# Some of the <br> Lessons Learned <br> Building <br> IBM i Mobile <br> Applications 

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## Lesson

## Make up your mind!



# IBM i Mobile Applications 

- Emulator
-App?
- New apps
- Existing green screen programs


## Emulator?



Emulator?


## App?



## New apps



## Green screen applications



## Mobile Device Application

- Native
- Browser

HTML NATIVE


## Mobile Device Application

- Native
- One version for every mobile OS
- Browser
- One version for every mobile browser
- HTML5
- CSS3
- Javascript
- Hybrid?
$\square$


## Lesson

## You better have a bunch of mobile devices






## sitepoint



## lynda.com



## Planning for Your App

User experience
User tasks
Consistent experce
Clear navigation
Clear calls to action

## udemy

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Mobile App Design from Scratch: Design Principles, and UX
A step by step guide to learn how to design a great mobile app.

* **** 146 ratings, 16118 students enrolled

Instructed by Maxime Cornier Development/Mobile Apps

teamtreehouse



## 16 killer design tips for creating mobile apps

- http://www.creativebloq.com/app-design/

16-killer-design-tips-creating-mobile-apps-11513821


## APP DESIG I IFEATURE

Jan 8, 2015 10:00 am
$>6$ Comments

| 422 | 16889 | 162 |
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| 3 Tweet | f Like | 8+1 |

Valerie Lisyansky of SWARM explains what you need to know about creating mobile apps.


## 01. Everything exists on a grid


02. Every element defines the spacing

03. Colour creates hierarchy

03. Colour creates hierarchy

03. Colour creates hierarchy

## 14:06 PM <br> o $\quad$ E

You're almost there! Just confirm your interest and we're ready to gol

## Yes! I accept! Let's do this!

## No, do not progress, abort please.

## 04. Colour is not about you liking it, it's about the brand

- Brand is focused on the emotional relationship you consumers or customers have with your service or product.
- Colour helps define that relationship in subtle yet effective ways.
- You don't have to like your colours for them to be effective.


## 05. Pink is not a shade of red

- Colour 101: Hue is the base colour, like red, blue, green, etc.
- If white is added to a colour, it is a tint of that colour, if black is added, it is a shade of that colour.
- Thus when describing the colour of something it may have a red hue and be a shade or a tint but not both at the same time.


## 06. Logos add style but they don't make or break

- A brand makes the client as much as the client makes the brand. A logo isn't going to make you a great business: but a poorly executed and thought out logo will reflect poorly on your business.


## 07. The page title

- Screen titles on websites are excellent ways to remind the user of where they are after they opened 35 tabs and don't recall the content.


## 07. The page title


08. Define elements, then repeat them


## 08. Define elements, then repeat them

- If one of the 'go' buttons is the colour purple, then all 'go' buttons should be the colour purple.
- If one screen has 20 px padding on all side, all screens should maintain this consistency.
- This is what we mean by defining elements and repeating them.
- Each element should be defined, as should the colours inside the app.


## 09. Simple tricks can be used to separate text and create hierarchy



Ace Hotel New York
Affinia Gardens New Yoil
10. Outdated is another word for not trendy

10. Outdated is another word for not trendy

11. Most apps are basically just lists



## 12. How to make a decision on a layout

- Design libraries exist to help decide which layout is the best for a particular problem.
- Here are some good ones.
- http://www.pttrns.com/
- http://www.mobile-patterns.com/
- http://inspired-ui.com/
- https://www.cocoacontrols.com/
- http://www.lovelyui.com/
- http://androidux.com/
- https://developer.yahoo.com/ypatterns/about/libraries.html

13. Actions requires feedback, and fast
LOADING

## 14. Postpone sign up

- Offer sign up on one page.
- Have the user signup once they 'like' or 'heart' an item; allow them to get engaged first.
- You'll have significant user dropoff from logins, and usually the sign up doesn't offer much value to the brand anyway.


## 15. When to use a fancy font

Arial is plain and easy to read.
Avenir Next is the iphone standard and pretty neat.
Roboto is the Android standard.
Helvetica is used (way too) often, though it is easy to read

## 15. When to use a fancy font

- The most important considerations for selecting a font are:
- Can I easily use it on mobile/web?
- Is there a variety of weights?
- Is it legible?


