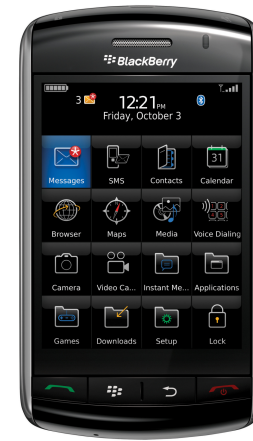


# Designing Accessible Mobile User Interfaces

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Research In Motion (RIM)

Accessibility 2.0 Conference  
London 2009



# Presentation Topics

- Session Scope
- Background Corpus
- Mobile AX UI Design Guidelines
- Demonstration
- Development Tools
- Additional Information

# Session Scope

- Duration - 20 minutes
- Design not development, presentation layer
- Design experience in web, web app
- Focused on mobile
- Focus includes universal design/accessibility, help ensure widest possible audience of users

# Background Corpus

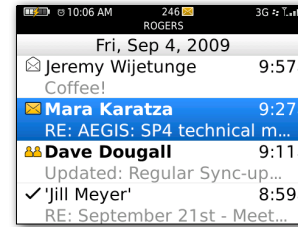
- ANSI 9471-17
- W3C WCAG 2.0
- W3C Mobile Best Practices
- HFES 200
- Section 508, US Rehabilitation Act
- UI Design Heuristics
- Personal Experience

# Design Guidelines

1. Native UI libraries
2. Color & Contrast
3. Inherit Global Settings
4. Error Messages
5. Focus Placement
6. Contextual Menus
7. Consistency
8. Progressive Disclosure
9. Grouping/Chunking
10. Keyboard Navigation

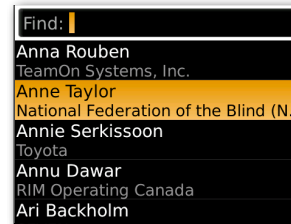
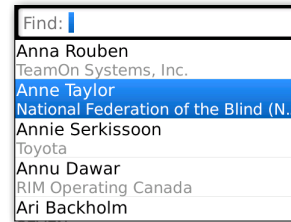
# Native UI Libraries

- Wherever possible, render application screens using UI libraries native to the platform.
- Leverages platform AX API
- Helps ensure consistency across apps on platform
- Minimizes effort required to extend support for unique UI objects.



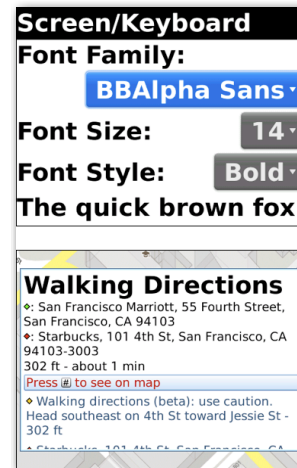
# Colour & Contrast

- Ensure minimum contrast ratio of 7:1 for foreground, background, and adjacent objects
- Leverages semantic colours
- Avoid Red:Green
- Avoid communicating information by means of colour alone



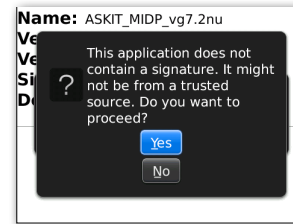
# Inherit Global Settings

- Use system settings for managing display characteristics
- Doesn't conflict with user defined settings and access
- Enables your application to maintain consistent look and feel with other apps on device



# Effective Error Messages

- Ensure message includes nature of error, context, and leading instructions to resolve
- Goal is to help users recover from the error and avoid errors in the future
- Use 'Active Voice'
- Prompt 'Call to Action'

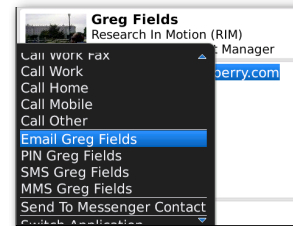
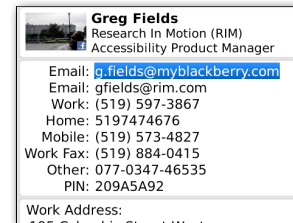


# Placement of Focus

- Ensure highly visible indication of focus
- Align with user mental model
- Place focus in most applicable object that can accept focus relative to scope of screen functionality, context of use, frequency of use, available functions, etc.

# Contextual Menus

- Ensure the most applicable, frequently used listed menu option is the option in focus
- Contributes to decreased task time, increase satisfaction, and increased trust in application
- Contributes to user perception that your app “just works” or “knows me”



# Consistency

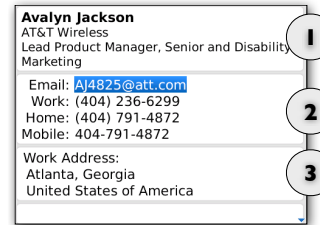
- Ensure navigation, presentation, interaction methods and use of UI objects are consistent through your application
- Ensure your application 'feels' like those already on the device
- Decreases learning curve and increases perceived familiarity

# Progressive Disclosure

- For multi-step processes (Wizards, Setup), disclose current and total number of steps in the process
- Help users calculate amount of effort remaining to calculate effort versus reward
- Enable multitasking, finishing a task after an interrupt (call, message, etc.)

# Grouping / Chunking

- Organise information displayed graphically based on similarity of information type, meaning, etc.
- Limit chunks to 3-5 items
- Helps users pre-process information
- Leverage pre-attentive human processing



# Keyboard Navigation

- Ensure users can navigate through given screens programmatically
- Supports users of external keyboard AT
- Provides unintended benefit of supporting programmatic regression testing



## Bonus - Defer to Device

- When in a pickle as to what interaction method to use, design pattern to employ, or experience to provide to users, defer to existing device interaction
- Provides users with a consistent user experience ... for good or bad

# Additional Information

- Documentation for Developers - <http://docs.blackberry.com/en/developers>
- BlackBerry Accessibility Developer Guide (beta) - <http://tinyurl.com/bbaxdevguide>
- BlackBerry Accessibility API - <http://tinyurl.com/bbaxapi>
- BlackBerry Accessibility Microsite - <http://www.blackberry.com/accessibility>

# Contact Information



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