

# Zero to Hero

Mobile development in 2 weeks

Bob Brennan – IMS

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# Agenda

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- 2 Business Cases with 2 Week Timeframe
- How did we do it?
- 2 Development Approaches
- App Overview
- Lessons Learnt
- Questions

# Two business Cases

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- IMS install base requiring intranet based mobile apps –
  - Extend existing character app
  - 2 weeks to get demo for user conference
  - Low User expectation
- Applied Logic – Bolt on to existing REST service for mobile sales force outside firewall
  - iPad based
  - High user expectations
  - Competitive threat

# How did we do it?

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- Early adopters
- Formed a combined Applied Logic and IMS Team
- Engaged with Progress Mobile Team
- Sit in at PSC Corporate Center Bedford
- Heads down dedication for two weeks

# Acknowledgements

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- Shelley Chase
- Sandy Caiado
- Edsel Garcia
- Ricardo Perdigao
- Mike Jacobs
- Bob Palumbo

# Two Development Approaches

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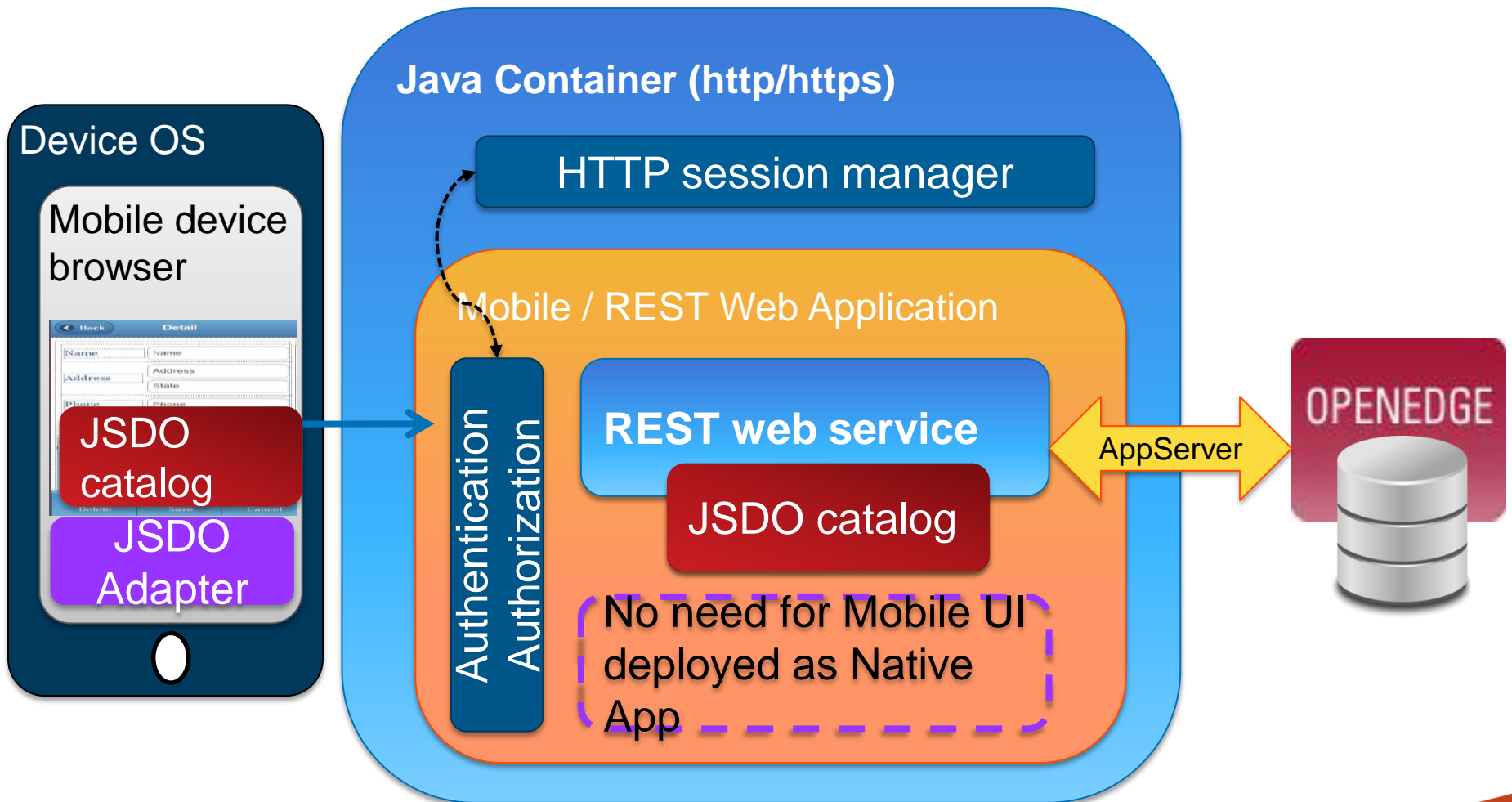
- IMS: OE mobile Tomcat REST adapter in 11.2 box
- ALS: Existing Webspeed based REST services

