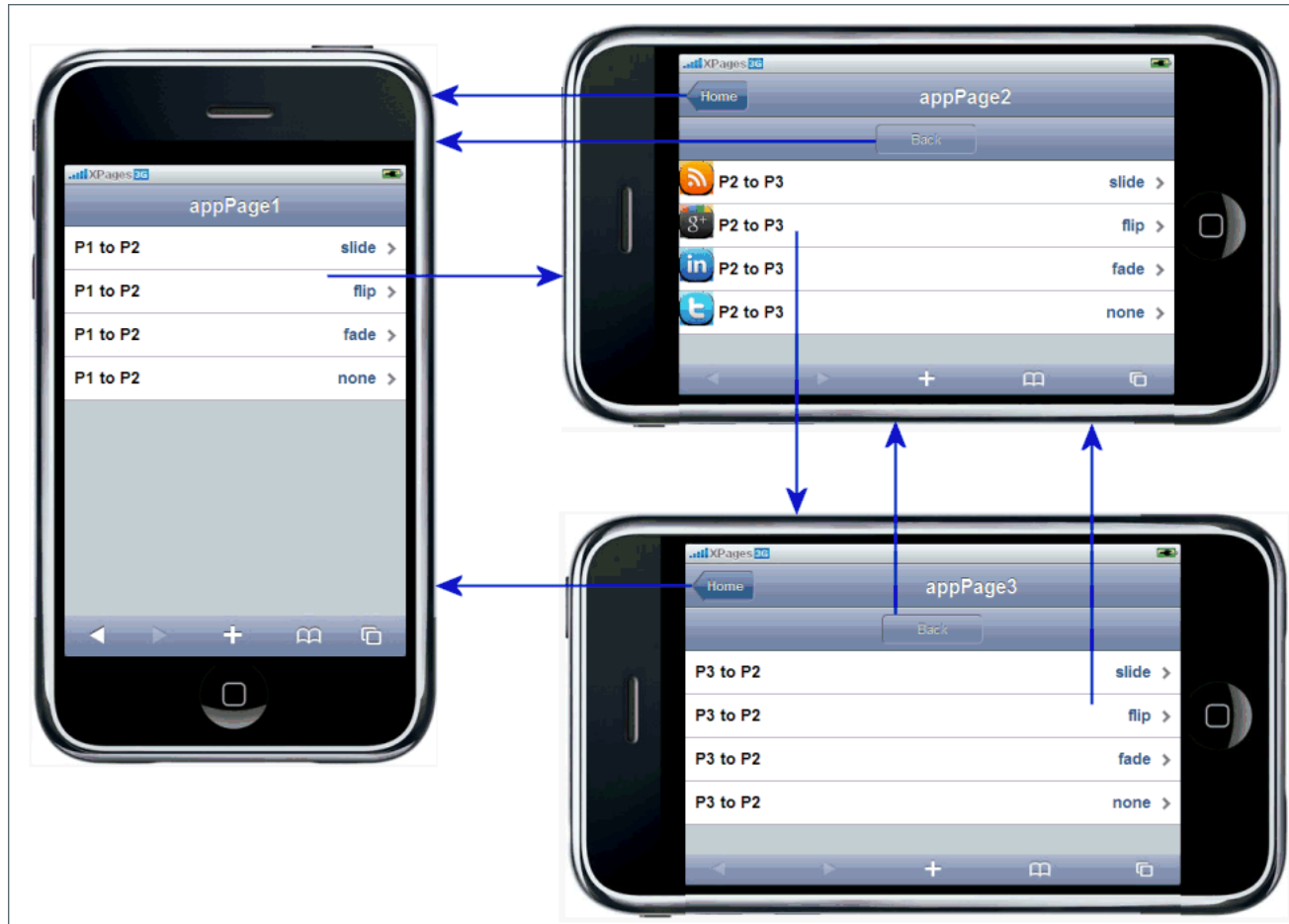
The IDE interface includes a 'Controls' palette on the right with categories like 'Core Controls', 'Container Controls', and 'Mobile'. The 'Rounded List' control is highlighted in the 'Mobile' category. A blue arrow points from the 'Rounded List' control in the palette to the corresponding code block in the source editor.

Tab Bar <xe:tabBar> ... Tab Bar Button <xe:tabBarButton>



Mobile Page Navigation and Transitions

- Simple Action – Move to Mobile Page



Demo - HelloWorld

Demo - MobileActivity1_Completed



Activity – Create a Mobile Application

Setup:

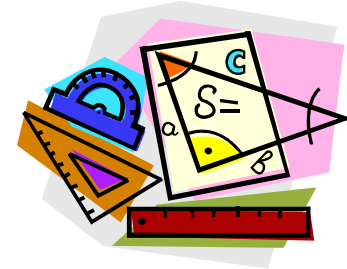
1. Copy the NSF to your data directory
2. Sign the Application in Designer
 - right-click and choose **Application | Sign Design**
3. Test by previewing the MoblSim.xsp XPage in Chrome or Safari (if you have it)

To do the Activity:

1. Edit the mobile_Activity1 XPage
2. Follow the comments in the source code

Completed Activity is: **Mobile_Activity1_Completed**

Introduction to the Data View control ...



