

## Design and Development of a License Plate Recognition System for Adventist University of the Philippines

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### Abstract

Plate number recording is a practice that is done in vehicular terminals to ensure the security and order inside the premise that corresponds to the vehicular terminal. The Adventist University of the Philippines adopts the method by manual logging of plate numbers at the university main gate. The study designed an automation process of recording vehicle's plate number using Automatic License Plate Recognition (ALPR) algorithm, a barrier beam prototype-to-software interaction using Arduino microcontroller, and secured data storage using MySQL administrator. Findings showed that the ALPR library is tuned to have greater affinity with 2016 Philippine Plate Number format. The software interacts with the barrier beam through serial communication that which is facilitated by the microcontroller. The system is able to detect and recognize the plate number of interacting vehicles, and store it in the database with minimum supervision required. It also has the ability to distinguish local vehicles from the visiting ones. The system's override capabilities compensate for the ever-varying environment and situation in the university. On the other hand, the barrier beam reacts accordingly for every prompt given by the system. The proposed system is warranted as useful for automating the license plate recording process in the university's vehicular terminals.

**Keywords:** *plate number, automate, recognize, prompt, MySQL*