

The Human Aspect of Digital Identity

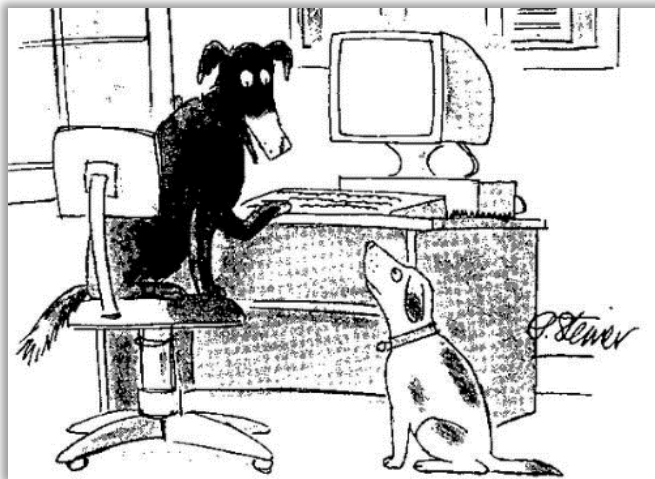
2023-03-16 – John Erik Setsaas

John Erik Setsaas
Digital Identity Expert



@jsetsaas





“On the Internet, nobody knows you’re a dog”

Peter Steiner - 1993

Thread

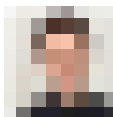
#general



John Erik Setsaas May 6th at 2:38 PM

Hi all. Thanks for letting me in 😊
I work for Signicat in Norway

2 replies



[\[redacted\]](#) 13 days ago

Prove it! 😊



John Erik Setsaas 12 days ago

Touché... 😊

Regulations



Why?

LATEST NEWS[Delta Capita hires new head of digital](#)

Search

Impersonation scams nearly double during COVID, costing £58m

By Hannah McGrath 16/09/20

Impersonation scams have nearly doubled in the first half of 2020, at a cost of £58 million, as criminals seek to exploit the uncertainty of the COVID-19 pandemic.

UK Finance found that almost 15,000 impersonation scam cases were reported by its members in the first six months of this year - an increase of 84 per cent on the same period in 2019.

Impersonation scams occur when the victim is convinced to make a payment to a criminal claiming to

Xpedition

The Innovation Equation:
How are new technologies
driving digital transformation
in financial services?

[TAKE THE SURVEY](#)**FS^{tech}**

Regulations

Risk & Fraud
prevention

Why?

Car
rental



Is a person
Female
20ies



Is a person
Male
30ies

Regulations

Risk & Fraud
prevention

Accountability

Why?