localhost/tlcc/85XP/XP85M x localhost/TLCC/85XP/XP85 x localhost/TLCC/85XP/XP85 x localhost/TLCC/85XP/XP85 x

localhost/tlcc/85XP/XP85MOBL/85XMBwrk.nsf/Demo311DataView.xsp

Data View on an XPage (non-Mobile)

Show Details | Hide Details

Customer Title	Contact	Phone
Arnolds Golf	Andy Arnold	914-976-9921
Athens Golf and Country	Larry French	706-786-7765
Atlanta Civic Golf Center	Julie Black	404-378-0912
Atlantic City Golf and Country	Harold Jones	609-550-9823
Columbus Golf and Country	Michael Morris	614-695-9324
Dusty Road Golf Course	Mark Leigh	419-550-9853
Fox Run Golf Course	Mark Morrow	802-582-1232
Address 20 Crowley St		
City and State Burlington, VT		
Zip Code 05401		
Gallop's Department Store	Arnold Gallop	609-455-7899
Green Meadows Golf Course	Dave Gallop	218-333-9876
Green Oaks Golf Course	Wendy Wase	408-298-8693
Greg Nettle's Golf	Greg Nettle	314-789-6633
Las Vegas Golf Course	Mark Wells	702-770-9871
Long Bow Golf and Country	Tan Williams	303-559-7765
Lookout Point Golf and Country	Fred Foster	520-219-8977
Miami Beach Golf	Louise White	305-555-1212

[Add more rows](#)

Introduction to the Data View control ...

localhost/Atcc/85XP/

SAME Data View control enabled in mobile application

Top **Scrolled to Bottom**

Customers By Name View

- Show Details Do not work
- Hide Details work

Arnolds Golf

Address 123 Main
City and State White Plains, NY
Zip Code 12345

Andy Arnold
914-976-9921

Athens Golf and Country

Address 123 Main
City and State Athens, GA
Zip Code 12345

Larry French
706-786-7765

Atlanta Civic Golf Center

Address 123 Main

Customers By Name View

Zip Code 80222
Tan Williams
303-559-7765

Lookout Point Golf and Country

Address 2727 West Club Drive
City and State Tucson, AZ
Zip Code 85742

Fred Foster
520-219-8977

Miami Beach Golf

Address 1 Fisher Island Dr
City and State Miami Beach, FL
Zip Code 33109

Louise White
305-555-1212

Add more rows

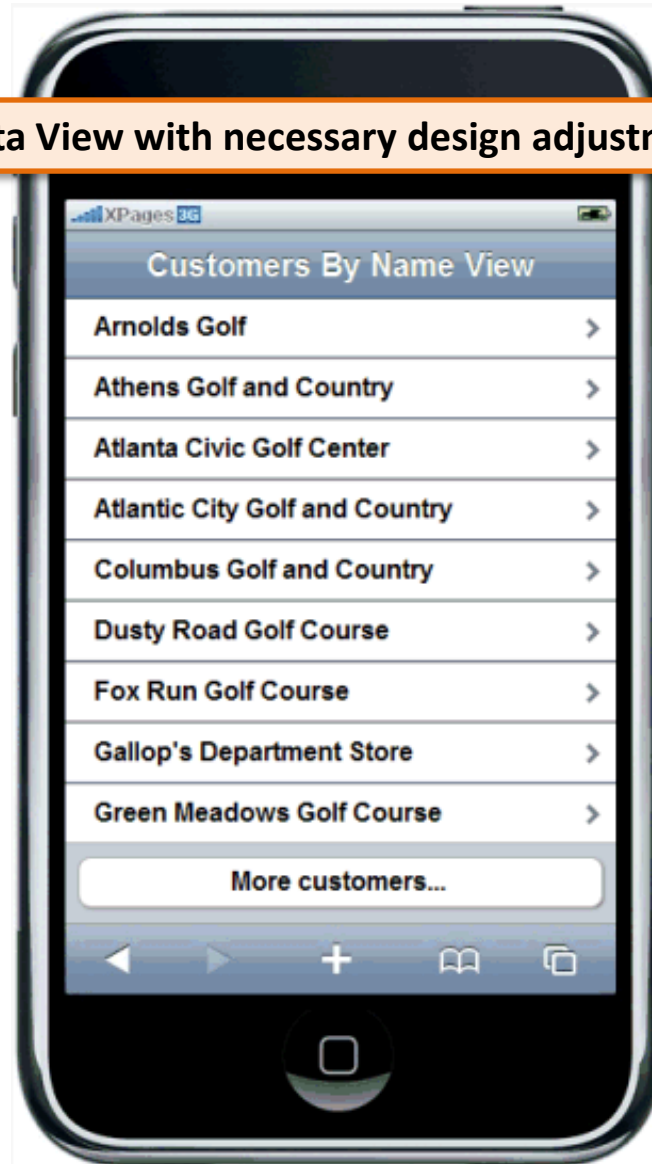
Demo: DemoDataView_nonMobile

Demo: mobileDemoDataView_Details



Introduction to the Data View control

Data View with necessary design adjustments



Procedure: Displaying a Domino View on a Mobile Page

1. Add data View control to XPage.
2. Set data source properties.
3. Set **rows** property.
4. Add viewSummaryColumn:
 - i. Set **columnName** property.

