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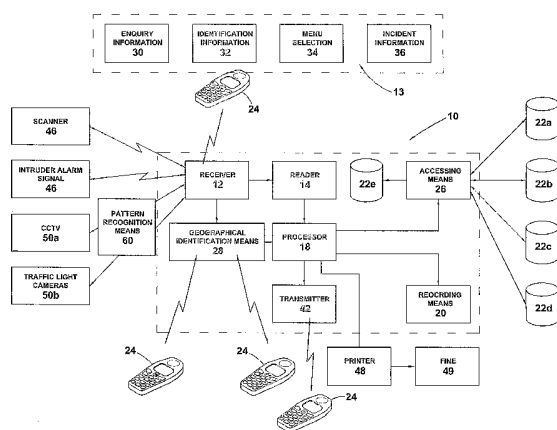
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- (71) Applicant (for all designated States except US): **CITY OF JOHANNESBURG [ZA/ZA]**; Village Road, c/o Loveday & Eloff Street, Selby, 2001 Johannesburg (ZA).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): **MAESELA, Mokgatlhe [ZA/ZA]**; 1288 Malachi Street, Moroka, 1818 Soweto (ZA). **MASOEK, Derek, Stephen [ZA/ZA]**; 1265 Rist Avenue, Queenswood, 0186 Pretoria (ZA). **SETLODI, Justice [ZA/ZA]**; 79 Visuil, Liefde en Vrede, Mulbarton, 2058 Alberton (ZA). **SEUOE, Lucky [ZA/ZA]**; 25 Kestrel Avenue, Rooihuiskraal, 0154 Centurion (ZA).
- (54) Title: SYSTEM AND METHOD FOR ACCESSING AND RECORDING INFORMATION FOR USE IN LAW ENFORCEMENT
- (74) Agent: **DMKISCH INC**; P.O. Box 781218, 2146 Sandton (ZA).
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(57) Abstract: This invention relates to a system for accessing and recording information for use in law enforcement. The system comprises: receiving means for receiving an input from a portable electronic device; a reader for reading the input; a processor adapted to initiate data retrieval from or recordal to an electronic storage medium based on the input; recording means for causing the input to be recorded on an electronic storage medium; accessing means for enabling a user to access an electronic storage medium to retrieve output information there from; and geographical identification means for identifying the location of a PED, particularly for identifying the location of the PED from which the input was transmitted. The invention extends to a method for accessing law enforcement information from a database and recording law enforcement activity comprising the steps of: receiving an input from a portable electronic device; reading the input; initiating data retrieval from or recordal to an electronic storage medium based on the input; accessing an electronic storage medium to retrieve output information there from; recording the input on an electronic storage medium; and identifying the location of a PED, particularly the location of the PED from which the input was transmitted.

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SYSTEM AND METHOD FOR ACCESSING AND RECORDING INFORMATION FOR USE IN LAW ENFORCEMENT

Field of the Invention

THIS invention relates to a system and method for recording law enforcement activity and accessing information for use in law enforcement. More particularly, but not exclusively, the invention relates to a system and method for use by law enforcement officials in order to retrieve information from a remote database using a portable electronic device, for the purpose of enforcing traffic regulations, municipal by-laws, criminal laws and the like, and recording the law enforcement activity to facilitate management of law enforcement resources.

Background to the Invention

Enforcement of traffic regulations, criminal laws and municipal by-laws is currently achieved in numerous different ways. For example, traffic officials may direct a speeding motorist from the road and issue a speeding fine on the spot. Roadblocks may be set up to check that vehicles and firearms are licensed; that a vehicle hasn't been reported as stolen; and that the driver is in possession of a valid driver's licence. When verifying compliance with the law in this manner, an official does not always have access to necessary information. For example, in a roadblock situation, an official has no immediate access to information which lists the engine number and/or registration of stolen vehicles; motorists with unpaid traffic fines; or the identities of people for whom a warrant of arrest has been issued. Also, when an official conducts a manual check,

there is no record of the enquiry or the results thereof, which means that the official is more likely to accept a bribe to let an offender off the hook.

Officials compile their own written activity report manually on a regular basis. The written reports are then captured onto computer at a later date. Accordingly, there is no up-to-date information on the activity of the officials and it is difficult to verify the accuracy and truth of the information in the report, in turn making it difficult to appraise the performance of the officials.

Known prior art includes a system for providing police, firefighters and transportation officials with wireless access to multiple government and non-government data sources during critical incidents. The system is intended to help first responders and public safety officials make vital crisis related decisions based on information input from a CCTV cameras, for example. A bank or airport, during a hostile event, could transmit its video information from its internal CCTV camera's directly to the police, while the police are on their way to the scene.

The prior art system includes a facility where visual information is transmitted from a camera located in a home or building to a police receiver, when the alarm is triggered. Once the alarm is triggered, the system directly transmits a live video feed from the home or business premises to a remote viewer who is then able to alert police and transmit the video feed on to the police, where a crime is in progress. It is envisaged that this facility will enable police resources to be better managed so that police are not dispatched to scenes where a false alarm has been triggered.

Known prior art system also includes pattern recognition software for identifying certain conditions from the visual information transmitted from a network of camera's. For example, the system can scan trees to ensure pruning takes place, check sprinkler systems to ensure that they are fully operational when switched on, measure the length of grass in parks, check for snow on roads, count the number of people waiting for a bus, identify a vehicle and track a vehicle's movements.

While the prior art provides a remarkable broadband network that facilitates the communication and sharing of information between officials and non-officials, the system does not provide a means for recording the law enforcement activities of officials, including tracking the movements of officials, so that this accurate and reliable information can be used to manage the available law enforcement resources.

Known systems also do not provide for the electronic, real time issuing of fines for traffic infringements by an official using a portable electronic device, or the opening of cases and filing reports on incidents or infringements of the law encountered by an official during the course of his/her duties, using a portable electronic device.

The known systems, while facilitating communication between law enforcement officials, does not provide for automatic geographical identification of the location of officials so that, for example, the nearest police patrol unit can be dispatched to a scene, where necessary.

In this specification, a "Portable Electronic Device (PED)" includes a mobile or cellular telephone; a mobile electronic diary; a laptop computer; any hand-held communication device; or the like.

Further, in this specification "an official" includes any law enforcement official including any one or more of the group consisting of a traffic official; a policeman; any individual employed by or contracted to a private law enforcement or security company; any government service employee involved in law enforcement; and the like.

Object of the Invention

The object of the invention is to provide a system and method for recording law enforcement activity and accessing information for use in law enforcement which, at least partially, alleviates the abovementioned disadvantages.

Summary of the Invention

According to the invention a system for accessing and recording information for use in law enforcement is provided, comprising: receiving means for receiving an input from a portable electronic device; a reader for reading the input; a processor adapted to initiate data retrieval from or recordal to an electronic storage medium based on the input; recording means for causing the input to be recorded on an electronic storage medium; accessing means for enabling a user to access an electronic storage medium to retrieve output information there from; and geographical identification means for identifying the location of a PED, particularly for identifying the location of the PED from which the input was transmitted.

Preferably the receiving means is adapted to receive the input from a mobile telephone over a wireless telephone network.

In one embodiment of the invention the input received by the receiving means includes enquiry information on which an enquiry is based. Enquiry information may include any one or more of the group consisting of: a vehicle registration number of vehicle; an engine number of a vehicle; an identity number for a person; a passport number; a visa number; a firearm licence number; and a trading licence number.

