



# Smart Point-of-Sale Automation

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## Abstract

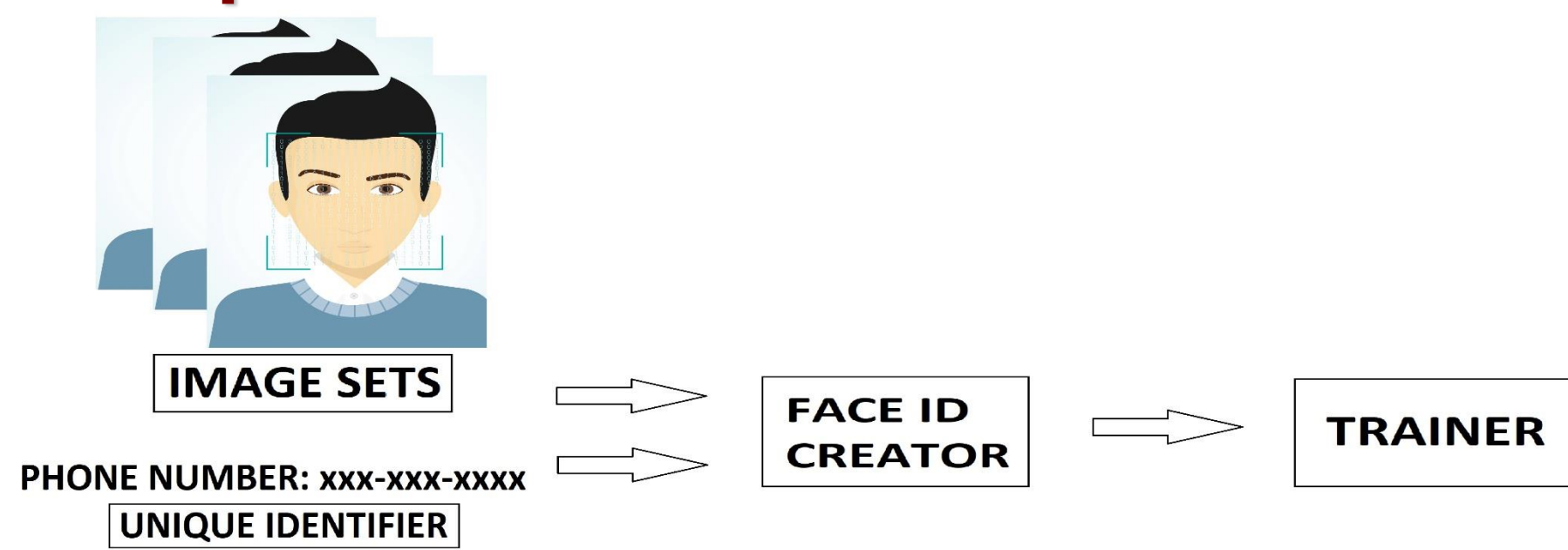
A smart assistant that can pull up the history of purchases for the customers by remembering their faces. It works by combining Face recognition with database management.

## Introduction

This system gives the customers, the recommended items, offers of the day and Items they haven't tried yet. Thus, giving the customers variety of choices based on their interests. It simultaneously benefits customer experience and business's sales promotion.

