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Category: Road

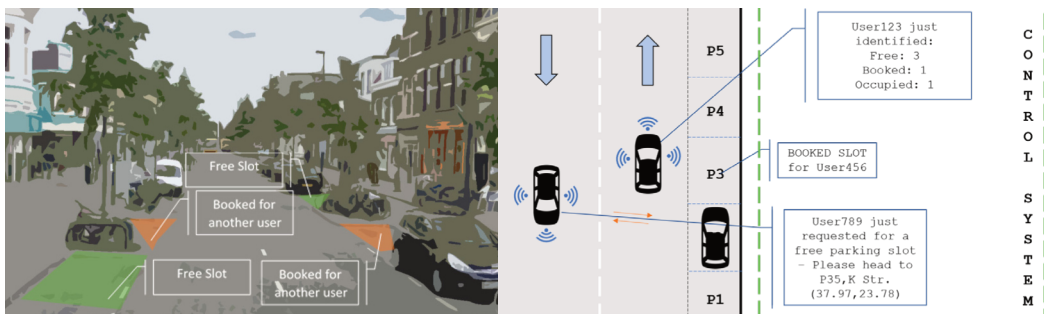
Country: Greece

Research Area 8: Planning, Modelling and System Design

Idea Number: 14

## PARKONOMOUS - an intelligent parking management system for autonomous vehicles

In recent years, a certain vision of autonomous vehicles has emerged. Autonomous cars are expected to be technically sufficient for common usage by the end of the next decade and will be equipped with numerous sensors in order to identify their surroundings and navigate, using advanced Machine Learning and Computer Vision techniques. We suggest the development of a Control System that will assist autonomous vehicles to locate free parking slots. Each autonomous car would use data gathered from its embedded sensors to identify free parking spaces en route and provide this information to the system, which would transmit it to other autonomous cars searching for a free parking space. Thus, the role of every autonomous vehicle involved will be twofold during different time periods, the "provider" and the "requester". The proposed system would be able to support communication between the users by transmitting information properly. More specifically, when a "requester" is seeking for a parking slot, the system would book for them one already identified by a "provider" for a reasonable time period, in a way to optimize cost, fuel efficiency and walking distance, taking into account priority of all other "requesters" as well. Furthermore, during this time period, the specific parking slot will be flagged as unavailable to any other user randomly passing by. The proposed system is expected to minimize parking searching time as well as traffic congestion and harming emissions caused by it, leading to a more sustainable urban transportation system.



### Key Characteristics

Autonomous cars • Machine Learning • Parking management system