The input may further include identification information. The identification information may include any one or more of the group consisting of: a unique number, code, name or pin that identifies the PED and/or official who entered the input, such as a name, force number, unique password, unique pin or identity number.

Output information may include the status or the legality of or details on, any one or more of the group consisting of: a vehicle, for example, whether or not a vehicle is reported as stolen based on a vehicle registration number or engine number; validity of a licence for a firearm or vehicle or of a trading licence; a visa of a foreign visitor; or a driver's licence of a motorist. Further, the output information may include offence details, such as details of unpaid traffic fines in respect of a motorist or warrants issued for the arrest of an individual. Still further, the output information may be a template or menu which is accessed using a PED over a wireless network to facilitate entering of input at the PED. The output information may include a section of a statutory Act; regulation or by-law.

The input received by the receiving means may be one selected by a user from a menu displayed on a PED.

Further, the input may be incident information to be recorded on electronic storage means. The incident information may be road accident information including any one of more of the group consisting of: date of an accident; time of an accident; location of the accident; the name and identity number of a person involved in an accident; details of injuries sustained by any person involved in an accident; identification information of a vehicle involved in an accident; details pertaining to a vehicle immediately prior to an accident, such as the speed and direction of travel; and conditions surrounding an accident, such as visibility and weather conditions prevalent at the time of an accident.

The incident information may further include details of an offence or infringement of the law. The incident information may include any one or more of: the name of an offender; the identity number of an offender; vehicle registration number; the section of a statutory Act or regulation suspected to be transgressed or infringed; the section of a statutory Act or regulation on which an official acted; nature of an offence, address of an offence, history of past incidents at an address, names and details of suspects involved in offence, number of crime-fighting resources deployed to a crime scene; and estimated time of arrival of crime-fighting resources deployed to a crime scene.

Preferably, the incident information is input by an official via a PED, at the scene of the incident and the location of the incident is automatically recorded on electronic storage means as the location of the PED when the incident information is received.

In addition, the processor may be adapted to initiate the print and transmission of a fine remotely from the official issuing it, on receipt of incident information relating to a finable offence.

The receiving means may be adapted to receive visual information obtained from image capturing means, such as a closed circuit television, or a camera. The visual information may be an image of a vehicle exceeding the speed limit, over-shooting a red traffic light or otherwise in the process of committing an offence. The visual information may be a video image from image capturing means in a public area or from a camera located on a private or business property.

The system may include transmission means for transmitting visual information to a PED. It is envisaged that an image of a vehicle committing a traffic offence may be transmitted to a designated PED, such as that of the registered owner of the vehicle that committed the offence, together with details of the fine that has been issued in respect of the offence. It is also envisaged that the transmission means will transmit visual information from an image capturing device of an intruder alarm system located on a private or business premises to a designated PED, when the intruder alarm is triggered. The receiving means may be adapted to receive a signal when such an alarm is triggered.

The input may be a payment reference number or proof of payment transmitted from a PED by an offender in response to receiving details of a fine.

The system may include pattern recognition software for identifying a vehicle registration number, for example, from an image captured by the image capturing means. The system may further be adapted to receive the vehicle registration number from the pattern recognition software used in conjunction with the image captured by the image capturing means.

The processor may be adapted to initiate the print and transmission of a fine of a fine for an offence using the vehicle registration number received by the receiving means.

The system may include recording means for recording the visual information and the details of the fine issued, such as the date, time, location vehicle registration number and nature of the offence, on an electronic storage medium.

The receiving means may be adapted to receive information transmitted from an electronic scanner. The scanner may be a barcode scanner, magnetic strip reader or the like. It is envisaged that the scanner will be useful in reading and transmitting information contained in a driver's licence, identity book, vehicle licence disc or passport, for example.

The geographical identification module may be configured to track a vehicle and represent the movement of a vehicle on a map. It is envisaged that images of a vehicle will be captured by a plurality of image capturing means located in an area. Pattern recognition software will identify a particular vehicle registration number from the captured images. The geographical identification module will record the location and time at which the image of the vehicle was captured.

The system may include a reporting module for compiling statistics from information retrieved from or recorded on electronic storage means and creating graphic representations of the statistics to facilitate viewing thereof.

The reporting module may report on the activity of a particular official or rank of official such as the number of inquiries made, accidents reported and/or crime scenes attended

by a particular official, for example, may be compiled in order to appraise the work performance of the official. The reporting module may be configured to compile comparisons with previous years.

The graphic representations of the statistics may indicate the number and nature of incidents and the geographical location of the incidents. The statistics may indicate the time of day, month or year when a particular offence is most frequent, for example.

The geographic identification module may represent the location of designated PED's on a map of the area. In this manner it is envisaged that a police commander will be able to track the movements of officials and be assisted in ensuring that an area is evenly and adequately policed.

The geographic identification module may define the location of the PED in terms of the road, street, avenue, highway, or other by way or an intersection of two or more of these and the suburb or area in which the incident occurred. The geographic identification module may include a global positioning system.

The geographic identification module may be able to record the location of designated PED's intermittently at predetermined intervals on an electronic storage medium.

According to a second aspect of the invention a method for accessing law enforcement information from a database and recording law enforcement activity is provided comprising the steps of:

- receiving an input from a portable electronic device;
- reading the input;

- initiating data retrieval from or recordal to an electronic storage medium based on the input;
- accessing an electronic storage medium to retrieve output information there from;
- recording the input on an electronic storage medium; and
- identifying the location of a PED, particularly the location of the PED from which the input was transmitted.

Preferably, the input is received from a mobile telephone over a wireless telephone network.

The step of receiving an input may include receiving enquiry information on which an enquiry is based. The enquiry information received as input may include any one or more of the group consisting of: a vehicle registration number of vehicle; an engine number of a vehicle; an identity number for a person; a passport number; a visa number; a firearm licence number; and a trading licence number.

The step of receiving an input may include receiving identification information, such as any one or more of the group consisting of: a unique number, code, name or pin that identifies the PED and/or official who entered the input, such as a name, force number, unique password, unique pin or identity number.

The step of accessing an electronic storage medium to retrieve output information may include retrieving information relating to the status or the legality of or details on, any one or more of the group consisting of: a vehicle, for example, whether or not a vehicle is reported as stolen or missing based on a vehicle registration number or engine number; validity of a licence for a firearm or vehicle or of a trading licence; a visa of a foreign

visitor; or a driver's licence of a motorist. The output information retrieved in this step may further include offence details, such as details of unpaid traffic fines in respect of a motorist or warrants issued for the arrest of an individual.

The method may include the step of retrieving a template or menu which is accessed using a PED over a wireless network to facilitate the entering of input at the PED. Accessing output information may include the step of accessing a section of a statutory Act; regulation or by-law.

Further, the step of receiving an input may include receiving incident information to be recorded on electronic storage means. The receiving means may receive incident information, such as road accident information including any one or more of the group consisting of: date of an accident; time of an accident; location of the accident; the name and identity number of a person involved in an accident; details of injuries sustained by any person involved in an accident; identification information of a vehicle involved in an accident; details pertaining to a vehicle immediately prior to an accident, such as the speed and direction of travel; and conditions surrounding an accident, such as visibility and weather conditions prevalent at the time of an accident.

