

Anti-spoofing Detection Biometric Authentication in W3C

Kepeng Li, Alibaba, kepeng.lkp@alibaba-inc.com

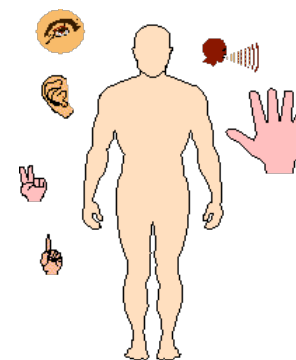
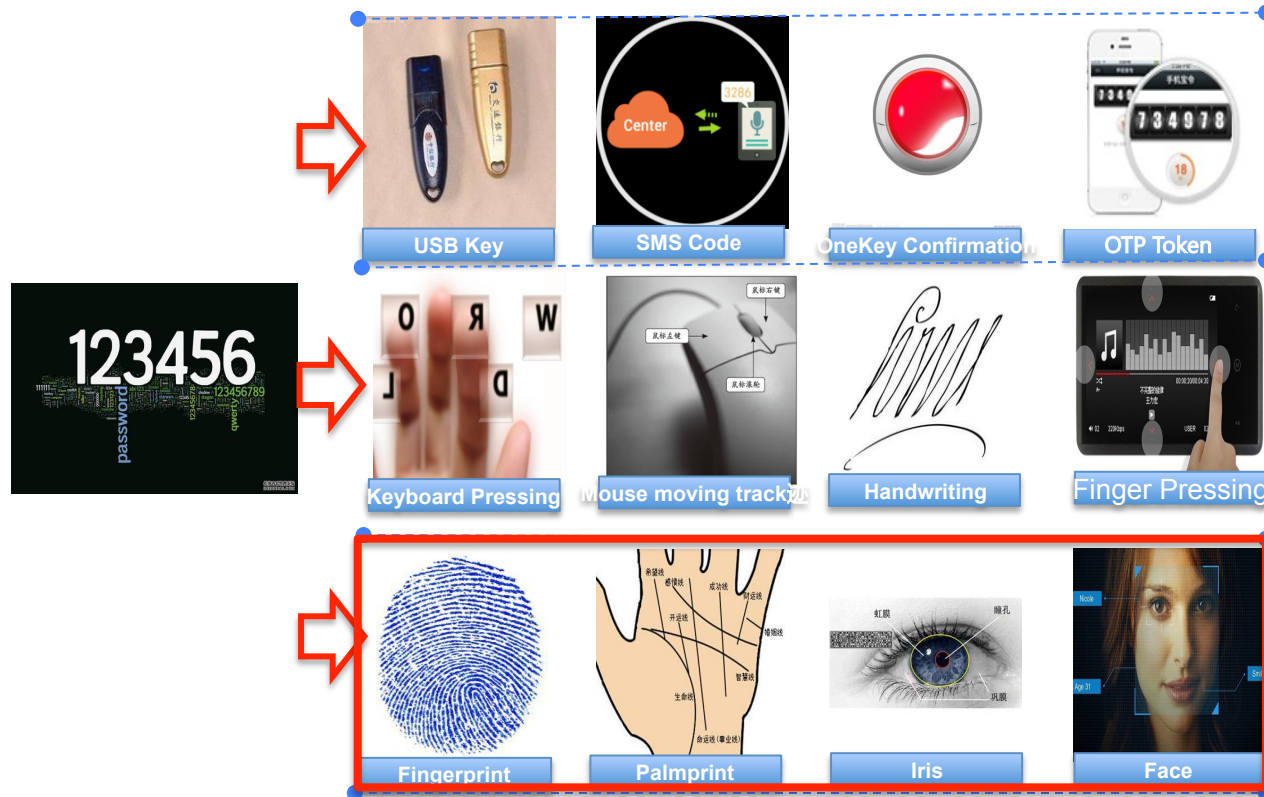
Outline

- Brief introduction
- Why do we need this
- Framework and process flows
- Standard opportunities in W3C

Brief introduction

- Real name authentication:
 - Verify if an identity is true or not, e.g. by ID card verification, passport verification.
- Anti-spoofing detection biometric authentication (Real person linking biometric authentication):
 - Verify if an identity is true and if a person matches with an identity.
 - Real person authentication can be very useful in some use cases, e.g. e-commerce shop setting up service, mobile payment service, online activating SIM card, e-health service, e-government service.
 - Using anti-spoofing mechanisms.
- Anti-spoofing detection biometric authentication = real name authentication + biometric authentication + anti-spoofing detection

