

# Accessible Interface Problem Solving in an iOS App

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# Working Hard

- PayPal works hard across technologies to support accessibility
- Presenting in three sessions this week
- Broadening understanding and adoption within organization

# Accessibility and Apple

- Built-in possibilities present dramatic opportunities to developers
- Few or no barriers to supporting functional interfaces
- VoiceOver, wireless braille, zoom, contrast, haptic feedback - via framework  
UIAccessibility

# New Reality

*Accessible* interfaces and  
functionality are

*expected* interfaces and  
functionality

# Accessibility and PayPal for iPhone

- Within app, most all UI elements are available to VoiceOver.
- “Balance \$50.00 USD”
- Additional context via hints - describe more about UI element’s context or action
- Continue to refine app beyond basic screen reading. Address non-accessible designs

# Alternate Interfaces, Accessible Interfaces

“...perfect usability for users with disabilities requires separate designs optimized for each of the main access modalities.”

Jacob Neilson

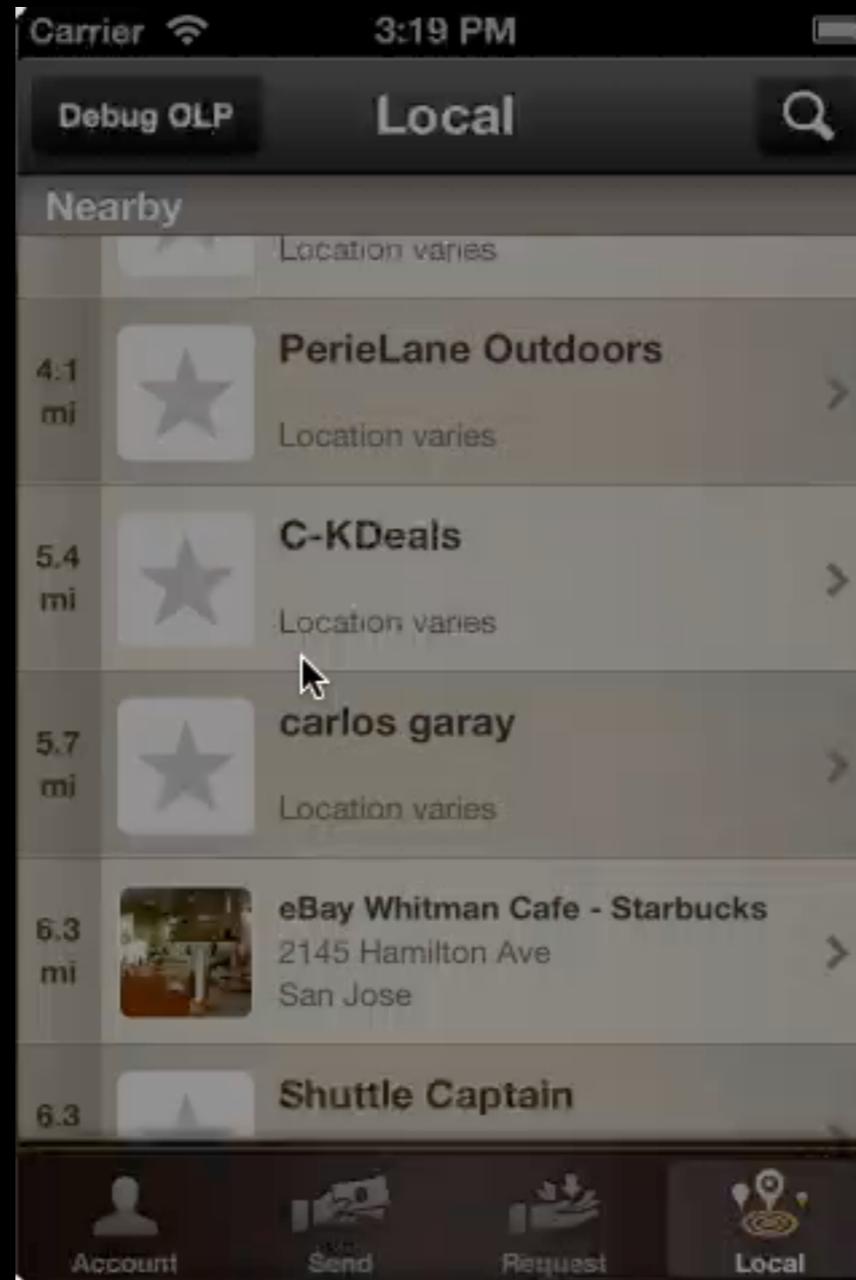
# Alternate Interfaces, Accessible Interfaces

