Smart Parking Management

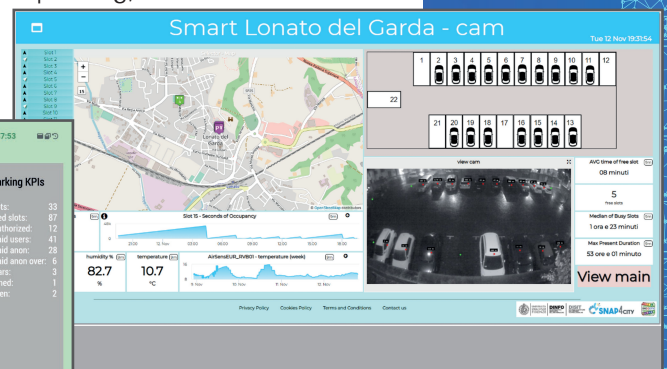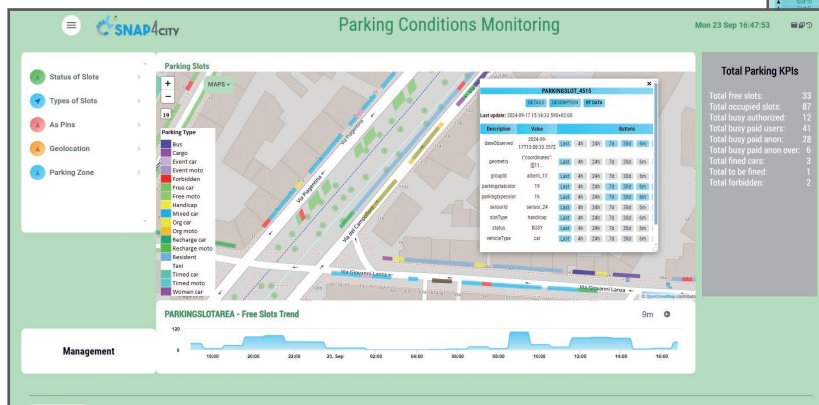The smart parking solution of Snap4City can significatively contribute to the operation management and sustainability of municipalities to serve city users (residents, operators, and visitors) and to more efficiently manage the optimal use of resources in combination with the collected and analyzed data. The main goals are the reduction of emissions informing the drivers of the free places in clear and prompt manners, and with predictive capabilities, supporting parking solution off- and on-roads, supporting a large range of modalities of payments and business models which can be differentiated by area and by municipalities, and that supports the possibility of taking into account the special needs of disables, city operators, residential, commercial operators, etc.

The solution is mainly based on a Smart Parking Manager which is a Snap4City Solution based on a number of views/dashboards for the different municipalities and operators. The Smart Parking Manager allows at the operators to keep under control the status of the: parking sensors on-roads, off-road parking facilities, payment solutions for the final users (from mobiles and park-meters), registers users and their profiles and wallets, parking areas and their payment profiles, parking business models and profiles, etc., and also managing fines, when needed. The payment for registered used is based on the actual minutes they use the parking, while non-registered can pay on the basis of their forecasted time duration. The mobile app actually help the drivers to pay less, if registered; and the residents, disabled and operators may take/pay specific permissions.
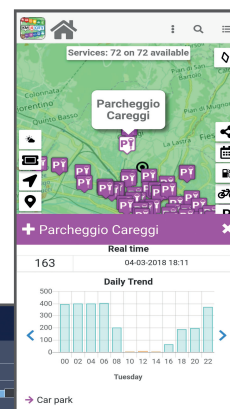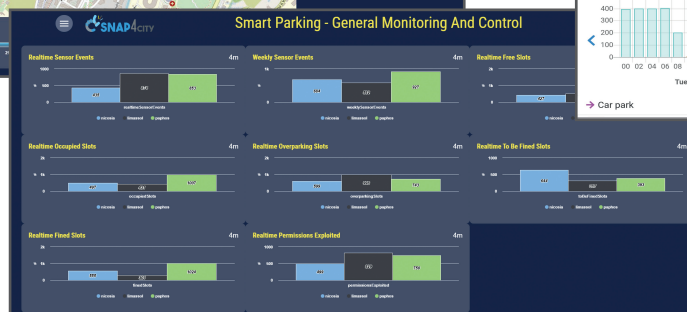
From the field, the Smart Parking Manager receives and/or collects notifications from: parking sensors on the roads (a range of them can be used, for instance based on Lora, NBIOT), in/out events from off-road parking, Snap4City mobile App ("in a Snap" series or newer) for registered users which can use the wallet to pay, parking paying pole on road and at the entrance of the off-road parking, etc. Other solutions are available as well, such as the automated authorization via car plate recognition, the usage of transponders for the authorization at the entrance on off-road parking or areas, the recognition of some Bluetooth code for automated registration/match with the sensors, etc. The combinations of the above-mentioned payments / authentication systems with the user profiling and business models allows to set up a large range of solutions which satisfy all the needs of cities and parking operators, and, in most cases, they can be active on the same platform, on different municipalities and area.

The mobile Apps of Snap4 provides services for the drivers which are looking for parking, providing the information about the free parking lots in their preferred area, informing of the rates, and accounting them only the effective number of minutes they stay (if the business models has been selected), or receiving notifications some minutes before the planned parking time expired (depending on the paying model and business model). Other business models based on time slots and minimum parking time can be viable as well per area and per municipality. The payment and permissions can refer to parking, and to the access to restricted areas as well.

A specific version of the Snap4 mobile App is provided to the municipality operators which can easily identify the areas, the number of infractions for unpermitted parking and/or overparking. The mobile app also supports them in producing the fines, directly on the move or on the central station. They can take the eventual picture, and when needed print the official fine to leave it on the "car-glass". At the same time the operators in the central station can monitor the activities and even the position of the on-road operators, eventually provide suggestions/messages.

Extended version accessible from: https://www.snap4city.org/1013
Parking predictions: https://www.snap4city.org/802
Parking management: https://www.snap4city.org/970
Contact: https://www.snap4city.org

SOLUTION