Flexible and accurate access management solution:

CARRIDA software engine integrated into NIS ANPR solution

Intelligent image processing functions facilitate number plate recognition in diverse applications, providing a fast, safe and precise identification of vehicles and automatic access clearance, e.g. in restricted areas such as car parks, closed or partly closed roads, toll control, speed control and many others. Combined with hardware-based detection systems, like infrared cameras e.g., Automatic Number/License Plate Recognition (ANPR/ALPR) software is used for access management all over the world.

With the Carrida software engine, embedded imaging expert Vision Components from Germany offers a very fast and precise ANPR software designed for integration into a wide range of surveillance systems, including access management in car parks. The high-performance, hardware-independent OEM software with a typical processing time of 30 ms and a typical recognition accuracy of more than 96% has been widely tested in the ANPR industry and been proven to consistently achieve high recognition accuracy, even in less than ideal conditions. It reliably identifies dirty, damaged or skewed number plates and is unaffected by suboptimal or changing lighting conditions, as will often occur in access control situations. For other applications, the tool also automatically recognises all plates displayed in one image and vehicle plates in several lanes simultaneously. Suitable for use with Windows- or Linux-based mobile or embedded systems, Carrida reads all common still image and video formats and is easy to integrate into existing security and surveillance applications.

CARRIDA adapted SKIDATA integration

Due to plate variation from country to country, ANPR is usually restricted to certain regions. Carrida from Vision Components however can be used all over the world. The software engine provides high accuracies in recognising country specific plates – a feature, New Zealand-based company “Network Imaging Solutions” (NIS) has taken full advantage of. The security technology expert has developed the comprehensive “NIS ANPR” solution, which encompasses camera technology, software, server infrastructure and end-user customisation. To implement the number plate recognition software in NIS ANPR, the company uses Vision Components' Carrida software engine with additional features. The recognition algorithm has been adapted to reach high recognition rates for New Zealand number plates under all conditions (meaning weather conditions, camera positioning, daylight etc.).

Figure 1: The NIS ANPR solution is based on Vision Components' number plate recognition software Carrida

NIS has also rounded off the software package with a proprietary black/white list. Most importantly, the software package for PC now includes the option to integrate Carrida into existing Skidata systems. Among other features, this integration includes all Skidata features to the latest version 25 and delivers number plate information to Skidata backend systems, for processing as required. NIS has also developed a robust database system for storing captured plates with time/date stamps, which is accessible through a web browser interface and allows users to view real-time number plate events as well as search the archive. Operators can edit misread plates, receive e-mail notifications based on non-responsive software as well as IP notifications and see a status report with the customised software module "current occupancy". "The NIS ANPR database serves as a platform for integration with customer infrastructure," says John Hurford, Managing Director of NIS. "We create a 'plug-in' to connect the database to existing on-site software and hardware." Among other things, this enables integration into a point of sale system so that payment can be calculated depending on what time a vehicle entered and exited the facility.

Conclusion

With Carrida at its core, the open platform NIS ANPR is a flexible and powerful ANPR solution for access management systems featuring high-speed recognition and multiple engine support.

CARRIDA CAM

For stand-alone ANPR applications, Vision Components offers Carrida inside “Carrida Cam”. The tiny smart camera features IP67 protection class and consumes less than 3 W, making it ideally suited to self-sufficient outdoor applications.

Figure 2: Carrida Cam by Vision Components combines the Carrida software engine with smart camera VC pro Z

Unternehmenshintergrund

Die Vision Components GmbH wurde 1996 von Michael Engel, dem Erfinder der ersten industrietauglichen intelligenten Kamera, gegründet und gehört zu den führenden Anbietern in der industriellen Bildverarbeitung. Das Ettlinger Unternehmen unterhält Vertriebsstandorte in mehr als 25 Ländern weltweit. Vision Components entwickelt und vertreibt intelligente echtzeit- und netzwerkfähige Kameras, die ohne zusätzlichen PC auskommen und sich als Embedded Solutions flexibel in Anlagen aller Art integrieren lassen. Kunden können zwischen Modellen mit ARM-Prozessoren und VC-Linux-Firmware sowie DSP-basierten Modellen mit dem firmeneigenen Betriebssystem VCRT wählen. Das Produktspektrum umfasst Smart Kameras mit oder ohne Schutzgehäuse, Platinenkameras und Vision-Sensoren – auf Wunsch werden auch maßgeschneiderte Bildverarbeitungslösungen für verschiedenste Anforderungen entwickelt. Typische Einsatzgebiete sind u.a. Qualitätssicherung und Fertigungskontrolle. Zusätzlich bietet das Unternehmen für viele Anwendungen, wie z.B. Nummernschilderkennung, Bewegungsverfolgung, Codeerkennung sowie Mess- und Positionieraufgaben Software-Bibliotheken als Freeware an.

Kontakt:

Vision Components GmbH

Miriam Schreiber

Ottostraße 2
76275 Ettlingen

Tel.: 0 72 43 / 21 67-16
Fax: 0 72 43 / 21 67-11
E-Mail: miriam.schreiber@vision-components.com
Internet: www.vision-components.com