Receiving incident information may include receiving details of an offence or infringement of the law, such as any one or more of: the name of an offender; the identity number of an offender; the section of a statutory Act or regulation suspected to be transgressed or infringed; the section of a statutory Act or regulation on which an official acted; nature of an offence, address of an offence, history of past incidents at an address, names and details of suspects involved in offence, number of crime-fighting

resources deployed to a crime scene; and estimated time of arrival of crime-fighting resources deployed to a crime scene.

The method may include the step of recording the location of the PED from which incident information is received at the time of receiving it, on an electronic storage medium.

The method may include the step of initiating the print and transmission of a fine remotely from the official issuing it, on receipt of incident information relating to an offence.

The method may further include the step of receiving visual information obtained from image capturing means, such as a closed circuit television, or a camera. Receiving visual information may include receiving an image of a vehicle exceeding the speed limit, over-shooting a red traffic light or otherwise in the process of committing an offence. Alternatively, the method may include receiving visual information in the form of a video image from image capturing means, located in a public area or located on private or business property.

The method may include the step of transmitting visual information to a PED. For example, the method may include the step of transmitting an image of a vehicle committing a traffic offence to a designated PED, such as that of the registered owner of the vehicle, together with details of the fine that has been issued in respect of the offence.

Other visual information that may be transmitted to a designated PED is an image captured by an image capturing device linked to an intruder alarm system located on a private or business premises, when the intruder alarm is triggered.

The method may include the step of receiving a payment reference number or proof of payment of a fine. It is envisaged that this may be transmitted from a PED by an offender in response to receiving details of a fine issued against him/her.

The method may include the step of identifying a vehicle registration number using pattern recognition software in conjunction with an image captured by image capturing means. The method may further include receiving a vehicle registration number transmitted from the pattern recognition software.

The method may include the step of initiating the print and transmission of a fine of a fine for an offence using the vehicle registration number received by the receiving means.

The method may further include the step of recording the visual information and the details of the fine issued, such as the date, time, location vehicle registration number and nature of the offence, on an electronic storage medium.

The method may include the step of receiving information transmitted from an electronic scanner, such as a barcode scanner, magnetic strip reader or the like. It is envisaged that the scanner will be useful in reading and transmitting information contained in a driver's licence, identity book, vehicle licence disc or passport, for example.

The method may include the step of tracking the movement of a particular vehicle and representing the movement of the vehicle on a map. This step may further include: receiving images of a vehicle captured by a plurality of image capturing means located in an area; identifying a particular vehicle registration number from the captured images; recording the location and time at which the image of the vehicle was captured.

The method according to the invention may include the following steps: compiling statistics from information retrieved from or recorded on electronic storage means; creating graphic representations of the statistics to facilitate viewing thereof; reporting on the activity of a particular official or rank of officials such as the number of inquiries made, accidents reported and/or crime scenes attended by a particular official, for example, in order to appraise the work performance of the official; and/or compiling comparisons with statistics of law enforcement in previous years.

The step of compiling statistics and creating graphic representations of the statistics may include any one or more of indicating the number and nature of incidents attended by officials; the geographical location of the incidents; the time of day, month or year when a particular offence is most frequent; number of inputs received from a particular official; fines issued by a particular official; inquiries made a particular official; accident statistics including the number, location, conditions and/or vehicle types; unlicensed firearms confiscated; number of arrests concluded and the offence to which the arrest relates, number of stolen vehicles recovered, area in which stolen vehicles are recovered.

The method may include the step of representing the location of particular PED's on a map of an area to enable a commander to track the movements of officials and provide a useful tool for ensuring that an area is evenly and adequately policed.

The step of recording the geographic location of a PED may include defining the location of the PED in terms of part of a road, street, avenue, highway, or other path, or an intersection of two or more of these, and the suburb or area in which the incident occurred. Identifying the location of a PED may include receiving a signal from a global positioning system.

The method may include the step of recording the location of designated PED's intermittently at predetermined intervals, on an electronic storage medium.

The method may further include any one or more of the steps of:

- analysing the law enforcement information received from officials and recorded on an electronic storage medium;
- flagging a record for follow up if the record meets predetermined criteria; and
- reporting on a flagged record.

In one embodiment, the processor may flag a record in a database where it appears that a vehicle registration number was the subject of an enquiry and it was revealed that the vehicle is a stolen vehicle. The processor may periodically access the database to establish whether an arrest has been effected in relation to the flagged record.

These and other features of the invention are described in more detail below.

Brief Description of the Drawings

An embodiment of the invention is described below by way of a non-limiting example only with reference to the accompanying drawings in which:

Figure 1 shows a schematic representation of a system according to the invention;

Figure 2 shows an example of a method for submitting enquiry information and retrieving output information according to the invention;

Figure 3 shows an example of an activity log recorded in a system database to record the law enforcement activity of officials;

Figure 4 shows an example of a method for submitting incident information according to the invention; and

Figures 5 & 6 show examples of graphical representations of statistics compiled by the system from information retrieved from and recorded to a database according to the invention.

Detailed Description of the Drawings

With reference to the drawings, a system for recording law enforcement activity and accessing law enforcement information is generally indicated by reference numeral 10.

The system 10 comprises a receiver 12 for receiving an input 13 from a portable electronic device, such as a mobile telephone 24; a reader 14 for reading the input; a processor 18 for initiating data retrieval from or recordal to an electronic storage medium

such as a database 22 based on the input; recording means 20 for causing the input to be recorded on a database 22; accessing means 26 for enabling a user to access a database 22 from a mobile telephone 24 to retrieve output information there from; and geographical identification means 28 for identifying the location of the mobile telephone 24 from which the input was transmitted.

The receiver 12 is adapted to receive the input 13 from a mobile telephone 24 over a wireless telephone network (not shown).

In this embodiment of the invention the input 13 received by the receiver 12 includes enquiry information 30 on which an enquiry is based. Enquiry information 30 includes a vehicle registration number of vehicle; an engine number of a vehicle; an identity number of a person; a passport number; a visa number; a firearm licence number; and a trading licence number.

The input 13 further includes identification information 32, in the form of a unique number, code, name or pin that identifies the PED and/or official who entered the input, such as a name, force number, unique password, unique pin or identity number.

In this embodiment, the databases 22 are remote databases such as the National Vehicle Registration and Licensing Information System 22a containing vehicle registration numbers, the status of the licence of the vehicle, name of the owner of the vehicle and the mobile telephone number of the owner of a vehicle, amongst other information. Other databases 22 that can be accessed by the system 10 are the Traffic Department Information System 22b containing details of outstanding fines that have been issued to vehicle owners, details of driver's licences and warrants issued for the

arrest of vehicle owners for non-payment of outstanding traffic fines; and the Home Affairs Information System 22c containing details on visa's granted, illegal immigrants, identity books, passports and the like; and the Police Information System 22d containing information such as the validity of firearm licences, vehicle registration and/or engine numbers of stolen or missing vehicles, identity numbers of wanted criminals, etc.

Output information may therefore include the status or the legality of or details on, a vehicle, for example, whether or not a vehicle is reported as stolen based on a vehicle registration number or engine number; validity of a licence for a firearm or vehicle; a visa of a foreign visitor; or a driver's licence of a motorist. The output information retrieved from the databases 22 could be offence details, such as details of unpaid traffic fines in respect of a motorist or warrants issued for the arrest of an individual.