# Runtime Architectural Elements

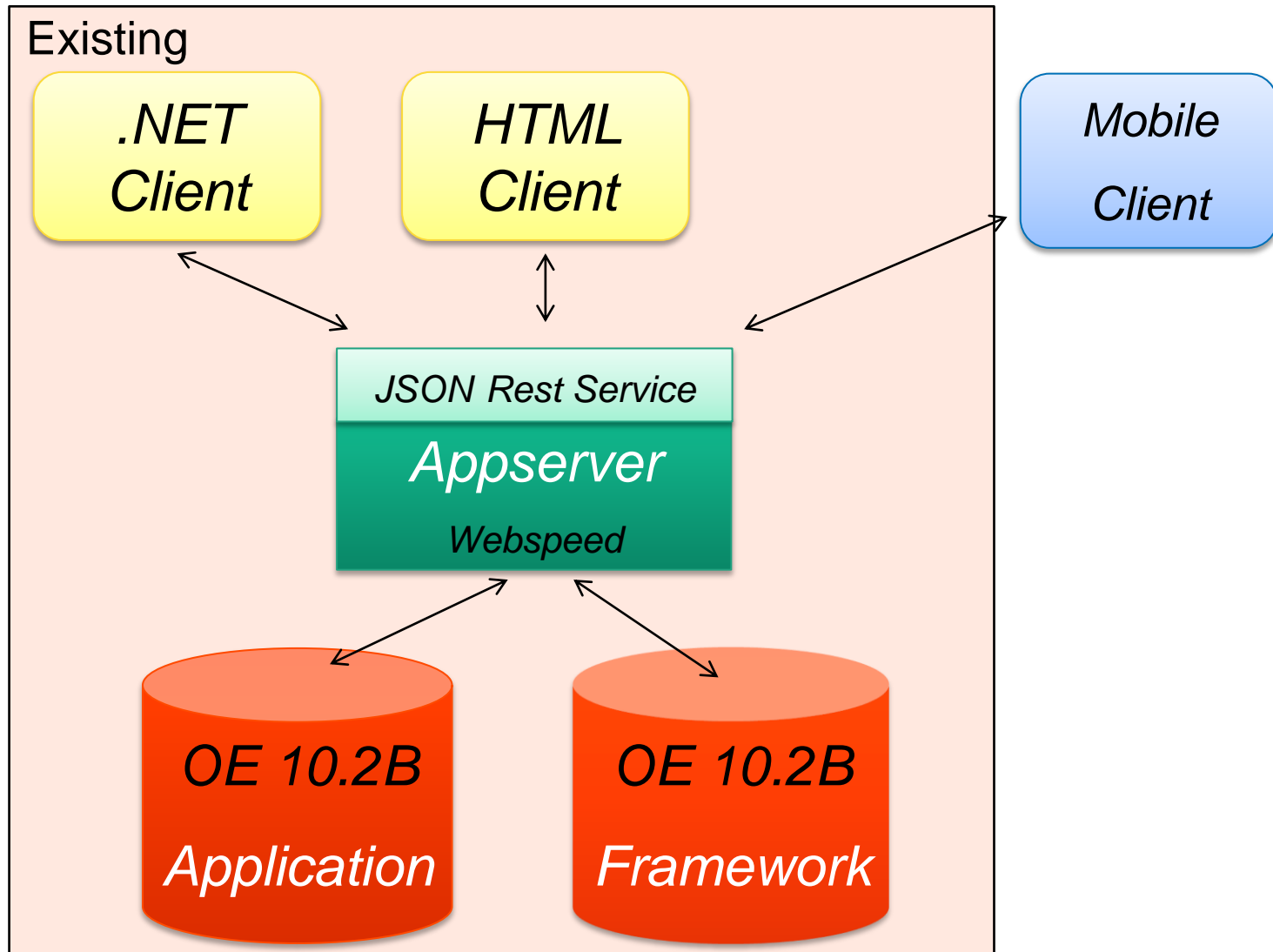
Mobile Web App

Mobile Web App including JSDO

Native Application



# Applied Logic Approach





# App Overview

iPad Quoting Tool



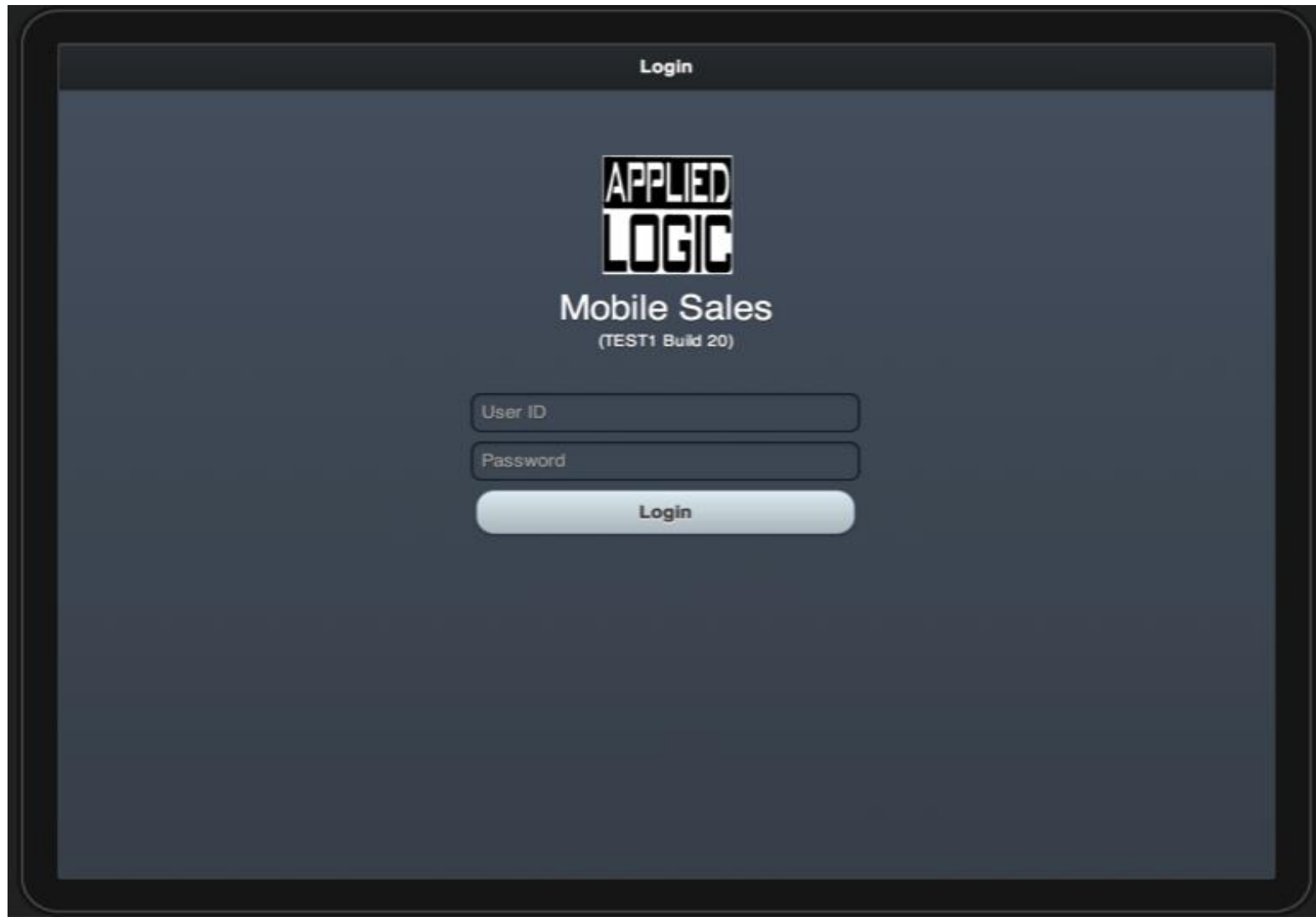
# Demo App Overview