## 16. Each system has visual guidelines

- Android, Windows and iOS have design guidelines that cover different design styles and are rather detailed with specific information like widths between text.
- They're a great resource when you're not sure how to proceed.



## GB CREATIVE BLOQ

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## Lesson

## Understand <br> User eXperience



## Human Interface Guidelines

- https://developer.apple.com/library/ios/documentation/ UserExperience/Conceptual/MobileHIG/

Human Interface Guidelines


## Human Interface Guidelines

## - Designing for iOS

- iOS embodies the following themes:
- Deference.
- The UI helps people understand and interact with the content, but never competes with it.
- Clarity.
- Text is legible at every size, icons are precise and lucid, adornments are subtle and appropriate, and a sharpened focus on functionality motivates the design.
- Depth.
- Visual layers and realistic motion impart vitality and heighten people's delight and understanding.


## Human Interface Guidelines

- Whether you're redesigning an older app or creating a new one, consider approaching the job in this way:
- First, look past the UI to the app's core functionality and affirm its relevance.
- Next, use the themes of iOS to inform the design of the UI and the user experience. Add details and embellishments with care and never gratuitously.
- Finally, be sure to design your UI to adapt to various devices and modes so that users can enjoy your app in as many contexts as possible.


## Human Interface Guidelines

- Throughout the process, be prepared to defy precedent, question assumptions, and let a focus on content and functionality motivate every design decision.


# Human Interface Guidelines 

- Defy precedent
- Question assumptions
- Let a focus on content and functionality motivate every design decision


| (e) | Blog | Support | Store | Developer |
| :---: | :---: | :---: | :---: | :---: |
| Av Mi User d |  | Not <br> ation mentation |  | Human Interface Guidelines |
|  | daunch nal tau ys Prov ays Save ing kground | xperience An Undo |  | These guidelines are designed to help developers and designers create a beautifully consistent experience on the elementary desktop. They were written for interface designers, graphic artists and software developers who will be working on elementary 05 . They will not only define specific design elements and principles, but will also instill a philosophy that will allow you to decide when it is appropriate to deviate from the Guidelines. Adhering to the suggestions contained here will provide |
|  | launchers cractor integr em Indic |  |  | many benefits: <br> - Users will learn to use your application faster because it shares common elements that they are already familiar with. |
|  | ner Wid <br> dows <br> overs <br> bars |  |  | - Users will accomplish tasks more quickly because you will have a straight-forward interface design that isn't confusing or difficult. <br> - Your application will appear native to the desktop and share the same elegant look as default applications. |
| UI Toolkit Elements Widger Concepts infobars Welcome Screen Source List Buttons AppMeni Search Fiedds |  |  |  | - Your application will be easier to document because an expected behavior does not require explanation. <br> - The amount of support you will have to provide, including bugs filed, will be lessened for the reasons above). |
|  |  |  |  | To help you achieve these goals, these guidelines will cover basic interface elements, how to use them and put them together effectively, and how to make your application integrate well with the desktop. The most important thing to remember is that following these guidelines will make it easier to design a new application, not harder. |
|  |  |  |  | However, keep in mind that this is a guideline, not a rulebook. New, amazing interaction paradigms appear every day and more are walting to be discovered. This is a living document that can and will be changed. |

## elementary OS

- These guidelines are designed to help developers and designers create a beautifully consistent experience on the elementary desktop.
- They were written for interface designers, graphic artists and software developers who will be working on elementary OS.
- They will not only define specific design elements and principles, but will also instill a philosophy that will allow you to decide when it is appropriate to deviate from the Guidelines.
- Adhering to the suggestions contained here will provide many benefits:


## elementary OS

Users will learn to use your application faster because it shares common elements that they are already familiar with.

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## elementary OS

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## elementary OS - what design is NOT

- Design is not something you add on after you've completed a product.
- Whether you realize it or not, you are constantly designing anything you build. It is an intrinsic part of creating something.
- Design is not just what something looks like. It's not just the colors and fonts.
- Design is how it works.
- When you decide to add a button that does a thing, that is design. You made a decision to add a button with an icon or a label and where that button went and the size and color of that button.
- Decisions are designs.


