Face recognition

• Presented by:

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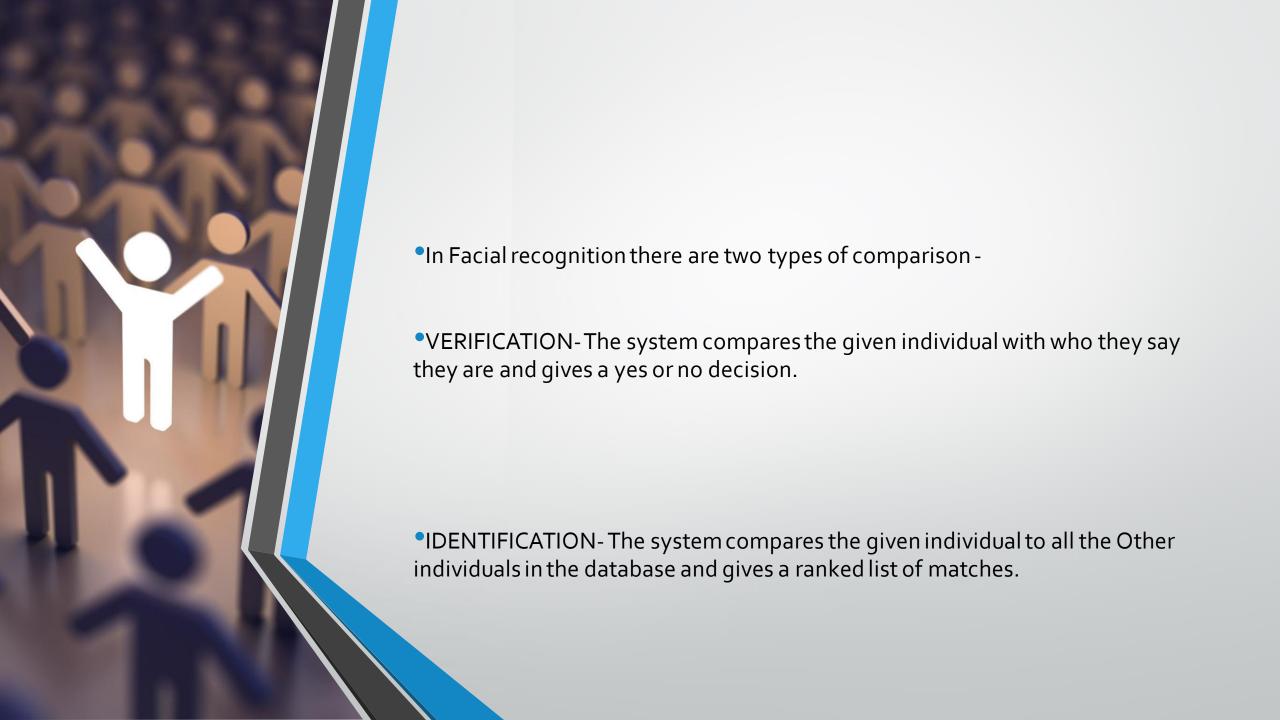
• 905-B



# Face recognition

- It requires no physical interaction on behalf of the user.
- It is accurate and allows for high enrolment and verification rates.
- It can use your existing hardware infrastructure, existing camaras and image capture Devices will work with no problems





#### Contd...

All identification or authentication technologies operate using the following four stages:

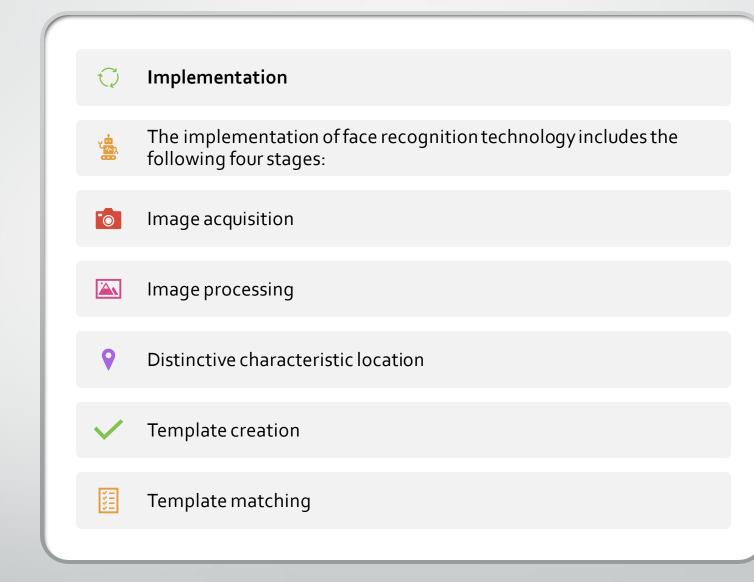
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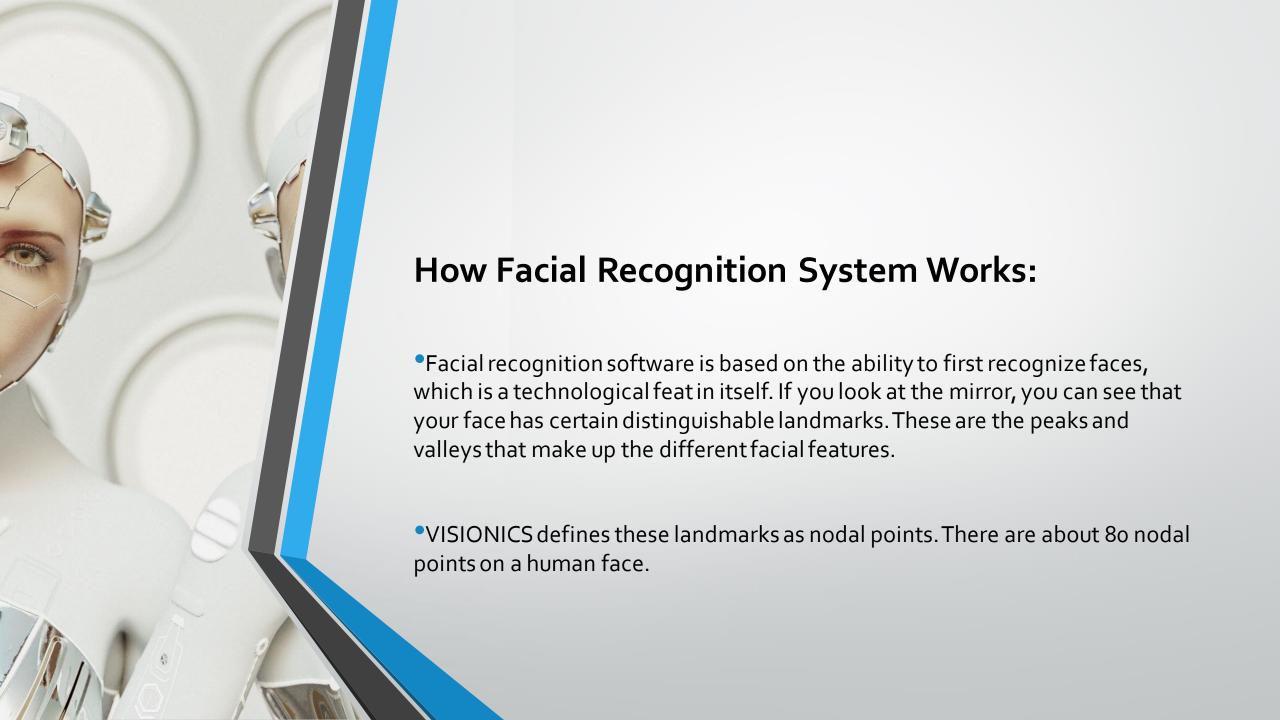
Capture: A physical or behavioural sample is captured by the system during Enrollment and also in identification or verification process.