- Without easy paths to accessibility, designers and developers are faced with choice
  - Alternative but accessible
  - No alternative at all

# Alternate Paths

- Alternate path can be enriching and amazing
- Concerns
  - Delay in availability, after primary design and implementation
  - Compromises in approach to dev and testing due to constraints
  - Falling behind as product and services grow and change

# PayPal Local Check-in



# Check-in

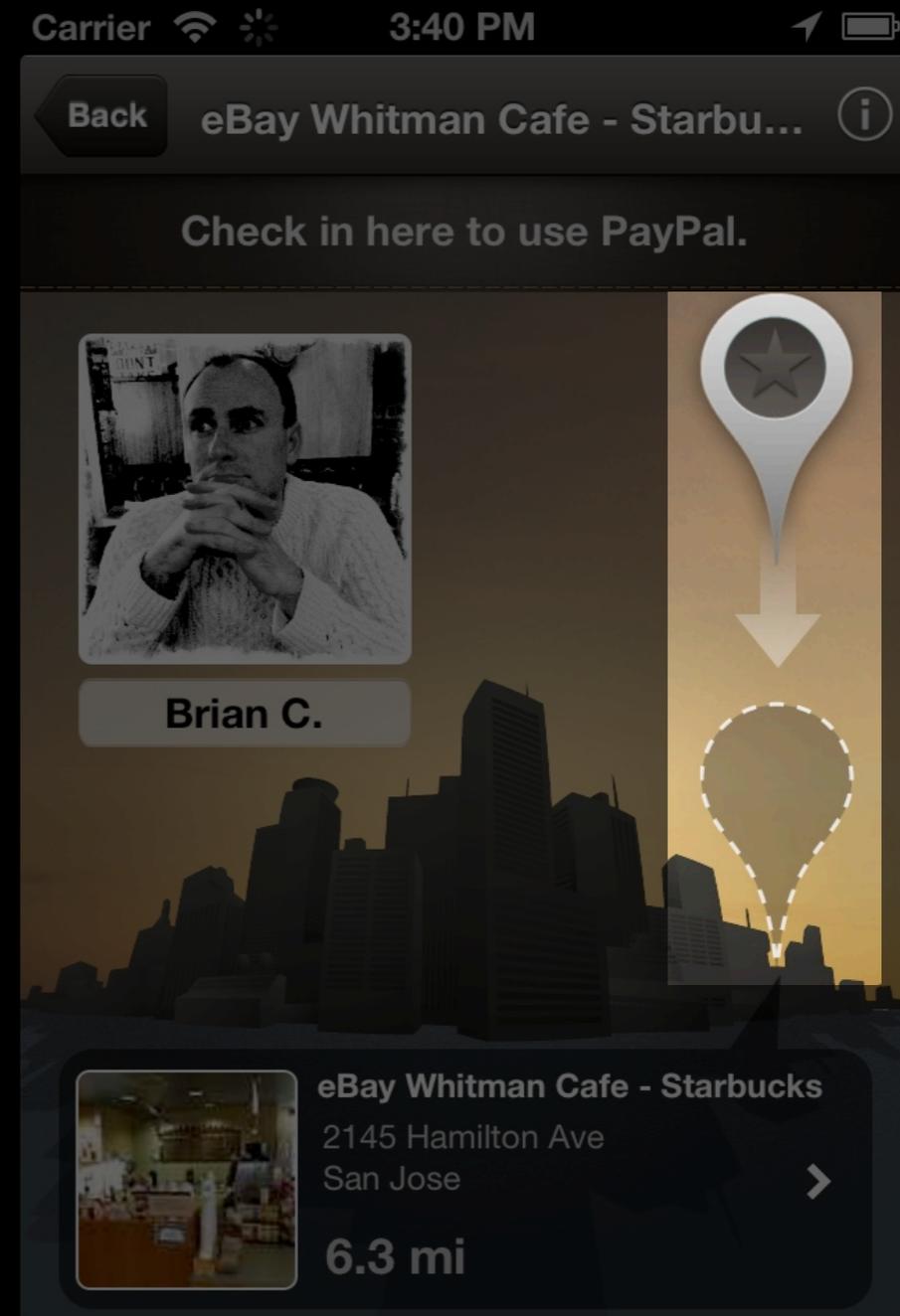