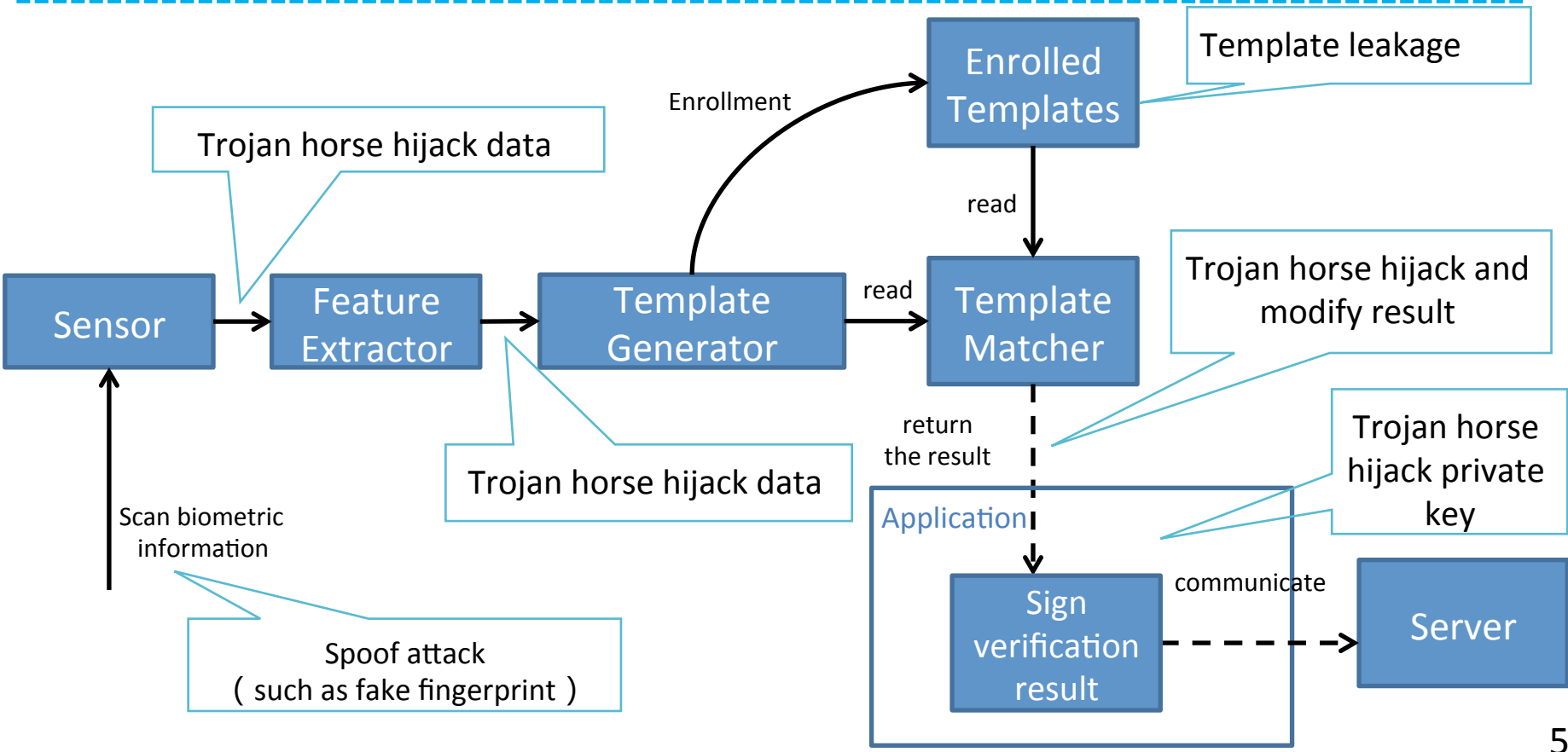
Development of Authentication



Advantages

- (1) Portable
- (2) Secure
- (3) Stable
- (4) Unique
- (5) Universal
- (6) Convenient
- (7) Collective
- (8) Acceptable