Referring to Figure 3, the accessing means 26 may also access a system database 22e containing menu's or templates that users may access from their mobile telephones 24 to facilitate entering of input. In this case, an official logs on by entering a unique force identity number (which is identification information 32) as input. A range of menu options are then accessed in the systems database 22e and displayed on the official's mobile telephone 24. The official selects a menu option on the mobile telephone 24 and the menu selection 34 is received by the receiver 12 as an input 13. The output information is a plurality of available input options, namely, "Driver Identification", "Vehicle Identification", "Incident Log" and "Law Reference". The input 13 entered at the mobile telephone 24 is accordingly a selection from the available options, in this case "Driver Identification". In response, the output information retrieved from the system database 22e is a template into which the driver identification number can be entered. In the example shown in Figure 3, the user inputs the driver identification number to be

queried and then selects the "Lookup" option. The driver identification number (which is enquiry information 30) is received by the receiver 12 as an input 13. In response to receiving the driver's identification number as input 13, the processor 18 initiates access to records stored in the database of the Traffic Department Information System 22b and the driver's identification number is queried for any outstanding fines or warrants. In this example, the output information retrieved from the database 22b is the detail of an outstanding fine that has not been paid by the driver.

The recording means 20 will record the type of query, inquiry information 30 and output information into the system database 22e to create a log of the enquiries submitted by the officials on duty. The location of the mobile telephone 24 at the time that the enquiry information 30 is received by the receiver 12 will be automatically identified by the geographical identification means 28. A location reference corresponding to a pre-defined section of a map of the policing area is allocated and this location reference, date and time of the query and the force number of the official submitting it will automatically be recorded to the system database 22e. An example of the law enforcement activity log 50 is shown in Figure 4.

Further, the input 13 received by the receiver 12 may be incident information 36 to be recorded on the system database 22e. The incident information 36 might be road accident information including: the date of an accident; time of an accident; the name and identity number of a person involved in an accident; details of injuries sustained by any person involved in an accident; identification information of a vehicle involved in an accident; details pertaining to a vehicle immediately prior to an accident, such as the speed and direction of travel; and conditions surrounding an accident, such as visibility and weather conditions prevalent at the time of an accident.

The incident information 36 could also be details of an offence or infringement of the law. The incident information 36 received by the receiver 12 could include the name of an offender; the identity number of an offender; the vehicle registration number of an offender, a section of a statutory Act or regulation suspected to be transgressed or infringed; the section of a statutory Act or regulation on which an official acted; nature of an offence, address of an offence, history of past incidents at an address, names and details of suspects involved in offence, number of crime-fighting resources deployed to a crime scene; and estimated time of arrival of crime-fighting resources deployed to a crime scene.

Figure 5 shows an example of the procedure followed to input incident information where an offender has run a stop sign. . In this case, an official logs on by entering a unique force identity number (which is identification information 32) as input 13. A range of menu options are then accessed in the systems database 22e and displayed on the official's mobile telephone 24. The official selects a menu option on the mobile telephone 24 and the menu selection 34 is received by the receiver 12 as an input 13. The output information is a plurality of available input options, namely, "Driver Identification", "Vehicle Identification", "Incident Log" and "Law Reference". The input 13 entered at the mobile telephone 24 is accordingly a selection from the available options, in this case "Incident Log". In response, the output information retrieved from the system database 22e is a submenu from which "Traffic related Offences" is selected. A variety of traffic related offences are then displayed as output information and the official selects "Stop Signs" as an input 13. The output information which is then displayed on the mobile telephone 24 is a template into which the vehicle registration number of the vehicle involved in the offence can be entered. In the example shown in Figure 5, the user

enters the vehicle registration number of the vehicle that ran the stop sign as an input 13. The vehicle registration number (which is incident information 36) is received by the receiver 12 as an input 13.

Since running a stop sign is finable, the processor 18 signals a printer 48 to print a fine 49 and initiates the transmission of the fine 49 to the offender, via a postal service, for example.

The recording means 20 will record the incident information 36 and output information into the system database 22e to create a log of the incidents reported by officials on duty. The location of the mobile telephone 24 at the time that the incident information 36 is received by the receiver 12 will be automatically identified by the geographical identification means 28. A location reference corresponding to a pre-defined section of a map of the policing area is allocated and this location reference, date and time of the query, force number of the official submitting it, and amount of the fine will automatically be recorded to the system database 22e.

The receiver 12 can receive visual information obtained from image capturing means, in the form of a closed circuit television 50a and a camera 50b. In this embodiment, the receiver 12 receives images of vehicles overshooting red traffic lights 54 from a camera 50b located at a traffic intersection.

The system 10 includes a transmitter 42 for transmitting an image to a mobile telephone 24. In this manner an image of a vehicle over-shooting a red traffic light can be transmitted to the mobile telephone 24 of the registered owner of the vehicle, together with details of a fine that might have been issued in respect of the offence. Similarly, an

image from a speed camera (not shown) can be transmitted to the owner of the vehicle together with details of a fine for exceeding the speed limit.

It is also envisaged that the transmitter 42 will transmit visual information captured by an image capturing device 50 linked to an intruder alarm system 46 located on a private or business premises, to a designated mobile telephone 24, when the intruder alarm system 46 is triggered. The receiver is configured to receive a notification signal when such an intruder alarm system 46 is triggered.

The system includes pattern recognition means 60 for identifying a vehicle registration number, for example, from an image captured by the image capturing means 50. The system 10 is capable of receiving the vehicle registration number from the pattern recognition software used in conjunction with the image captured by the image capturing means 50.

In the present embodiment, the system 10 receives visual information from a network of closed circuit televisions 50 located at on-ramps to highways (not shown). The pattern recognition software 60 can identify a particular vehicle registration number from the captured images and the geographical identification means 28 will record the location and time at which an image of a vehicle having that registration number was captured by the image capturing means 50.

The geographical identification means 28 is configured to track a vehicle having a particular vehicle registration number and represent the movement of the vehicle on a map.

The receiver 12 is able to receive information transmitted from an electronic scanner in the form of a barcode scanner 44. It is envisaged that the barcode scanner will be useful in reading and transmitting barcoded information contained in a driver's licence, identity book, vehicle licence disc or passport, for example, to the receiver 12.

The processor 18 includes a reporting module for compiling statistics from information retrieved from or recorded on the databases 22 and creating graphic representations of the statistics to facilitate viewing thereof.

In this embodiment, the reporting module compiles reports on types of incidents occurring in an area (as shown in Figure 5). Figure 5 shows a map 100 of the policing area with icons 102 situated at the locations at which various incidents have reportedly occurred during a pre-set time period. The icons 102 are colour-coded to correspond to different categories of incidents. A corresponding bar chart 104 and bar chart legend 106 indicate the number incidents reported in each category.

Figure 6 shows detail of the incidents reported as by-law offences. The map 100 has icons 102 displayed at the locations where incident information 36 relating to the by-law offences was received. The by-law offences are sub-categorised and the icons 102 are colour-coded to correspond to the different sub-categories of by-law offences. A bar chart 104 and corresponding bar chart legend 106 show the number of by-law offences reported in each category relative to the law enforcement target 108. A pie chart 110, and corresponding pie chart legend 112 provide a breakdown of the areas in which the by-law offences occurred.

It is envisaged that the recording of law enforcement activities of officials, including tracking the movements of officials will be useful in ensuring that an area is evenly and adequately policed. The system for recording law enforcement activity also enables accurate, current and reliable information to be used to manage available law enforcement resources.

It is further envisaged that the system and method for retrieving information from a database will empower law enforcement officials with immediate and convenient access to law enforcement information.

