1000

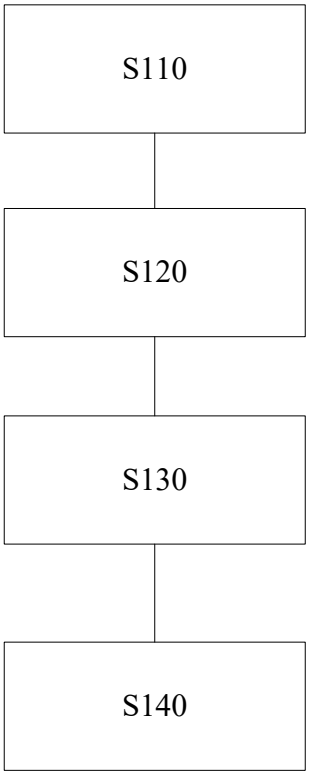


Figure 1

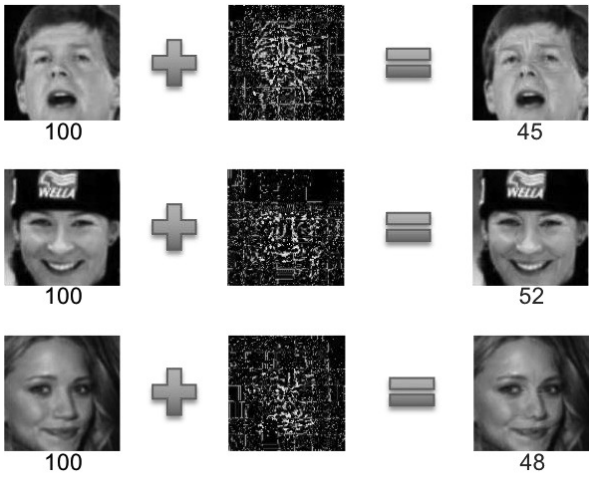


Figure 2

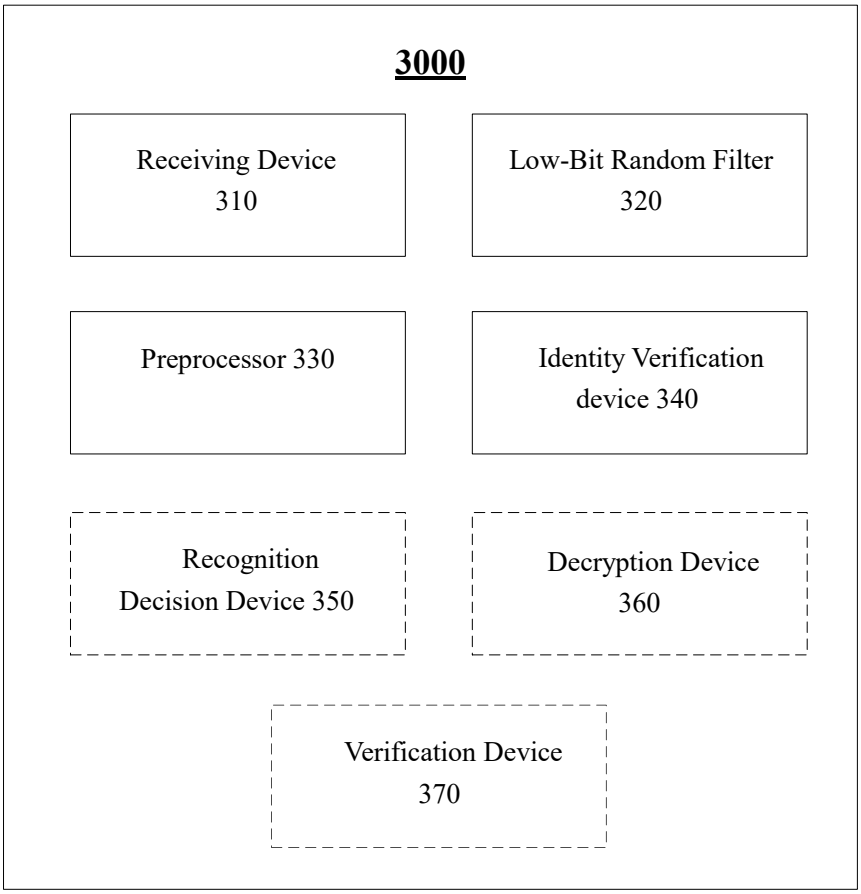

3000
Receiving Device 310
Low-Bit Random Filter 320
Preprocessor 330
Identity Verification device 340
Recognition Decision Device 350
Decryption Device 360
Verification Device 370

