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Petitioner Uber Ex-1005, 0001

TITLE

METHOD AND APPARATUS FOR LOCATING MOBILE UNITS TRACKING ANOTHER OR WITHIN A PRESCRIBED GEOGRAPHIC BOUNDARY

CONTINUING DATA

This application is a continuation-in-part of U.S Application Serial No. 09/753,178, filed December 30, 2000, the disclosure is incorporated herein by reference.

BACKGROUND OF THE INVENTION

This invention relates to telecommunication services and systems, specifically such services and systems that convey the location of a mobile unit.

The wireless industry is currently gearing towards the provision of a wide range of location based services to the general public. Such services will include utilizing the location of a subscriber's portable remote unit to channel a wide range of location-based services to the subscriber. For such a service to be successful, the remote unit must be able to obtain and relay its location information to other communication targets of the network requesting such information.

In relevant prior art such as US 5,689,245, Noreen and al, the location of a remote unit is employed to execute location specific instructions transmitted to the remote unit.

In Bird, US 5,418.537, a missing vehicle is located through the use of a GPS receiver

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mounted on the vehicle. When the vehicle is missing, a paging request is broadcast by the vehicle location center. Upon receiving the broadcasted message, the vehicle resolves and conveys its location to the service center.

In Buss, US 5,539,395, a remote unit is presented whereby the unit selects and displays messages matching the location of the remote unit. The network provides the unit with messages having a location signal. If the location signal picked up by the unit is within the unit's current location, the message is displayed, otherwise it is kept in memory for display at the appropriate location

In Chapman, US 5,504,491, a global status and positioning reporting system is described. A remote unit obtains its global location and updates the network with status information and location information as required. Such status information may include an emergency condition or relevant condition of the remote unit required by the network.

In Fomukong and al, US 5,918,159 a location reporting satellite paging system with optional blocking of location reporting is disclosed. In that invention, a remote mobile unit obtains its location information and provides that information via the network to other network units requesting the information. The provision of such location information is done based on authorization information provided and routinely updated by the remote unit.

In all of the above-disclosed inventions, the location of the remote unit is utilized by the system. The deployment of location services could be quite beneficial to the general public if safely implemented. In today's market, such mobile units are usually small, compact and lightweight. These devices could easily be concealed to reveal the location of a mobile user without the user knowing or authorizing the disclosure of their location.

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Most wireless consumers might not want their location disclosed to the network or general public and the thought of being tracked by a clandestine unit concealed in an object such as a car or luggage to reveal the location of an individual would be unacceptable by the general public. The risk of abuse clearly exists and must be handled appropriately by wireless vendors. In U.S patent 5,918,159 that provides authorization for location reporting, it would be almost impossible for the network to prevent a concealed location-reporting unit to provide the location of an individual being tracked, given an abuse is occurring. A need therefore exists for location reporting devices in a specific geographic region to reveal their location upon request. In situations where a user is being tracked, the network would be able to determine which units are tracking the user by querying for the location of remote units within a specified radius of the user or tracked unit. The techniques required to provide the above result are described in the invention.

Whenever a mobile user is stranded and requires immediate help, another mobile party may exist not too far from the location of the user. The mobile user may not be aware of the presence of the other mobile party at that geographic location. By paging for the location of portable remote units (PRUs) within the stranded area, a distressed subscriber may immediately sought help at that location. If the prescribed boundary specified by the mobile user exceeds pre-specified limits, the network may split that geographic area as described hereinafter. Pages may then be sent to specific areas in order to obtain the location of portable remote units in that geographic area. The location of any mobile location-reporting unit in a geographic area that is closest to the user will be revealed to the user.

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Lots of other uses exist for such a service to be lucrative to a service provider. A wireless subscriber may opt to participate in the program and users of the system may be charged a fee each time the location of another PRU at a requested geographic boundary is provided to the user Also, users in possession of portable remote units may be charged whenever they invoke the tracking mode in their PRU. To improve subscriber enrollment in the program, subscribers may also received benefits each time their location is provided to a distressed individual. Subscribers not requiring their locations disclosed at any time may block such information at the network. In situations where a PRU user is being tracked by another, the network will only reveal the location of the tracking unit only after both units have traveled a certain distance over a pre-specified period of time with the tracking unit maintaining proximity to the source during that period. Such distances and elapse times could be set as a standard by the industry to clearly define tracking.

The system presented requires mobile devices to communicate their location information to the network. As the number of location enabled devices within the network increases, certain components of the system may require the location of certain mobile devices reported in a manner that would prevent the component from being overloaded. Therefore, it is required that, a method and apparatus be provided to facilitate the provision of remote unit location information to the network to prevent network overloading and also minimize power consumption of the mobile device.

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From the above there is clearly a need for a system whereby a remote unit should be able to request for the location of other remote units within a specific geographic area. The components of such a system are described hereinafter.

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OBJECTS OF THE INVENTION

It is an objective of the present invention to provide a mobile telecommunication system, method and technique that could facilitate the secure provision of location information pertaining to one or more mobile communication targets that are tracking another.

It is an objective of this invention to provide a mobile telecommunication system whereby a communication source residing in a geographic location may poll for the location of communication targets that are present in another geographic area.

It is an objective of this invention to provide a technique to report the location of communication units within a pre-specified boundary.

It is an objective of the current invention to provide adequate technology that would facilitate the disclosure of location information of communication units that are present in a wider than normal geographic area.

It is an objective of this invention to provide a remote unit that could provide location information and geographic boundary information where a search could be initiated for the presence of one or more location reporting communication targets

It is another objective of the invention to provide a portable mobile device that provides its location to the network only when the device has covered a minimum distance from a reference location prescribed by the network.

Other objects and advantages of the system will appear hereafter.

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SUMMARY OF THE INVENTION

The aforementioned objectives are achieved by an improved telecommunication system that can provide location information pertaining to other communication targets that are present within a pre-specified geographic boundary.

In the system, a communication source may query for the location of communication targets at a specified geographic boundary The communication source may also enter into a mode to determine if another communication unit is tracking it. Communication sources and targets of the system should be able to obtain their location using any relevant location determination technique. This information is conveyed securely across the network based on system and subscriber requirements. When a communication source requires the location information of communication targets in a specific geographic area, the source obtains its location and may determine if the geographic boundary of the required targets is within its querying radii. Although the design could also be such that the network handles all queries, a communication source may poll directly for the location information of targets in a specified geographic boundary. This could happen if the communication targets are within the source's querying radii; preventing unnecessary overloading of shared network resources. For more complex and distant queries, the source may simply provide its location and geographic boundary information where targets should be interrogated for location disclosure. The network utilizes its resources and determines where and how a search for relevant communication targets should be initiated.

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Once the search for possible communication targets within the specified geographic boundary is completed, the network provides the communication source with information pertaining to communication target(s) closest to the source and in the geographic region specified by the source.

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BRIEF DESCRIPTION OF DRAWINGS

Figure 1 shows a general schema depicting the invention.

Figure 2 shows a diagram of a mobile portable remote unit employed by the system.

Figure 3 shows a diagram indicating how a wider than normal geographic area is divided to locate remote units in the area

Figure 4 shows a diagram that is employed to determine if a remote unit is within a prescribed geographic boundary.

Figure 5 shows a flow chart illustrating the steps that a communication unit may employ to determine if it is being tracked by another unit.

Figure 6 is a flow chart illustrating the steps utilized by a communication unit to disclose a global location when the unit is within a pre-specified geographic area.

Figure 7 is a flow chart illustrating how a search for the location of mobile communication units in a wider than normal pre-specified geographic boundary is carried out.

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DET AILED DESCRIPTION OF THE PREFERRED EMBODIMENT

An overview of the present system in accordance with the invention is depicted in FIG.1. The system consists of a network or portable remote units (PRU) 501-510 scattered throughout a wide geographic area. Mobile Users 701-709 are in possession of the portable remote units 501-509, respectively. Geographic regions 201-204 are standard geographic areas that may have present, one or more portable mobile users 701-709 as shown in FIG. 1. Mobile user 701 is in geographic region 201 and mobile users 502-506 are in geographic regions 202.

Other mobile portable users exist in the system and are scattered as shown in FIG. I. Geographic location 201-204 may simply be defined by latitude, longitude and radii information or simply by points defining the geographic boundary as illustrated in FIG. 3. The terrestrial network center (TNC) FIG. 1, 801 is used to control the actions of the mobile system. The TNC communicates with ground based transmitters (GBT) 401-404 and earth based satellite transmitters 301-302 to relay information pertaining to the mobile system across the network. Other functionalities of the terrestrial network center may include determining which transmitters to employ to complete a call and how to prevent portable remote units from receiving calls when they are out of jurisdiction. Multiple terrestrial control or network centers may be employed as required by the system. Ground based transmitter stations (GBT) FIG.1, 401-404 are employed to relay mobile information to and from the portable mobile units of the network. Interface to a fixed telephone network such as home telephone or other communication units such as the personal computer could be achieved through the public telephone switching network (PTSN) Satellites 101-102 are employed by the system to relay

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information to remote areas and also to provide referenced signals, which ground base communication units, may utilize in establishing their geographic location. Communication between the satellites and the ground network is achieved through earth based satellite transmitters 301-302.

A general internal circuitry of a portable remote unit or PRU, FIG 1, 501-510 is shown in FIG. 2. The portable remote unit consists of an antenna 20 and a transceiver circuitry 21. The transceiver circuitry receives and transmits portable remote unit information via the antenna 20. On receipt, this information is processed and the intelligence portion is extracted and sent to the control unit 22 for further processing The transceiver also receives portable remote unit information from the control unit 22, processes it, and forwards it as required to the network via the antenna 20. The control unit 20 controls the action of the PRU. Relevant information pertaining to the PRU could be stored in the allocated memory means 26. The memory means may include a Random Access Memory, a Read Only Memory and additional memory to store PRU data. Input panel 25 is employed to take user instructions and the display 23 is used to present PRU information to a user. The audio means 24 is used for annunciation of voice messages. A PRU may be able to assist the network in determining its global location or use any location determination technique to resolve and provide its location to the network. As a PRU is carried from one location to the other it may obtain and provide information concerning its current location to the network

As stated in one of the objectives of the invention and illustrated in FIG. 1, a portable remote unit 501, utilized by a subscriber 701, in a moving vehicle 601, could be tracked by a clandestine unit 510, such unit concealed in vehicle 601 A subscriber -let say 704 in

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region 202- in another geographic region trying to keep track of the whereabouts of user 701 may have concealed unit 510 in vehicle 601 to track subscriber 701. As most portable remote units are small and compact they could easily be hidden without subscriber 701 knowing of such activity. As vehicle 601 travels from one location to the next, authorized users will be able to receive location information from PRU 510 whenever they poll for it. As PRU 510 discloses its location to the authorized party, the party may obtain the location of subscriber 701 without their authorization. It is of utmost importance that a subscriber in possession of unit 501 should be able to determine it they are being tracked by another unit. In the current invention subscriber 701 will at any point in time activate the tracking feature provided by PRU 50 I. This could be achieved by invoking the appropriate function through the input panel, FIG. 2,25 of the PRU. In tracking mode, a tracked PRU, FIG. 1,501, may simply alert a user in possession of the tracked PRU with the location information of any tracking device -PRU 510 -that has resided within a pre-specified radius of the tracked PRU, with both units having traveled a minimum distance Parameters such as elapse time, minimum distance traveled and tracking radii could be set as a standard by the industry .The tracking feature could be invoked by the tracked PRU or a request could simply be forwarded to the closest ground control station so that the operation is performed for the tracked PRU. In tracking mode, the geographic location of the tracked unit, FIG 1, 501, is utilized to determine the geographic boundary where a search for possible tracking units 510 could be initiated. Over a period of time and at pre-determined time intervals a page is sent to the geographic location 201 where the tracked unit 501 resides for all location-reporting units within that geographic boundary to disclose their location. The geographic boundary

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required to establish tracking could be set as a standard by the industry. For instance, it could agreed upon that a unit could be deemed as tracking another it stays within a 5 meter radius of the tracked unit over a 1 mile stretch. As the tracked unit 501 is moving, that unit or an appropriate network unit, may page for the location of other communication units within the tracking boundary of the tracked unit to disclose their location. Only communication units within that geographic boundary would disclose their location. Timing information could also be included in the disclosed information to help eliminate errors that may occur when a tracked unit, FIG. 1, 501, is in a vehicle 601 that is moving at a high velocity. This exercise could be done at fixed time intervals and over a pre-determined time period. At the first time interval, a list could be maintained of all PRUs that responded within the specified geographic boundary defined for tracking. At subsequent time intervals, PRUs that where in the list at the first tracking interval and not responding in later intervals could be eliminated as possible tracking units. At the end of the tracking period, if there are any units in the tracking list and the minimum tracking distance was covered, such communication units are deemed to be tracking another and are reported to the requested party. The minimum traveling distance must be maintained to eliminate the risk of identifying communication units that reside in a fixed geographic boundary over the tracking period as possible tracking units. Also, a maximum time limit must be set for the tracking exercise such that if the minimum distance is not traveled within that time period, then tracking process is aborted. If such a time is not maintained a PRU could be in the tracking mode indefinitely. The steps for this process are shown in FIG. 5.

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According to FIG. 5, once the tracking mode is invoked at a search unit, tracking is initialized, FIG. 5, 1. Note that the search unit could be any relevant mobile communication unit trying to identify possible mobile communication units that are tracking another. The search unit then operates repeatedly over pre-defined time intervals 2 until the end of the tracking period 9, 13. At each tracking interval 2, the location of the tracked unit is obtained 3. Possible tracking units within a specified geographic boundary of the tracked unit are paged to reveal their location 4. For the first tracking interval 5, all tracking units that provided their location at that interval are stored in a list 7.At subsequent tracking intervals, a tracking unit that responded in the first tracking interval and not responding in a subsequent tracking interval is eliminated 6 as a possible tracking unit. If the tracking list is empty at any tracking interval 8, the tracking process is aborted 9. A test 10 is next performed to verify that the tracking units in the list traveled the minimum pre-defined distance. If it is determined that the tracking units traveled the minimum distance 10, they are reported as tracking units to the network 11. If it is determined that the tracking units have not yet traveled the minimum distance 10, a check is done to establish if the maximum tracking time has elapsed 12 If no time is left to establish tracking 12, the process is aborted, 13, otherwise it is repeated 2. A maximum time must be set for the tracking process to ensure that a PRU is not in tracking mode indefinitely.

As previously indicated, a PRU may invoke this method directly to determine if other units residing in its immediate geographic area have been tracking it. This would help reduce network overload and, at the end of the tracking period, a status signal may simply be forwarded to the network. In circumstances where a tracked PRU cannot

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perform this operation, a ground control unit may be employed to carry out the tracking operation for the PRU and report any findings to the PRU Maintaining a list of all tracking units at the first tracking interval is efficient as it reduces storage space and processing time It is also possible to maintain a list of all units that are within a pre-defined geographic boundary of the tracked unit throughout the entire tracking process. At the end of the process, the list could be used to determine which units reported their location over a pre-specified distance traveled by the tracked unit

For a unit to report a global location within a specified geographic boundary, the unit must be able to obtain geographic boundary information and further determine if its location is within the prescribed boundary . There are several techniques well known in the art that a remote unit may employ to resolve its geographic location or assist the network in resolving its location. Once the PRU obtains its location from whatever technique, that information is utilized to perform the functions in accordance with the invention. Apart from determining if a remote unit is being tracked, other uses exist for a remote unit to disclose its location at a particular geographic location. For instance a distress subscriber at a specific global location may simply want to know if there mobile users in the immediate geographic area Furthermore, a subscriber might want to know if there are any individuals at their home, office or a specified geographic location By specifying the required location and further information such as radii information, the network may provide a portable remote unit with the location of portable remote targets that are closest to the PRU and in the geographic area specified by the PRU .

For a simple search where the geographic region does not exceed a pre-specified limit, a

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page may simply be sent to the required region for all units in the region to disclose their location. As it would be inefficient to page for portable remote units in wider geographic boundaries to reveal their location, searches in these areas could be managed differently by the network. In this situation, the network may simply split the wider area into sub regions and recursively query for the location of PRUs, starting in sub-regions that are close to the origin before extending to geographic regions that are further away.

To disclose a global location within a prescribed geographic boundary, a PRU at the geographic location picking up the request must determine if it is within that boundary before providing its location to the network. FIG. 3 shows a geographic location with mobile units M_1-M_N. This location is divided into cells (C_1- C_N) or grids (G_1-G_N) where N is the total number of cells or grids, also known as region. Each region could be defined by its latitude, longitude and radii information or by distinct points that define the grid. Looking at FIG. 3, cell C_1 is defined by radius R and its latitude and longitude information is that of mobile user M_1 (Xo,Yo). Grid G_1 is defined by four points P_1, P_2, P_3 and P_4. Subsequent cells and grids are defined in that fashion as shown in FIG. 3. FIG. 3 depicts a wide geographic area. Ground stations and control centers, not shown, may also be available in that area. Such an illustration my also be seen in a general sense in FIG. 1.

As shown in FIG .3, a distressed mobile user M_1 may need to find where another party might exist in that geographic region. The user could initiate a page from their PRU for the closest available PRUs that could be found in that geographic jurisdiction. Looking at FIG. 3, mobile user M_1 will provide its location, latitude and longitude (Xo,Yo) to the closest available ground station serving area C_1 or grid G_1. As stated earlier, appropriate terrestrial technology will be scattered in that region to serve the

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PRUs in that area as shown in FIG 1. Once a ground station picks up this signal, it sends a page for all location reporting devices in the specified boundary surrounding mobile unit M_1, FIG. 3 to disclose their location. Such boundary information could simply be specified by the latitude and longitude of unit M_1 and appropriate radii information. For the very first request, such radii information would be the distance R as shown in FIG 3. A PRU within that area will pick up the signal and determine if it is within the specified radii. Also, if the ground station specifies grid information for the first cell, G_1, a PRU will have to determine if it lies within the grid GI boundary, P_1, P_2, P_3 and P_4. According to FIG.3, when a ground station sends a page for the location of PRUs in cell C_1 or grid G_1 only mobile unit M_1 may respond. As M_1 is the PRU that initiated the search, the ground control station would make the determination and obtain the next region -radii or grid- information for a possible search. The geographic boundary information of cell C_2 or grid G_2 will be provided for the next search. Subsequent searches will include incrementing the radii information to from C_1-C_N or grid boundary information from G_1-G_N until a PRU within that geographic boundary responds or system limitations are encountered. A possible limitation may be the size of a geographic boundary to page for remote unit locations. According to FIG. 3, the radius of each cell is from the origin of mobile unit M_1, (Xo,Yo). The radii of subsequent cells is a factor of the radius of the first cell, C_1. The grid is usually the tightest rectangular boundary defining the cell. As the grid or cells become larger, exclusion zones, as described hereinafter, may also be specified if it is required that PRUs in certain areas should not disclose their location. Another possibility might be not to increase the next geographic area on a subsequent page but split the entire geographic boundary into small regions of about the same size.

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Each region could then be paged, starting in areas that are closed to the origin. This could be done until a PRU at a region discloses their location.

Considering that mobile unit M_1 is initiating a search for possible portable remote units in its immediate area, a relevant ground control station will send three pages. The first page will cover cell C_1 or grid G_1. As no units are available in the area a second page will be sent to cover cell C_2 or grid G_2. Examining FIG. 3, the next PRUs exist only in cell C_3 or grid G_3. Once a page is sent out for cell C_3, PRU, M_2 and M_3 will respond. If grid G_4 is specified PRU M_2, M_3, M_4 and M_5 will respond. The ground control station will next select the unit closest to PRU M_1, which is M_2, in this instance. The location of PRU M_2 will then be forwarded to PRU M_1. M_1 may also choose to request for the number of PRUs in its area and the ground control station would respond again, based on system requirements. Using the system, a user in possession of a PRU may check for the existence or other PRUs at another geographic location. A user may select a geographic area from a map presented by the PRU. In FIG. 1, a mobile user 709 at location 204 may utilize this system to request for the location of mobile units in another geographic region such as 202 or 203. This could be for instance, checking to see if there are PRUs at the office or house or any location of interest. The system would simply return the appropriate information such as number of PRUs responding, location of PRUs and relevant information requested. In such a system, subscribers may choose to participate to have their location disclosed when a search is initiated. Subscribers may also opt to block or activate this feature at any time at the network. A subscriber to the service may be charged a fee each time the system is used. A possible technique utilized to implement the above is shown in FIG. 7.

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According to FIG. 7, the geographic information of the area where a search for possible remote targets sought is first obtained. This information could be provided by a PRU to the network. This information may simply be the latitude and longitude of the area where the search would be performed and other relevant information to assist the network with the search. A PRU may display a map where a user may select a specific geographic area. From this information the next geographic region where a possible search for PRUs is estimated 2. This could be the latitude longitude and radii information of the searched area. Also, the tightest rectangular grid surrounding the cell having that radii information could also be calculated and utilized. Once that information is obtained a page is sent out to that geographic region for remote units in the region to reveal their location 3. If remote units are identified in the paged area 4, that information is forwarded to the network 5 and the process is aborted 7. If no remote units are identified in the area 4, a check is done to establish if there are any remaining cells or grids higher up in the chain to be searched 6 If no regions exist for a possible search, the process is aborted, otherwise, the process is repeated until all geographic cells or grids have are searched for the existence of portable remote units.

Whenever a portable remote unit receives a page to disclose its location within a specified geographic boundary, the PRU obtains its location and attempts to determine if it is within that boundary .As mentioned before, the PRU may employ any relevant location determination technique well known in the art to obtain its geographic location. If the boundary information specified by the network contains a well-defined set of points – latitude and longitude for that region - defining the geographic region, the PRU will simply establish if its location is within the geographic boundary and provide its location

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to the network based on that. The points may simply define the minimum and maximum latitude and longitude values within which a PRU should respond. Such a procedure would be stored in the memory means, FIG. 2,26 of the PRU and invoked by the control unit FIG. 2,22 of the PRU as required. If the network simply provides the origin -latitude and longitude- and radii information of the region where a search is to be performed, the PRU will utilize these values to establish if it is within the area defined by the network as shown in FIG 4.

FIG. 4 shows four mobile objects, $Object_o$, $Object_1$, $Object_2$ and $Object_3$. Considering that $Object_O$ is the source and needs to know if any portable remote units are available in the geographic region of radius R. The location of $Object_0$ is the origin of the region and the radii information provided by the network for that region is R All objects within that radius must respond upon receiving the signal requesting for their location in the specified radii Looking at FIG.4, only $Object_3$ and $Object_2$ exist in the region specified and would respond to the page. If all the mobile objects are served by the same ground station they will all receive the signal for location disclosure if in the region. To establish if they are within the region specified, each mobile object will obtain its location and calculate its tangential information from the specified geographic origin (Xo,Yo) defined by the source, $Object_0$. The tangent of an angle is usually the opposite/hypotenuse: Looking at FIG 4, the tangent is between the origin of $Object_o$ and $Object_1$, and that angle is θ. As $Object_3$ lie on the same line as $Object_1$ the tangent between the origin of Objecto and Object3 is also θ. The tangent between the origin of Objecto and Object2 is α. Standard trigonometric equations dictate that the tangent of an angle is the opposite / hypotenuse. According to FIG. 4, Tan $\theta = (y_1-y_O) / (x_1- xo)$ for $Object_1$ and

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$(y_3-y_O) / (x_3- xo)$ for $Object_3$, for $Object_2$ Tan $\alpha = (y_2-y_O) / (x_2- xo)$. Once the inclination or tangent of the object to the origin is calculated, the distance of the object to the origin could easily be calculated by using the sine formula -Sine θ = opposite / hypotenuse where the opposite is $(y_1 -y_o)$, $(y_3 -y_o)$ for Object $_1$ and $Object_3$ respectively. The hypotenuse is the distance from the mobile object to the origin; Ro_1 and Ro_3 for $Object_1$ and $Object_3$ respectively. For $Object_2$, the distance from the origin $R_{o2} = (y_2- yo) /$ Sine α. Once the distance from the origin (XoYo) is calculated for each mobile object, an evaluation could easily be made as to whether the mobile object lies within the specified boundary and the location of the mobile object could be provided to the network based on that. Furthermore, the network may choose to provide an exclusion region or regions to the portable mobile remote units or PRUs. A PRU in that exclusion region will not disclose its location to the network even if it lies in the network's specified geographic boundary . This exclusion zones may be specified simply as grid points anywhere in the paged region or as a direction aft the origin. A direction aft the origin contains information that will indicate to PRUs in the region not to disclose their location if they are East, West, North or South of the origin. Considering FIG. 3 as a further example, if a request is received in that region for the location of mobile units in G_4 or C_4 and the origin is the location of M_1, with the exclusion zone specified as East, all the mobile units in G_4 or C_4 will receive the request to disclose location in that area. Upon detecting the exclusion zone information in the signal only the mobile units to the West of M_1 will reveal their location. Again, such exclusion zone information may simply specify sub region(s), where PRUs should not reveal their location.

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FIG. 6 shows the steps utilized by a remote unit to reveal its location if it is within the geographic boundary specified by the network The unit first obtains geographic boundary information specified by the network 1. This information may consist of latitude and longitude information defining the region's origin and radii information. The unit next obtains its location 2. This could be done in association with the network or by using any remote unit location determination techniques such as GPS. The next step is to determine if the unit is within the boundary prescribed by the network 3. Such a technique has already been described in the invention. Further checks are carried out to ensure that remote unit is not in a location reporting exclusion zone defined by the network 4. The location of the remote unit is provided to the network 7 once it is established at the remote unit that the subscriber 6 authorized such an action.

It could be made mandatory that all PRUs reveal their location once they receive a request to establish tracking. A PRU may not respond to any tracking establishing routines if it is at a fixed location. Tracking is only possible when the tracking and tracked unit are in motion. If a network's request is just to establish if a PRU is within a geographic location, the PRU's response could be based solely on the requirements of the subscriber -whether such action is authorized or not. A PRU may choose to instruct the network to relay certain information to mobile units in a specific geographic region. That information would then be appended to the geographic boundary information and beamed in the specified geographic region. The target PRUs would determine if they are in the specified boundary before alerting a subscriber as to the content of the message. In circumstances where a subscriber in possession of the PRU is in motion and a request is received for the location of the PRU if within a specified region, the PRU may provide

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this information and also provide additional information such as its velocity to the network. This might help a party seeking help to establish if they would be able to catch up with another subscriber in the region which help was sought. Also, a party requesting for the location of remote units in a geographic boundary may also forward maximum velocity information. If a PRU is in the region and establishes its velocity is above what is specified, no response is sent to the network. A PRU may calculate its velocity by using the equation, velocity = distance/time. At time intervals T_1 and T_2, a PRU may obtain its location, Y_1 and Y_2 and calculate the distance between these two points, as previously disclosed. The velocity is given by (distance between Y_2 and Y_1.) / (Time at Y_2- Time at Y_1 Such information could then be provided to the network. In situations where a PRU cannot perform any of the tasks described herein, the network may obtain its location information and the required functions performed at the network and forwarded to the appropriate communication target on completion.

In the invention, portable mobile remote units would find the need to routinely update the network with their location information over time. As lots of PRUs exist in the network this could prove difficult for the network to manage. Considering that most PRUs usually travel a small distance over time, it would prove insignificant if their location is continuously provided to the network. A solution will be to instruct the PRU to provide its location to the network only if the location has changed by a constant, such constant defined from a reference position provided by the network. In this scenario, an initial reference location and radii is provided to the PRU, from within which the PRU should not disclose its location to the network So long as the PRU is within the undisclosed geographic boundary, its location will never to provided to the network. Once the PRU is

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out of this boundary a new undisclosed geographic boundary is provided to the PRU. With this technique the network will not be burdened with managing insignificant changes in the location of the mobile device, for a time. If for instance, the undisclosed radii is set to five miles, the reference coordinate would always be updated each time the PRU travels in excess of five miles off its original reference position. The network or the user may control the undisclosed radii value to ensure reasonable disclosure of location information t.o the network. The network may, of course, override this feature at anytime to obtain the location of a PRU at any time.

The invention also teaches a way to determine if a mobile device is tracking another by examining the location information of the tracking and tracked device over a period of time. Another possibility could be to examine the characteristics of signals emitted from tracking devices that are within close proximity of the tracked device during the tracking period. Such characteristic may include monitoring signal strength and other relevant information –such as location- provided by a tracking device to establish if the device is continuously present within proximity of the tracked unit over time. Also, tracking devices that are within proximity of the tracked device could be instructed to provide their information at predetermined time intervals over the tracking period. The intervals and tracking period could be set and forwarded to the relevant geographic location by the network. The devices picking up that information will periodically update the required information to a control unit at the network and the end of the tracking period the control unit will process the information and determine if a mobile unit is being tracked within the system.

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What is claimed is:

1. A communication system comprising:

a portable mobile remote unit;

a network of communication units;

means to obtain the location of the portable mobile remote unit;

means to obtain geographic boundary information in order to disclose a global location at the network;

means to provide the location of the portable mobile remote unit to the network upon determination that the portable mobile remote unit is within the geographic boundary obtained at the network;

means to determine and report to the system upon request that, another mobile remote unit of the network has tracked the portable mobile remote over a period of time

2. The portable mobile remote according to claim 1, having means to further determine if location disclosure for the remote unit is prohibited at a specific geographic boundary before sending its location to the network.

3 The portable remote unit of claim 1 having means to establish its velocity at the network and having means to further determine that, its velocity is within the network's prescribed velocity before divulging its location to the network.

[redacted]

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4) A communication system for providing the location of portable mobile remote units in a geographic region to a wireless consumer requesting that information comprising:

i) means to specify and forward to system , geographic boundary information describing the geographic region where the location of portable mobile remote units are required by the wireless consumer;

ii) means to locate from the system, portable mobile remote units that exist in the geographic boundary of (i) , said mobile remote units capable of establishing a global location at the network;

iii) means to provide to the wireless consumer the location of a portable mobile remote unit that exist in the geographic boundary defined by the wireless consumer.

