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1. [WO/2014/140109](#) METHOD FOR DISPLAYING PARKING SPACES

WO - 18.09.2014

Int.Class [G08G 1/14](#) Appl.No PCT/EP2014/054856 Applicant CLEVERCITI SYSTEMS GMBH Inventor HOHENACKER, Thomas

The invention relates to a method for displaying free and preferably also occupied parking space regions on a display device, wherein at least one camera supplies image indications of parking space regions. The geographic coordinates of a car park area located in the visual range of the camera are stored in a recognition unit. On the basis of the image indications, the recognition unit assigns each of the parking space regions inside the car park area a respective occupation status that indicates whether a respective parking space region is free or occupied. The recognition unit calculates the dimensions of a free parking space region at least in the longitudinal direction thereof ("size value") from the supplied image indications. The recognition unit provides the respective occupation status of at least the free parking space regions along with the associated geographical coordinates to a transmission unit, and the transmission unit transmits the respective occupation status of at least the free parking space regions along with the associated geographic coordinates and the associated calculated size values to the display device. The invention further relates to a system comprising at least a camera, a recognition unit, a transmission unit and a display device, as well as to a data carrier having a computer program that can be executed on a recognition unit according to the invention. Finally the invention further relates to a recognition unit that can be used in accordance with the invention.

2. [WO/2017/080684](#) CAR PARK MONITORING SYSTEM

WO - 18.05.2017

Int.Class [G08G 1/14](#) Appl.No PCT/EP2016/060040 Applicant CLEVERCITI SYSTEMS GMBH Inventor HOHENACKER, Thomas

The invention relates to a car park monitoring system for detecting free and occupied parking spaces in a car park area, comprising a detection unit and a camera system, the camera system being designed to supply image evidence from within the car park area, and the detection unit being designed to assign, depending on said image evidence, an occupation status to the parking spaces which indicates whether a parking space is free or occupied. The car park monitoring system is characterized in that the detection unit is further designed to store the image evidence for at least one corresponding parking space as a first snapshot when the occupation status of the parking space in question changes from free to occupied, and additionally to store the image evidence as a second snapshot when a limiting condition is met.

3. [WO/2017/174427](#) METHOD FOR DETECTING PARKED VEHICLES

WO - 12.10.2017

Int.Class [G08G 1/14](#) Appl.No PCT/EP2017/057500 Applicant CLEVERCITI SYSTEMS GMBH Inventor HOHENACKER, Thomas

The invention relates to a method for detecting parked vehicles, wherein parking regions in a parking area are identified and/or defined, a transponder is arranged in or on a vehicle, the transponder automatically repeatedly transmits an identification signal, the identification signal is received by at least one radio device, a position of the vehicle is calculated and an identification of the transponder is determined by means of a control device on the basis of the identification signal, it is determined whether the vehicle is in one of the parking regions, it is determined on the basis of the identification signal whether the vehicle is parked, provided that the vehicle is parked in one of the parking regions, the identification of the transponder and the parking region used by the vehicle are transferred to a registration server, and the registration server outputs a status signal for the parking region used on the basis of the identification of the transponder.

4. [WO/2017/186805](#) PARKING SPACE MONITORING SYSTEM

WO - 02.11.2017

Int.Class [G08G 1/14](#) Appl.No PCT/EP2017/059955 Applicant CLEVERCITI SYSTEMS GMBH Inventor HOHENACKER, Thomas

The invention relates to a parking space monitoring system for detecting free and occupied parking space regions on a parking space surface, comprising a detection system which is designed to detect a plurality of different vehicles on the parking space regions of the parking space surface, and at least one display unit for displaying a plurality of different occupied and/or free parking space regions, wherein the display unit has a display surface for the representation of information. The parking space monitoring system is characterized in that the display surface has at least two surface regions, wherein the surface regions adjoin one another and/or are adjacent to one another as well as have in each case a different spatial orientation, and wherein the display unit is designed to display different display information in different surface regions, in particular indications with respect to different occupied and/or free parking space regions.