Identity proofing



Evidence that the **real-world identity** exists

Confidence that this **user is present**

Online identity proofing in practice

Identity document

NFC or optical reading
with liveness detection



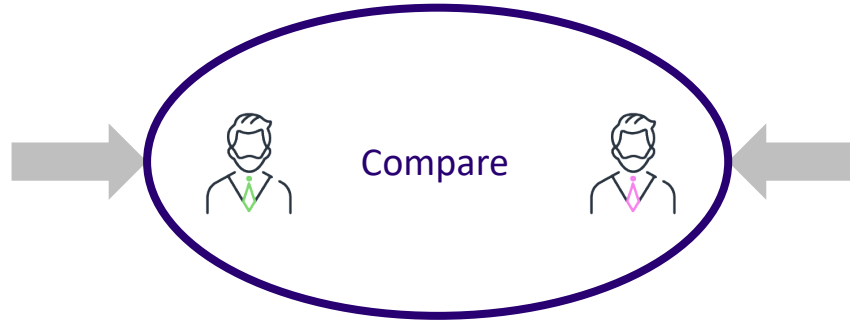
This is a genuine identity document

User

Face with
liveness detection



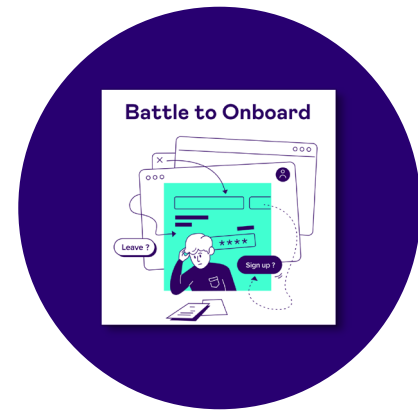
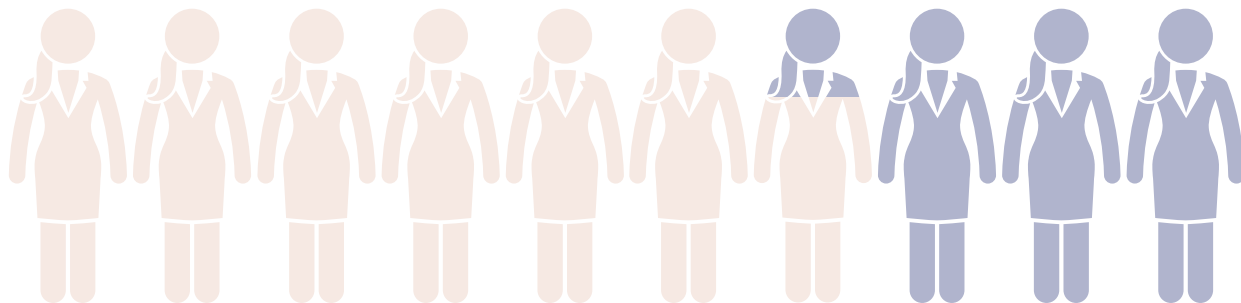
This is a real human



The owner of the identity document is present

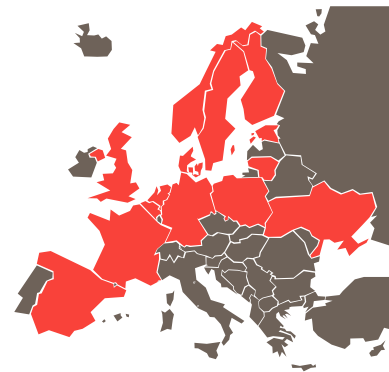
68%

have **abandoned**
onboarding for financial
services



2022

7600 interviews
UK, DE, NL, SE,
FI, NO, BE, DK, FR,
ES, LI, ES, PL, UA



Source: The Battle to On-Board 2022 © Signicat

Somebody else using your identity

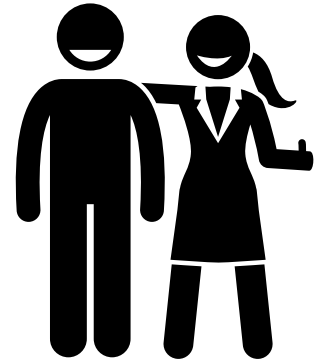


Identity
infringement

(Aka “identity theft”)