Figure 3

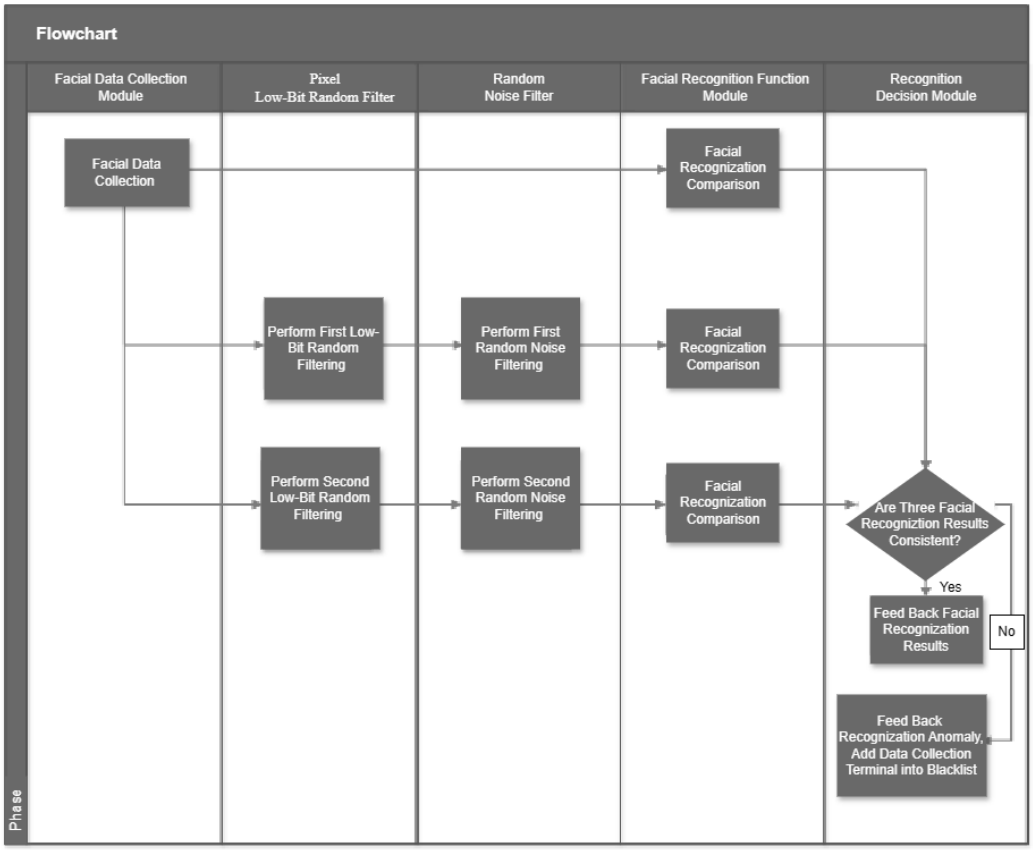


Figure 4

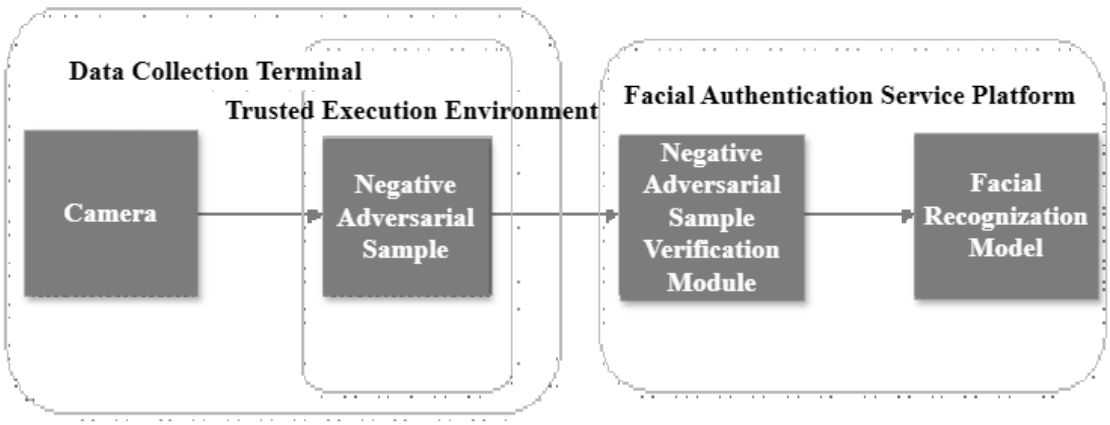


Figure 5

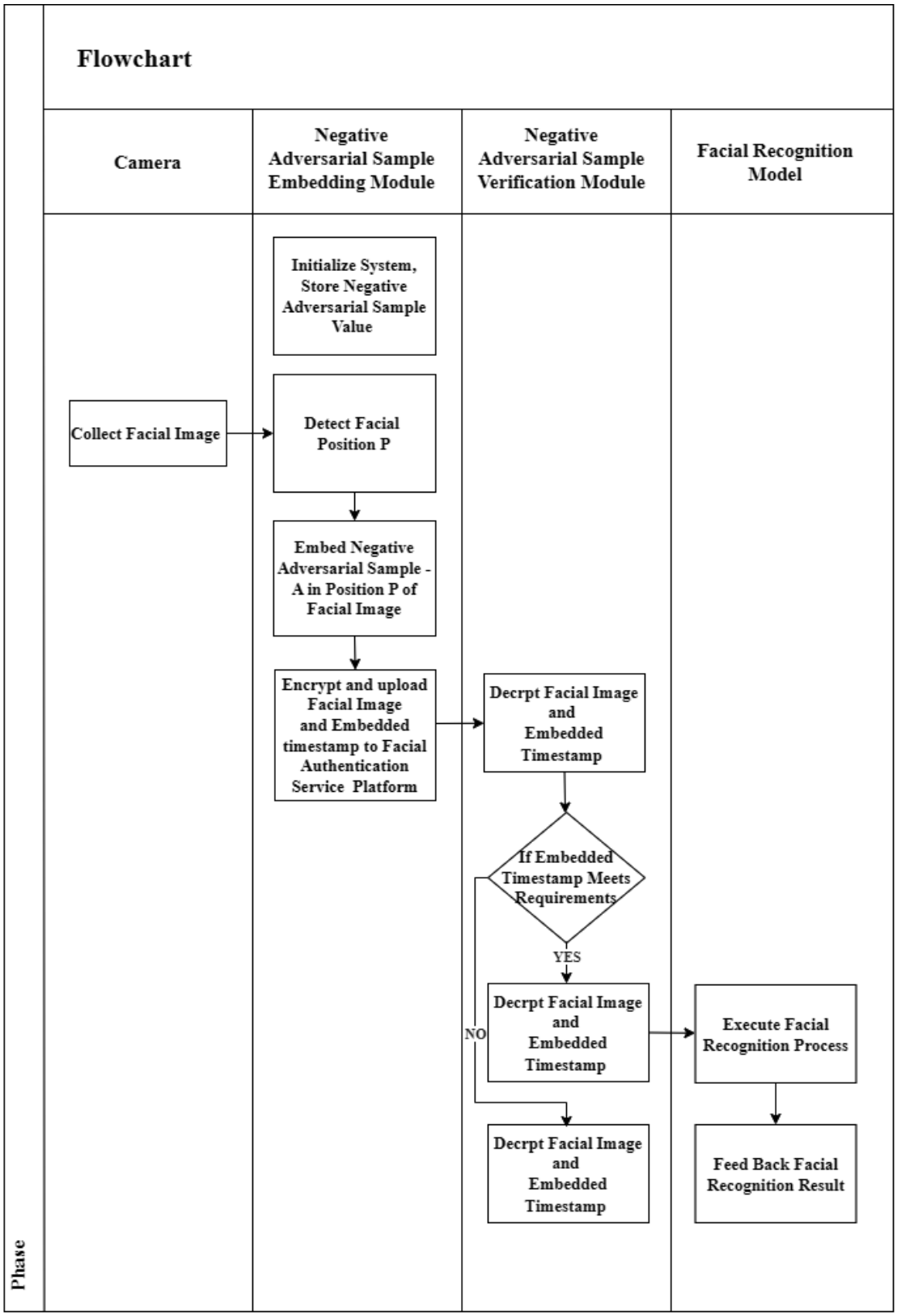

Flowchart
Camera
Negative Adversarial Sample Embedding Module
Negative Adversarial Sample Verification Module
Facial Recognition Model
Initialize System, Store Negative Adversarial Sample Value
Collect Facial Image
Detect Facial Position P
Embed Negative Adversarial Sample - A in Position P of Facial Image
Encrypt and upload Facial Image and Embedded timestamp to Facial Authentication Service Platform
Decrpt Facial Image and Embedded Timestamp
If Embedded Timestamp Meets Requirements
YES
NO
Decrpt Facial Image and Embedded Timestamp
Execute Facial Recognition Process
Decrpt Facial Image and Embedded Timestamp
Feed Back Facial Recognition Result
Phase

Figure 6