Legal Analysis

**Year:** 2016 **Semester:** Fall **Team: 7          Project:** ANPR Parking System

**Creation Date:**Oct. 31, 2016 **Last Modified:** Dec. 11, 2016

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Assignment Evaluation:

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| --- | --- | --- | --- | --- |
| **Item** | **Score (0-5)** | **Weight** | **Points** | **Notes** |
| **Assignment-Specific Items** | | | | |
| **Regulatory Analysis** | 5 | x3 | 15 |  |
| **Analysis of Patent 1** | 5 | x3 | 15 |  |
| **Analysis of Patent 2** | 4.5 | x3 | 13.5 |  |
| **Analysis of Patent 3** | 4.5 | x3 | 13.5 |  |
| **Writing-Specific Items** | | | | |
| **Spelling and Grammar** | 3.5 | x2 | 7 |  |
| **Formatting and Citations** | 4 | x1 | 4 |  |
| **Figures and Graphs** | 5 | x2 | 10 |  |
| **Technical Writing Style** | 4 | x3 | 12 |  |
| **Total Score** | 90 | | |  |

5: Excellent 4: Good 3: Acceptable 2: Poor 1: Very Poor 0: Not attempted

Comments:

*This document is fairly well-written.*

*The patents analyzed are highly related. And there are careful comparisons between each of these patent and this project. However, the abstracts for the patents can be condensed to better emphasize the key points. Also, there are errors in spelling and grammar throughout the whole document and some of them make it really hard to understand the author.*

1.0 Regulatory Analysis

* 1. Restriction of Use of Hazardous Substances (RoHS

To get the permission for sale in many European countries, RoHS is important and required. RoHS restricts the use of the following ten substances: Lead (Pb), Mercury (Hg), Cadmium (Cd), Hexavalent chromium (Cr6+), Polybrominated biphenyls (PBB), Polybrominated diphenyl ether (PBDE), Bis(2-ethylhexyl) phthalate (DEHP), Butyl benzyl phthalate (BBP), Dibutyl phthalate (DBP), Diisobutyl phthalate (DIBP) [1]. However, complying with RoHS standards is costly and only affects the European but not United States market. Our main purpose is to get started and probably dominated in United State market, not only because we are more familiar with United States market but also because our team live in Unite State so that it is more convenient to launch the commercialization.

* 1. Federal Communications Commission

The Federal Communications commission (FCC) is an independent agency of the United States government, which is the most specific with regards to electromagnetic noise source.

To get the equipment authorization from FCC our product should meet requirements in four categories, which are verification, declaration of conformity, certification and registration. First, we need to determine if the device is a radio frequency device subject to the FCC rules. Unintentional Radiators operating above 9 KHZ must be shown to be compliant with FCC standards [2]. Then according to the four categories, the product should satisfy them respectively. For verification, equipment approved using the verification procedure is required to be tested. However, it is not required to use an FCC Recognized Testing Laboratory. The prototype of the ANPR parking system will be fully tested by our team. For declaration of conformity, Equipment approved using the declaration of conformity procedure is required to be tested by an FCC Recognized Accredited Testing Laboratory. According to the list in the FCC website [3], the ANPR parking system will be tested by one of the testing laboratories in the list. And the certification can be obtained when ANPR parking system successfully passes all the tests. Finally, the ANPR parking system will be labeled and provided with the required customer information.

1.3 International Traffic in Arms Regulations (ITAR)

The International Traffic in Arms Regulations (ITAR) is a set of United States Government regulations on the export and import of defense- related articles and services [4]. As said in the first point, ANPR parking system is focusing on American market to get larger chance to survive. At current time we will not consider the market regulation about export and import.