Being
tricked



Sharing
your identity

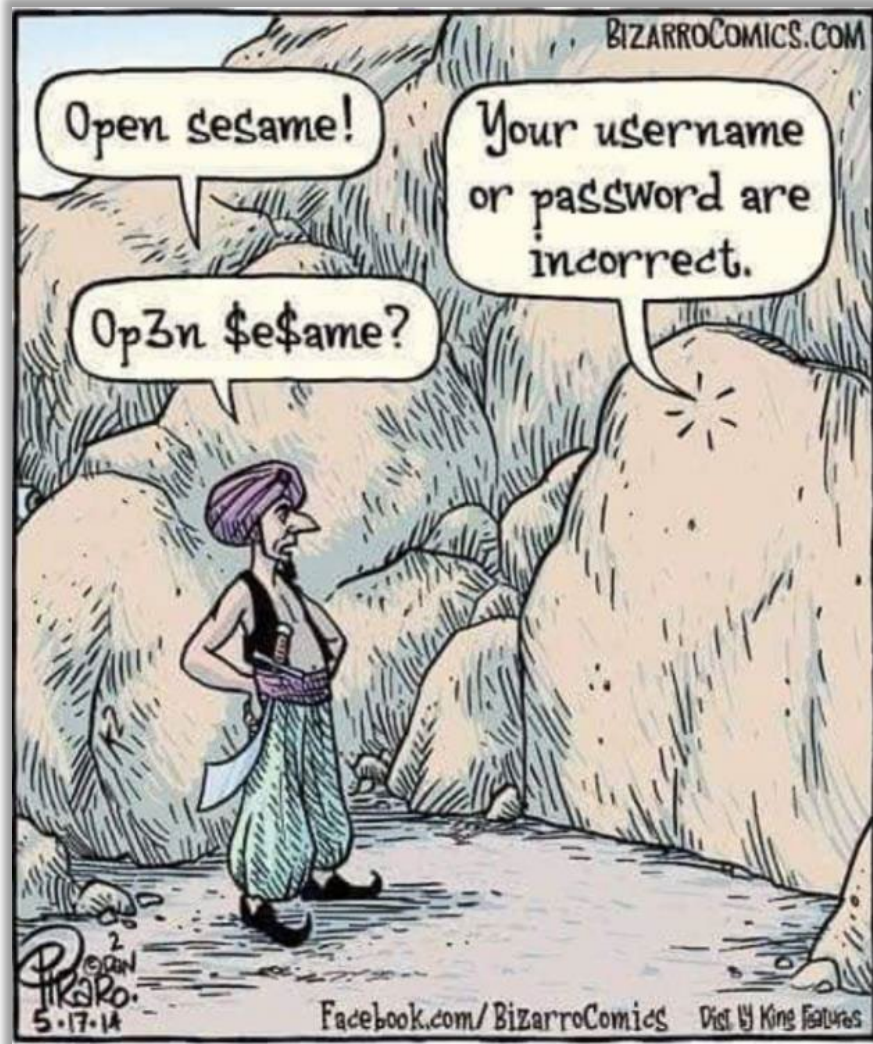
Please enter password

Bad idea Irritating To complex to remember
Bah Difficult Help Simple Not again
Annoying Hard to remember Safe
Unguessable
Special characters Secure I don't remember

Please enter password

*"I get a nervous breakdown whenever
somebody mentions the word password"*

Arve Tellefsen – Famous Norwegian Violinist



Antoine Galland's
Les Mille et une nuits
(1704–1717)

Watchword - Medieval

A safe-word to get access to a city or stronghold





The password is "Scheveningen"

Score: 2 of 222

Sound: on



Leisure Suit Larry – 1987

Sierra Entertainment Inc.

Complex password rules

- One upper case letter
- One number
- One special character



<https://youtu.be/aHaBH4LqGsl>

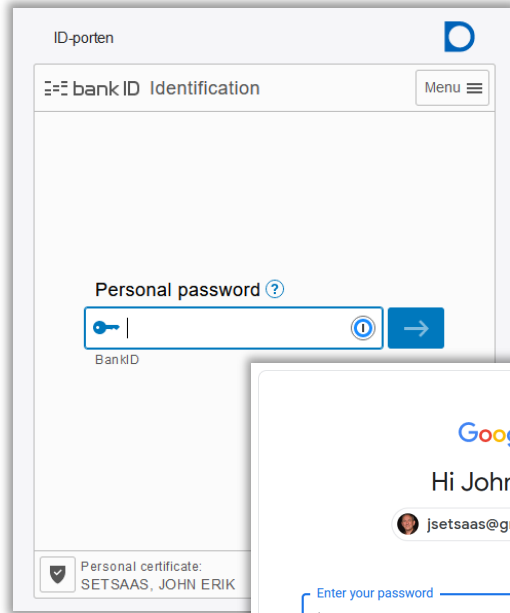
mypassword



Mypassword1!

