

Face recognition based attendance system

By:

Himanshu Sharma





System Study

Fingerprint attendance system



A Fingerprint Attendance System uses an enrolled finger or thumbprint to track student or employee attendance with a high degree of non-repudiation unlike timecard or badge systems that can be exploited by a friend swiping or punching for a coworker.



Drawbacks of Fingerprint attendance system



- Using the fingerprint scanner does not take into consideration when a person physically changes
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- Using the fingerprint scanner can lead to false acceptances
- Exclusions
- Time consuming

Iris attendance system



Iris recognition technology contains pattern recognition and optics method. It identifies individual person by using their individual physical characteristics. Iris recognition biometric systems apply mathematical pattern-recognition techniques to images of the irises of an individual's eyes



Drawbacks of Iris attendance system



- Distance
- Movement
- Reflection
- Transformation
- Obscured

Rfid attendance system



Radio Frequency Identification attendance system uniquely identify each person based on their RFID tag type of ID card make the process of taking the attendance easier, faster and secure



Drawbacks of Rfid attendance system

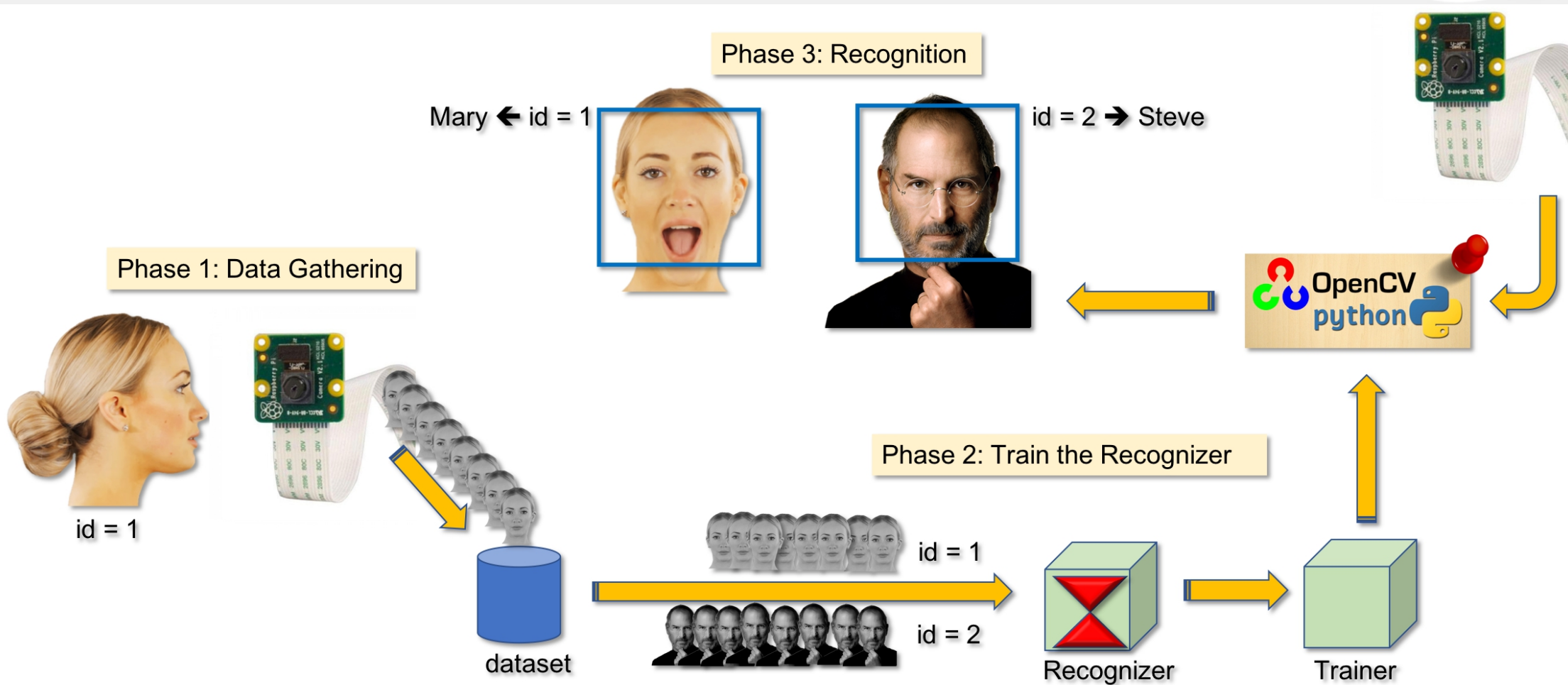


- Since it is not as secure as biometric, the system is prone to manipulation
- In case of a large strength of students, purchasing tags for everyone is complex
- More than one tag can respond at the same time
- Replacing microchip, radio transceiver, antenna and battery in the system tiresome and costs money.



System Analysis

Face recognition attendance system



Advantages of the proposed system



- Security levels will be significantly improved
- The integration process is easy and flawless
- High accuracy allows avoiding false identification
- Time fraud will be excluded
- Fool-proof Biometric Technology

Limitations of the proposed system



- System failure



System Design

Database Design



Field Name	Data type	Length	Constraint	Description
ID Number	Varchar	15	Primary Key	ID Number of Student
Name	Varchar	50	Not null	Name of Student
Face_Encoding	Varchar	100	Not null	Programm generate the points based on pre-define position in the face like eyebrows chin line lip line ,nose etc .

Architecture Design

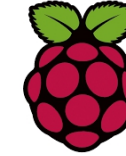
APPLICATION
LAYER

IMAGE CAPTURING

UPLOAD



GRAPHICAL USER INTERFACE(GUI)