# Check-out



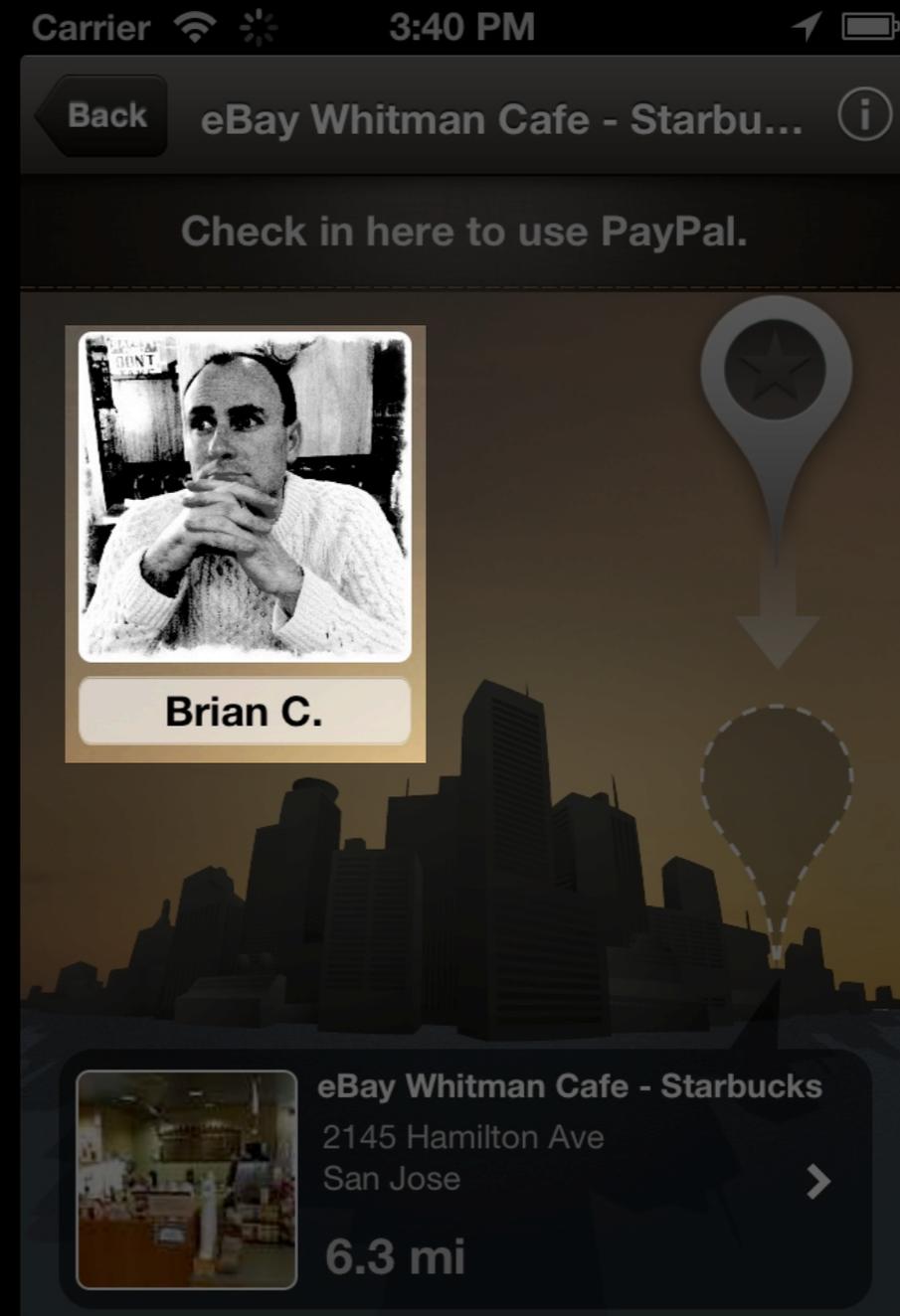
# Accessibility Impacts

- Gesture-driven “drop pin here” metaphor



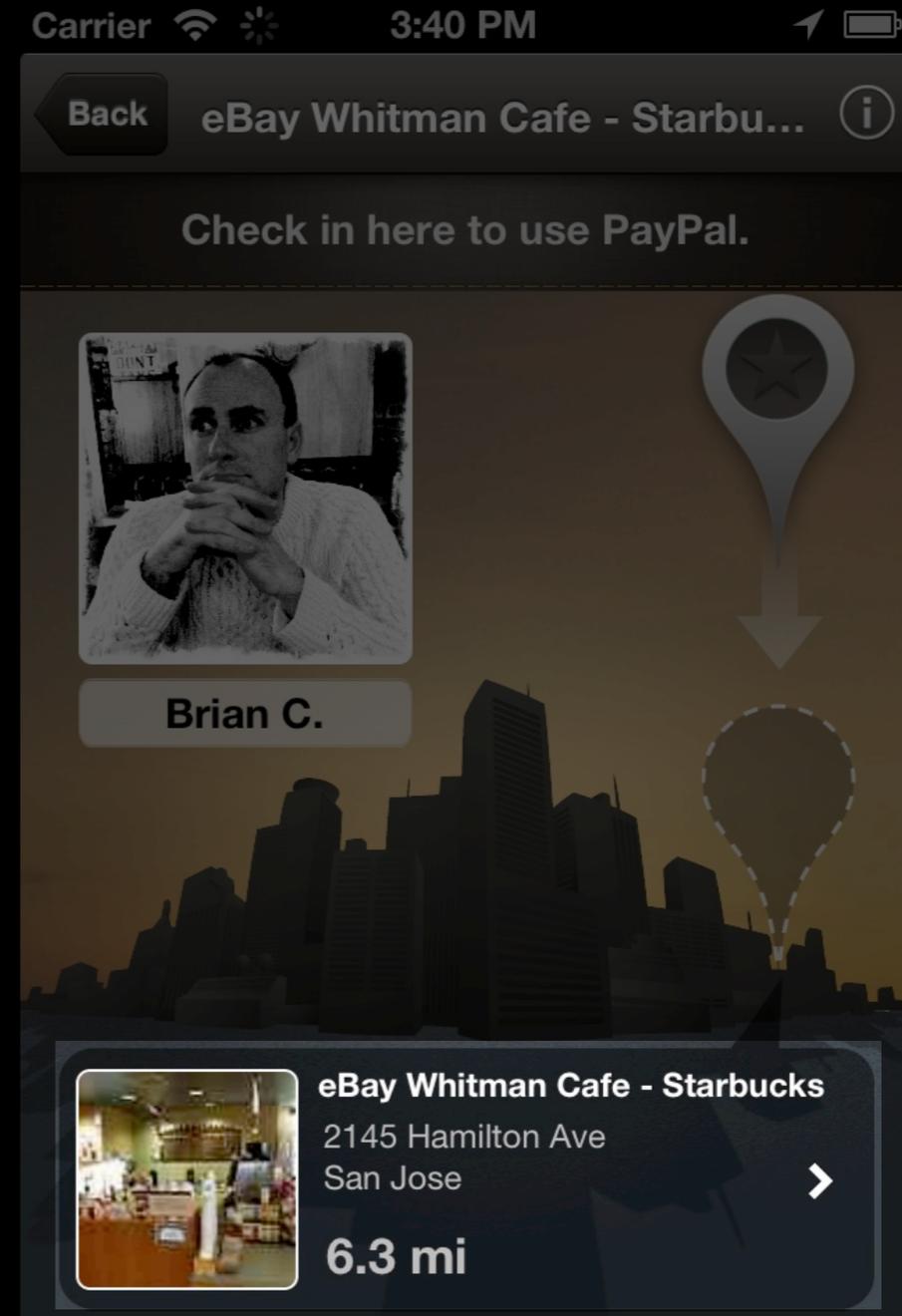
# Accessibility Impacts

- Profile Photo



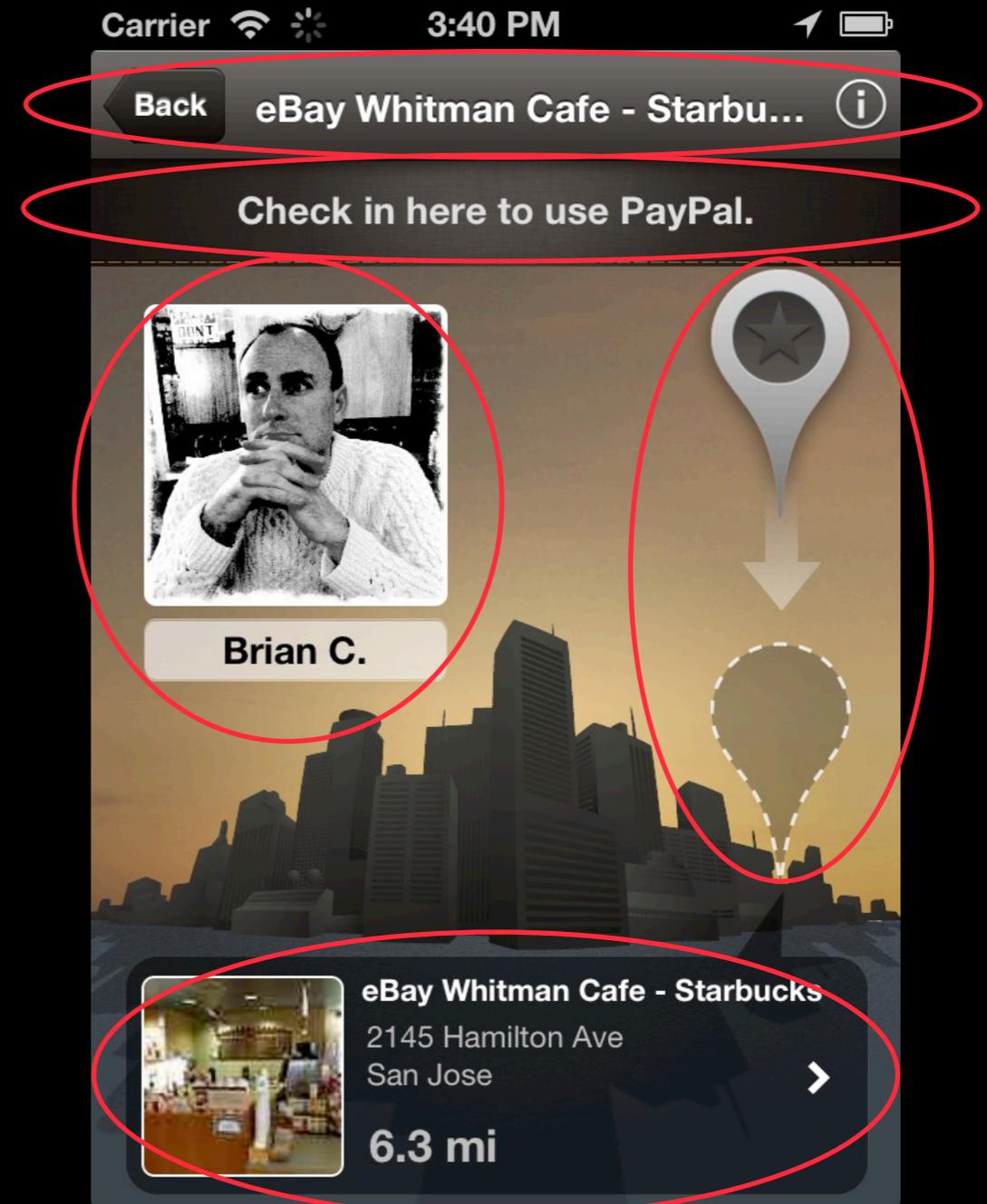