5) The system of claim 4, the portable mobile remote units able to establish and report their location to other communication units of the system;

6) A control unit of the system of 4, having means to receive a request for the location of portable mobile remote units situated in a geographic region of the system and having means to search for mobile remote units that are located in said geographic region.

7) A method for providing the location of portable mobile remote units to a wireless consumer requesting the location of PRUs within a geographic region of a communication system comprising:

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i) obtaining from the wireless consumer, geographic boundary information indicating where a search should be undertaken for PRUs;

ii) providing the information defined in (i) to a control unit of the system;

ii) generating at said control unit a request for the location of PRUs within said geographic boundary;

iii) verifying after said request, whether a portable mobile remote unit in said geographic boundary responded with location information;

iv) providing to the wireless consumer, at least the identity and location of a portable remote unit after the verification of (iii);

8) A method further employed in 7 to determine if a portable mobile remote unit is within a specific geographic boundary defined by the system comprising:

i) receiving at the PRU geographic boundary information, within which the location of the PRU should be disclosed;

ii) establishing at the PRU if the PRU is within said geographic boundary and, if yes, forwarding the location of the PRU to the system;

9. A method further employed in 7 to obtain the location of mobile remote units wherein said prescribed geographic boundary obtained from the wireless consumer is wider than normal, comprising;

i) splitting the wider than normal geographic boundary into sub geographic regions to constitute the geographic boundary;

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ii) requesting in the sub geographic region(s) , the location of remote units that are present in each sub region;

iii) verifying after each request of (ii) in a sub region, whether at least a portable remote unit disclosed a global location in the region;

iv) maintaining a list of all remote units that disclosed their location after each request from the verification of step (iii) ;

v) providing to the system and from the list of (v) the location of at least a remote unit that revealed its location in the sub region

10. A technique according to claim 9, utilized to terminate a request for the location information of portable mobile remote units in the prescribed geographic boundary comprising:

checking to establish that a request for remote unit location information was undertaken in all re-defined or sub regions of the prescribed boundary or a portable remote unit in a defined or sub region responded with location information.

11. A method utilized to provide to a source of request, the location of mobile remote units that exist in a geographic region from the list according to claim 9 comprising:

(i) estimating and obtaining from the list, the location mobile remote units that are closer to the source of request;

(ii) providing the information obtained in (i) to the source of request before

[redacted]

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releasing the location of other mobile remote units that are further from the source of request

12. A method for providing the location of a portable mobile remote unit in a geographic region of a wireless network to a wireless consumer requesting the location of portable mobile remote units that are maintaining close proximity to the wireless consumer in the geographic region comprising:

i) obtaining the location of the wireless consumer at intervals over a period of time;

ii) requesting at each interval, at the network , that all mobile remote units within close proximity of the wireless consumer disclose their location to the network ;

iii) maintaining a list of mobile remote units that provided their location at each interval after the request of (ii) ,

iv) from the list of (iii), forwarding the location of at least a mobile remote unit to the mobile consumer upon determination that the remote unit maintained close proximity to the mobile consumer over the period of time of (i).

13. A technique according to claim 12, utilized to determine if a mobile remote unit is within a prescribed geographic boundary or within close proximity of a wireless consumer comprising:

obtaining radii information of the geographic boundary from the network;

obtaining geographic information describing the origin of the geographic boundary;

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calculating the angle of inclination of the remote unit to the geographic boundary origin;

calculating from the angle of inclination the distance between the remote unit and the geographic boundary origin;

comparing the radii of the geographic boundary to the calculated distance to establish if the remote unit lies in the geographic boundary .

14. A technique employed by the method according to claim 12 to determine if a remote unit is within a specified geographic boundary or close proximity to a wireless consumer comprising:

obtaining from the network geographic information describing the geographic boundary;

estimating at the remote unit if the current location of the remote unit is within the geographic boundary obtained at the network.

15. A method according to claim 12 utilized to further limit the provision of remote unit location to the network comprising:

obtaining at the network, exclusion region information within which the remote unit should not provide its location the network;

determining that the remote unit is not in the exclusion region before providing the location of the remote unit to the network.

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16. A technique utilized in the method according to claim 12, to terminate requesting at each interval, the location of mobile remote units within close proximity of the wireless consumer comprising,

i) keeping track of the time since the first request for tracking units within proximity of the wireless consumer was enacted by the system,

ii) validating that the elapsed time at each interval when a request is to be made does not exceed the total time set for establishing tracking in the system;

iii) requesting that all mobile remote units within close proximity of the wireless consumer divulge their location if the result of the validation of (ii) is true.

17. A method for determining that a first portable remote unit associated with a network is being tracked by at least a second portable remote unit over a tracking period comprising;

obtaining the location of the first portable remote unit or tracked unit;

obtaining the location of the at least a second communication unit or tracking unit that is within proximity or a pre-specified radius of the tracked unit;

verifying whether the tracking and tracked unit(s) have traveled a minimum pre-specified distance over the tracking period;

forwarding the result of the verification to the network at the end of the tracking period.

18. The verification technique employed in the method of claim 17 comprising:

retaining a tracking list of all tracking units that are within a pre-specified radius or region of the tracked unit at the first tracking interval;

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eliminating or removing at subsequent tracking intervals, all tracking units in the tracking list that do not report their location during a subsequent tracking interval;

validating at the end of the tracking period that at least a tracking unit exist in the tracking list and a minimum distance was traveled by the tracked unit.

19. Another verification technique employed in the method of claim 17 comprising:

maintaining a list of all tracking units that are maintaining a close distance to the tracked unit over the period of time;

searching the tracking list at the end of the tracking period to obtain tracking units that traveled a minimum pre-specified distance with the tracked unit.

20. A communication system comprising:

a network of communication units;

at least a first communication unit and at least a second communication unit able to provide location information to the network;

the system able to determine and report that the at least second communication unit maintained close proximity to the at least first communication unit over a period of time.

21. The system of claim 20, the at least first communication unit able to invoke a tracking mode at the at least first communication unit in order to determine if a clandestine unit is tracking it.

[redacted]

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22. A method for providing the location of a portable remote unit that exists within a prescribed geographic boundary in a wireless network comprising.

i) providing geographic boundary information to the mobile remote unit in a geographic region to disclose their location;

ii) further providing exclusion region information associated with said geographic boundary of (i) to the mobile remote unit in the geographic region;

iii) determining that a mobile remote unit is in the geographic boundary of (i) and not in the exclusion region of (ii) before providing the location of the mobile remote unit to the network.

23. A method for providing the location of a portable remote unit that exists within a prescribed geographic boundary to a wireless network comprising:

i) providing to remote units in the geographic boundary velocity information required in order to divulge location information,

ii) estimating at the remote unit or network, the velocity at which the remote unit is moving;

iii) validating that the estimated velocity of the remote unit meets the velocity requirement provided by the network (i) ,if yes, forwarding the location of the remote unit to the network.

24) A method for providing the location of a portable mobile remote unit to a network of communication units comprising:

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i) establishing the current location of the mobile remote unit within the system;

ii) obtaining a reference location and radii information pertaining to the current location (i) of the portable mobile remote unit from the system;

iii)verifying whether said current location of the portable mobile remote lies within the geographic boundary defined by said reference location and radii information in (ii)

iv)if the result of verification (iii) determines that the portable mobile remote unit is not in said geographic boundary, then,

providing the current location of the mobile remote unit to the network and replacing said reference location and/or radii information (i) with new information that is consistent with said current geographic location of the portable mobile remote unit;

[redacted]

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ABSTRACT OF THE DISCLOSURE

A mobile location reporting communication system consists of a network of communication sources and targets managed by one or more control stations. In the system, a communication source may request for the location of a mobile communication target from the network. The target conveys its location to the network and that information is provided to the source. In the invention a mobile communication source request for the location of mobile communication targets that are present in a prescribed geographic boundary .The network provides to the source only remote targets that are present in the prescribed boundary. Also in the invention, a concealed or clandestine mobile portable target, close to the mobile portable source, may be tracking the source. The source may invoke a method that may result in the disclosure of mobile targets that have traveled a pre-specified distance with the source while maintaining proximity to the source.

FIG. 1

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FIG. 2

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FIG. 3

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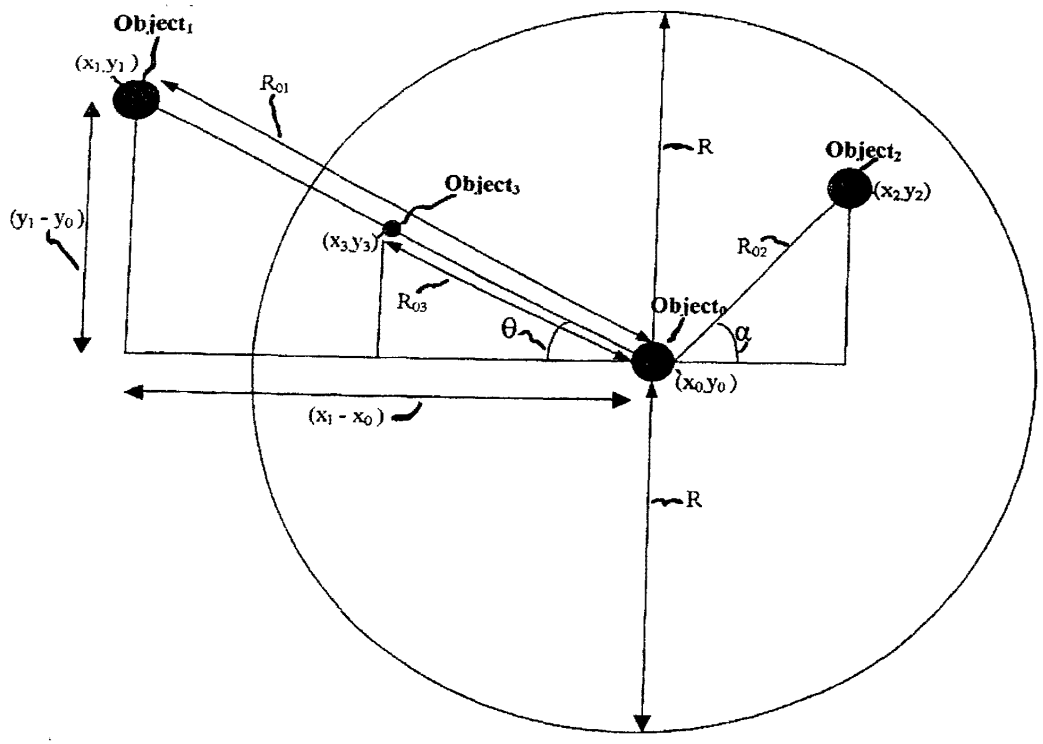


FIG. 4

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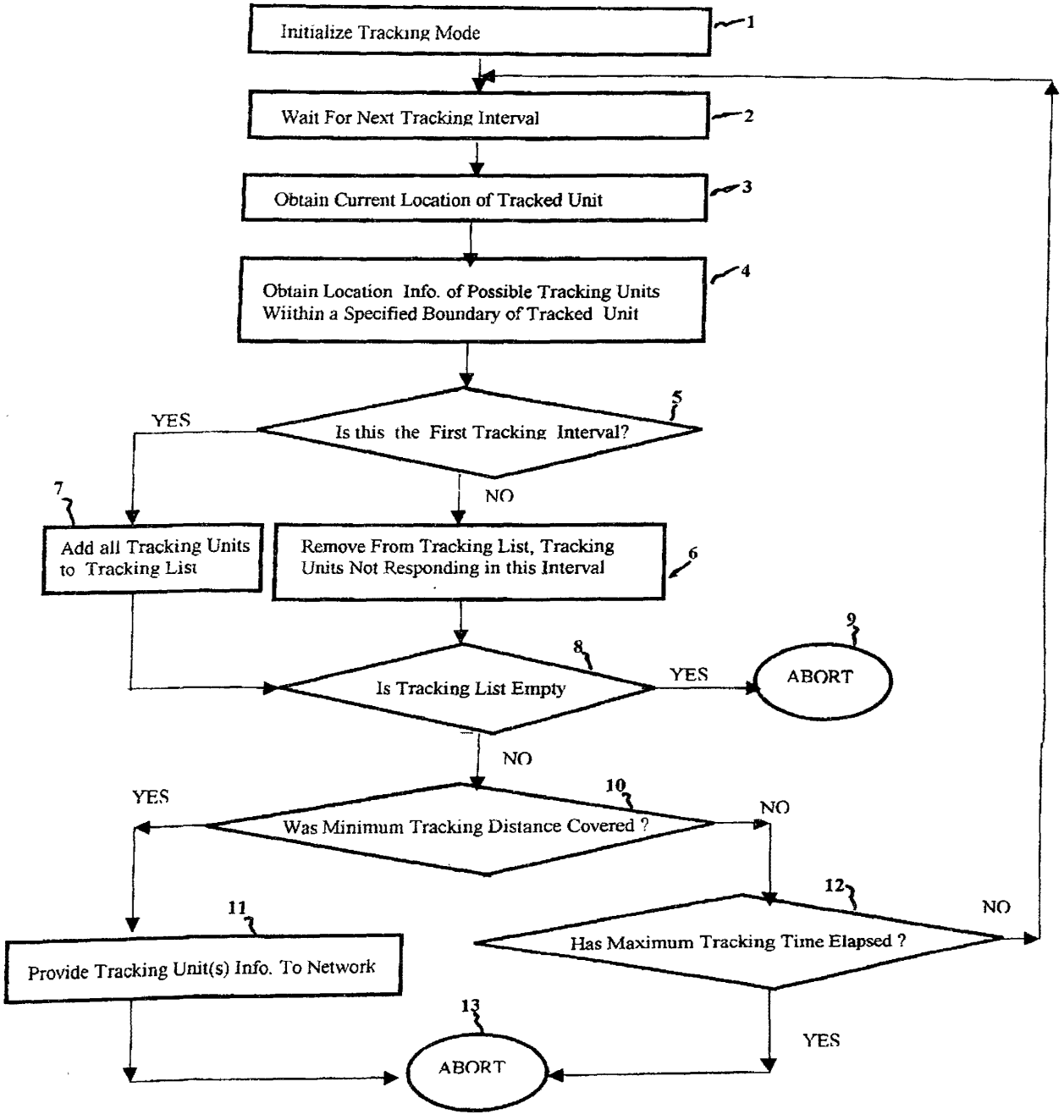


FIG. 5

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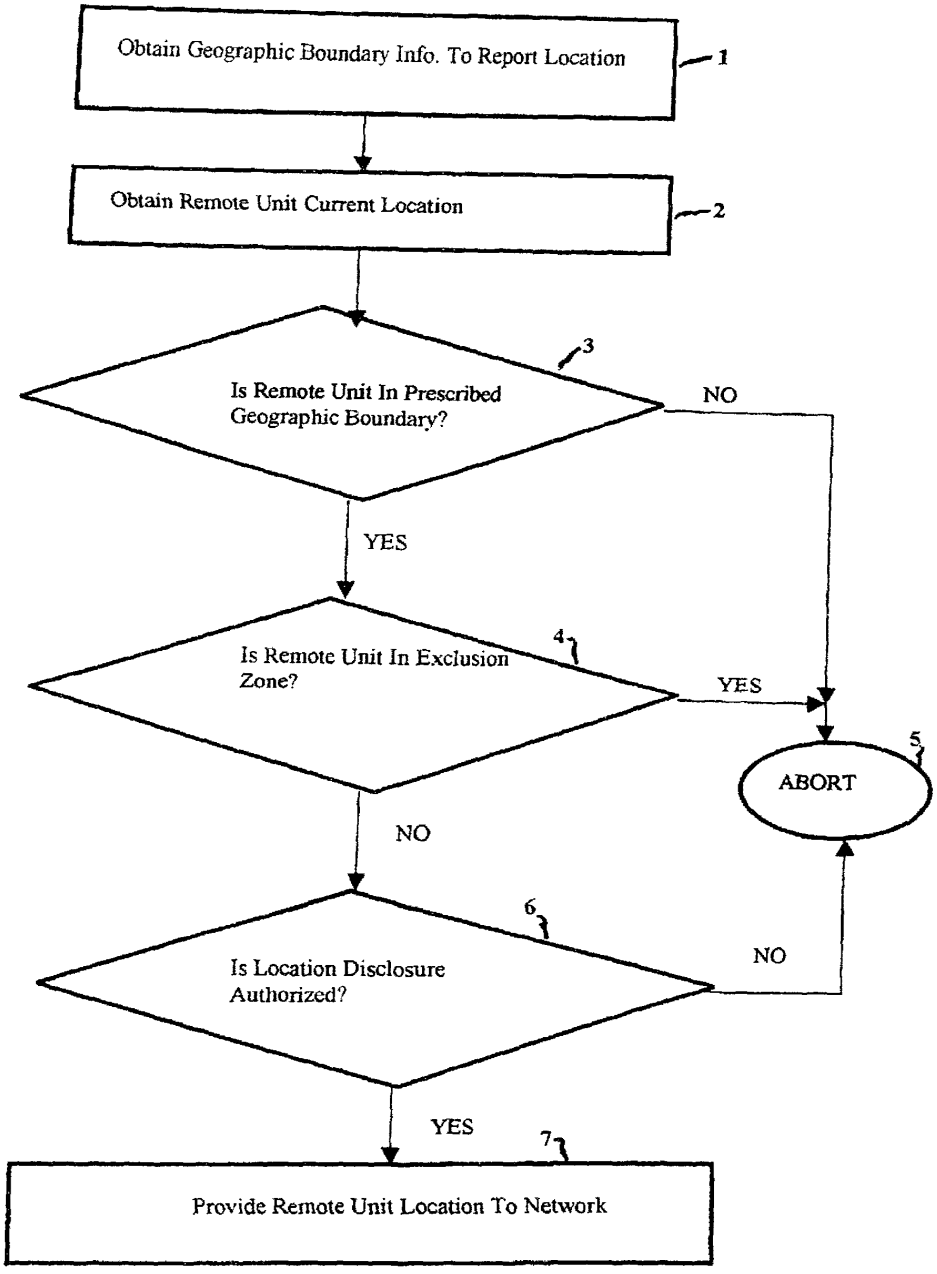


FIG. 6

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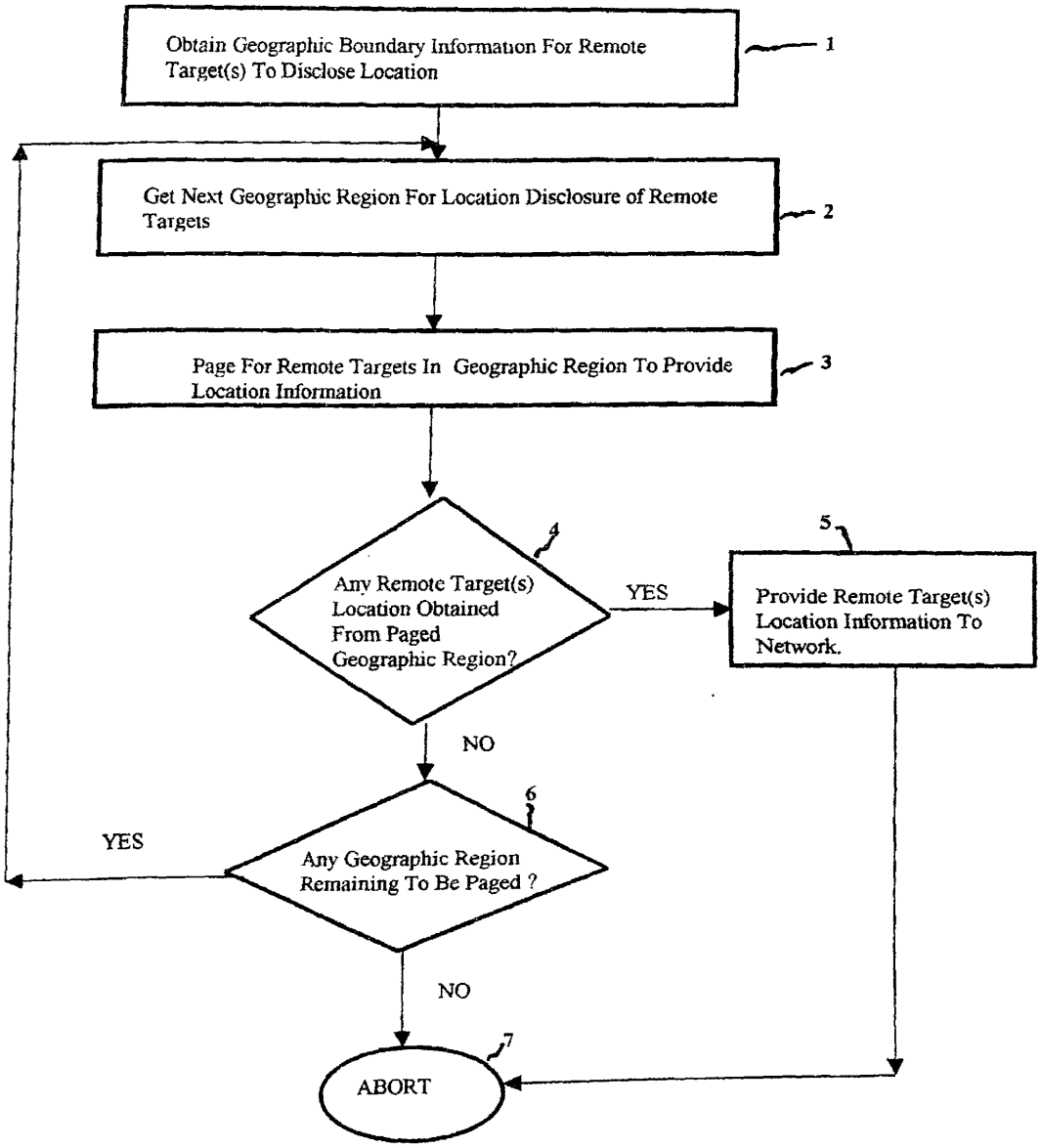


FIG. 7

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☐ Declaration Submitted with Initial Filing **OR** ☐ Declaration Submitted after Initial Filing (surcharge (37 CFR 1.16 (e)) required)

Attorney Docket Number	
First Named Inventor	
COMPLETE IF KNOWN	
Application Number	09 / 753178
Filing Date	12 / 30 / 2000
Art Unit	2632
Examiner Name	TRIEU, VAN THANH

As the below named inventor, I hereby declare that:

My residence, mailing address, and citizenship are as stated below next to my name

I believe I am the original and first inventor of the subject matter which is claimed and for which a patent is sought on the invention entitled:

METHOD AND APPARATUS FOR LOCATING MOBILE UNITS TRACKING ANOTHER OR WITHIN A PRESCRIBED GEOGRAPHIC BOUNDARY

(Title of the Invention)

the specification of which

☒ is attached hereto

OR

☐ was filed on (MM/DD/YYYY) 12/30/2000 as United States Application Number or PCT International

Application Number 09 753178 and was amended on (MM/DD/YYYY) _____ (if applicable).

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment specifically referred to above

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Prior Foreign Application Number(s)	Country	Foreign Filing Date (MM/DD/YYYY)	Priority Not Claimed	Certified Copy Attached? YES	NO
			☐	☐	☐
			☐	☐	☐
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10199829.071902

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Inventor's Signature			Date 07/11/02
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PAGE 1/2 * RCVD AT 5/17/2004 1:34:49 AM [Eastern Daylight Time] * SVR:USPTO-EFXRF-2/0 * DNIS:7464000 * CSID: * DURATION (mm-ss):01-28

OIPE JC73 MAY 17 2004 PATENT & TRADEMARK OFFICE

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/199,829	07/19/2002	Mundi Fomukong		1150

TITLE OF INVENTION: METHOD AND APPARATUS FOR LOCATING MOBILE UNITS TRACKING ANOTHER OR WITHIN A PRESCRIBED GEOGRAPHIC BOUNDARY

APPLN. TYPE	SMALL ENTITY	ISSUE FEE	PUBLICATION FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	YES	$665	$300	$965	06/16/2004

EXAMINER	ART UNIT	CLASS-SUBCLASS
TRIEU, VAN THANH	2636	340-988000

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Application Number	10/199,829
Filing Date	07/19/2002
First Named Inventor	Mundi Fomukong
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The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. The United States Patent and Trademark Office (USPTO) collects the information in this record under authority of 35 U.S.C. 2. The USPTO's system of records is used to manage all applicant and owner information including name, citizenship, residence, post office address, and other information with respect to inventors and their legal representatives pertaining to the applicant's/owner's activities in connection with the invention for which a patent is sought or has been granted. The applicable Privacy Act System of Records Notice for the information collected in this form is COMMERCE/PAT-TM-7 Patent Application Files, available in the Federal Register at 78 FR 19243 (March 29, 2013). https://www.govinfo.gov/content/pkg/FR-2013-03-29/pdf/2013-07341.pdf

Routine uses of the information in this record may include disclosure to: 1) law enforcement, in the event that the system of records indicates a violation or potential violation of law; 2) a Federal, state, local, or international agency, in response to its request; 3) a contractor of the USPTO having need for the information in order to perform a contract; 4) the Department of Justice for determination of whether the Freedom of Information Act (FOIA) requires disclosure of the record; 5) a Member of Congress submitting a request involving an individual to whom the record pertains, when the individual has requested the Member's assistance with respect to the subject matter of the record; 6) a court, magistrate, or administrative tribunal, in the course of presenting evidence, including disclosures to opposing counsel in the course of settlement negotiations; 7) the Administrator, General Services Administration (GSA), or their designee, during an inspection of records conducted by GSA under authority of 44 U.S.C. 2904 and 2906, in accordance with the GSA regulations and any other relevant (i.e., GSA or Commerce) directive, where such disclosure shall not be used to make determinations about individuals; 8) another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)); 9) the Office of Personnel Management (OPM) for personnel research purposes; and 9) the Office of Management and Budget (OMB) for legislative coordination and clearance.

If you do not furnish the information requested on this form, the USPTO may not be able to process and/or examine your submission, which may result in termination of proceedings, abandonment of the application, and/or expiration of the patent.

Additional Uses

Additional USPTO uses of the information in this record may include disclosure to: 1) the International Bureau of the World Intellectual Property Organization, if the record is related to an international application filed under the Patent Cooperation Treaty; 2) the public i) after publication of the application pursuant to 35 U.S.C. 122(b), ii) after issuance of a patent pursuant to 35 U.S.C. 151, iii) if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections, or an issued patent, or iv) without publication of the application or patent under the specific circumstances provided for by 37 CFR 1.14(a)(1)(v)-(vii); and/or 3) the National Archives and Records Administration, for inspection of records.

DocuSign Envelope ID: C623B1E7-64E5-41B7-816B-5BFC5297E0B1

PTO/AIA/80 (07-12)
Approved for use through 11/30/2014. OMB 0651-0035
U.S. Patent and Trademark Office; U.S DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

POWER OF ATTORNEY TO PROSECUTE APPLICATIONS BEFORE THE USPTO

I hereby revoke all previous powers of attorney given in the application identified in the attached statement under 37 CFR 3.73(c).

I hereby appoint:

[X] Practitioners associated with Customer Number: 33356

OR

[ ] Practitioner(s) named below (if more than ten patent practitioners are to be named, then a customer number must be used):

Name	Registration Number	Name	Registration Number

As attorney(s) or agent(s) to represent the undersigned before the United States Patent and Trademark Office (USPTO) in connection with any and all patent applications assigned only to the undersigned according to the USPTO assignment records or assignments documents attached to this form in accordance with 37 CFR 3.73(c).

Please change the correspondence address for the application identified in the attached statement under 37 CFR 3.73(c) to:

[X] The address associated with Customer Number: 33356

OR

[ ]

Firm or Individual Name			
Address			
City		State	Zip
Country			
Telephone		Email	

Assignee Name and Address: Enovsys LLC
269 S. Beverly Drive, Suite 951, Beverly Hills, CA 90212

A copy of this form, together with a statement under 37 CFR 3.73(c) (Form PTO/AIA/96 or equivalent) is required to be Filed in each application in which this form is used. The statement under 37 CFR 3.73(c) may be completed by one of The practitioners appointed in this form, and must identify the application in which this Power of Attorney is to be filed.

SIGNATURE of Assignee of Record
The individual whose signature and title is supplied below is authorized to act on behalf of the assignee

Signature	Mundi Fomukong	Date	5/5/2016
Name	Mundi Fomukong	~~Telephone~~	
Title	Principal		

This collection of information is required by 37 CFR 1.31, 1.32 and 1.33. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

PTO/AIA/96 (08-12)
Approved for use through 11/30/2020. OMB 0651-0031
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Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

STATEMENT UNDER 37 CFR 3.73(c)

Applicant/Patent Owner: Mundi Fomukong

Application No./Patent No.: 6,756,918 Filed/Issue Date: 06/29/2004

Titled: METHOD AND APPARATUS FOR LOCATING MOBILE UNITS TRACKING ANOTHER OR WITHIN A PRESCRIBED GEOGRAPHIC BOUNDARY

ENOVSYS LLC, a Limited Liability Company

(Name of Assignee) (Type of Assignee, e.g., corporation, partnership, university, government agency, etc.)

states that, for the patent application/patent identified above, it is (choose **one** of options 1, 2, 3 or 4 below):

1. ☑ The assignee of the entire right, title, and interest.

2. ☐ An assignee of less than the entire right, title, and interest (check applicable box):

   ☐ The extent (by percentage) of its ownership interest is _____%. Additional Statement(s) by the owners holding the balance of the interest must be submitted to account for 100% of the ownership interest.

   ☐ There are unspecified percentages of ownership. The other parties, including inventors, who together own the entire right, title and interest are:

   Additional Statement(s) by the owner(s) holding the balance of the interest must be submitted to account for the entire right, title, and interest.

3. ☐ The assignee of an undivided interest in the entirety (a complete assignment from one of the joint inventors was made). The other parties, including inventors, who together own the entire right, title, and interest are:

   Additional Statement(s) by the owner(s) holding the balance of the interest must be submitted to account for the entire right, title, and interest.

4. ☐ The recipient, via a court proceeding or the like (*e.g.*, bankruptcy, probate), of an undivided interest in the entirety (a complete transfer of ownership interest was made). The certified document(s) showing the transfer is attached.

