

# Application UI Design in a Mobile Device World

Peter Koletzke

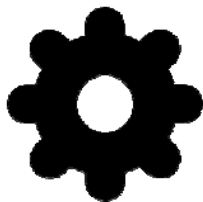
Technical Director &  
Principal Instructor



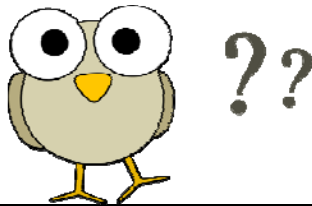
ORACLE  
ACE Director



## Quiz



# HOW DID WE GET HERE?



3

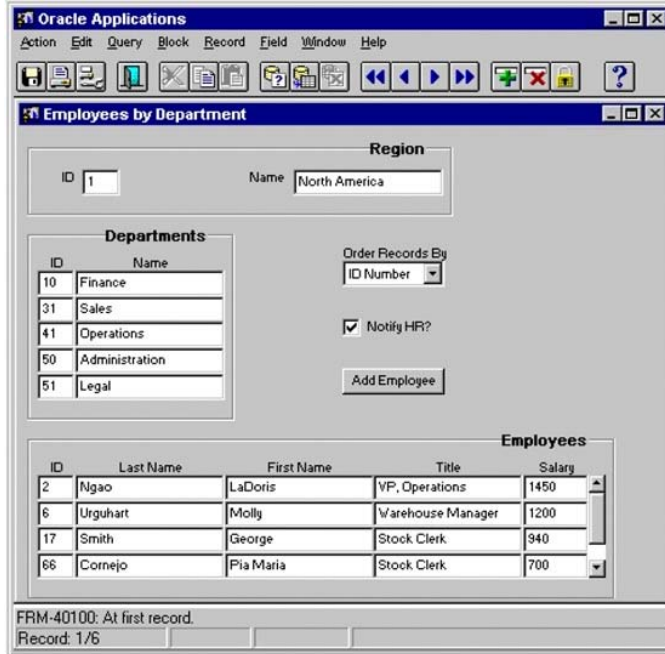
```
MARC - MENU-ASSISTED RESOURCE CONTROL          14:15:42
Action: ▶ (Press SPCFY for Help)
-----
Session◀      Jobs and Tasks◀      System Software◀
TEACH What is MARC?      IE      InfoExec      DMPS Dumps
NDT   News, Date Time  TOOLS  Application Tools  LOG  Logging
BYE   Log Off          UTIL   System Utilities  MEM  Memory Management
CANDE Cande Window     RUN    Run a Task        USERS Usercode/Password
ON    Change Window    START  Start a WFL Job   PS   Printing System
SC    Session Control  JQ     Job Queues        SYS  System Control
APP   AMGRO Apps      JD     Job Display
                                           JC   Job Control
                                           Data Comm◀
IO    I/O Devices      Files◀      MAIL  Mail Window
PROC Processors        SP     Special Programs  SEND  Send Messages
OTHER Other Devices    LIBS   System Libraries  COMS  COMS Displays
CONFIG System Config  FILE   File Management   CC   COMS Control
                                           NET  Networks
                                           DC   DataComm Control

Choice: ▶
```