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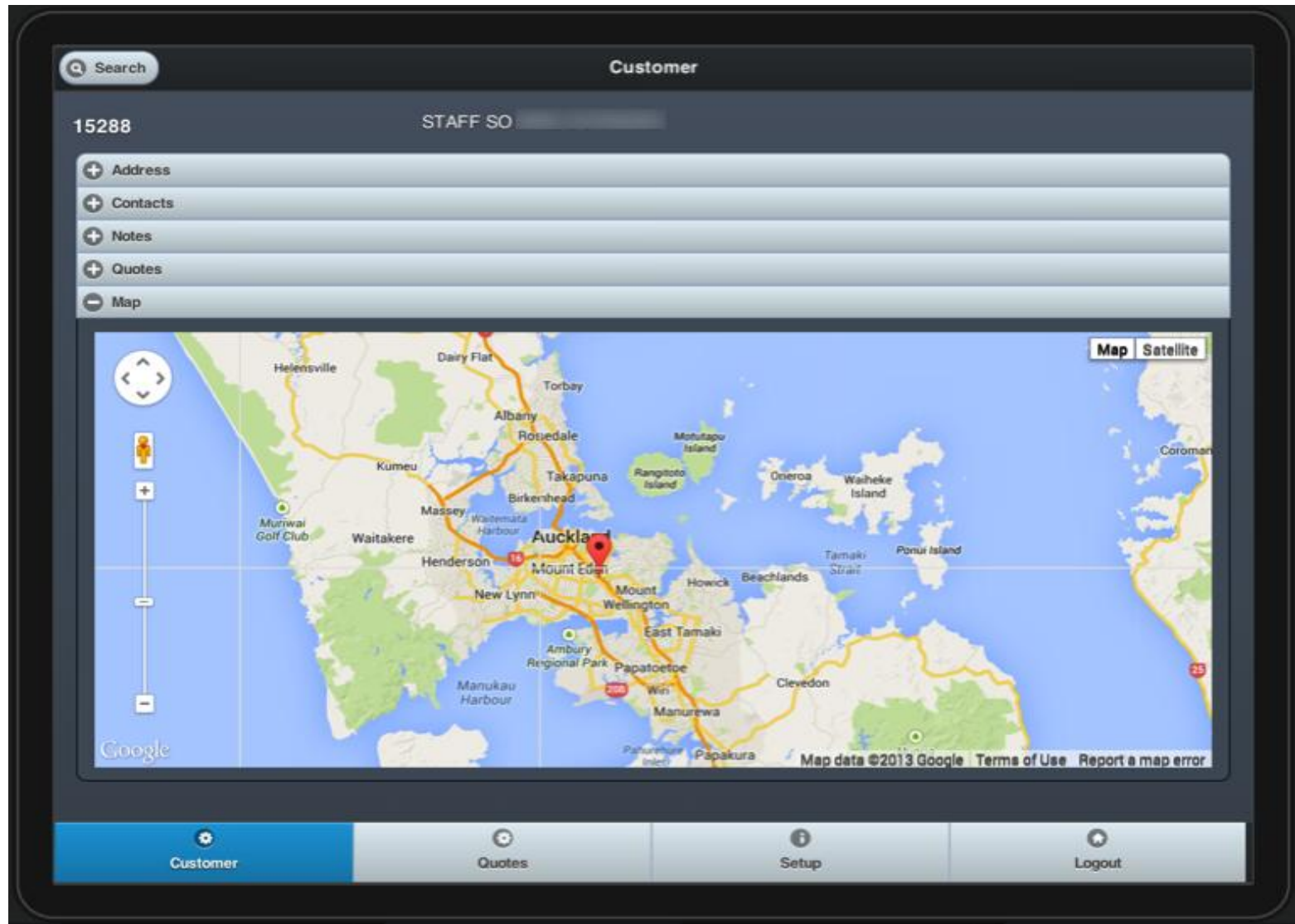
- iPad Sales Competitive Quotation tool
- Interface with existing ERP
- 10.2B Progress – upgrade to 11.2 not possible in timeframe.
- PDF quotation that can be emailed from iPad
- Printing on Server and iPad
- Update of existing pricing
- Security