The interest identified in option 1, 2 or 3 above (not option 4) is evidenced by either (choose **one** of options A or B below):

A. ☑ An assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in the United States Patent and Trademark Office at Reel 063207, Frame 0093, or for which a copy thereof is attached.

B. ☐ A chain of title from the inventor(s), of the patent application/patent identified above, to the current assignee as follows:

   1. From: _____ To: _____

      The document was recorded in the United States Patent and Trademark Office at

      Reel _____, Frame _____, or for which a copy thereof is attached.

   2. From: _____ To: _____

      The document was recorded in the United States Patent and Trademark Office at

      Reel _____, Frame _____, or for which a copy thereof is attached.

This collection of information is required by 37 CFR 3.73(b). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

PTO/AIA/96 (08-12)
Approved for use through 11/30/2020. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

STATEMENT UNDER 37 CFR 3.73(c)

3. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at

Reel _____, Frame _____, or for which a copy thereof is attached.

4. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at

Reel _____, Frame _____, or for which a copy thereof is attached.

5. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at

Reel _____, Frame _____, or for which a copy thereof is attached.

6. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at

Reel _____, Frame _____, or for which a copy thereof is attached.

☐ Additional documents in the chain of title are listed on a supplemental sheet(s).

☐ As required by 37 CFR 3.73(c)(1)(i), the documentary evidence of the chain of title from the original owner to the assignee was, or concurrently is being, submitted for recordation pursuant to 37 CFR 3.11.

[NOTE: A separate copy (i.e., a true copy of the original assignment document(s)) must be submitted to Assignment Division in accordance with 37 CFR Part 3, to record the assignment in the records of the USPTO. See MPEP 302.08]

The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.

/jonathan pearce/	04/07/2023
Signature	Date
Jonathan Pearce	60,972
Printed or Typed Name	Title or Registration Number

Privacy Act Statement

The **Privacy Act of 1974 (P.L. 93-579)** requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

UNITED STATES
PATENT AND TRADEMARK OFFICE

P.O. Box 1450
Alexandria, VA 22313 - 1450
www.uspto.gov

ELECTRONIC ACKNOWLEDGEMENT RECEIPT

APPLICATION #	RECEIPT DATE / TIME	ATTORNEY DOCKET #
10/199,829	**04/07/2023 04:46:05 PM ET**	**-**

Title of Invention

METHOD AND APPARATUS FOR LOCATING MOBILE UNITS TRACKING ANOTHER OR WITHIN A PRESCRIBED GEOGRAPHIC BOUNDARY

Application Information

APPLICATION TYPE	Utility - Nonprovisional Application under 35 USC 111(a)	PATENT #	6756918
CONFIRMATION #	1150	FILED BY	Nicole Abeloe
PATENT CENTER #	61887672	FILING DATE	07/19/2002
CUSTOMER #	62184	FIRST NAMED INVENTOR	Mundi Fomukong
CORRESPONDENCE ADDRESS	-	AUTHORIZED BY	Jonathan Pearce

Documents

TOTAL DOCUMENTS: 3

DOCUMENT	PAGES	DESCRIPTION	SIZE (KB)
P23363-aia0096.pdf	3	Assignee showing of ownership per 37 CFR 3.73	122 KB
P23363-aia0123.pdf	2	Change of Address	316 KB
E022-GPOA.pdf	1	Power of Attorney	70 KB

Digest

DOCUMENT	MESSAGE DIGEST(SHA-512)

P23363-aia0096.pdf	A253A27E5EA1A656F88D1584003E8CB1DD7296703C6241197B 07735260D3BB8543212EE5CAF5C0158D4A9DCA08F47D361EB 82C1A06FA0104C627C5D541CC90D8
P23363-aia0123.pdf	91AED859E81FC7BDCBB66F1CEB9F63C3EE4329C3678455E2 ADE63342FF9148C76AEC5CC18824E2AEE8869296B381EEBA ED07334D5DB122111E5431DC2F51044C
E022-GPOA.pdf	B4CF7B3B9AA3DF4EEF45AB00D9377F309FE5878D1A19B9FB9 C7A37F81ACC2232695D65C77F61A7E2E5CA068F0DB9C28A88 CB97C2EBA485D75B199CFD3F21D8AB

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
10/199,829	07/19/2002	Mundi Fomukong	

CONFIRMATION NO. 1150

62184
MUNDI FOMUKONG
Enovsys LLC
269 South Beverly Drive, #951
Beverly Hills, CA 90212

POWER OF ATTORNEY NOTICE

OC000000137730098

Date Mailed: 04/10/2023

NOTICE REGARDING CHANGE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 04/07/2023.

- The Power of Attorney to you in this application has been revoked by the assignee who has intervened as provided by 37 CFR 3.71. Future correspondence will be mailed to the new address of record(37 CFR 1.33).

Questions about the contents of this notice and the requirements it sets forth should be directed to the Office of Data Management, Application Assistance Unit, at **(571) 272-4000** or **(571) 272-4200** or **1-888-786-0101**.

/tmwilliams/

Petitioner Uber Ex-1005, 0056

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
10/199,829	07/19/2002	Mundi Fomukong	

CONFIRMATION NO. 1150

33356
SoCAL IP LAW GROUP LLP
310 N. WESTLAKE BLVD. STE 120
WESTLAKE VILLAGE, CA 91362

POA ACCEPTANCE LETTER

OC000000137730100

Date Mailed: 04/10/2023

NOTICE OF ACCEPTANCE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 04/07/2023.

The Power of Attorney in this application is accepted. Correspondence in this application will be mailed to the above address as provided by 37 CFR 1.33.

Questions about the contents of this notice and the requirements it sets forth should be directed to the Office of Data Management, Application Assistance Unit, at **(571) 272-4000** or **(571) 272-4200** or **1-888-786-0101**.

/tmwilliams/

Petitioner Uber Ex-1005, 0057

2636

UNITED STATES PATENT AND TRADEMARK OFFICE

UNDER SECRETARY OF COMMERCE FOR INTELLECTUAL PROPERTY AND
DIRECTOR OF THE UNITED STATES PATENT AND TRADEMARK OFFICE

MEMORANDUM FOR: SAE, Tech Center 2600

FROM: Frank Lebron
Receipt Accounting Division

RECEIVED
SEP 2 4 2004
Technology Center 2600

DATE: 09/24/04

SUBJECT: Unpaid Credit Card Listing

Enclosed to this memo is RAM screen printout of credit card (CC) returned payment received from Mellon Bank which was returned to the Office of Finance due to customer's dispute of the charge and copy of CC chargback report. Referring to PALM, it was determined that your area was to be notified about the returned payment.

Please place this memo into the application file to show the fees that were reversed in the financial system and take appropriate action in notifying the applicant of the status of the application. An additional $50.00 processing fee is due for customer for each payment refused or charged back to the USPTO. For any further information, please feel free and contact myself at (703)305-4231.

File Serial No.	Fee Code	Amount of Payment
10/199829	2202,2814	$398.00

Petitioner Uber Ex-1005, 0058

PAGE 1/2 * RCVD AT 5/17/2004 1:34:49 AM [Eastern Daylight Time] * SVR:USPTO-EFXRF-2/0 * DNIS:7464000 * CSID: * DURATION (mm-ss):01-28

OIPE JC73 MAY 17 2004 PATENT & TRADEMARK OFFICE

BS

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: Mail Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
or Fax (703) 746-4000

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 4 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Legibly mark-up with any corrections or use Block 1)

7590 03/16/2004

MUNDI FOMUKONG
#49
10853 ROSE AVE.
West Los Angeles, CA 90034

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

Certificate of Mailing or Transmission
I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/199,829	07/19/2002	Mundi Fomukong		1150

TITLE OF INVENTION: METHOD AND APPARATUS FOR LOCATING MOBILE UNITS TRACKING ANOTHER OR WITHIN A PRESCRIBED GEOGRAPHIC BOUNDARY

APPLN. TYPE	SMALL ENTITY	ISSUE FEE	PUBLICATION FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	YES	$665	$300	$965	08/16/2004

EXAMINER	ART UNIT	CLASS-SUBCLASS
TRIEU, VAN THANH	2636	340-988000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.

☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. Use of a Customer Number is required.

2. For printing on the patent front page, list (1) the names of up to 3 registered patent attorneys or agents OR, alternatively, (2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1 _____
2 _____
3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. Inclusion of assignee data is only appropriate when an assignment has been previously submitted to the USPTO or is being submitted under separate cover. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE (B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent): ☐ individual ☐ corporation or other private group entity ☐ government

4a. The following fee(s) are enclosed:

☒ Issue Fee
☐ Publication Fee
☐ Advance Order - # of Copies _____

4b. Payment of Fee(s):

☐ A check in the amount of the fee(s) is enclosed.
☐ Payment by credit card. Form PTO-2038 is attached.
☐ The Director is hereby authorized by charge the required fee(s), or credit any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

Director for Patents is requested to apply the Issue Fee and Publication Fee (if any) or to re-apply any previously paid issue fee to the application identified above.

(Authorized Signature) 5/14/04 (Date)

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

05/17/2004 WABRHAM2 00000056 10199829
01 FC:2501 665.00 OP

This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, Alexandria, Virginia 22313-1450.

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TRANSMIT THIS FORM WITH FEE(S)

Petitioner Uber Ex-1005, 0059

PAGE 1/27 * RCVD AT 12/24/2003 11:23:37 AM [Eastern Standard Time] * SVR:USPTO-EFXRF-1/0 * DNIS:8729306 * CSID: * DURATION (mm-ss):06-16

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DEC 2 4 2003

OFFICIAL

THE U.S PATENT AND TRADEMARK OFFICE

Application Number: 10/199,829

Applicant: Mundi Fomukong

Examiner: Van Trieu

Art Unit: 2632

Fax : (703) 872 9314

Phone: (703) 308 5220

Method of Transmission : Fax

Number of pages : 27

Copy

1) Response to Office Communication

Commissioner for Patents and Trademarks

Washington, District of Columbia, 20231.

Sir:

In response to the Office communication mailed 07/15/2003 and the subsequent communication mailed 11/25/2003 for the above application, kindly review the material herein and amend the application as indicated in the claim listing section that shows marked up versions. A credit card payment form is also included to cover the Terminal Disclaimer fee and fees for additional dependent claims.

Petitioner Uber Ex-1005, 0060

DETAILED RESPONSE TO OFFICE ACTION

In the last Office communication mailed July 15, 2003, claims 4-22 and 24 were rejected under 35 U.S.C 102 as being anticipated by Stewart [US 6,414,635].

Stewart teaches a system for tracking the location of a portable computing device or PCD. The system maintains several communication wireless access points, AP, that are scattered throughout the network. Whenever a PCD enters a geographic region, the PCD communicates with an access point to establish its location. The access point then utilizes the location of the PCD to provide location centric services to a wireless consumer in possession of the PCD. Also service providers requiring information of portable computing devices, PCDs, in a geographic area may also obtain that information from the access points to facilitate the creation of new businesses at that location.

In the invention, a wireless consumer in motion may use a location enabled mobile device to check if the location of the wireless consumer is being disclosed by a clandestine mobile device that is tracking the consumer over time. The network upon receiving this information sends a signal containing the geographic boundary information where the presence of location enabled mobile communication devices is needed. Upon receiving the signal, a location enabled mobile device establishes if it is within the geographic boundary specified by the network before forwarding its location and identity to the network. Also, as location is tracked within a geographic boundary of the system, a distress wireless consumer may request for mobile devices that are in a specific geographic location.

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The prior art, Stewart [U.S 6,414,635] merely picks up the location of mobile devices that are entering a geographic region of an access point. Note that the mobile devices disclosed in the prior art cannot determine if they are within a prescribed geographic boundary defined by the network for location disclosure before establishing their location at the network. So there is no need for an access point defined by the prior art to initiate a request for mobile devices in a smaller area covered by the access point to divulge their location to the access point. Note that all mobile devices within the coverage area of the access point provide their location to the access point. Therefore, modifications not cited in the prior art would be needed for any such changes to be effective.

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RESPONSE TO CLAIM OBJECTIONS AND REJECTIONS

- **Claim 4:**

Claim 4 has been amended to define patentably over the prior art. It should be noted that portable mobile remote units defined in the prior art cannot establish if they are within a specific geographic location required for location disclosure by the network, AP, before divulging their location to the network. Also, there clearly is no need for an access point defined by the prior art to request that only PCDs within a footprint or smaller geographic area of the access point disclosed their location while other PCDs in subsequent areas covered by the access point do not disclose their location. The prior art and the invention solve different problems. Modifications are therefore needed in order for the prior art to perform the functions of the invention.

- **Claim 5**

Claim 5 is dependent on claim 4 and should be allowed in view of that.

- **Claim 6**

The essence claim 6 has been included in independent claim 4. This claim is withdrawn from consideration.

- **Claim 7**

Claim 7 has also been amended to define patentably over the prior art. It should be noted that the prior art does not teach the essence of the original claim 7. There is no need for an access point to request that only portable remote units within a smaller geographic

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region of the access point provide their location to the network. The access point defined by the prior art routinely picks up the location of PCDs within its geographic area of coverage. Further limitations have been added to clearly distinguish this claim from the prior art.

- **Claim 9**

Note that the access point defined by the prior art does not split a geographic region where a request has been forwarded for PCDs into sub regions as stated in the office action. Also a request is not transmitted recursively to each small region of the wider geographic area until a PCD responds with location information. The claim should have been allowed as none of the steps is carried out by the prior art. Again the inventions are different and there is no need for the prior art to use the steps of claim.

- **Claim 10**

Same arguments made to claim 9 apply to claim 10. Fig 14 does not teach what the rejection is relying upon as supposedly teaching. The claim should have been allowed.

- **Claim 11**

The prior art does not teach the steps of the claim. The prior art does not teach releasing the location of mobile remote units that that are closest to the source of request before subsequently releasing those that are further away. The claim should have been allowed.

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- **Claim 13**

Note that there is no reason for a mobile remote unit as described by the prior art to determine if it is within a specific geographic boundary or close proximity to a wireless consumer in possession of a second mobile remote unit. The rejection is inconsistent with the teachings of the prior art and applicant solicit the allowance of this claim. Note that the AP is a fixed control unit/transmitter and not a mobile device.

- **Claim 14**

Note that a PCD of the prior art does not obtain geographic boundary information from the network in order to determine if the current location of the PCD is within the prescribed boundary obtained at the network. The claim has been slightly amended to define patentably over the prior art.

- **Claim 15**

Col 24, lines 21-67 does not teach what the rejection is relying upon. There is no exclusion region information provided to PCDs of the prior art. As a result a PCD cannot disable transmission of location signals when in the exclusion region. The claim should have been allowed.

- **Claim 16**

The essence of the claim was misconstrued in the rejection. The rejection failed to include step (iii) of the claim in its interpretations. The essence of the rejection clearly

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won't make sense if step (iii) was added. Again the prior art and the invention are solving different problems and they teach away from each other. There is no need for the prior art to request that all mobile units within proximity of the wireless consumer divulge their location at tracking intervals that are within the timeframe set for tracking. The prior art does not seek to find mobile units that are maintaining proximity to a wireless consumer over a pre-specified time.

- **Claim 18**

According to Fig 14 of the prior art, the AP enters until a wait state until a PCD retransmits 2nd and 3rd time stamps. There is no eliminating / removing at subsequent tracking intervals all tracking units that do not respond with location information as indicated in claim 14. Also, the prior art does not validate at the end of the tracking period if a tracking unit exist in the list. Again the rejection relied on matter that is not disclosed in the prior art. The claim should have been allowed.

- **Claim 19**

Note that the wireless AP of the prior art does not attempt to resolve which PCDs are maintaining close proximity to a mobile remote PCD over time. So there is no reason for claim 19 to be used by the prior art.

- **Claim 20**

Original claim 20 teaches a system used to track mobile remote units that are maintaining close proximity to a primary mobile remote unit over time. Such a system again is not

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anticipated by the prior art. The claim has been amended to define patentably over the prior art. Applicant solicits its allowance.

Note that as previously indicated, original claim 20 includes features that are not supported in claim original 4. Claim 4 cannot be used to determine if a first mobile communication unit has tracked a second over time in a wireless network as assumed in the rejection.

- **Claim 21**

The PCD of the prior art cannot invoke a tracking mode to determine if a clandestine unit is tracking it over time. Note that the wireless AP communicates with the PCD according to the prior art. The AP is at a fixed location and not a clandestine device that is in motion with the PCD. Claim 21 is directed to that and is not supported in claim 4 as stated in the rejection.

- Claim 22

Regarding claim 22, a PCD described in the prior art always communicates with a wireless access point to establish its location. The access point does not provide sub-regions within which the PCD is excluded from providing its location information to the access point. Original claim 4 does not provide exclusion regions. The arguments made for claim 14 also apply to claim 22.

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- **Claim 25**

Claim 25 is drafted to include a feature that is lacking in the prior art. A PCD of the prior art cannot establish if its velocity matches that required by the network before sending its location and identity to the network;

- **Claim 26**

Claim 26 is submitted in view of the now cancelled claim 12. Note that claim 12 in its original form is not anticipated by the prior art. There is no request sent out by an AP defined in the prior art to enable all mobile remote units within close proximity of the wireless consumer to disclose their location information. As a result steps (iii) and (iv) of the original claim are not remotely anticipated by the prior art. Note that original claim 12 solves a problem where a wireless consumer may request from the network a list of mobile devices that are maintaining proximity to the consumer over time. The prior art does not solve that problem. The now submitted claim 26 clearly distinguishes over the cited art.

- **Claim 27.**

Claim 27 is submitted in view of original claim 17. The claimed subject matter of original claim 17 is not included in claim 4 as stated in the rejection. Original claim 17 teaches a method to determine if a first portable mobile remote unit is being tracked by a second portable remote unit over time. Step (iii) of the claim verifies whether the tracking and tracked unit have traveled a minimum specified distance. The prior art does not teach that as it solves a different problem.

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The essence of original claim 17 has been included in claim 26. Claim 26 is also a method used to determine if a portable remote unit in motion is tracking another over time.

Claim 27 is now dependent on claim 26 and recites a technique to determine whether a first and second portable remote unit has maintained proximity during a tracking period. The essence of the claim indicates both units maintain a relative distance after traveling a minimum specified distance. Again such actions are not required in the prior art.

- **Claim 28**

Claim 28 is a device claim for the method according to claim 9 which is used to split a wider than normal geographic area used to locate portable remote devices. Same arguments apply as in claim 9.

- **Claim 29**

Claim 29 is the device claim for the method according to claim 8 used to establish if the velocity of a portable remote device is within what is prescribed by the network for location disclosure. Same arguments apply as in claim 8.

- **Claim 30**

Claim 30 is the device claim for the method according to claim 15 used to establish if location disclosure of a portable mobile remote unit is prohibited at a specific location before the location is disclosed. Same arguments apply as in claim 15.

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- **Claim 31**

Claim 31 is a device claim for the method according to 19 used to determine if a clandestine mobile remote unit is tracking another mobile device. Same arguments apply as in claim 19.

- **Claim 32**

Claim 32 is the device claim for method 16 used to abort tracking. Same arguments apply as in claim 16.

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Conclusion

Applicant has shown in arguments that the amended, existing and new claims are patentable over the prior art. Applicant has submitted a Terminal disclaimer to overcome the double patenting rejection. Applicant solicits allowance of all claims from the Office.

Respectfully,



Mundi Fomukong

(Applicant).

12/23/2003

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OIPE JC688 DEC 24 2003 PATENT & TRADEMARK OFFICE

CLAIM LISTING SHOWING CHANGES

1. (original) A communication system comprising:

a portable mobile remote unit;

a network of communication units;

means to obtain the location of the portable mobile remote unit;

means to obtain geographic boundary information in order to disclose a global location at the network;

means to provide the location of the portable mobile remote unit to the network upon determination that the portable mobile remote unit is within the geographic boundary obtained at the network;

means to determine and report to the system upon request that, another mobile remote unit of the network has tracked the portable mobile remote over a period of time.

2. (original) The portable mobile remote according to claim 1, having means to further determine if location disclosure for the remote unit is prohibited at a specific geographic boundary before sending its location to the network.

3. (original) The portable remote unit of claim 1 having means to establish its velocity at the network and having means to further determine that, its velocity is within the network's prescribed velocity before divulging its location to the network.

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4. (currently amended) A communication system for providing the location of portable mobile remote units, in a geographic region to a wireless consumer requesting that information comprising:

i) means for the wireless consumer to specify and forward to ~~system~~ a network, geographic boundary information describing the geographic region where the location of portable mobile remote units are required by the wireless consumer;

ii) means to request that all portable remote units within said geographic boundary (i) establish their location at the network;

~~ii) means to locate from the system, portable mobile remote units that exist in the geographic boundary of (i), said mobile remote units capable of establishing a global location at the network;~~

iii) means to verify at a portable remote unit if the portable remote unit is within said geographic boundary of said request (ii) before establishing the location of the portable remote unit at the network;

iv) means to verify at the network, after said request (ii) that a portable remote unit according to (iii) responded with location information;

~~iii)~~ v) means to provide to the wireless consumer the location of a portable mobile remote unit that exist in the geographic boundary defined by the wireless consumer after the verification of (iv).

5. (original) The system of claim 4, the portable mobile remote units able to establish and report their location to other communication units of the system;

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6. (cancelled)

7. (currently amended) A method for providing the location of portable mobile remote units to a wireless consumer requesting the location of portable mobile remote units within a geographic region of a communication system comprising:

i) obtaining from the wireless consumer, geographic boundary information indicating where a search should be undertaken for portable mobile remote units;

ii) providing the information defined in (i) to a control unit of the system;

ii) generating at said control unit a request for the location of portable mobile remote units within said geographic boundary;

iii) receiving at the portable mobile remote unit geographic boundary information (ii), within which the location of the portable mobile remote unit should be disclosed;

iv) establishing at the portable mobile remote unit if the unit is within said geographic boundary (iii) and, if yes, forwarding the location information of the unit to the system;

~~iii)~~ v) verifying after said request (ii), whether a portable mobile remote unit in said geographic boundary responded with location information according to (iv);

~~iv)~~ vi) providing to the wireless consumer, at least the identity and location of a portable remote unit after the verification of v ~~(iii)~~;

8 . (cancelled)

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9. (original) A method further employed in 7 to obtain the location of mobile remote units wherein said prescribed geographic boundary obtained from the wireless consumer is wider than normal, comprising;

i) splitting the wider than normal geographic boundary into sub geographic regions to constitute the geographic boundary;

ii) requesting in the sub geographic region(s) , the location of remote units that are present in each sub region;

iii) verifying after each request of (ii) in a sub region, whether at least a portable remote unit disclosed a global location in the region;

iv) maintaining a list of all remote units that disclosed their location after each request from the verification of step (iii) ;

v) providing to the system and from the list of (v) the location of at least a remote unit that revealed its location in the sub region.

10. (original) A technique according to claim 9, utilized to terminate a request for the location information of portable mobile remote units in the prescribed geographic boundary comprising:

checking to establish that a request for remote unit location information was undertaken in all re-defined or sub regions of the prescribed boundary or a portable remote unit in a defined or sub region responded with location information.

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11. (original) A method utilized to provide to a source of request, the location of mobile remote units that exist in a geographic region from the list according to claim 9 comprising:

(i) estimating and obtaining from the list, the location mobile remote units that are closer to the source of request;

(ii) providing the information obtained in (i) to the source of request before releasing the location of other mobile remote units that are further from the source of request.

12. (cancelled)

13. (currently amended) A technique according to claim ~~12~~ 26, utilized to determine if the second ~~a~~ mobile remote unit is within a ~~prescribed~~ specified geographic boundary or within close proximity of ~~a wireless consumer~~ the first portable mobile remote unit comprising:

obtaining radii information of the geographic boundary from the network;

obtaining geographic information describing the origin of the geographic boundary;

calculating the angle of inclination of the second remote unit to the geographic boundary origin;

calculating from the angle of inclination the distance between the second remote unit and the geographic boundary origin;

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comparing the radii of the geographic boundary to the calculated distance to establish if the second remote unit lies in the geographic boundary .

14. (currently amended) A technique employed by the method according to claim ~~12~~ 26 to determine if ~~a~~ second remote unit is within a specified geographic boundary or close proximity to ~~a wireless consumer~~ the first portable remote unit comprising:

obtaining from the network geographic information describing the geographic boundary;

estimating at the second remote unit if the current location of the remote unit is within the geographic boundary obtained at the network.

15. (currently amended) A method according to claim ~~12~~ 7 utilized to further limit the provision of a remote unit location to the network comprising:

obtaining at the network, exclusion region information within which the remote unit should not provide its location the network;

determining that the remote unit is not in the exclusion region before providing the location of the remote unit to the network.

16. (currently amended) A technique utilized in the method according to claim ~~12~~ 26, to terminate ~~requesting~~ obtaining at each interval, the location of second portable mobile remote units that are within close proximity of the first portable remote unit ~~wireless consumer~~ comprising;

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i) keeping track of the time since the first request for tracking units within proximity of the first portable remote unit ~~wireless consumer~~ was enacted by the system;

ii) validating that the elapsed time at each interval when a request is to be made does not exceed the total time set for establishing tracking in the system;

iii) requesting that all mobile remote units within close proximity of the ~~wireless consumer~~ first portable remote unit divulge their location if the result of the validation of (ii) is true.

17. (cancelled)

18. (currently amended) The verification technique employed in the method of claim ~~17~~ 26(iii) comprising:

retaining a tracking list of all second portable mobile units or tracking units that are within a pre-specified radius or region of the first unit or tracked unit at the first tracking interval;

eliminating or removing at subsequent tracking intervals, all tracking units in the tracking list that do not report their location during a subsequent tracking interval,

validating at the end of the tracking period that at least a tracking unit exist in the tracking list and a minimum distance was traveled by the tracked unit.

19. (currently amended) Another verification technique employed in the method of claim ~~17~~ 26(iii) comprising:

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i) maintaining a list of all second portable remote units/tracking units that ~~are maintaining a close distance to the tracked unit over the period of time~~ provided their location during said tracking period;

~~searching the tracking list at the end of the tracking period to obtain tracking units that traveled a minimum pre-specified distance with the tracked unit.~~

ii) from the list of (i), forwarding the location of the second portable mobile remote unit to the network upon determination that said second portable mobile remote unit maintained close proximity to the first mobile remote during the tracking period.

20 . (currently amended) A communication system comprising:

(i) a network of communication units;

(ii) at least a first communication unit and at least a second communication unit able to provide location information to the network for a time while in motion;

~~the system able to determine and report that the at least second communication unit maintained close proximity to the at least first communication unit over a period of time~~

(iii) means to request whether the at least second communication unit is tracking the at least first communication unit.

(iv) means to determine from said location provided (ii) that the at least first and second communication unit maintained proximity while in motion during said time;

(vi) means to provide result of the determination (iv) to the requestor of (iii);

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21. (original) The system of claim 20, the at least first communication unit able to invoke a tracking mode at the at least first communication unit in order to determine if a clandestine unit is tracking it.

22. (original) A method for providing the location of a portable remote unit that exists within a prescribed geographic boundary in a wireless network comprising:

i) providing geographic boundary information to the mobile remote unit in a geographic region to disclose their location;

ii) further providing exclusion region information associated with said geographic boundary of (i) to the mobile remote unit in the geographic region;

iii) determining that a mobile remote unit is in the geographic boundary of (i) and not in the exclusion region of (ii) before providing the location of the mobile remote unit to the network.

23. (original) A method for providing the location of a portable remote unit that exists within a prescribed geographic boundary to a wireless network comprising:

i) providing to remote units in the geographic boundary velocity information required in order to divulge location information;

ii) estimating at the remote unit or network, the velocity at which the remote unit is moving;

iii) validating that the estimated velocity of the remote unit meets the velocity requirement provided by the network (i) ,if yes, forwarding the location of the remote unit to the network.

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24. (cancelled)

25. (new) A method further employed in 7 to determine if a portable mobile remote unit is within a specific geographic boundary defined by the system comprising:

i) receiving at the portable mobile remote unit geographic boundary information and velocity information, within which the location of the portable mobile remote unit should be disclosed;

ii) establishing at the portable mobile remote unit if the unit is within said geographic boundary and, if the velocity of the unit is within the values prescribed by the network;

(iii) if the result of (ii) is yes, forwarding the location of the portable mobile remote unit to the system;

26. (new) A method for determining that a first portable remote unit of a wireless consumer associated with a network is being tracked by at least a second portable remote unit that is in motion with the first portable remote unit over a tracking period comprising;

i) obtaining the location information of the first portable mobile remote unit, said location information provided at intervals during said tracking period;

ii) obtaining the location information of the at least second portable communication unit that is within a specified geographic boundary of the first portable remote unit, said location information provided at intervals during said tracking period.;

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iii) using the location obtained according to step (i) and (ii) to verify whether the first portable remote unit and second portable remote unit have maintained relative proximity during the tracking period;

iv) forwarding the result of the verification to a network requestor at the end of the tracking period.

27.(new) A technique employed by the method according to claim ~~12~~ 26 to verify whether the first portable remote unit and second portable remote unit have maintained proximity during said tracking period further comprising verifying whether the first and second portable remote units maintained a relative distance after traveling a minimum pre-specified distance during the tracking period;

28. (new) The system of claim 4, having means to split wider geographic boundaries defined by a wireless consumer into sub regions and further means to recursively request for the location of portable mobile remote units within each sub region until a portable mobile remote unit responds with location information;

29. (new) The system of claim 4, a portable mobile remote unit having means to establish its velocity at the network and having means to further determine that, its velocity is within the network's prescribed velocity before divulging its location to the network.

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30. (new) The system of claim 4, a portable mobile remote unit having means to further determine if location disclosure for the remote unit is prohibited at a specific geographic boundary before sending its location to the network.

31. (new) The system of claim 20 having means to maintain an inventory of all second communication units that are providing their location within proximity to the first communication unit during said time and having further means to determine and report a second communication unit in said inventory that has maintained proximity to the first communication unit during said time.

32. (new) The system of claim 20 having means to abort the tracking request process if it is determined that either the first or the communication units are not in motion or the tracking period has expired.