Char mode "dumb" terminal

IAF, SQL\*Forms to Dev Forms 6.0

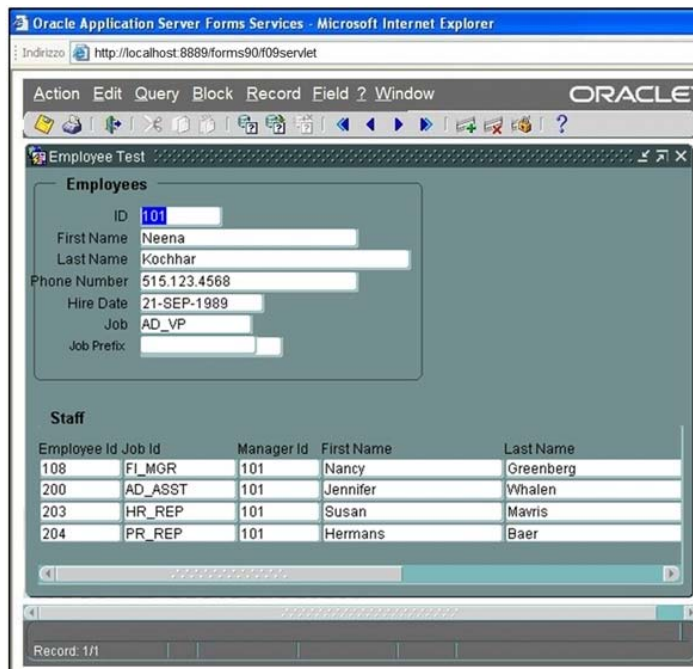
4



Client/ server

SQL\*Forms 4.0 to Forms 6.0

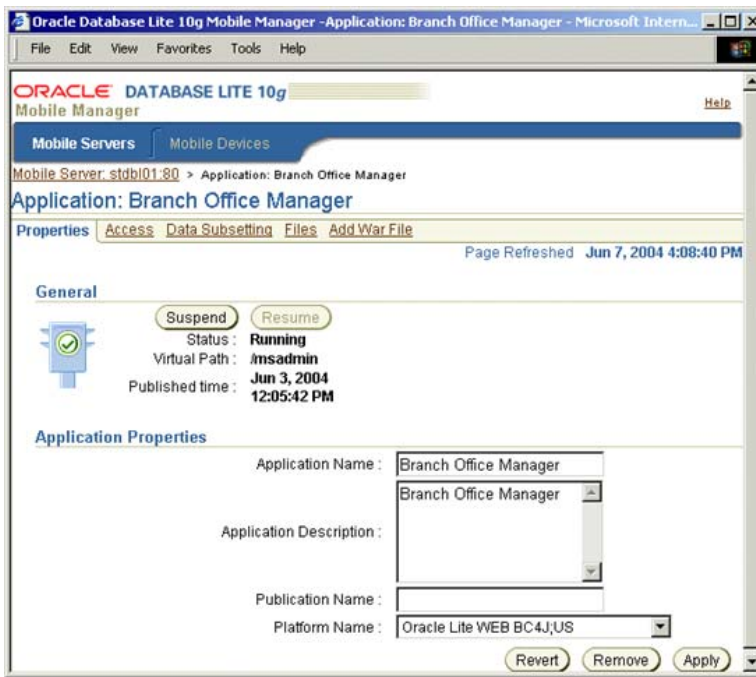
5



Applet in a browser

Forms 6i to 12.2

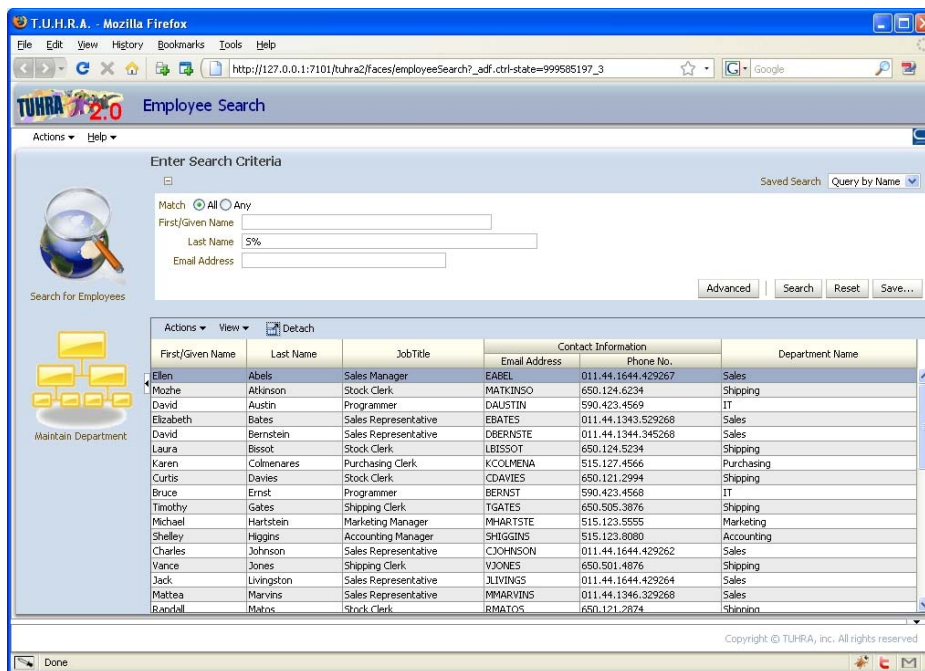
6



Light client (pre-J2EE)

UIX

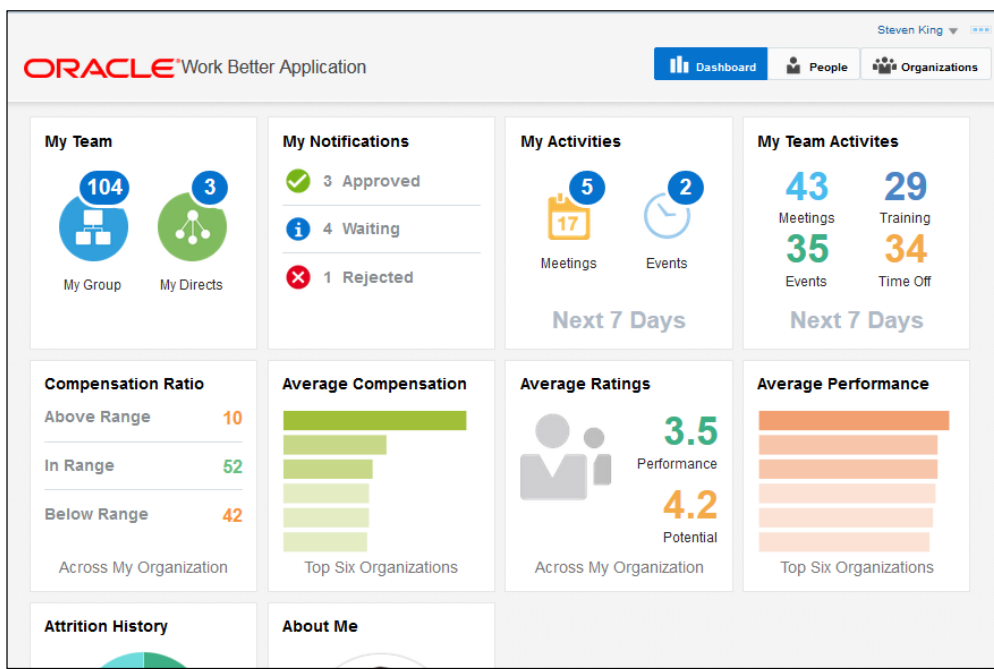
7



Light client (J2EE+) AJAX (Web 2.0)