STUDENT DETAILS

IMAGE

SYSTEM
LAYER

OPENCV

FACE DETECTION

FACE_ENCODING

OPENPYXL
GENERATE
ATTENDANCE

SQLITE3

FACE_RECOGNITION

DATA RETRIVAL AND STORE

DATABASE
LAYER



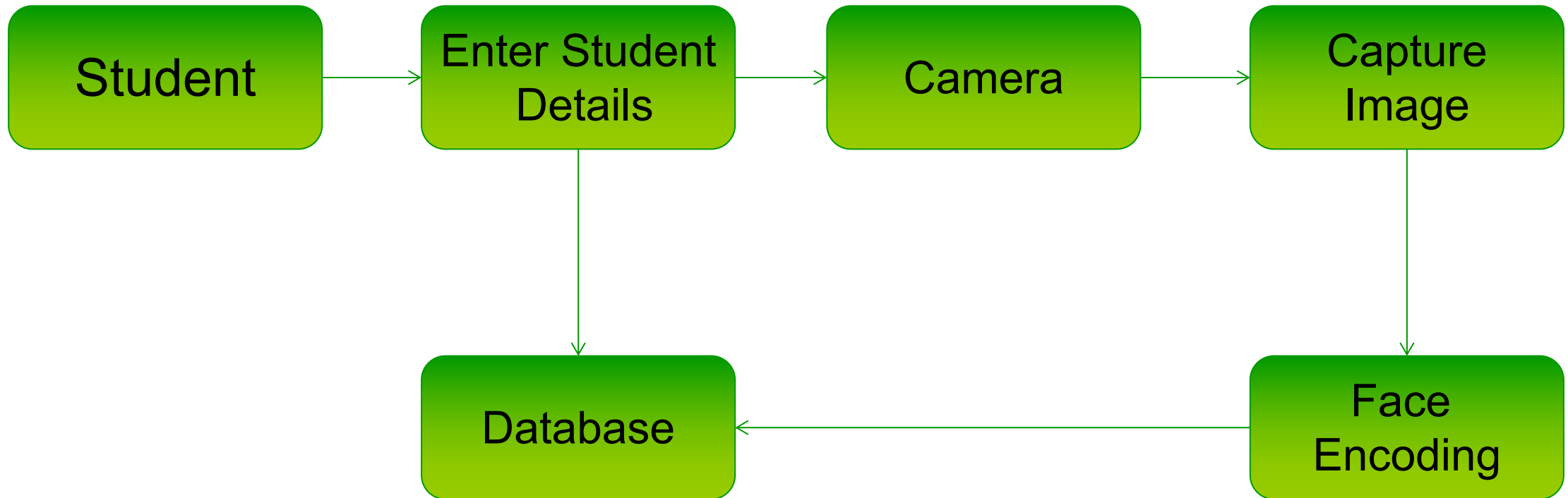