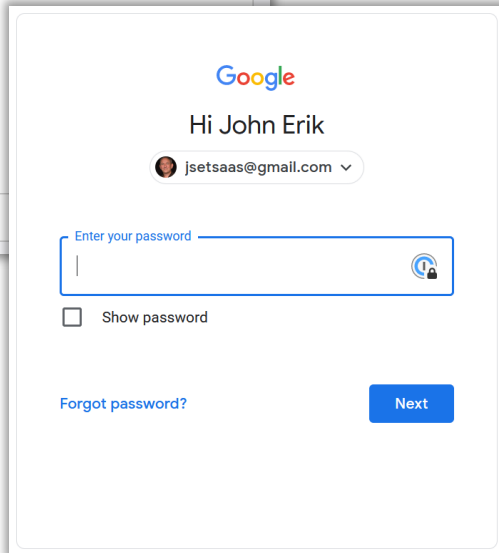
People are predictable

The password confusion



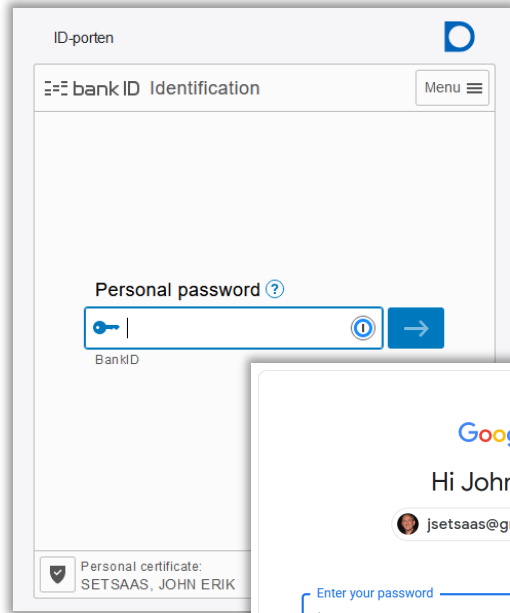
BankID login interface. The header shows "ID-porten" and a blue "D" logo. Below is a "bank ID Identification" bar with a "Menu" button. The main area is titled "Personal password" with a help icon. It features a password input field with a key icon, an information icon, and a blue arrow button. Below the field is the text "BankID". At the bottom, a "Personal certificate" section shows a shield icon and the text "SET SAAS, JOHN ERIK".

Authentication



Google login interface. The header shows the Google logo. Below is the text "Hi John Erik" and a user profile section with a profile picture and the email "jsetsaas@gmail.com" with a dropdown arrow. The main area is titled "Enter your password" with a password input field and a lock icon. Below the field is a checkbox labeled "Show password". At the bottom, there is a "Forgot password?" link and a blue "Next" button.

The password confusion



ID-porten

bank ID Identification

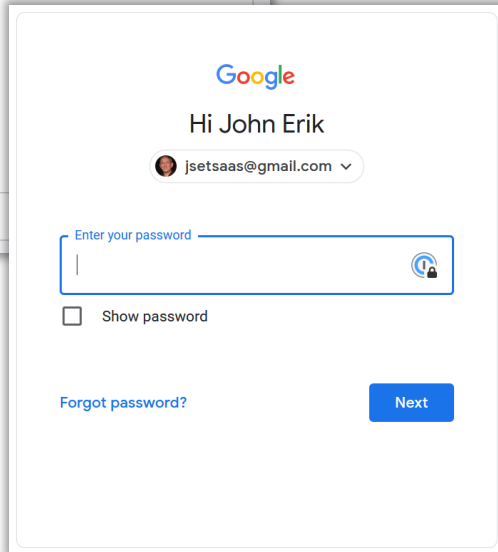
Menu

Personal password ?

BankID

Personal certificate:
SET SAAS, JOHN ERIK

Authentication



Google

Hi John Erik

jsetsaas@gmail.com

Enter your password

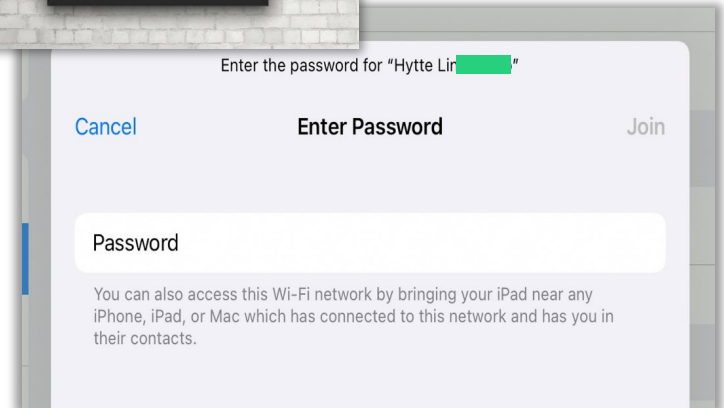
☐ Show password

[Forgot password?](#)

Next



Authorization



Enter the password for "Hytte Lin [redacted]"