ADF Faces 10g to 12.2

8



Mobile ("smart" device)

JET, MAX, VBCS, MAF

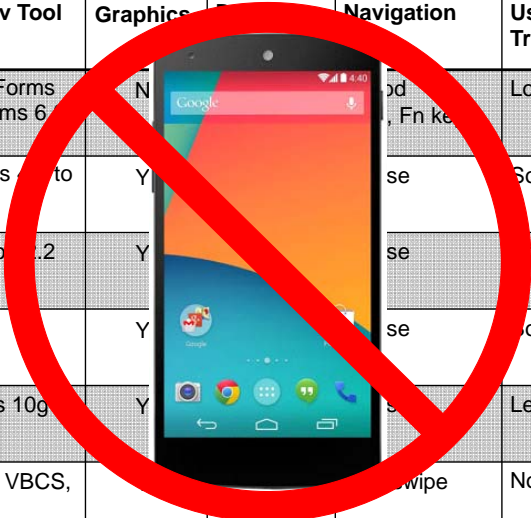
9

## Comparing UI Devices

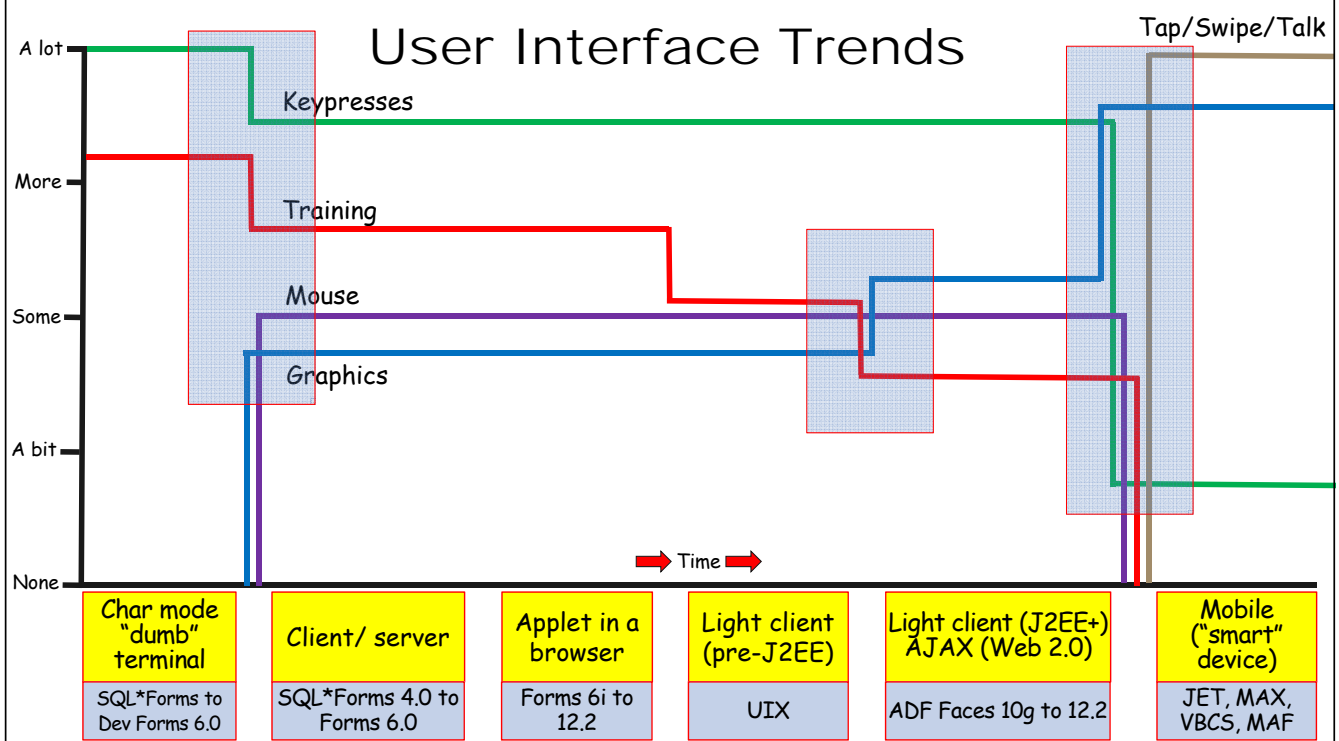
Display Paradigm	Oracle Dev Tool	Graphics	Data Input	Navigation	User Training	Display Software
Character mode "dumb" terminal	IAF, SQL*Forms to Dev Forms 6.0	N	Keybd	Keybd (Tab, Fn keys)	Lots	Terminal software and/or host O/S
Client/server	SQL*Forms 4.0 to Forms 6.0	Y	Keybd, mouse	Mouse	Some	Special runtime and app files
Java applet in a browser	Forms 6i to 12.2	Y	Keybd, mouse	Mouse	Some	Web browser, Java
Light client (not J2EE)	UIX	Y	Keybd, mouse	Mouse	Some	Web browser
Light client (Java EE) with AJAX (Web 2.0)	ADF Faces 10g to 12.2	Y	Keybd, mouse	Mouse	Less	Web browser
Mobile ("smart"phone, tablet, e-reader)	JET, MAX, VBCS, MAF	Y	Keybd, tap, talk	Tap, swipe	None(?)	Mobile O/S (Android, iOS, Win10 tablet)