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OIPE JC88 DEC 24 2003 PATENT & TRADEMARK OFFICE

IN THE U.S PATENT AND TRADEMARK OFFICE

In re the Application of:

MUNDI FOMUKONG GROUP ART UNIT 2632

Serial No: 10/199,829 Examiner: Van Trieu

Filed: July 19, 2002

For: Method and Apparatus for Locating Mobile Units Tracking Another or Within a Prescribed Geographic Boundary.

TERMINAL DISCLAIMER

Hon. Commissioner for Patents and Trademarks
Washington, District of Columbia, 20231.

Sir

Mundi Fomukong, inventor in the above identified application, holding the entire right, title and interest to the above-identified application, and inventor in U.S Patent No. 6,441,752, holding the entire right, title and interest to U.S Patent No. 6,441,752, do hereby disclaim the terminal part of any patent granted on U.S Patent Application Serial No. 10/199,829, which would extend beyond the expiration date of U.S Patent 6,441,752 and hereby agrees that any patent so granted on U.S Patent Application Serial No. 10/199,829 shall be enforceable only for and during such period that the legal title to said patent shall be the same as the legal title to U.S Patent No. 6,441,752, this agreement to run with any patent granted on U.S Patent Application Serial No. 10/199,829 and to be binding upon the grantee, its successors or assigns.

Petitioner Uber Ex-1005, 0084

PAGE 26/27 * RCVD AT 12/24/2003 11:23:37 AM [Eastern Standard Time] * SVR:USPTO-EFXRF-1/0 * DNIS:8729306 * CSID: * DURATION (mm-ss):06-16

In making the above disclaimer, Petitioner does not disclaim the terminal part of any patent granted on U.S Patent Application Serial No. 10/199,829 that would extend to the expiration date of the full statutory term of U.S Patent No. 6,441,752 in the event that such patent later: expires for failure to pay maintenance fee, is held unenforceable, is found invalid by court of competent jurisdiction, is statutorily disclaimed in whole or terminally disclaimed under 37 C.F.R 1.321, has all claims cancelled by a reexamination certificate, is reissued, or is in any manner terminated prior to the expiration of its full statutory term

Dated: 10/13/03

Mundi Fomukong

JPE JC167
DEC 24 2003
PATENT & TRADEMARK OFFICE

K. Ward 3/1/04 #7 Terminal Disclaimer

IN THE U.S PATENT AND TRADEMARK OFFICE

In re the Application of:

MUNDI FOMUKONG GROUP ART UNIT 2632

Serial No: 10/199,829 Examiner: Van Trieu

Filed: July 19, 2002

For: Method and Apparatus for Locating Mobile Units Tracking Another or Within a Prescribed Geographic Boundary.

TERMINAL DISCLAIMER

Hon. Commissioner for Patents and Trademarks
Washington, District of Columbia, 20231.

Sir:

Mundi Fomukong, inventor in the above identified application, holding the entire right, title and interest to the above-identified application, and inventor in U.S Patent No. 6,441,752, holding the entire right, title and interest to U.S Patent No. 6,441,752, do hereby disclaim the terminal part of any patent granted on U.S Patent Application Serial No. 10/199,829, which would extend beyond the expiration date of U.S Patent 6,441,752 and hereby agrees that any patent so granted on U.S Patent Application Serial No. 10/199,829 shall be enforceable only for and during such period that the legal title to said patent shall be the same as the legal title to U.S Patent No. 6,441,752, this agreement to run with any patent granted on U.S Patent Application Serial No. 10/199,829 and to be binding upon the grantee, its successors or assigns.

In making the above disclaimer, Petitioner does not disclaim the terminal part of any patent granted on U.S Patent Application Serial No. 10/199,829 that would extend to the expiration date of the full statutory term of U.S Patent No. 6,441,752 in the event that such patent later: expires for failure to pay maintenance fee, is held unenforceable, is found invalid by court of competent jurisdiction, is statutorily disclaimed in whole or terminally disclaimed under 37 C.F.R 1.321, has all claims cancelled by a reexamination certificate, is reissued, or is in any manner terminated prior to the expiration of its full statutory term

Dated: 10/13/03

Mundi Fomukong

OIPE JC1627 DEC 29 2003 PATENT & TRADEMARK OFFICE
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OIP DEC 24 2003 JC1627 PATENT & TRADEMARK OFFICE

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THE U.S PATENT AND TRADEMARK OFFICE

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JAN 07 2004
Technology Center 2600

Application Number: 10/199,829

Applicant: Mundi Fomukong

Examiner: Van Trieu

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Method of Transmission : Fax

Number of pages : 27

1) Response to Office Communication

Commissioner for Patents and Trademarks

Washington, District of Columbia, 20231.

Sir:

In response to the Office communication mailed 07/15/2003 and the subsequent communication mailed 11/25/2003 for the above application, kindly review the material herein and amend the application as indicated in the claim listing section that shows marked up versions. A credit card payment form is also included to cover the Terminal Disclaimer fee and fees for additional dependent claims.

B

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CLAIM LISTING SHOWING CHANGES

1. (original) A communication system comprising:

a portable mobile remote unit;

a network of communication units;

means to obtain the location of the portable mobile remote unit;

means to obtain geographic boundary information in order to disclose a global location at the network;

means to provide the location of the portable mobile remote unit to the network upon determination that the portable mobile remote unit is within the geographic boundary obtained at the network;

means to determine and report to the system upon request that, another mobile remote unit of the network has tracked the portable mobile remote over a period of time.

2. (original) The portable mobile remote according to claim 1, having means to further determine if location disclosure for the remote unit is prohibited at a specific geographic boundary before sending its location to the network.

3. (original) The portable remote unit of claim 1 having means to establish its velocity at the network and having means to further determine that, its velocity is within the network's prescribed velocity before divulging its location to the network.

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4. (currently amended) A communication system for providing the location of portable mobile remote units, in a geographic region to a wireless consumer requesting that information comprising:

i) means for the wireless consumer to specify and forward to ~~system~~ a network, geographic boundary information describing the geographic region where the location of portable mobile remote units are required by the wireless consumer;

ii) means to request that all portable remote units within said geographic boundary (i) establish their location at the network;

~~ii) means to locate from the system, portable mobile remote units that exist in the geographic boundary of (i) , said mobile remote units capable of establishing a global location at the network;~~

iii) means to verify at a portable remote unit if the portable remote unit is within said geographic boundary of said request (ii) before establishing the location of the portable remote unit at the network;

iv) means to verify at the network, after said request (ii) that a portable remote unit according to (iii) responded with location information;

~~iii)~~ v) means to provide to the wireless consumer the location of a portable mobile remote unit that exist in the geographic boundary defined by the wireless consumer after the verification of (iv) .

5. (original) The system of claim 4, the portable mobile remote units able to establish and report their location to other communication units of the system.

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6. (cancelled)

7. (currently amended) A method for providing the location of portable mobile remote units to a wireless consumer requesting the location of portable mobile remote units within a geographic region of a communication system comprising:

i) obtaining from the wireless consumer, geographic boundary information indicating where a search should be undertaken for portable mobile remote units;

ii) providing the information defined in (i) to a control unit of the system;

ii) generating at said control unit a request for the location of portable mobile remote units within said geographic boundary;

iii) receiving at the portable mobile remote unit geographic boundary information (ii), within which the location of the portable mobile remote unit should be disclosed;

iv) establishing at the portable mobile remote unit if the unit is within said geographic boundary (iii) and, if yes, forwarding the location information of the unit to the system;

~~iii)~~ v) verifying after said request (ii), whether a portable mobile remote unit in said geographic boundary responded with location information according to (iv);

~~iv)~~ vi) providing to the wireless consumer, at least the identity and location of a portable remote unit after the verification of v ~~(iii)~~.

8. (cancelled)

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10 9. (original) A method further employed in 7 to obtain the location of mobile remote units wherein said prescribed geographic boundary obtained from the wireless consumer is wider than normal, comprising;

i) splitting the wider than normal geographic boundary into sub geographic regions to constitute the geographic boundary;

ii) requesting in the sub geographic region(s) , the location of remote units that are present in each sub region;

iii) verifying after each request of (ii) in a sub region, whether at least a portable remote unit disclosed a global location in the region;

iv) maintaining a list of all remote units that disclosed their location after each request from the verification of step (iii) ;

v) providing to the system and from the list of (v) the location of at least a remote unit that revealed its location in the sub region.

11 10. (original) A technique according to claim 9, utilized to terminate a request for the location information of portable mobile remote units in the prescribed geographic boundary comprising:

checking to establish that a request for remote unit location information was undertaken in all re-defined or sub regions of the prescribed boundary or a portable remote unit in a defined or sub region responded with location information.

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12 ~~11~~. (original) A method utilized to provide to a source of request, the location of mobile remote units that exist in a geographic region from the list according to claim ~~9~~ 10 comprising:

(i) estimating and obtaining from the list, the location mobile remote units that are closer to the source of request;

(ii) providing the information obtained in (i) to the source of request before releasing the location of other mobile remote units that are further from the source of request.

8 12. (cancelled)

16 ~~13~~. (currently amended) A technique according to claim ~~12~~ 15 ~~26~~, utilized to determine if the second ~~a~~ mobile remote unit is within a ~~prescribed~~ specified geographic boundary or within close proximity of ~~a wireless consumer~~ the first portable mobile remote unit comprising:

obtaining radii information of the geographic boundary from the network;

obtaining geographic information describing the origin of the geographic boundary;

calculating the angle of inclination of the second remote unit to the geographic boundary origin;

calculating from the angle of inclination the distance between the second remote unit and the geographic boundary origin;

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comparing the radii of the geographic boundary to the calculated distance to establish if the second remote unit lies in the geographic boundary .

17 ~~14~~. (currently amended) A technique employed by the method according to claim ~~12~~ 26 15 to determine if ~~a~~ second remote unit is within a specified geographic boundary or close proximity to ~~a wireless consumer~~ the first portable remote unit comprising:

obtaining from the network geographic information describing the geographic boundary;

estimating at the second remote unit if the current location of the remote unit is within the geographic boundary obtained at the network.

13 ~~15~~. (currently amended) A method according to claim ~~12~~ 9 utilized to further limit the provision of a remote unit location to the network comprising:

obtaining at the network, exclusion region information within which the remote unit should not provide its location the network;

determining that the remote unit is not in the exclusion region before providing the location of the remote unit to the network.

18 ~~16~~. (currently amended) A technique utilized in the method according to claim ~~12~~ 15 ~~26~~, to terminate ~~requesting~~ obtaining at each interval, the location of second portable mobile remote units that are within close proximity of the first portable remote unit ~~wireless consumer~~ comprising;

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i) keeping track of the time since the first request for tracking units within proximity of the first portable remote unit ~~wireless consumer~~ was enacted by the system;

ii) validating that the elapsed time at each interval when a request is to be made does not exceed the total time set for establishing tracking in the system;

iii) requesting that all mobile remote units within close proximity of the ~~wireless consumer~~ first portable remote unit divulge their location if the result of the validation of (ii) is true.

17. (cancelled)

~~18~~ 19. (currently amended) The verification technique employed in the method of claim ~~17~~ 15 ~~26~~(iii) comprising:

retaining a tracking list of all second portable mobile units or tracking units that are within a pre-specified radius or region of the first unit or tracked unit at the first tracking interval;

eliminating or removing at subsequent tracking intervals, all tracking units in the tracking list that do not report their location during a subsequent tracking interval;

validating at the end of the tracking period that at least a tracking unit exist in the tracking list and a minimum distance was traveled by the tracked unit.

~~19~~ 20. (currently amended) Another verification technique employed in the method of claim ~~17~~ 15 ~~26~~(iii) comprising:

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i) maintaining a list of all second portable remote units/tracking units that ~~are maintaining a close distance to the tracked unit over the period of time~~ provided their location during said tracking period;

~~searching the tracking list at the end of the tracking period to obtain tracking units that traveled a minimum pre-specified distance with the tracked unit.~~

ii) from the list of (i), forwarding the location of the second portable mobile remote unit to the network upon determination that said second portable mobile remote unit maintained close proximity to the first mobile remote during the tracking period.

~~22~~20. (currently amended) A communication system comprising:

(i) a network of communication units;

(ii) at least a first communication unit and at least a second communication unit able to provide location information to the network for a time while in motion;

~~the system able to determine and report that the at least second communication unit maintained close proximity to the at least first communication unit over a period of time~~

(iii) means to request whether the at least second communication unit is tracking the at least first communication unit;

(iv) means to determine from said location provided (ii) that the at least first and second communication unit maintained proximity while in motion during said time;

(vi) means to provide result of the determination (iv) to the requestor of (iii).

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22

23 21. (original) The system of claim 20, the at least first communication unit able to invoke a tracking mode at the at least first communication unit in order to determine if a clandestine unit is tracking it.

26 22. (original) A method for providing the location of a portable remote unit that exists within a prescribed geographic boundary in a wireless network comprising:

i) providing geographic boundary information to the mobile remote unit in a geographic region to disclose their location;

ii) further providing exclusion region information associated with said geographic boundary of (i) to the mobile remote unit in the geographic region;

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iii) determining that a mobile remote unit is in the geographic boundary of (i) and not in the exclusion region of (ii) before providing the location of the mobile remote unit to the network.

27 23. (original) A method for providing the location of a portable remote unit that exists within a prescribed geographic boundary to a wireless network comprising:

i) providing to remote units in the geographic boundary velocity information required in order to divulge location information;

ii) estimating at the remote unit or network, the velocity at which the remote unit is moving;

iii) validating that the estimated velocity of the remote unit meets the velocity requirement provided by the network (i) ,if yes, forwarding the location of the remote unit to the network.

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24. (cancelled)

25. (new) A method further employed in 7 to determine if a portable mobile remote unit is within a specific geographic boundary defined by the system comprising:

i) receiving at the portable mobile remote unit geographic boundary information and velocity information, within which the location of the portable mobile remote unit should be disclosed;

ii) establishing at the portable mobile remote unit if the unit is within said geographic boundary and, if the velocity of the unit is within the values prescribed by the network;

(iii) if the result of (ii) is yes, forwarding the location of the portable mobile remote unit to the system.

26. (new) A method for determining that a first portable remote unit of a wireless consumer associated with a network is being tracked by at least a second portable remote unit that is in motion with the first portable remote unit over a tracking period comprising;

i) obtaining the location information of the first portable mobile remote unit, said location information provided at intervals during said tracking period;

ii) obtaining the location information of the at least second portable communication unit that is within a specified geographic boundary of the first portable remote unit, said location information provided at intervals during said tracking period ;

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iii) using the location obtained according to step (i) and (ii) to verify whether the first portable remote unit and second portable remote unit have maintained relative proximity during the tracking period;

iv) forwarding the result of the verification to a network requestor at the end of the tracking period.

27.(new) A technique employed by the method according to claim ~~12~~ 26 to verify whether the first portable remote unit and second portable remote unit have maintained proximity during said tracking period further comprising verifying whether the first and second portable remote units maintained a relative distance after traveling a minimum pre-specified distance during the tracking period.

28. (new) The system of claim 4, having means to split wider geographic boundaries defined by a wireless consumer into sub regions and further means to recursively request for the location of portable mobile remote units within each sub region until a portable mobile remote unit responds with location information.

29. (new) The system of claim 4, a portable mobile remote unit having means to establish its velocity at the network and having means to further determine that, its velocity is within the network's prescribed velocity before divulging its location to the network.

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30. (new) The system of claim 4, a portable mobile remote unit having means to further determine if location disclosure for the remote unit is prohibited at a specific geographic boundary before sending its location to the network.

31. (new) The system of claim 22 having means to maintain an inventory of all second communication units that are providing their location within proximity to the first communication unit during said time and having further means to determine and report a second communication unit in said inventory that has maintained proximity to the first communication unit during said time.

32. (new) The system of claim 22 having means to abort the tracking request process if it is determined that either the first or the communication units are not in motion or the tracking period has expired.

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DETAILED RESPONSE TO OFFICE ACTION

In the last Office communication mailed July 15, 2003, claims 4-22 and 24 were rejected under 35 U.S.C 102 as being anticipated by Stewart [US 6,414,635].

Stewart teaches a system for tracking the location of a portable computing device or PCD. The system maintains several communication wireless access points, AP, that are scattered throughout the network. Whenever a PCD enters a geographic region, the PCD communicates with an access point to establish its location. The access point then utilizes the location of the PCD to provide location centric services to a wireless consumer in possession of the PCD. Also service providers requiring information of portable computing devices, PCDs, in a geographic area may also obtain that information from the access points to facilitate the creation of new businesses at that location.

In the invention, a wireless consumer in motion may use a location enabled mobile device to check if the location of the wireless consumer is being disclosed by a clandestine mobile device that is tracking the consumer over time. The network upon receiving this information sends a signal containing the geographic boundary information where the presence of location enabled mobile communication devices is needed. Upon receiving the signal, a location enabled mobile device establishes if it is within the geographic boundary specified by the network before forwarding its location and identity to the network. Also, as location is tracked within a geographic boundary of the system, a distress wireless consumer may request for mobile devices that are in a specific geographic location.

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The prior art, Stewart [U.S 6,414,635] merely picks up the location of mobile devices that are entering a geographic region of an access point. Note that the mobile devices disclosed in the prior art cannot determine if they are within a prescribed geographic boundary defined by the network for location disclosure before establishing their location at the network. So there is no need for an access point defined by the prior art to initiate a request for mobile devices in a smaller area covered by the access point to divulge their location to the access point. Note that all mobile devices within the coverage area of the access point provide their location to the access point. Therefore, modifications not cited in the prior art would be needed for any such changes to be effective.

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RESPONSE TO CLAIM OBJECTIONS AND REJECTIONS

- **Claim 4:**

Claim 4 has been amended to define patentably over the prior art. It should be noted that portable mobile remote units defined in the prior art cannot establish if they are within a specific geographic location required for location disclosure by the network, AP, before divulging their location to the network. Also, there clearly is no need for an access point defined by the prior art to request that only PCDs within a footprint or smaller geographic area of the access point disclosed their location while other PCDs in subsequent areas covered by the access point do not disclose their location. The prior art and the invention solve different problems. Modifications are therefore needed in order for the prior art to perform the functions of the invention.

- **Claim 5**

Claim 5 is dependent on claim 4 and should be allowed in view of that.

- **Claim 6**

The essence claim 6 has been included in independent claim 4. This claim is withdrawn from consideration.

- **Claim 7**

Claim 7 has also been amended to define patentably over the prior art. It should be noted that the prior art does not teach the essence of the original claim 7. There is no need for an access point to request that only portable remote units within a smaller geographic

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region of the access point provide their location to the network. The access point defined by the prior art routinely picks up the location of PCDs within its geographic area of coverage. Further limitations have been added to clearly distinguish this claim from the prior art.

- **Claim 9**

Note that the access point defined by the prior art does not split a geographic region where a request has been forwarded for PCDs into sub regions as stated in the office action. Also a request is not transmitted recursively to each small region of the wider geographic area until a PCD responds with location information. The claim should have been allowed as none of the steps is carried out by the prior art. Again the inventions are different and there is no need for the prior art to use the steps of claim.

- **Claim 10**

Same arguments made to claim 9 apply to claim 10. Fig 14 does not teach what the rejection is relying upon as supposedly teaching. The claim should have been allowed.

- **Claim 11**

The prior art does not teach the steps of the claim. The prior art does not teach releasing the location of mobile remote units that that are closest to the source of request before subsequently releasing those that are further away. The claim should have been allowed.

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- **Claim 13**

Note that there is no reason for a mobile remote unit as described by the prior art to determine if it is within a specific geographic boundary or close proximity to a wireless consumer in possession of a second mobile remote unit. The rejection is inconsistent with the teachings of the prior art and applicant solicit the allowance of this claim. Note that the AP is a fixed control unit/transmitter and not a mobile device.

- **Claim 14**

Note that a PCD of the prior art does not obtain geographic boundary information from the network in order to determine if the current location of the PCD is within the prescribed boundary obtained at the network. The claim has been slightly amended to define patentably over the prior art.

- **Claim 15**

Col 24, lines 21-67 does not teach what the rejection is relying upon. There is no exclusion region information provided to PCDs of the prior art. As a result a PCD cannot disable transmission of location signals when in the exclusion region. The claim should have been allowed.

- **Claim 16**

The essence of the claim was misconstrued in the rejection. The rejection failed to include step (iii) of the claim in its interpretations. The essence of the rejection clearly

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won't make sense if step (iii) was added. Again the prior art and the invention are solving different problems and they teach away from each other. There is no need for the prior art to request that all mobile units within proximity of the wireless consumer divulge their location at tracking intervals that are within the timeframe set for tracking. The prior art does not seek to find mobile units that are maintaining proximity to a wireless consumer over a pre-specified time.

- **Claim 18**

According to Fig 14 of the prior art, the AP enters until a wait state until a PCD retransmits 2nd and 3rd time stamps. There is no eliminating / removing at subsequent tracking intervals all tracking units that do not respond with location information as indicated in claim 14. Also, the prior art does not validate at the end of the tracking period if a tracking unit exist in the list. Again the rejection relied on matter that is not disclosed in the prior art. The claim should have been allowed.

- **Claim 19**

Note that the wireless AP of the prior art does not attempt to resolve which PCDs are maintaining close proximity to a mobile remote PCD over time. So there is no reason for claim 19 to be used by the prior art.

- **Claim 20**

Original claim 20 teaches a system used to track mobile remote units that are maintaining close proximity to a primary mobile remote unit over time. Such a system again is not

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anticipated by the prior art. The claim has been amended to define patentably over the prior art. Applicant solicits its allowance.

Note that as previously indicated, original claim 20 includes features that are not supported in claim original 4. Claim 4 cannot be used to determine if a first mobile communication unit has tracked a second over time in a wireless network as assumed in the rejection.

- **Claim 21**

The PCD of the prior art cannot invoke a tracking mode to determine if a clandestine unit is tracking it over time. Note that the wireless AP communicates with the PCD according to the prior art. The AP is at a fixed location and not a clandestine device that is in motion with the PCD. Claim 21 is directed to that and is not supported in claim 4 as stated in the rejection.

- Claim 22

Regarding claim 22, a PCD described in the prior art always communicates with a wireless access point to establish its location. The access point does not provide sub-regions within which the PCD is excluded from providing its location information to the access point. Original claim 4 does not provide exclusion regions. The arguments made for claim 14 also apply to claim 22.

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- **Claim 25**

Claim 25 is drafted to include a feature that is lacking in the prior art. A PCD of the prior art cannot establish if its velocity matches that required by the network before sending its location and identity to the network;

- **Claim 26**

Claim 26 is submitted in view of the now cancelled claim 12. Note that claim 12 in its original form is not anticipated by the prior art. There is no request sent out by an AP defined in the prior art to enable all mobile remote units within close proximity of the wireless consumer to disclose their location information. As a result steps (iii) and (iv) of the original claim are not remotely anticipated by the prior art. Note that original claim 12 solves a problem where a wireless consumer may request from the network a list of mobile devices that are maintaining proximity to the consumer over time. The prior art does not solve that problem. The now submitted claim 26 clearly distinguishes over the cited art.

- **Claim 27.**

Claim 27 is submitted in view of original claim 17. The claimed subject matter of original claim 17 is not included in claim 4 as stated in the rejection. Original claim 17 teaches a method to determine if a first portable mobile remote unit is being tracked by a second portable remote unit over time. Step (iii) of the claim verifies whether the tracking and tracked unit have traveled a minimum specified distance. The prior art does not teach that as it solves a different problem.

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The essence of original claim 17 has been included in claim 26. Claim 26 is also a method used to determine if a portable remote unit in motion is tracking another over time.

Claim 27 is now dependent on claim 26 and recites a technique to determine whether a first and second portable remote unit has maintained proximity during a tracking period. The essence of the claim indicates both units maintain a relative distance after traveling a minimum specified distance. Again such actions are not required in the prior art.

- **Claim 28**

Claim 28 is a device claim for the method according to claim 9 which is used to split a wider than normal geographic area used to locate portable remote devices. Same arguments apply as in claim 9.

- **Claim 29**

Claim 29 is the device claim for the method according to claim 8 used to establish if the velocity of a portable remote device is within what is prescribed by the network for location disclosure. Same arguments apply as in claim 8.

- **Claim 30**

Claim 30 is the device claim for the method according to claim 15 used to establish if location disclosure of a portable mobile remote unit is prohibited at a specific location before the location is disclosed. Same arguments apply as in claim 15.

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- **Claim 31**

Claim 31 is a device claim for the method according to 19 used to determine if a clandestine mobile remote unit is tracking another mobile device. Same arguments apply as in claim 19.

- **Claim 32**

Claim 32 is the device claim for method 16 used to abort tracking. Same arguments apply as in claim 16.

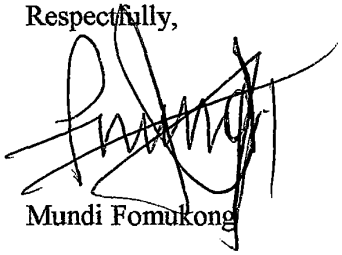
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Conclusion

Applicant has shown in arguments that the amended, existing and new claims are patentable over the prior art. Applicant has submitted a Terminal disclaimer to overcome the double patenting rejection. Applicant solicits allowance of all claims from the Office.

Respectfully,



Mundi Fomukong

(Applicant).

12/23/2003

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THE U.S PATENT AND TRADEMARK OFFICE

Application Number: 10/199,829

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Examiner: Van Trieu

Art Unit: 2632

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Phone: (703) 308 5220

Method of Transmission . Fax

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1) Response to Office Communication

Commissioner for Patents and Trademarks

Washington, District of Columbia, 20231.

Sir:

In response to the Office communication mailed 07/15/2003 and the subsequent communication mailed 11/25/2003 for the above application, kindly review the material herein and amend the application as indicated in the claim listing section that shows marked up versions. A credit card payment form is also included to cover the Terminal Disclaimer fee and fees for additional dependent claims.

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CLAIM LISTING SHOWING CHANGES

1. (original) A communication system comprising:

a portable mobile remote unit;

a network of communication units;

means to obtain the location of the portable mobile remote unit;

means to obtain geographic boundary information in order to disclose a global location at the network;

means to provide the location of the portable mobile remote unit to the network upon determination that the portable mobile remote unit is within the geographic boundary obtained at the network;

means to determine and report to the system upon request that, another mobile remote unit of the network has tracked the portable mobile remote over a period of time.

2. (original) The portable mobile remote according to claim 1, having means to further determine if location disclosure for the remote unit is prohibited at a specific geographic boundary before sending its location to the network.

3. (original) The portable remote unit of claim 1 having means to establish its velocity at the network and having means to further determine that, its velocity is within the network's prescribed velocity before divulging its location to the network.

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4. (currently amended) A communication system for providing the location of portable mobile remote units, in a geographic region to a wireless consumer requesting that information comprising:

i) means for the wireless consumer to specify and forward to ~~system~~ a network, geographic boundary information describing the geographic region where the location of portable mobile remote units are required by the wireless consumer;

ii) means to request that all portable remote units within said geographic boundary (i) establish their location at the network;

~~ii) means to locate from the system, portable mobile remote units that exist in the geographic boundary of (i) , said mobile remote units capable of establishing a global location at the network;~~

iii) means to verify at a portable remote unit if the portable remote unit is within said geographic boundary of said request (ii) before establishing the location of the portable remote unit at the network;

iv) means to verify at the network, after said request (ii) that a portable remote unit according to (iii) responded with location information;

~~iii)~~ v) means to provide to the wireless consumer the location of a portable mobile remote unit that exist in the geographic boundary defined by the wireless consumer after the verification of (iv).

5. (original) The system of claim 4, the portable mobile remote units able to establish and report their location to other communication units of the system;

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9. (original) A method further employed in 7 to obtain the location of mobile remote units wherein said prescribed geographic boundary obtained from the wireless consumer is wider than normal, comprising;

i) splitting the wider than normal geographic boundary into sub geographic regions to constitute the geographic boundary;

ii) requesting in the sub geographic region(s) , the location of remote units that are present in each sub region;

iii) verifying after each request of (ii) in a sub region, whether at least a portable remote unit disclosed a global location in the region;

iv) maintaining a list of all remote units that disclosed their location after each request from the verification of step (iii) ;

v) providing to the system and from the list of (v) the location of at least a remote unit that revealed its location in the sub region.

10. (original) A technique according to claim 9, utilized to terminate a request for the location information of portable mobile remote units in the prescribed geographic boundary comprising:

checking to establish that a request for remote unit location information was undertaken in all re-defined or sub regions of the prescribed boundary or a portable remote unit in a defined or sub region responded with location information.

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11. (original) A method utilized to provide to a source of request, the location of mobile remote units that exist in a geographic region from the list according to claim 9 comprising:

(i) estimating and obtaining from the list, the location mobile remote units that are closer to the source of request;

(ii) providing the information obtained in (i) to the source of request before releasing the location of other mobile remote units that are further from the source of request.

12. (cancelled)

13. (currently amended) A technique according to claim ~~12~~ 26, utilized to determine if the second ~~a~~ mobile remote unit is within a prescribed specified geographic boundary or within close proximity of ~~a wireless consumer~~ the first portable mobile remote unit comprising:

obtaining radii information of the geographic boundary from the network;

obtaining geographic information describing the origin of the geographic boundary;

calculating the angle of inclination of the second remote unit to the geographic boundary origin;

calculating from the angle of inclination the distance between the second remote unit and the geographic boundary origin;

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comparing the radii of the geographic boundary to the calculated distance to establish if the second remote unit lies in the geographic boundary .

14. (currently amended) A technique employed by the method according to claim ~~12~~ 26 to determine if ~~a~~ second remote unit is within a specified geographic boundary or close proximity to ~~a wireless consumer~~ the first portable remote unit comprising:

obtaining from the network geographic information describing the geographic boundary;

estimating at the second remote unit if the current location of the remote unit is within the geographic boundary obtained at the network.

15. (currently amended) A method according to claim ~~12~~ 7 utilized to further limit the provision of a remote unit location to the network comprising:

obtaining at the network, exclusion region information within which the remote unit should not provide its location the network;

determining that the remote unit is not in the exclusion region before providing the location of the remote unit to the network.