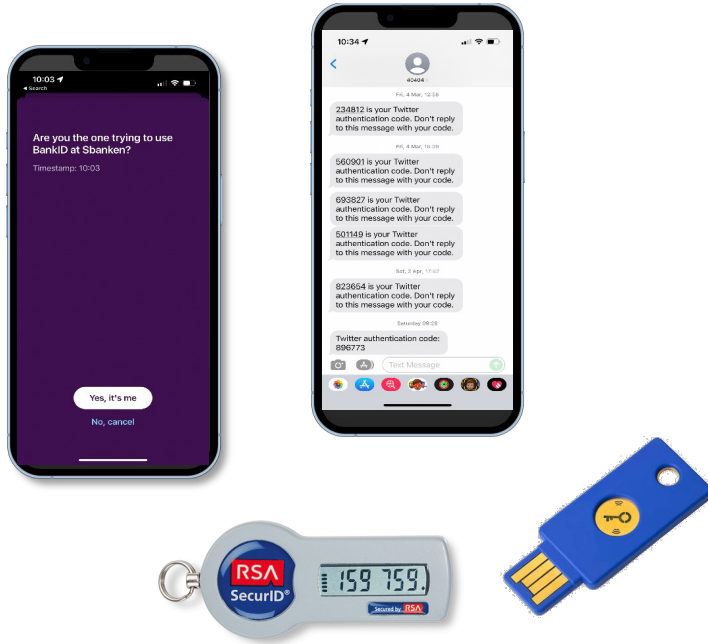
Cancel Enter Password Join

Password

You can also access this Wi-Fi network by bringing your iPad near any iPhone, iPad, or Mac which has connected to this network and has you in their contacts.

Mitigations

MFA



Password managers



What about biometrics?

- Local device biometrics
- Easy for user, nothing to remember



What about biometrics?

- Local device biometrics
- Easy for user, nothing to remember
- Local device biometrics
 - Convenience feature – Does not prove identity
- Server-side biometrics
 - Risk of compromise
 - Promising work on “hashing” biometrics (homomorphic encryption)



Biometric challenges

- The user device is NOT a trusted environment
- Bias
- Inclusion



Twitter

I wake up can cannot find my phone.
I find my 3-yo in the living room watching Disney+
on my phone.

Me: "How did you unlock my phone?"
Kid: "I used your finger. Right thumb!"