# Comparing UI Devices

Display Paradigm	Oracle Dev Tool	Graphics	Navigation	User Training	Display Software
Character mode "dumb" terminal	IAF, SQL*Forms to Dev Forms 6.0	N	Keyboard, Fn keys	Lots	Terminal software and/or host O/S
Client/server	SQL*Forms 4.0 to Forms 6.0	Y	Mouse	Some	Special runtime and app files
Java applet in a browser	Forms 6i to 12.2	Y	Mouse	Some	Web browser, Java
Light client (not J2EE)	UIX	Y	Mouse	Some	Web browser
Light client (Java EE) with AJAX (Web 2.0)	ADF Faces 10g to 12.2	Y	Mouse	Less	Web browser
Mobile ("smart" phone, tablet, e-reader)	JET, MAX, VBCS, MAF	Y	Tap, Swipe	None(?)	Mobile O/S (Android, iOS, Win10 tablet)



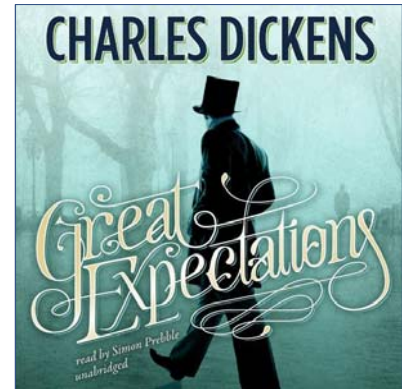
## User Interface Trends



Char mode "dumb" terminal	Client/ server	Applet in a browser	Light client (pre-J2EE)	Light client (J2EE+) AJAX (Web 2.0)	Mobile ("smart" device)
SQL*Forms to Dev Forms 6.0	SQL*Forms 4.0 to Forms 6.0	Forms 6i to 12.2	UIX	ADF Faces 10g to 12.2	JET, MAX, VBCS, MAF

## Foundation of Modern UI Design

- The number of mobile devices > the world's population
- Business users have **Great Expectations**
  - Less (or no) tolerance for training
    - Three-second user acceptance time
  - Short attention span, short tasks
  - Touch interface – tap/swipe
  - Orientation changes
- This impacts application UI design



13

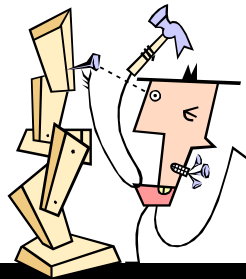
## Agenda

- Top 3 design principles
- Standards
- Developer resources



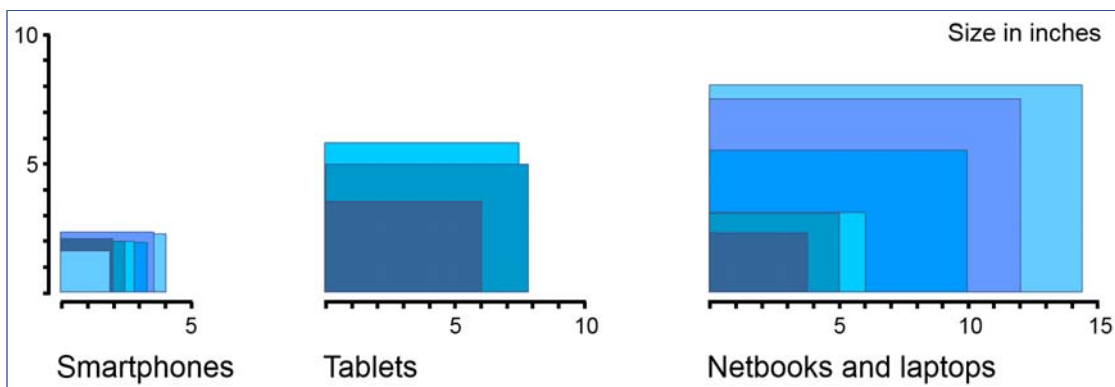
14

# THE MAIN CHALLENGE



15

## Display Size Variances



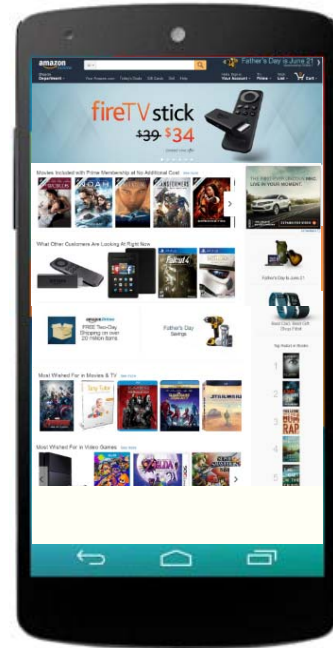
*User interface design for the mobile web* \*, by James Lentz, WebSphere experience architect (July 2011)

- Severe size variance - the old display resolution issue
- Orientation can shift – portrait, landscape

\* <http://www.ibm.com/developerworks/library/wa-interface/>

16





# TOP ~~20~~ ~~10~~ 3 DESIGN PRINCIPLES



## Top 3 Design Principles



1. Design for mobile first



2. Visual, not textual



3. Simple navigation

19



## Principle 1: Design for Mobile First



- Use modern components
  - Gesture- and orientation-aware
  - “Responsive design”
    - Automatic resizing and “folding”
- For mobile-only applications:
  - Incorporate mobile device services
    - Camera, GPS, contacts
- Add social features
  - Collaboration, instant messaging, etc.