5. [WO/2016/075086](#) SYSTEM FOR DISPLAYING PARKING SPACES

WO - 19.05.2016

Int.Class [G08G 1/14](#) Appl.No PCT/EP2015/076085 Applicant CLEVERCITI SYSTEMS GMBH Inventor HOHENACKER, Thomas

The invention relates to a system which consists of at least one street-lighting device, a camera system mounted thereon, a recognition unit, a transmission unit and a mobile display device. The camera system is designed to provide image indicators of parking spaces within a parking lot. The recognition unit is designed - to store the geographical coordinates of parking spaces present in the visual range of the camera system, - to assign, depending on the image indicators, to each parking space a respective occupation status, said status specifying whether the respective parking space is available or occupied, - and to provide the transmission unit with the respective occupation status of at least the available parking spaces and the associated geographical coordinates, the transmission unit being designed to transmit the respective occupation status at least of the available parking spaces and the associated geographical coordinates to the mobile display device.

6. [WO/2017/072286](#) METHOD FOR DETECTING PARKED VEHICLES AND FOR COLLECTING PARKING FEES

WO - 04.05.2017

Int.Class [G08G 1/14](#) Appl.No PCT/EP2016/076051 Applicant CLEVERCITI SYSTEMS GMBH Inventor HOHENACKER, Thomas

The invention relates to a method for detecting parked vehicles and for collecting parking fees, wherein a transponder arranged in a vehicle repeatedly emits a detection signal which is received by at least three radio devices. On the basis of the detection signal, a position of the vehicle is calculated and an identifier of the transponder is determined, wherein it is detected whether the vehicle is in a parking space area and is parked. If the vehicle uses a parking space area for parking, an identifier of the transponder is transmitted to a registration server which determines a parking fee on the basis of a tariff for the parking space area which is used and, if necessary, initiates a payment process.

7. [102014116455](#) SYSTEM ZUR ANZEIGE VON PARKPLÄTZEN

DE - 12.05.2016

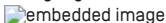
Int.Class [G08G 1/14](#) Appl.No 102014116455 Applicant Cleverciti Systems GmbH Inventor Hohenacker Thomas

Die Erfindung betrifft ein System aus zumindest einer Straßenbeleuchtungseinrichtung, einem daran montierten Kamerasystem, einer Erkennungseinheit, einer Sendeeinheit und einem mobilen Anzeigegerät, wobei das Kamerasystem zum Liefern von Abbildindizien von innerhalb einer Parkplatzfläche liegenden Parkplatzbereichen ausgebildet ist und wobei die Erkennungseinheit ausgebildet ist, um - die geografischen Koordinaten von sich im Sichtbereich des Kamerasystems befindlichen Parkplatzbereichen abzuspeichern, - in Abhängigkeit von den Abbildindizien den Parkplatzbereichen je einen Belegungsstatus zuzuordnen, der kennzeichnet, ob ein jeweiliger Parkplatzbereich frei oder besetzt ist, - den jeweiligen Belegungsstatus zumindest der freien Parkplatzbereiche mit den zugehörigen geografischen Koordinaten der Sendeeinheit zur Verfügung zu stellen, wobei die Sendeeinheit dazu ausgebildet ist, den jeweiligen Belegungsstatus zumindest der freien Parkplatzbereiche mit den zugehörigen geografischen Koordinaten an das mobile Anzeigegerät zu senden.

8. [202014011321](#) SYSTEM ZUR ANZEIGE VON PARKPLÄTZEN

DE - 13.06.2019

Int.Class [G08G 1/14](#) Appl.No 202014011321 Applicant Cleverciti Systems GmbH Inventor

System aus zumindest einer Straßenbeleuchtungseinrichtung, einem daran montierten Kamerasystem [10, 12, 14], einer Erkennungseinheit [20], einer Sendeeinheit [22] und einem mobilen Anzeigegerät [30], wobei das Kamerasystem [10, 12, 14] zum Liefern von Abbildindizien von innerhalb einer Parkplatzfläche liegenden Parkplatzbereichen ausgebildet ist und wobei die Erkennungseinheit [20] ausgebildet ist, um - die geografischen Koordinaten von sich im Sichtbereich des Kamerasystems [10, 12, 14] befindlichen Parkplatzbereichen abzuspeichern, - in Abhängigkeit von den Abbildindizien den Parkplatzbereichen je einen Belegungsstatus zuzuordnen, der kennzeichnet, ob ein jeweiliger Parkplatzbereich frei oder besetzt ist, - den jeweiligen Belegungsstatus zumindest der freien Parkplatzbereiche mit den zugehörigen geografischen Koordinaten der Sendeeinheit [22] zur Verfügung zu stellen, wobei die Sendeeinheit [22] dazu ausgebildet ist, den jeweiligen Belegungsstatus zumindest der freien Parkplatzbereiche mit den zugehörigen geografischen Koordinaten an das mobile Anzeigegerät [30] zu senden. 

