# Usable Biometrics

Joshua Debner

# What kind of Biometrics?

## Physiological - Body Parts

# Specifically What Kind?

Technologies dealing with your face...

Facial Recognition
Iris Recognition
Retinal Scan

# Biometric Requirements

FAR / FMR

FRR / FNMR

FTE / FER

FTC

# What kind of Authentication?

Identification - One to Many

Verification - One to One

# BBC animations

http://news.bbc.co.uk/2/shared/spl/hi/guides/456900/456993/html/

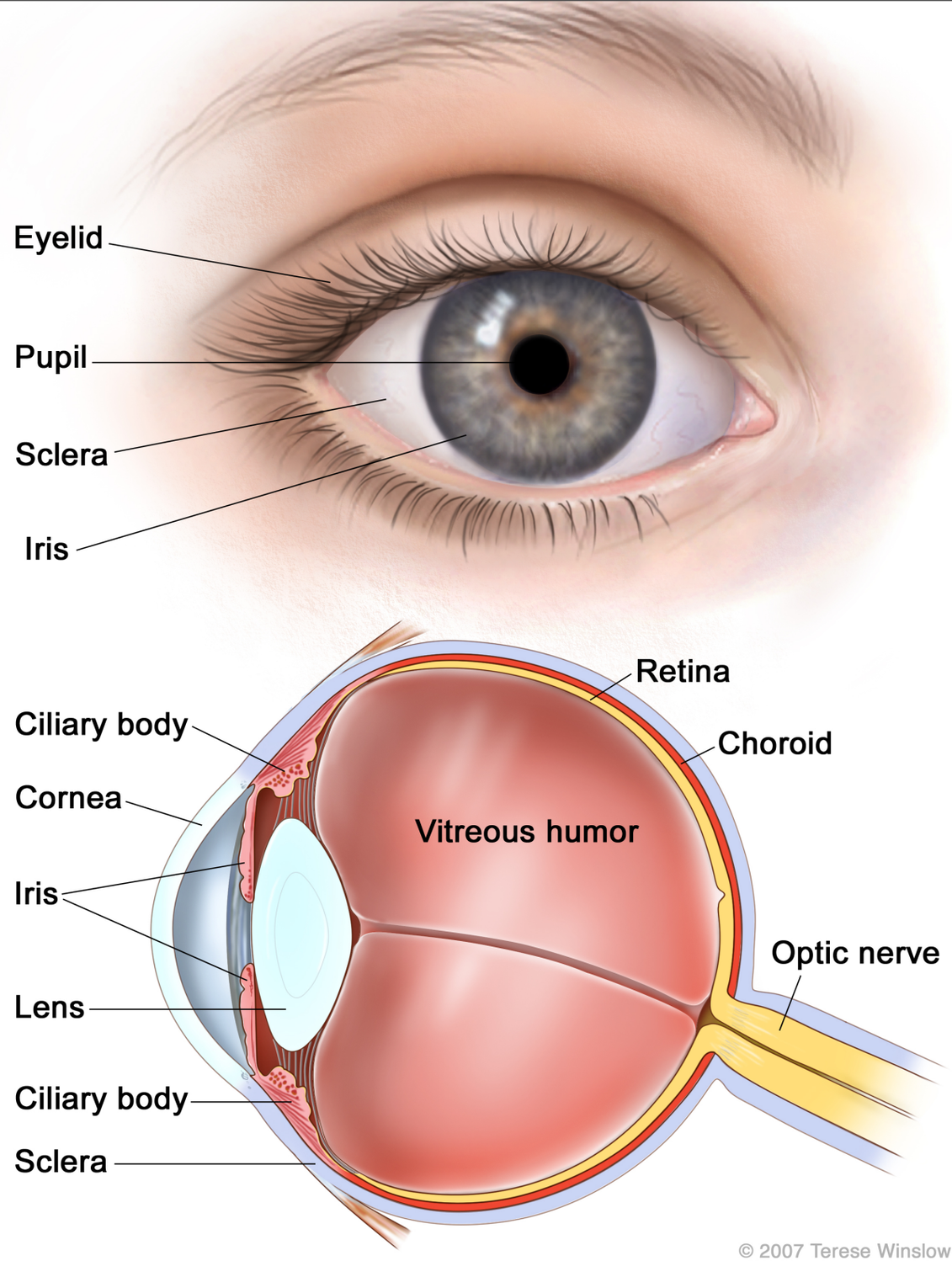
# Usability Concerns

- Requires specific process from User
- Sometimes makes user go out of their way
- Requires long enrollment process
- Acceptance issues