20



## Mobile First Tips



- Use design patterns
  - Oracle Alta UI skins, icons, colors
- Test on the narrowest width device
  - View reacts to orientation shift
  - Tiles move with width change
  - Containers and contents resize automatically
  - “No horizontal scrolling.”



Demo 1

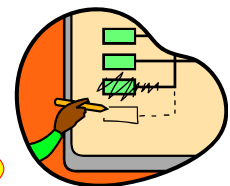
21



## Principle 2: Visual not Textual



- Simple design elements
  - Flat – few lines, little “chrome,” no gradients or shadows
- Easy to read
  - Emphasize important content
  - Saturated colors for competition with ambient light
  - Use color to highlight important data
  - Big icons and buttons
  - Large fonts
  - Use graphs, but don’t overuse



Demo 2

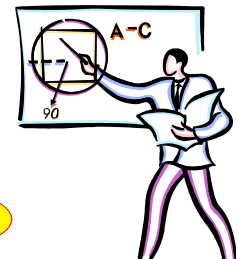
22



## Principle 3: Simple Navigation



- Easy to return to opening page
  - Breadcrumbs or content links
- Two-minute tasks – short spurts
  - Solves the short attention span and distractions issues
- Summarize essential data
  - Drill down to details
- Shallow menus (2 levels)
- Scroll vertically only
- Alternative views for same data
  - Card, map, list
- Data entry using lists if possible



Demo 3

23

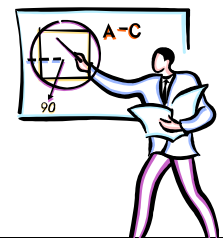


## About Searches



Google

- Select criteria from lists
- Auto-completion for typed searches
- Aim for single field
- Voice-enabled, if possible



24

# Agenda

- Top 3 design principles
- Standards
- Developer resources



25

## Design By the Graphics Department (1998)

Standard Company

Look for: Motorola  
partial names may be used but require more search time

Hierarchy Level: Company Level

Find

Clear Form

Accounts only  
All companies

Results

10 items

HL	Company	Country
1	Motorola Inc	USA
2	Motorola A.C. Inc	Chile
2	Motorola Argentina S.A.	Argentina
2	Motorola Computer Systems	USA
2	Motorola DO Brasil LTDA	Brazil
2	Motorola Semiconductor Products	Equador
2	Motorola Service Systems	USA
3	Motorola Equador	Equador
3	Motorola Boyton Beach	USA
3	Motorola Belgium	Belgium

select a company

Sident

Show Profile

Print Profile...

Exit

Sident Company

26

## Design By the Customer (1998)

**CUSTOMER PROFILE**

Name

Address 1

Address 2

City  State

Zip Code

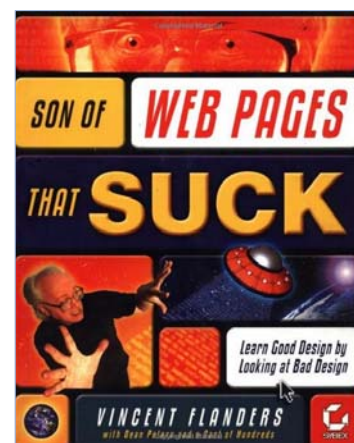
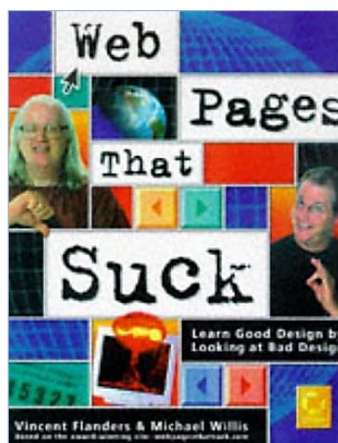
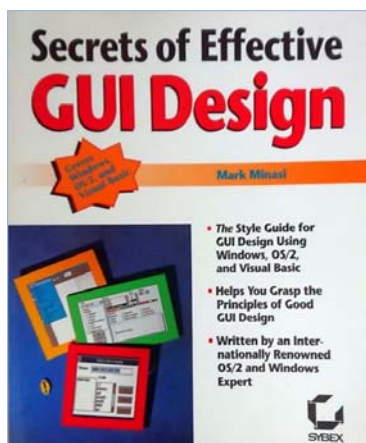
Contact Name