9. [2905226](#) METHOD FOR DISPLAYING PARKING SPACES

CA - 18.09.2014

Int.Class [G08G 1/14](#) Appl.No 2905226 Applicant CLEVERCITI SYSTEMS GMBH Inventor HOHENACKER, THOMAS

The invention relates to a method for displaying free and preferably also occupied parking space regions on a display device, wherein at least one camera supplies image indications of parking space regions. The geographic coordinates of a car park area located in the visual range of the camera are stored in a recognition unit. On the basis of the image indications, the recognition unit assigns each of the parking space regions inside the car park area a respective occupation status that indicates whether a respective parking space region is free or occupied. The recognition unit calculates the dimensions of a free parking space region at least in the longitudinal direction thereof ("size value") from the supplied image indications. The recognition unit provides the respective occupation status of at least the free parking space regions along with the associated geographical coordinates to a transmission unit, and the transmission unit transmits the respective occupation status of at least the free parking space regions along with the associated geographic coordinates and the associated calculated size values to the display device. The invention further relates to a system comprising at least a camera, a recognition unit, a transmission unit and a display device, as well as to a data carrier having a computer program that can be executed on a recognition unit according to the invention. Finally the invention further relates to a recognition unit that can be used in accordance with the invention.

10. [2954506](#) METHOD FOR DISPLAYING PARKING SPACES

EP - 16.12.2015

Int.Class [G08G 1/14](#) Appl.No 14710846 Applicant CLEVERCITI SYSTEMS GMBH Inventor HOHENACKER THOMAS

The invention relates to a method for displaying free and preferably also occupied parking space regions on a display device, wherein at least one camera supplies image indications of parking space regions. The geographic coordinates of a car park area located in the visual range of the camera are stored in a recognition unit. On the basis of the image indications, the recognition unit assigns each of the parking space regions inside the car park area a respective occupation status that indicates whether a respective parking space region is free or occupied. The recognition unit calculates the dimensions of a free parking space region at least in the longitudinal direction thereof ("size value") from the supplied image indications. The recognition unit provides the respective occupation status of at least the free parking space regions along with the associated geographical coordinates to a transmission unit, and the transmission unit transmits the respective occupation status of at least the free parking space regions along with the associated geographic coordinates and the associated calculated size values to the display device. The invention further relates to a system comprising at least a camera, a recognition unit, a transmission unit and a display device, as well as to a data carrier having a computer program that can be executed on a recognition unit according to the invention. Finally the invention further relates to a recognition unit that can be used in accordance with the invention.

11. [20160042643](#) METHOD FOR DISPLAYING PARKING SPACES

US - 11.02.2016

Int.Class [G08G 1/14](#) Appl.No 14776582 Applicant CLEVERCITI SYSTEMS GMBH Inventor Thomas Hohenacker

The invention relates to a method for displaying free and preferably also occupied parking space regions on a display device, wherein at least one camera supplies image indications of parking space regions. The geographic coordinates of a car park area located in the visual range of the camera are stored in a recognition unit. On the basis of the image indications, the recognition unit assigns each of the parking space regions inside the car park area a respective occupation status that indicates whether a respective parking space region is free or occupied. The recognition unit calculates the dimensions of a free parking space region at least in the longitudinal direction thereof ("size value") from the supplied image indications. The recognition unit provides the respective occupation status of at least the free parking space regions along with the associated geographical coordinates to a transmission unit, and the transmission unit transmits the respective occupation status of at least the free parking space regions along with the associated geographic coordinates and the associated calculated size values to the display device. The invention further relates to a system comprising at least a camera, a recognition unit, a transmission unit and a display device, as well as to a data carrier having a computer program that can be executed on a recognition unit according to the invention. Finally the invention further relates to a recognition unit that can be used in accordance with the invention.

