Expression of Interest for ACSA

ACSA intends installing a Vehicle Management System (VMS) in the new multi-storey parkade

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Supplied by Amabamba Fencing (Pty) Ltd

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1 Executive Summary

This document is in response to the publication of the Request for Proposal / Expression of Interest document for the Cape Town International Airport and is intended as a positioning document for ACSA to consider a possible introduction of technology that would add additional functionality as well as security.

The initial request appears to be to determine the occupancy figure of the available parking bays at any point in time, communicate that effectively with new vehicles entering and to record the figures for historical trend analysis. This can be easily accomplished with counters at the entrance and exit and simply keeping a record of the number of entries and exits relative to the total number of available bays.

While this functionality can be easily and cheaply achieved, it is our conviction that there is additional information that can be obtained of the vehicles entering and exiting that may be of real value to ACSA. This can simply be done by electronically recording the licence plate numbers of vehicles as they enter and leave the parking facility. In one instance as the car enters, the licence plate is recorded and written onto the parking ticket and then verified when the ticket is presented on exit. This certainly limits opportunity for fraud as many cars are left at the airport for many days and costs accumulate. Additionally it would be possible to provide greater assistance to the police for vehicles that are stolen from the facility as an auditable transaction log is kept. It is also possible to link this system to a system that would also capture an image of the driver for record purposes. This would be a major deterrent against car theft and a greater incentive for people to feel safe leaving their cars at the airport while they travel rather than just being dropped off and collected.

This facility could easily be extended as an additional service to the car rental companies should they also be relocated into the parking facility. This would result in possible increase in revenues for ACSA and certainly greater confidence in the ability to securely store valuable assets while traveling.

We do trust that this brief document would raise sufficient interest in this as an option and would welcome further discussion on these and related matters. Please feel free to contact Fredo Scribante on (082) 7757323 or Ronnie Schmitz on (082) 825 8601 or at the office on (021) 9051600.

2 Brief Description of Requirement

The requirement has been simply expressed and reflected in the paragraphs below:

"The purpose of this expression of interest (EOI) is to solicit information or proposals from potential suppliers and / or contractors for consideration to tender for the supply and installation of a suitable VMS.

The proposed VMS shall consist of digital electronic displays located remotely and at the entrances to the new Multi-storey Parkade indicating quantity / percentage of parking bays available on a real-time basis. The system shall be inter-linked to a central pc providing current and historical data required to analyse typical traffic characteristics in the Multi-storey Parkade.

After successful evaluation / pre-qualification, you will be issued with a detailed Tender Specification and invited to participate in this project by the submission of a detailed tender with a priced proposal in support of your tender. ACSA does not guarantee that any EOI as submitted by a particular supplier / contractor will be invited to submit a detailed tender.

Respondents participating in the EOI must demonstrate a proven track record in the supply and installation of similar systems. Such installations must be part of the supplier / contractors core business."

3 Introduction

Numerous approaches to the indicated requirement can be provided from a simple loop trigger at the entrance that increments a counter with a commensurate decrease in the count generated at the exit. This data can be simply placed in a simple spreadsheet or database that can keep a running total that can be presented on a visual display either per level or for the entire facility.

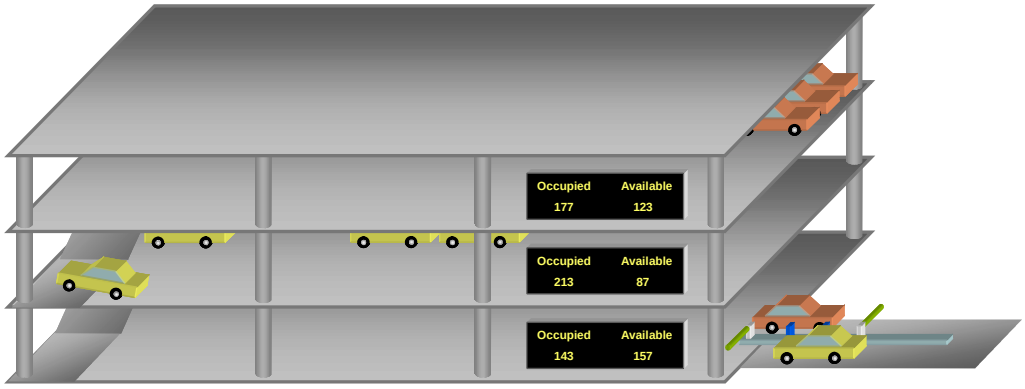
This is a way of providing a simple indication to clients and will result in attempting to ease frustration levels during peak periods by communicating with the clients what the status is. The question though is, “is this enough?”.