# Mobile Sales

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# Customer View



# Customer View

The screenshot displays the 'Customer View' interface. At the top, there is a search bar and the title 'Customer'. Below this, the customer ID '15288' and the name 'STAFF SO' are visible. A list of expandable sections includes Address, Contacts, Notes, and Quotes. A search bar is positioned above a table of sales transactions. The table contains four rows of data, each representing a sales transaction with a unique ID, a quantity, a date, and a description. The bottom navigation bar features four icons: Customer (selected), Quotes, Setup, and Logout.

ID	Quantity	Date	Description	Status
890177	10	14/05/2002	AK cash sales	X
890178	10	14/05/2002	AK cash sales	N
890030	10	13/07/2000	AK cash sales	N
890031	10	13/07/2000	AK cash sales	N

# Quotation

Search Quote (3) Save

Customer: 15288 Quotation 890031

STAFF SO  
1ST FLOOR 1 MAREWA RD  
GREENLANE  
AUCKLAND  
Ph: 095762628 Date: 13/07/00

Sales Rep: 190 AK cash sales Branch: 10 Status: N Expiry: 20/07/00

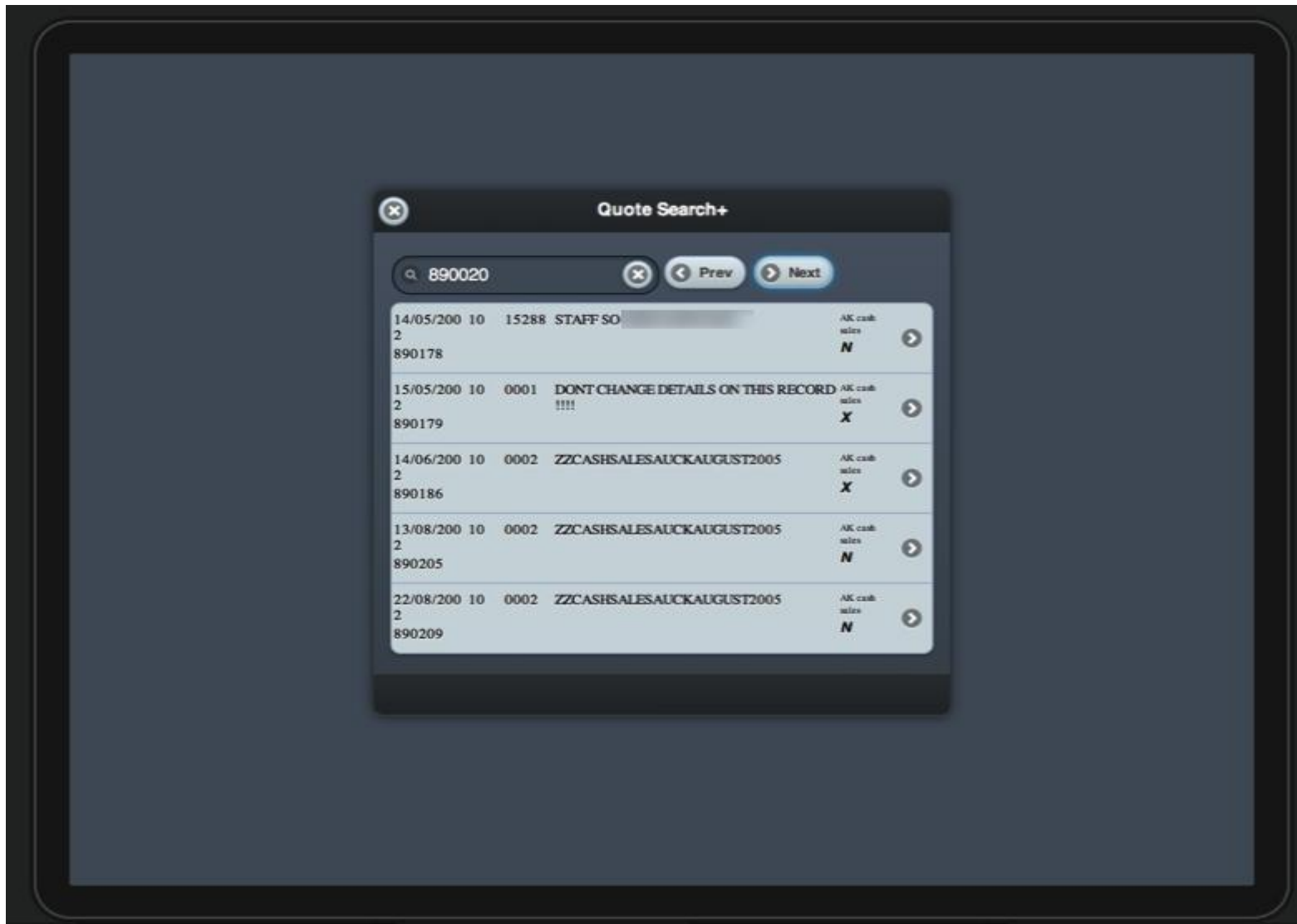
Comment:

+ Items Print Attachments

Item	Description	Cost	List/Cust	Quote	UOM	GP%	
81558 1	ZZSTOCKSEAFOODWHITEWINGS Comments		0 0	27.346	TIN	-13.1	✓ ✕ i >
32061 2	ZZPATEPLUMBRANDYHAUTECUISI Comments		0 0	10.538	EA	9.1	✓ ✕ i >

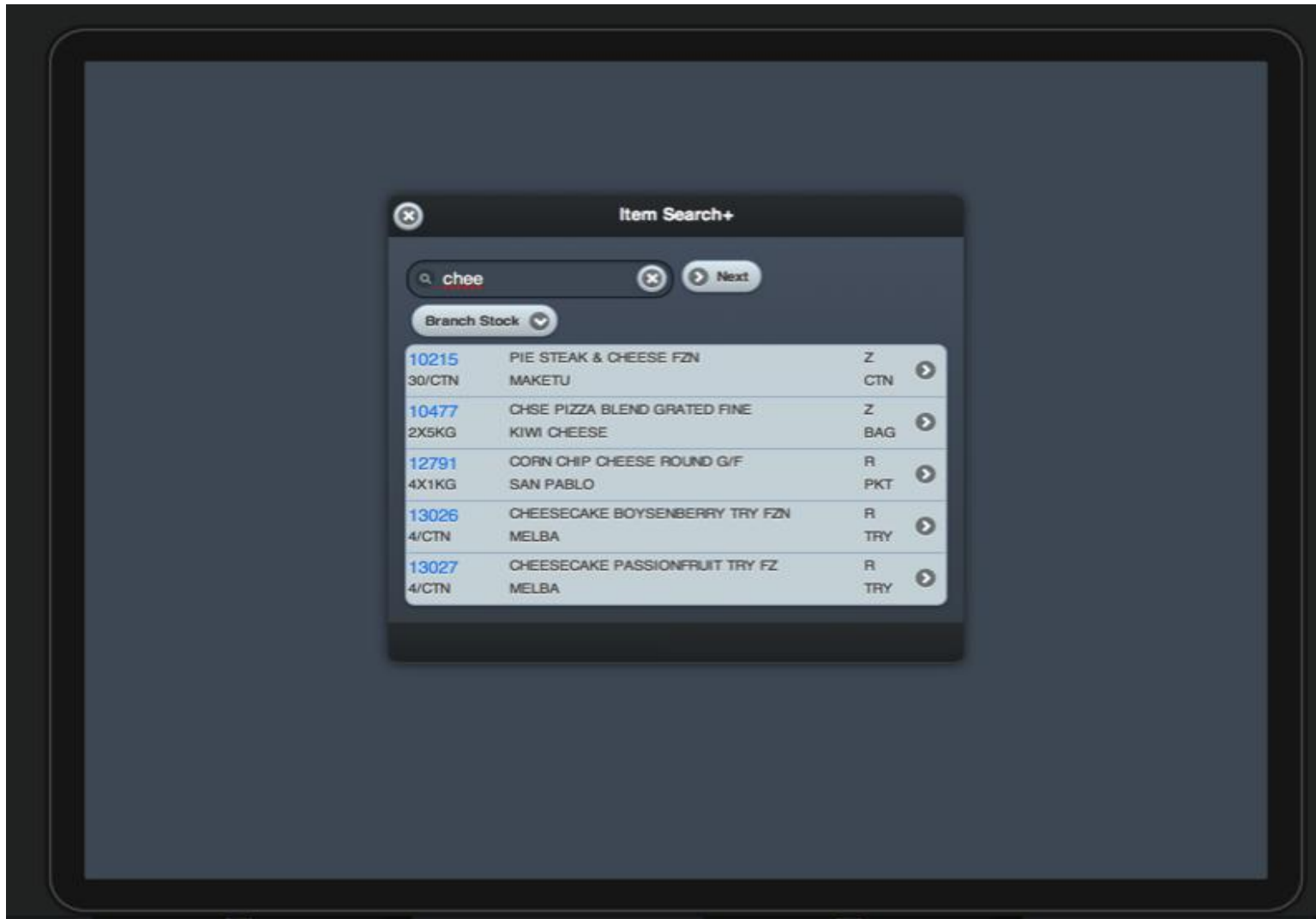
Customer Quotes Setup Logout

# Quote Search Popup



# Item Search Popup

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# App Overview

Shop Floor



# IMS: Opening Screen

Down Time Rej Entry

Shift Reporting >

Customer Inquiry >

Inventory >

More Good Stuff >

Item 5 >

Item 6 >

Item 7 >

Item 8 >

Item 9 >

Item 10 >

+ Selected Station: 1-11

+ Selected Job: Select Job...

Rejects: SPLAY

Down Time: MOLD CHANGE

Reject Qty: Enter Rej Qty

Qty Mfg: Enter Mfg Qty

Down Time Hrs: Enter DT HH.DD

Run Hrs: Enter Run HH.DD

Update Shift Report

# IMS: Collapse set example

Down Time Rej Entry

Shift Reporting >

Customer Inquiry >

Inventory >

More Good Stuff >

Item 5 >

Item 6 >

Item 7 >

Item 8 >

Item 9 >

Item 10 >

+ Selected Station: 1-11

- Selected Job: Select Job...