12. [20190005819](#) METHOD OF DETECTING VEHICLES

US - 03.01.2019

Int.Class [G08G 1/14](#) Appl.No 16025172 Applicant CLEVERCITI SYSTEMS GMBH Inventor Thomas Hohenacker

The invention relates to a method of detecting vehicles that park in a parking space zone, wherein

- excluded zones are recognized and/or determined that are not suitable and/or provided for parking vehicles;
- a transponder [40] is arranged in or at a vehicle,
- the transponder automatically repeatedly transmits a recognition signal;
- the recognition signal is received by at most three radio devices; and
- the position of the transponder is determined by means of a control device with reference to the time of flight and/or to the time of flight differences of the recognition signal from the transponder to the radio devices and with reference to the positions of the excluded zones.

13. **3425610** METHOD AND SYSTEM FOR RECORDING VEHICLES IN A PARKING AREA

EP - 09.01.2019

Int.Class **G01S 13/46** Appl.No 18181328 Applicant CLEVERCITI SYSTEMS GMBH Inventor HOHENACKER THOMAS M

Die Erfindung betrifft ein Verfahren zur Erfassung von Fahrzeugen, welche in einer Parkplatzfläche parken, wobei - Ausschlussflächenbereiche erkannt und/oder festgelegt werden, die nicht zum Parken von Fahrzeugen geeignet und/oder vorgesehen sind, - in oder an einem Fahrzeug ein Transponder angeordnet wird, - der Transponder automatisch wiederholt ein Erkennungssignal aussendet, - das Erkennungssignal von höchstens drei Funkeinrichtungen empfangen wird, - mittels einer Steuereinrichtung anhand der Laufzeit und/oder anhand von Laufzeitunterschieden des Erkennungssignals von dem Transponder zu den Funkeinrichtungen und anhand der Positionen der Ausschlussflächenbereiche die Position des Transponders ermittelt wird.

14. **3360121** CAR PARK MONITORING SYSTEM

EP - 15.08.2018

Int.Class **G08G 1/14** Appl.No 16722603 Applicant CLEVERCITI SYSTEMS GMBH Inventor HOHENACKER THOMAS

The invention relates to a car park monitoring system for detecting free and occupied parking spaces in a car park area, comprising a detection unit and a camera system, the camera system being designed to supply image evidence from within the car park area, and the detection unit being designed to assign, depending on said image evidence, an occupation status to the parking spaces which indicates whether a parking space is free or occupied. The car park monitoring system is characterized in that the detection unit is further designed to store the image evidence for at least one corresponding parking space as a first snapshot when the occupation status of the parking space in question changes from free to occupied, and additionally to store the image evidence as a second snapshot when a limiting condition is met.

15. **20180342159** CAR PARK MONITORING SYSTEM

US - 29.11.2018

Int.Class **G08G 1/14** Appl.No 15774801 Applicant CLEVERCITI SYSTEMS GMBH Inventor Thomas Hohenacker

The invention relates to a car park monitoring system for detecting free and occupied parking spaces in a car park area, comprising a detection unit and a camera system, the camera system being designed to supply image evidence from within the car park area, and the detection unit being designed to assign, depending on said image evidence, an occupation status to the parking spaces which indicates whether a parking space is free or occupied. The car park monitoring system is characterized in that the detection unit is further designed to store the image evidence for at least one corresponding parking space as a first snapshot when the occupation status of the parking space in question changes from free to occupied, and additionally to store the image evidence as a second snapshot when a limiting condition is met.

16. **3204929** SYSTEM FOR DISPLAYING PARKING SPACES

EP - 16.08.2017

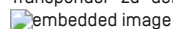
Int.Class **G08G 1/14** Appl.No 15797273 Applicant CLEVERCITI SYSTEMS GMBH Inventor HOHENACKER THOMAS

17. **102017114770** VERFAHREN ZUR ERFASSUNG VON FAHRZEUGEN

DE - 03.01.2019

Int.Class **G08G 1/14** Appl.No 102017114770 Applicant Cleverciti Systems GmbH Inventor Hohenacker Thomas

Die Erfindung betrifft ein Verfahren zur Erfassung von Fahrzeugen, welche in einer Parkplatzfläche parken, wobei - Ausschlussflächenbereiche erkannt und/oder festgelegt werden, die nicht zum Parken von Fahrzeugen geeignet und/oder vorgesehen sind, - in oder an einem Fahrzeug ein Transponder angeordnet wird, - der Transponder automatisch wiederholt ein Erkennungssignal aussendet, - das Erkennungssignal von höchstens drei Funkeinrichtungen empfangen wird, - mittels einer Steuereinrichtung anhand der Laufzeit und/oder anhand von Laufzeitunterschieden des Erkennungssignals von dem Transponder zu den Funkeinrichtungen und anhand der Positionen der Ausschlussflächenbereiche die Position des Transponders ermittelt wird.