The screenshot displays the IBM Domino Designer interface. The top pane shows the XPage source code for a data view. The code defines a data view with 9 rows and includes a summary column for the 'Customer' field.

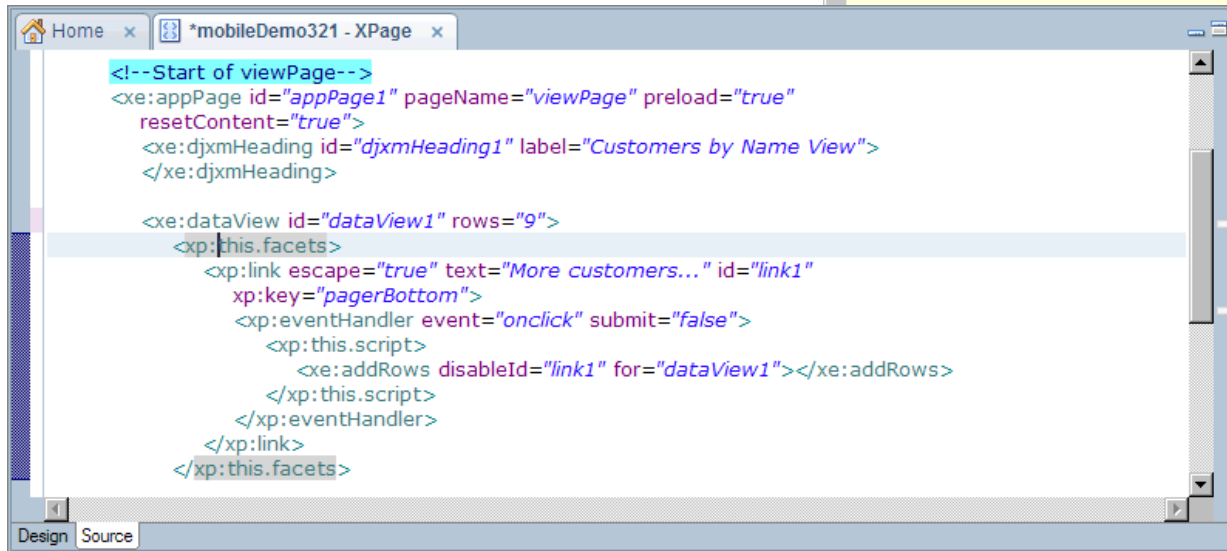
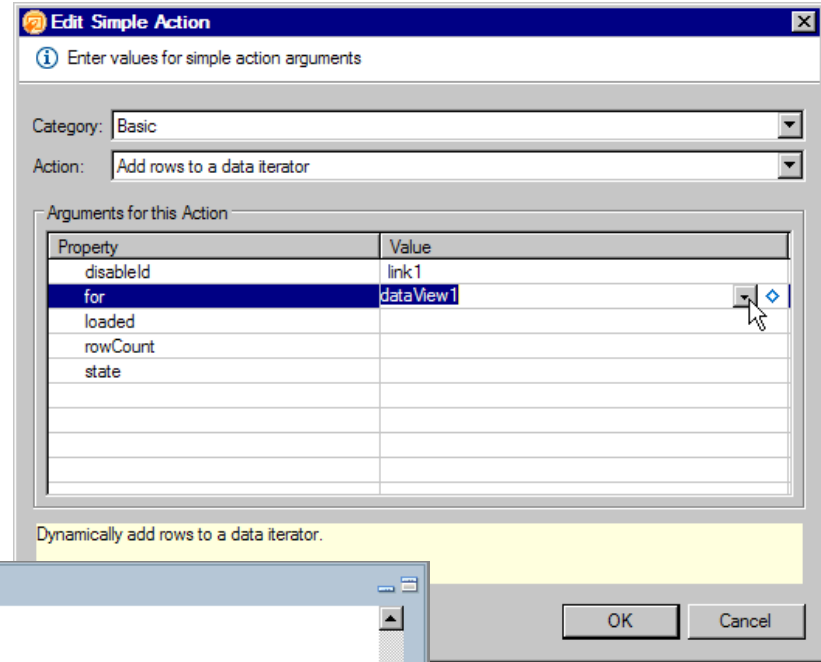
```
<xe:dataView id="dataView1" rows="9">
  <xe:this.data>
    <xp:dominoView var="view1" viewName="CustomersByNameView"
      databaseName="t:\cc\85XP\XP85MOBL\85XMBcst.nsf">
    </xp:dominoView>
  </xe:this.data>
  <xe:this.summaryColumn>
    <xe:viewSummaryColumn columnName="Customer"></xe:viewSummaryColumn>
  </xe:this.summaryColumn>
</xe:dataView>
```

The bottom pane shows the Properties window for the selected data view. The 'summaryColumn' property is expanded, and the 'columnName' property is set to 'Customer'.

