TEUBER HOME SECURITY

PROPOSAL

Your one stop solution to affordable home security

PREPARED FOR

Prof Johan Meyer
Prof Ghanshyam Singh
Mr Frederick Grobbler

PREPARED BY

Thubakgale Mabalane
University of Johannesburg

PROBLEMS

In South Africa , the overwhelming majority of potential buyers consider safety features a top priority when choosing a home to settle in.

A Survailance device is extremely important, but not enough by itself. Homeowners should think about making their home a tricky target.

Professional burglars watch homes so as to identify patterns of behaviour, so security devices that make it look like the house is occupied are a sturdy tool.
Some burglars don't seem to be really burglars, just opportunists looking for an easy take; they go to advance at the first sign of any obstacle. But professional burglars are sophisticated.

They watch homes for ages before making a move, so as that they'll get an idea of patterns of behaviour among the occupants.

In the townships you have got burglar bars, dogs and lapsed alarm contracts .

Housebreaking or burglary, on the other hand, remains the the foremost common crime experienced by households in South Africa.

With an estimated 1.2 million incidences of housebreaking in 2019/"20, and affecting 891 000 households in South Africa, this represented 5.3% of all households within the country

Whether this can be as a results of more people being at home due to the Covid-19 curfew or a specific group operating continues to be unclear

SOLUTIONS

1   RFID SECURITY SYSTEMS

The most common use of RFID in access control is indoor entry systems for personnel

RFID-enabled tags are usually employed on a awfully basic level as identification badges for workers, providing a straightforward solution for any company or industry that uses access control systems.

RFID chips are able to handle way more of a beating compared to barcode technology, which keeps your employees from worrying about accidentally damaging their cards.

It's not all excellent news, though. There are distinct issues with uncertainty and unreliability when handling RFID cards and technology because any technology which will create a symptom has the potential to be hacked .

Any person equipped with an RFID reader could access the knowledge embedded on each card .

Face recognition is a broad problem of identifying or verifying a person in digital images or video frames through the facial biometric pattern and data.

The technology collects a set of unique biometric data of each person associated with their face and facial expression to authenticate a person.

The use of face recognition technology is being applied for safety, security, and payments.

It used for two types of tasks:
- **Face Verification**: given a face image, match it with known images in secure database
- **Face Identification**: given a face image, match it with known images in secure database

Face detection is the first step in the pipeline. It is the process of finding a face in an image. it focuses on finding a face and does not concern identity determination .Ultralight detector is set as the default face detection model .

Face alignment is the next step, after a face is detected in an image.an algorithm called "face landmark estimation" is applied to locate facial landmarks.

The third step is face encoding. This process identifies key parts of a face through the "eyes of a computer." Which is done by converting face images to numbers/measurements in order to represent each face.

After encoding of a face, the final step is to perform face matching. This entails calculating the distance of two encodings/measurements corresponding to two faces and compare the distance against a threshold.

NOTIFICATION SYSTEMS

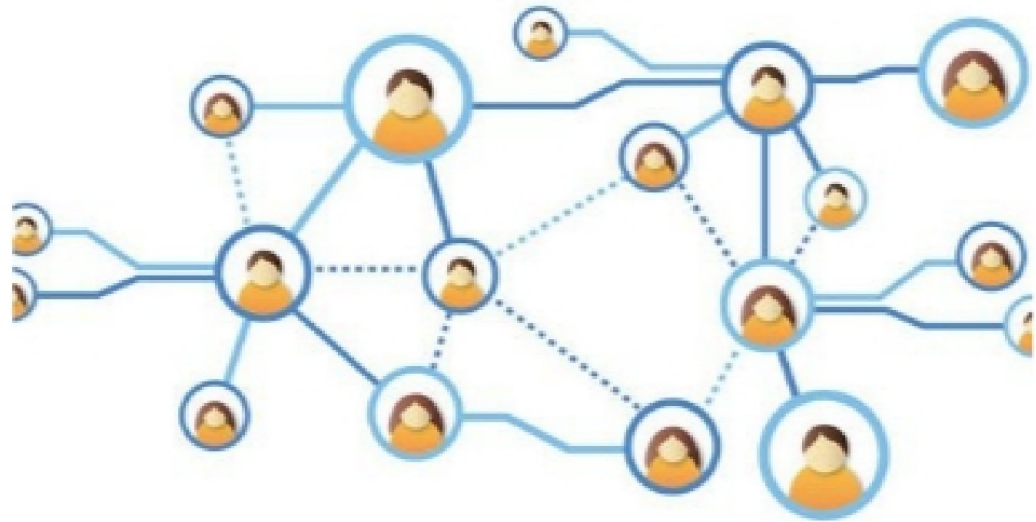A notification system is a set of protocols and procedures that can involve both human and computer components.

The purpose of these systems is to generate and send timely messages to a person or group of people

A mass notification system (MNS) is a platform that sends one-way messages to inform employees and the public of an emergency.

Mass notification systems have a database of names, phone numbers, email addresses and delivery methods.

Many businesses use some type of advanced notification system to ensure that critical employees will always be in reach.

Simple notification systems use a single means of communication, such as an email or text message.

Governments also use complex notification systems to alert citizens to impending disasters or other important events.

The basic purpose of a notification system to alert a person that a particular event has happened

A website to send an email when an update or other similar event occurs .Computers, phones and other devices all use simple notification systems .

INTRUDER ALERT

CURRENT SYSTEMS

RFID System Integrators South Africa

ADVANOSYS

Security and Automation Technologies

BIOCERTIFICATION

Biometric Security Training and Certification Program technologies

INTELLISEC

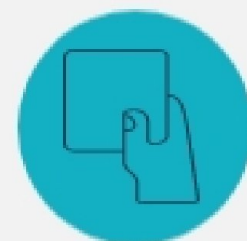CCTV, access control and intruder alarm Technologies

They are able to operate using the following methods

Video Survailance

Fingerprint Authentication

Access card Authorization