# Accessibility Impacts

- Merchant Details



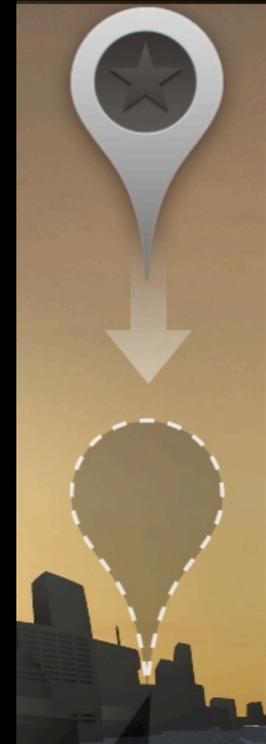
# Accessibility Impacts

- Title
- Command
- Photo
- Action
- Information



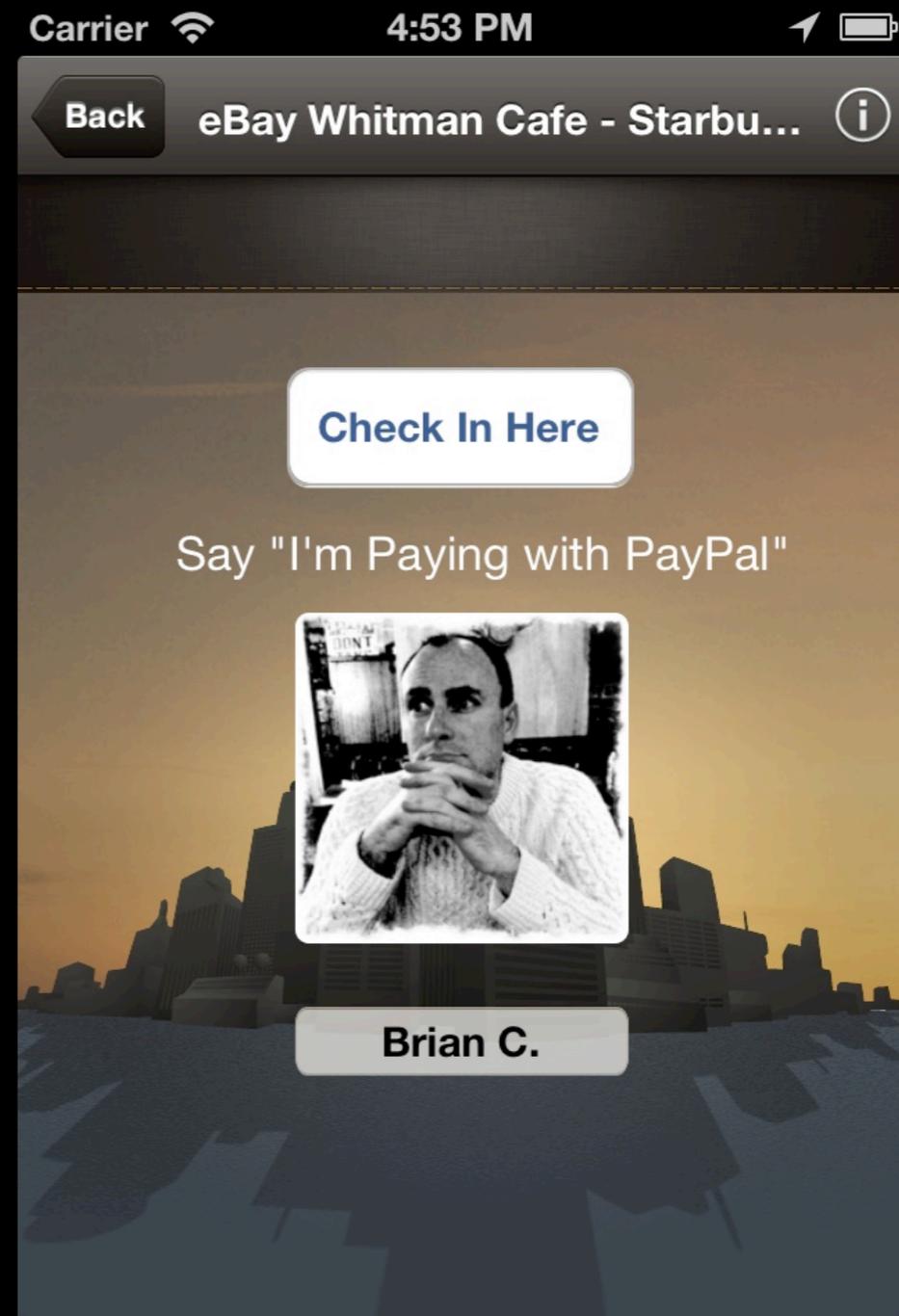
# Pin Slide as Accessibility Barrier

- Custom view - not a standard iOS control
- Moving target - bounces to draw visual attention
- No textual label
- Specific drop area for gesture



# Minimal-Impact Alternatives

- Hide irrelevant UI if VoiceOver is enabled
- Show single button to check in and out
- Just essentials