16. (currently amended) A technique utilized in the method according to claim ~~12~~ 26, to terminate ~~requesting~~ obtaining at each interval, the location of second portable mobile remote units that are within close proximity of the first portable remote unit ~~wireless consumer~~ comprising;

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i) keeping track of the time since the first request for tracking units within proximity of the first portable remote unit ~~wireless consumer~~ was enacted by the system;

ii) validating that the elapsed time at each interval when a request is to be made does not exceed the total time set for establishing tracking in the system;

iii) requesting that all mobile remote units within close proximity of the ~~wireless consumer~~ first portable remote unit divulge their location if the result of the validation of (ii) is true.

17. (cancelled)

18. (currently amended) The verification technique employed in the method of claim ~~17~~ 26(iii) comprising:

retaining a tracking list of all second portable mobile units or tracking units that are within a pre-specified radius or region of the first unit or tracked unit at the first tracking interval;

eliminating or removing at subsequent tracking intervals, all tracking units in the tracking list that do not report their location during a subsequent tracking interval;

validating at the end of the tracking period that at least a tracking unit exist in the tracking list and a minimum distance was traveled by the tracked unit.

19. (currently amended) Another verification technique employed in the method of claim ~~17~~ 26(iii) comprising:

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i) maintaining a list of all second portable remote units/tracking units that ~~are maintaining a close distance to the tracked unit over the period of time~~ provided their location during said tracking period;

~~searching the tracking list at the end of the tracking period to obtain tracking units that traveled a minimum pre-specified distance with the tracked unit.~~

ii) from the list of (i), forwarding the location of the second portable mobile remote unit to the network upon determination that said second portable mobile remote unit maintained close proximity to the first mobile remote during the tracking period.

20. (currently amended) A communication system comprising:

(i) a network of communication units;

(ii) at least a first communication unit and at least a second communication unit able to provide location information to the network for a time while in motion;

~~the system able to determine and report that the at least second communication unit maintained close proximity to the at least first communication unit over a period of time~~

(iii) means to request whether the at least second communication unit is tracking the at least first communication unit.

(iv) means to determine from said location provided (ii) that the at least first and second communication unit maintained proximity while in motion during said time;

(vi) means to provide result of the determination (iv) to the requestor of (iii);

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21. (original) The system of claim 20, the at least first communication unit able to invoke a tracking mode at the at least first communication unit in order to determine if a clandestine unit is tracking it.

22. (original) A method for providing the location of a portable remote unit that exists within a prescribed geographic boundary in a wireless network comprising:

i) providing geographic boundary information to the mobile remote unit in a geographic region to disclose their location;

ii) further providing exclusion region information associated with said geographic boundary of (i) to the mobile remote unit in the geographic region;

iii) determining that a mobile remote unit is in the geographic boundary of (i) and not in the exclusion region of (ii) before providing the location of the mobile remote unit to the network.

23. (original) A method for providing the location of a portable remote unit that exists within a prescribed geographic boundary to a wireless network comprising:

i) providing to remote units in the geographic boundary velocity information required in order to divulge location information;

ii) estimating at the remote unit or network, the velocity at which the remote unit is moving;

iii) validating that the estimated velocity of the remote unit meets the velocity requirement provided by the network (i) ,if yes, forwarding the location of the remote unit to the network.

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24. (cancelled)

25. (new) A method further employed in 7 to determine if a portable mobile remote unit is within a specific geographic boundary defined by the system comprising:

i) receiving at the portable mobile remote unit geographic boundary information and velocity information, within which the location of the portable mobile remote unit should be disclosed;

ii) establishing at the portable mobile remote unit if the unit is within said geographic boundary and, if the velocity of the unit is within the values prescribed by the network;

(iii) if the result of (ii) is yes, forwarding the location of the portable mobile remote unit to the system;

26. (new) A method for determining that a first portable remote unit of a wireless consumer associated with a network is being tracked by at least a second portable remote unit that is in motion with the first portable remote unit over a tracking period comprising;

i) obtaining the location information of the first portable mobile remote unit, said location information provided at intervals during said tracking period;

ii) obtaining the location information of the at least second portable communication unit that is within a specified geographic boundary of the first portable remote unit, said location information provided at intervals during said tracking period.;

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iii) using the location obtained according to step (i) and (ii) to verify whether the first portable remote unit and second portable remote unit have maintained relative proximity during the tracking period;

iv) forwarding the result of the verification to a network requestor at the end of the tracking period.

27.(new) A technique employed by the method according to claim ~~12~~ 26 to verify whether the first portable remote unit and second portable remote unit have maintained proximity during said tracking period further comprising verifying whether the first and second portable remote units maintained a relative distance after traveling a minimum pre-specified distance during the tracking period;

28. (new) The system of claim 4, having means to split wider geographic boundaries defined by a wireless consumer into sub regions and further means to recursively request for the location of portable mobile remote units within each sub region until a portable mobile remote unit responds with location information;

29. (new) The system of claim 4, a portable mobile remote unit having means to establish its velocity at the network and having means to further determine that, its velocity is within the network's prescribed velocity before divulging its location to the network.

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30. (new) The system of claim 4, a portable mobile remote unit having means to further determine if location disclosure for the remote unit is prohibited at a specific geographic boundary before sending its location to the network.

31. (new) The system of claim 20 having means to maintain an inventory of all second communication units that are providing their location within proximity to the first communication unit during said time and having further means to determine and report a second communication unit in said inventory that has maintained proximity to the first communication unit during said time.

32. (new) The system of claim 20 having means to abort the tracking request process if it is determined that either the first or the communication units are not in motion or the tracking period has expired.

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DETAILED RESPONSE TO OFFICE ACTION

In the last Office communication mailed July 15, 2003, claims 4-22 and 24 were rejected under 35 U.S.C 102 as being anticipated by Stewart [US 6,414,635].

Stewart teaches a system for tracking the location of a portable computing device or PCD. The system maintains several communication wireless access points, AP, that are scattered throughout the network. Whenever a PCD enters a geographic region, the PCD communicates with an access point to establish its location The access point then utilizes the location of the PCD to provide location centric services to a wireless consumer in possession of the PCD. Also service providers requiring information of portable computing devices, PCDs, in a geographic area may also obtain that information from the access points to facilitate the creation of new businesses at that location.

In the invention, a wireless consumer in motion may use a location enabled mobile device to check if the location of the wireless consumer is being disclosed by a clandestine mobile device that is tracking the consumer over time. The network upon receiving this information sends a signal containing the geographic boundary information where the presence of location enabled mobile communication devices is needed. Upon receiving the signal, a location enabled mobile device establishes if it is within the geographic boundary specified by the network before forwarding its location and identity to the network. Also, as location is tracked within a geographic boundary of the system, a distress wireless consumer may request for mobile devices that are in a specific geographic location.

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The prior art, Stewart [U.S 6,414,635] merely picks up the location of mobile devices that are entering a geographic region of an access point. Note that the mobile devices disclosed in the prior art cannot determine if they are within a prescribed geographic boundary defined by the network for location disclosure before establishing their location at the network. So there is no need for an access point defined by the prior art to initiate a request for mobile devices in a smaller area covered by the access point to divulge their location to the access point. Note that all mobile devices within the coverage area of the access point provide their location to the access point. Therefore, modifications not cited in the prior art would be needed for any such changes to be effective.

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RESPONSE TO CLAIM OBJECTIONS AND REJECTIONS

- **Claim 4:**

Claim 4 has been amended to define patentably over the prior art. It should be noted that portable mobile remote units defined in the prior art cannot establish if they are within a specific geographic location required for location disclosure by the network, AP, before divulging their location to the network. Also, there clearly is no need for an access point defined by the prior art to request that only PCDs within a footprint or smaller geographic area of the access point disclosed their location while other PCDs in subsequent areas covered by the access point do not disclose their location. The prior art and the invention solve different problems. Modifications are therefore needed in order for the prior art to perform the functions of the invention.

- **Claim 5**

Claim 5 is dependent on claim 4 and should be allowed in view of that.

- **Claim 6**

The essence claim 6 has been included in independent claim 4. This claim is withdrawn from consideration.

- **Claim 7**

Claim 7 has also been amended to define patentably over the prior art. It should be noted that the prior art does not teach the essence of the original claim 7. There is no need for an access point to request that only portable remote units within a smaller geographic

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region of the access point provide their location to the network. The access point defined by the prior art routinely picks up the location of PCDs within its geographic area of coverage. Further limitations have been added to clearly distinguish this claim from the prior art.

- **Claim 9**

Note that the access point defined by the prior art does not split a geographic region where a request has been forwarded for PCDs into sub regions as stated in the office action. Also a request is not transmitted recursively to each small region of the wider geographic area until a PCD responds with location information. The claim should have been allowed as none of the steps is carried out by the prior art. Again the inventions are different and there is no need for the prior art to use the steps of claim.

- **Claim 10**

Same arguments made to claim 9 apply to claim 10. Fig 14 does not teach what the rejection is relying upon as supposedly teaching. The claim should have been allowed.

- **Claim 11**

The prior art does not teach the steps of the claim. The prior art does not teach releasing the location of mobile remote units that that are closest to the source of request before subsequently releasing those that are further away. The claim should have been allowed.

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- **Claim 13**

Note that there is no reason for a mobile remote unit as described by the prior art to determine if it is within a specific geographic boundary or close proximity to a wireless consumer in possession of a second mobile remote unit. The rejection is inconsistent with the teachings of the prior art and applicant solicit the allowance of this claim. Note that the AP is a fixed control unit/transmitter and not a mobile device.

- **Claim 14**

Note that a PCD of the prior art does not obtain geographic boundary information from the network in order to determine if the current location of the PCD is within the prescribed boundary obtained at the network. The claim has been slightly amended to define patentably over the prior art.

- **Claim 15**

Col 24, lines 21-67 does not teach what the rejection is relying upon. There is no exclusion region information provided to PCDs of the prior art. As a result a PCD cannot disable transmission of location signals when in the exclusion region. The claim should have been allowed.

- **Claim 16**

The essence of the claim was misconstrued in the rejection. The rejection failed to include step (iii) of the claim in its interpretations. The essence of the rejection clearly

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won't make sense if step (iii) was added. Again the prior art and the invention are solving different problems and they teach away from each other. There is no need for the prior art to request that all mobile units within proximity of the wireless consumer divulge their location at tracking intervals that are within the timeframe set for tracking. The prior art does not seek to find mobile units that are maintaining proximity to a wireless consumer over a pre-specified time.

- **Claim 18**

According to Fig 14 of the prior art, the AP enters until a wait state until a PCD retransmits 2nd and 3rd time stamps. There is no eliminating / removing at subsequent tracking intervals all tracking units that do not respond with location information as indicated in claim 14. Also, the prior art does not validate at the end of the tracking period if a tracking unit exist in the list. Again the rejection relied on matter that is not disclosed in the prior art. The claim should have been allowed.

- **Claim 19**

Note that the wireless AP of the prior art does not attempt to resolve which PCDs are maintaining close proximity to a mobile remote PCD over time. So there is no reason for claim 19 to be used by the prior art.

- **Claim 20**

Original claim 20 teaches a system used to track mobile remote units that are maintaining close proximity to a primary mobile remote unit over time. Such a system again is not

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anticipated by the prior art. The claim has been amended to define patentably over the prior art. Applicant solicits its allowance.

Note that as previously indicated, original claim 20 includes features that are not supported in claim original 4. Claim 4 cannot be used to determine if a first mobile communication unit has tracked a second over time in a wireless network as assumed in the rejection.

- **Claim 21**

The PCD of the prior art cannot invoke a tracking mode to determine if a clandestine unit is tracking it over time. Note that the wireless AP communicates with the PCD according to the prior art. The AP is at a fixed location and not a clandestine device that is in motion with the PCD. Claim 21 is directed to that and is not supported in claim 4 as stated in the rejection.

- Claim 22

Regarding claim 22, a PCD described in the prior art always communicates with a wireless access point to establish its location. The access point does not provide sub-regions within which the PCD is excluded from providing its location information to the access point. Original claim 4 does not provide exclusion regions. The arguments made for claim 14 also apply to claim 22.

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- **Claim 25**

Claim 25 is drafted to include a feature that is lacking in the prior art. A PCD of the prior art cannot establish if its velocity matches that required by the network before sending its location and identity to the network;

- **Claim 26**

Claim 26 is submitted in view of the now cancelled claim 12. Note that claim 12 in its original form is not anticipated by the prior art. There is no request sent out by an AP defined in the prior art to enable all mobile remote units within close proximity of the wireless consumer to disclose their location information. As a result steps (iii) and (iv) of the original claim are not remotely anticipated by the prior art. Note that original claim 12 solves a problem where a wireless consumer may request from the network a list of mobile devices that are maintaining proximity to the consumer over time. The prior art does not solve that problem. The now submitted claim 26 clearly distinguishes over the cited art.

- **Claim 27.**

Claim 27 is submitted in view of original claim 17. The claimed subject matter of original claim 17 is not included in claim 4 as stated in the rejection. Original claim 17 teaches a method to determine if a first portable mobile remote unit is being tracked by a second portable remote unit over time. Step (iii) of the claim verifies whether the tracking and tracked unit have traveled a minimum specified distance. The prior art does not teach that as it solves a different problem.

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The essence of original claim 17 has been included in claim 26. Claim 26 is also a method used to determine if a portable remote unit in motion is tracking another over time.

Claim 27 is now dependent on claim 26 and recites a technique to determine whether a first and second portable remote unit has maintained proximity during a tracking period. The essence of the claim indicates both units maintain a relative distance after traveling a minimum specified distance. Again such actions are not required in the prior art.

- **Claim 28**

Claim 28 is a device claim for the method according to claim 9 which is used to split a wider than normal geographic area used to locate portable remote devices. Same arguments apply as in claim 9.

- **Claim 29**

Claim 29 is the device claim for the method according to claim 8 used to establish if the velocity of a portable remote device is within what is prescribed by the network for location disclosure. Same arguments apply as in claim 8.

- **Claim 30**

Claim 30 is the device claim for the method according to claim 15 used to establish if location disclosure of a portable mobile remote unit is prohibited at a specific location before the location is disclosed. Same arguments apply as in claim 15.

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- **Claim 31**

Claim 31 is a device claim for the method according to 19 used to determine if a clandestine mobile remote unit is tracking another mobile device. Same arguments apply as in claim 19.

- **Claim 32**

Claim 32 is the device claim for method 16 used to abort tracking. Same arguments apply as in claim 16.

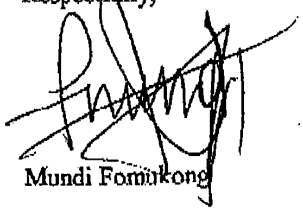
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Conclusion

Applicant has shown in arguments that the amended, existing and new claims are patentable over the prior art. Applicant has submitted a Terminal disclaimer to overcome the double patenting rejection. Applicant solicits allowance of all claims from the Office.

Respectfully,



Mundi Fomukong

(Applicant).

12/23/2003

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IN THE U.S PATENT AND TRADEMARK OFFICE

In re the Application of:

MUNDI FOMUKONG — GROUP ART UNIT 2632

Serial No: 10/199,829 — Examiner: Van Trieu

Filed: July 19, 2002

For: Method and Apparatus for Locating Mobile Units Tracking Another or Within a Prescribed Geographic Boundary.

TERMINAL DISCLAIMER

Hon. Commissioner for Patents and Trademarks
Washington, District of Columbia, 20231.

Sir:

Mundi Fomukong, inventor in the above identified application, holding the entire right, title and interest to the above-identified application, and inventor in U.S Patent No. 6,441,752, holding the entire right, title and interest to U.S Patent No. 6,441,752, do hereby disclaim the terminal part of any patent granted on U.S Patent Application Serial No. 10/199,829, which would extend beyond the expiration date of U.S Patent 6,441,752 and hereby agrees that any patent so granted on U.S Patent Application Serial No. 10/199,829 shall be enforceable only for and during such period that the legal title to said patent shall be the same as the legal title to U.S Patent No. 6,441,752, this agreement to run with any patent granted on U.S Patent Application Serial No. 10/199,829 and to be binding upon the grantee, its successors or assigns.

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In making the above disclaimer, Petitioner does not disclaim the terminal part of any patent granted on U.S Patent Application Serial No. 10/199,829 that would extend to the expiration date of the full statutory term of U.S Patent No. 6,441,752 in the event that such patent later: expires for failure to pay maintenance fee, is held unenforceable, is found invalid by court of competent jurisdiction, is statutorily disclaimed in whole or terminally disclaimed under 37 C.F.R 1.321, has all claims cancelled by a reexamination certificate, is reissued, or is in any manner terminated prior to the expiration of its full statutory term

Dated: 10/13/03

Mundi Fomukong

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THE U.S PATENT AND TRADEMARK OFFICE

Application Number: 10/199,829

Applicant: Mundi Fomukong

Examiner: Van Trieu

Art Unit: 2632

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Method of Transmission : Fax

Number of pages : 27

CRF

1) Response to Office Communication

Commissioner for Patents and Trademarks

Washington, District of Columbia, 20231.

Sir:

In response to the Office communication mailed 07/15/2003 and the subsequent communication mailed 11/25/2003 for the above application, kindly review the material herein and amend the application as indicated in the claim listing section that shows marked up versions. A credit card payment form is also included to cover the Terminal Disclaimer fee and fees for additional dependent claims.

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CLAIM LISTING SHOWING CHANGES

1. (original) A communication system comprising:

a portable mobile remote unit;

a network of communication units;

means to obtain the location of the portable mobile remote unit;

means to obtain geographic boundary information in order to disclose a global location at the network;

means to provide the location of the portable mobile remote unit to the network upon determination that the portable mobile remote unit is within the geographic boundary obtained at the network;

means to determine and report to the system upon request that, another mobile remote unit of the network has tracked the portable mobile remote over a period of time.

2. (original) The portable mobile remote according to claim 1, having means to further determine if location disclosure for the remote unit is prohibited at a specific geographic boundary before sending its location to the network.

3. (original) The portable remote unit of claim 1 having means to establish its velocity at the network and having means to further determine that, its velocity is within the network's prescribed velocity before divulging its location to the network.

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4. (currently amended) A communication system for providing the location of portable mobile remote units, in a geographic region to a wireless consumer requesting that information comprising:

i) means for the wireless consumer to specify and forward to ~~system~~ a network, geographic boundary information describing the geographic region where the location of portable mobile remote units are required by the wireless consumer;

ii) means to request that all portable remote units within said geographic boundary (i) establish their location at the network;

~~ii) means to locate from the system, portable mobile remote units that exist in the geographic boundary of (i), said mobile remote units capable of establishing a global location at the network;~~

iii) means to verify at a portable remote unit if the portable remote unit is within said geographic boundary of said request (ii) before establishing the location of the portable remote unit at the network;

iv) means to verify at the network, after said request (ii) that a portable remote unit according to (iii) responded with location information;

~~iii)~~ v) means to provide to the wireless consumer the location of a portable mobile remote unit that exist in the geographic boundary defined by the wireless consumer after the verification of (iv).

5. (original) The system of claim 4, the portable mobile remote units able to establish and report their location to other communication units of the system;

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6. (cancelled)

7. (currently amended) A method for providing the location of portable mobile remote units to a wireless consumer requesting the location of portable mobile remote units within a geographic region of a communication system comprising:

i) obtaining from the wireless consumer, geographic boundary information indicating where a search should be undertaken for portable mobile remote units;

ii) providing the information defined in (i) to a control unit of the system;

ii) generating at said control unit a request for the location of portable mobile remote units within said geographic boundary;

iii) receiving at the portable mobile remote unit geographic boundary information (ii), within which the location of the portable mobile remote unit should be disclosed;

iv) establishing at the portable mobile remote unit if the unit is within said geographic boundary (iii) and, if yes, forwarding the location information of the unit to the system;

~~iii)~~ v) verifying after said request (ii), whether a portable mobile remote unit in said geographic boundary responded with location information according to (iv);

~~iv)~~ vi) providing to the wireless consumer, at least the identity and location of a portable remote unit after the verification of v ~~(iii)~~;

8 . (cancelled)

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9. (original) A method further employed in 7 to obtain the location of mobile remote units wherein said prescribed geographic boundary obtained from the wireless consumer is wider than normal, comprising;

i) splitting the wider than normal geographic boundary into sub geographic regions to constitute the geographic boundary;

ii) requesting in the sub geographic region(s) , the location of remote units that are present in each sub region;

iii) verifying after each request of (ii) in a sub region, whether at least a portable remote unit disclosed a global location in the region;

iv) maintaining a list of all remote units that disclosed their location after each request from the verification of step (iii) ;

v) providing to the system and from the list of (v) the location of at least a remote unit that revealed its location in the sub region.

10. (original) A technique according to claim 9, utilized to terminate a request for the location information of portable mobile remote units in the prescribed geographic boundary comprising:

checking to establish that a request for remote unit location information was undertaken in all re-defined or sub regions of the prescribed boundary or a portable remote unit in a defined or sub region responded with location information.

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11. (original). A method utilized to provide to a source of request, the location of mobile remote units that exist in a geographic region from the list according to claim 9 comprising:

(i) estimating and obtaining from the list, the location mobile remote units that are closer to the source of request;

(ii) providing the information obtained in (i) to the source of request before releasing the location of other mobile remote units that are further from the source of request.

12. (cancelled)

13. (currently amended) A technique according to claim 12 26, utilized to determine if the second a mobile remote unit is within a ~~prescribed~~ specified geographic boundary or within close proximity of ~~a wireless consumer~~ the first portable mobile remote unit comprising:

obtaining radii information of the geographic boundary from the network;

obtaining geographic information describing the origin of the geographic boundary;

calculating the angle of inclination of the second remote unit to the geographic boundary origin;

calculating from the angle of inclination the distance between the second remote unit and the geographic boundary origin;

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comparing the radii of the geographic boundary to the calculated distance to establish if the second remote unit lies in the geographic boundary .

14. (currently amended) A technique employed by the method according to claim ~~12~~ 26 to determine if a second remote unit is within a specified geographic boundary or close proximity to a ~~wireless consumer~~ the first portable remote unit comprising:

obtaining from the network geographic information describing the geographic boundary;

estimating at the second remote unit if the current location of the remote unit is within the geographic boundary obtained at the network.

15. (currently amended) A method according to claim ~~12~~ 7 utilized to further limit the provision of a remote unit location to the network comprising:

obtaining at the network, exclusion region information within which the remote unit should not provide its location the network;

determining that the remote unit is not in the exclusion region before providing the location of the remote unit to the network.

16. (currently amended) A technique utilized in the method according to claim ~~12~~ 26, to terminate ~~requesting~~ obtaining at each interval, the location of second portable mobile remote units that are within close proximity of the first portable remote unit ~~wireless consumer~~ comprising;

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i) keeping track of the time since the first request for tracking units within proximity of the first portable remote unit ~~wireless consumer~~ was enacted by the system;

ii) validating that the elapsed time at each interval when a request is to be made does not exceed the total time set for establishing tracking in the system;

iii) requesting that all mobile remote units within close proximity of the ~~wireless consumer~~ first portable remote unit divulge their location if the result of the validation of (ii) is true.

17. (cancelled)

18. (currently amended) The verification technique employed in the method of claim ~~17~~ 26(iii) comprising:

retaining a tracking list of all second portable mobile units or tracking units that are within a pre-specified radius or region of the first unit or tracked unit at the first tracking interval;

eliminating or removing at subsequent tracking intervals, all tracking units in the tracking list that do not report their location during a subsequent tracking interval;

validating at the end of the tracking period that at least a tracking unit exist in the tracking list and a minimum distance was traveled by the tracked unit.

19. (currently amended) Another verification technique employed in the method of claim ~~17~~ 26(iii) comprising:

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i) maintaining a list of all second portable remote units/tracking units that ~~are maintaining a close distance to the tracked unit over the period of time~~ provided their location during said tracking period;

~~searching the tracking list at the end of the tracking period to obtain tracking units that traveled a minimum pre-specified distance with the tracked unit.~~

ii) from the list of (i), forwarding the location of the second portable mobile remote unit to the network upon determination that said second portable mobile remote unit maintained close proximity to the first mobile remote during the tracking period.

20 . (currently amended) A communication system comprising:

(i) a network of communication units;

(ii) at least a first communication unit and at least a second communication unit able to provide location information to the network for a time while in motion;

~~the system able to determine and report that the at least second communication unit maintained close proximity to the at least first communication unit over a period of time~~

(iii) means to request whether the at least second communication unit is tracking the at least first communication unit.

(iv) means to determine from said location provided (ii) that the at least first and second communication unit maintained proximity while in motion during said time;

(vi) means to provide result of the determination (iv) to the requestor of (iii);

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21. (original) The system of claim 20, the at least first communication unit able to invoke a tracking mode at the at least first communication unit in order to determine if a clandestine unit is tracking it.

22. (original) A method for providing the location of a portable remote unit that exists within a prescribed geographic boundary in a wireless network comprising:

i) providing geographic boundary information to the mobile remote unit in a geographic region to disclose their location;

ii) further providing exclusion region information associated with said geographic boundary of (i) to the mobile remote unit in the geographic region;

iii) determining that a mobile remote unit is in the geographic boundary of (i) and not in the exclusion region of (ii) before providing the location of the mobile remote unit to the network.

23. (original) A method for providing the location of a portable remote unit that exists within a prescribed geographic boundary to a wireless network comprising:

i) providing to remote units in the geographic boundary velocity information required in order to divulge location information;

ii) estimating at the remote unit or network, the velocity at which the remote unit is moving;

iii) validating that the estimated velocity of the remote unit meets the velocity requirement provided by the network (i) ,if yes, forwarding the location of the remote unit to the network.

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24. (cancelled)

25. (new) A method further employed in 7 to determine if a portable mobile remote unit is within a specific geographic boundary defined by the system comprising:

i) receiving at the portable mobile remote unit geographic boundary information and velocity information, within which the location of the portable mobile remote unit should be disclosed;

ii) establishing at the portable mobile remote unit if the unit is within said geographic boundary and, if the velocity of the unit is within the values prescribed by the network;

(iii) if the result of (ii) is yes, forwarding the location of the portable mobile remote unit to the system;

26. (new) A method for determining that a first portable remote unit of a wireless consumer associated with a network is being tracked by at least a second portable remote unit that is in motion with the first portable remote unit over a tracking period comprising;

i) obtaining the location information of the first portable mobile remote unit, said location information provided at intervals during said tracking period;

ii) obtaining the location information of the at least second portable communication unit that is within a specified geographic boundary of the first portable remote unit, said location information provided at intervals during said tracking period.;

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iii) using the location obtained according to step (i) and (ii) to verify whether the first portable remote unit and second portable remote unit have maintained relative proximity during the tracking period;

iv) forwarding the result of the verification to a network requestor at the end of the tracking period.

27.(new) A technique employed by the method according to claim ~~12~~ 26 to verify whether the first portable remote unit and second portable remote unit have maintained proximity during said tracking period further comprising verifying whether the first and second portable remote units maintained a relative distance after traveling a minimum pre-specified distance during the tracking period;

28. (new) The system of claim 4, having means to split wider geographic boundaries defined by a wireless consumer into sub regions and further means to recursively request for the location of portable mobile remote units within each sub region until a portable mobile remote unit responds with location information;

29. (new) The system of claim 4, a portable mobile remote unit having means to establish its velocity at the network and having means to further determine that, its velocity is within the network's prescribed velocity before divulging its location to the network.

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30. (new) The system of claim 4, a portable mobile remote unit having means to further determine if location disclosure for the remote unit is prohibited at a specific geographic boundary before sending its location to the network.

31. (new) The system of claim 20 having means to maintain an inventory of all second communication units that are providing their location within proximity to the first communication unit during said time and having further means to determine and report a second communication unit in said inventory that has maintained proximity to the first communication unit during said time.

32. (new) The system of claim 20 having means to abort the tracking request process if it is determined that either the first or the communication units are not in motion or the tracking period has expired.

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DETAILED RESPONSE TO OFFICE ACTION

In the last Office communication mailed July 15, 2003, claims 4-22 and 24 were rejected under 35 U.S.C 102 as being anticipated by Stewart [US 6,414,635].

Stewart teaches a system for tracking the location of a portable computing device or PCD. The system maintains several communication wireless access points, AP, that are scattered throughout the network. Whenever a PCD enters a geographic region, the PCD communicates with an access point to establish its location. The access point then utilizes the location of the PCD to provide location centric services to a wireless consumer in possession of the PCD. Also service providers requiring information of portable computing devices, PCDs, in a geographic area may also obtain that information from the access points to facilitate the creation of new businesses at that location.

In the invention, a wireless consumer in motion may use a location enabled mobile device to check if the location of the wireless consumer is being disclosed by a clandestine mobile device that is tracking the consumer over time. The network upon receiving this information sends a signal containing the geographic boundary information where the presence of location enabled mobile communication devices is needed. Upon receiving the signal, a location enabled mobile device establishes if it is within the geographic boundary specified by the network before forwarding its location and identity to the network. Also, as location is tracked within a geographic boundary of the system, a distress wireless consumer may request for mobile devices that are in a specific geographic location.

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The prior art, Stewart [U.S 6,414,635] merely picks up the location of mobile devices that are entering a geographic region of an access point. Note that the mobile devices disclosed in the prior art cannot determine if they are within a prescribed geographic boundary defined by the network for location disclosure before establishing their location at the network. So there is no need for an access point defined by the prior art to initiate a request for mobile devices in a smaller area covered by the access point to divulge their location to the access point. Note that all mobile devices within the coverage area of the access point provide their location to the access point. Therefore, modifications not cited in the prior art would be needed for any such changes to be effective.

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RESPONSE TO CLAIM OBJECTIONS AND REJECTIONS

- **Claim 4:**

Claim 4 has been amended to define patentably over the prior art. It should be noted that portable mobile remote units defined in the prior art cannot establish if they are within a specific geographic location required for location disclosure by the network, AP, before divulging their location to the network. Also, there clearly is no need for an access point defined by the prior art to request that only PCDs within a footprint or smaller geographic area of the access point disclosed their location while other PCDs in subsequent areas covered by the access point do not disclose their location. The prior art and the invention solve different problems. Modifications are therefore needed in order for the prior art to perform the functions of the invention.

