PICKING A (SMART) LOCK

Locking Relationships on Mobile Devices

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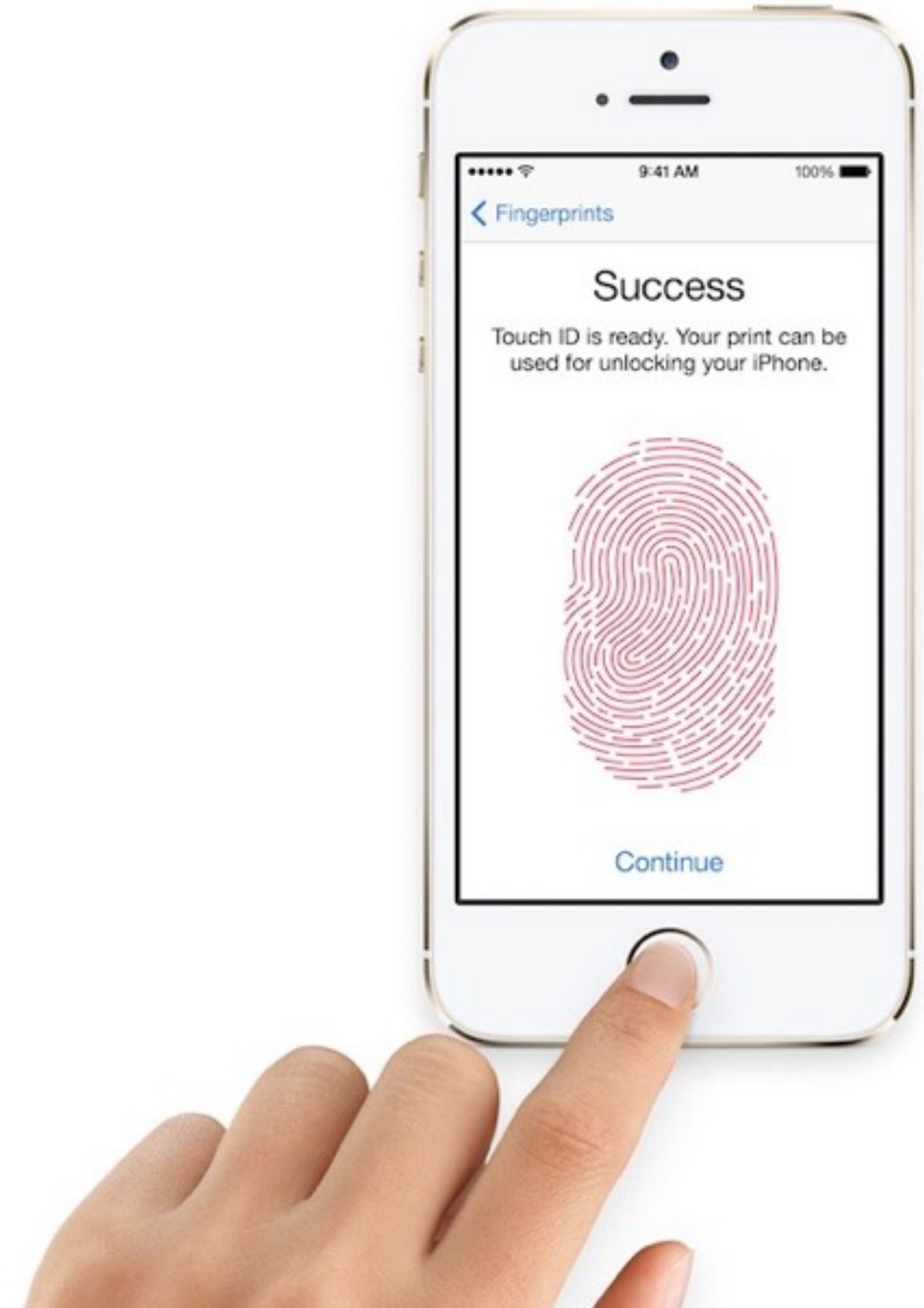
DESKTOP AUTHENTICATION HASN'T CHANGED MUCH

