Title: VEHICLE TO VEHICLE INTERNET COMMUNICATION

Abstract: A method of establishing internet contact such as between a first vehicle and a second vehicle includes the step of providing a first computer within the first vehicle. The method additionally includes the step of providing a second computer within the second vehicle. The second vehicle has a license plate including a first sequence of characters. The method further includes the step of creating an e-mail address for the second computer including a second sequence of characters identical to the first sequence of characters. The method further yet includes the step of sending an e-mail message from the first computer to the e-mail address. Or the method provides random-line of sight contact vehicle to vehicle or one person to a second.
VEHICLE TO VEHICLE INTERNET COMMUNICATION

1. Field of the Invention

The present invention generally relates to internet communication. More particularly, the present invention relates to a method and apparatus for internet communication from a motor vehicle. Or person.

2. Discussion

Electronic mail or e-mail has become a common form of modern communication. Many people in business, government, and education now use e-mail more than the telephone to communicate with their colleagues. In their private lives, many people use e-mail as an inexpensive but quick method of keeping in touch with friends and family throughout the world.

Computers having internet access are very commonly found in the work place and at home. Many motor vehicle manufacturers and motor vehicle suppliers are planning on providing on-board computers capable of accessing the internet. Such on-board computers would allow the occupants of the vehicle to send e-mail messages, track weather and traffic conditions, check their stock portfolios, and the like.

E-mail addresses conventionally include a user name, a domain name, and a top level domain name. For example, an e-mail address may be "johnsmith@***.com." The user name is "johnsmith" which is typically chosen by the user himself or herself.
The *** generally indicates a company name, service name or other unique name that is registered with a company called Network Solutions, which has exclusive authority to register domain names under an agreement with the National Science Foundation. The “com” is the top-level domain name portion. In the United States, it indicates the purpose of the sponsors of the site. For example, “com” indicates that the domain name is a commercial operation. Outside the United States, the top-level name may include reference to a country, such as “au” for Australia.

While the internet has provided many new opportunities for communication, further advancements are anticipated. An additional convenience would be provided by being able to remotely contact an on-board computer of another vehicle without previously having knowledge of the e-mail address assigned to computer of the other vehicle. There currently does not exist any method or apparatus which provides this convenience.

**SUMMARY OF THE INVENTION**

It is an advantage of the present invention to provide a method and apparatus which allow an individual to send an e-mail message to an on-board computer located in a vehicle without previously having knowledge of the e-mail address assigned to the computer of the other vehicle. Or to a person with a computer from a person with a computer.

In one form, the present invention relates to a method of establishing internet contact between a first vehicle and a second vehicle. The method includes the step
of providing a first computer within the first vehicle. The method additionally includes the step of providing a second computer within the second vehicle. The second vehicle has a license plate including a first sequence of characters. The method further includes the step of creating an e-mail address for the second computer including a second sequence of characters identical to the first sequence of characters. The method further yet includes the step of sending an e-mail message from the first computer to the e-mail address.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

The following description of the preferred embodiments of the present invention is merely exemplary in nature and is in no way intended to limit the invention or its application or uses.

In a first preferred embodiment, the present invention relates to a method and apparatus for internet communication which includes a first computer within a first vehicle. A second computer is within a second vehicle. The first and second computers are substantially conventional in construction. Both of the first and second computers are capable of accessing the internet remotely through an on-board modem.

In a conventional manner, the second vehicle includes a license plate having a sequence of license plate characters or first sequence of characters. The sequence may include any combination of letters or numbers. Alternatively, the sequence may
also include other characters from a conventional keyboard, including but not limited to the following characters: #; %; &; *

The present invention anticipates the creation of an e-mail address for the second computer which includes a sequence of e-mail characters or a second plurality of characters. The second plurality of characters is preferably identical to the first plurality of characters for the license plate of the first vehicle.

The e-mail address assigned to the second computer is assigned based on the license plate characters of the vehicle. Explaining further, if the license plate of the motor vehicle includes the following sequence of characters, "12345", the user name of the e-mail would include an identical sequence of characters.