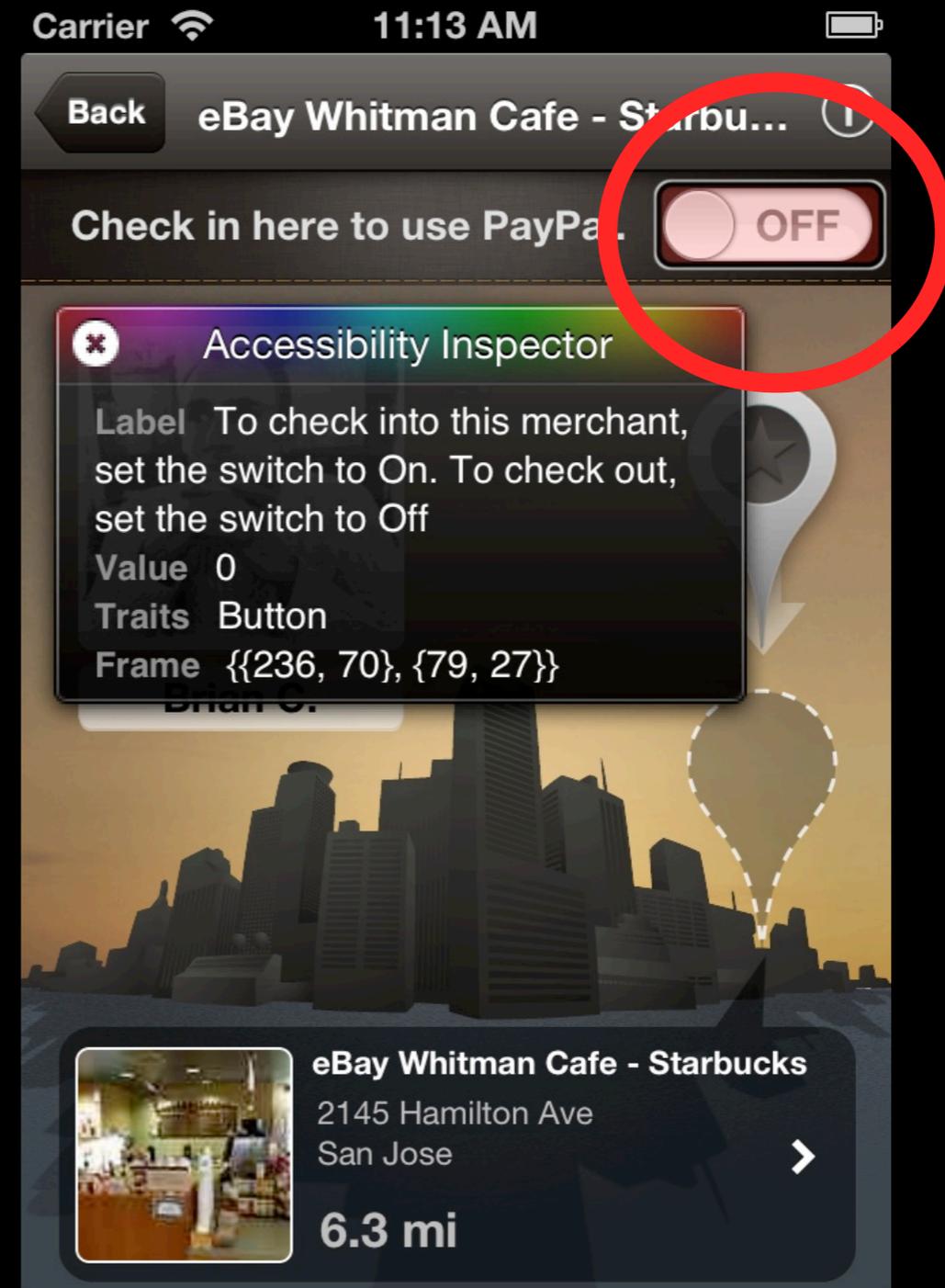


# Development Stresses

- Schedule pressures
  - Minimize changes!
  - No new development!
- Testability
  - Not enough time to test
  - Another code path in every language
- Why is this even necessary?

# What Did We Do?

- Honored team constraints
- Met basic need
- Gained Understanding!



# What Did We Do?



# Fully Alternate Design

- Another view with accessibility in mind
- Information and actions
- Dense interface (all the info); logical for scanning without seeing
- Equivalent but streamlined

# Even Better...

- Ground-up layout redesign
  - Focus on user actions, not eye candy
  - Visual flow matching user needs
  - Layout allows for VoiceOver reading in logical order
- Accomplish both visual and non-visual usability goals

# References

- <http://www.apple.com/accessibility/>
- <http://developer.apple.com/library/ios/-documentation/UserExperience/Conceptual/iPhoneAccessibility/Introduction/Introduction.html>
- <http://nshipster.com/uiaccessibility/>
- <http://www.useit.com/alertbox/20030407.html>
- <https://www.section508.gov>

# Thank You!

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