Property	Value
basics	
data	
format	
categoryColumn	
collapsibleCategory	
collapsibleDetail	
collapsibleRows	
columnTitles	
disableHideRow	
extraColumns	
iconColumn	
multiColumnCount	
showCheckbox	
showHeaderCheckbox	
showItemsFlat	
summaryColumn	xe:viewSummaryColumn
columnName	Customer
columnTitle	
contentType	
converter	
headerStyle	
headerStyleClass	
href	
loaded	
style	
styleClass	
value	
styling	

Procedure: Add a “Show more rows” Button

1. Drop a Link control to editable area next to pagerBottom component.
 - i. Provide a ‘Label’ value.
2. Add CSJS simple action for the link’s onclick event.
 - i. Choose ‘Add rows for data iterator’ action.
 - ii. Set `for` property to the data view id.
 - iii. Set `disabled` property to link control’s id.



Activity: Display a view

To do the Activity:

1. Edit the **mobile_Activity2** XPage.
2. Follow the comments in the source code.

Completed Activity is: **mobile_Activity2_Completed**

Procedure: Displaying a Domino Document on a Mobile Page ...

1. Add Mobile Page control to XPage.
 - i. Set `pageName` and `resetContent` properties.
2. Add Panel inside mobile page.
 - i. Add Domino Document data source.
3. Provide navigation back to “view” page.

The screenshot displays the IBM Notes Designer interface. The top pane shows the XPage source code with the following XML structure:

```
<!--End of viewPage-->
<!--Start of documentPage-->
<xe:appPage id="appPage2" pageName="documentPage" resetContent="true">
  <xp:panel>
    <xp:this.data>
      <xp:dominoDocument var="document1"
        databaseName="tlcc\85XP\XP85MOBL\85XMBcst.nsf"
        formName="CustomerForm">
      </xp:dominoDocument>
    </xp:this.data>
  </xp:panel>
</xe:appPage>
<!--End of documentPage-->
```

The bottom pane shows the Properties view for the selected `xp:dominoDocument` control. The "Data sources" list contains `document1`. The "Data Source: Domino Document" configuration is as follows:

- Application: Current (tlcc\85XP\XP85MOBL\85XMBwrk.nsf) / Other (5XP\XP85MOBL\85XMBcst.nsf)
- Form: CustomerForm
- Data source name: document1
- Default action: Create document
- Parent ID: (for responses only)
- Run form validation:

A blue box highlights the XML code and the configuration dialog, with an arrow pointing from the dialog to the code.

Procedure: Displaying a Domino Document on a Mobile Page

1. Add Mobile Page control to XPage.
 - i. Set `pageName` and `resetContent` properties.
2. Add Panel inside mobile page.
 - i. Add Domino Document data source.
3. Provide navigation back to “view” page.
4. For “view” page, specify page to open when document is selected.
5. Set `openDocsReadOnly` property for Data View control.

The screenshot displays the IBM Design View interface for an XPage. The top pane shows the source code for a mobile page, with the following XML snippets highlighted:

```
<!--Start of viewPage-->  
<xe:appPage id="appPage1" pageName="viewPage" preload="true"  
  resetContent="true">  
  <xe:djxmHeading id="djxmHeading1" label="Customers by Name View">  
  </xe:djxmHeading>  
  <xe:dataView id="dataView1" rows="9"  
    pageName="#documentPage" openDocAsReadOnly="true">  
  <xp:this.facets>  
    <xe:pagerAddRows id="pagerAddRows1"  
      xp:key="pagerBottom" text="More customers...">  
    </xe:pagerAddRows>  
  </xp:this.facets>  
</xe:dataView>  
</xe:appPage>
```

The bottom pane shows the Properties window for the selected **Data View** control. The **openDocAsReadOnly** property is set to `true`, and the **rows** property is set to `9`.

Property	Value
basics	
attrs	
binding	
detailsOnClient	
expandedDetail	
id	dataView1
loaded	
pageName	#documentPage
partialExecute	
partialRefresh	
refreshId	
removeRepeat	
rendered	
rendererType	
repeatControls	
data	
data	xp:dominoView
first	
indexVar	
openDocAsReadOnly	true
rows	9
value	
var	
format	
styling	

Activity: Display a view

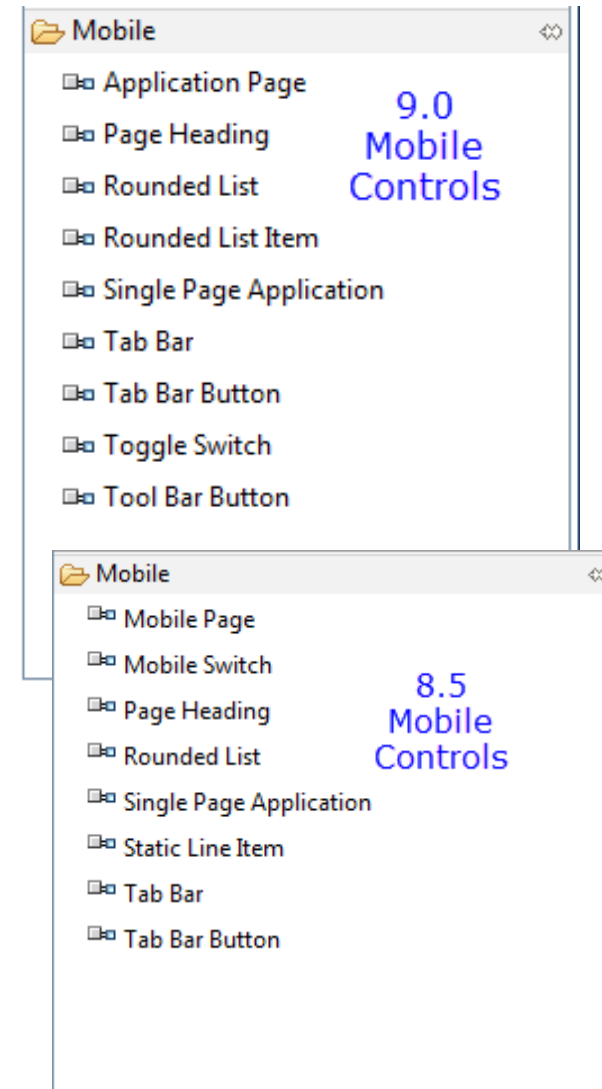
To do the Activity:

1. Edit the **mobile_Activity3** XPage.
2. Follow the comments in the source code

Completed Activity is: **mobile_Activity3_Completed**

IBM Notes and Domino 9 Enhancements

- Mobile Controls renamed in Controls Palette
- New Control – Toolbar Button
- Dojo 1.8
 - Can use new Dojo mobile controls
- Rounded List Item must be In Rounded List
 - Will not work on its own
- CKEditor (rich text) has some support
 - Still very buggy in mobile



Mobile Security

- Same as any Domino Application
 - ACL
 - Authenticated user
- userBean provides user information (not just for mobile!)
 - Example - userBean.commonName
 - Note – does not inspect authors fields



Returns a String

commonName
distinguishedName
abbreviatedName
canonicalName
effectiveUserName
accessLevelAsString

Returns a Number

accessLevel

Returns an Array of Strings


accessRoles

Returns a Boolean

canCreateDocs
canDeleteDocs
canCreatePrivAgents
canCreatePrivFoldersViews
canCreateSharedFoldersViews
canCreateScriptAgents
canReadPublicDocs
canWritePublicDocs
canReplicateCopyDocs

Editing and Deleting Considerations

- Use buttons in the Tab Bar to switch to edit mode or delete
 - Hide as needed using userBean and examine authors fields if needed
- Delete with the Delete simple action followed by move to page
- Server-side Validation works best
- Controls to Avoid for Creating/Editing (do not render correctly)
 - Date Time Pickers
 - Rich Text Editor (some support in Notes and Domino 9)
- Use the Multi-Line Edit Box instead of Rich Text