Phone

Fax

27

## Screen Design 101: The Textbooks



28

# Oracle Alta UI

- Released at OOW 2014
  - Developed for Oracle Cloud applications
    - f.k.a., Fusion Applications
  - Part of Oracle's UX effort
- Home page
  - [bit.ly/oraclealta](http://bit.ly/oraclealta) **OR**
  - [www.oracle.com/webfolder/ux/middleware/alta/index.html](http://www.oracle.com/webfolder/ux/middleware/alta/index.html)

Demo 4



29

A screenshot of the Oracle Alta UI website homepage. The page features a navigation bar with links for Home, Style, Patterns, Examples, Technology, and Get Started, along with a search icon. The main content area shows a large image of a person holding a tablet displaying the Oracle Alta UI interface. The text "Oracle Alta UI" is prominently displayed, followed by the subtitle "A modern mobile &amp; browser application design system". Below the main image is a horizontal row of four circular icons: a green icon for "Gallery", an orange icon for "Demo", a blue icon for "Tips", and a red icon for "Visual".



# Alta UI Gallery

Explore our growing collection of sample designs!

BROWSER

MOBILE

UI Patterns Browser | Mobile

Filter Gallery

## Categories

View All

About

Branding Area

Colored Regions

Dashboard

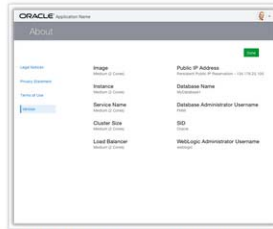
Data Grids

Dialog

Forms

Home Page

Master Detail



**Modal About page with Navigation Links**  
Category: Modal Page Pattern, About Pattern



**Modal About page**  
Category: Modal Page Pattern, About Pattern, Branding Pattern



**Links to First-Time User Assistance**  
Category: User Assistance Pattern, Colored Regions Pattern



Demo

Dashboard

People

Organization



### About Me

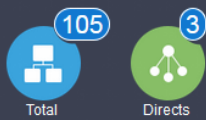


### My Notifications

- Approved 3
- Waiting 4
- Rejected 1

FRIDAY, MAY 8, 2015

### My Organization



Open Headcount	3
New Hires	30
Terminations	1

CURRENT QUARTER

### Average Compensation

Finance	\$150k	<div style="width: 100%;"></div>
Development	\$125k	<div style="width: 83%;"></div>
Human Resources	\$90k	<div style="width: 60%;"></div>
Maintenance	\$60k	<div style="width: 40%;"></div>
Shipping	\$50k	<div style="width: 33%;"></div>

TOP SIX ORGANIZATIONS

### Attrition History

### Compensation Ratio

Above Range 8

### My Org Activities

91 89

### Average Rating

3.6





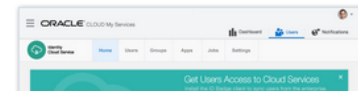
# Tips

Make your application shine!

## Getting The Most From Oracle Alta UI

Get the most out of the Oracle Alta UI design system by embracing the entire system. Products that make the most of Oracle Alta UI are designed around the Oracle Alta UI Design Principles including layouts, responsive designs, Alta skin, components and approaches for [visually presenting content](#) to users in a clean, uncluttered and highly consumable way.

Utilize modern layout approaches



### Utilize modern layout approaches

- Simpler, less dense, uncluttered layouts
- Favors flowing pages conducive to mobile and responsive
- Allows for flexible configurations
- Emphasis on fewer elements and cleaner designs
- Minimal UI chrome with fewer nested borders and lines

[More About Oracle Alta UI](#) | [Page Layout](#) | [Design Principles](#)



### Design For Mobile First

- Layouts fit within a tablet display width and are allowed to flow vertically
- Avoid vertically stretching layouts, to permit responsive design
- Incorporate responsive design techniques





# Visual Content

Data visualizations and info graphics increase insight

See more UI samples in the [Oracle Alta UI Gallery](#) and in the [Examples page!](#)

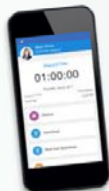
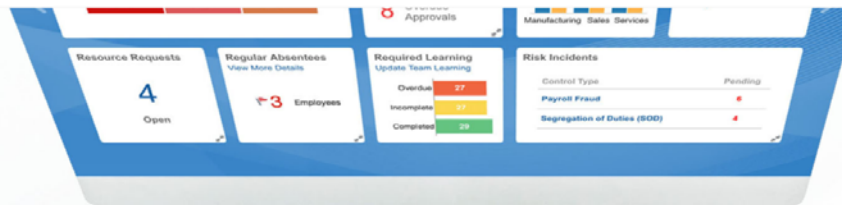
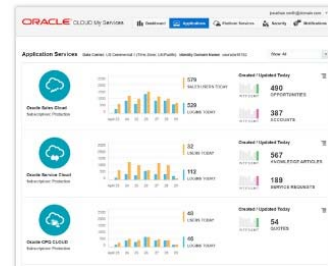
## Maximize Insight

A key design principle of Oracle Alta UI is to engage users with more visual content. Use of visual and typographical techniques make modern application pages more easily consumable and more pleasureable to use.