It will be appreciated that the invention is not limited to the precise details as described hereinbefore. For example, the input could be received over a Local Area Network (LAN), wide area network (WAN), or a wireless satellite communications network; and the system and method could be used in various areas of law enforcement, such as in reporting arrests, accessing a history of past offences relating to an offender or keeping current information regarding the crime rate in an area and managing police resources in accordance therewith. Further, the geographic identification means may include a global positioning system. The geographic identification means may interpret the signal from the GPS and represent the location of designated mobile telephones on a map of the area.

Claims:

1. A system for accessing and recording information for use in law enforcement is provided, comprising: receiving means for receiving an input from a portable electronic device ("PED"); a reader for reading the input; a processor adapted to initiate data retrieval from or recordal to an electronic storage medium based on the input; recording means for causing the input to be recorded on an electronic storage medium; accessing means for enabling a user to access an electronic storage medium to retrieve output information there from; and geographical identification means for identifying the location of a PED.
2. A system according to claim 1 wherein the receiving means is adapted to receive the input from a mobile telephone over a wireless telephone network.
3. A system according to claim 1 or 2 wherein the input received by the receiving means includes enquiry information on which an enquiry is based.
4. A system according to claim 3 wherein the enquiry information includes at least one of the group consisting of: a vehicle registration number of a vehicle; an engine number of a vehicle; an identity number for a person; a passport number; a visa number; a firearm licence number; and a trading licence number.
5. A system according to any one of the preceding claims wherein the input includes identification information.

6. A system according to claim 5 wherein the identification information includes at least one of the group consisting of: a unique code that identifies a PED; a unique code that identifies an official; a name; force number; unique password; unique pin; and identity number.
7. A system according to any one of the preceding claims wherein the output information includes at least one of the group consisting of: the stolen status of a vehicle; validity of a licence for a firearm; validity of a licence for a vehicle; the validity of a trading licence; the status of a visa; the legality of a driver's licence of a motorist; and a section of a statutory Act, regulation or by-law.
8. A system according to any one of the preceding claims wherein the output information includes at least one of the group consisting of: details of unpaid traffic fines associated with an identity number of a person; details of unpaid traffic fines associated with a vehicle registration number; and details of a warrant of arrest associated with an identity number of a person.
9. A system according to any one of the preceding claims wherein the output information is a template for facilitating entering of input at a PED.
10. A system according to any of claims 1 to 8 wherein the output information is a menu comprising a plurality of options from which a user can select an input.
11. A system according to any one of the preceding claims wherein the input is incident information to be recorded by the system on electronic storage means.

12. A system according to claim 11 wherein the incident information is road accident information including at least one of the group consisting of: date of an accident; time of an accident; location of an accident; the name and identity number of a person involved in an accident; details of injuries sustained by a person involved in an accident; description of a vehicle involved in an accident; details pertaining to a vehicle immediately prior to an accident; and circumstances surrounding an accident.
13. A system according to claim 11 or 12 wherein the incident information includes at least one of the group consisting of: details of an infringement of the law; the name of an offender; the identity number of an offender; a vehicle registration number of a vehicle involved in an infringement of the law; a section of a statutory Act or regulation suspected to be transgressed or infringed or on which an official acted; nature of an offence, identification details of suspects involved in an offence, number of law enforcement officials deployed to a scene; and estimated time of arrival of law enforcement officials deployed to a scene.
14. A system according to any one of the preceding wherein the recording means is triggered to record the location of a PED as identified by the geographic identification means, when input is received by the receiving means.
15. A system according to any one of claims 11 to 14 wherein the processor is triggered to initiate print and transmission of a fine, when the receiving means receives incident information relating to a finable offence.

16. A system according to any one of the preceding claims wherein the receiving means is adapted to receive visual information captured by image capturing means.
17. A system according to claim 16 wherein pattern recognition means is provided, the pattern recognition means being suitable for use in conjunction with the visual information captured by the image capturing means.
18. A system according to claim 17 wherein the receiving means is adapted to receive a vehicle registration number from the pattern recognition means.
19. A system according to any one of claims 16 to 18 wherein transmission means is provided for transmitting visual information received by the receiving means to a PED.
20. A system according to claim 19 wherein the transmission means is adapted to transmit details of a fine issued in respect of an offence, to a PED associated with the offender.
21. A system according to any preceding claim wherein the receiving means is adapted to receive an alarm signal when a remote intruder alarm is triggered.
22. A system according to any preceding claim wherein the input received by the receiving means is at least one of the group consisting of: a payment reference number; and proof of payment, in respect of a fine issued against an offender.

23. A system according to any one of the preceding claims wherein the receiving means is adapted to receive scanned information transmitted from an electronic scanner.
24. A system according to any one of claims 17 to 23 wherein the recording means is configured to record the location and time at which an image of a vehicle is captured, when a particular vehicle registration number is recognized in the image by the pattern recognition means.
25. A system according to claim 24 wherein the geographical identification means is adapted to display a path representing movement of a vehicle having a particular registration number on a map of an area.
26. A system according to any preceding claim wherein the geographical identification means is configured to identify the location of a particular PED and represent the location of the PED on a map of an area.
27. A system according to any one of the preceding claims wherein the geographic identification means includes a global positioning system.
28. A method for accessing law enforcement information from a database and recording law enforcement activity is provided comprising the steps of:
- receiving an input from a PED;
 - reading the input;
 - initiating data retrieval from or recordal to an electronic storage medium based on the input;

- accessing an electronic storage medium to retrieve output information there from;
 - recording the input on an electronic storage medium; and
 - identifying the location of a PED.
29. A method according to claim 28 wherein the input is received from a mobile telephone over a wireless telephone network.
30. A method according to claim 28 or 29 wherein the step of receiving an input includes receiving enquiry information on which an enquiry is based.
31. A method according to claim 30 wherein the enquiry information received as input includes at least one of the group consisting of: a vehicle registration number of a vehicle; an engine number of a vehicle; an identity number of a person; a passport number; a visa number; a firearm licence number; and a trading licence number.
32. A method according to any one of claims 28 to 31 wherein the step of receiving an input includes receiving identification information.
33. A method according to claim 32 wherein the identification information includes at least one of the group consisting of: a unique code that identifies a PED; a unique code that identifies an official; a name, force number, unique password; unique pin; and identity number.

34. A method according to any one of claims 28 to 33 wherein accessing an electronic storage medium to retrieve output information includes retrieving at least one of the group consisting of: the stolen status of a vehicle; validity of a licence for a firearm; validity of a licence for a vehicle; the validity of a trading licence; the status of a visa; the legality of a driver's licence of a motorist; and a section of a statutory Act, regulation or by-law.
35. A method according to any one of claims 28 to 34 wherein the output information retrieved from the electronic storage medium is a template onto which input can be entered to facilitate entering of input from a PED.
36. A method according to any one of claims 28 to 34 wherein the output information retrieved from the electronic storage medium is a menu comprising a plurality of options from which a user can select an input.
37. A method according to any one of claims 28 to 36 wherein receiving an input includes receiving incident information to be recorded on an electronic storage medium.
38. A method according to claim 37 wherein the incident information is road accident information including at least one of the group consisting of: date of an accident; time of an accident; location of an accident; the name and identity number of a person involved in an accident; details of injuries sustained by a person involved in an accident; description of a vehicle involved in an accident; details pertaining to a vehicle immediately prior to an accident; and circumstances surrounding an accident.

