FoxVigi

Vehicle licence plates recognition

Used for access control, FoxVigi software includes a module for the detection and recognition of licence plates. It is used, in particular, for the management of multiple lists of vehicles and provides statistical tools which can, for instance, generate the occupancy rate of a car park by a given vehicle. The solution is integrated in existing data bases and other third party systems controlling openings.

In spite of many complications inherent in the recognition of licence plates (reflections, different formats or positions, soiling, etc.), FoxVigi licence plates reader remains one of the most effective and reliable solutions in the field.

The video analysis licence plates recognition solution (LPR or ANPR) counts several steps:

- **detection** of the plate in the image,
- **extraction** of characters,
- **comparison** with the vehicle database,
- **alarms feedback** to the operator,
- **triggering** a predefined action.

FoxVigi: the benefits

	DIFFICULTIES TO OVERCOME	FOXVIGI SOLUTION
Practical difficulties encountered during installation	Requirements concerning the positioning and angle of the camera: view of a single lane at a time, reduce angle to limit distortion, appropriate height and distance of camera in relation to the vehicle, appropriate focal length.	The additional software, FoxTool, provides a simple answer and reliable solution to all these questions.
Problems of lighting	Sun reflections on the plate and glare due to vehicle headlights.	Infrared lighting and an infrared filter are recommended.
Quantity and dimensions	Presence of several plates; plates of different formats depending on the type of vehicle (truck, motorcycle, car) or the country of registration.	Reliability remains the same.
Problems of legibility	Dirty plates, malformed letters, etc.	A configurable threshold of similarity takes any problems of legibility into account.

Operating

FoxVigi does not take the origin nor the format of the plate detected for its recognition. Therefore, all plates read are compared with a pre-established base of vehicles. Each plate entered in the base is given a status (authorised or unauthorised) associated with the generation of an event that can be configured by the user.

All data gathered during the detection of plates (characters, time-stamping and status) are sent to users using XML protocol. The registration numbers on a site are therefore known in real time, and are used to search according to one or more of the following criteria:

- by plate,
- by status,
- by camera(s),
- by similarity with a given plate
- by date and time (possibility of entering a start and finish date)
- by frequency of occurrence between two dates.

In brief

- Reliability in all circumstances, whatever the number of licence plates, origin or format.
- The additional FoxTool software which facilitate the installation and guarantee the reliability of the system.
- Multiple lists of vehicles management
- Statistical tools available

Business case: Geogaz Lavera

In 2009, Geogaz Lavera decided to upgrade all its security procedures. This Seveso 2 LPG storage and distribution is one of the largest in Europe and must therefore be a leader in the field. The first phase of its program concerned tanker truck traffic control.

"The security procedures applicable to our activity require us to know the number of trucks on the site at any time and to direct them towards the loading platforms. But as the shipper, we are also responsible for identifying the drivers, checking the authorisations of the tractors and tanks and, finally, for ensuring that they are not overloaded when they leave" notes David Santoro, head of the Geogaz Lavera operations department.

During the 5 main steps (entering the site, light weighing, loading, weighing laden and leaving the site); high definition digital cameras fitted with FoxVigi licence plate reading module detect the licence plates of the vehicles and identify the characters on them. This system, which was set up with our partner Scutum, is used to check the tractor/tank combination and authorise each step (loading with LPG, weighing, etc.).

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FOX STREAM INTELLIGENT VIDEO