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License Plate Matching For Automatic Highway Toll Collection System

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Abstract : In last couple of decades, the number of vehicles has increased drastically. License Plate Recognition is used increasingly nowadays for automatic toll collection, maintaining traffic activities and law enforcement. The basic step in License Plate Detection is localization of number plate. The approach mentioned in this project is a color processing based approach. This approach has an advantage of being simple and thus faster. Initially, license plate localization is implemented using MATLAB and converted to text for its functionality in automated toll collection. Once the text is transmitted to system, toll collection is done using cards and the UFD is displayed through digital display, after the collection automatically the gate will be opened. By implementing this technique it reduces the waiting time in toll collection places, also we eliminate need of fraudulent and unusual vehicles arrivals through CCTV footage and thus think of portable implementation of such application. In this approach, a digital camera is used to capture snapshot and feed it to the MATLAB software. Then it converts the license plate number as text and feed to the kit. Later, this information is used for recognizing actual number of the license plate and automate the toll plaza. The plate detection algorithm is implemented in MATLAB, and converted as text. Successful demonstrations were given by taking snapshot of the car entering the toll plaza and getting the toll through cards.