## elementary OS - what design is NOT

- Design is not just, like, your opinion, man.
- Design is testable.
- One design will meet a specific goal better than another design.
- Consider different types of bicycles. A folding bicycle has a different set of design goals than a mountain bicycle. Things like weight, size, and tire tread are important factors in helping the intended user reach their goals.
- Because we understand that design is about solving specific problems, we must also understand that we can objectively compare the effectiveness of two designs at solving those problems.



## Material Design Goals

- Create a visual language that synthesizes classic principles of good design with the innovation and possibility of technology and science.
- Develop a single underlying system that allows for a unified experience across platforms and device sizes.
- Mobile precepts are fundamental, but touch, voice, mouse, and keyboard are all first-class input methods.


# Material Design Goals 

-All first-class input methods.

- Touch
- Voice
- Mouse
- Keyboard



## Lesson

## Learn about colour design

Lesson
Never let a programmer design a user interface

Material Design Style


## Material Design Style - Color

| Red |  |
| :---: | :---: |
| 500 | \#F44336 |
| 50 | \#FFEBEE |
| 100 | *FFCDD2 |
| 200 | *EF9A9A |
| 300 | ME57373 |
| 400 | ver5350 |
| 500 | 1F44336 |
| 600 | \#253935 |
| 700 | *D32F2F |
| 800 | -C62828 |
| 900 | \#B71c1C |
| A100 | \#FFBABo |
| A200 | aFF5252 |
| Asoo | aFF174a |
| A700 | 2050000 |


| Pink |  |
| :---: | :---: |
| 500 | \#E91E63 |
| 50 | \#FCE4EC |
| 100 | \#FbBbido |
| 200 | \#F48FB1 |
| 300 | 4F06202 |
| 800 | \#ECa07A |
| 500 | +591E63 |
| 600 | \%D81860 |
| 700 | \#C21858 |
| 800 | tAD1457 |
| 900 | p880E4F |
| A100 | WFFboAB |
| A200 | JFF4051 |
| A 800 | \#F50057 |
| A 200 | ac51162 |


| Purple |  |
| :---: | :---: |
| 500 | N9C27B0 |
| 50 | *F3E5F5 |
| 100 |  |
| 200 | TCE9308 |
| 300 | \#BA6EC8 |
| 400 | taba7ec |
| 500 | H2C2780 |
| 600 | \#8E2aAA |
| 700 | *7B1FA2 |
| 800 | *5A1B9A |
| 900 | *4A148C |
| A100 | \#EABOFC |
| A200. | *E0A0Fs |
| A800 | \#D500F9 |
| A700 | nataofe |

## Material Design Style - Color



## Material Design Style - Color

| Light blue |  | cyan |  | Teal |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 500 | DOSAGFA | 500 | H008CD4 | 500 | N009688 |
| 50 | \#E1F5FE | 50 | \#E0F7FA | 50 | \#EOF2F1 |
| 100 | \#B3E5FC | 100 | aB2EBF2 | 100 | * 82 DFDB |
| 200 | *81D4FA | 200 | \#80deea | 200 | \#80cbed |
| 300 | \#4FC3F7 | 300 | *ADDOE1 | 300 | \#40B6AC |
| 400 | \#2986F6 | 400 | *26C6DA | 400 | d26A69A |
| 500 | 303A9FA | 500 | H008CD4 | 500 | *009688 |
| 600 | \#039EE5 | 600 | 400acel | 600 | т008978 |
| 700 | ग028801 | 700 | te097A7 | 200 | to07968 |
| 800 | H02778 | 800 | ग00838F | 800 | ग00695C |
| 900 | \#015798 | 900 | \%006064 | 900 | *004D40 |
| A100 | \#80D8FF | A100 | \#84FFFF | A100 | \#ATFFEB |
| A200 | HAOCAFF | A200 | *18FFFF | A200 | W64FFDA |
| A400 | nodsoff | A400 | nouesfa | A400 | *1DE9B6 |
| A700 | vo091EA | A700 | N00Babi | A700 | noobfas |

