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Parking Availability Monitoring System (20140124, Dr. Nikolaos Papanikolopoulos)

IP Status: Issued US Patent; **Application #:** 14/718,914

Parking Lot Vacancy Detection

A system that monitors parking availability in parking lots has been developed. It uses a 3-dimensional camera method and is robust under all weather conditions. It is highly effective in accounting for vehicular occlusion which happens often in parking facilities with large vehicles. Detection of vehicles in real-world lighting (accounting for reflections and shadows) is a dramatic improvement over the detection in current 2-dimensional systems. Used in a commercial parking facility, the system can maximize revenue and customer relations with reliable information about parking vacancies online. It can be expanded to provide surveillance, security, and provide video data for studies. The camera system is scalable to handle parking facilities of various sizes.

Hours of Service for the Trucking Industry

Since the recent implementation of the Federal Motor Carrier Safety Administration's "Hours of Service" regulation, commercial truck drivers cannot drive more than eleven hours per day. This action creates pressure on truck drivers to reliably locate available truck stops to not waste unpaid time seeking an open parking spot after their eleven legal working hours. Aggravated driving over the legal eleven hours per day is a road safety hazard that concerns municipal governments.

Parking Guidance to Users of Parking Lots

The world of vehicle parking in general is becoming more automated every day, and many urban lots are now prepayable online. There exists a demand for systems that will accurately detect the availability of parking spaces in commercial lots.

BENEFITS AND FEATURES OF 3D PARKING AVAILABILITY MONITORING SYSTEM:

- Provides reliable, accurate parking information in all weather and lighting.
- Easily extendable to create a 3D surveillance system.
- Provides a flexible solution for parking lot managers looking to provide reliable information to patrons before they arrive.

Phase of Development Prototype system developed and tested.

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Technology ID
20140124

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