# Facial Recognition

Problems:

- Neutral
- Full Frontal
- Lighting/Glasses/ Accessories

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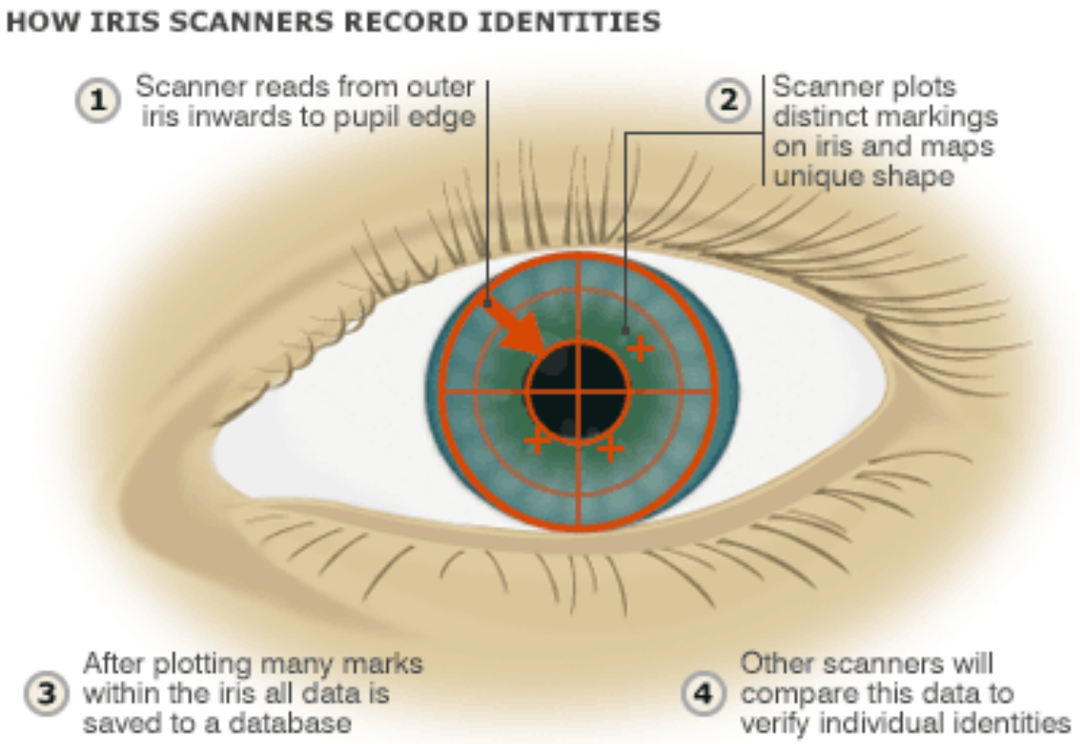
# Understanding the Eye

# Retina

# Retinal Scan

Problems

- Must be close to camera (IR)
- Scanning can be invasive
- Not User friendly
- Expensive


HOW IRIS SCANNERS RECORD IDENTITIES
1 Scanner reads from outer iris inwards to pupil edge
2 Scanner plots distinct markings on iris and maps unique shape
3 After plotting many marks within the iris all data is saved to a database
4 Other scanners will compare this data to verify individual identities