## Material Design Style - Color



## Material Design Style - Color

| Vellow |  | Amber |  | Orange |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 500 | 0FFEB38 | 500 | \#FFC107 | 500 | \#FF9800 |
| 50 | *FFFDE7 | 50 | \#FFF8E1 | 50 | \#FFF3E0 |
| 100 | WFFF9C4 | 100 | \#FFECB3 | 100 | *FFEOB2 |
| 200 | *FFF590 | 200 | \#FFEOB2 | 200 | \#FFCCBo |
| 300 | \#FFF176 | 300 | \#FFDS4F | 300 | \#FFB74D |
| 400 | \#FFEE58 | 400 | \#FFCA28 | 400 | \#FFA726 |
| 500 | PFFEB38 | 500 | WFFC107 | 500 | \#FF9800 |
| 600 | \#FDD835 | 600 | WFFB300 | 600 | \#FB8C00 |
| 700 | aFBC02D | 700 | \#FFA000 | 700 | \#F57c00 |
| 800 | \#F9A825 | 800 | \#FF8F00 | 300 | -EFbcou |
| 900 | \#FS7F17 | 900 | \#FF6F00 | 900 | *E65100 |
| A100 | \#FFFF8D | A100 | \#FFE57F | A100 | \#FFDIB0 |
| A200 | \#FFFFOO | A200 | \#FFD740 | A200 | \#FFAB40 |
| A400 | \#FFEAOO | A400 | \#FFC400 | A400 | \#FF9100 |
| A700 | \#FFD600 | A700 | \#fFaboo | A700 | \#FFbDoo |

## Material Design Style - Color



## Material Design Style - Color

| Blue Gray |
| :--- |
| 500 |


| Black |
| :--- |
| White |
|  |

## Programmer(?) Design





Web Pages That Suck Presents The 20 Worst Websites of 2014


This year there's less emphasis on using Over-The-Top websites-mostly because Ive separated them into their ow document The 12 Worst Over-The-Top Websites of 2014 -and starned discussing mobile mistakes along with more serious design flaws. This shouldn't be a surprise as the world is seeing a quansifiable move from the deskop to mobile.


The Wort Webitits of 2013 is grat place to san. Plenty of examples of had wee design.
Wort Websites of 2013: The Top Contenders trom fenvary throuth lune will give you a seek peck at what the wost webrizes of 2013 wili look like.
The Daily Sucker provides current examples of had mebd design Prowented Dally

Web pages that suck


## Web pages that suck



## Web pages that suck



Click Here For Registration

## Web pages that suck


$\square$

## Lesson

## The way you code RPG won't work any more



## DMI



- http://dminc.com/blog/why-most-mobile-app-developers-suck/



## Conclusion

- To build up a great mobile development team don't just hire developers with mobile experience.
- Focus on building up a team of great developers and generalists that will pick up any new technology rapidly and combine these with people that understand mobile, including user interface and user experience design.
- A degree in engineering and mathematics and experience of working in a larger development team make a huge difference in productivity, quality and the ability to deliver large complex projects.
- In the long term it will be worth the investment.
- Finally, there is only one way to qualify the skills and experience of a developer unless you really trust their references, and that is a live coding exercise during the interview process.


## Code My Views

- https://codemyviews.com/blog/mobilefirst

Code My Views


## Why Mobile First?

- Graceful Degradation

- Progressive Enhancement



## Why Progressive Enhancement Wins

- When you start with the desktop platform, you tend want to take advantage of everything that platform has to offer.
- You build an amazing product that leverages lots of great technology, only to realize that none of it scales well down to mobile.
- This can and does lead to severely watered down mobile products that feel more like an afterthought than a polished, finished product.
- Does this happen with every project? Perhaps not, but the story is likely far more common than you'd like to believe.


## Why Progressive Enhancement Wins

- If we examine the progressive enhancement workflow, the result tends to be a different story.
- Here we're starting with a project that is both super lean and quite impressive.
- You've taken all of that starting energy and put it into creating a product that looks and functions well despite the many restraints that you faced.
- More importantly, you've already gone through the problem of trimming down the content to its most vital elements.
- Now when it's time to bring this design to the desktop, instead of facing the decision of what to cut and how to water down your product, you instead get to decide how to make it even more robust!