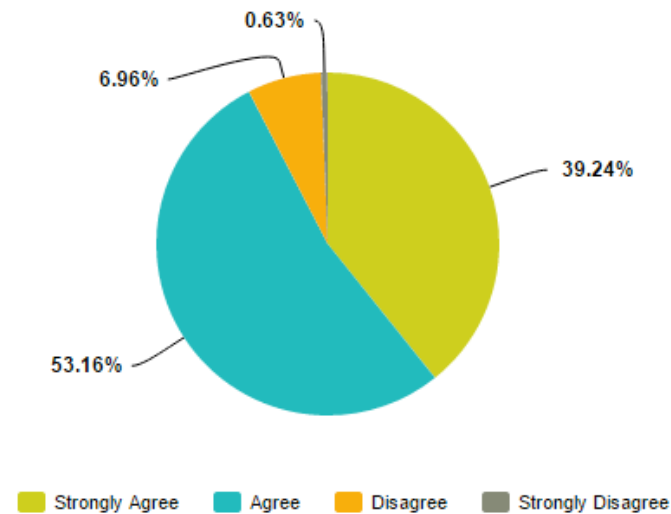
Potential security threats in biometric authentication



Why anti-spoofing detection is essential for biometric authentication

- Anti-spoofing detection examples
 - Shake heads
 - Open/close mouth
 - Blink (eyes)
- Enhance security:
 - Avoid fake biometrics
 - Avoid copied biometrics

Improved liveness detection should be a priority for the consumer facing biometrics industry.