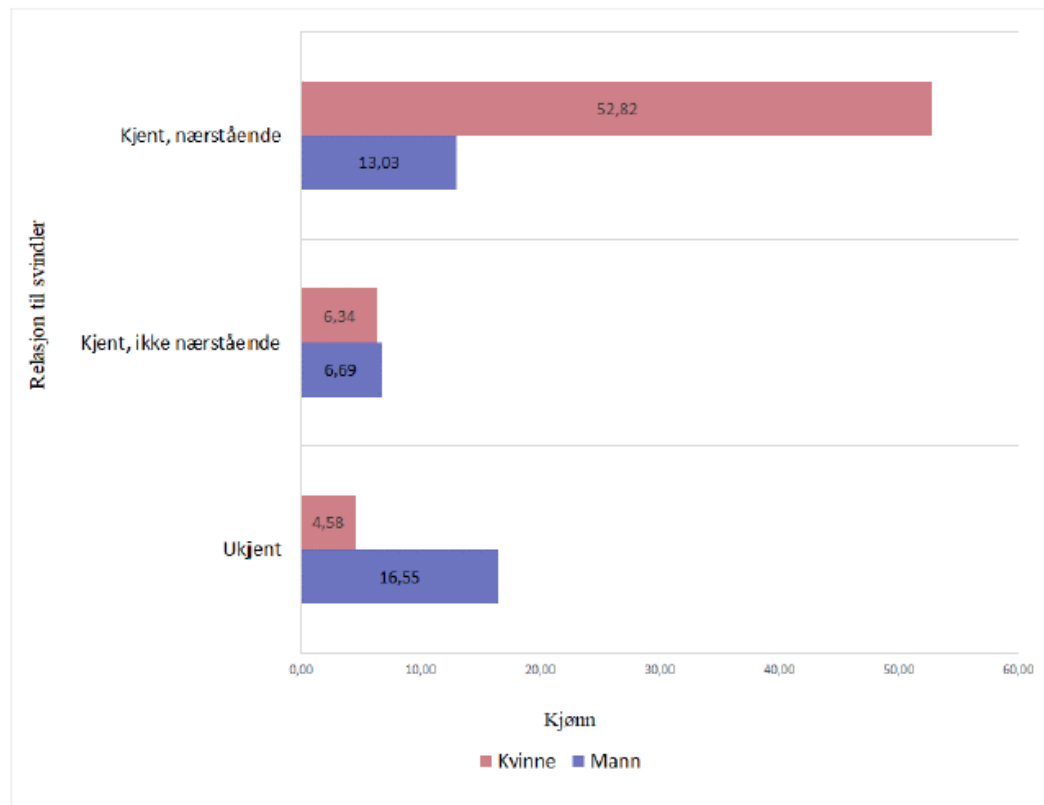
eID



Most frauds happen in close relations



<https://www.jus.uio.no/ifp/forskning/prosjekter/sodi/publikasjoner/rapporter-mv/>



Graf 3. Svindelofferets relasjon til svindler og kjønn. Prosent. 284 observasjoner.