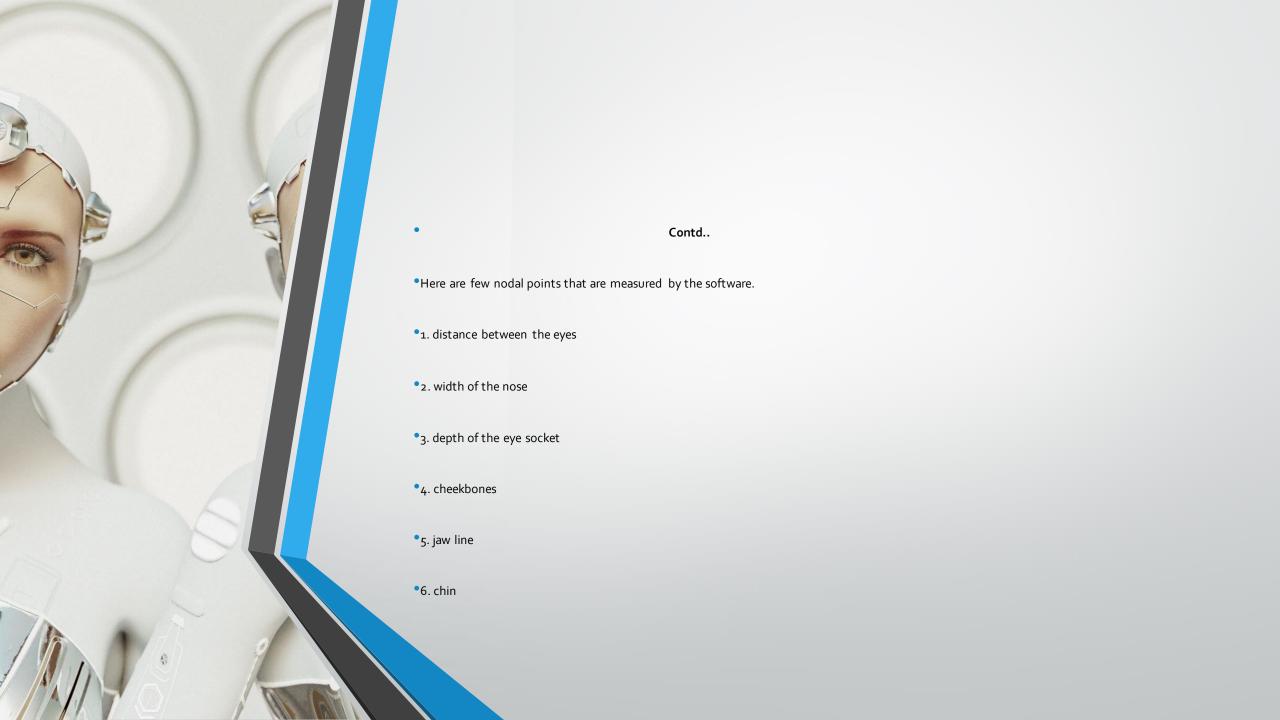
Extraction: unique data is extracted from the sample and a template is created.

Comparison: the template is then compared with a new sample.

Match/non-match: the system decides if the features extracted from the new Samples are a match or a non match.







## **Strengths**

- It has the ability to leverage existing image acquisition equipment.
- It can search against static images such as driver's license photographs.
- It is the only biometric able to operate without user cooperation.

#### Weaknesses

- Changes in acquisition environment reduce matching accuracy.
- Changes in physiological characteristics reduce matching accuracy.
- It has the potential for privacy abuse due to noncooperative enrollment and identification capabilities.

### **Applications**

- Security/Counterterrorism. Access control, comparing surveillance images to Know terrorist.
- Day Care: Verify identity of individuals picking up the children.
- Residential Security: approaching personnel Alert homeowners of
- Voter verification: Where eligible politicians are required to verify their identity during a voting process this is intended to stop voting where the vote may not go as expected.
- Banking using ATM: The software is able to quickly verify a customer's face.

### Conclusion

- Factors such as environmental changes and mild changes in appearance impact the technology to a greater degree than many expect.
- For implementations where the biometric system must verify and identify users reliably over time, facial scan can be a very difficult, but not impossible, technology to implement successfully.

