



Jo Doe

PIN



# Exploring User Authentication with Windows Hello in a Small Business Environment

[Florian M. Farke](#), Leona Lassak, Jannis Pinter, and Markus Dürmuth

- Password alternatives become more popular
- Mobile authentication via face / finger [1]
- Biometry in work context?



[1] Duo Security. The 2020 Duo Trusted Access Report: A Remote Access Playbook (2021)

# Study



Adoption of biometrics



Perceived security



UX of new method



# Study Environment



Small company

15 eligible employees

13 participants



Windows Hello deployment

Facial / fingerprint recognition

PIN

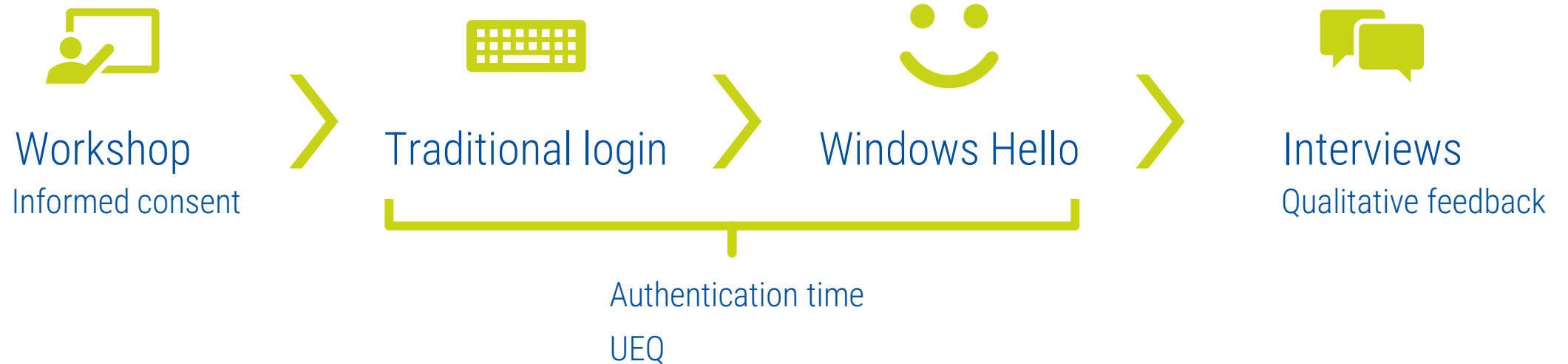


Various working environments

Production facility

Traveling/customer meetings

# Study Protocol



# Results



Windows Hello perceived very positively

Participants liked UX



Most participants used PIN

Privacy / reliability  
Sensor position





## Privacy Concerns

*The camera is always on, and they can be hacked. (P11)*

*I might feel like I'm being watched. (P10)*

## Reliability

*Face recognition always requires a working camera. Does it work when I shave off my beard? (P11)*

*If your hands are wet or have an injury, then you would have probably problems with the sign-in. (P2)*

# Workplace Setup

*I actually always have the laptop closed (P7)*

*Usually the laptop lid is closed, so using the fingerprint reader would have been too inconvenient. (P6)*

*The computer is too far away, it does not recognize me. (P12)*



# Biometry More Secure

“ *Facial recognition software can store several features, and this may be even more secure than a PIN.*  
(P2)

*Fingerprints are used in identity documents, so I think a fingerprint is really secure. But basically, facial recognition and fingerprints are equally secure.* (P9)

”

# Passwords More Secure

“

*Sometimes I don't trust things, you come up with a PIN yourself, it's hard to steal. (P5)*

*A 16-character password with special characters, upper/lower case letters, and numbers seems more secure to me. (P7)*

”