eID

Person exists:
Very good

Person present: Questionable

Norway is introducing
a new financial directive



more liability on the banks

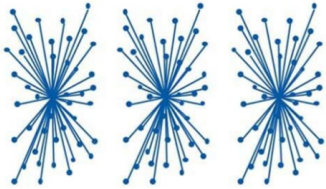


Identity wallet



Past

Centralized



User name

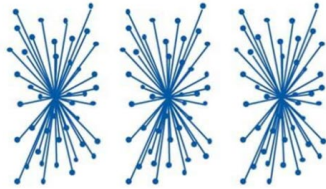
Password

☐ Remember my credentials

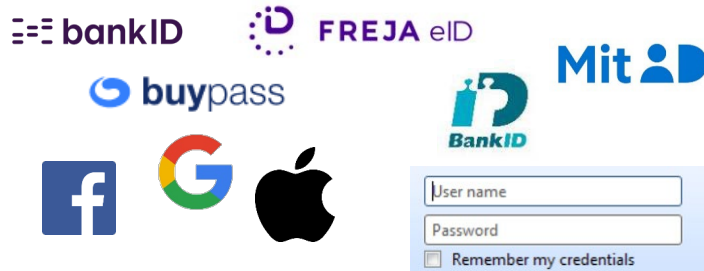
Org-centric

Present

Centralized



Federated



User name

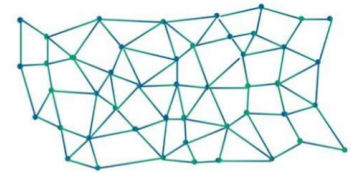
Password

☐ Remember my credentials

Org-centric

Future

Decentralized

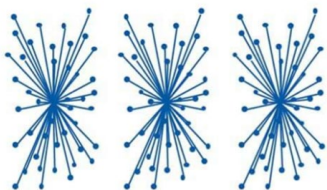


Identity
wallet

User-centric

Past

Centralized

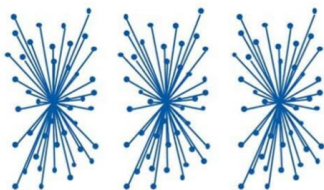


☐ Remember my credentials

Org-centric

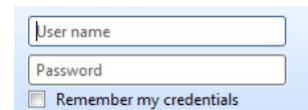








Present

Centralized



Federated





Org-centric

Future in reality

Centralized



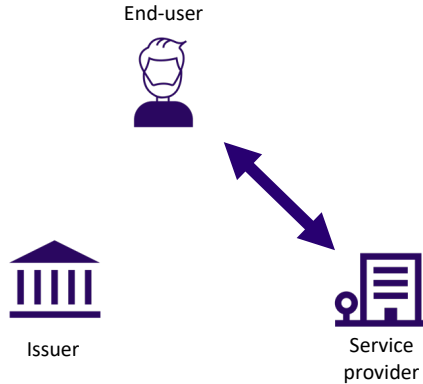
Federated





User-centric

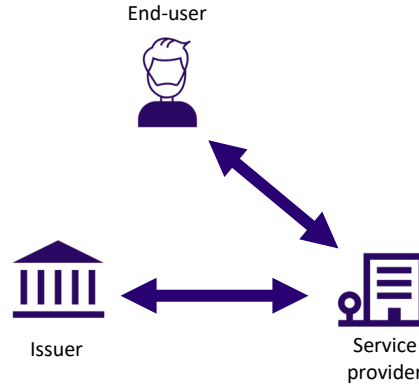
Past



Too many logins

Org-centric

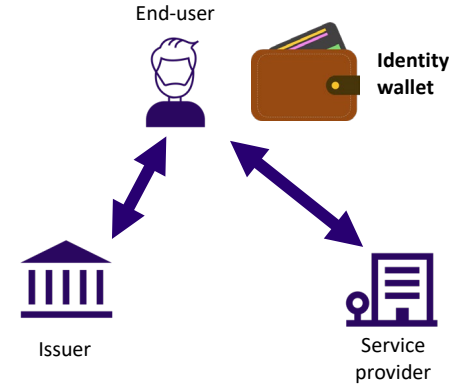
Present



Too much information shared

Org-centric

Future



User in control

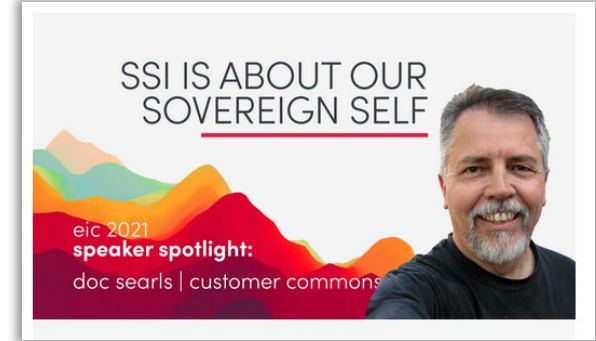
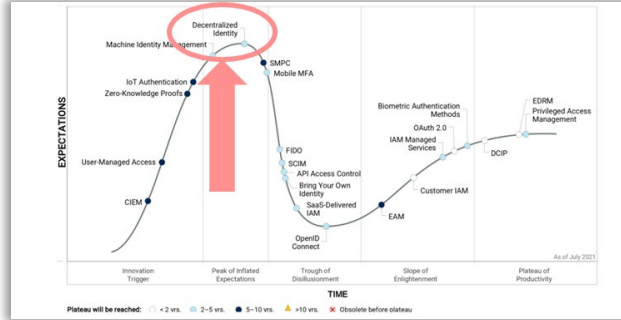
User-centric

eIDAS/2 → Digital Wallet



SSI inspired

Gartner.



Microsoft's strategy for Decentralized Identity

Microsoft's mission is to empower every person on the planet to achieve more.

Microsoft cloud identity systems already empower developers, organizations, and billions of people to work, play, and achieve more, but there's so much more we can do

can own so they can control their digital identity and data. This self-owned identity must seamlessly integrate into our daily lives, providing complete control over

FORRESTER®

REPORT

Boost Your Security And Security Experience With Decentralized Digital Identity

A Review Of The Key Use Cases, Benefits, And Market Dynamics

November 22nd, 2021



Andras Cser
Vice President, Principal Analyst



Sean Ryan
Senior Analyst

With Contributors:
Merritt Maxim, and Halley DiCicco

The European Commission



- Member States will introduce a digital wallet
 - Full user control on release of information («SSI inspired»)
 - A level high eID that can be used nationally and across borders
 - (Qualified) attestation of attributes
 - Providing attributes and attestations (verifiable claims)
 - In addition to or instead of basic identity
- Qualified signatures
- Usable by the private sector
 - Even required to be accepted by selected
- The state shall provide a wallet to everybody
 - Free of charge



Types of identity data

- Structured data

- Attributes & Verifiable claims (VCs)
 - Bound to a user - Protected by encryption
- Can be presented to service providers
 - ...without revealing the user's identity