The domain name portion of the e-mail address would be specific for a database of motor vehicles. For example, the domain name might be "licenseplate". Alternatively, the domain name could include specific reference to the state or province responsible for issuing the license plate. For example, the domain name for the e-mail address of a computer in a vehicle licensed in the state of Michigan could include "michiganlicenseplate", "michplate", "miplate", or the like.

The top-level domain name for the e-mail address could be one presently available, such as "com" or "gov". Alternatively, the top-level domain name could be something new specific to a vehicle registration program, such as "pit" short for "plate", or "mvr" for "motor vehicle registration".

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In addition to the above, it is anticipated that the e-mail address may also or alternatively include the vehicle type (make or manufacturer) or a description (car, truck, bus, bicycle or boat).

In the exemplary manner described herein, a complete e-mail address could be \texttt{12345@miplate.com}, wherein "12345" is the complete sequence of characters on the vehicle license plate. In this manner, an individual driving in a motor vehicle equipped with an on-board computer could send an e-mail message to the on-board computer of a second vehicle with knowledge of the license plate sequence of characters. The method and apparatus of the present invention will require assignment of the e-mail address to a common domain name and a common top-level domain name. In one application, such e-mail addresses could automatically be assigned by the authority responsible for issuing license plates and/or drivers licenses at the time of vehicle registration. In the United States, this function can be carried out by the Secretary of State for the individual states, for example.

There would not be a need for each vehicle to have an on-board computer or to participate in the receipt of e-mail messages even if the vehicle has an on-board computer. Assignment of e-mail addresses in this exemplary manner would provide other useful advantages. These advantages will be discussed further below.
In an otherwise conventional manner, the e-mail address can be inputted into the first computer through a computer keyboard. Alternatively, the e-mail address can be inputted through voice recognition software or a computer camera.

In a second preferred embodiment, the present invention relates to a method and apparatus for issuing citations for motor vehicle infractions. In this particular application, a first computer would be on-board within a law enforcement motor vehicle. By assignment of the license plate string of characters to a common database in the manner discussed above, the law enforcement officer can quickly obtain vehicle and registrant information by inputting the license plate string of characters. Again, inputting the string of characters can be done through a keyboard, through voice recognition software, or through a computer camera.

As an alternative to the second preferred embodiment, the assigned database can be based on a sequence of numbers other than the license plate characters. For example, the license plate or other part of the vehicle can be affixed with a bar code which can be read by an on-board bar code reader which cooperates with the computer. Alternatively, the string of characters inputted into the computer may correspond to the vehicle license identification number.

The on-board computer of the law enforcement officer preferably prompts the officer for information regarding the infraction, whether it be moving, parking or otherwise. Upon completion, the ticket can be issued through the internet. In certain
applications, it may be desired to also issue a hard copy of the ticket through standard mail in a conventional manner. This would be particularly true if the registrant of the vehicle did not have any computer with an e-mail account assigned to specific e-mail address. The e-mail message sent by the law officer is copied to the station for processing and/or records.

In another application of the teachings of the present invention, a speed camera can be linked directly to the internet for monitoring vehicles at all times without the need for a designed law enforcement officer. If the speed camera identifies a vehicle speed above a predetermined maximum speed, a picture of the vehicle, including the license plate would be taken. The computer would process the digital image and convert the sequence of license plate characters to an e-mail address substantially in the manner discussed above. If the identified vehicle included a subscribing on-board computer, the vehicle occupant can be immediately notified of the infraction.

Where a traffic ticket is issued through the internet, the registrant of the vehicle can remit payment by credit card through return e-mail. This manner would assist with processing and collections.

In yet another variation of the teachings of the present invention, a database can be generated based on a business or home address. Explaining further, the e-mail address includes characters corresponding to the address. These characters can
be included in either the domain name or user name. For example, the user of an on-board computer can send an e-mail address to a home or business computer through knowledge of the corresponding address. For an address of 25 Main Street, Troy, Michigan, the user name of the assigned e-mail address can be "25maintroymi".

