

Unique Vehicle IDentification Module

For toll system operators using license plate recognition (LPR) technology, the elusive challenge has always been to capture maximum revenue at lowest cost by automatically identifying every single vehicle that appears in their systems. Until now, however, a small but stubborn percentage of license plates have refused to give up their information without a fight. As a result, those potential revenues have steadily slipped away. Now, Perceptics is changing that paradigm.

The Unique Vehicle IDentification (UVID) module is a powerful new OCR-enhancement product from Perceptics that helps the toll industry rescue leaking revenues by extracting high-confidence vehicle identifications from those stubborn plate images that would otherwise register as “no-reads.”

Images of bent, damaged, or obscured plates have typically required costly and time-consuming manual reviews by personnel skilled at teasing out the hidden portions of a plate’s ID from whatever could be seen of the alphanumeric characters, plate type, and jurisdiction of issue.

UVID now automates and enhances that process by creating a parallel record for each image based purely on the visual patterns that make up the region of interest (ROI) on and around a given license plate. While the OCR engine looks for human-readable numbers and letters, the UVID module sees each plate image (front and rear) as a visual map of the ROI, similar to a fingerprint. This unique fingerprint, or “signature,” provides a second means by which to identify a vehicle.

And just as a forensic analyst or database can identify an individual from a partial fingerprint, the UVID can also recognize a plate, even when portions of its signature are missing or obscured.

When you overlay the OCR results from a given plate read with the UVID records of plate signatures, plus tolling point events associated with each identification, you increase the system’s ability to automatically compile a high-confidence ID.

How it works

Traditionally, when a vehicle crosses a tolling point and triggers front and rear cameras, the OCR engine interprets the image data from each plate and produces an alphanumeric ID, with a confidence level assigned to the result. The toll collection system assigns these initial results to a trip record, and all trip information (including Event ID and TimeStamp) is compiled in the trip record for billing purposes.

With this latest innovation from Perceptics, the UVID module simultaneously evaluates the same front and rear plate images, encodes each image by its corresponding signature and assigns all related signatures to the same trip record. Each time the vehicle passes another tolling point, the process repeats. From one event, the OCR engine may find a clear enough image to determine the plate’s ID with virtually 100% confidence. At another event, the plate may be partially covered or distorted, yielding a low-confidence OCR read or even a no-read. However, with the UVID module’s ability to recognize features and partial patterns from a different perspective than the OCR engine’s, the system now has a robust set of overlapping data from which to compile a high-confidence ID, and therefore a more complete and accurate trip record... automatically.

To learn more about how Perceptics can help cut down on manual review costs and capture elusive revenues, contact your representative today.

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1130 Kingston Pike, Suite 6 | Farragut, TN 37934 | +1 800 448 8544 | www.perceptics.com