1287	F-PE3001-W0	>
1688	f-ge4516-b0	>

Rejects	Down Time
SPLAY	MOLD CHANGE

Reject Qty: Enter Rej Qty

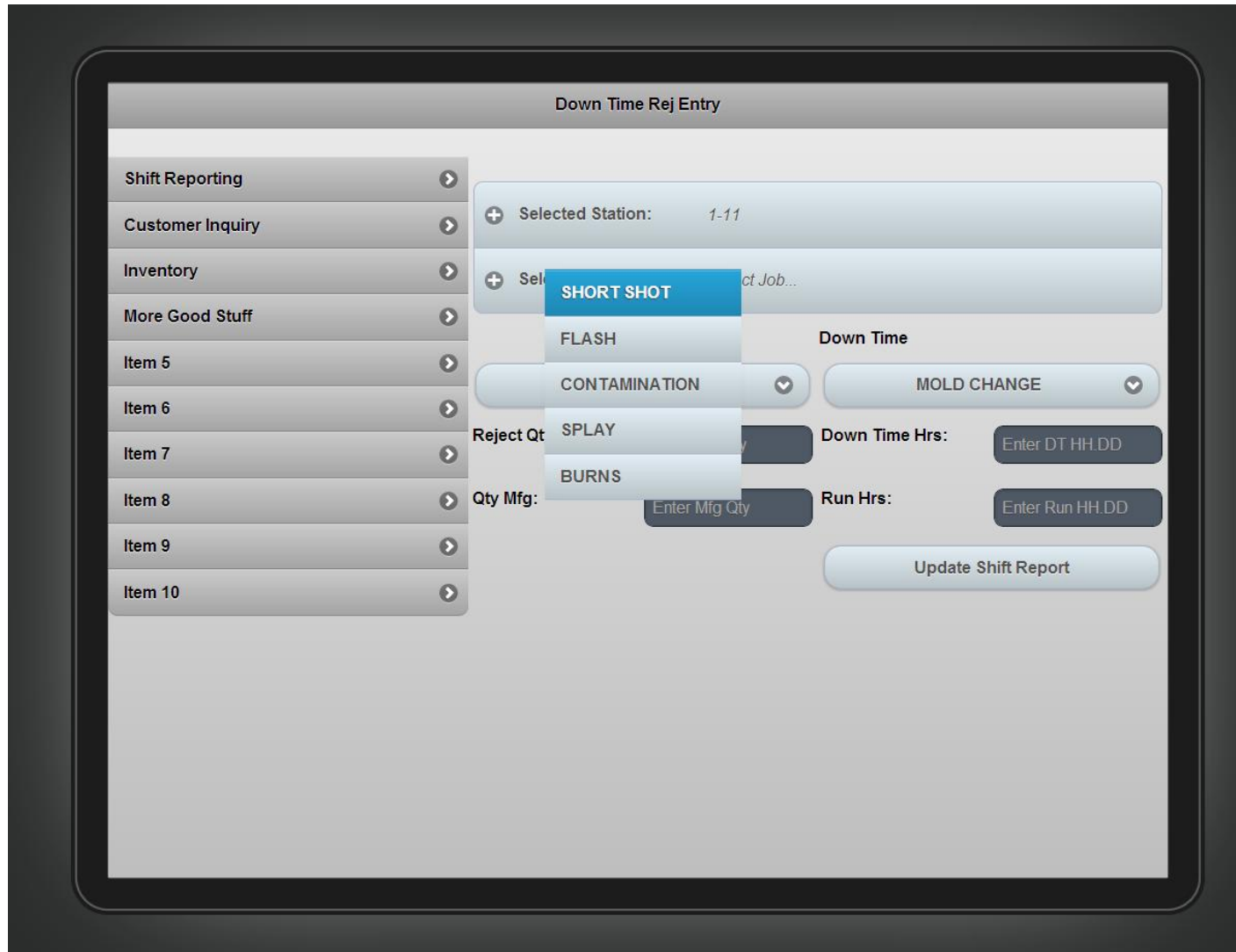
Down Time Hrs: Enter DT HH.DD

Qty Mfg: Enter Mfg Qty

Run Hrs: Enter Run HH.DD

Update Shift Report

# IMS:Selector example

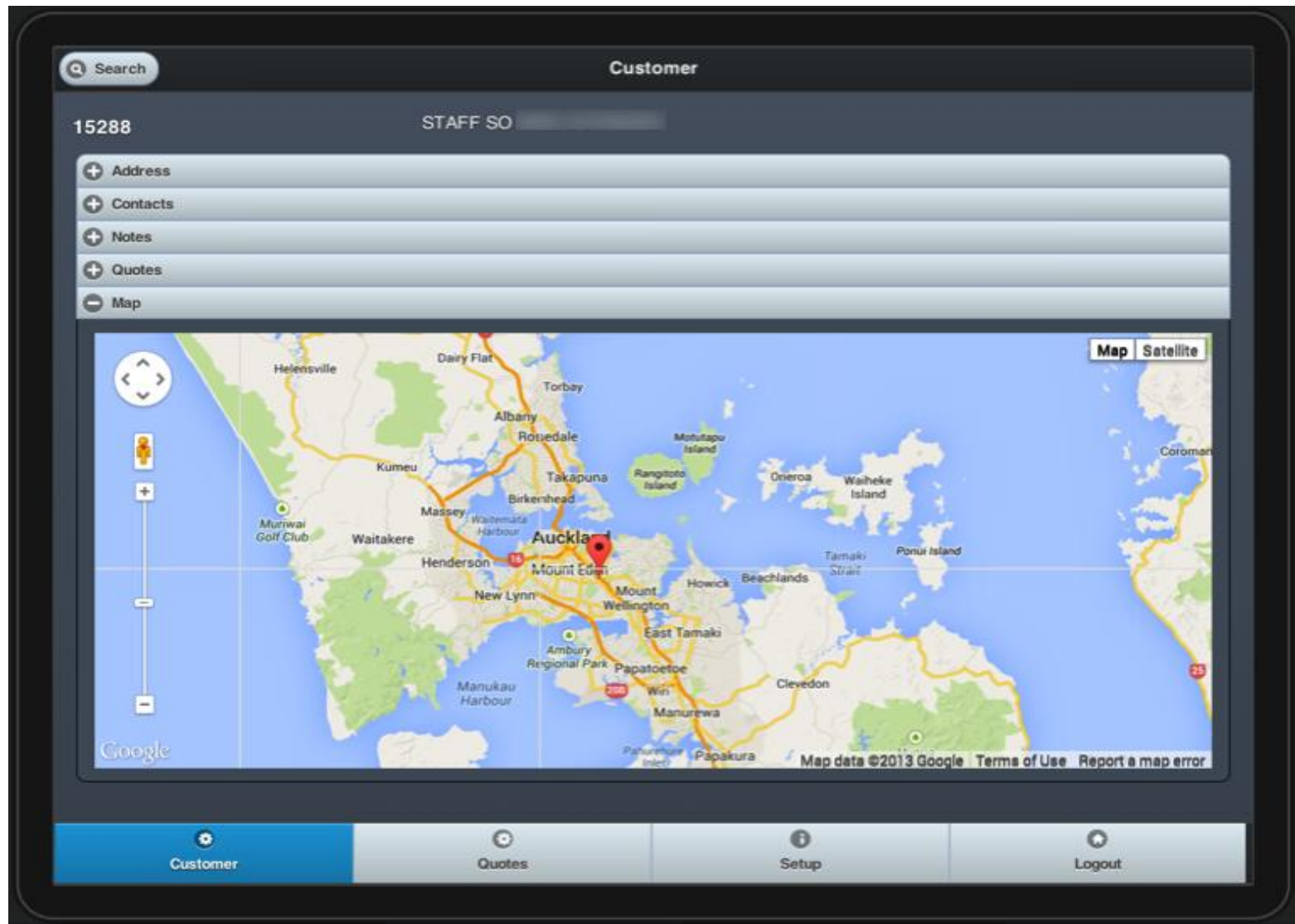


# Rest Services – Two Approaches

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- Progress OE11
  - Hard code one OE procedure = one REST service
  - Deploy Service to Tomcat
  - Program Frontend jQuery Mobile to call a specific service
  