### Strategic Use Of Visual Content

Makes pages more browsable





Makes important information pop

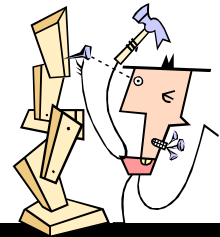


Simplicity guides the Oracle Cloud UX design

[www.oracle.com/oaux](http://www.oracle.com/oaux)

## Oracle Applications User Experience

- Implements UX and Alta UI principles
-  • **Learn:** Understand the strategy, video instructions
-  • **See:** Examples of their work
-  • **Build:** UX Rapid Development Kits, wireframe templates
-  • **Engage:** User feedback in usability labs
- Built for cloud applications but **use it for custom apps**, too



37

## Oracle Redwood

- Futureware
  - Cloud apps are moving to this
- App flow uses machine learning/bots/unfolding
- New look and feel: oracle.com, OOW 2019
  - Inspired by Asian, African, Aboriginal art
- Relevant history:
  - <https://www.oracle.com/corporate/blog/oow19-redwood-user-experience-cooperman-091619.html>
  - <https://www.youtube.com/watch?v=mAR5BWR3zc>



<https://design.oracle.com/index.html>

38

## Agenda

- Top 3 design principles
- Standards
- Developer resources



39

## Most Important Tip

*Use Modern  
Components*

40



**About Me**

**My Notifications**

- Approved 3
- Waiting 4
- Rejected 1

FRIDAY, MAY 8, 2015

**My Organization**

105 Total 3 Directs

Open Headcount 3  
New Hires 30  
Terminations 1

CURRENT QUARTER

**Average Compensation**

Finance	\$150k
Development	\$125k
Human Resources	\$90k
Maintenance	\$60k
Shipping	\$50k

TOP SIX ORGANIZATIONS



**Compensation Ratio**

Above Range	8
In Range	97
Below Range	83

**My Org Activities**

91 Meetings 89 Training  
80 Events 82 Time Off

**Average Rating**

3.6 Performance  
3.6 Potential



**About Me**

**My Organization**

105 Total 3 Directs

Open Headcount 3  
New Hires 30  
Terminations 1

CURRENT QUARTER

**My Notifications**

- Approved 3
- Waiting 4
- Rejected 1

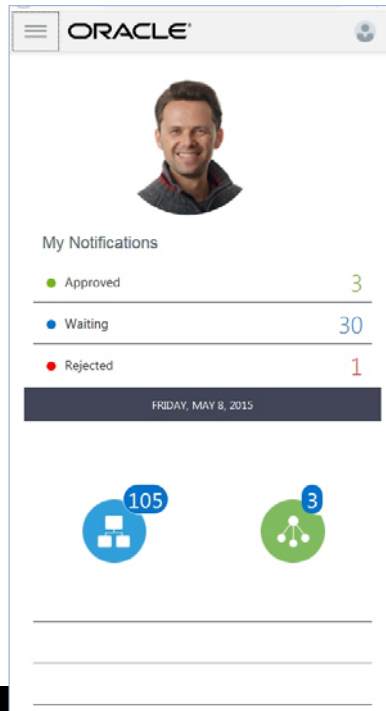
FRIDAY, MAY 8, 2015

**Average Compensation**

Finance	\$150k
Development	\$125k
Human Resources	\$90k
Maintenance	\$60k
Shipping	\$50k

TOP SIX ORGANIZATIONS

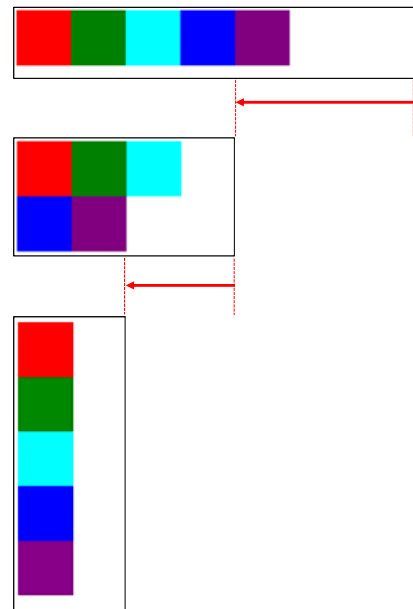




43

## HTML/CSS Sample: Div Folding

```
<html>
<head>
  <style>
    #main div {width: 100px; height: 100px;}
  </style>
</head>
<body>
  <div id="main"
    style="display: flex; flex-wrap: wrap;">
    <div style="background-color: red;"></div>
    <div style="background-color: green;"></div>
    <div style="background-color: cyan;"></div>
    <div style="background-color: blue;"></div>
    <div style="background-color: purple;"></div>
  </div>
</body>
</html>
```



44

## Examples: JET

- JavaScript Extension Toolkit
- FixIt Demo
  - <http://www.oracle.com/webfolder/technetwork/jet/globalExamples-App-FixItFast-Demo.html>
- Work Better Demo
  - [http://www.oracle.com/webfolder/technetwork/jet/public\\_samples/WorkBetter/public\\_html/index.html](http://www.oracle.com/webfolder/technetwork/jet/public_samples/WorkBetter/public_html/index.html)

