

Advanced Biometrics

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Identity Science

- ④ Means to verify or identify subjects
 - ④ “Something you know”
 - ④ “Something you have”
 - ④ “Something you are”

Something You Are = Biometrics

- The study of techniques for measuring features of a living entity that can be used to determine the identity of the individual

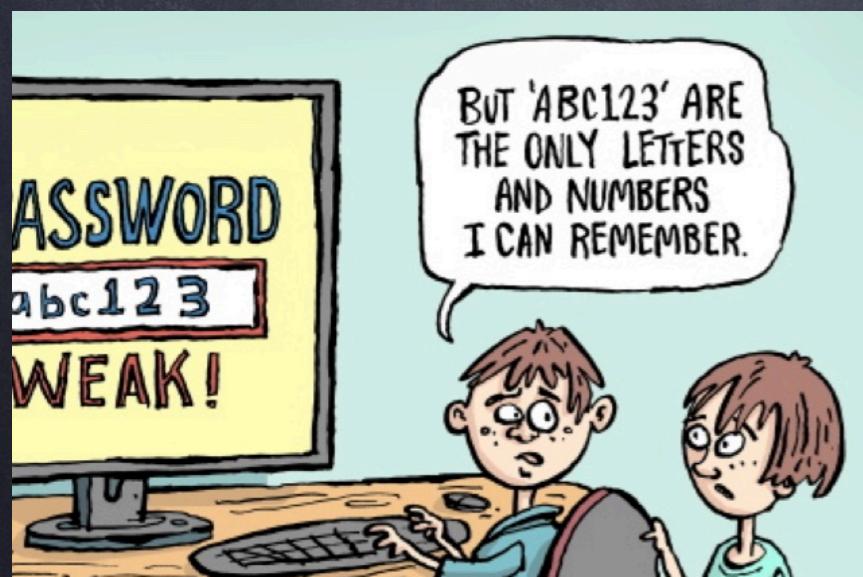
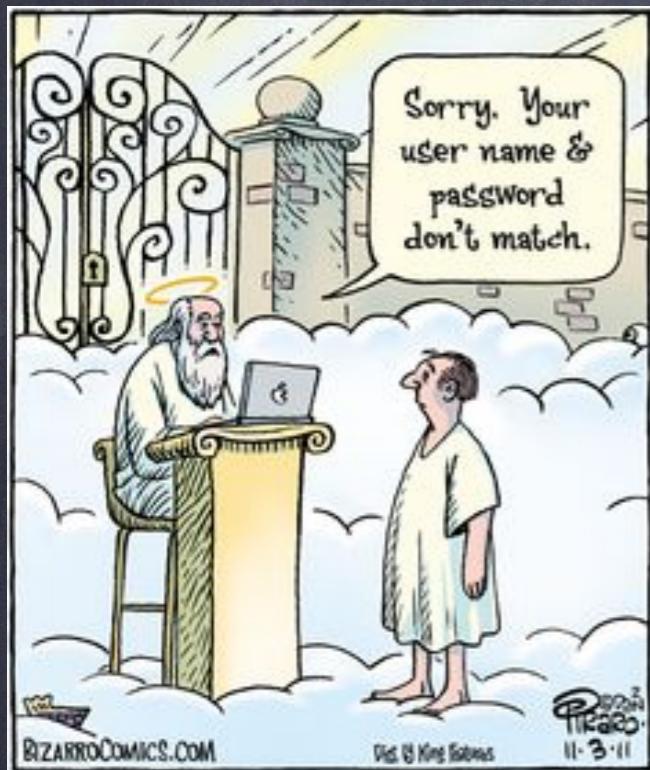
Why Biometrics?

- ④ Recall
- ④ "Something you know" - PINS,
Password ...
- ④ "Something you have" - Access
card, Debit card ...
- ④ "Something you are" - Biometrics

Why Biometrics?

- Too many passwords: email, social networking sites, bank accounts, utility accounts, ATMs – same password for several accounts
- An average person has over 30 online accounts and ~8 passwords
- An average person uses 8-10 online passwords a day
- Most common passwords are "123456", password123, yourname123, mnit123, iuit123, names-as-password, DOB as password ...

Why Biometrics?



Types of Biometrics Modalities

- ④ Remember UIDAI (Aadhaar) project
- ④ Fingerprint
- ④ Iris
- ④ Face

Types of Biometrics Modalities

- ④ Physiological: something that we possess
 - ④ Face, fingerprint, iris
- ④ Behavioral: characterized by a behavioral trait that is learned over time
 - ④ Signature, gait, keystroke

How to Define a Biometrics Modality?

- Universality: each person should have the characteristic
- Distinctiveness: any two persons should be sufficiently different in terms of the characteristic
- Permanence: the characteristic should be sufficiently invariant (with respect to the matching criterion) over a period of time
- Collectability: the characteristic can be measured quantitatively

Thank you

See (some of) you Next Week