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18. **3440654** METHOD AND SYSTEM FOR DETECTING PARKED VEHICLES

EP - 13.02.2019

Int.Class **G08G 1/14** Appl.No 17718485 Applicant CLEVERCITI SYSTEMS GMBH Inventor HOHENACKER THOMAS


The invention relates to a method for detecting parked vehicles, wherein parking regions in a parking area are identified and/or defined, a transponder is arranged in or on a vehicle, the transponder automatically repeatedly transmits an identification signal, the identification signal is received by at least one radio device, a position of the vehicle is calculated and an identification of the transponder is determined by means of a control device on the basis of the identification signal, it is determined whether the vehicle is in one of the parking regions, it is determined on the basis of the identification signal whether the vehicle is parked, provided that the vehicle is parked in one of the parking regions, the identification of the transponder and the parking region used by the vehicle are transferred to a registration server, and the registration server outputs a status signal for the parking region used on the basis of the identification of the transponder.

19. **102016106513** VERFAHREN ZUR ERFASSUNG VON GEPARKTEN FAHRZEUGEN

DE - 12.10.2017

Int.Class **G08G 1/14** Appl.No 102016106513 Applicant Cleverciti Systems GmbH Inventor Hohenacker Thomas

Verfahren zur Erfassung von geparkten Fahrzeugen [36, 44, 48], wobei - Parkplatzbereiche [22, 24, 26, 27] in einer Parkplatzfläche [20] erkannt und/oder festgelegt werden, - in oder an einem Fahrzeug [36, 44, 48] ein Transponder [40] angeordnet wird, - der Transponder [40] automatisch wiederholt ein Erkennungssignal [42] aussendet, wobei der Transponder [40] das Erkennungssignal [42] verschlüsselt aussendet, - das Erkennungssignal [42] von zumindest einer Funkeinrichtungen [12] empfangen wird, - mittels einer Steuereinrichtung anhand des Erkennungssignals [42] eine Position des Fahrzeugs [36, 44, 48] berechnet und eine Identifikation des Transponders [40] ermittelt wird, - festgestellt wird, ob sich das Fahrzeug [36, 44, 48] in einem der Parkplatzbereiche [22, 24, 26, 27] befindet, - anhand des Erkennungssignals [42] ermittelt wird, ob das Fahrzeug [36, 44, 48] parkt, - sofern das Fahrzeug [36, 44, 48] auf einem der Parkplatzbereiche [22, 24, 26, 27] parkt, - die Identifikation des Transponders [40] und der von dem Fahrzeug [36, 44, 48]

verwendete Parkplatzbereich [22, 24, 26, 27] an einen Registrierungsserver [32] übermittelt wird, - der Registrierungsserver [32] anhand der Identifikation des Transponders [40] ein Statussignal für den verwendeten Parkplatzbereich [22, 24, 26, 27] ausgibt. 

20. [20190156673](#) METHOD FOR DETECTING PARKED VEHICLES

US - 23.05.2019

Int.Class [G08G 1/14](#) Appl.No 16091283 Applicant Cleverciti Systems GMBH Inventor Thomas Hohenacker

A method for detecting parked vehicles, wherein parking regions in a parking area are identified and/or defined, a transponder is arranged in or on a vehicle, the transponder automatically repeatedly transmits an identification signal, the identification signal is received by at least one radio device, a position of the vehicle is calculated and an identification of the transponder is determined by means of a control device on the basis of the identification signal, it is determined whether the vehicle is one of the parking regions, it is determined on the basis of the identification signal whether the vehicle is parked, provided that the vehicle is parked in one of the parking regions, the identification of the transponder and the parking region used by the vehicle are transferred to a registration server, and the registration server outputs a status signal for the parking region used on the basis of the identification of the transponder.

