Some of the Lessons Learned Building IBM i Mobile Applications

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Lesson

Make up your mind!

IBM i Mobile Applications

• Emulator
• App?

• New apps
• Existing green screen programs
Emulator?

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App?

New apps
Green screen applications

Mobile Device Application

- Native
- Browser
Mobile Device Application

• Native
  • One version for every mobile OS

• Browser
  • One version for every mobile browser
    • HTML5
    • CSS3
    • Javascript

• Hybrid?
Lesson

You better have a bunch of mobile devices
Lesson

Become a user...

Use these!
Lesson

Read some books!
Lesson

Read some books!

ok…

Watch some videos!

sitepoint
Lesson

Take advice

w3schools.com
16 killer design tips for creating mobile apps

http://www.creativebloq.com/app-design/16-killer-design-tips-creating-mobile-apps-11513821

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

- 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.

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.
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.
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

10. Outdated is another word for not trendy
10. Outdated is another word for not trendy

FLAT DESIGN

SKEUOMORPHISM

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
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.
Lesson

Get smart
Lesson

Understand UX

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Understand User eXperience

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

 elementary OS
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.
- Users will accomplish tasks more quickly because you will have a straight-forward interface design that isn't confusing or difficult.
- Your application will appear native to the desktop and share the same elegant look as default applications.
- Your application will be easier to document because an expected behavior does not require explanation.
- The amount of support you will have to provide, including bugs filed, will be lessened (for the reasons above).

elementary OS

- 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 waiting to be discovered.
- This is a living document that can and will be changed.
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
Programmer(?) Design

Web Pages That Suck

Web Pages That Suck Presents The 20 Worst Websites of 2014

*This year there is more emphasis on using One-Page websites—mostly because I've expanded them into their own categories.*

*The 20 Worst Websites of 2014* includes:

- **Wapakoneta** - Let your creativity flow!
- **Riverside Art Center**
- **Ohio Arts Council**

*2015 Fall Juried Show*

Opening Friday, August 28th 6:30 -
Web pages that suck
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
Why Mobile First?

- Graceful Degradation

![Diagram showing desktop to tablet to phone degeneration]

- Progressive Enhancement

![Diagram showing phone to tablet to desktop 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!
Lesson

Green is long gone..
Forget it!

Lesson

Change Your Vernacular!
Lesson

Size matters

Lesson

Don’t be a more:on!
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Equipment Maintenance

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- Make: [Make]
- Model: [Model]
- Serial #: [Serial #:]
- Date in service: [Date in service]
- Date in storage: [Date in storage]
- Date in shop: [Date in shop]
- Repair time: [Repair time]
- Repair cost: [Repair cost]
- Invoice #: [Invoice #:]
Lesson

There is no ESC key on a tablet
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**Today: August 25, 2015**

### Work with Output Queue

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PHONE...............: (M) 021 520 9650  (M) 021 913 6550
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AREA OF ACCIDENT...: BRAXAN  DRIVER AGE: 48
ESTIMATED AMOUNT..: 0.00  EXCESS AMOUNT: 0.00
PAID OUT AMOUNT...: 0.00  DATE CLOSED:
3RD PARTY TYPE.....: ESTIMATE: 0.00  DATE CLOSED:
CLAIM DESCRIPTION..: CLIENT気づき removes HOPPER OP HOUSE BESIDE LOG ROAD GATE.
PREV. CLAIMS

Message

Function key not allowed.
Lesson

Hey!
Where is my iPad?
• 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.
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

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
Lesson

Plug something in

Responsive Web Design

What is Responsive Web Design?

- RWD stands for Responsive Web Design.
- RWD can deliver web pages in variable sizes.
- RWD is a must for tablets and mobile devices.
Lessons!

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
Lessons Learned
Building
IBM i Mobile
Applications

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