The developments in technology and the adaptation of that technology to provide real value has resulted in some interesting exploitations. We will attempt to elaborate a little on those opportunities and how they potentially could enhance ACSA’s offerings and customer service perception to clients that make use of the parking facility.

It is evident that vehicle theft is a major scourge at most airports. Additionally fraud through the manipulation of parking tickets also has a reasonable impact on the profitability of the parking facilities at airports. The incorporation of car rental companies and fleets also adds opportunity and challenge. Each of these “challenges” can be addressed through the simple inclusion of technology, people, process and information provision to manage these aspects more effectively. Improvements in terms of security, liability, customer relations and revenue protection will be realized. Additionally it would then be possible to have an accurate audit trail of each transaction for review should it be required.

4 Solution for consideration

The simple deployment of licence plate recognition technology is what is being suggested. This will enable each vehicle to be recorded as it enters the facility as the vehicle travels over the trigger to generate the issuing of the ticket, or the pressing of the button to initiate the same. The event will then trigger the capture of an image of the front (and possibly the rear as well) of the car. This image will then be analysed and the licence plate number could then be written onto the magnetic strip on the ticket that currently records the date and time. A copy of the image would then be stored for future reference if required.



Cameras could be deployed at the entry and exit to each level which would also assist in providing feedback to a client should they forget where they parked (but this may be too much at this time).

Prepaid, rental returns, staff, etc could all be entered into the database to determine appropriate authorization for access to certain designated areas. This will allow for the acceptance of rental cars through a main entrance and guidance to rental returns. (A number of options exist here.) An accurate and auditable record of all vehicles entering and leaving will then be kept and counters maintained accordingly.

Recording of info per level can be achieved with simple counter technology that can be consolidated to ensure correctness. This can all be achieved. A display board per level can be provided to help with identifying availability of bays. Additionally a board could be used to direct a driver to an appropriate level.

Additionally, an image of the driver could also be taken at the time of ticket issue and exit to keep an auditable record of who left with the vehicle.

A “hot-list” of vehicles from the Police services could also be included and security personnel alerted when a “hot” vehicle is identified. This can be done without personnel intervention and will avoid collusion and syndication. This service would be most useful to aiding the police in dealing with crime.