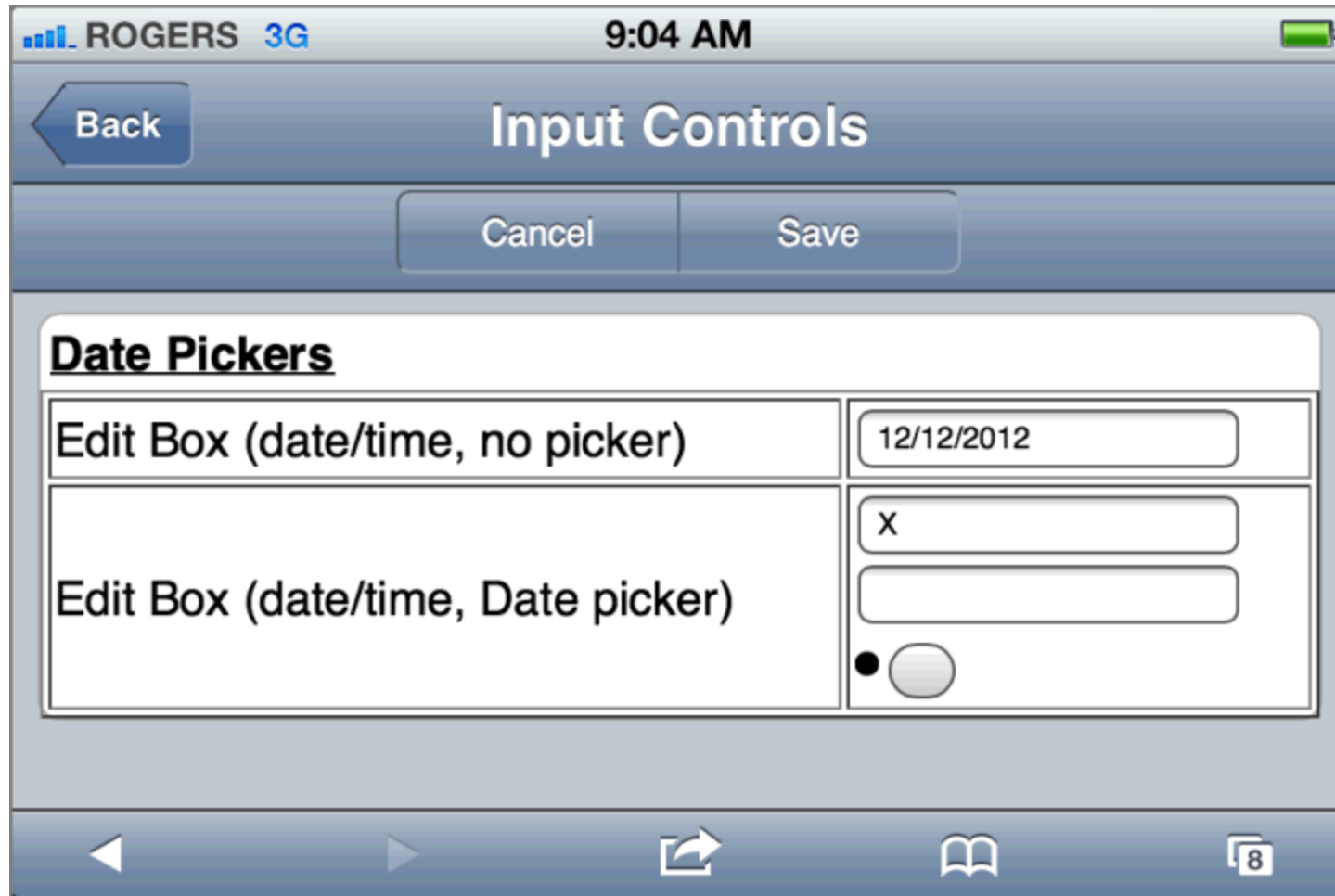


The screenshot shows a mobile application interface for editing customer information. The status bar at the top indicates AT&T LTE, 6:28 PM, and 92% battery. The browser address bar shows www.netexperts.com/tlc and a search field. The page title is "Customer Info". Below the title are "Cancel" and "Save" buttons. The form contains the following fields:

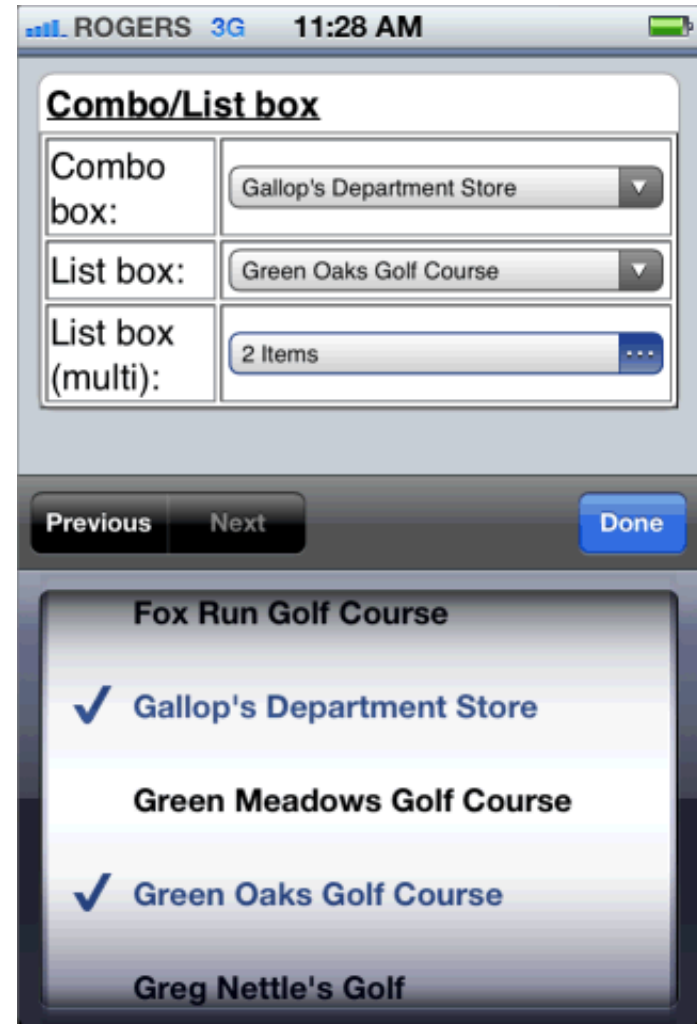
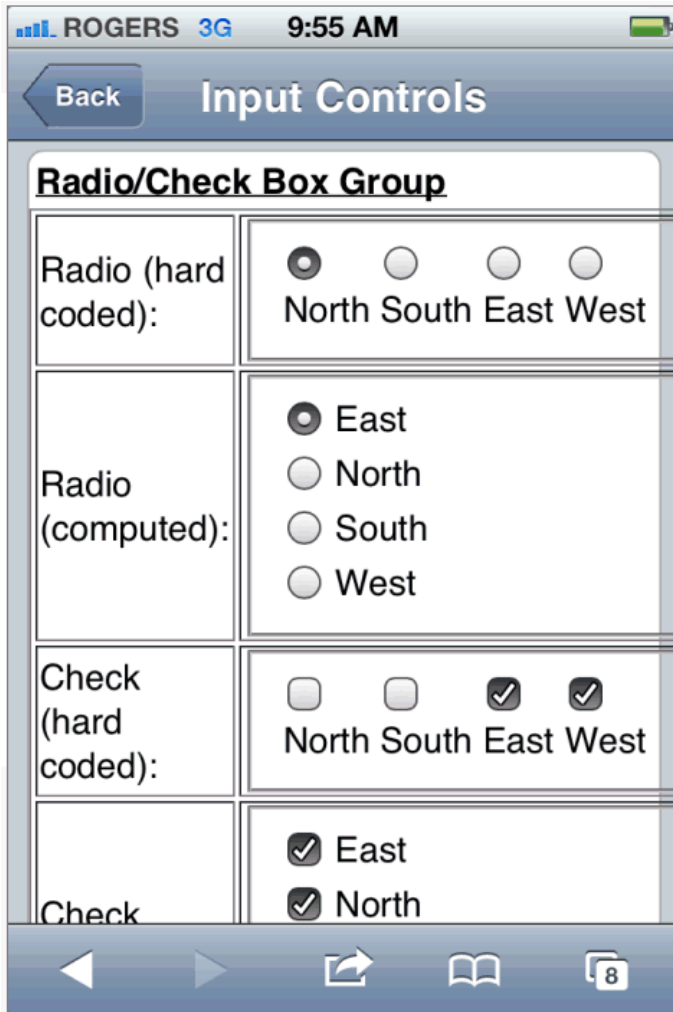
Customer: *	Atlantic City Golf And Co
Contact: *	Harold Jones
City: *	Atlantic City
State:	New Jersey
Phone: *	609-555-9822
Type: *	Pro Shop
Region: *	East
Products:	4 Items

