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Abstract

Automatic Number Plate Recognition (ANPR) is an internationally recognized methodology that is used in vehicle identification. ANPR systems allow for real time recognition of a vehicle's number plate. Vehicle parking is an important component within any transportation system, whereby vehicles are often parked at destinations. With an increased number of motor vehicles on roads especially in developing countries, there is need for a vehicle identification mechanism that is effective, affordable and efficient. There are also increased insecurity challenges including terrorism which call for increased surveillance. In most academic institutions and car parks, the ongoing car park entry registration process for visitors, staff or students entering the institution involves a security guard having to confirm membership details by checking for membership sticker on the windscreen of the vehicle or by checking the driver's identification card. This process of writing is tedious and time consuming and is prone to inaccurate recordings, furthermore the backup and sharing of this vehicle information is difficult because the data is hard copy. We propose the adoption of a mobile based software solution that has

ANPR capabilities to aid in vehicle identification and vehicle registration. The software application that was developed adopted an object oriented analysis and design methodology, the software developed implements Optical Character Recognition (OCR) using the mobile device camera to detect and capture the vehicle number plate. The proposed solution reduced registration time from 30 seconds to 6 seconds in addition to other benefits. It was recommended that the system be adopted and implemented to address the current challenges in vehicle registration and surveillance.

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Index Terms

Computer Science

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Keywords

ANPR (Automatic Number Plate Recognition), Vehicle surveillance, Vehicle Parking, Optical Character Recognition