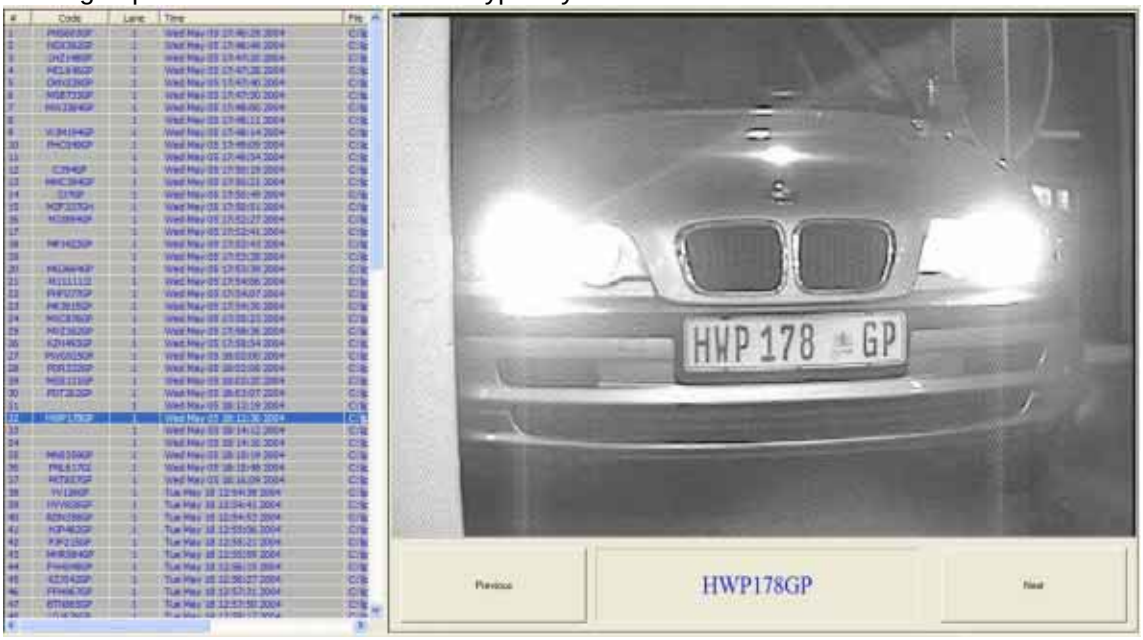
The reputation of this technology has been sullied over the years due to a few factors, namely:

- poor implementation due to lack of consideration of environmental conditions (sun position, etc.)
- software has not been mature enough to handle the anomalies (different fonts, different configurations, personalized plates, etc.)
- inadequate hardware to handle specific conditions

It is important to note that with careful consideration of the placement and operation of the technology, the accuracy levels attainable are significantly better than very good. The technology available prior to specific customization for the specific environment typically returns accuracy levels in excess of 97% (including consideration of plates obscured by bull-bars and tow-bars, damaged plates, missing plates). With proper calibration this number can be improved upon to provide over 99% accuracy for fully visible plates.

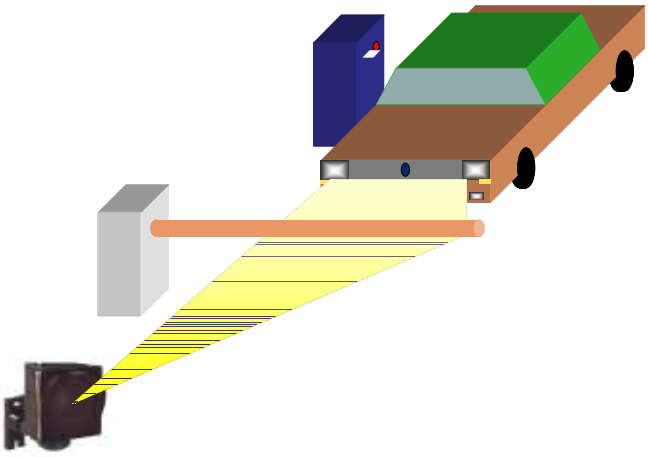
The console for running this system would typically provide the following visuals during normal operation:

The log kept of the transactions and is typically seen as indicated below:



The License Plate Recognition system operates in the manner indicated below: -

- Vehicle triggers image capture via a loop on the road or pressing button requesting ticket
- Image capture by a high resolution camera
- The license plate is then identified in the captured image;
- License plate number reading at an accuracy over 99.95% (with multiple cameras used in stereo)
- (Linking of the license plate with car colour and shape - if required)
- Linking of license plate number with a name and the number of parking bays available, and where available and display of this information on ELECTRONIC DISPLAY when the vehicle is detected
- Log of number and image of all vehicles and driver who enter and exit the facility
- Image capture of the person from a high resolution colour camera



This solution enables:

- Improved productivity
- Greater security control with less opportunity for vehicle theft
- Less opportunity for people to fraudulently handle parking payments
- Greater communication with clients resulting in increased customer satisfaction
- Greater auditable information to better understand requirements and ability to link requirements to flight schedules, etc.
- Increased revenue opportunity from Car Rental companies for vehicle monitoring service