> Green is long gone..
> Forget it!


## Lesson

## Change <br> Your <br> Vernacular!




WSMAIN
7/28/15


1. Operations Menu
2. Purchasing Menu
3. Accounts Receivable Menu
4. Accounts Payable Menu
5. General Ledger Menu
6. Sales Analysis Menu
7. Equipment Maintenance Menu
8. System File Maintenance Menu
9. Cross Application Maintenance Menu
10. Data File Purge Options
11. Conversion Menu
12. Password Reset
13. Signoff 99. Printer:

Option or command
$\Rightarrow$
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Sys: TERRY 12
Cmp: RM Loc: DMO

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O% smithton
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```
\[
7 / 28 / 15 \quad 10: 36: 15
\]
Sales Analysis Summary
\[
\text { Sys: TERRY } 12
\]
\[
\text { Type: } \square \text { (F4 to search) }
\]
\[
\begin{aligned}
& \text { Month/Year: } \frac{7}{/} \frac{2015}{\text { by month }} \text { Data type: } \underline{A} \text { (A-\$ amt, Q-Quantity) } \\
& \text { Ontions: } 1=\text { Detail }
\end{aligned}
\]
Cmp: RM All locs
```

```
Start at:
```

$\qquad$

Enter the sales analysis type or press F4 to search.


Enter the sales analysis type or press F4 to search.


$7 / 28 / 15$ 10:36:32 Sales Analysis By Location
Type: L Loc code: DMO
Month/Year: $7 / \underline{7} / 5$ DEMO LOCATION

Currency: USD

| Month | $\begin{aligned} & 2 \overline{015}- \\ & 2014 \\ & \hline \end{aligned}$ | \% Change | $\begin{aligned} & 2014- \\ & 2013 \end{aligned}$ | \% Change | $\begin{aligned} & 2013- \\ & 2012 \end{aligned}$ | Monthly <br> Average |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| JUL | 104,362 | 2647.8 | 3,798 | 9999.9 |  | 36,053 |
| JUN | 172,816 | 6156.9 | 2,762 | 88.2- | 23,430 | 66,336 |
| MAY | 23,139 | 842.1 | 2,456 | 99.5- | 486,856 | 170,817 |
| APR | 96,441 | 9999.9 |  | 100.0- | 814,252 | 303,564 |
| MAR | 7,188 | 2304.0 | 299 | $97.7-$ | 13,282 | 6,923 |
| FEB | 1,371 | 81.1 | 757 | 100.0- | 97,019,338 | 32,340,489 |
| JAN | 159,367 | $5529.3-$ | 167- | $100.0-$ | 427,302 | 195,501 |
| DEC | 10,848 | 9999.9 |  | 100.0- | 331,848 | 114,232 |
| NOV | 231,242,352 | 9999.9 | 234 | 99.9- | 467,275 | 77,236,620 |
| OCT | 205,282- | 108.9- | $2,304,492$ | 262.4 | 635,839 | 911,683 |
| SEP | 4,938 | 9999.9 |  | 100.0- | 372,014 | 125,651 |
| AUG | $76,857,579$ | 9999.9 |  | 100.0- | 479,448 | 25,779,009 |
| * ** | 308,475,119 | 9999.9 | $2,314,631$ | 97.7- | 101,070,884 | 137,286,878 |

View information and press Enter to continue.


## Fe Sumb ton

7/28/15 09:19:54
Step Description Maintenance
Sys: TERRY 12
emp: RM Lioc: DMO
Mode ADD
Position to search word:
Language:
Step $\#$ Step description
86 EMPTY DRAIN TANK
87 CHECK AIR EILTER
88 REMOOVE ELEMENT
89 CLEAN FILTER
90 INSPECT POWER CORD
91 CHECK DRAIN TANK
92 OPERATE UNIT IN "EAN" MODE ( 8 HOURS)
93 REPLACE AIR FILTER
11 QUARTERLY AERIAL INSPECTION
12 ANNUAL AERIAL INSPECTION
50 SCISSOR ARMS FREE OF DAMAGE, CRACKS \& DISTORTION
51 NO UNAUTHORIZED MODIFICATIONS OR ADDITIONS ON UNIT
52 INSPECT GENERAL STRUCTURAL COND. INCLUDING WELDS
53 STATIC STRAP IS IN PLACE
54 CHECK BOLTS \& FASTENERS FOR SECURITY
Maint
$\mathrm{Y} / \mathrm{N}$ Code Srch word

| Y | 2000 | A/C |
| :---: | :---: | :---: |
| N | 2000 | A/C |
| N | 2000 | A/C |
| $\underline{Y}$ | 2000 | A/C |
| N | 2000 | A/C |
| N | 2000 | A/C |
| N | 2000 | A/C |
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| N | 3000 | AERTAL |
| N | 3000 | AERIAL |
| N | 3000 | AERIAL |

Enter or change descriptions and press Enter.

[^0]By Loc/District/Region: L (L/D/R)
Omit/Include: I (O=Omit, I=Include)
Locations $\qquad$
$\qquad$ -$[-\ldots-\ldots$ $\square$
$\square$
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Printer/Outq: DVU $\qquad$ Copies: 1

Hold: N Save: N
Submit joù. . . : $\underline{Y}$
Schedule date .
Job description : $\qquad$
$\qquad$
WSDATA12
Time. : $\qquad$

Library . . .
Job queue
Library . . . :
hibrary list. .
*JOBD
*LIBL (*JOBD, *CURRENT, *SYSVAL)

* CURRENT

Enter information and press Enter to continue.


8/04/15 10:39:41
Contract Inquiry
Sys: TERRY 12

