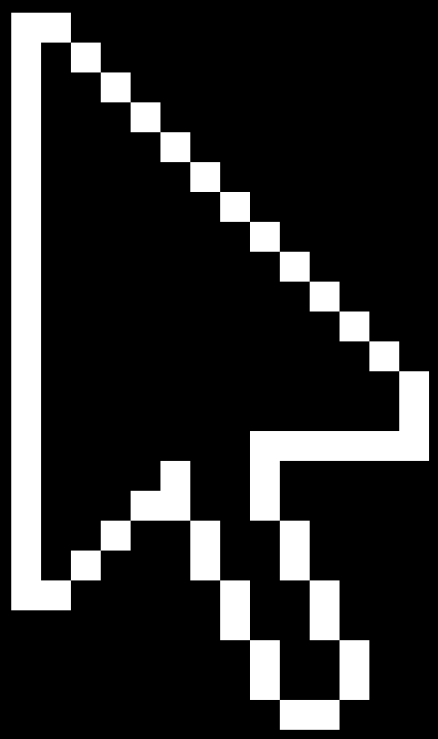
1Kosmos presents...

A history of passwords

1960-2021



Inventor: Fernando Corbato

1960

What

Passwords

Why

Protect a mainframe with shared resources

Weakness

Guessing, Stealing, MiTM, Phishing

1973

What

Encrypted Passwords (Hashed, CRYPT)

Why

Prevent dictionary attacks

Weakness

Guessing, Stealing, MiTM, Phishing

1974

What

Smartcards

Why

Secret Storage (Private Key)

Weakness

Cumbersome, Expensive

1984

Bill Gates

What

End of Password Prediction

Why

Passwords Suck

1993

What

Hardware Tokens

Why

Introduction of a possession factor

Weakness

Cumbersome, MiTM, Phishing

2005

What

SMS/e-Mail 2FA

Why

Introduction of a possession factor

Weakness

Delays, reliance on network, SIM-Jacking, phishing, MiTM

2013

What

FIDO Alliance

Why

Create a second factor authentication protocol

Weakness

Requires a first factor, limited platform support

2014

What

U2F

Why

Make a second factor simpler via USB and NFC

Weakness

No mobile-only experience

2016

What

SMS Deprecated by NIST

Why

SMS's can be intercepted or stolen

Weakness

N/A

2017

What

Password + Push Message

Why

Mititgate the risks of email/SMS 2FA

Weakness

Vendor lock-In, dependency on push, difficult to integrate into 3rd party apps

2017

What

Identity Proofing

Why

Enroll and verify remote identities

Weakness

Decoupled from authentication technologies
(like FIDO)

2018

What

FIDO2 WebAuthn

Why

Public key cyptography plus biometrics prevent password and 2FA theft

Weakness

Limited platform support, binding requires a username/password

2019

Inventor: 1Kosmos

What

Identity Based Authentication

Why

Authentication needs a strong identity

Weakness

No support for the 1960 MIT mainframe

1KOSMOS

Strong Authentication with Strong Identity

Secure online services from password-based attacks with a next generation approach to multi-factor authentication that delivers a frictionless user experience

Go Passwordless