- Unstructured data

- Documents

Citizen register



Name: John Viking
DoB: 1972-11-09
Address: Main st 17
7000 Trondheim
Norway

Sample attributes

DoB: 1972-11-09

Address: Main st 17
7000 Trondheim
Norway

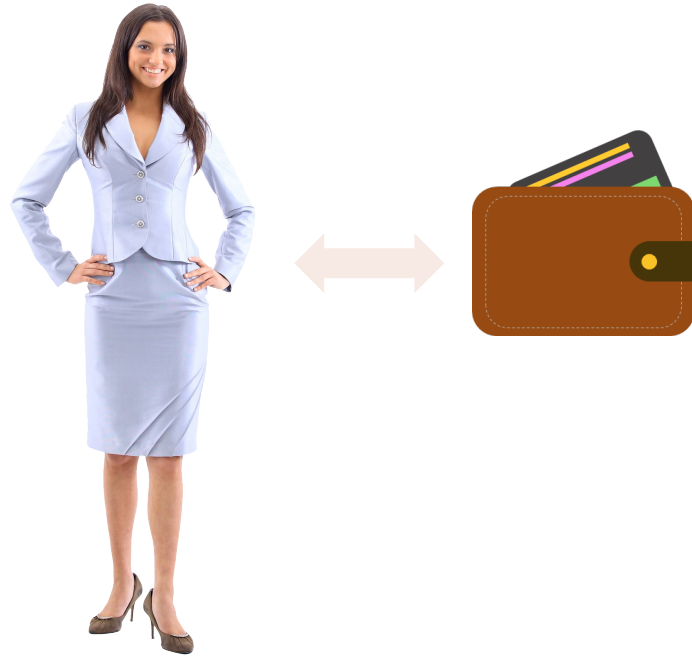
Sample VCs

Married: Yes

Over 18

Citizenship: Norwegian

Linking the wallet to a user

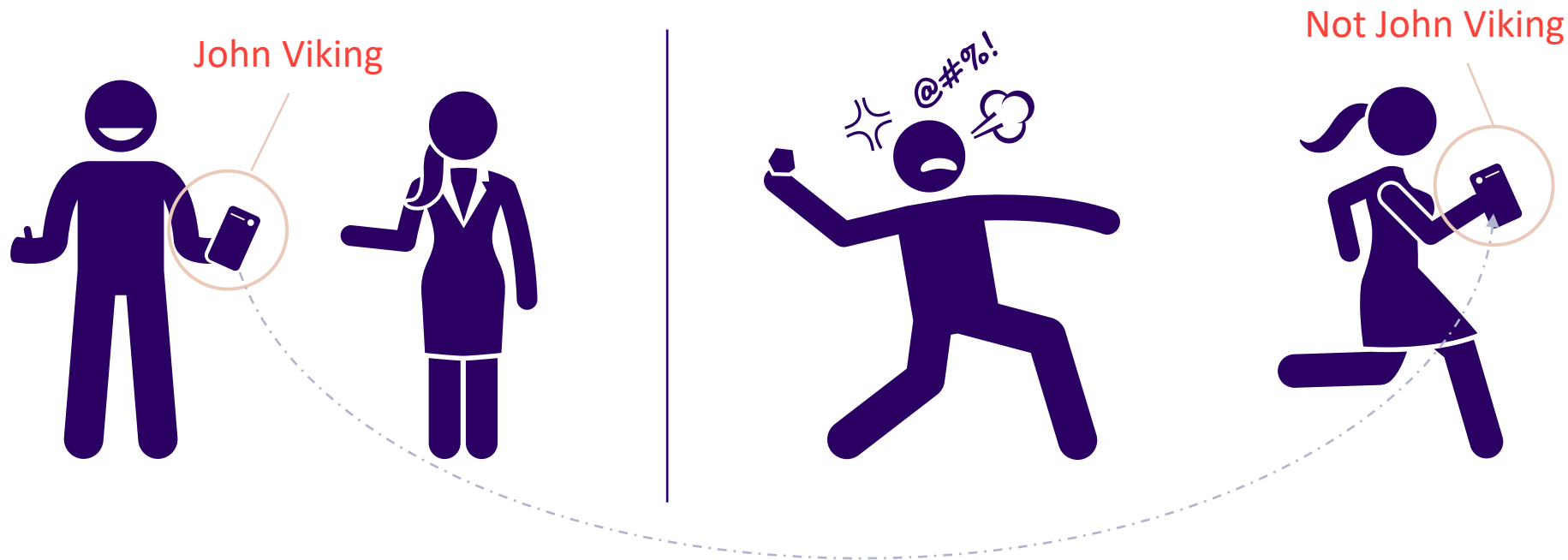


Please enter password

~~Please enter password~~

We need
something better

The device “knows” that it’s in your possession



We are all creatures of habit





John Erik Setsaas



@jsetsaas

Who are you?

Passwords

Identity proofing

Mitigations

The identity wallet