Touch Interfaces for Mobile-ID and Latent Fingerprint

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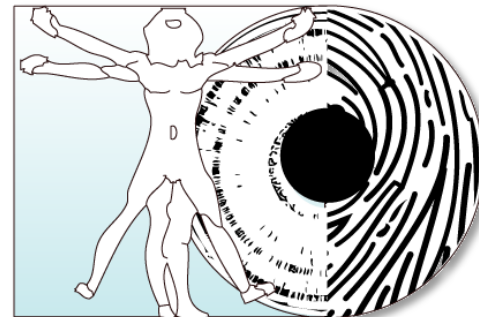
Guiding principles for incorporating new technologies:

- Don't introduce the technology just for the sake of the new technology
- Align the technology with user needs and user goals
- The technology should adapt to the user and the environment rather than the user adapting to the technology

Why mobile-id?

- Smart phones have become ubiquitous devices
- Convergence of technologies
- Natural extension
- Addresses a real need
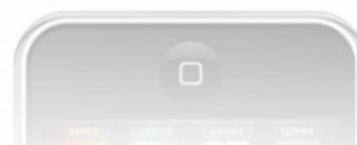
Applications on smart-phones

- Use an existing device -- convenient

- Little or no learning curve – touch interface

- Battery life is critical

- Need to function in daylight and at night

Context of Use

- Understand your users -- Ride along with your PD

- Observe them in action

- This is not their primary task

User Centered Design

- Design
  - Keep it simple
  - Focus on UI
- User Testing

Mobile-ID Goals

- Mobile iD user requirements and high fidelity user interface model that:
  - minimizes the amount of user interaction
  - streamlines and flattens the workflow
  - introduces simplified graphics
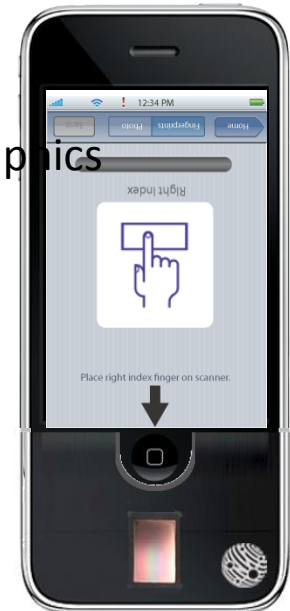 - dual directional interface

Solution

Attached Fingerprint Scanner

Standard Off the Shelf
Base platform

Simple graphics

Dual directional interface

Why touch paradigms for latent?

- Natural extension of current interactions
- Inherent in current behaviors
- Quickly becoming ubiquitous
- Want to develop guidelines and examples implemented with users in mind (in contrast to Web)

Context of Use

- Know your user:
  - Interviewed 16 latent print examiners from FBI, DoD, CIA, Secret Service, New York State Department of Criminal Justice Services.
  - Observed three latent examiner teams: Maryland State Forensic Laboratory, FBI, US-VISIT

Current Latent Fingerprint Environment

- Desks covered with stacks of paper, including photos and printouts.

- Printing and scanning are important activities, and many desks included printers and scanners.

- Organizations are "paper bound."

- Analysis is still heavily a manual process

New interaction paradigm

- Touch User Interface
- Electronic loupe with minutia marking
- Status of each latent print from thumbnail images
- Search results screen allows for rapid comparison
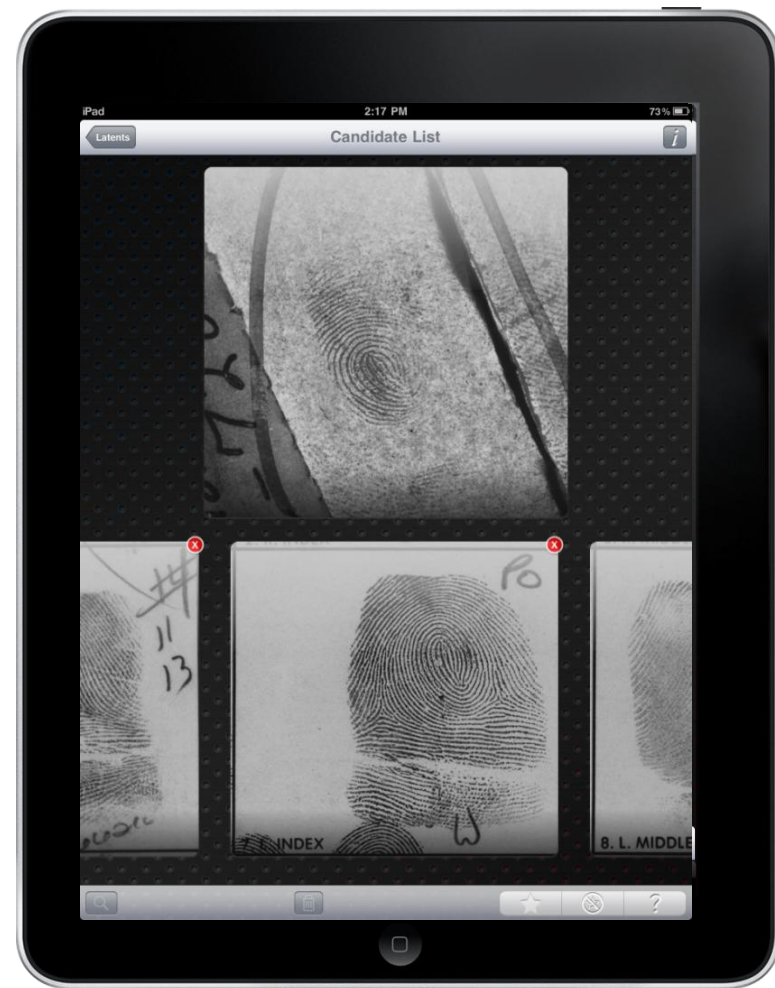
Next steps

- Feedback from latent examiners
- Formal Usability testing