- **Claim 5**

Claim 5 is dependent on claim 4 and should be allowed in view of that.

- **Claim 6**

The essence claim 6 has been included in independent claim 4. This claim is withdrawn from consideration.

- **Claim 7**

Claim 7 has also been amended to define patentably over the prior art. It should be noted that the prior art does not teach the essence of the original claim 7. There is no need for an access point to request that only portable remote units within a smaller geographic

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region of the access point provide their location to the network. The access point defined by the prior art routinely picks up the location of PCDs within its geographic area of coverage. Further limitations have been added to clearly distinguish this claim from the prior art.

- **Claim 9**

Note that the access point defined by the prior art does not split a geographic region where a request has been forwarded for PCDs into sub regions as stated in the office action. Also a request is not transmitted recursively to each small region of the wider geographic area until a PCD responds with location information. The claim should have been allowed as none of the steps is carried out by the prior art. Again the inventions are different and there is no need for the prior art to use the steps of claim.

- **Claim 10**

Same arguments made to claim 9 apply to claim 10. Fig 14 does not teach what the rejection is relying upon as supposedly teaching. The claim should have been allowed.

- **Claim 11**

The prior art does not teach the steps of the claim. The prior art does not teach releasing the location of mobile remote units that that are closest to the source of request before subsequently releasing those that are further away. The claim should have been allowed.

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- **Claim 13**

Note that there is no reason for a mobile remote unit as described by the prior art to determine if it is within a specific geographic boundary or close proximity to a wireless consumer in possession of a second mobile remote unit. The rejection is inconsistent with the teachings of the prior art and applicant solicit the allowance of this claim. Note that the AP is a fixed control unit/transmitter and not a mobile device.

- **Claim 14**

Note that a PCD of the prior art does not obtain geographic boundary information from the network in order to determine if the current location of the PCD is within the prescribed boundary obtained at the network. The claim has been slightly amended to define patentably over the prior art.

- **Claim 15**

Col 24, lines 21-67 does not teach what the rejection is relying upon. There is no exclusion region information provided to PCDs of the prior art. As a result a PCD cannot disable transmission of location signals when in the exclusion region. The claim should have been allowed.

- **Claim 16**

The essence of the claim was misconstrued in the rejection. The rejection failed to include step (iii) of the claim in its interpretations. The essence of the rejection clearly

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won't make sense if step (iii) was added. Again the prior art and the invention are solving different problems and they teach away from each other. There is no need for the prior art to request that all mobile units within proximity of the wireless consumer divulge their location at tracking intervals that are within the timeframe set for tracking. The prior art does not seek to find mobile units that are maintaining proximity to a wireless consumer over a pre-specified time.

- **Claim 18**

According to Fig 14 of the prior art, the AP enters until a wait state until a PCD retransmits 2nd and 3rd time stamps. There is no eliminating / removing at subsequent tracking intervals all tracking units that do not respond with location information as indicated in claim 14. Also, the prior art does not validate at the end of the tracking period if a tracking unit exist in the list. Again the rejection relied on matter that is not disclosed in the prior art. The claim should have been allowed.

- **Claim 19**

Note that the wireless AP of the prior art does not attempt to resolve which PCDs are maintaining close proximity to a mobile remote PCD over time. So there is no reason for claim 19 to be used by the prior art.

- **Claim 20**

Original claim 20 teaches a system used to track mobile remote units that are maintaining close proximity to a primary mobile remote unit over time. Such a system again is not

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anticipated by the prior art. The claim has been amended to define patentably over the prior art. Applicant solicits its allowance.

Note that as previously indicated, original claim 20 includes features that are not supported in claim original 4. Claim 4 cannot be used to determine if a first mobile communication unit has tracked a second over time in a wireless network as assumed in the rejection.

- **Claim 21**

The PCD of the prior art cannot invoke a tracking mode to determine if a clandestine unit is tracking it over time. Note that the wireless AP communicates with the PCD according to the prior art. The AP is at a fixed location and not a clandestine device that is in motion with the PCD. Claim 21 is directed to that and is not supported in claim 4 as stated in the rejection

- Claim 22

Regarding claim 22, a PCD described in the prior art always communicates with a wireless access point to establish its location. The access point does not provide sub-regions within which the PCD is excluded from providing its location information to the access point. Original claim 4 does not provide exclusion regions. The arguments made for claim 14 also apply to claim 22.

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- **Claim 25**

Claim 25 is drafted to include a feature that is lacking in the prior art. A PCD of the prior art cannot establish if its velocity matches that required by the network before sending its location and identity to the network;

- **Claim 26**

Claim 26 is submitted in view of the now cancelled claim 12. Note that claim 12 in its original form is not anticipated by the prior art. There is no request sent out by an AP defined in the prior art to enable all mobile remote units within close proximity of the wireless consumer to disclose their location information. As a result steps (iii) and (iv) of the original claim are not remotely anticipated by the prior art. Note that original claim 12 solves a problem where a wireless consumer may request from the network a list of mobile devices that are maintaining proximity to the consumer over time. The prior art does not solve that problem. The now submitted claim 26 clearly distinguishes over the cited art.

- **Claim 27.**

Claim 27 is submitted in view of original claim 17. The claimed subject matter of original claim 17 is not included in claim 4 as stated in the rejection. Original claim 17 teaches a method to determine if a first portable mobile remote unit is being tracked by a second portable remote unit over time. Step (iii) of the claim verifies whether the tracking and tracked unit have traveled a minimum specified distance. The prior art does not teach that as it solves a different problem.

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The essence of original claim 17 has been included in claim 26. Claim 26 is also a method used to determine if a portable remote unit in motion is tracking another over time.

Claim 27 is now dependent on claim 26 and recites a technique to determine whether a first and second portable remote unit has maintained proximity during a tracking period. The essence of the claim indicates both units maintain a relative distance after traveling a minimum specified distance. Again such actions are not required in the prior art.

- **Claim 28**

Claim 28 is a device claim for the method according to claim 9 which is used to split a wider than normal geographic area used to locate portable remote devices. Same arguments apply as in claim 9.

- **Claim 29**

Claim 29 is the device claim for the method according to claim 8 used to establish if the velocity of a portable remote device is within what is prescribed by the network for location disclosure. Same arguments apply as in claim 8.

- **Claim 30**

Claim 30 is the device claim for the method according to claim 15 used to establish if location disclosure of a portable mobile remote unit is prohibited at a specific location before the location is disclosed. Same arguments apply as in claim 15.

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- **Claim 31**

Claim 31 is a device claim for the method according to 19 used to determine if a clandestine mobile remote unit is tracking another mobile device. Same arguments apply as in claim 19.

- **Claim 32**

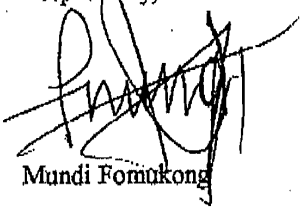
Claim 32 is the device claim for method 16 used to abort tracking. Same arguments apply as in claim 16.

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Conclusion

Applicant has shown in arguments that the amended, existing and new claims are patentable over the prior art. Applicant has submitted a Terminal disclaimer to overcome the double patenting rejection. Applicant solicits allowance of all claims from the Office.

Respectfully,



Mundi Fomukong

(Applicant).

12/23/2003

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PAGE 25/27 * RCVD AT 12/23/2003 4:52:53 PM [Eastern Standard Time] * SVR:USPTO-EFXRF-1/1 * DNIS:8729306 * CSID: * DURATION (mm-ss):06-24

IN THE U.S PATENT AND TRADEMARK OFFICE

In re the Application of:

MUNDI FOMUKONG GROUP ART UNIT 2632

Serial No: 10/199,829 Examiner: Van Trieu

Filed: July 19, 2002

For: Method and Apparatus for Locating Mobile Units Tracking Another or Within a Prescribed Geographic Boundary.

TERMINAL DISCLAIMER

Hon. Commissioner for Patents and Trademarks
Washington, District of Columbia, 20231.

Sir:

Mundi Fomukong, inventor in the above identified application, holding the entire right, title and interest to the above-identified application, and inventor in U.S Patent No. 6,441,752, holding the entire right, title and interest to U.S Patent No. 6,441,752, do hereby disclaim the terminal part of any patent granted on U.S Patent Application Serial No. 10/199,829, which would extend beyond the expiration date of U.S Patent 6,441,752 and hereby agrees that any patent so granted on U.S Patent Application Serial No. 10/199,829 shall be enforceable only for and during such period that the legal title to said patent shall be the same as the legal title to U.S Patent No. 6,441,752, this agreement to run with any patent granted on U.S Patent Application Serial No. 10/199,829 and to be binding upon the grantee, its successors or assigns.

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In making the above disclaimer, Petitioner does not disclaim the terminal part of any patent granted on U.S Patent Application Serial No. 10/199,829 that would extend to the expiration date of the full statutory term of U.S Patent No. 6,441,752 in the event that such patent later: expires for failure to pay maintenance fee, is held unenforceable, is found invalid by court of competent jurisdiction, is statutorily disclaimed in whole or terminally disclaimed under 37 C.F.R 1.321, has all claims cancelled by a reexamination certificate, is reissued, or is in any manner terminated prior to the expiration of its full statutory term

Dated: 10/13/03

Mundi Fomukong

THE U.S PATENT AND TRADEMARK OFFICE

Application Number: 10/199,829

Applicant: Mundi Fomukong

Examiner: Van Trieu

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1) Response to Office Communication

Commissioner for Patents and Trademarks

Washington, District of Columbia, 20231.

Sir:

In response to the last Office communication mailed 07/15/2003 for the above application, kindly review the material herein and amend the application as indicated in the claim listing section that shows marked up versions.

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CLAIM LISTING SHOWING CHANGES

1. (original) A communication system comprising:

a portable mobile remote unit;

a network of communication units;

means to obtain the location of the portable mobile remote unit;

means to obtain geographic boundary information in order to disclose a global location at the network;

means to provide the location of the portable mobile remote unit to the network upon determination that the portable mobile remote unit is within the geographic boundary obtained at the network;

means to determine and report to the system upon request that, another mobile remote unit of the network has tracked the portable mobile remote over a period of time.

2. (original) The portable mobile remote according to claim 1, having means to further determine if location disclosure for the remote unit is prohibited at a specific geographic boundary before sending its location to the network.

3. (original) The portable remote unit of claim 1 having means to establish its velocity at the network and having means to further determine that, its velocity is within the network's prescribed velocity before divulging its location to the network.

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4. (currently amended) A communication system for providing the location of portable mobile remote units, in a geographic region to a wireless consumer requesting that information comprising:

i) means for the wireless consumer to specify and forward to ~~system~~ a network, geographic boundary information describing the geographic region where the location of portable mobile remote units are required by the wireless consumer;

ii) means to request that all portable remote units within said geographic boundary (i) establish their location at the network;

~~ii) means to locate from the system, portable mobile remote units that exist in the geographic boundary of (i), said mobile remote units capable of establishing a global location at the network;~~

iii) means to verify at a portable remote unit if the portable remote unit is within said geographic boundary of said request (ii) before establishing the location of the portable remote unit at the network;

iv) means to verify at the network, after said request (ii) that a portable remote unit according to (iii) responded with location information;

~~iii)~~ v) means to provide to the wireless consumer the location of a portable mobile remote unit that exist in the geographic boundary defined by the wireless consumer after the verification of (iv) .

5. (original) The system of claim 4, the portable mobile remote units able to establish and report their location to other communication units of the system;

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6. (cancelled)

7. (currently amended) A method for providing the location of portable mobile remote units to a wireless consumer requesting the location of portable mobile remote units within a geographic region of a communication system comprising:

i) obtaining from the wireless consumer, geographic boundary information indicating where a search should be undertaken for portable mobile remote units;

ii) providing the information defined in (i) to a control unit of the system;

ii) generating at said control unit a request for the location of portable mobile remote units within said geographic boundary;

iii) receiving at the portable mobile remote unit geographic boundary information (ii), within which the location of the portable mobile remote unit should be disclosed;

iv) establishing at the portable mobile remote unit if the unit is within said geographic boundary (iii) and, if yes, forwarding the location information of the unit to the system;

~~iii)~~ v) verifying after said request (ii), whether a portable mobile remote unit in said geographic boundary responded with location information according to (iv);

~~iv)~~ vi) providing to the wireless consumer, at least the identity and location of a portable remote unit after the verification of v ~~(iii)~~;

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8 . (cancelled)

8. (new) A method further employed in 7 to determine if a portable mobile remote unit is within a specific geographic boundary defined by the system comprising:

i) receiving at the portable mobile remote unit geographic boundary information and velocity information, within which the location of the portable mobile remote unit should be disclosed;

ii) establishing at the portable mobile remote unit if the unit is within said geographic boundary and, if the velocity of the unit is within the values prescribed by the network;

(iii) if the result of (ii) is yes, forwarding the location of the portable mobile remote unit to the system;

9. (original) A method further employed in 7 to obtain the location of mobile remote units wherein said prescribed geographic boundary obtained from the wireless consumer is wider than normal, comprising;

i) splitting the wider than normal geographic boundary into sub geographic regions to constitute the geographic boundary;

ii) requesting in the sub geographic region(s) , the location of remote units that are present in each sub region;

iii) verifying after each request of (ii) in a sub region, whether at least a portable remote unit disclosed a global location in the region;

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iv) maintaining a list of all remote units that disclosed their location after each request from the verification of step (iii) ;

v) providing to the system and from the list of (v) the location of at least a remote unit that revealed its location in the sub region.

10. (original) A technique according to claim 9, utilized to terminate a request for the location information of portable mobile remote units in the prescribed geographic boundary comprising:

checking to establish that a request for remote unit location information was undertaken in all re-defined or sub regions of the prescribed boundary or a portable remote unit in a defined or sub region responded with location information.

11. (original) A method utilized to provide to a source of request, the location of mobile remote units that exist in a geographic region from the list according to claim 9 comprising:

(i) estimating and obtaining from the list, the location mobile remote units that are closer to the source of request;

(ii) providing the information obtained in (i) to the source of request before releasing the location of other mobile remote units that are further from the source of request.

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12. (cancelled)

12. (new) A method for determining that a first portable remote unit of a wireless consumer associated with a network is being tracked by at least a second portable remote unit that is in motion with the first portable remote unit over a tracking period comprising;

i) obtaining the location information of the first portable mobile remote unit, said location information provided at intervals during said tracking period;

ii) obtaining the location information of the at least second portable communication unit that is within a specified geographic boundary of the first portable remote unit, said location information provided at intervals during said tracking period.;

iii) using the location obtained according to step (i) and (ii) to verify whether the first portable remote unit and second portable remote unit have maintained relative proximity during the tracking period;

iv) forwarding the result of the verification to a network requestor at the end of the tracking period.

13. (currently amended) A technique according to claim 12, utilized to determine if the second ~~a~~ mobile remote unit is within a ~~prescribed~~ specified geographic boundary or within close proximity of ~~a wireless consumer~~ the first portable mobile remote unit comprising:

obtaining radii information of the geographic boundary from the network;

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obtaining geographic information describing the origin of the geographic boundary;

calculating the angle of inclination of the second remote unit to the geographic boundary origin;

calculating from the angle of inclination the distance between the second remote unit and the geographic boundary origin;

comparing the radii of the geographic boundary to the calculated distance to establish if the second remote unit lies in the geographic boundary .

14. (currently amended) A technique employed by the method according to claim 12 to determine if ~~a~~ second remote unit is within a specified geographic boundary or close proximity to ~~a wireless consumer~~ the first portable remote unit comprising:

obtaining from the network geographic information describing the geographic boundary;

estimating at the second remote unit if the current location of the remote unit is within the geographic boundary obtained at the network.

15. (currently amended) A method according to claim ~~12~~ 7 utilized to further limit the provision of a remote unit location to the network comprising:

obtaining at the network, exclusion region information within which the remote unit should not provide its location the network;

determining that the remote unit is not in the exclusion region before providing the location of the remote unit to the network.

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16. (currently amended) A technique utilized in the method according to claim 12, to terminate ~~requesting~~ obtaining at each interval, the location of second portable mobile remote units that are within close proximity of the first portable remote unit ~~wireless consumer~~ comprising;

i) keeping track of the time since the first request for tracking units within proximity of the first portable remote unit ~~wireless consumer~~ was enacted by the system;

ii) validating that the elapsed time at each interval when a request is to be made does not exceed the total time set for establishing tracking in the system;

iii) requesting that all mobile remote units within close proximity of the ~~wireless consumer~~ first portable remote unit divulge their location if the result of the validation of (ii) is true.

17. (cancelled)

17.(new) A technique employed by the method according to claim 12 to verify whether the first portable remote unit and second portable remote unit have maintained proximity during said tracking period further comprising verifying whether the first and second portable remote units maintained a relative distance after traveling a minimum pre-specified distance during the tracking period;

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18. (currently amended) The verification technique employed in the method of claim ~~17~~ 12(iii) comprising:

retaining a tracking list of all second portable mobile units or tracking units that are within a pre-specified radius or region of the first unit or tracked unit at the first tracking interval;

eliminating or removing at subsequent tracking intervals, all tracking units in the tracking list that do not report their location during a subsequent tracking interval;

validating at the end of the tracking period that at least a tracking unit exist in the tracking list and a minimum distance was traveled by the tracked unit.

19. (currently amended) Another verification technique employed in the method of claim ~~17~~ 12(iii) comprising:

i) maintaining a list of all second portable remote units/tracking units that ~~are maintaining a close distance to the tracked unit over the period of time~~ provided their location during said tracking period;

~~searching the tracking list at the end of the tracking period to obtain tracking units that traveled a minimum pre-specified distance with the tracked unit.~~

ii) from the list of (i), forwarding the location of the second portable mobile remote unit to the network upon determination that said second portable mobile remote unit maintained close proximity to the first mobile remote during the tracking period.

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20 . (currently amended) A communication system comprising:

(i) a network of communication units;

(ii) at least a first communication unit and at least a second communication unit able to provide location information to the network for a time while in motion;

~~the system able to determine and report that the at least second communication unit maintained close proximity to the at least first communication unit over a period of time~~

(iii) means to request whether the at least second communication unit is tracking the at least first communication unit.

(iv) means to determine from said location provided (ii) that the at least first and second communication unit maintained proximity while in motion during said time;

(vi) means to provide result of the determination (iv) to the requestor of (iii);

21. (original) The system of claim 20, the at least first communication unit able to invoke a tracking mode at the at least first communication unit in order to determine if a clandestine unit is tracking it.

22. (original) A method for providing the location of a portable remote unit that exists within a prescribed geographic boundary in a wireless network comprising:

i) providing geographic boundary information to the mobile remote unit in a geographic region to disclose their location;

ii) further providing exclusion region information associated with said geographic boundary of (i) to the mobile remote unit in the geographic region;

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iii) determining that a mobile remote unit is in the geographic boundary of (i) and not in the exclusion region of (ii) before providing the location of the mobile remote unit to the network.

23. (original) A method for providing the location of a portable remote unit that exists within a prescribed geographic boundary to a wireless network comprising:

i) providing to remote units in the geographic boundary velocity information required in order to divulge location information;

ii) estimating at the remote unit or network, the velocity at which the remote unit is moving;

iii) validating that the estimated velocity of the remote unit meets the velocity requirement provided by the network (i) ,if yes, forwarding the location of the remote unit to the network.

24. (cancelled)

24. (new) The system of claim 4, having means to split wider geographic boundaries defined by a wireless consumer into sub regions and further means to recursively request for the location of portable mobile remote units within each sub region until a portable mobile remote unit responds with location information;

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25. (new) The system of claim 4, a portable mobile remote unit having means to establish its velocity at the network and having means to further determine that, its velocity is within the network's prescribed velocity before divulging its location to the network.

26. (new) The system of claim 4, a portable mobile remote unit having means to further determine if location disclosure for the remote unit is prohibited at a specific geographic boundary before sending its location to the network.

27. (new) The system of claim 20 having means to maintain an inventory of all second communication units that are providing their location within proximity to the first communication unit during said time and having further means to determine and report a second communication unit in said inventory that has maintained proximity to the first communication unit during said time.

28. (new) The system of claim 20 having means to abort the tracking request process if it is determined that either the first or the communication units are not in motion or the tracking period has expired.

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DETAILED RESPONSE TO OFFICE ACTION

In the last Office communication mailed July 15, 2003, claims 4-22 and 24 were rejected under 35 U.S.C 102 as being anticipated by Stewart [US 6,414,635].

Stewart teaches a system for tracking the location of a portable computing device or PCD. The system maintains several communication wireless access points, AP, that are scattered throughout the network. Whenever a PCD enters a geographic region, the PCD communicates with an access point to establish its location. The access point then utilizes the location of the PCD to provide location centric services to a wireless consumer in possession of the PCD. Also service providers requiring information of portable computing devices, PCDs, in a geographic area may also obtain that information from the access points to facilitate the creation of new businesses at that location.

In the invention, a wireless consumer in motion may use a location enabled mobile device to check if the location of the wireless consumer is being disclosed by a clandestine mobile device that is tracking the consumer over time. The network upon receiving this information sends a signal containing the geographic boundary information where the presence of location enabled mobile communication devices is needed. Upon receiving the signal, a location enabled mobile device establishes if it is within the geographic boundary specified by the network before forwarding its location and identity to the network. Also, as location is tracked within a geographic boundary of the system, a distress wireless consumer may request for mobile devices that are in a specific geographic location.

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Petitioner Uber Ex-1005, 0177

The prior art, Stewart [U.S 6,414,635] merely picks up the location of mobile devices that are entering a geographic region of an access point. Note that the mobile devices disclosed in the prior art cannot determine if they are within a prescribed geographic boundary defined by the network for location disclosure before establishing their location at the network. So there is no need for an access point defined by the prior art to initiate a request for mobile devices in a smaller area covered by the access point to divulge their location to the access point. Note that all mobile devices within the coverage area of the access point provide their location to the access point. Therefore, modifications not cited in the prior art would be needed for any such changes to be effective.

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Petitioner Uber Ex-1005, 0178

RESPONSE TO CLAIM OBJECTIONS AND REJECTIONS

- **Claim 4:**

Claim 4 has been amended to define patentably over the prior art. It should be noted that portable mobile remote units defined in the prior art cannot establish if they are within a specific geographic location required for location disclosure by the network, AP, before divulging their location to the network. Also, there clearly is no need for an access point defined by the prior art to request that only PCDs within a footprint or smaller geographic area of the access point disclosed their location while other PCDs in subsequent areas covered by the access point do not disclose their location. The prior art and the invention solve different problems. Modifications are therefore needed in order for the prior art to perform the functions of the invention.

- **Claim 5**

Claim 5 is dependent on claim 4 and should be allowed in view of that.

- **Claim 6**

The essence claim 6 has been included in independent claim 4. This claim is withdrawn from consideration.

- **Claim 7**

Claim 7 has also been amended to define patentably over the prior art. It should be noted that the prior art does not teach the essence of the original claim 7. There is no need for an access point to request that only portable remote units within a smaller geographic

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Petitioner Uber Ex-1005, 0179

region of the access point provide their location to the network. The access point defined by the prior art routinely picks up the location of PCDs within its geographic area of coverage. Further limitations have been added to clearly distinguish this claim from the prior art.

- **Claim 8**

The essence of original claim 8 has been included in claim 7. Claim 8 is now redrafted to include a feature that is lacking in the prior art. A PCD of the prior art cannot establish if its velocity matches that required by the network before sending its location and identity to the network;

- **Claim 9**

Note that the access point defined by the prior art does not split a geographic region where a request has been forwarded for PCDs into sub regions as stated in the office action. Also a request is not transmitted recursively to each small region of the wider geographic area until a PCD responds with location information. The claim should have been allowed as none of the steps is carried out by the prior art. Again the inventions are different and there is no need for the prior art to use the steps of claim.

- **Claim 10**

Same arguments made to claim 9 apply to claim 10. Fig 14 does not teach what the rejection is relying upon as supposedly teaching. The claim should have been allowed.

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Petitioner Uber Ex-1005, 0180

- **Claim 11**

The prior art does not teach the steps of the claim. The prior art does not teach releasing the location of mobile remote units that that are closest to the source of request before subsequently releasing those that are further away. The claim should have been allowed.

- **Claim 12**

Again the claim in its original form is not anticipated by the prior art. There is no request sent out by an AP defined in the prior art to enable all mobile remote units within close proximity of the wireless consumer to disclose their location information. As a result steps (iii) and (iv) of the original claim are not remotely anticipated by the prior art. Note that original claim 12 solves a problem where a wireless consumer may request from the network a list of mobile devices that are maintaining proximity to the consumer over time. The prior art does not solve that problem. The now amended claim 12 clearly distinguishes over the cited art.

- **Claim 13**

Note that there is no reason for a mobile remote unit as described by the prior art to determine if it is within a specific geographic boundary or close proximity to a wireless consumer in possession of a second mobile remote unit. The rejection is inconsistent with the teachings of the prior art and applicant solicit the allowance of this claim. Note that the AP is a fixed control unit/transmitter and not a mobile device.

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Petitioner Uber Ex-1005, 0181

- **Claim 14**

Note that a PCD of the prior art does not obtain geographic boundary information from the network in order to determine if the current location of the PCD is within the prescribed boundary obtained at the network. The claim has been slightly amended to define patentably over the prior art.

- **Claim 15**

Col 24, lines 21-67 does not teach what the rejection is relying upon. There is no exclusion region information provided to PCDs of the prior art. As a result a PCD cannot disable transmission of location signals when in the exclusion region. The claim should have been allowed.

- **Claim 16**

The essence of the claim was misconstrued in the rejection. The rejection failed to include step (iii) of the claim in its interpretations. The essence of the rejection clearly won't make sense if step (iii) was added. Again the prior art and the invention are solving different problems and they teach away from each other. There is no need for the prior art to request that all mobile units within proximity of the wireless consumer divulge their location at tracking intervals that are within the timeframe set for tracking. The prior art does not seek to find mobile units that are maintaining proximity to a wireless consumer over a pre-specified time.

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Petitioner Uber Ex-1005, 0182

- **Claim 17.**

The claimed subject matter of original claim 17 is not included in claim 4 as stated in the rejection. Original claim 17 teaches a method to determine if a first portable mobile remote unit is being tracked by a second portable remote unit over time. Step (iii) of the claim verifies whether the tracking and tracked unit have traveled a minimum specified distance. The prior art does not teach that as it solves a different problem.

The essence of original claim 17 has been included in claim 12. Claim 12 is also a method used to determine if a portable remote unit in motion is tracking another over time.

Amended claim 17 is now dependent on claim 12 and recites a technique to determine whether a first and second portable remote unit has maintained proximity during a tracking period. The essence of the claim indicates both units maintain a relative distance after traveling a minimum specified distance. Again such actions are not required in the prior art.

- **Claim 18**

According to Fig 14 of the prior art, the AP enters until a wait state until a PCD retransmits 2nd and 3rd time stamps. There is no eliminating / removing at subsequent tracking intervals all tracking units that do not respond with location information as indicated in claim 14. Also, the prior art does not validate at the end of the tracking period if a tracking unit exist in the list. Again the rejection relied on matter that is not disclosed in the prior art. The claim should have been allowed.

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Petitioner Uber Ex-1005, 0183

- **Claim 19**

Note that the wireless AP of the prior art does not attempt to resolve which PCDs are maintaining close proximity to a mobile remote PCD over time. So there is no reason for claim 19 to be used by the prior art.

- **Claim 20**

Original claim 20 teaches a system used to track mobile remote units that are maintaining close proximity to a primary mobile remote unit over time. Such a system again is not anticipated by the prior art. The claim has been amended to define patentably over the prior art. Applicant solicits its allowance.

Note that as previously indicated, original claim 20 includes features that are not supported in claim original 4. Claim 4 cannot be used to determine if a first mobile communication unit has tracked a second over time in a wireless network as assumed in the rejection.

- **Claim 21**

The PCD of the prior art cannot invoke a tracking mode to determine if a clandestine unit is tracking it over time. Note that the wireless AP communicates with the PCD according to the prior art. The AP is at a fixed location and not a clandestine device that is in motion with the PCD. Claim 21 is directed to that and is not supported in claim 4 as stated in the rejection.

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Petitioner Uber Ex-1005, 0184

- Claim 22

Regarding claim 22, a PCD described in the prior art always communicates with a wireless access point to establish its location. The access point does not provide sub-regions within which the PCD is excluded from providing its location information to the access point. Original claim 4 does not provide exclusion regions. The arguments made for claim 14 also apply to claim 22.

- **Claim 24**

Claim 24 has been cancelled and replaced with a new claim. The claim is a device claim for the method according to claim 9 which is used to split a wider than normal geographic area used to locate portable remote devices. Same arguments apply as in claim 9.

- **Claim 25**

Claim 25 is the device claim for the method according to claim 8 used to establish if the velocity of a portable remote device is within what is prescribed by the network for location disclosure. Same arguments apply as in claim 8.

- **Claim 26**

Claim 26 is the device claim for the method according to claim 15 used to establish if location disclosure of a portable mobile remote unit is prohibited at a specific location before the location is disclosed. Same arguments apply as in claim 15.

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Petitioner Uber Ex-1005, 0185

- **Claim 27**

Claim 27 is a device claim for the method according to 19 used to determine if a clandestine mobile remote unit is tracking another mobile device. Same arguments apply as in claim 19.

- **Claim 28**

Claim 28 is the device claim for method 16 used to abort tracking. Same arguments apply as in claim 16.

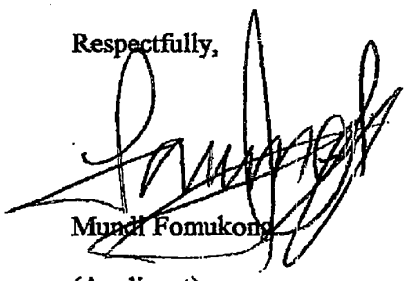
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Petitioner Uber Ex-1005, 0186

Conclusion

Applicant has shown in arguments that the amended, existing and new claims are patentable over the prior art. Applicant has submitted a Terminal disclaimer to overcome the double patenting rejection. Applicant solicits allowance of all claims from the Office.