```
CP: RM LOC: DNO
Project
contract i:
\(\square\)
800 Loa:
``` \(\qquad\)
``` Overdue contracts only: N
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Snter starting contract $\ddagger$.
$\qquad$
Customer name or $\ddagger$ : Job i: Starting contract i: 999969999999
-or- D/L state and f: CA 1234567890 Starting isntrant if
open mit: I Rtris: © C.B.: N Sls mive ne
Customer name: Add new cash customer Currency:
Type option, press Znter or delimit the list with the filters.

Op
Contract Seq Type $\overline{\text { St }} \overline{\text { Start Dt Retrn Dt P.0. } \overline{\text { R Loc }} \text { Job Locatio }}$ Season $\qquad$ $562 \frac{\text { seq }}{\frac{\text { Type }}{0 \text { PEF }}}$ 60340 O. OBEL $12 / 11 / 1414$ NO SAME 6/25/14 7/09/14

DNO TEST
Total: USD .DO

Make selections and press Enter to continue.


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    80 mam
```



Phone calls are displayed.

```
It simetoon
```




```
ERROR: Contact Name must not be Blank.
```





```
    8/05/15 09:17:28
            Eqp Sale Reserv Maint Review Sys: TERRY 1/ 
            Reference {: 60845-0000 Cup: FW Loc: DNO
                    Avail credit: 9,998,954 Cur: USD
    Cust $: 800
    Name: Danny Vu
    Name: Danny Vu
    Addr 1: }123\mathrm{ NAIN S
    Addr 2: 
    Zip/Ph: 91006
    NOb LC: DEWITT CON
    Delvry: Y On: 3/1
    Reptint oontract:
    Equipment sale amg
    Invoice subtotal:
    Sales tax:
    Tatal invoice ansu
        To Company: Danny Vu Cover Letter Rote:
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$\qquad$

```
                                From User: DVO Cover Letter Hote:_
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```
Opt Contact Name
```

```
Opt Contact Name
```




```
    CHANDA MARYIN CHAMDA.MARTINOWYNNSYSTPM5.co4
Nake changes or press Enter to send...
Press Enter to write contract.


Nake changes and press Enter to continue.


Pickup ticket has been created. Press Enter to continue.



Nake changes or press Enter to send...
```

Smationton

```

```

8/05/15 09:22:04
Get Driving Directions
Sys: TERRY 12
Cmp: RM Loc: DMO
Type option, press Enter
Sel Ref type Description
-
<
\
M
Enter Reference Points - From Point at Top To Point at the bottom

```
``` \(\ldots+50\)
```



Application name cannot be blank