Alternatively, the city and or state/province can be incorporated into the domain name, such as 25main@troymi. Such a system would provide advantages to delivery persons, law enforcement and the like.

While the invention has been described in the specification and illustrated in the drawings with reference to a preferred embodiment, it will be understood by those skilled in the art that various changes may be made and equivalents may be substituted for elements thereof without departing from the scope of the invention as defined in the claims. In addition, many modifications may be made to adapt a particular situation or material to the teachings of the invention without departing from the essential scope thereof. Therefore, it is intended that the invention not be limited to the particular embodiment illustrated by the drawings and described in the specification as the best mode presently contemplated for carrying out this invention, but that the invention will include any embodiments falling within the description of the appended claims. In this regard, while the subject invention has been described largely in connection with motor vehicles, it will be understood that the teachings herein are applicable to portable or miniature computers.
CLAIMS

What is claimed is:

1. A method of establishing internet contact between a first vehicle and a second vehicle, the method including the steps of:

   providing a first computer within the first vehicle;

   providing a second computer within the second vehicle, the second vehicle having a license plate including a first sequence of characters;

   creating an e-mail address for the second computer including a second sequence of characters identical to the first sequence of characters;

   inputting the e-mail address into the first computer; and

   sending an e-mail message from the first computer to the e-mail address.
2. The method of Claim 1, wherein the step of inputting the e-mail address into the first computer includes the step of manually entering the e-mail address through a keyboard.

3. The method of Claim 1, wherein the step of inputting the e-mail address into the first computer includes the step of inputting the e-mail address through voice recognition software.
4. A method of processing a motor vehicle infraction, the method including the steps of:

providing an on-board computer within a law enforcement vehicle;

identifying a motor vehicle for a motor vehicle infraction;

inputting a first sequence of characters into the computer corresponding to a second sequence of characters assigned to the motor vehicle;

processing a ticket to a registrant of the motor vehicle through the internet by sending an e-mail message to an e-mail address including the first sequence of characters.
5. The method of Claim 4, wherein the second sequence of characters corresponds to a license plate sequence of characters for the motor vehicle.

6. The method of Claim 4, wherein the second sequence of characters corresponds to a vehicle identification number of the motor vehicle.

7. The method of Claim 4, wherein the second sequence of characters corresponds to a bar code attached to the motor vehicle.

8. The method of Claim 4, wherein the step of inputting a first sequence of characters into the computer includes the step of inputting the first sequence of characters with a keyboard.

9. The method of Claim 4, wherein the step of inputting a first sequence of characters into the computer includes the step of inputting the first sequence of characters with voice recognition software.
10. The method of Claim 4, wherein the step of inputting a first sequence of characters into the computer includes the step of inputting the first sequence of characters with a bar code reader.
11. A method of automatically issuing a speeding ticket to a motor vehicle, the method comprising the steps of:

providing a computer connected to the internet;

providing a speed camera operative for identifying a vehicle speed and further operative for generating a digital image of the motor vehicle, including a license plate for the motor vehicle;

monitoring the speed of the motor vehicle with the speed camera;

generating the digital image of the motor vehicle where the vehicle speed is above a predetermined maximum value;

processing the digital image by the computer to generate an e-mail address including a portion corresponding to a string of characters included in the license plate; and

issuing the speeding ticket by sending an e-mail message to the e-mail address.
INTERNATIONAL SEARCH REPORT

A. CLASSIFICATION OF SUBJECT MATTER

Int. Cl. 7: G06F 17/60, 163/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC G06F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

AU:IPC AS ABOVE

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

WPAT, USPTO

C. DOCUMENTS CONSIDERED TO BE RELEVANT

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* Further documents are listed in the continuation of Box C

X See patent family annex

* Special categories of cited documents:
  "A" document defining the general state of the art which is not considered to be of particular relevance.
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  "P" document published prior to the international filing date but later than the priority date claimed.

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Date of the actual completion of the international search: 25 July 2001

Date of mailing of the international search report: 31 July 2001

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