# Authentication Speed



Windows Hello

- 3.0s



Traditional login

- 5.7s

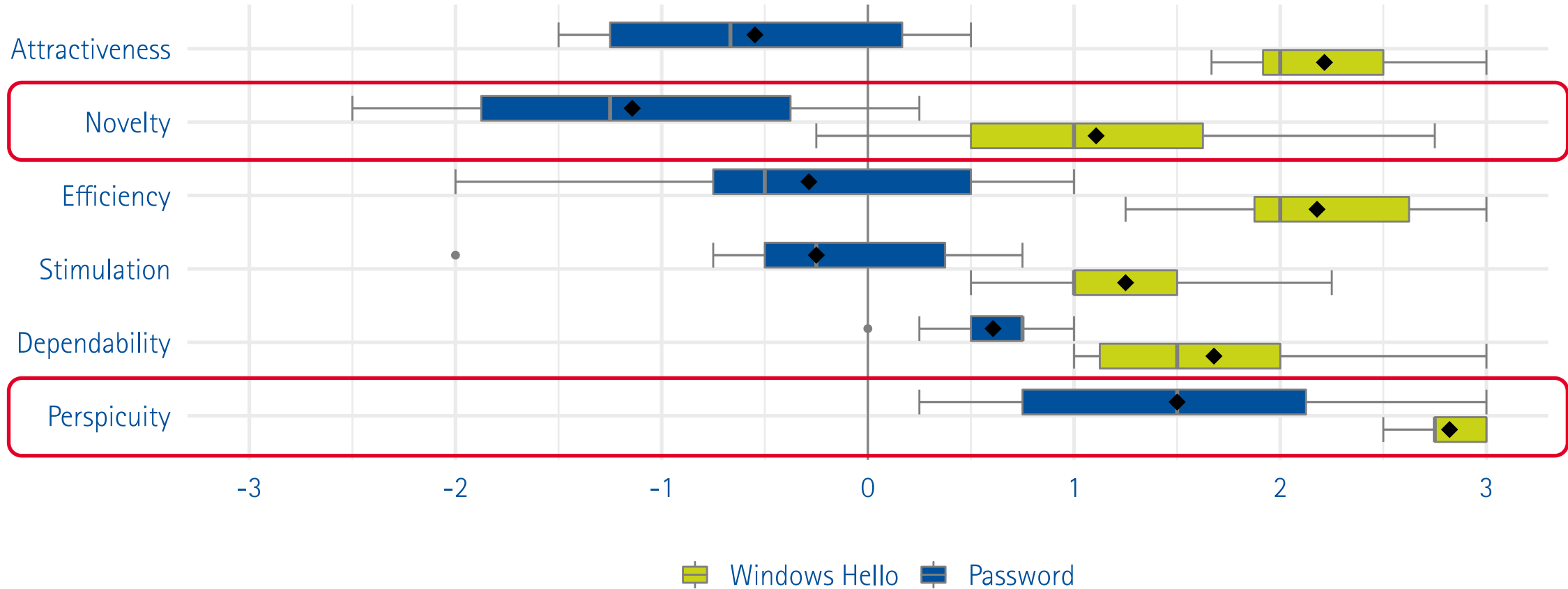


*Faster because the PIN is obviously shorter than my old password. (P11)*

*I mistype less as with upper/ lower case letters and such because it is just numbers. (P4)*



# User Experience Questionnaire



# Takeaways

- Employees may refuse biometry
- Valid reasons not to adopt
- Workplace setup and company culture [2]



[2] Raluca Balica. Automated Data Analysis in Organizations: Sensory Algorithmic Devices, Intrusive Workplace Monitoring, and Employee Surveillance (2019)



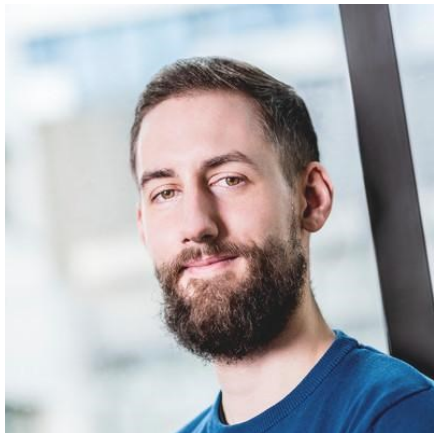
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<https://www.usenix.org/conference/soups2022/presentation/farke>

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