```
6*0% (mymu
```




8/05/15 09:25:37
Print report type:
Sort function:
Location Summary:
Customer number:
Include paid invoices:
Select invoice type:
Range of pd inv to inc: $8 / 01 / 15 \quad 8 / 05 / 15$ Incl Inv by Cust Loc: $N$
Aqing date: As of: $8 / 05 / 15 \mathrm{~N}$ (Y=to this date, $\mathrm{N}=\mathrm{to}$ today)
Inc paymnts after aging: $N$ Payments through:
Aging days: $\quad 3 0 \quad 6 0 \quad 9 0 \longdiv { 1 2 0 }$ (i.e. $30,60,90,120$ )
Use invoice date: $\quad Y$ ( $Y=$ Invoice date, $N=D u e$ date)

Verify request and press Enter to submit the report.

Now processing contract \#61087


```
ON Sewortom
```



```
    8/05/15 10:50:25 Vendor Master Maintenance
    Vendor Number
    Sequence Name : UNICAL 1 Alt Vnd#
    Name (Printed) : UNICAL.
L Loc:
    Address : 123 JOHN LANE
\[
\begin{aligned}
& \text { Date opened: } \quad \overline{7 / 0} / 97 \\
& \text { Reguire PO: } N \text { Send PO: }
\end{aligned}
\]
    City/State/Zip
\[
\text { Require PO: } \mathrm{N} \text { Send PO: } \mathrm{N}
\]
    Phone Number
    Contact Name
    Account Number
    Resale Card Sent:
    Term Days
    Eayment Terms :
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```
        Type:
        Group:
        Rgn:
\[
: \frac{\text { LONG BEACH }}{562-555-1212}
\] Limit Amt:
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``` Fax 562-437-0130
            562-555-1212 A1t Tax percent: 5.00
                    152 DEL # dys for PO: 30 PyAdv: \underline{P}
                        Y (Y/N) Date Sent: 7/07/97 Last Prc. Chg. :
                                10 Fed Id #: SE12345666
                        NET 10
```

$\qquad$

``` Send 1099: \(\quad \bar{Y}(\mathrm{Y} / \mathrm{N})\) Last Pmt. Date : \(11 / 08 / 08\)
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Disc Days:
$\qquad$

``` Disc 8:
NIC code:
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Bus entity:
Cash Account $\quad$ : 11200000001000 Disc date same as due: $\bar{N}$
G/L Distribution: $12610001000100 \quad 12610001000100 \quad 12 \frac{\mathrm{~N}}{4} 70000001000$ $\frac{12600001000100}{12460000001000} \frac{12470000001000}{\text { Vadr.On Hla Fot POyPyt, }}$
A/P Account \# Req Deliver Note:
Pay Meth:
Vendor option/debit $Y$ :
Add or change vendor information.

```


Sys: TERRY 12
Cmp: RM Loc: DMO
Date range: \(\quad 8 / 01 / 15 \quad 8 / 05 / 15\)
Sales rep \#: (Leave blank for all)
Currency code: USD

Printer/Outq: DVU Copies: 1 Hold: N Save: N
Submit job. . . : Y
Schedule date . :
Job description :
Library . . . :
Job queue
Library . . . :
Library List. . :


Time. : \(\qquad\)
WSDATA12
*JOBD
*LIBL
(*JOBD, *CURRENT, *SYSVAL)
(*JOBD, *CURRENT, *SYSVAL)

* CURRENT


Change selection criteria or roll up or down through the months.


\section*{Lesson}

Don't be a more:on!


select option and press Enter to continue.


Select option or change filters and press Enter.



Conplete equipment infornation and press enter to continue.






\section*{Lesson}

There is no
ESC key
on a tablet








\section*{Hey! \\ Where is my iPad?}

\section*{Stanford University}

Stanford \(\left.\right|_{\text {University } 1 \text { IT }} ^{\text {sen }}\)
Seurch 5anniord \(\mathbf{Q}\)


Guidelines for Securing Mobile Computing Devices

\footnotetext{
Smart phones, tablets, laptop computers, USB memory (aka thumb drives) are convenient and easy to use. They also introduce risk to personal privacy and University
data. This document outlines guidelines regarding the use of these mobile devices in the Stanford computing environment.