* 1. Underwriters Laboratories (UL)

UL provides safety-related certification, validation, testing, inspection, auditing, advising and training services to a wide range of clients, including manufacturers, retailers, policymakers, regulators, service companies, and consumers. Also it is one of the several companies approved to perform safety testing by the US federal agency Occupational Safety and Health Administration (OSHA) [5]. We will provide the prototype for UL to test the functionality so that the ANPR parking system can get the certification from Occupational Safety and Health Administration.

2.0 Legal Liability Analysis

2.1 Analysis of Patent 1

Patent Name: Parking lot management system

Patent Publication Number: US 20120299749 A1

Patent Filing Date: May 25, 2011

**Patent Abstract:**

This patent describes a parking lot management system which can keep a current parking space inventory for one or more parking lots using a parking database. The parking lot management system receives, via a network, a location associated with a parking customer, and identifies a parking lot of the one or more parking lots currently having available parking spaces based on the customer's location. The parking lot management system sends, via the network, at least one of a current occupancy, parking rates, or a location of the identified parking lot to the parking customer. The parking lot management system further receives a parking space reservation inquiry from the parking customer, and identifies a parking space from the identified parking lot based on the parking customer's location. [5]

Patent Key Claims:

1. Determining a current parking space inventory for one or more parking lots using a parking database;
2. Receiving, via a network, a location associated with a parking customer;
3. Identifying a parking lot of the one or more parking lots currently having available parking spaces based on the customer's location;
4. Sending, via the network, at least one of a current occupancy, parking rates, or a location of the identified parking lot to the parking customer.

Potential Infringements and Functional similarities:

1. Use the same idea to detect the residual parking spots in parking lot. Store the information into parking database and display the information to customers.
2. We are also calculating and gathering the information of parking.

Functional Difference:

1. We are not using network to receive the location associated with a parking customer. Instead, the parking detection sensor is used to provide the information about whether a car is in this location.
2. We are not sending any information via network to customers. In the contrast, we only display the information of parking lot status in front of the entrance of parking lot entrance right now.

2.2 Analysis of Patent 2

**Patent Name:** Electronic payment parking lot system and method

**Patent US Patent Publication Number:** US 20020032601 A1

Patent Filing Date: Apr 25, 2001

Patent Abstract:

This is an integrated system and method for payment and enforcement of parking services. The invention utilizes a digital carrier, such as the electromagnetic energy spectrum or wired network to carry out the payment transaction and enforcement. The invention typically includes interfaces for an electronic meter, a web server, and a motorist device. The motorist utilizes the device, e.g., cellular phone or handheld device, to access an individual account on the web server, providing information pertinent to the transaction. Upon receipt of the information, the web server verifies account information and the account balance, authorizes the transaction, and debits the motorist's account accordingly. The web server communicates with the electronic meter, which displays the paid time units or an expiration flag. The web server communicates with handheld devices of paid parking enforcement officials to provide instantaneous notification of expiration of time units and other information pertinent to paid parking services. [6]

Patent Key Claims:

1. A motorist interface accessible to the communication network;
2. A remote parking authorization interface having account data and meter data, and interacting with the motorist interface via the communication network;
3. An enforcement interface communicating with the remote parking authorization interface via the communication network.

Potential Infringements and Functional similarities:

1. The same idea to use remote parking authorization so that driver will not need to take the parking ticket and they can pay parking fees automatically.
2. Gathering the same information about the time difference and parking status.

Functional Difference:

1. ANPR parking system is neither using motorist interface nor any network.
2. ANPR parking system is not interacting with vehicles and not helping vehicles to park based on communication distance data with drivers.
3. This Patent cannot display how many parking space left in the whole parking lot, but ANPR parking can not only show whether the specific space is occupied or not, but also display the whole parking status of the parking lot.