21. [20180174453](#) SYSTEM FOR DISPLAYING PARKING SPACES

US - 21.06.2018

Int.Class [G08G 1/14](#) Appl.No 15525769 Applicant CLEVERCITI SYSTEMS GMBH Inventor Thomas Hohenacker

The invention relates to a system which comprises at least one street-lighting device, a camera system mounted thereon, a recognition unit, a transmission unit and a mobile display device. The camera system is designed to provide image indicators of parking spaces within a parking lot. The recognition unit is designed: to store the geographical coordinates of parking spaces present in the visual range of the camera system; to assign, depending on the image indicators, to each parking space a respective occupation status, said status specifying whether the respective parking space is available or occupied; and to provide the transmission unit with the respective occupation status of at least the available parking spaces and the associated geographical coordinates, the transmission unit being designed to transmit the respective occupation status at least of the available parking spaces and the associated geographical coordinates to the mobile display device.

22. [102016107995](#) PARKPLATZÜBERWACHUNGSSYSTEM

DE - 02.11.2017

Int.Class [G08G 1/14](#) Appl.No 102016107995 Applicant Cleverciti Systems GmbH Inventor Hohenacker Thomas

Die Erfindung betrifft ein Parkplatzüberwachungssystem zur Erfassung von freien und belegten Parkplatzbereichen in einer Parkplatzfläche, umfassend ein Erfassungssystem, welches ausgebildet ist, eine Mehrzahl verschiedener Fahrzeuge auf den Parkplatzbereichen der Parkplatzfläche zu detektieren, und zumindest eine Anzeigeeinheit zur Anzeige von mehreren verschiedenen belegten und/oder freien Parkplatzbereichen, wobei die Anzeigeeinheit eine Anzeigefläche zur Darstellung von Informationen aufweist. Das Parkplatzüberwachungssystem zeichnet sich dadurch aus, dass die Anzeigefläche zumindest zwei Flächenbereiche umfasst, wobei die Flächenbereiche aneinander angrenzen und/oder aneinander anschließen, jeweils eine unterschiedliche räumliche Orientierung aufweisen und wobei die Anzeigeeinheit ausgebildet ist, in unterschiedlichen Flächenbereichen unterschiedliche Informationen anzuzeigen, insbesondere Hinweise auf unterschiedliche belegte und/oder freie Parkplatzbereiche.

23. [20190114916](#) PARKING SPACE MONITORING SYSTEM

US - 18.04.2019

Int.Class [G08G 1/14](#) Appl.No 15747422 Applicant CLEVERCITI SYSTEMS GMBH Inventor Thomas Hohenacker

The invention relates to a parking space monitoring system for detecting free and occupied parking space areas in a parking space zone comprising a detection system that is configured to detect a plurality of different vehicles on the parking space areas of the parking space zone and at least one display unit for displaying a plurality of different occupied and/or free parking space areas, with the display unit having a display surface for presenting information. The parking space monitoring system is characterized in that the display surface comprises at least two surface areas, with the surface areas being adjacent to one another and/or adjoining one another and each having a different spatial orientation, and with the display unit being configured to display different information, in particular indications of different occupied and/or free parking space areas, in different surface areas.

24. [3443551](#) PARKING SPACE MONITORING SYSTEM

EP - 20.02.2019


Int.Class [G08G 1/14](#) Appl.No 17720095 Applicant CLEVERCITI SYSTEMS GMBH Inventor HOHENACKER THOMAS

The invention relates to a parking space monitoring system for detecting free and occupied parking space regions on a parking space surface, comprising a detection system which is designed to detect a plurality of different vehicles on the parking space regions of the parking space surface, and at least one display unit for displaying a plurality of different occupied and/or free parking space regions, wherein the display unit has a display surface for the representation of information. The parking space monitoring system is characterized in that the display surface has at least two surface regions, wherein the surface regions adjoin one another and/or are adjacent to one another as well as have in each case a different spatial orientation, and wherein the display unit is designed to display different display information in different surface regions, in particular indications with respect to different occupied and/or free parking space regions.