- Generic Dynamic REST service
  - Single point of entry Service with resource parameter
  - Dynamic service that provides resource
  - Does not require redeployment if service changes

# Customer View – Rest Services example



# Rest Services

CustomerMaintPage\_clone\_3

Start

iPadStart

SetupPage

QuotePage\_clone\_3

**Design**

**Add datasource**

**Data**

Name	Type	Service
<input type="text" value="CustomerUpdate"/>	Service	CustomerUpdateREST
<input type="text" value="CustomerNoteSearch"/>	Service	CustomerNoteSearchREST
<input type="text" value="CustomerNoteUpdate"/>	Service	CustomerNoteUpdateREST
<input type="text" value="CustomerFetchCust"/>	Service	CustomerFetchREST
<input type="text" value="CustomerQuoteSearch"/>	Service	QuoteSearchREST
<input type="text" value="CustomerContactsSearch"/>	Service	CustomerContactSearchREST
<input type="text" value="CustomerContactsUpdate"/>	Service	CustomerContactUpdateREST

# REST Services UI Mapping

The screenshot displays the Appery.io interface for a project named "MOBILESALLES". The left sidebar shows a project tree with categories like Project, Pages, Poppups, Templates, Themes, CSS, and Services. The main workspace is divided into three panels:

- Design Panel:** Shows the "CustomerFetchREST" service parameters. It includes a "Request" and "Response" section. Under "Data", there are "Records" and "Fields". The "Fields" section lists: ID, ClientReference, CUSTNAME, CUSTCODE, TELEPHONE, ADDRESS1, ADDRESS2, CITY, PROVCODE, and POSTALCODE. There are also "Settings", "Feedback", and "Actions" sections.
- Data Panel:** This panel is currently empty.
- Components Panel:** Shows a tree view of UI components for "CustomerMaintPage\_clone\_3". The components include:
  - mobilebutton\_51
  - mobilegrid\_210 (Visible)
  - CUSTCODE
  - CustName
    - Text: "CUSTNAME" (response) (Visible)
  - customercollapsibleset (Visible)
  - customercollapsibleblock (Visible)
  - CustomercollapsibleblockheaderAddress
  - mobilecollapsibleblockcontent\_218
    - CustomerDetails (Visible)
      - CustAddress
        - Text: "ADDRESS1" (response) (Visible)
      - CustAddress2
        - Text: "ADDRESS2" (response) (Visible)
      - mobilegrid\_185 (Visible)
        - CustCity
          - Text: "CITY" (response) (Visible)
        - CustState
          - Text: "PROVCODE" (response) (Visible)

Arrows indicate the mapping from the REST service fields to the UI components: ID to mobilegrid\_210, ClientReference to CUSTCODE, CUSTNAME to "CUSTNAME" (response), CUSTCODE to CUSTCODE, TELEPHONE to mobilegrid\_185, ADDRESS1 to "ADDRESS1" (response), ADDRESS2 to "ADDRESS2" (response), CITY to "CITY" (response), PROVCODE to "PROVCODE" (response), and POSTALCODE to mobilegrid\_210.



# Lessons Learnt

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- Native vs. Hybrid
- Skills required
- Design Patterns
- Tools

# Hybrid vs. Native App

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- Hybrid is a compromise
  - If your user expects all the features of a native app DO NOT use a Hybrid!
  - If deployment options trump native experience hybrid is a fit
  - It may not pass Apple Store Certification!
- Examples
  - Popups
  - Navigation and Footer menus
  - Native look and feel – ICONs
- HTML5 & JavaScript

# Skills

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- JavaScript
- JSON
- jQuery
- HTML5
- CSS
- Tomcat
- Appery.IO toolset
- REST Architecture
- OE Architect
- Apple Developer environment
- Server setup including Appservers, Tomcat
- Security Architecture
- UX Design
- OE programming skill assumed

# Design Pattern

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- iPad vs. iPhone vs. Android
- Navigation
- List views
- Popups
- Parent Child
- Forms vs. Updateable Grid
- Printing
- File download

# Design Issues

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- Talking to backend was way more complex than expected
- Displaying data easy – updating data is not
- Developing/setup of backend services is complex

# Tools

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## Appery

- Templates
- Custom Components
- Single Page app vs.. Multi Page app
- Bugs
- State management
- Scrolling
- Error handling
- Data escaping, e.g. textbox
- Event model – on success of REST Service is the way to go!
- Server timeout
- CORS (Cross Origin Resource Sharing)
- Documentation is lacking, forums, HTML5, JQuery sites

# Progress and Related Bits

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- Based on OE11.2 (March 2013) not 11.3 (July 2013)
- Tomcat
  - Deployment & redeployment
  - Security Model – Need reference deployment
  - Integration
- Cross Origin Resource Sharing (CORS)
- Javascript – The Necessary Evil

# Summary

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- Both IMS & ALS demonstrated working apps within 2 weeks
- 90% done but then spent next 2 months completing the other 90% to get to production
- Follow on projects completed in a fraction of the time
- Added significant competitive advantage
- Customers excited and want more
- Competitive threat defeated



# Questions