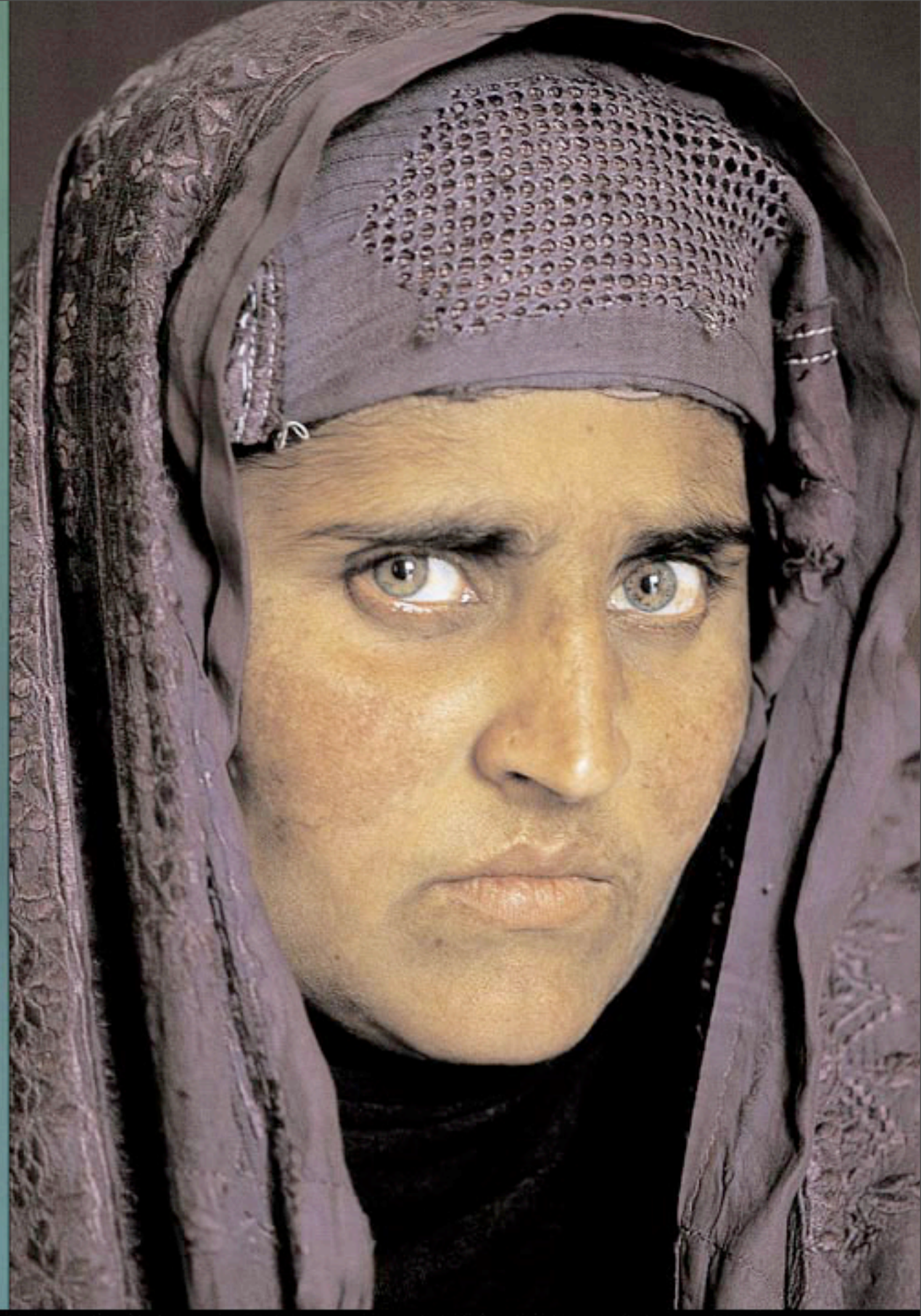
# Iris

# Iris Recognition

Problems

- Late to the game
- Requires advanced technology to properly capture iris
- Users do not have to consent to have their identity tested

photo by Steve McCurry



National Geographic's "Afghan girl"—For 17 years photographer Steve McCurry has tried to once again find the subject of his famous 1984 photo. Now he has. Meet the "Afghan girl" in the April 2002 issue of *National Geographic* magazine. Subscribe online at nationalgeographic.com.