25. [202017007122](#) PARKPLATZÜBERWACHUNGSSYSTEM

DE - 26.09.2019

Int.Class [G07C 1/30](#) Appl.No 202017007122 Applicant Cleverciti Systems GmbH Inventor

Parkplatzüberwachungssystem [10] zur Erfassung von freien und belegten Parkplatzbereichen in einer Parkplatzfläche, umfassend - ein Erfassungssystem [12], welches ausgebildet ist, eine Mehrzahl verschiedener Fahrzeuge auf den Parkplatzbereichen der Parkplatzfläche zu detektieren, und - zumindest eine Anzeigeeinheit [14] zur Anzeige von mehreren verschiedenen belegten und/oder freien Parkplatzbereichen, wobei die Anzeigeeinheit [14] eine Anzeigefläche [20] zur Darstellung von Informationen aufweist, dadurch gekennzeichnet, dass die Anzeigefläche [20] zumindest zwei Flächenbereiche umfasst, wobei die Flächenbereiche aneinander angrenzen und/oder aneinander anschließen, jeweils eine unterschiedliche räumliche Orientierung aufweisen und wobei die Anzeigeeinheit [14] ausgebildet ist, in unterschiedlichen Flächenbereichen unterschiedliche Informationen anzuzeigen, insbesondere Hinweise auf unterschiedliche belegte und/oder freie Parkplatzbereiche. 

26. [2967115](#) SYSTEM FOR DISPLAYING PARKING SPACES

CA - 19.05.2016

Int.Class [G08G 1/14](#) Appl.No 2967115 Applicant CLEVERCITI SYSTEMS GMBH Inventor HOHENACKER, THOMAS

The invention relates to a system which consists of at least one street-lighting device, a camera system mounted thereon, a recognition unit, a transmission unit and a mobile display device. The camera system is designed to provide image indicators of parking spaces within a parking lot. The recognition unit is

designed - to store the geographical coordinates of parking spaces present in the visual range of the camera system, - to assign, depending on the image indicators, to each parking space a respective occupation status, said status specifying whether the respective parking space is available or occupied, - and to provide the transmission unit with the respective occupation status of at least the available parking spaces and the associated geographical coordinates, the transmission unit being designed to transmit the respective occupation status at least of the available parking spaces and the associated geographical coordinates to the mobile display device.

27. **3360122** METHOD FOR DETECTING PARKED VEHICLES AND FOR COLLECTING PARKING FEES

EP - 15.08.2018

Int.Class G08G 1/14 Appl.No 16787889 Applicant CLEVERCITI SYSTEMS GMBH Inventor HOHENACKER THOMAS

The invention relates to a method for detecting parked vehicles and for collecting parking fees, wherein a transponder arranged in a vehicle repeatedly emits a detection signal which is received by at least three radio devices. On the basis of the detection signal, a position of the vehicle is calculated and an identifier of the transponder is determined, wherein it is detected whether the vehicle is in a parking space area and is parked. If the vehicle uses a parking space area for parking, an identifier of the transponder is transmitted to a registration server which determines a parking fee on the basis of a tariff for the parking space area which is used and, if necessary, initiates a payment process.

28. **20180322710** METHOD FOR DETECTING PARKED VEHICLES AND BILLING PARKING CHARGES

US - 08.11.2018

Int.Class G07B 15/02 Appl.No 15772431 Applicant CLEVERCITI SYSTEMS GMBH Inventor Thomas Hohenacker

The invention relates to a method for detecting parked vehicles and for collecting parking fees, wherein a transponder arranged in a vehicle repeatedly emits a detection signal which is received by at least three radio devices. On the basis of the detection signal, a position of the vehicle is calculated and an identifier of the transponder is determined, wherein it is detected whether the vehicle is in a parking space area and is parked. If the vehicle uses a parking space area for parking, an identifier of the transponder is transmitted to a registration server which determines a parking fee on the basis of a tariff for the parking space area which is used and, if necessary, initiates a payment process.

29. **109155105** METHOD FOR DETECTING PARKED VEHICLES AND FOR COLLECTING PARKING FEES

CN - 04.01.2019

Int.Class G08G 1/14 Appl.No 201680077220.1 Applicant CLEVERCITI SYSTEMS GMBH Inventor HOHENACKER THOMAS

The invention relates to a method for detecting parked vehicles and for collecting parking fees, wherein a transponder arranged in a vehicle repeatedly emits a detection signal which is received by at least three radio devices. On the basis of the detection signal, a position of the vehicle is calculated and an identifier of the transponder is determined, wherein it is detected whether the vehicle is in a parking space area and is parked. If the vehicle uses a parking space area for parking, an identifier of the transponder is transmitted to a registration server which determines a parking fee on the basis of a tariff for the parking space area which is used and, if necessary, initiates a payment process.

