

GATE MANAGEMENT SYSTEM

Many city centres now have restricted traffic areas which raise issues in terms of recognising the vehicles permitted to enter them. This does not regard those with regular authorisations, but the many exceptions that may arise, including commercial traffic and specific categories of vehicles.

People with disabilities, for example, are usually entitled to access restricted traffic areas, regardless of where they reside, but this can lead to administrative problems for those who do not live in a given city and therefore do not automatically receive a permit to enter the restricted areas. Disabled drivers accessing a restricted traffic area in a different city are therefore flagged as committing an offence, leading to the related administrative procedure and consequent appeal process, incurring costs and creating inconvenience for both motorists and the local authorities involved.

This problem regards all the possible exceptions that may arise where automatic control systems are in use, from commercial vehicles, which require constant access but may present different number plates, the emergency services, tourists residing temporarily in hotels in the area, the users of public parking spaces in the restricted traffic area and exceptional circumstances which require the use of various vehicles.

THE SOLUTION

Gate Management System is a solution designed to manage entry to restricted traffic areas, based on an open source web based platform and an app for Android devices. Specifically conceived to enable people with disabled parking permits to enter restricted traffic areas, the system can also be extended to any setting which requires a flexible solution for managing video controlled areas in use in different cities.

The system uses video analysis algorithms to recognise authorised number plates and run an automatic check using the back-end operator services.

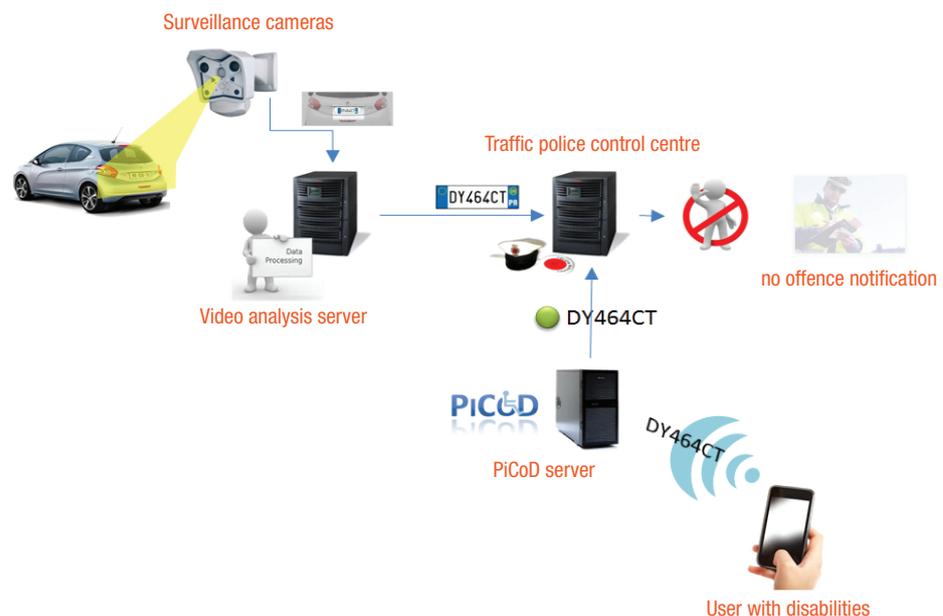


Figure 1 – The system architecture



TECHNICAL CHARACTERISTICS

Using the Android app for smartphones users can request to access the restricted traffic area, inputting their number plate which is automatically flagged up to the access control system customised to the surveillance system in use.

The web-based platform enables the operator to access a back-end system that automatically runs a check on the access request in the databases of the various municipalities participating in the scheme and notifies the user of the outcome.

The intuitive, customisable system also manages user data, and checks restricted traffic area accesses and requests, selecting one of the number plates inputted to the system and the gateway to use. The web platform also presents a geo-referenced map that shows the locations of the restricted traffic area gateways in operation.

As well as the manual inputting option, the GPS service automatically identifies the closest gateways to the user. On the date requested the system automatically checks access data against booking requests and cancels any violations automatically notified by the control system.

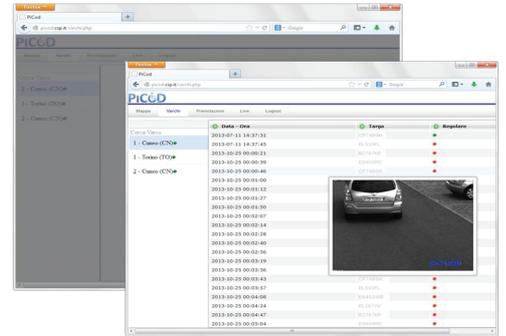


Figure 2 - Web-based operator interface

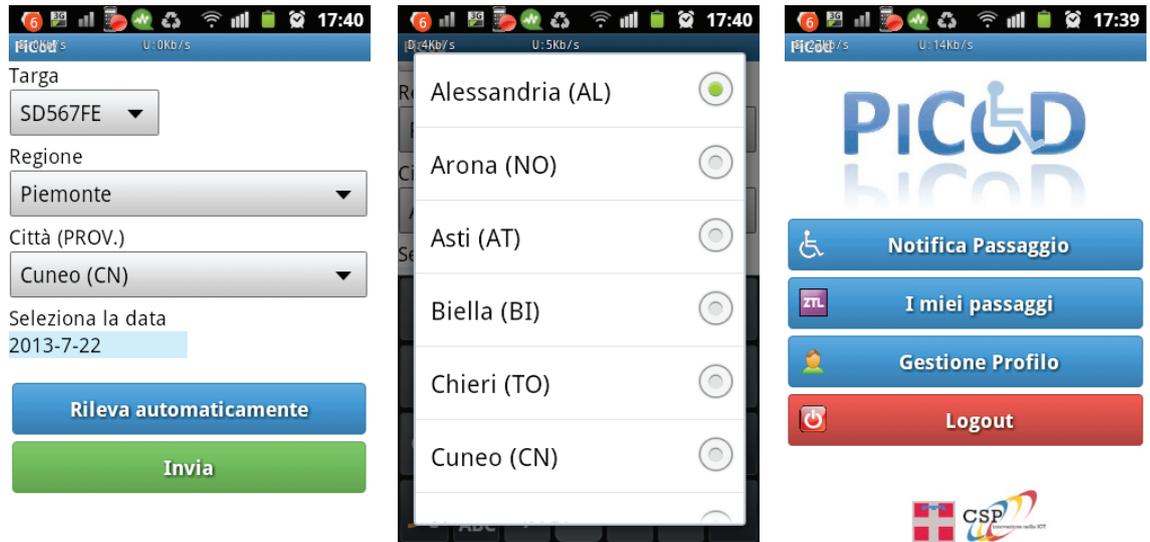


Figure 3 –The smartphone app and the user interface