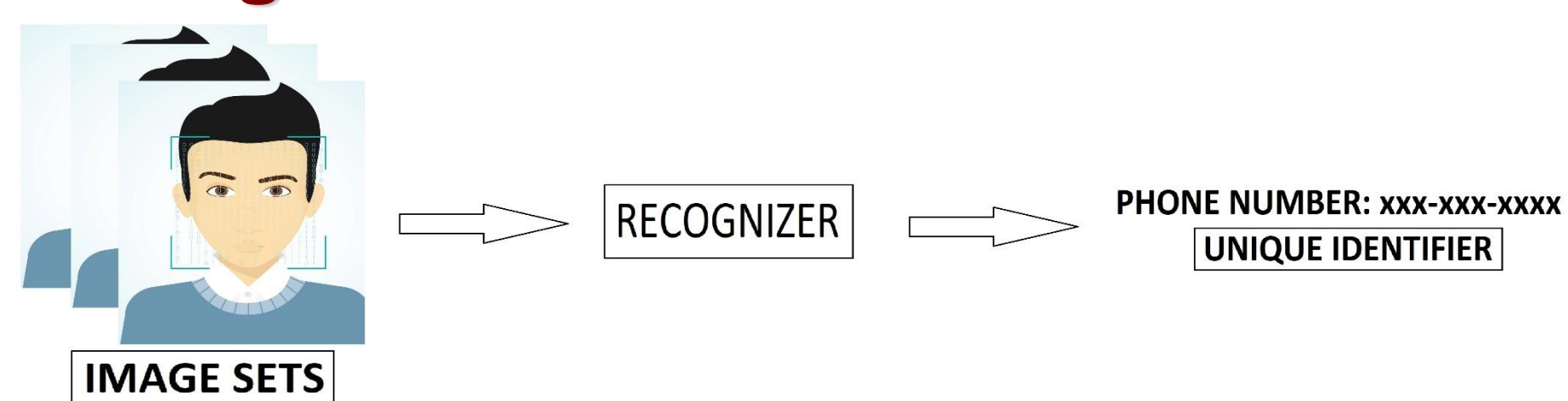
## Face-Recognition

### 1. Setup Face ID



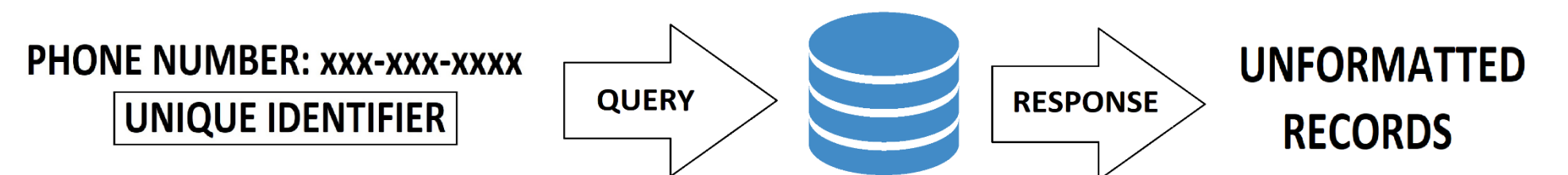
To setup a Face ID, we need to provide a Unique Identifier and Image sets. In this case, we are using Phone numbers as Unique Identifiers and Image sets are the Face samples. A Face ID Creator collects image samples of the user and trains the classifier.

### 2. Recognize Face



Once the Face ID is setup and the recognizer is trained, it can recognize the Faces detected on the camera. From the recognized faces, it gives out the corresponding Unique Identifier.

## Database



Once the Unique Identifier is obtained, we can pull up all the records present in the Database, associated with the subject. In this application, we are pulling up the history of purchases made by the subject. By providing an appropriate query, the requested records are extracted. These records are Unformatted-Raw-Data.

## GUI



Once we obtain the unformatted records, we can process it to a User-Interactive-Format using Tkinter (Python's GUI Library).

## Application Overview

1. SETUP screen with buttons for SETUP, RECOGNIZE, and QUICK.

2. Face recognition screen showing a face being scanned.

3. Greeting screen: "Hello Franklin".

4. Main menu with two tables:

NEW		SELECTED	
NAME	PRICE	NAME	PRICE
Cheese Pizza	3.00	Chicken Pizza	5.00
Vegetable Pizza	4.00	Buffalo Wings	3.00
Chicken Pizza	5.00	Water Bottle	1.00
Fish Pizza	5.00		
Custom Pizza	7.00		

Recommended for you table:

NAME	PRICE	TIMES	DATE
Buffalo Wings	3.00	3	Mon Mar 05 16:19:44 2018
Water Bottle	1.00	3	Mon Mar 05 16:19:44 2018
French Fries	2.00	1	Sun Mar 04 19:35:14 2018

5. THANKS, SEE YOU SOON screen.

This system uses Python, OpenCV for Image Recognition, Sqlite3 for Database, Tkinter for GUI

## Conclusion

In a similar fashion, any sales point can be automated. This concept makes a split between the quick shoppers (Who have a typical purchase pattern) and leisure shoppers (Who would like to try new stuff). By doing so, customers can have a good shopping experience and also the business holders can promote the new items only to the related customers.