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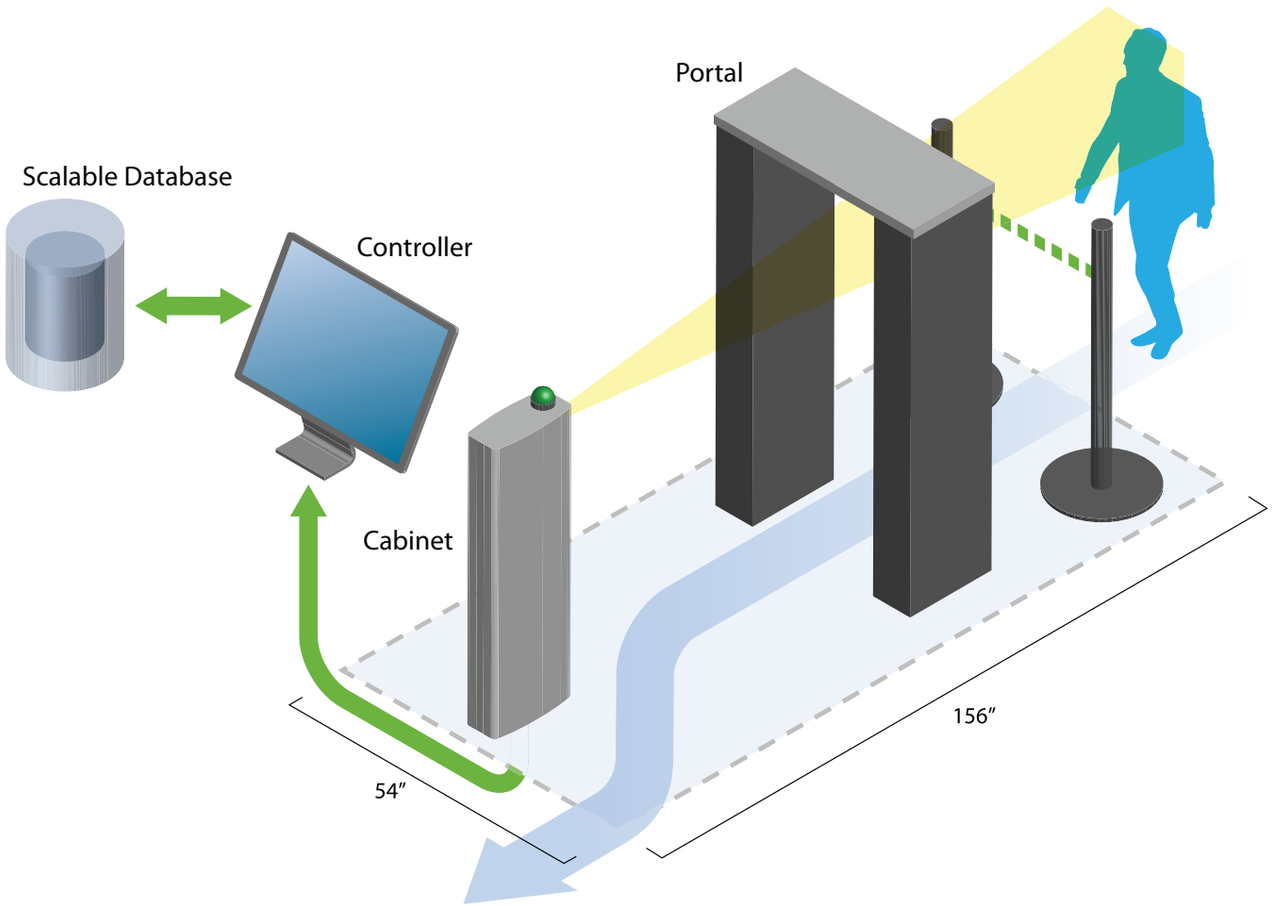
# Commercial Solutions

## Iris on the move



# Research @ CMU

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# Sources


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