Respectfully,



Mundi Fomukong

(Applicant).

10/13/2003

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Petitioner Uber Ex-1005, 0187

IN THE U.S PATENT AND TRADEMARK OFFICE

In re the Application of:

MUNDI FOMUKONG

GROUP ART UNIT 2632

Serial No: 10/199,829

Examiner: Van Trieu

Filed: July 19, 2002

For: Method and Apparatus for Locating Mobile Units Tracking Another or Within a Prescribed Geographic Boundary.

TERMINAL DISCLAIMER

Hon. Commissioner for Patents and Trademarks
Washington, District of Columbia, 20231.

Sir:

Mundi Fomukong, inventor in the above identified application, holding the entire right, title and interest to the above-identified application, and inventor in U.S Patent No. 6,441,752, holding the entire right, title and interest to U.S Patent No. 6,441,752, do hereby disclaim the terminal part of any patent granted on U.S Patent Application Serial No. 10/199,829, which would extend beyond the expiration date of U.S Patent 6,441,752 and hereby agrees that any patent so granted on U.S Patent Application Serial No. 10/199,829 shall be enforceable only for and during such period that the legal title to said patent shall be the same as the legal title to U.S Patent No. 6,441,752, this agreement to run with any patent granted on U.S Patent Application Serial No. 10/199,829 and to be binding upon the grantee, its successors or assigns.

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In making the above disclaimer, Petitioner does not disclaim the terminal part of any patent granted on U.S Patent Application Serial No. 10/199,829 that would extend to the expiration date of the full statutory term of U.S Patent No. 6,441,752 in the event that such patent later: expires for failure to pay maintenance fee, is held unenforceable, is found invalid by court of competent jurisdiction, is statutorily disclaimed in whole or terminally disclaimed under 37 C.F.R 1.321, has all claims cancelled by a reexamination certificate, is reissued, or is in any manner terminated prior to the expiration of its full statutory term

Dated: 10/13/03

Mundi Fomukong

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10-27-03
(N.E.)

THE U.S PATENT AND TRADEMARK OFFICE

Application Number: 10/199,829

Applicant: Mundi Fomukong

Examiner: Van Trieu

Art Unit: 2632

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1) Response to Office Communication

Commissioner for Patents and Trademarks

Washington, District of Columbia, 20231.

Sir:

In response to the last Office communication mailed 07/15/2003 for the above application, kindly review the material herein and amend the application as indicated in the claim listing section that shows marked up versions.

Petitioner Uber Ex-1005, 0190

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CLAIM LISTING SHOWING CHANGES

1. (original) A communication system comprising:

a portable mobile remote unit;

a network of communication units;

means to obtain the location of the portable mobile remote unit;

means to obtain geographic boundary information in order to disclose a global location at the network;

means to provide the location of the portable mobile remote unit to the network upon determination that the portable mobile remote unit is within the geographic boundary obtained at the network;

means to determine and report to the system upon request that, another mobile remote unit of the network has tracked the portable mobile remote over a period of time.

2. (original) The portable mobile remote according to claim 1, having means to further determine if location disclosure for the remote unit is prohibited at a specific geographic boundary before sending its location to the network.

3. (original) The portable remote unit of claim 1 having means to establish its velocity at the network and having means to further determine that, its velocity is within the network's prescribed velocity before divulging its location to the network.

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4. (currently amended) A communication system for providing the location of portable mobile remote units, in a geographic region to a wireless consumer requesting that information comprising:

i) means for the wireless consumer to specify and forward to ~~system~~ a network, geographic boundary information describing the geographic region where the location of portable mobile remote units are required by the wireless consumer;

ii) means to request that all portable remote units within said geographic boundary (i) establish their location at the network;

~~ii) means to locate from the system, portable mobile remote units that exist in the geographic boundary of (i) , said mobile remote units capable of establishing a global location at the network;~~

iii) means to verify at a portable remote unit if the portable remote unit is within said geographic boundary of said request (ii) before establishing the location of the portable remote unit at the network;

iv) means to verify at the network, after said request (ii) that a portable remote unit according to (iii) responded with location information;

~~iii)~~ v) means to provide to the wireless consumer the location of a portable mobile remote unit that exist in the geographic boundary defined by the wireless consumer after the verification of (iv) .

5. (original) The system of claim 4, the portable mobile remote units able to establish and report their location to other communication units of the system;

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6. (cancelled)

7. (currently amended) A method for providing the location of portable mobile remote units to a wireless consumer requesting the location of portable mobile remote units within a geographic region of a communication system comprising:

i) obtaining from the wireless consumer, geographic boundary information indicating where a search should be undertaken for portable mobile remote units;

ii) providing the information defined in (i) to a control unit of the system;

ii) generating at said control unit a request for the location of portable mobile remote units within said geographic boundary;

iii) receiving at the portable mobile remote unit geographic boundary information (ii), within which the location of the portable mobile remote unit should be disclosed;

iv) establishing at the portable mobile remote unit if the unit is within said geographic boundary (iii) and, if yes, forwarding the location information of the unit to the system;

~~iii)~~ v) verifying after said request (ii), whether a portable mobile remote unit in said geographic boundary responded with location information according to (iv);

~~iv)~~ vi) providing to the wireless consumer, at least the identity and location of a portable remote unit after the verification of v ~~(iii)~~;

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8 . (cancelled)

8. (new) A method further employed in 7 to determine if a portable mobile remote unit is within a specific geographic boundary defined by the system comprising:

i) receiving at the portable mobile remote unit geographic boundary information and velocity information, within which the location of the portable mobile remote unit should be disclosed;

ii) establishing at the portable mobile remote unit if the unit is within said geographic boundary and, if the velocity of the unit is within the values prescribed by the network;

(iii) if the result of (ii) is yes, forwarding the location of the portable mobile remote unit to the system;

9. (original) A method further employed in 7 to obtain the location of mobile remote units wherein said prescribed geographic boundary obtained from the wireless consumer is wider than normal, comprising;

i) splitting the wider than normal geographic boundary into sub geographic regions to constitute the geographic boundary;

ii) requesting in the sub geographic region(s) , the location of remote units that are present in each sub region;

iii) verifying after each request of (ii) in a sub region, whether at least a portable remote unit disclosed a global location in the region;

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iv) maintaining a list of all remote units that disclosed their location after each request from the verification of step (iii) ;

v) providing to the system and from the list of (v) the location of at least a remote unit that revealed its location in the sub region.

10. (original) A technique according to claim 9, utilized to terminate a request for the location information of portable mobile remote units in the prescribed geographic boundary comprising:

checking to establish that a request for remote unit location information was undertaken in all re-defined or sub regions of the prescribed boundary or a portable remote unit in a defined or sub region responded with location information.

11. (original) A method utilized to provide to a source of request, the location of mobile remote units that exist in a geographic region from the list according to claim 9 comprising:

(i) estimating and obtaining from the list, the location mobile remote units that are closer to the source of request;

(ii) providing the information obtained in (i) to the source of request before releasing the location of other mobile remote units that are further from the source of request.

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12. (cancelled)

12. (new) A method for determining that a first portable remote unit of a wireless consumer associated with a network is being tracked by at least a second portable remote unit that is in motion with the first portable remote unit over a tracking period comprising;

i) obtaining the location information of the first portable mobile remote unit, said location information provided at intervals during said tracking period;

ii) obtaining the location information of the at least second portable communication unit that is within a specified geographic boundary of the first portable remote unit, said location information provided at intervals during said tracking period.;

iii) using the location obtained according to step (i) and (ii) to verify whether the first portable remote unit and second portable remote unit have maintained relative proximity during the tracking period;

iv) forwarding the result of the verification to a network requestor at the end of the tracking period.

13. (currently amended) A technique according to claim 12, utilized to determine if the second ~~a~~ mobile remote unit is within a ~~prescribed~~ specified geographic boundary or within close proximity of ~~a wireless consumer~~ the first portable mobile remote unit comprising:

obtaining radii information of the geographic boundary from the network;

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obtaining geographic information describing the origin of the geographic boundary;

calculating the angle of inclination of the second remote unit to the geographic boundary origin;

calculating from the angle of inclination the distance between the second remote unit and the geographic boundary origin;

comparing the radii of the geographic boundary to the calculated distance to establish if the second remote unit lies in the geographic boundary .

14. (currently amended) A technique employed by the method according to claim 12 to determine if a second remote unit is within a specified geographic boundary or close proximity to ~~a wireless consumer~~ the first portable remote unit comprising:

obtaining from the network geographic information describing the geographic boundary;

estimating at the second remote unit if the current location of the remote unit is within the geographic boundary obtained at the network.

15. (currently amended) A method according to claim ~~12~~ 7 utilized to further limit the provision of a remote unit location to the network comprising:

obtaining at the network, exclusion region information within which the remote unit should not provide its location the network;

determining that the remote unit is not in the exclusion region before providing the location of the remote unit to the network.

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16. (currently amended) A technique utilized in the method according to claim 12, to terminate ~~requesting~~ obtaining at each interval, the location of second portable mobile remote units that are within close proximity of the first portable remote unit ~~wireless consumer~~ comprising;

i) keeping track of the time since the first request for tracking units within proximity of the first portable remote unit ~~wireless consumer~~ was enacted by the system;

ii) validating that the elapsed time at each interval when a request is to be made does not exceed the total time set for establishing tracking in the system;

iii) requesting that all mobile remote units within close proximity of the ~~wireless consumer~~ first portable remote unit divulge their location if the result of the validation of (ii) is true.

17. (cancelled)

17.(new) A technique employed by the method according to claim 12 to verify whether the first portable remote unit and second portable remote unit have maintained proximity during said tracking period further comprising verifying whether the first and second portable remote units maintained a relative distance after traveling a minimum pre-specified distance during the tracking period;

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18. (currently amended) The verification technique employed in the method of claim ~~17~~ 12(iii) comprising:

retaining a tracking list of all second portable mobile units or tracking units that are within a pre-specified radius or region of the first unit or tracked unit at the first tracking interval;

eliminating or removing at subsequent tracking intervals, all tracking units in the tracking list that do not report their location during a subsequent tracking interval;

validating at the end of the tracking period that at least a tracking unit exist in the tracking list and a minimum distance was traveled by the tracked unit.

19. (currently amended) Another verification technique employed in the method of claim ~~17~~ 12(iii) comprising:

i) maintaining a list of all second portable remote units/tracking units that ~~are maintaining a close distance to the tracked unit over the period of time~~ provided their location during said tracking period;

~~searching the tracking list at the end of the tracking period to obtain tracking units that traveled a minimum pre-specified distance with the tracked unit.~~

ii) from the list of (i), forwarding the location of the second portable mobile remote unit to the network upon determination that said second portable mobile remote unit maintained close proximity to the first mobile remote during the tracking period.

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20 . (currently amended) A communication system comprising:

(i) a network of communication units;

(ii) at least a first communication unit and at least a second communication unit able to provide location information to the network for a time while in motion;

~~the system able to determine and report that the at least second communication unit maintained close proximity to the at least first communication unit over a period of time~~

(iii) means to request whether the at least second communication unit is tracking the at least first communication unit.

(iv) means to determine from said location provided (ii) that the at least first and second communication unit maintained proximity while in motion during said time;

(vi) means to provide result of the determination (iv) to the requestor of (iii);

21. (original) The system of claim 20, the at least first communication unit able to invoke a tracking mode at the at least first communication unit in order to determine if a clandestine unit is tracking it.

22. (original) A method for providing the location of a portable remote unit that exists within a prescribed geographic boundary in a wireless network comprising:

i) providing geographic boundary information to the mobile remote unit in a geographic region to disclose their location;

ii) further providing exclusion region information associated with said geographic boundary of (i) to the mobile remote unit in the geographic region;

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iii) determining that a mobile remote unit is in the geographic boundary of (i) and not in the exclusion region of (ii) before providing the location of the mobile remote unit to the network.

23. (original) A method for providing the location of a portable remote unit that exists within a prescribed geographic boundary to a wireless network comprising:

i) providing to remote units in the geographic boundary velocity information required in order to divulge location information;

ii) estimating at the remote unit or network, the velocity at which the remote unit is moving;

iii) validating that the estimated velocity of the remote unit meets the velocity requirement provided by the network (i) ,if yes, forwarding the location of the remote unit to the network.

24. (cancelled)

24. (new) The system of claim 4, having means to split wider geographic boundaries defined by a wireless consumer into sub regions and further means to recursively request for the location of portable mobile remote units within each sub region until a portable mobile remote unit responds with location information;

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25. (new) The system of claim 4, a portable mobile remote unit having means to establish its velocity at the network and having means to further determine that, its velocity is within the network's prescribed velocity before divulging its location to the network.

26. (new) The system of claim 4, a portable mobile remote unit having means to further determine if location disclosure for the remote unit is prohibited at a specific geographic boundary before sending its location to the network.

27. (new) The system of claim 20 having means to maintain an inventory of all second communication units that are providing their location within proximity to the first communication unit during said time and having further means to determine and report a second communication unit in said inventory that has maintained proximity to the first communication unit during said time.

28. (new) The system of claim 20 having means to abort the tracking request process if it is determined that either the first or the communication units are not in motion or the tracking period has expired.

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DETAILED RESPONSE TO OFFICE ACTION

In the last Office communication mailed July 15, 2003, claims 4-22 and 24 were rejected under 35 U.S.C 102 as being anticipated by Stewart [US 6,414,635].

Stewart teaches a system for tracking the location of a portable computing device or PCD. The system maintains several communication wireless access points, AP, that are scattered throughout the network. Whenever a PCD enters a geographic region, the PCD communicates with an access point to establish its location. The access point then utilizes the location of the PCD to provide location centric services to a wireless consumer in possession of the PCD. Also service providers requiring information of portable computing devices, PCDs, in a geographic area may also obtain that information from the access points to facilitate the creation of new businesses at that location.

In the invention, a wireless consumer in motion may use a location enabled mobile device to check if the location of the wireless consumer is being disclosed by a clandestine mobile device that is tracking the consumer over time. The network upon receiving this information sends a signal containing the geographic boundary information where the presence of location enabled mobile communication devices is needed. Upon receiving the signal, a location enabled mobile device establishes if it is within the geographic boundary specified by the network before forwarding its location and identity to the network. Also, as location is tracked within a geographic boundary of the system, a distress wireless consumer may request for mobile devices that are in a specific geographic location.

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The prior art, Stewart [U.S 6,414,635] merely picks up the location of mobile devices that are entering a geographic region of an access point. Note that the mobile devices disclosed in the prior art cannot determine if they are within a prescribed geographic boundary defined by the network for location disclosure before establishing their location at the network. So there is no need for an access point defined by the prior art to initiate a request for mobile devices in a smaller area covered by the access point to divulge their location to the access point. Note that all mobile devices within the coverage area of the access point provide their location to the access point. Therefore, modifications not cited in the prior art would be needed for any such changes to be effective.

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RESPONSE TO CLAIM OBJECTIONS AND REJECTIONS

- **Claim 4:**

Claim 4 has been amended to define patentably over the prior art. It should be noted that portable mobile remote units defined in the prior art cannot establish if they are within a specific geographic location required for location disclosure by the network, AP, before divulging their location to the network. Also, there clearly is no need for an access point defined by the prior art to request that only PCDs within a footprint or smaller geographic area of the access point disclosed their location while other PCDs in subsequent areas covered by the access point do not disclose their location. The prior art and the invention solve different problems. Modifications are therefore needed in order for the prior art to perform the functions of the invention.

- **Claim 5**

Claim 5 is dependent on claim 4 and should be allowed in view of that.

- **Claim 6**

The essence claim 6 has been included in independent claim 4. This claim is withdrawn from consideration.

- **Claim 7**

Claim 7 has also been amended to define patentably over the prior art. It should be noted that the prior art does not teach the essence of the original claim 7. There is no need for an access point to request that only portable remote units within a smaller geographic

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region of the access point provide their location to the network. The access point defined by the prior art routinely picks up the location of PCDs within its geographic area of coverage. Further limitations have been added to clearly distinguish this claim from the prior art.

- **Claim 8**

The essence of original claim 8 has been included in claim 7. Claim 8 is now redrafted to include a feature that is lacking in the prior art. A PCD of the prior art cannot establish if its velocity matches that required by the network before sending its location and identity to the network;

- **Claim 9**

Note that the access point defined by the prior art does not split a geographic region where a request has been forwarded for PCDs into sub regions as stated in the office action. Also a request is not transmitted recursively to each small region of the wider geographic area until a PCD responds with location information. The claim should have been allowed as none of the steps is carried out by the prior art. Again the inventions are different and there is no need for the prior art to use the steps of claim.

- **Claim 10**

Same arguments made to claim 9 apply to claim 10. Fig 14 does not teach what the rejection is relying upon as supposedly teaching. The claim should have been allowed.

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- **Claim 11**

The prior art does not teach the steps of the claim. The prior art does not teach releasing the location of mobile remote units that that are closest to the source of request before subsequently releasing those that are further away. The claim should have been allowed.

- **Claim 12**

Again the claim in its original form is not anticipated by the prior art. There is no request sent out by an AP defined in the prior art to enable all mobile remote units within close proximity of the wireless consumer to disclose their location information. As a result steps (iii) and (iv) of the original claim are not remotely anticipated by the prior art. Note that original claim 12 solves a problem where a wireless consumer may request from the network a list of mobile devices that are maintaining proximity to the consumer over time. The prior art does not solve that problem. The now amended claim 12 clearly distinguishes over the cited art.

- **Claim 13**

Note that there is no reason for a mobile remote unit as described by the prior art to determine if it is within a specific geographic boundary or close proximity to a wireless consumer in possession of a second mobile remote unit. The rejection is inconsistent with the teachings of the prior art and applicant solicit the allowance of this claim. Note that the AP is a fixed control unit/transmitter and not a mobile device.

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- **Claim 14**

Note that a PCD of the prior art does not obtain geographic boundary information from the network in order to determine if the current location of the PCD is within the prescribed boundary obtained at the network. The claim has been slightly amended to define patentably over the prior art.

- **Claim 15**

Col 24, lines 21-67 does not teach what the rejection is relying upon. There is no exclusion region information provided to PCDs of the prior art. As a result a PCD cannot disable transmission of location signals when in the exclusion region. The claim should have been allowed.

- **Claim 16**

The essence of the claim was misconstrued in the rejection. The rejection failed to include step (iii) of the claim in its interpretations. The essence of the rejection clearly won't make sense if step (iii) was added. Again the prior art and the invention are solving different problems and they teach away from each other. There is no need for the prior art to request that all mobile units within proximity of the wireless consumer divulge their location at tracking intervals that are within the timeframe set for tracking. The prior art does not seek to find mobile units that are maintaining proximity to a wireless consumer over a pre-specified time.

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- **Claim 17.**

The claimed subject matter of original claim 17 is not included in claim 4 as stated in the rejection. Original claim 17 teaches a method to determine if a first portable mobile remote unit is being tracked by a second portable remote unit over time. Step (iii) of the claim verifies whether the tracking and tracked unit have traveled a minimum specified distance. The prior art does not teach that as it solves a different problem.

The essence of original claim 17 has been included in claim 12. Claim 12 is also a method used to determine if a portable remote unit in motion is tracking another over time.

Amended claim 17 is now dependent on claim 12 and recites a technique to determine whether a first and second portable remote unit has maintained proximity during a tracking period. The essence of the claim indicates both units maintain a relative distance after traveling a minimum specified distance. Again such actions are not required in the prior art.

- **Claim 18**

According to Fig 14 of the prior art, the AP enters until a wait state until a PCD retransmits 2nd and 3rd time stamps. There is no eliminating / removing at subsequent tracking intervals all tracking units that do not respond with location information as indicated in claim 14. Also, the prior art does not validate at the end of the tracking period if a tracking unit exist in the list. Again the rejection relied on matter that is not disclosed in the prior art. The claim should have been allowed.

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- **Claim 19**

Note that the wireless AP of the prior art does not attempt to resolve which PCDs are maintaining close proximity to a mobile remote PCD over time. So there is no reason for claim 19 to be used by the prior art.

- **Claim 20**

Original claim 20 teaches a system used to track mobile remote units that are maintaining close proximity to a primary mobile remote unit over time. Such a system again is not anticipated by the prior art. The claim has been amended to define patentably over the prior art. Applicant solicits its allowance.

Note that as previously indicated, original claim 20 includes features that are not supported in claim original 4. Claim 4 cannot be used to determine if a first mobile communication unit has tracked a second over time in a wireless network as assumed in the rejection.

- **Claim 21**

The PCD of the prior art cannot invoke a tracking mode to determine if a clandestine unit is tracking it over time. Note that the wireless AP communicates with the PCD according to the prior art. The AP is at a fixed location and not a clandestine device that is in motion with the PCD. Claim 21 is directed to that and is not supported in claim 4 as stated in the rejection.

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- **Claim 22**

Regarding claim 22, a PCD described in the prior art always communicates with a wireless access point to establish its location. The access point does not provide sub-regions within which the PCD is excluded from providing its location information to the access point. Original claim 4 does not provide exclusion regions. The arguments made for claim 14 also apply to claim 22.

- **Claim 24**

Claim 24 has been cancelled and replaced with a new claim. The claim is a device claim for the method according to claim 9 which is used to split a wider than normal geographic area used to locate portable remote devices. Same arguments apply as in claim 9.

- **Claim 25**

Claim 25 is the device claim for the method according to claim 8 used to establish if the velocity of a portable remote device is within what is prescribed by the network for location disclosure. Same arguments apply as in claim 8.

- **Claim 26**

Claim 26 is the device claim for the method according to claim 15 used to establish if location disclosure of a portable mobile remote unit is prohibited at a specific location before the location is disclosed. Same arguments apply as in claim 15.

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- **Claim 27**

Claim 27 is a device claim for the method according to 19 used to determine if a clandestine mobile remote unit is tracking another mobile device. Same arguments apply as in claim 19.

- **Claim 28**

Claim 28 is the device claim for method 16 used to abort tracking. Same arguments apply as in claim 16.

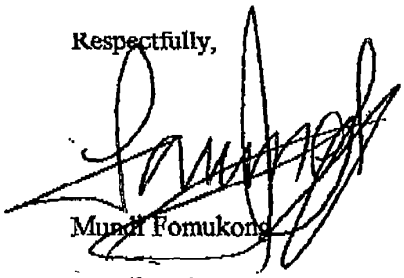
Petitioner Uber Ex-1005, 0212

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Conclusion

Applicant has shown in arguments that the amended, existing and new claims are patentable over the prior art. Applicant has submitted a Terminal disclaimer to overcome the double patenting rejection. Applicant solicits allowance of all claims from the Office.

Respectfully,



Mundi Fomukong

(Applicant).

10/13/2003

Petitioner Uber Ex-1005, 0213

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IN THE U.S PATENT AND TRADEMARK OFFICE

In re the Application of:

MUNDI FOMUKONG GROUP ART UNIT 2632

Serial No: 10/199,829 Examiner: Van Trieu

Filed: July 19, 2002

For: Method and Apparatus for Locating Mobile Units Tracking Another or Within a Prescribed Geographic Boundary.

TERMINAL DISCLAIMER

Hon. Commissioner for Patents and Trademarks
Washington, District of Columbia, 20231.

Sir:

Mundi Fomukong, inventor in the above identified application, holding the entire right, title and interest to the above-identified application, and inventor in U.S Patent No. 6,441,752, holding the entire right, title and interest to U.S Patent No. 6,441,752, do hereby disclaim the terminal part of any patent granted on U.S Patent Application Serial No. 10/199,829, which would extend beyond the expiration date of U.S Patent 6,441,752 and hereby agrees that any patent so granted on U.S Patent Application Serial No. 10/199,829 shall be enforceable only for and during such period that the legal title to said patent shall be the same as the legal title to U.S Patent No. 6,441,752, this agreement to run with any patent granted on U.S Patent Application Serial No. 10/199,829 and to be binding upon the grantee, its successors or assigns.

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In making the above disclaimer, Petitioner does not disclaim the terminal part of any patent granted on U.S Patent Application Serial No. 10/199,829 that would extend to the expiration date of the full statutory term of U.S Patent No. 6,441,752 in the event that such patent later: expires for failure to pay maintenance fee, is held unenforceable, is found invalid by court of competent jurisdiction, is statutorily disclaimed in whole or terminally disclaimed under 37 C.F.R 1.321, has all claims cancelled by a reexamination certificate, is reissued, or is in any manner terminated prior to the expiration of its full statutory term

Dated: 10/12/03

Mundi Fomukong

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PAGE 1/2 * RCVD AT 5/17/2004 1:34:49 AM [Eastern Daylight Time] * SVR:USPTO-EFXRF-2/0 * DNIS:7464000 * CSID: * DURATION (mm-ss):01-28

PART B - FEE(S) TRANSMITTAL

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MUNDI FOMUKONG
#49
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West Los Angeles, CA 90034

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/199,829	07/19/2002	Mundi Fomukong		1150

TITLE OF INVENTION: METHOD AND APPARATUS FOR LOCATING MOBILE UNITS TRACKING ANOTHER OR WITHIN A PRESCRIBED GEOGRAPHIC BOUNDARY

APPLN. TYPE	SMALL ENTITY	ISSUE FEE	PUBLICATION FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	YES	$665	$300	$965	06/16/2004

EXAMINER	ART UNIT	CLASS-SUBCLASS
TRIEU, VAN THANH	2636	340-988000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.

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(Authorized Signature) (Date) 5/17/04

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This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, Alexandria, Virginia 22313-1450.

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/199,829	07/19/2002	Mundi Fomukong		1150

7590 03/16/2004

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EXAMINER	
TRIEU, VAN THANH	
ART UNIT	PAPER NUMBER
2636	

DATE MAILED: 03/16/2004

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)
(application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 0 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 0 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) system (http://pair.uspto.gov).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (703) 305-1383. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at (703) 305-8283.

PTOL-85 (Rev. 11/03) Approved for use through 04/30/2004.