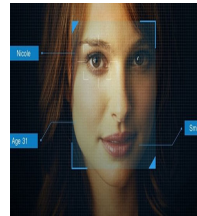


Rating results in the 13th annual FindBiometrics Year in Review

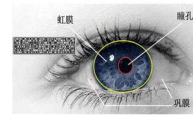
Deployments



Fingerprint



Face



Iris

Deployment scenarios

E-commerce:
Online shop opening

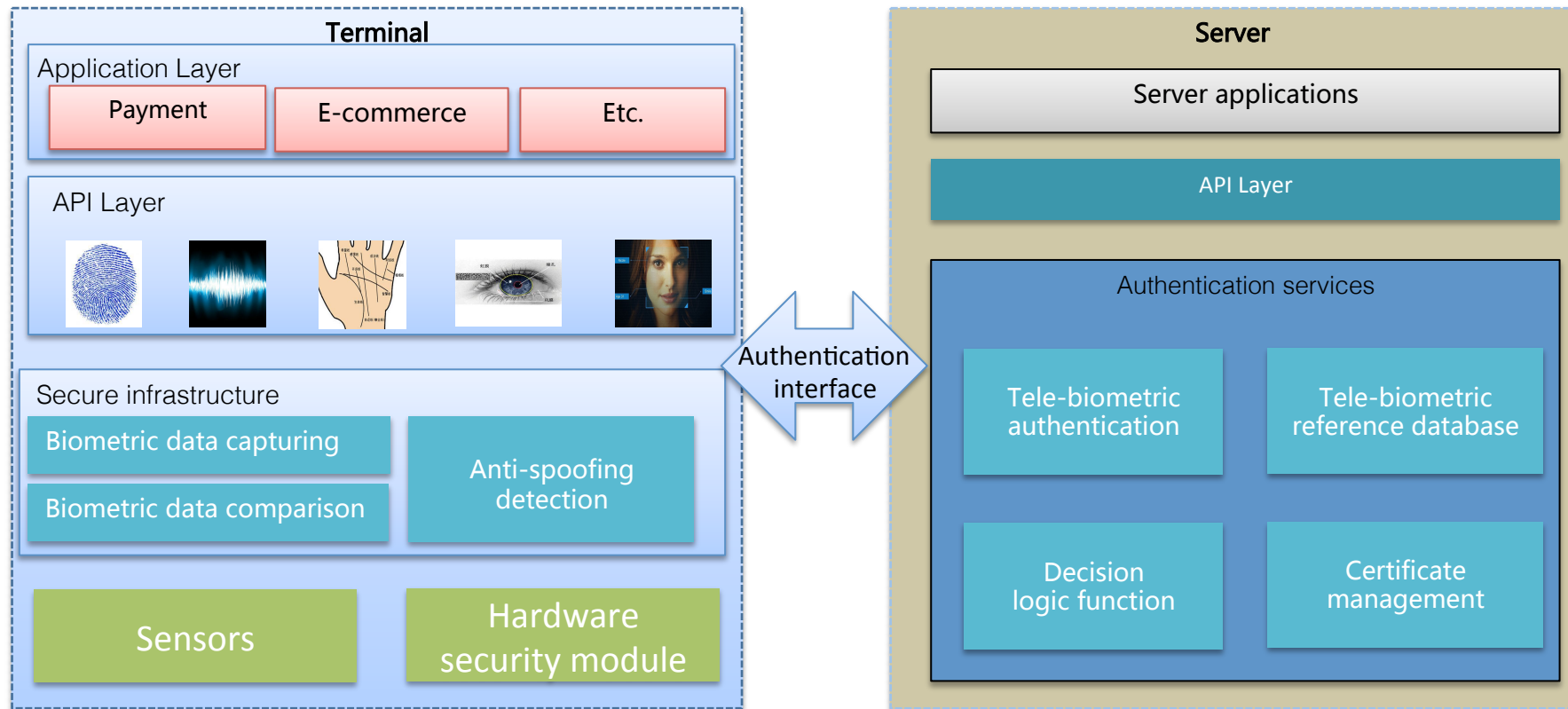
Finance:
Online payment

Telecommunication:
Online card selling

Logistics:
Send package

E-government:
Online application

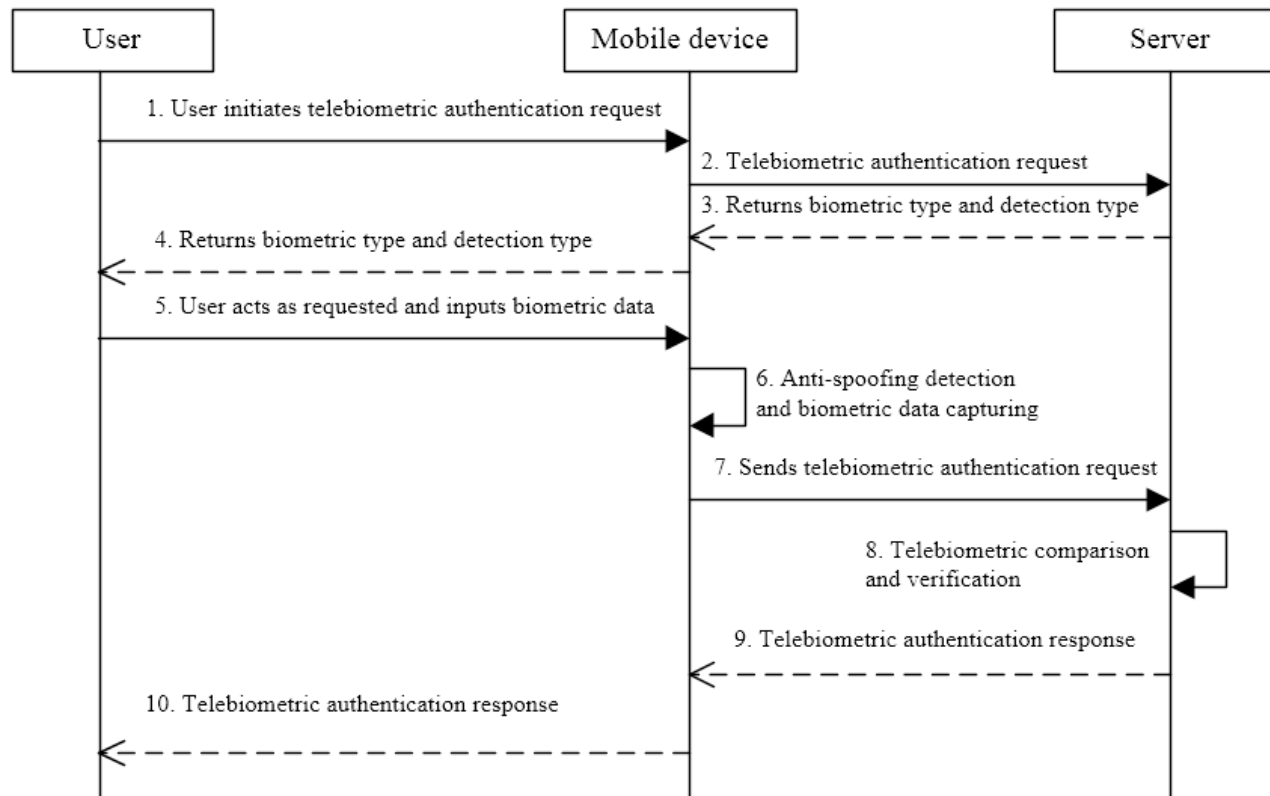
Framework



Process flows

- Local verification process flows
 - Registration process flow
 - Authentication process flow
 - Deregistration process flow
- Remote verification process flows
 - Registration process flow
 - Authentication process flow
 - Deregistration process flow

Example process flow



Remote authentication process flow

Standard opportunities in W3C

- Possible standard opportunities
 - How to register/deregister biometric data to browser?
 - How to send authentication request to browser?
 - How to input biometric data to browser?
 - How to return back authentication results from browser?
- In which WG/IG/CG?
 - Web authentication WG?
 - Web security IG?
 - Any related CGs?

Thanks!

Q & A