Biometrics: Big Data, Analytics, & Biometric-Enabled Intelligence

— For Defense, Intelligence, Homeland Security and Law Enforcement —

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Ubiquitous Biometrics are Coming

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Biometrics – the future?

• Two views
  – Big Brother monitoring all aspects of our lives
  – Easy, smooth access and control of our identity

• The third view
  – Something in between
    • Verizon, AT&T, Facebook, Google, Apple ....
    • Officially to enhance the users’ experience by improving the applications
    • To drive advertising that is personalized to the user ($$$)
  – Others
    • NSA found this amount of information irresistible and tapped into it
    • Hackers have also had a play at this treasure trove of data
    • Advertisers pay for the information
  – Biometrics technology
    • Technology is a tool
    • The future will be a blend of these competing views
    • A balance will be struck
    • Balance point may be different around the globe
Lots of options

– 1 to N or 1 to n or 1 to 1
  • 1 to N requires terrific accuracy
  • Accuracy requires good capture and reliable, speedy, transport

– Not all biometrics are equal
  • Forensics
  • Speed
  • Accuracy
  • Fraud
  • Risk
  • Ease of Use
  • Age Dependent
  • Environment Dependent
Biometric Trends – Adoption

- Humans have been using biometrics to identify each other forever – a qualitative assessment
- Using technology, humans are moving to a more quantitative assessment - biometrics
- Governmental
  - National ID programs (80 countries incorporating biometrics)
  - Borders/Immigration
    - DHS Air Entry/Exit Re-engineering Program (AEER)
    - Face and Iris are the standard for several countries in the Middle East
  - US Government Procurements
    - DHS Personal Identity Verification (PIV II)
    - Army Automated Installation Entry (AIE3), Joint Personnel Identification (JPIv2)
    - FBI Next Generation Identification (NGI)
- Industries
  - Security – Access Control
  - Time and Attendance
    - Fraud Prevention
Biometric Adoption - Consumers

• Consumers
  • Frost and Sullivan predicts 1.4B smartphones with a biometric by 2017
  • Apple – AuthenTec purchase – opens phone – buy iTunes
  • Microsoft – Xbox – voice and face
  • Laptops - fingerprints
  • HTC - fingerprint and face
  • Google? Motorola? Samsung? Lots of rumors
  • FIDO (Fast Identity Online) Alliance – financial transactions
  • Disney – fingerprint for ticketing
  • Cashless Nigeria
What will drive adoption by consumers?

• “The best technology is the technology that you don’t see”
  – My car has 8 computers in it and I don’t know it; It is just easier to use.
• Early VCR’s – now the butt of millions of jokes – DVR’s and Smart Thermostats
  – It must be easy to use
    • IPOD
    • iPhone
    • Twitter
    • Google Search
    • Credit Cards
  – Security
    • Secure Enclave
    • Trust zone
  – Features
    • Cheapest?
    • Most secure?
    • Best experience

Fast and convenient with a perceived benefit
What is the perceived value to the user?

– Why does a consumer give up their information to Facebook, Apple and Google?

– Why would a user want to use biometrics?
  • Opt in programs - Convenience
  • EZ-Pass like checkout lanes
  • ATMs
  • Frequent Travelers
  • Enhanced Security
  • Entitlements
  • Instant gratification, speed, confidence
  • Prestige level of service
  • Knowledge (did your kids get to school?)
Why would a company want to offer biometrics as part of their product or service?

• Risk management
  – If it is easy to use ........
  – How does a reduced level of risk effect my bottom line?
  – What is the cost to implement and maintain the technology?
• Liability reduction
  – Can I offer a larger benefit because I know with certainty who I am dealing with?
• Consumer demand
  – Once adopted, many consumers will request it with the services provided
• Prestige
• Competitive differentiation, level of service differentiation
• Operational efficiencies (time card example)
• Better customer understanding (grocery store loyalty cards)
• Tailor the experience for the specific user
• Upsell the specific user
• Better situational awareness and security across multiple sites
Risks in the Use of Biometrics

• Cyber/hacking a honey pot of data
  – Hard to change your biometrics
  – Does multiple modalities solve this problem?

• Adoption
  – Inertia of passwords and PINS
  – Cost?
    • For a lower risk and liability, businesses may pay for the implementation

• Fraud
  – Some biometrics are not hard to spoof
  – Does multiple modalities solve this problem?
Possible impacts to consumers

• You are your credit card/drivers license/SSN #
• Financial transactions
  – Reduces the risk of fraud for the financial institution (lowers financial liability)
  – Rapid convenient authentication (no more passwords) – no more stolen credit cards
• You are your smart phone, which is your new card for access control
  – No more lending of credentials
  – No more lost cards to replace
• Your smart phone becomes your key (motor vehicles, lockers, etc.)
  – Safety Deposit Boxes, Safes, Computers, Appliances
• Time and attendance on your smart phone
  – Know who, when and where people are at your facility
  – Reduced timekeeping errors
• Smooth, secure authentication and access
Summary

• Ubiquitous Biometrics are not only coming, they have arrived in many instances
  – Border control
  – Access control
  – Voting rights
  – Grocery stores

• Mass adoption and expansion are tied directly to ease of use (instinctive) and benefit for the user
  – The technology wave will continue to push this forward

• End users are always happy to get more for doing less, and a picture of your face/iris or swiping a finger is less than remembering a PIN
Thank You

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