30. **102015118598** VERFAHREN ZUR ERFASSUNG VON GEPARKTEN FAHRZEUGEN UND ZUR ABRECHNUNG VON PARKGEBÜHREN

DE - 04.05.2017

Int.Class G07C 1/30 Appl.No 102015118598 Applicant Cleverciti Systems GmbH Inventor Hohenacker Thomas

Die Erfindung betrifft ein Verfahren zur Erfassung von geparkten Fahrzeugen und zur Abrechnung von Parkgebühren, wobei ein in einem Fahrzeug angeordneter Transponder wiederholt ein Erkennungssignal aussendet, welches von zumindest drei Funkeinrichtungen empfangen wird. Anhand des Erkennungssignals wird eine Position des Fahrzeugs berechnet und eine Identifikation des Transponders ermittelt, wobei festgestellt wird, ob sich das Fahrzeug in einem Parkplatzbereich befindet und parkt. Sofern das Fahrzeug einen Parkplatzbereich zum Parken verwendet, wird eine Identifikation des Transponders an einen Registrierungsserver übermittelt, welcher anhand eines Tarifs für den verwendeten Parkplatzbereich eine Parkgebühr ermittelt und, falls erforderlich, einen Bezahlvorgang einleitet.

31. **2760676** PROCEDIMIENTO PARA REGISTRAR VEHÍCULOS ESTACIONADOS Y PARA CALCULAR TASAS DE ESTACIONAMIENTO

ES - 14.05.2020

Int.Class G08G 1/14 Appl.No 16787889 Applicant Cleverciti Systems GmbH Inventor HOHENACKER, Thomas

Procedimiento para registrar vehículos estacionados [36, 44, 48] y para calcular tasas de estacionamiento, en donde - se detectan y/o se fijan zonas de estacionamiento [22, 24, 26] en una superficie de estacionamiento [20], - se dispone un transpondedor [40] en un vehículo [36, 44, 48], - el transpondedor [40] envía automáticamente de manera repetida una señal de detección [42], - la señal de detección [42] es recibida por al menos tres equipos de radio [12], dispuestos distanciados entre sí de manera estacionaria, - se calcula una posición del vehículo [36, 44, 48], por medio de un equipo de control, mediante la señal de detección [42], y se averigua una identificación del transpondedor [40], - mediante un sistema de vigilancia [14] se registra la superficie de estacionamiento [20] al menos por zonas, registrándose mediante una unidad de detección zonas de estacionamiento [22, 24, 26] libres y ocupadas, - se constata si el vehículo [36, 44, 48] se encuentra en una de las zonas de estacionamiento [22, 24, 26], - mediante la señal de detección [42] se averigua si el vehículo [36, 44, 48] está estacionado, - siempre y cuando el vehículo [36, 44, 48] se estacione en una de las zonas de estacionamiento [22, 24, 26], - mediante el sistema de vigilancia [14] se comprueba si un vehículo [36, 44, 48], identificado como en estacionamiento mediante la señal de detección [42], está estacionado realmente en la zona de estacionamiento [22, 24, 26] averiguada, en donde la identificación del transpondedor [40] y la zona de estacionamiento [22, 24, 26] empleada por el vehículo [36, 44, 48], solo en el caso de una averiguación correcta del vehículo [36, 44, 48] en estacionamiento, se transfieren a un servidor de registro [32] - el servidor de registro [32] averigua, mediante una tarifa para la zona de estacionamiento empleada [22, 24, 26], una tasa de estacionamiento, y - el servidor de registro [32], si fuera necesario, inicia una operación de pago.

32. **2016347501** METHOD FOR DETECTING PARKED VEHICLES AND FOR COLLECTING PARKING FEES

AU - 04.05.2017

Int.Class G08G 1/14 Appl.No 2016347501 Applicant Cleverciti Systems GmbH Inventor Hohenacker, Thomas

The invention relates to a method for detecting parked vehicles and for collecting parking fees, wherein a transponder arranged in a vehicle repeatedly emits a detection signal which is received by at least three radio devices. On the basis of the detection signal, a position of the vehicle is calculated and an identifier of the transponder is determined, wherein it is detected whether the vehicle is in a parking space area and is parked. If the vehicle uses a parking space area for parking, an identifier of the transponder is transmitted to a registration server which determines a parking fee on the basis of a tariff for the parking space area which is used and, if necessary, initiates a payment process.