39. A method according to claim 37 or 38 wherein the incident information includes at least one of the group consisting of: details of an infringement of the law; the name of an offender; the identity number of an offender; a vehicle registration number of a vehicle involved in an infringement of the law; a section of a statutory Act or regulation suspected to be transgressed or infringed or on which an official acted; nature of an offence, identification details of suspects involved in an offence, number of law enforcement officials deployed to a scene; and estimated time of arrival of law enforcement officials deployed to a scene.
40. A method according to any one of claims 37 to 39 wherein the method includes the step of recording the location of a PED at the time that incident information is received from it, on an electronic storage medium.
41. A method according to any one of claims 37 to 39 wherein the method includes the step of initiating print and transmission of a fine, on receipt of incident information relating to a finable offence.
42. A method according to any one of claims 28 to 41 wherein the method includes the step of receiving visual information obtained from image capturing means.
43. A method as claimed in claim 42 wherein the method includes the step of recognizing a vehicle registration number from an image captured by the image capturing means.

44. A method as claimed in claim 43 wherein the method includes the step of receiving a vehicle registration number transmitted from pattern recognition means used in conjunction with an image captured by the image capturing means.
45. A method according to any one of claims 42 to 44 wherein the method includes the step of transmitting visual information received by the receiving means to a PED.
46. A method according to any one of claims 28 to 45 wherein the method includes the step of transmitting details of a fine issued in respect of an offence to a PED associated with the offender.
47. A method according to any one of claims 28 to 46 wherein the method includes the step of receiving an alarm signal from a remote intruder alarm.
48. A method according to claim 47 wherein the method includes the step of transmitting visual information received from image capturing means to a designated PED on receipt of the alarm signal.
49. A method according to any one of claims 28 to 48 wherein the method includes the step of receiving at least one of: a payment reference number; and proof of payment, from an offender in respect of a fine.

50. A method according to any one of claims 28 to 49 wherein the method includes the step of initiating print and transmission of a fine for a finable offence using the vehicle registration number received by the receiving means.
51. A method according to any one of claims 28 to 50 wherein the method includes the step of receiving information transmitted from an electronic scanner.
52. A method according to any one of claims 43 to 51 wherein the method includes at least one of the following steps for tracking the movement of vehicle having a particular vehicle registration number:
- receiving images of a vehicle captured by a plurality of image capturing means located in an area;
 - identifying a particular vehicle registration number from the captured images;
 - and
 - recording the location and time at which the image of the vehicle was captured.
53. A method according to claim 52 wherein the method further includes the step of representing the movement of the vehicle on a map of an area.
54. A method according to any one of claims 28 to 53 wherein the method includes at least one of the following steps:
- compiling statistics from information retrieved from or recorded on electronic storage means;
 - creating graphic representations of the statistics to facilitate viewing thereof;

- reporting on the activity of a particular official or rank of officials, in order to facilitate appraisal of the work performance of the official; and
- compiling comparisons with law enforcement statistics in previous years.

55. A method according to any one of claims 28 to 54 wherein the method includes the step of recording the position of a particular PED and representing the location on a map of an area.

56. A method according to claim 55 wherein the step of recording the geographic location of a PED includes defining the location of the PED in terms of a section of a map.

57. A method according to claim 55 wherein the step of recording the geographic location of a PED includes defining the location of the PED in terms of a section of a road, street, avenue, highway, or other path, or an intersection of two or more of these, and the suburb or area at which the PED is located.

58. A method according to claim 55 wherein the step of recording the location of a particular PED includes repeatedly recording the location of the PED on an electronic storage medium, at predetermined intervals.

59. A method according to any one of claims 28 to 58 wherein identifying the location of a PED may include receiving a signal from a global positioning system.

60. A method according to any one of claims 28 to 59 wherein the method includes at least one of the following steps:

- analysing law enforcement information received as input and recorded on an electronic storage medium;
- flagging a record for follow up if the record meets a predetermined criterion;
- and
- reporting on a flagged record.