DATABSE



DATASET



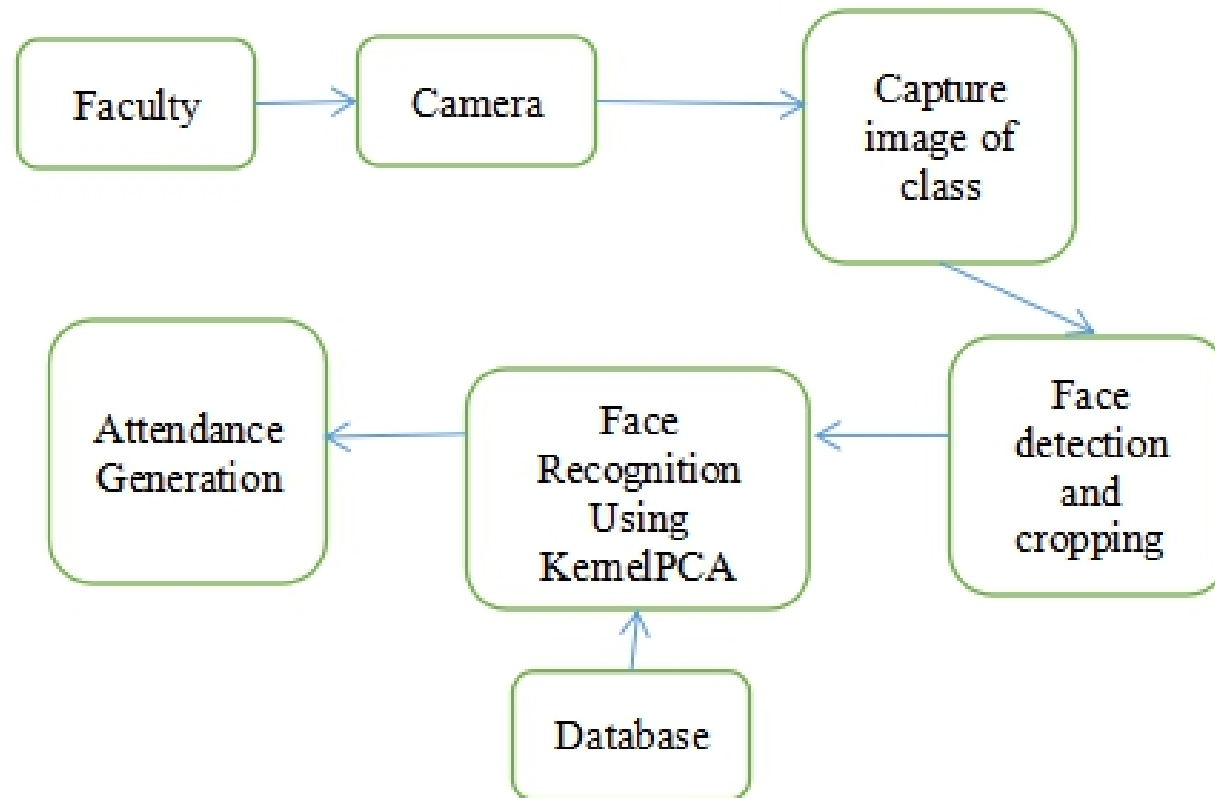
- **Phase-1**



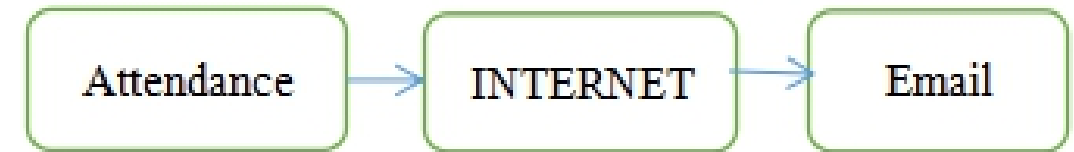
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- Phase-2



- Phase-3





Thank you