2.3 Analysis of Patent 3

Patent Name: Automated parking lot system, method, and computer program product

**Patent** **US Patent Publication Number:** US 20060212344 A1

Patent Filing Date: Mar 8, 2006

**Patent Abstract:**

A system, method, computer program product and propagated signal for an automatic parking system. The system includes a sensing subsystem for detecting an occupancy status of a vehicle parking space, said sensing subsystem providing a real-time occupancy status signal for said vehicle parking space wherein said occupancy status signal includes an occupied mode and an unoccupied mode; a communications subsystem, coupled to said sensing subsystem, for transmitting said occupancy status signal; and a management subsystem for receiving said occupancy status signal, said management subsystem processing a parking transaction for said vehicle parking space automatically upon a mode change of said occupancy status signal. A method includes automatically opening a parking transaction upon detecting an occupation of a parking space or area and automatically closing a parking transaction upon detecting a vacation of a parking space or area. Additional elements may include an authorization system and a notification system. The methods include identified parking methods for detecting automatically changes in an occupancy status of one or more parking spaces or areas and automatically initiating/closing, as appropriate, parking transactions responsive to appropriate detected changes in occupancy status signals associated with each of the one or more parking spaces, as well as methods of making and using the disclosed systems. Computer program products and propagated signals include computer-executable instructions for implementing the systems and methods. [7]

Patent Key Claims:

1. A sensing subsystem for detecting an occupancy status of a vehicle parking space, said sensing subsystem providing a real-time occupancy status signal for said vehicle parking space wherein said occupancy status signal includes an occupied mode and an unoccupied mode;
2. A communications subsystem, coupled to said sensing subsystem, for transmitting said occupancy status signal;
3. A management subsystem for receiving said occupancy status signal, said management subsystem initiating a parking transaction for said vehicle parking space automatically upon a mode change of said occupancy status signal from said unoccupied mode to said occupied mode.

Potential Infringements and Functional similarities:

1. The idea to detect the occupancy status of the vehicle parking space and provide the real-time occupancy status signal is the same.
2. The subsystem that has the sensors to detect the parking space and send the information to customers is the same.

Functional Difference:

1. The product described in this patents not to gather the information of all vehicles in the parking lot so that for each driver, he or she does not need to take the ticket and pay the ticket in paying machine.
2. The product described in this patent just detects the parking space occupancy signal but does not send the signal together or carry out the calculation of how many parking space is left.
3. This patent does not display the parking space information about the whole parking lot. Instead, it can just show whether a specific space is occupied or vacant.
   1. Sources Cited:

[1] European Union Law, (2015) Commission Delegated Directive [Online].Available: [*http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=OJ:JOL\_2015\_137\_R\_0003*](http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=OJ:JOL_2015_137_R_0003)

[2] Ren SUMITA, (2007) “Tempo detection apparatus and tempo-detection computer program,” U.S. Patent 20080034948 A1.

[3] Underwriters Laboratories, (2014) Specific Guidelines and Rules [Online]. Available: <http://www.ul.com/marks/ul-listing-and-classification-marks/promotion-and-advertising-guidelines/specific-guidelines-and-rules/#perf_ver>

[4] ITAR, (2011) EXPORT LICENSING [Online]. Available:

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[5] Federal Communications Commission, (2014) Equipment Authorization System Test Firm Search [Online]. <https://apps.fcc.gov/oetcf/eas/reports/TestFirmSearch.cfm>

[6] Marcus, Cooper J., and Neil Rosenblatt. (2006) Automated Parking Lot System, Method, and Computer Program Product. Patent US 20060212344 A1.

[7] “ANPR Pay & Display car park management | Smart Parking,” (2016) *ANPR Pay & Display car park management | Smart Parking*. [Online]. Available: <http://www.smartparking.com/automatic-number-plate-recognition-anpr>

[8] “Automatic Number Plate Recognition Market - Global Industry Analysis, Size, Share, Growth, Trends and Forecast 2015 - 2023,” (2016) *Automatic Number Plate Recognition Market*. [Online]. Available: <http://www.prnewswire.com/news-releases/automatic-number-plate-recognition-market---global-industry-analysis-size-share-growth-trends-and-forecast-2015---2023-300205438.html>