61. A system according to claim 1 substantially as herein described with reference to the accompanying figures.

62. A method according to claim 28 substantially as herein described with reference to the accompanying figures.

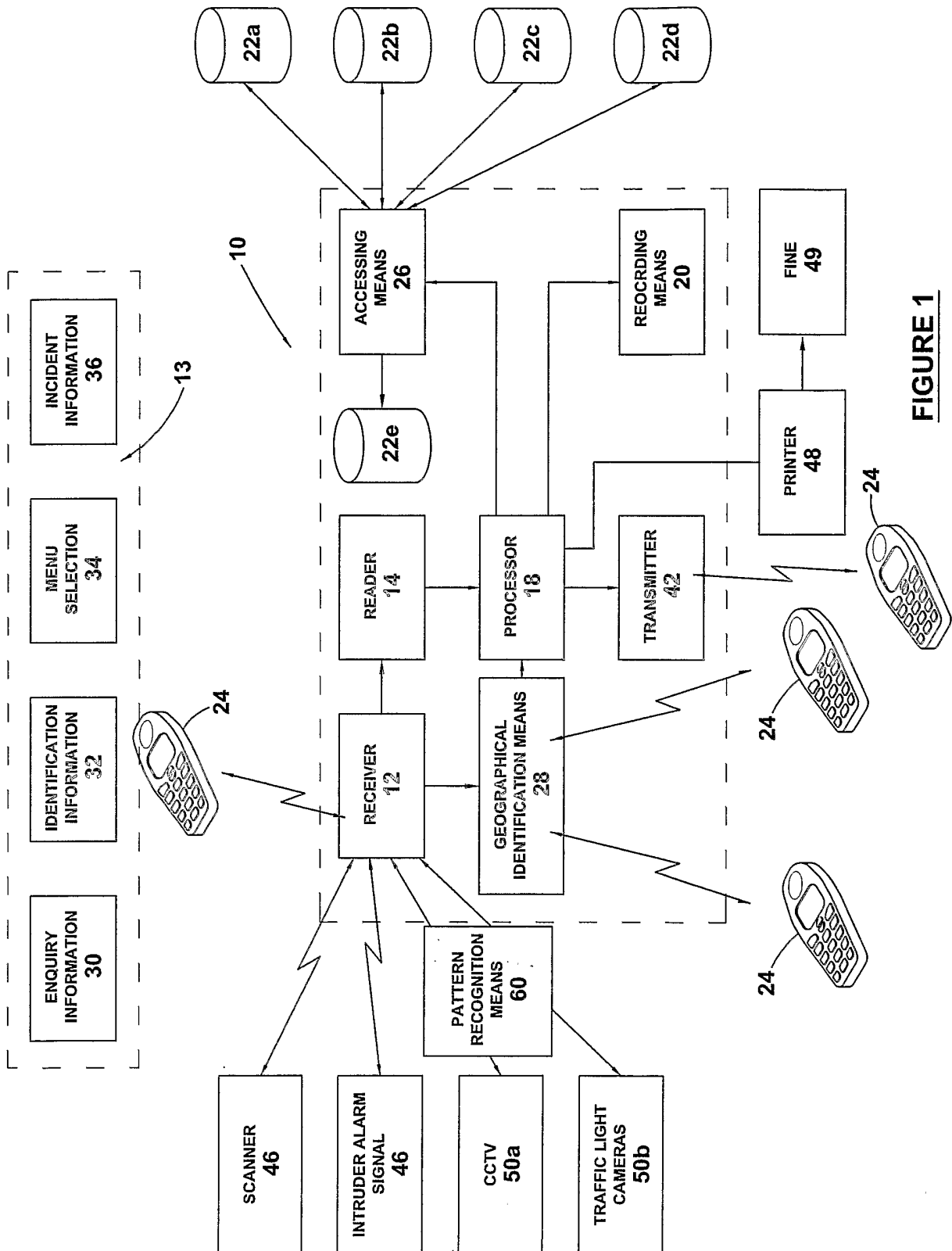


FIGURE 1

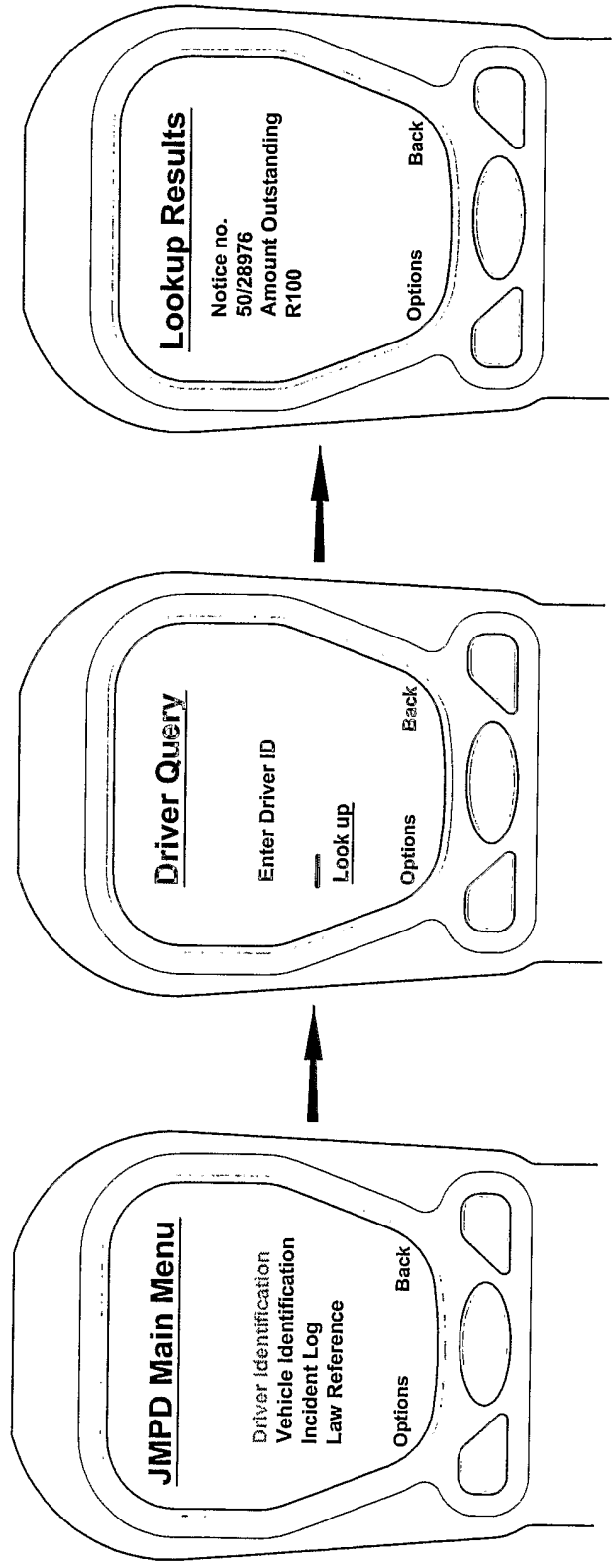


FIGURE 2

50

Date	Time	Force No.	Location	Query Type	Output Information
12/02/2003	13:40:30	345833	G7	DriverID	Valid, Licenced No Warrants
12/02/2003	13:41:56	346587	I9	VehicleID	Licenced No Outstanding Fines
12/02/2003	13:43:12	356809	B2	DriverID	Valid, Licenced No Warrants
12/02/2003	13:44:09	323461	A4	DriverID	Notice no. 50/28976 Outstanding amount R100
12/02/2003	13:44:38	337843	K6	FireArmID	Valid, Licenced No Warrants
12/02/2003	13:45:10	346923	C2	VehicleID	Licence Fee Outstanding since 1/12/2002 Outstanding amount R170-00