Broken at the moment

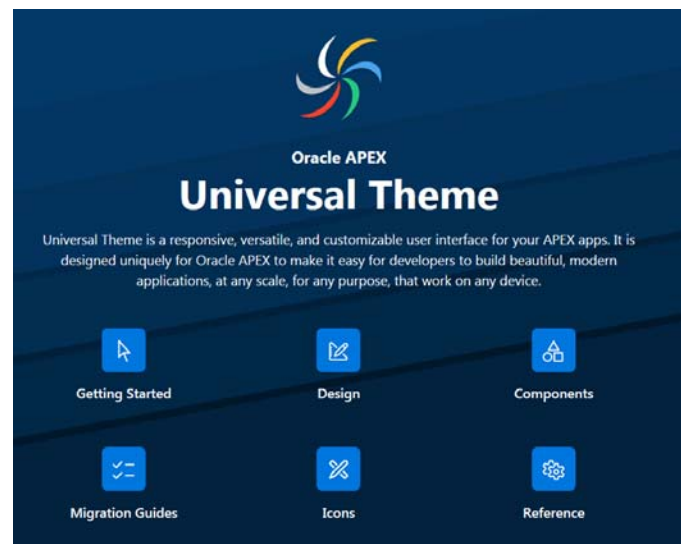
Fix: Change "jet" to "jet-620"



45

## Alta UI in APEX

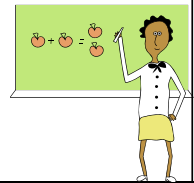
- Use the Universal Theme
- It follows Alta UI design patterns
  - Screen design, etc.
- APEX 20.1 aligns with Redwood design
- Extensive docs:
  - [apex.oracle.com/ut](http://apex.oracle.com/ut)



46

## Alta UI in ADF

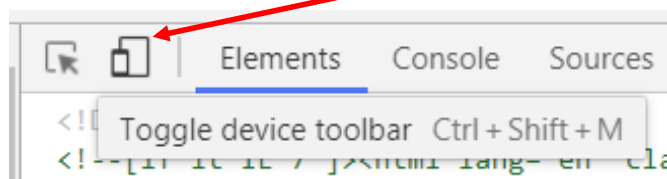
- Shay Schmeltzer, Oracle Guru Extraordinaire
- Blog entries
  - [https://blogs.oracle.com/shay/entry/a\\_guide\\_to\\_developing\\_your](https://blogs.oracle.com/shay/entry/a_guide_to_developing_your)
  - [https://blogs.oracle.com/jdeveloperpm/entry/get\\_the\\_oracle\\_alta\\_ui](https://blogs.oracle.com/jdeveloperpm/entry/get_the_oracle_alta_ui)
- Youtube video
  - [www.youtube.com/watch?v=oUNdxY7L-3w](http://www.youtube.com/watch?v=oUNdxY7L-3w)
  - Notes under video link to another blog entry



47

## Google Resources

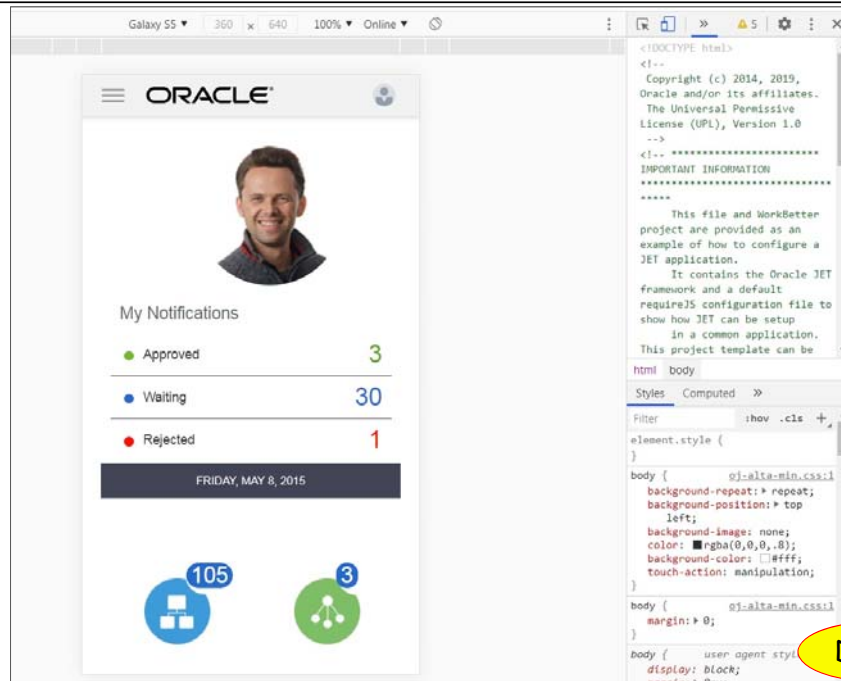
- <https://developers.google.com/search/mobile-sites/>
- Mobile friendliness site tester
- Mobile device emulator for Chrome browser
  - [...] → More tools → Developer tools → [Toggle device toolbar]



48



# Chrome Mobile Emulator



## How to Go Mobile

To be happy in this world, first  
you need a cell phone and then  
you need an airplane.  
Then you're truly wireless.

— *Ted Turner*, media mogul

## Summary

- Mobile apps have raised the bar for UI design
- Remember the Top Three Principles
  - Design for mobile first
  - Visual not textual
  - Simple navigation and display
- Start with prebuilt, proven patterns (e.g., Alta UI)
- Use modern components
- Test using multiple devices (Google emulator)



51



Thank you for  
attending this  
**MOUS Monday**



52