MORE THAN ONE WAY TO LOCK A PHONE



- **iOS**
  - Passcode (PIN, password)
  - Touch ID (fingerprint)
- **Android**
  - PIN/password
  - Pattern Unlock
  - Smart Locks
    - Trusted devices, face, place
    - On-body detection

A PERFECT STORM FOR MOBILE DEVICE AUTHENTICATION

Mobile devices have

- distinct use patterns
- distinct threat models
- market pressures
- vertical integration

A MODEL OF MOBILE AUTHENTICATION

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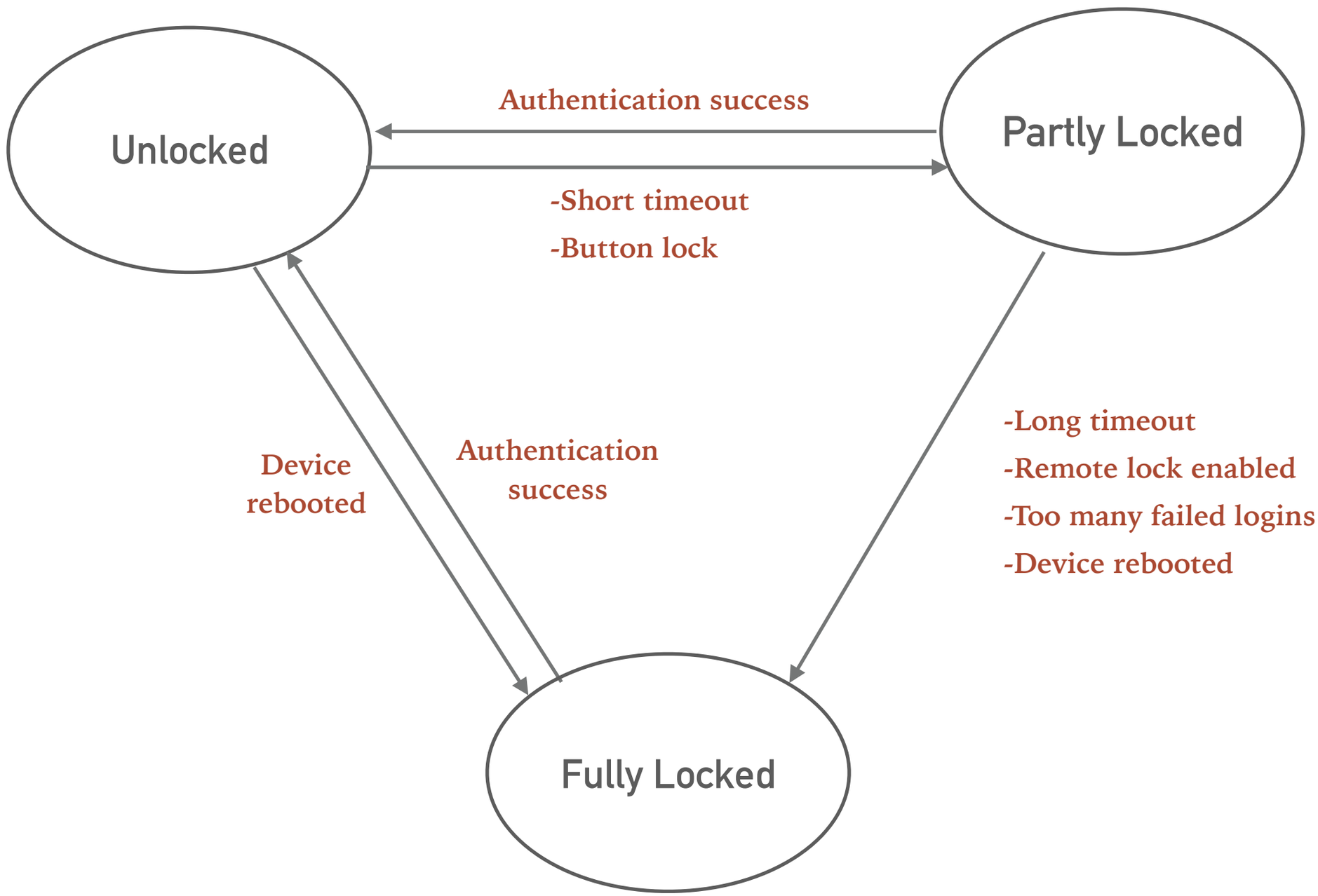
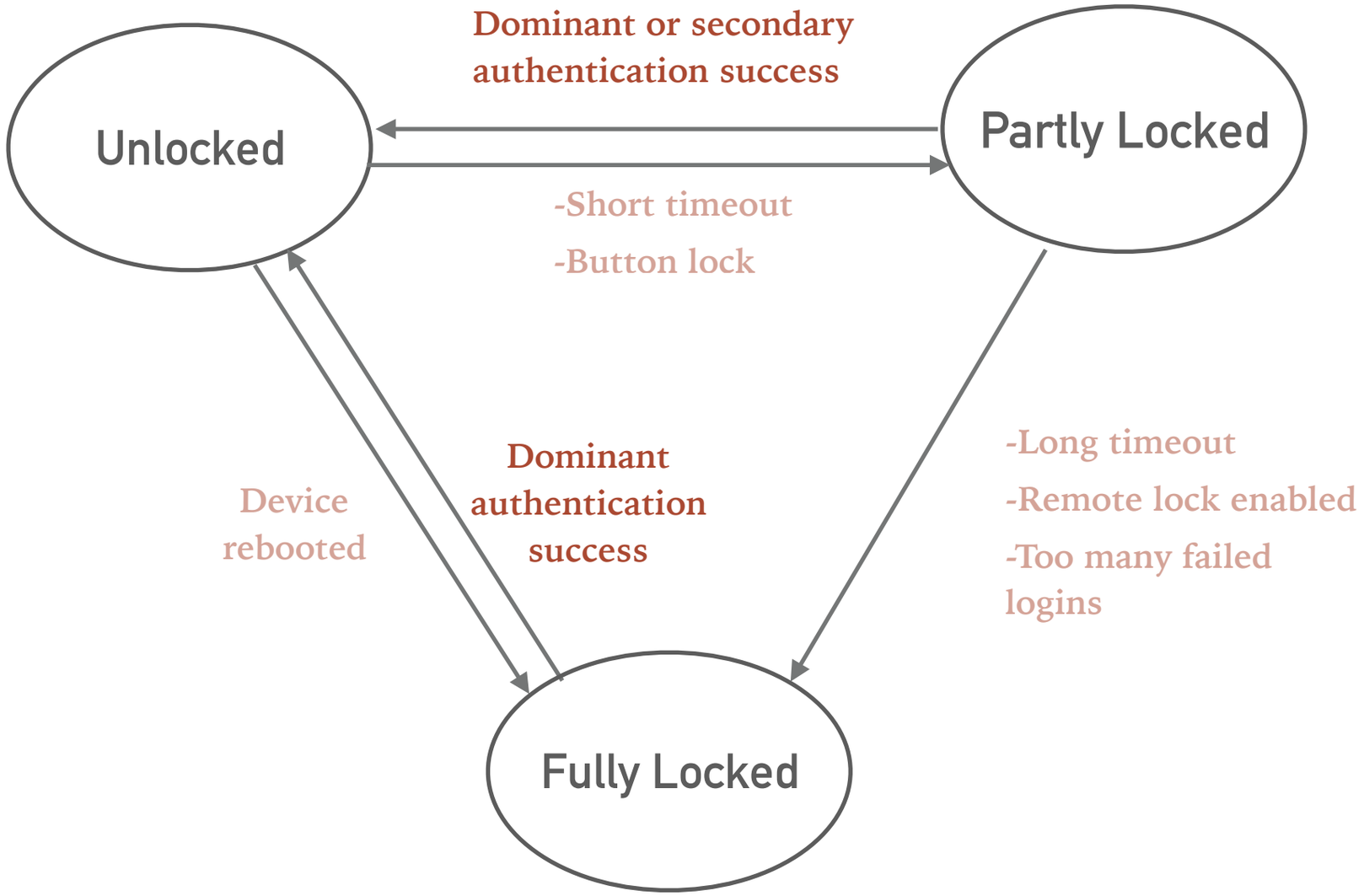