At the bottom of the screen, there is a navigation bar with icons for back, forward, home, and search.

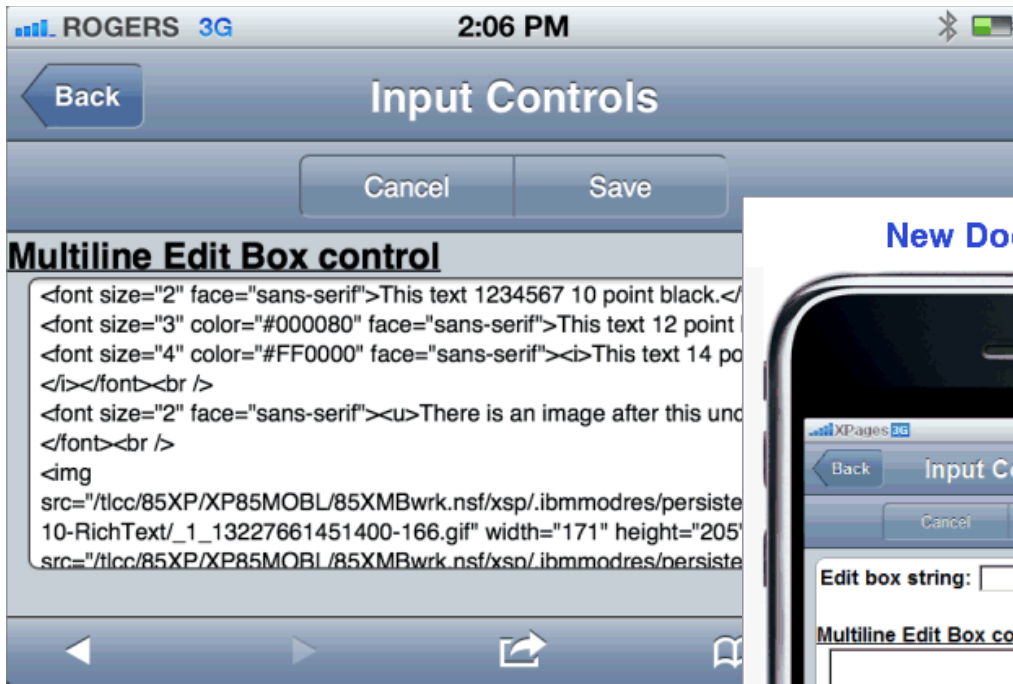
Date Time Picker – Pass on the Picker Pop-up!



