

Security guideline in Flutter application

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Why Security Matters in Mobile Apps?



“My app is too small to be a target.”

OWASP

- The Open Worldwide Application Security Project
- <https://owasp.org/>



1: Improper Platform Usage



**Ask the user only for
permissions you really
need.**



**Don't rely only on
TouchID local
authentication**



Use KeyChain/Keystore to store sensitive data

- Use Secure Storage for Sensitive Data
- Avoid Local Storage for Sensitive Data
- flutter secure storage



2: Insecure Data Storage



Only store data if absolutely necessary

Delete the data if they are stored only
for temporary or caching purposes



Encrypt data

- if you really need to store user data on the device, then make sure that those data are encrypted
- personal data
- hive



Hide sensitive content on multitasking view

- hidden away from prying eyes
- secure application



3: Insecure Communication



Use SSL/TLS certificates for secure transmission



Consider using certificate pinning

- Operators can pin CA issuers, public keys, or specific certificates.
- http certificate pinning



Apply a separate layer of encryption

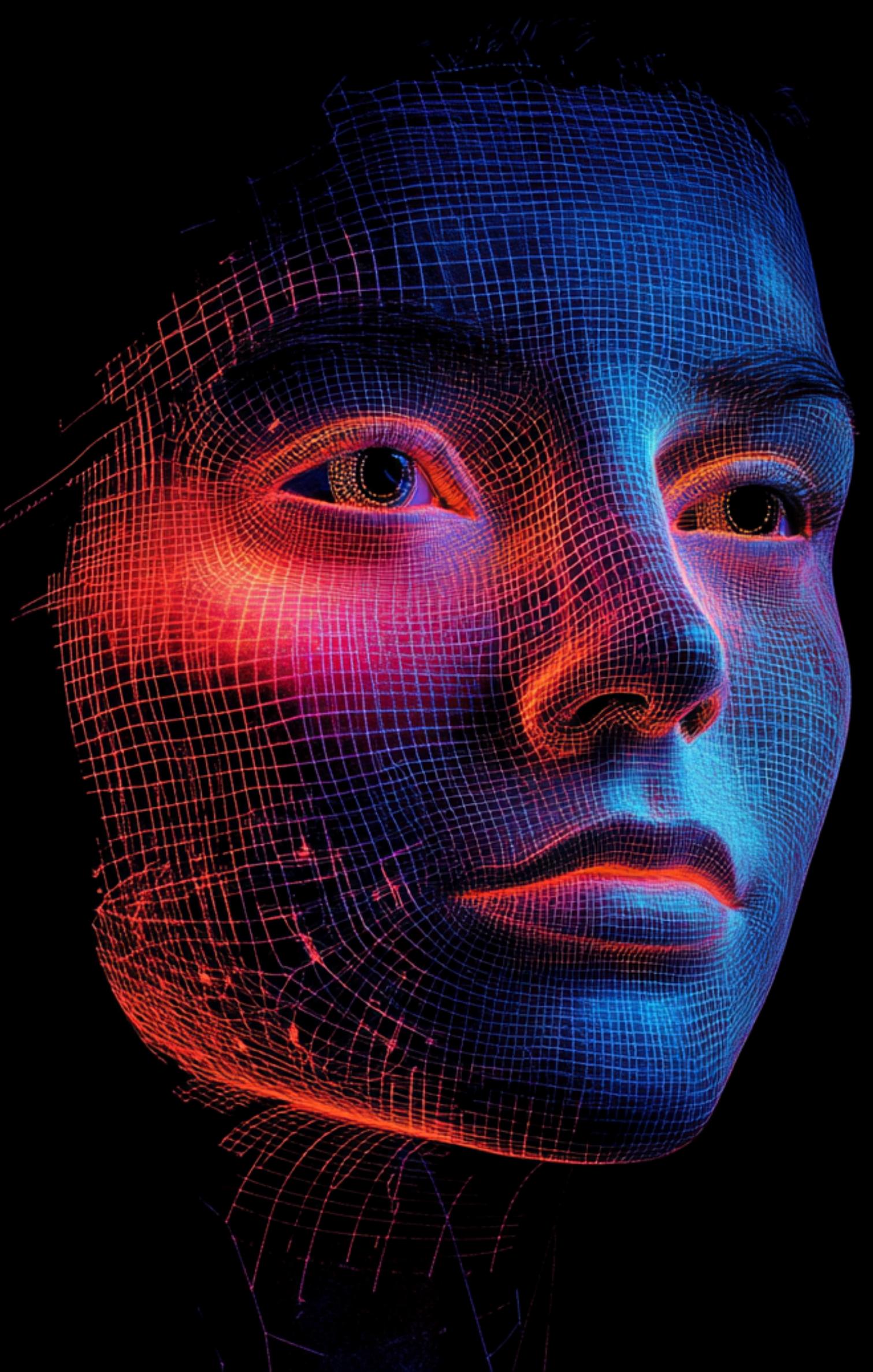


4: Insecure Authentication



Avoid local authentication methods

- authenticating a user locally can lead to client-side bypass vulnerabilities
- This is linked also to the misuse of biometrics authentication



Refrain from using vulnerable authentication methods

- you should not store passwords locally
 - four-digit PINs



5: Insufficient Cryptography



Don't use Insecure and/or Deprecated Algorithms

- Avoid Insecure & Deprecated Algorithms
- Use Modern Cryptographic Standards
- encrypt
- crypto



6: Code Tampering



Add a root/jailbreak detection

- flutter jailbreak detection



7: Reverse Engineering



Use code obfuscation

- Flutter official documentation
<https://docs.flutter.dev/deployment/obfuscate>
- obfuscation is not a bulletproof approach to prevent reverse engineering



Take it more...

- <https://owasp.org/>
- <https://medium.com/@lorenzogreco/how-to-secure-your-flutter-app-ca3039f1c166>