# Informatics Final Year Project

## Communication

### Problem

In South Africa crime is prevalent, so it is natural that individuals and business have seen the need to secure their homes or facilities. This is usually done by the way of hiring a security company to guard these facilities 24/7 365, there is a huge amount of costs associated with hiring individuals from a security company to guard the facilities. The question is what can be done to reduce the costs associated with securing one’s home or a business’s facilities? Is there a way in which security can be improved other than the traditional means that have always been implemented?

### Solution

A system that will allow the users to monitor their homes or facilities from any where at their own convenience. Allows users to notify the security company when a suspected individual break into their home or facility. Cameras will be mounted on selected location around the building, these security cameras will send a live feed of the video to the user. Authorized individuals will be scanned and have their faces stored in a secure database, when a moving object is detected by these cameras an image is analysed and the face of an individual is extracted so that it can be compared with the images stored on the user’s database. If a facial image is determined to not match any of the images stored on the database, the home owner or facility owner is alerted. An alert is sent to the household or facility personnel’s email address and also to the phone app or web app. The user is then given a grace period to take an action after assessing an image of a suspect individual who is at their household. The user can then either choose to report the incident to the security company so that they can respond to the scene or choose to ignore it since this might be a known individual i.e. guest who has yet to be entered on the guest list.

The system will have four applications the first one will be a desktop application that receives live feed from the registered cameras, the live feed from registered cameras will be sent as a service application to any of the three other applications that can be used to monitor the household or facility. The third application will be a web application, which the user can use their web browser to invoke it. The fourth application will be a mobile application that can be used by the household members or facility personnel to from the mobile smartphone device for monitoring.

The user first goes to our website to enquire about the services that we offer. The user can choose then to purchase one or more of our security cameras from the website. These cameras can be used as cctv cameras. Our technicians will then be able to install the security cameras for the user an extra cost. After the user has installed and set up the cameras, they can then optionally choose from one of our security services. They can select a home user if they are a home user, a business user if the cameras were bought by a company. Both the home user and a business user can choose from one of two plans, the basic plan offers basic monitoring service and notification features. The premium plan offers in addition to what the basic plan offers, that we as a company provide the services of a security company like calling the individual if any suspicious activity is reported to us and responding to the scene if we are required to and other tracking services where our security cameras can be mounted in an individual’s car, smartphone or laptop so that when they loose their car or devices we will be able to help them n tracking the devices for them. These services will also include remote control features such as the ability to flash a user’s phone or to stop the car from moving if it was stolen.

## Planning

## Modeling

## Construction