DOMINANT VS. SECONDARY AUTHENTICATION

- *Dominant* authentication always unlocks the device
- *Secondary* authentication sometimes unlocks the device



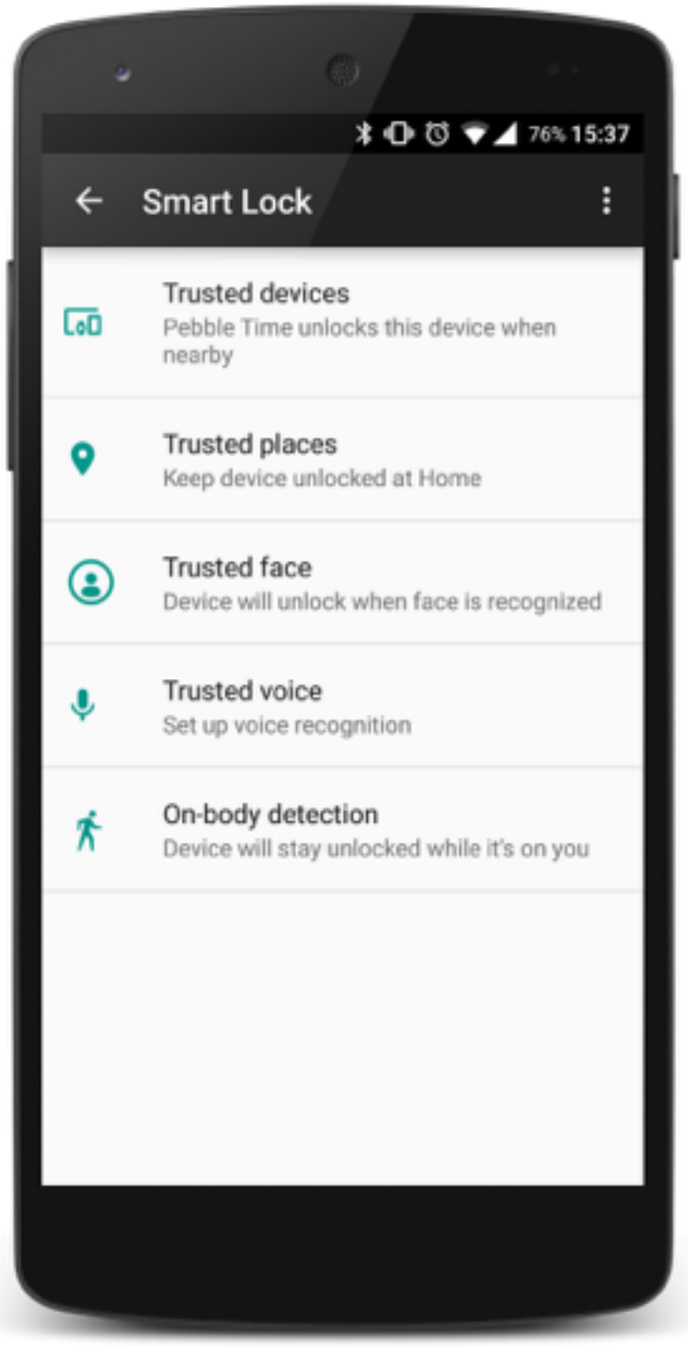
LAYERED SECURITY MECHANISMS

- Is having more authentication methods better for security?
  - Authentication methods are keys more than doors

- How to calibrate the security differences between dominant and secondary authentication?
  - Lockout policies are the usual approach
  - Many aspects of lockout policies are user-configured

A CHOICE OF AUTHENTICATION SCHEMES

- New models leave the choice of authentication mechanisms in the hands of the user
- Do people know how to choose and configure the right security for them?



FUTURE AUTHENTICATION STRATEGIES

- How will this model develop?
- Continuous authentication?
- What design opportunities are facilitated by this authentication model?
- Partial authentication?
- Per-app authentication?

OPEN QUESTIONS

- What are the security implications of layering multiple authentication mechanisms?
- How will giving users a variety of choice in how they secure their devices play out?
- Will this model persist? How will it develop in future?

- Thank you!
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