Radio Button Group and Check Box Group – use a Combo/List box instead



DO NOT use Rich Text control - use Multiline Edit Box instead



New Document

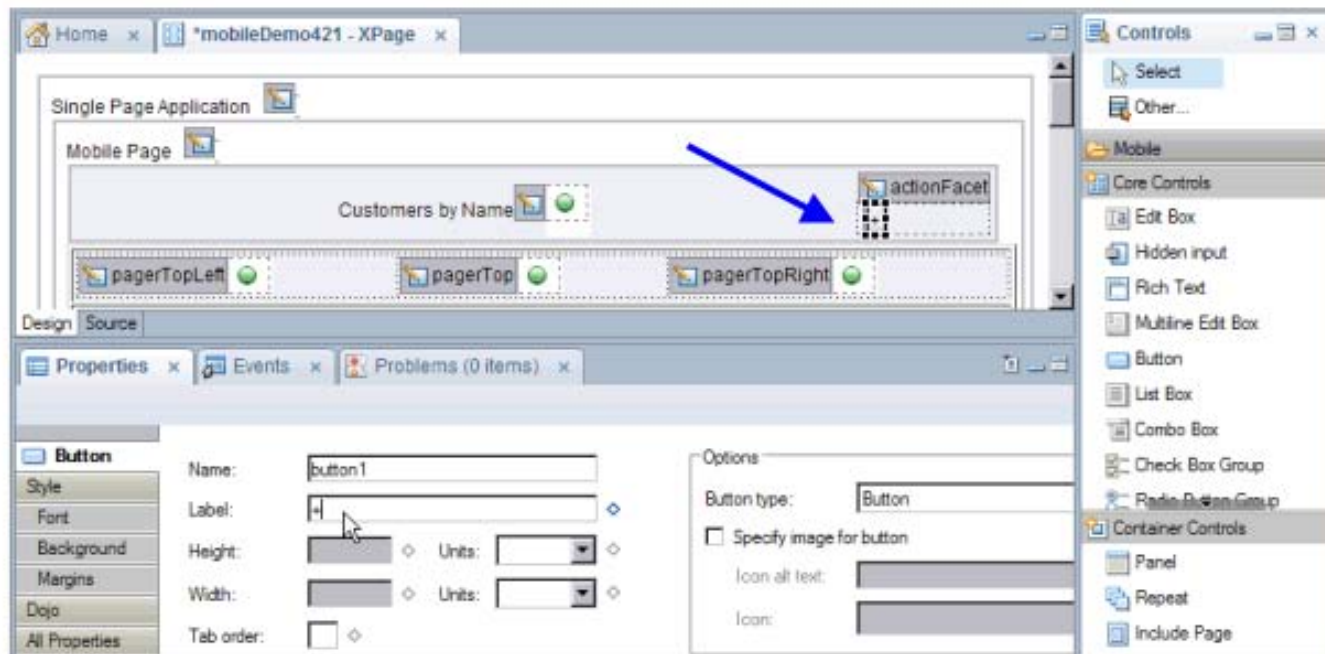


Existing Document



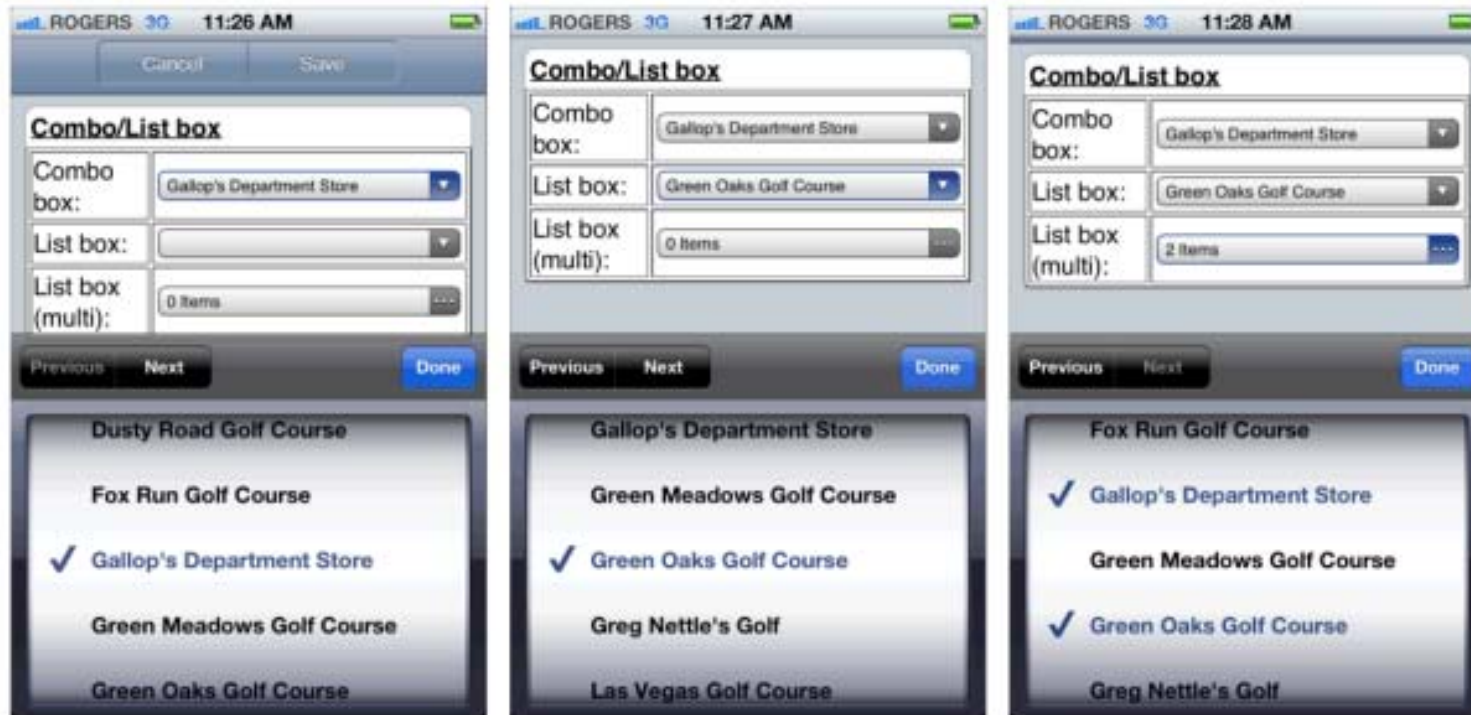
Adding a “Create New” or “+” button

- Use a button in the Heading , label is “+”
- Show only when user can create documents (userBean.canCreateDocs)
- Switch to mobile “document” page



Combo Box and List Box

- Works the same for single choice
- List Box for multiple choices



HTML 5 and other mobile features

- Use a Link control with <tel:> in front of the phone number to allow user to call by clicking (show in read mode, hide in edit mode)
 - `609-555-9822`
 - “sms” for text messaging, “mailto” for emails
- **HTML 5 Input Types**
 - iOS devices, Some work on Android
 - Examples below of tel, number, and range
 - Set the type in All Properties for the Edit Box control



Time for YOUR Questions!