\section*{Risks of Mobile Computing}

Mobile computing devices can store large amounts of data, are highly portable and wre frequently unorotected. They are easyto ceari or lose, and unless precautions are taken, an unauthorzed person can gain accesss to the information stored on them or accessed throught them. Even if not stolen or lost, intruders can sometimes gain alit the sccess they need if the device is left alone and unprotected, if data is ssnifed out of the air' during wreless communications, or if malware is installed. The resuits can include crippled devices, personal data loss, disclosure of non-public Universsty data, and discoplinary actions for the device omner.
Mobile computing devices are of concern both beccause of the data that might be stored on them, and because they may provide acceess to other services that store or display non-public data. This accesss may be enabled because the mobile device contains passwords or security certificates thati identity the device or its user to the email system, Virtual Private Networks (VPNE) or other applications.
Data Security Requirements
The best way to protext University data is to remows unnecessary data from your computer, in particular, Prohibited dota must not be stored on your system or device uniless you have explidet permisision from the Data Covernance Board to do so. Prohibited
}

\section*{AWARENESS}
- Time Sensitive Security Nierts

General Security Announcementa
- Communications from Senior Universtry

Maragementa
- Computer Security FAQ
- Phathing How hackers use social engineering to
got your data
- About tharassing emails
- Security trining
- Idvanadd Formal Stanford Polldies
- Advanced Other Security Policies

\section*{ANALYSIS}
- Stanford Data Classificatión
- Handiling prohibitiod and reatricted duta FAO
- Socurity guidelines
- Guidedriskself nesessment questiona
- Identicy Finder

\section*{action}
- Bigfiec Configuration and Patch Managemum

\section*{National Cyber Security Alliance}

\section*{?}


\section*{National Cyber Security Alliance}
- MOBILE DEVICES
- Today's mobile devices are as powerful and connected as any PC or laptop.
- Take the same precautions on your mobile device as you do on your computer with regard to messaging and online safety.
- The first step is STOP. THINK. CONNECT.

\section*{National Cyber Security Alliance}
- Keep a Clean Machine
- Keep security software current
- Protect all devices that connect to the Internet
- Protect Your Personal Information
- Secure your phone
- Think before you app
- Only give your mobile number out to people you know and trust
- Learn how to disable the geotagging feature on your phone

\section*{National Cyber Security Alliance}
- Connect with Care
- Get savvy about Wi-Fi hotspots
- Protect your \$\$
- When in doubt, don't respond
- Be Web Wise
- Stay current. Keep pace with new ways to stay safe online
- Know how to cell block others
- Use caution when meeting face-to-face with someone who you only "know" through text messaging
- Be a Good Online Citizen
- Safer for me and more secure for all
- Text to others only as you would have them text to you
- Only give your mobile number out to people you know and trust
- Get permission before taking pictures or videos of others with your phone


\section*{jQuery mobile}


A Touch-Optimized Web Framework
Download jQuery Mobile
Query Mobile is a HTML5-based user interface system
designed to make responsive web sites and apps that are
accessible on all smartphone, tablet and desktop devices.
\begin{tabular}{|c|}
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\hline Latastate \\
\hline Whacen T/as roven 14- 114121 \\
\hline
\end{tabular}

Seriously cross-platform with HTML5
OUery Mobile framework takes the "wite less, do more" mantra to the next live. instead of Writing unique applications

 she apple ablet, and desktop platforms.

Browser Sunport

Developer Links
+ Source Code (Gittud)
Pavery Mobile Gin (NIP Build)
- Javascripd
- css

Ruport an issue
Browser Suppers


\section*{Lessons!}


\section*{Lessons (some of them)}
- Make up your mind
- You better have a bunch of mobile devices
- Become a user
- Read books/Watch videos
- Take advice
- Get smart
- Understand UX
- Learn about colour design
- Never let a programmer design a user interface
- The way you code RPG won't work any more
- Green is long gone.. Forget it!
- Change your vernacular
- Size matters
- Don't be a more:on
- There is no ESC key on a tablet
- Hey! Where is my tablet?
- Plug something in

\title{
Lessons Learned \\ Building \\ IBM i Mobile \\ Applications
}

\author{
Trevor Perry
}

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freschethinking.com
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```


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