FIGURE 3

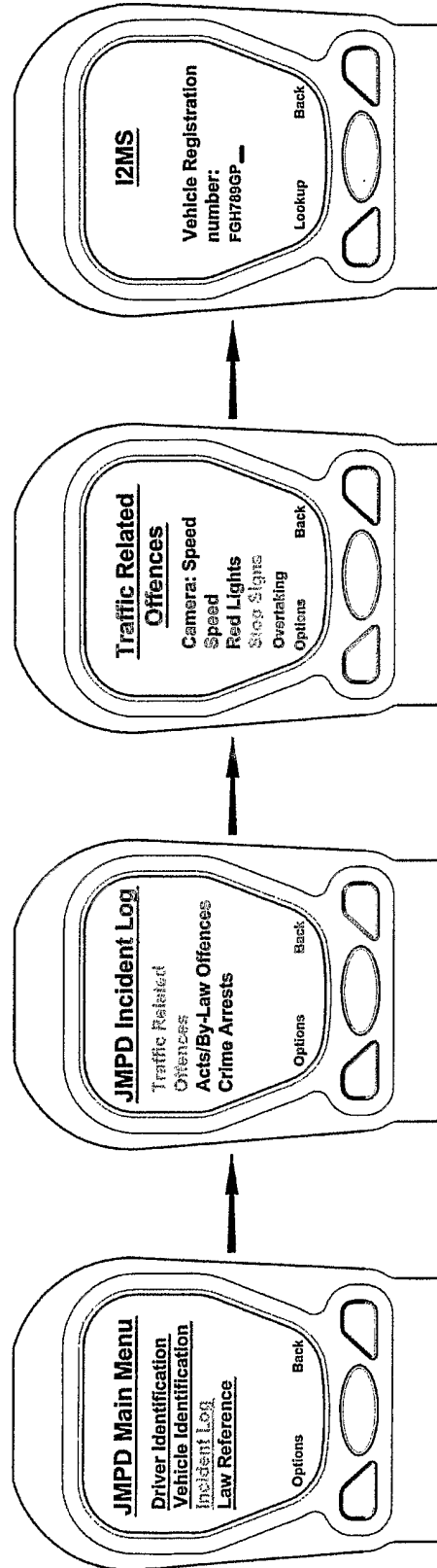


FIGURE 4

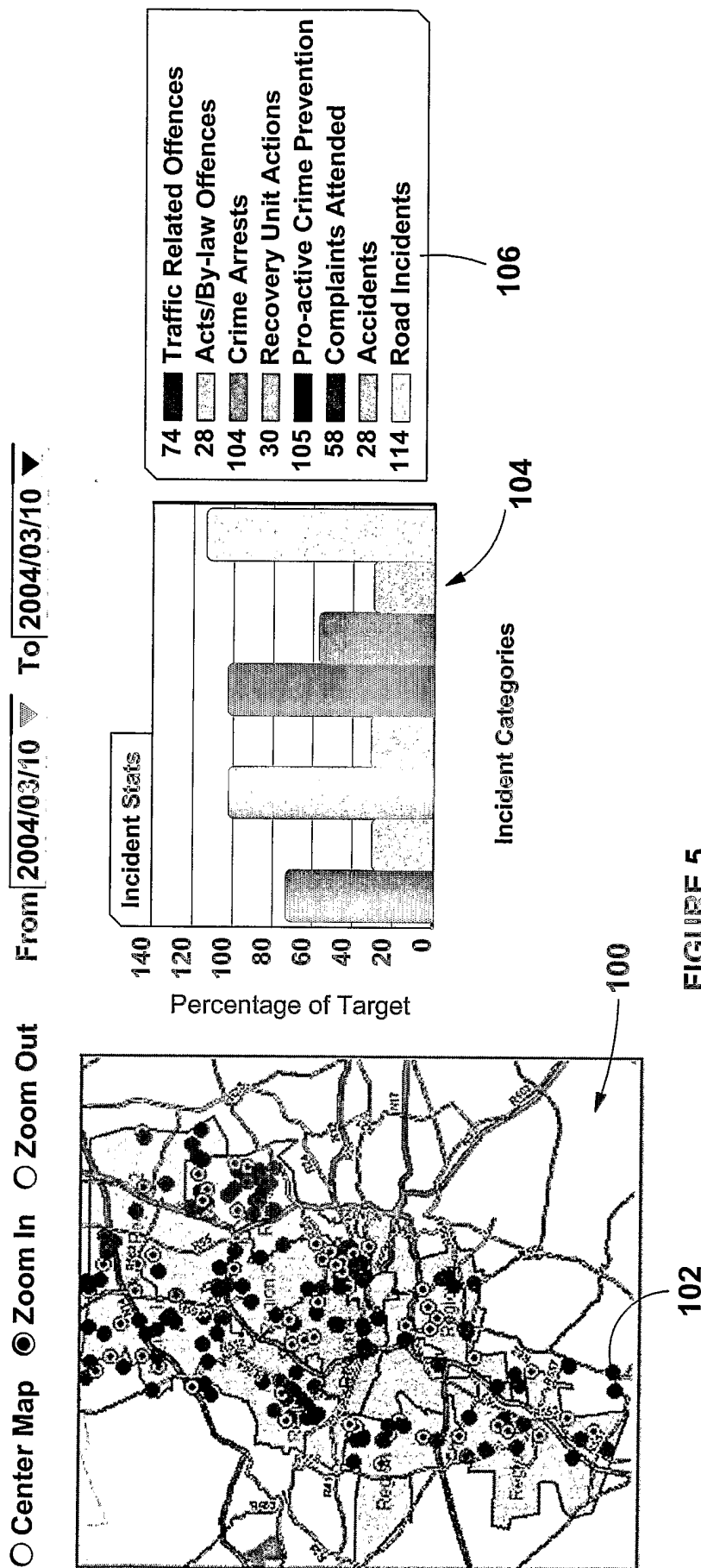


FIGURE 5

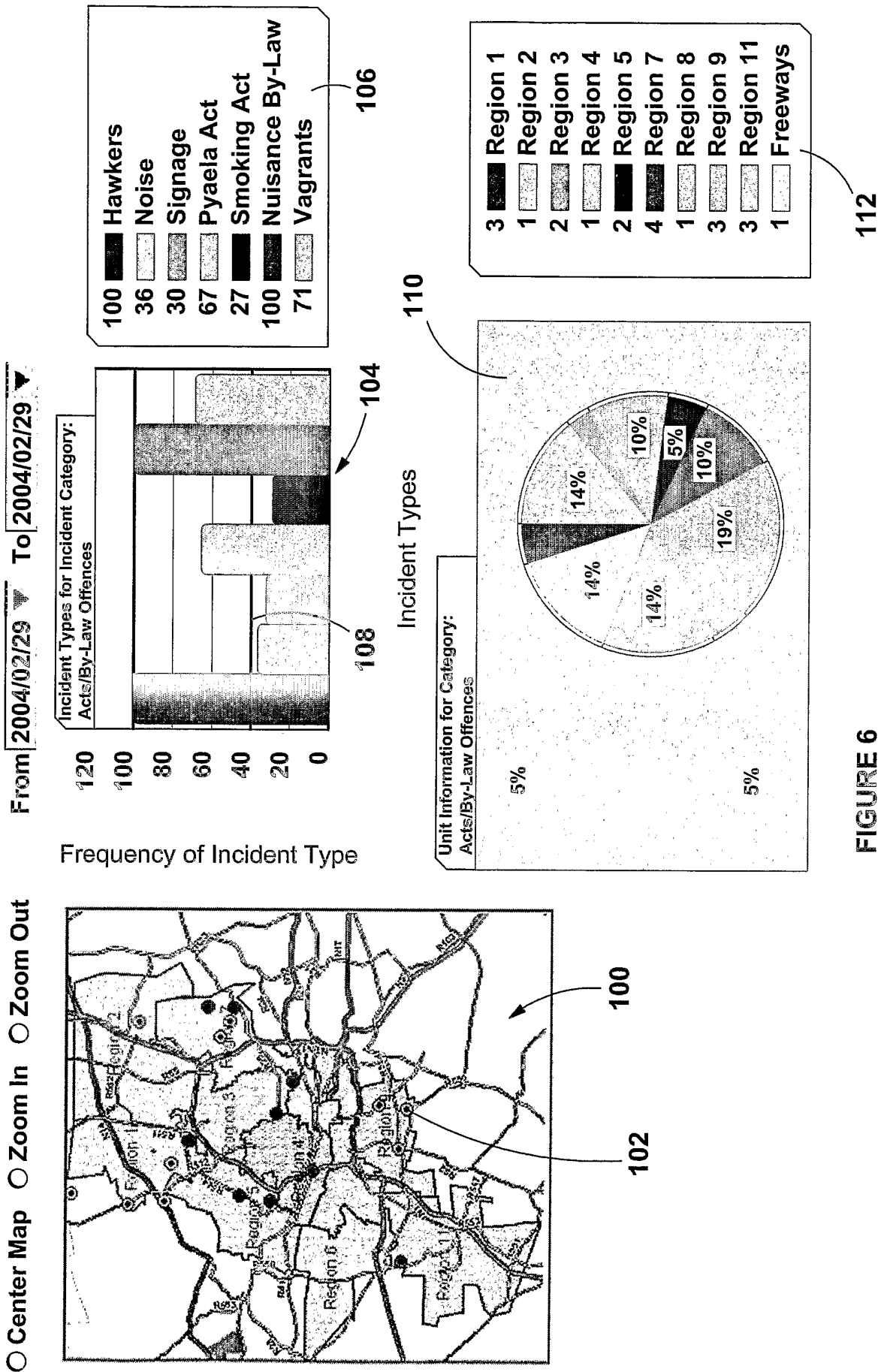


FIGURE 6

INTERNATIONAL SEARCH REPORT

International Application No
PCT/IB2004/050338A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 G06F17/30

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 7 G06F

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

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

EPO-Internal, WPI Data, PAJ, INSPEC, COMPENDEX, IBM-TDB

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
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 Further documents are listed in the continuation of box C. Patent family members are listed in annex.

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Date of the actual completion of the international search

24 June 2004

Date of mailing of the international search report

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Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

König, W

INTERNATIONAL SEARCH REPORT

International Application No

PCT/IB2004/050338

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 930 474 A (NAGELKIRK JOAN ET AL) 27 July 1999 (1999-07-27) abstract; figures 3-7 column 1, line 5 - column 4, line 39 -----	1-62

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