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RAM Fee History Query

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Accounting Date	Sequence Num.	Tran Type	Fee Code	Fee Amount	Mailroom Date	Payment Method
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Petitioner Uber Ex-1005, 0218

PATENT APPLICATION SERIAL NO. _____

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PTO-1556
(5/87)

*U.S. Government Printing Office: 2001 — 481-697/59173

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6	197790	(portable or mobile or remot$3) near3 (unit or device or transceiver)	USPAT; EPO; JPO; DERWENT	2003/07/10 13:21
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Petitioner Uber Ex-1005, 0220

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91	14	((((obtain$3 or determin$3 or defin$3 or track$3 or monitor$3) near4 (geographic or boundar$3 or location or position)) and ((((portable or mobile or remot$3) near3 (unit or device or transceiver)) with (obtain$3 or determin$3 or defin$3 or track$3 or monitor$3) near4 (geographic or boundar$3)) with (network or Internet or web))) or (((((portable or mobile or remot$3) near3 (unit or device or transceiver)) near3 (anotther or ajacent or second or third or different)) with (obtain$3 or determin$3 or defin$3 or track$3 or monitor$3)) with ((period or predetermined) near2 time))) and (velocity or speed)	USPAT; EPO; JPO; DERWENT	2003/07/10 14:30
96	20	((((obtain$3 or determin$3 or defin$3 or track$3 or monitor$3) near4 (geographic or boundar$3 or location or position)) and ((((portable or mobile or remot$3) near3 (unit or device or transceiver)) with (obtain$3 or determin$3 or defin$3 or track$3 or monitor$3) near4 (geographic or boundar$3)) with (network or Internet or web))) or (((((portable or mobile or remot$3) near3 (unit or device or transceiver)) near3 (anotther or ajacent or second or third or different)) with (obtain$3 or determin$3 or defin$3 or track$3 or monitor$3)) with ((period or predetermined) near2 time))) and (GPS or satellite)	USPAT; EPO; JPO; DERWENT	2003/07/10 14:32
101	42562	(specif$3 or predefined or preselected) near3 (radius or distance)	USPAT; EPO; JPO; DERWENT	2003/07/10 14:32

Petitioner Uber Ex-1005, 0221

106	2	((((obtain$3 or determin$3 or defin$3 or track$3 or monitor$3) near4 (geographic or boundar$3 or location or position)) and ((((portable or mobile or remot$3) near3 (unit or device or transceiver)) with (obtain$3 or determin$3 or defin$3 or track$3 or monitor$3) near4 (geographic or boundar$3)) with (network or Internet or web))) or (((((portable or mobile or remot$3) near3 (unit or device or transceiver)) near3 (anotther or ajacent or second or third or different)) with (obtain$3 or determin$3 or defin$3 or track$3 or monitor$3)) with ((period or predetermined) near2 time))) and ((specif$3 or predefined or preselected) near3 (radius or distance))	USPAT; EPO; JPO; DERWENT	2003/07/10 14:32

Petitioner Uber Ex-1005, 0222

US 6522882 B1	Method and apparatu	455/439	455/404.2; 455/456.2
US 6505049 B1	Method and apparatu	455/456.2	340/825.36; 455/457
US 6414635 B1	Geographic-based co	342/457	342/463
US 6263280 B1	Global locating and tra	701/213	342/357.07; 342/357.09; 342/45
US 6222483 B1	GPS location for mob	342/357.09	342/357.1; 455/456.5
US 6125125 A	Synchronization of TD	370/510	370/512
US 5983109 A	Method and apparatu	455/456.2	
US 20020183077 A	Wireless communication system has terrestrial network center tha		
US 6263280 B	Remote signaling unit's geographic position tracking involves displ		
US 6441752 B1	Method and apparatu	340/988	340/989; 340/992
US 6430397 B1	Method and device fo	455/67.11	342/357.06; 455/423; 455/67.14
US 6363419 B1	Method and apparatu	709/219	709/313; 709/328
US 6038451 A	Location based metho	455/445	455/417; 455/456.1
US 5448569 A	Handoff monitoring in	370/332	375/133; 455/437; 455/452.2; 4
WO 9967765 A1	A DEVICE AND A METHOD FOR PROVIDING A SERVICE		
US 6125125 A	Synchronization of time division multiple access cell sites involves		
US 6121922 A	Portable geographic position determination-communication module		

US 5950113 A	Method and apparatu	455/10	340/7.21; 340/7.25; 455/11.1; 4
US 6504816 B1	Baseband signal dem	370/204	370/208; 370/342; 370/441; 37
US 6484093 B1	Communication route	701/211	340/990; 340/995.1; 701/202; 7
US 6476517 B1	Vehicle automatic doo	307/10.2	307/10.1; 307/9.1
US 6437691 B1	Electronic message d	340/506	
US 6364834 B1	Method and system fo	600/300	128/903; 128/904; 705/3
US 6236214 B1	Method and apparatu	324/427	320/132
US 6209144 B1	Protective garment	2/458	2/81; 2/DIG.1
US 6147601 A	Electronic message d	340/506	340/3.1; 340/539.1; 340/539.14
US 6091757 A	Data transmission with	375/130	370/508; 370/519
US 5999878 A	System and method fo	701/208	342/357.03; 701/215; 702/5
US 5940766 A	Portable telephone sy	455/465	455/461
US 5862485 A	Method and apparatu	455/450	455/510; 455/517
US 5838140 A	Portable device batter	320/133	320/134; 320/136; 324/433; 34
US 5448221 A	Dual alarm apparatus	340/539.21	340/573.4; 342/50; 455/67.7
US 5331602 A	Acoustic navigation ar	367/6	367/127; 367/134
US 5287549 A	Commuication device	455/701	455/218
US 5115223 A	Personnel location mo	340/573.1	340/539.1; 340/539.13; 340/573
US 4906830 A	Bar-code remote-cont	235/462.13	235/381; 235/454; 235/462.3; 2
US 4888605 A	Photographing appara	396/429	396/374; 396/511
US 4028500 A	Mobile unit supervisor	455/566	379/354; 455/567
US 3898390 A	Multiple zone commun	455/438	455/434; 455/450
WO 2089440 A2	MODEM RELAY OVER A PACKET NETWORK		
JP 09211120 A	Radio-beacon appts for navigation system of ship, aircraft - has ra		
GB 2260882 A	Cordless telephone frequency hopping communication - conservin		
GB 2253972 A	Paging appts. for remote subscriber - pages remote portable at giv		
EP 299040A0, A4, B1	VOX remote unit control in cellular system - keys transmitter for pr		
EP 213780A2, A3, B1	Burst-mode two-way radio communications system - has several r		

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US 6522882 B1	Method and apparatu	455/439	455/404.2; 455/456.2
US 6505049 B1	Method and apparatu	455/456.2	340/825.36; 455/457
US 6414635 B1	Geographic-based co	342/457	342/463
US 6222483 B1	GPS location for mob	342/357.09	342/357.1; 455/456.5
US 5950113 A	Method and apparatu	455/10	340/7.21; 340/7.25; 455/11.1; 4
US 20020183077 A	Wireless communication system has terrestrial network center tha		
US 6484093 B1	Communication route	701/211	340/990; 340/995.1; 701/202; 7
US 6476517 B1	Vehicle automatic doo	307/10.2	307/10.1; 307/9.1
US 6441752 B1	Method and apparatu	340/988	340/989; 340/992
US 6437691 B1	Electronic message d	340/506	
US 6430397 B1	Method and device fo	455/67.11	342/357.06; 455/423; 455/67.14
US 6364834 B1	Method and system fo	600/300	128/903; 128/904; 705/3
US 6363419 B1	Method and apparatu	709/219	709/313; 709/328
US 6209144 B1	Protective garment	2/458	2/81; 2/DIG.1
US 6147601 A	Electronic message d	340/506	340/3.1; 340/539.1; 340/539.14
US 5999878 A	System and method fo	701/208	342/357.03; 701/215; 702/5
US 5838140 A	Portable device batter	320/133	320/134; 320/136; 324/433; 34
US 3898390 A	Multiple zone commun	455/438	455/434; 455/450
WO 2089440 A2	MODEM RELAY OVER A PACKET NETWORK		
EP 299040A0, A4, B1	VOX remote unit control in cellular system - keys transmitter for pr		

L76

US 6263280 B1	Global locating and tra	701/213	342/357.07; 342/357.09; 342/45
US 6222483 B1	GPS location for mob	342/357.09	342/357.1; 455/456.5
US 6484093 B1	Communication route	701/211	340/990; 340/995.1; 701/202; 7
US 6441752 B1	Method and apparatu	340/988	340/989; 340/992
US 6430397 B1	Method and device fo	455/67.11	342/357.06; 455/423; 455/67.14
US 6364834 B1	Method and system fo	600/300	128/903; 128/904; 705/3
US 6363419 B1	Method and apparatu	709/219	709/313; 709/328
US 6091757 A	Data transmission with	375/130	370/508; 370/519
US 5448569 A	Handoff monitoring in	370/332	375/133; 455/437; 455/452.2; 4
US 5448221 A	Dual alarm apparatus	340/539.21	340/573.4; 342/50; 455/67.7
US 5331602 A	Acoustic navigation ar	367/6	367/127; 367/134
US 4906830 A	Bar-code remote-cont	235/462.13	235/381; 235/454; 235/462.3; 2
US 4888605 A	Photographing appara	396/429	396/374; 396/511
US 3898390 A	Multiple zone commun	455/438	455/434; 455/450

L91

US 6441752 B1	Method and apparatu	340/988	340/989; 340/992
US 6038451 A	Location based metho	455/445	455/417; 455/456.1

L106

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
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NOTICE OF ALLOWANCE AND FEE(S) DUE

7590 03/16/2004

MUNDI FOMUKONG
#49
10853 ROSE AVE.
West Los Angeles, CA 90034

EXAMINER	
TRIEU, VAN THANH	
ART UNIT	PAPER NUMBER
2636	

DATE MAILED: 03/16/2004

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/199,829	07/19/2002	Mundi Fomukong		1150

TITLE OF INVENTION: METHOD AND APPARATUS FOR LOCATING MOBILE UNITS TRACKING ANOTHER OR WITHIN A PRESCRIBED GEOGRAPHIC BOUNDARY

APPLN. TYPE	SMALL ENTITY	ISSUE FEE	PUBLICATION FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	YES	$665	$300	$965	06/16/2004

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE REFLECTS A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE APPLIED IN THIS APPLICATION. THE PTOL-85B (OR AN EQUIVALENT) MUST BE RETURNED WITHIN THIS PERIOD EVEN IF NO FEE IS DUE OR THE APPLICATION WILL BE REGARDED AS ABANDONED.

HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:
A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status is changed, pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above and notify the United States Patent and Trademark Office of the change in status, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check the box below and enclose the PUBLICATION FEE and 1/2 the ISSUE FEE shown above.

☐ Applicant claims SMALL ENTITY status. See 37 CFR 1.27.

II. PART B - FEE(S) TRANSMITTAL should be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). Even if the fee(s) have already been paid, Part B - Fee(s) Transmittal should be completed and returned. If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

PTOL-85 (Rev. 11/03) Approved for use through 04/30/2004.

Petitioner Uber Ex-1005, 0228

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: Mail **Mail Stop ISSUE FEE**
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
or Fax (703) 746-4000

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 4 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Legibly mark-up with any corrections or use Block 1)

7590 03/16/2004

MUNDI FOMUKONG
#49
10853 ROSE AVE.
West Los Angeles, CA 90034

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

Certificate of Mailing or Transmission
I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/199,829	07/19/2002	Mundi Fomukong		1150

TITLE OF INVENTION: METHOD AND APPARATUS FOR LOCATING MOBILE UNITS TRACKING ANOTHER OR WITHIN A PRESCRIBED GEOGRAPHIC BOUNDARY

APPLN. TYPE	SMALL ENTITY	ISSUE FEE	PUBLICATION FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	YES	$665	$300	$965	06/16/2004

EXAMINER	ART UNIT	CLASS-SUBCLASS
TRIEU, VAN THANH	2636	340-988000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

❑ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.

❑ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list (1) the names of up to 3 registered patent attorneys or agents OR, alternatively, (2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1 _____
2 _____
3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. Inclusion of assignee data is only appropriate when an assignment has been previously submitted to the USPTO or is being submitted under separate cover. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE (B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent); ❑ individual ❑ corporation or other private group entity ❑ government

4a. The following fee(s) are enclosed:

❑ Issue Fee
❑ Publication Fee
❑ Advance Order - # of Copies _____

4b. Payment of Fee(s):

❑ A check in the amount of the fee(s) is enclosed.
❑ Payment by credit card. Form PTO-2038 is attached.
❑ The Director is hereby authorized by charge the required fee(s), or credit any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

Director for Patents is requested to apply the Issue Fee and Publication Fee (if any) or to re-apply any previously paid issue fee to the application identified above.

(Authorized Signature) (Date)

NOTE; The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, Alexandria, Virginia 22313-1450.

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TRANSMIT THIS FORM WITH FEE(S)

Petitioner Uber Ex-1005, 0229

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/199,829	07/19/2002	Mundi Fomukong		1150

7590 03/16/2004

MUNDI FOMUKONG
#49
10853 ROSE AVE.
West Los Angeles, CA 90034

EXAMINER	
TRIEU, VAN THANH	
ART UNIT	PAPER NUMBER
2636	

DATE MAILED: 03/16/2004

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)
(application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 0 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 0 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) system (http://pair.uspto.gov).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (703) 305-1383. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at (703) 305-8283.

PTOL-85 (Rev. 11/03) Approved for use through 04/30/2004.

Petitioner Uber Ex-1005, 0230

Notice of Allowability	Application No.	Applicant(s)	
	10/199,829	FOMUKONG, MUNDI	
	Examiner	Art Unit	
	Van T Trieu	2636	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *the Amendment filed on 24 December 2003*.

2. ☒ The allowed claim(s) is/are *1-5,7,9-11,13-16,18-23 and 25-32*.

3. ☒ The drawings filed on *19 July 2002* are accepted by the Examiner.

4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☐ All b) ☐ Some* c) ☐ None of the:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
   (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

Petitioner Uber Ex-1005, 0231

DETAILED ACTION

EXAMINER'S AMENDMENT

Applicant is reminded of the proper language and format for an abstract of the disclosure. The language "in the disclosure of" found in the abstract should be removed.

1. Therefore, the abstract has been amended and attached herewith in a separate sheet.

2. In the Amendment filed on 24 December 2003, paper number 6, the following claims 5, 7, 20, 25,27 and 28 are amended as:

Claim 5, line 2, change the semi-colon ";" to a period --- . ---

Claim 7, line 17, change the semi-colon ";" to a period --- . ---

Claim 20, line 9, change the period "." to a semi-colon --- ; ---

Claim 20, line 12, change the semi-colon ";" to a period --- . ---

Claim 25, line 10, change the semi-colon ";" to a period --- . ---

Claim 27, line 5, change the semi-colon ";" to a period --- . --- and

Claim 28, line 4, change the semi-colon ";" to a period --- . ---.

Allowable Subject Matter

3. The following is an examiner's statement of reasons for allowance: there are no prior arts teaching or suggesting of an apparatus and method for providing a location of portable mobile remote units to a wireless consumer requesting the location of the

portable mobile remote units within a geographic region of a communication system, comprising:

obtaining from the wireless consumer the geographic boundary information indicating where a search should be undertaken for portable mobile remote unit;

providing the obtained geographic boundary information to a control unit of the communication system;

generating at the control unit a request for the location of portable mobile remote units within the geographic boundary;

the portable mobile remote unit receives the geographic boundary information within which the location of the portable mobile remote unit should be disclosed;

if the portable remote unit is within the geographic boundary and then forwarding the location information of the unit to the communication system;

the control unit verifying after the request, whether a portable mobile remote unit in the geographic boundary responded with location information;

the control unit providing to the wireless consumer, at least the identity and location of a portable remote unit after the verification.

In another embodiment, the communication system comprising

at least a first communication unit and at least a second communication unit able to provide location information to a network of communication units for a time while in motion;

means for request whether the at least second communication unit is tracking the at least first communication unit;

means to determine form the location provided that the at least first and second communication unit maintained proximity while in motion during the time; and

means to provide result of the determination to the requestor.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

4. Any inquiry concerning this communication or earlier communications from examiner should be directed to primary examiner **Van Trieu** whose telephone number is (703) 308-5220. The examiner can normally be reached on Mon-Fri from 7:00 AM to 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. **Jeffery Hofsass** can be reached on (703) 305-4717.

The office facsimile number is (703) 872-9314.

Van Trieu
Primary Examiner
Date: 3/10/04

ABSTRACT (new)

A mobile location reporting communication system consists of a network of communication sources and targets managed by one or more control stations. In the system, a communication source may request for the location of a mobile communication target from the network. The target conveys its location to the network and that information is provided to the source. In the invention a mobile communication source request for the location of mobile communication targets that are present in a prescribed geographic boundary. The network provides to the source only remote targets that are present in the prescribed boundary. Also in the invention, a concealed or clandestine mobile portable target, close to the mobile portable source, may be tracking the source. The source may invoke a method that may the result of mobile targets that have traveled a pre-specified distance with the source while maintaining proximity to the source.

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APPLICATION NO./ CONTROL NO.	FILING DATE	FIRST NAMED INVENTOR / PATENT IN REEXAMINATION	ATTORNEY DOCKET NO.

EXAMINER	
ART UNIT	PAPER
	5

DATE MAILED:

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner for Patents

In response to applicant's filed on 15 October 2003 regarding the last Office action, the following corrective action is taken.The period for reply of 1 MONTHS set is restarted to begin with the mailing date of this letter.

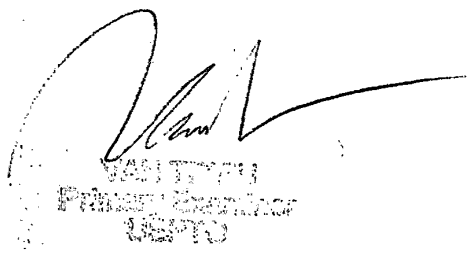
The Amendment filed on 15 October 2003 is not entered because of the followings:

(1) The cancel claim should be replaced with a new claim number in sequence from the last claim number. For example, claim 8 is canceled and the new claim to replace it should by claim number 25; the canceled claim 12 should be replaced with a new claim number 26; the canceled claim 17 should be replaced with a new claim number 27; and the canceled claim 24 should be replaced with a new claim number 28.

(2) The new added claims 25-31 should start from claim numbers 29-35.

(3) An additional fee of $18.00 for new added dependent claims should be paid before they can be entered.

(4) The Terminal Disclaimer fee of $55.00 is not paid.



Petitioner Uber Ex-1005, 0236

PATENT APPLICATION FEE DETERMINATION RECORD
Effective October 1, 2001

Application or Docket Number: 10199829

CLAIMS AS FILED - PART I

	(Column 1)	(Column 2)
TOTAL CLAIMS	24	
FOR	NUMBER FILED	NUMBER EXTRA
TOTAL CHARGEABLE CLAIMS	24 minus 20=	* 4
INDEPENDENT CLAIMS	8 minus 3 =	* 5
MULTIPLE DEPENDENT CLAIM PRESENT		☐

* If the difference in column 1 is less than zero, enter "0" in column 2

SMALL ENTITY TYPE ☐		OR	OTHER THAN SMALL ENTITY	
RATE	FEE		RATE	FEE
BASIC FEE	370.00	OR	BASIC FEE	740.00
X$ 9=	36	OR	X$18=	
X42=	210	OR	X84=	
+140=		OR	+280=	
TOTAL	616	OR	TOTAL	

CLAIMS AS AMENDED - PART II

AMENDMENT A

	(Column 1)		(Column 2)	(Column 3)
	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA
Total	* 26	Minus	** 24	= 2
Independent	* 8	Minus	*** 8	= 0
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM				☐

SMALL ENTITY		OR	OTHER THAN SMALL ENTITY	
RATE	ADDITIONAL FEE		RATE	ADDITIONAL FEE
X$ 9=	18.00	OR	X$18=	
X42=		OR	X84=	
+140=		OR	+280=	
TOTAL ADDIT. FEE	18.00	OR	TOTAL ADDIT. FEE	

AMENDMENT B

	(Column 1)		(Column 2)	(Column 3)
	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA
Total	* 27	Minus	** 24	= 3
Independent	* 8	Minus	*** 8	=
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM				☐

RATE	ADDITIONAL FEE		RATE	ADDITIONAL FEE
X$ 9=	54.00	OR	X$18=	
X42=		OR	X84=	
+140=		OR	+280=	
TOTAL ADDIT. FEE		OR	TOTAL ADDIT. FEE	

PD 144.0

AMENDMENT C

	(Column 1)		(Column 2)	(Column 3)
	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA
Total	*	Minus	**	=
Independent	*	Minus	***	=
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM				☐

RATE	ADDITIONAL FEE		RATE	ADDITIONAL FEE
X$ 9=		OR	X$18=	
X42=		OR	X84=	
+140=		OR	+280=	
TOTAL ADDIT. FEE		OR	TOTAL ADDIT. FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20."
***If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3."
The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

Petitioner Uber Ex-1005, 0237

#2

jc846 U.S. PTO
10/199829
07/19/02

PTO/SB/08A (10-01)
Approved for use through 10/31/2002. OMB 0651-0031
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449A/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet 1 of 1

Complete if Known	
Application Number	10/199,829
Filing Date	07/19/2002
First Named Inventor	MUNDI FOMUKONG
Art Unit	2632
Examiner Name	TRIEU, VAN, THANH
Attorney Docket Number	

U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Document Number Number - Kind Code[2] (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
✓		US- 5,659,245	11-18-97	Nixon et al	
		US-			
✓		US- 5,418,537	5-23-95	Bird	
		US-			
✓		US- 5539395	7-23-96	Buss	
		US-			
✓		US- 5,594,491	4-2-96	Chapman	
		US-			
✓		US- 5,918,159	6/1996 8-24-97	Fomukong et al	
✓		US- 5,669,061	09-1997	J.F. Schipper	
		US-			
✓		US- 6,108,365	08-2000	Rubin et al	
✓		US- 6,211,819	04-2001	King et al	
✓		US- 6,181,253	01-2001	Eschenbach et al	
		US-			
✓		US- 5,517,690	05-1996	Linquist et al	
		US-			
		US-			
		US-			
		US-			

FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Foreign Patent Document Country Code[3] -Number[4]- Kind Code[5] (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T[6]

Examiner Signature	Van Trieu	Date Considered	7/10/03

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1] Applicant's unique citation designation number (optional). [2] See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. [3] Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). [4] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [5] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. [6] Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/199,829	07/19/2002	Mundi Fomukong		1150

7590 07/15/2003

MUNDI FOMUKONG
#49
10853 ROSE AVE.
West Los Angeles, CA 90034

EXAMINER
TRIEU, VAN THANH

ART UNIT	PAPER NUMBER
2636	

DATE MAILED: 07/15/2003

3

Please find below and/or attached an Office communication concerning this application or proceeding.

Petitioner Uber Ex-1005, 0239

Office Action Summary	Application No.	Applicant(s)	
	10/199,829	FOMUKONG, MUNDI	
	Examiner	Art Unit	
	Van T Trieu	2632	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 July 2002* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *2* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

Petitioner Uber Ex-1005, 0240

DETAILED ACTION

Claim Objections

1. Claim 7 is objected to because of the following informalities: the abbreviation of "PRU" is not acceptable. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

2. Claims 4-22 and 24 are rejected under 35 U.S.C. 102(e) as being anticipated by **Stewart et al** [US 6,414,635].

Regarding claim 4, the claimed means to specify and forward to system, geographic boundary information describing the geographic region where the location of portable mobile remote units are required by the wireless consumer (the plurality of PCD/MU 110 requests for their geographic locations from the access points AP 120 within one of the plurality geographic region 500 and 501 through wireless communications, see Figs. 1, 13 and 14, col. 7, lines 20-52, col. 8, lines 4-8, col. 29, lines 5-34 and col. 30, lines 24-35); and the means to locate from the system, portable mobile remote units that exist in the geographic boundary of and the mobile remote units capable of establishing a global location at the network (the central/global network 130 connects to a plurality of

geographic location access points AP for wirelessly communicating with a plurality of PCD/MU 110 located at different locations on the globe, see Figs. 1 and 13, col. 2, lines 52-66, col. 4, lines 18-58 and col. 7, lines 20-64); and the means to provide to the wireless consumer the location of a portable mobile remote unit that exist in the geographic boundary defined by the wireless consumer (the respective AP 120 provides information regarding the geographic location of the PCD/MU 110, to that PCD/MU 110, to a central network 130, to a service provider 140 and to a management information base MIB 150, see Figs. 1, 13 and 14, col. 4, lines 27-34, col. 5, lines 6-27 and col. 30, lines 45-63).

Regarding claim 5, all the claimed subject matters are cited in respect to claim 4 above, and including the reporting/providing information and location to the PCD/MU 110, to a central network 130, a service provider 140 and to MIB 150, see Fig. 1, col. 7, lines 35-52.

Regarding claim 6, all the claimed subject matters are cited in respect to claim 4 above, and including searching/tracking for the PCD/MU 110 within a geographic region 500 and 501, see Figs. 13A and 13B.

Regarding claim 7, all the claimed subject matters are cited in respect to claim 4 above, see Fig. 14.

Regarding claim 8, all the claimed subject matters are cited in respect to claim 7 above, see Fig. 14.

Regarding claim 9, all the claimed subject matters are cited in respect to claim 7 above, and splitting the wider than normal geographic boundary into sub geographic regions to constitute the geographic boundary (the geographic boundary 500 is splitting into one or more smaller sub geographic boundaries 501, see Figs. 13A and 13B); and the maintaining a list of all remote units that disclosed their location after each request from the verification (the list of respecting PCD/MU 110 are approaching to the airport, hotel and/or taxi with time so that the service provider 140 is ready to provide service to a first arrived PCD/MU110 in time, see Figs. 6-8, col. 19, lines 5-67, cols. 20-23 and col. 24, lines 1-20.

Regarding claim 10, all the claimed subject matters are cited in respect to claim 9 above, see Fig. 14.

Regarding claim 11, all the claimed subject matters are cited in respect to claim 9 above.

Regarding claim 12, all the claimed subject matters are cited in respect to claim 4 above, and including the obtaining location of the wireless consumer at intervals over a period of time (the wireless AP 120 determined direction of motion of the OCD/MU 110

based on the two or more determinations of the geographic location of the PCD/MU over a period of time, see Fig. 14, col. 5, lines 13-15, col. 30, lines 45-67 and col. 31, lines 149).

Regarding claim 13, all the claimed subject matters are cited in respect to claim 12 above, and including obtaining radii information (the granularity of geographic radian 500 and 501, see Fig. 13B, see col. 3, lines 20-33); and the calculating the angle of inclination of the remote unit (the determination of geographic location of the PCD/MU 110 using triangulation technique for determining the bearing of an incoming signal from the OCD/MU 110, see Fig. 15 , col. 3, lines 48-61).

Regarding claim 14, all the claimed subject matters are cited in respect to claim 12 above.

Regarding claim 15, all the claimed subject matters are cited in respect to claim 12 above, and including the exclusion region information within which the remote unit should not provide its location the network (the exclusive information of restaurant, fast food, ATM and hotel, see col. 24, lines 21-67).

Regarding claim 16, all the claimed subject matters are cited in respect to claim 12 above, and the keeping track of the time and validating that the elapsed time at each interval when a request is to be made does not exceed to total time set for establishing

tracking the system is read upon the service provider 140 such as airport, hotel and/or taxi keep tracking the request of approaching of each PCD/MU110 over a period of time so that the services will provide in time when a first PCD/MU arrives at the airport, hotel or taxi, see Figs. 6-8, cols. 19-24.

Regarding claim 17, all the claimed subject matters are cited in respect to claim 4 above, and including the pre-specified radius of the tracked units (the geographic boundaries 500 and 501, see Fig. 13B).

Regarding claim 18, all the claimed subject matters are cited in respect to claims 12 and 17 above, and the eliminating/removing at subsequence tracking intervals is read upon the process of determining an approaching PCD/MU over two or three period of time stamps, see Fig. 14B.

Regarding claim 19, all the claimed subject matters are cited in respect to claims 12 and 17 above.

Regarding claim 20, all the claimed subject matters are cited in respect to claim 4 above.

Regarding claim 21, all the claimed subject matters are cited in respect to claim 4 above, and including the determining if a clandestine unit is tracking it (the

determination of authorized or ID of the respective PCD/MU 110, see Fig. 3, col. 3, lines 1-5, col. 10, lines 27-67 and col. 11, lines 1-24).

Regarding claim 22, all the claimed subject matters are cited in respect to claims 4 and 15 above.

Regarding claim 24, all the claimed subject matters are cited in respect to claims 4 and 13 above.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

3. Claims 1-3, 7, 9, 10-16, 18-0, 22 and 23 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-18 of U.S. Patent No. 6,441,752. Although the conflicting claims are not identical, they are

not patentably distinct from each other because the claimed limitations are similar to each of the respected claim.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Stingone, Jr. et a discloses a method and system for locating and tracking the geographic positions of a remote unit worn or carried by a user comprising GPS, Internet, Web Network. [US 6,263,280]

Twitchell et al discloses a position locating system and method for determining a geographic location of a portable remote unit including GPS and Internet network. [US 6,222,483]

5. Any inquiry concerning this communication or earlier communications from examiner should be directed to primary examiner **Van Trieu** whose telephone number is (703) 308-5220. The examiner can normally be reached on Mon-Fri from 7:00 AM to 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. **Jeffery Hofsass** can be reached on (703) 305-4717.

The office facsimile number is (703) 872-9314.

Van Trieu
Primary Examiner
Date: 7/11/03

Notice of References Cited	Application/Control No. 10/199,829	Applicant(s)/Patent Under Reexamination FOMUKONG, MUNDI	
	Examiner Van T Trieu	Art Unit 2632	Page 1 of 1

U.S. PATENT DOCUMENTS

		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
	A	US-6,414,635	07-2002	B. B. Stewart, et al	342/457
	B	US-6,263,280	07-2001	R. J. Stingone, Jr.	342/457
	C	US-6,222,483	04-2001	R. W. Twitchell, et al	342/357.09
	D	US-			
	E	US-			
	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

	Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
U	
V	
W	
X	

py of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
in MM-YYYY format are publication dates. Classifications may be US or foreign.

Petitioner Uber Ex-1005, 0248

10/199829 .071902

7-22 02

JC882 U.S. PTO 07/19/02

PTO/SB/05 (03-01)
Approved for use through 10/31/2002. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Please type a plus sign (+) inside this box → +

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JC846 U.S. PTO 10/199829 07/19/02

UTILITY PATENT APPLICATION TRANSMITTAL

(Only for new nonprovisional applications under 37 CFR 1.53(b))

Attorney Docket No.	
First Inventor	MUNDI FOMUKONG
Title	
Express Mail Label No.	

APPLICATION ELEMENTS

See MPEP chapter 600 concerning utility patent application contents.

ADDRESS TO: Assistant Commissioner for Patents
Box Patent Application
Washington, DC 20231

1. [X] Fee Transmittal Form (e.g., PTO/SB/17) *(Submit an original and a duplicate for fee processing)*
2. [X] Applicant claims small entity status. See 37 CFR 1.27.
3. [X] Specification [*Total Pages* 34]
   (preferred arrangement set forth below)
   - Descriptive title of the invention
   - Cross Reference to Related Applications
   - Statement Regarding Fed sponsored R & D
   - Reference to sequence listing, a table, or a computer program listing appendix
   - Background of the Invention
   - Brief Summary of the Invention
   - Brief Description of the Drawings (*if filed*)
   - Detailed Description
   - Claim(s)
   - Abstract of the Disclosure
4. [X] Drawing(s) (*35 U.S.C. 113*) [*Total Sheets* 7]
5. Oath or Declaration [*Total Pages*]
   a. [2] Newly executed (original or copy)
   b. [ ] Copy from a prior application (37 CFR 1.63 (d)) *(for continuation/divisional with Box 18 completed)*
      i. [ ] DELETION OF INVENTOR(S)
      Signed statement attached deleting inventor(s) named in the prior application, see 37 CFR 1.63(d)(2) and 1.33(b).
6. [ ] Application Data Sheet. See 37 CFR 1.76
7. [ ] CD-ROM or CD-R in duplicate, large table or Computer Program (*Appendix*)
8. Nucleotide and/or Amino Acid Sequence Submission (*if applicable, all necessary*)
   a. [ ] Computer Readable Form (CRF)
   b. Specification Sequence Listing on:
      i. [ ] CD-ROM or CD-R (2 copies); or
      ii. [ ] paper
   c. [ ] Statements verifying identity of above copies

ACCOMPANYING APPLICATION PARTS

9. [ ] Assignment Papers (cover sheet & document(s))
10. [ ] 37 CFR 3.73(b) Statement *(when there is an assignee)* [ ] Power of Attorney
11. [ ] English Translation Document *(if applicable)*
12. [X] Information Disclosure Statement (IDS)/PTO-1449 [X] Copies of IDS Citations
13. [ ] Preliminary Amendment
14. [ ] Return Receipt Postcard (MPEP 503) *(Should be specifically itemized)*
15. [ ] Certified Copy of Priority Document(s) *(if foreign priority is claimed)*
16. [ ] Nonpublication Request under 35 U.S.C. 122 (b)(2)(B)(i). Applicant must attach form PTO/SB/35 or its equivalent.
17. [X] Other: Credit Card Payment Form

18. If a CONTINUING APPLICATION, *check appropriate box, and supply the requisite information below and in a preliminary amendment, or in an Application Data Sheet under 37 CFR 1.76:*

[ ] Continuation [ ] Divisional [X] Continuation-in-part (CIP) of prior application No.: 09/753178

Prior application information: Examiner IRIEU, VAN Group Art Unit: 2632

For CONTINUATION OR DIVISIONAL APPS only: The entire disclosure of the prior application, from which an oath or declaration is supplied under Box 5b, is considered a part of the disclosure of the accompanying continuation or divisional application and is hereby incorporated by reference. The incorporation can only be relied upon when a portion has been inadvertently omitted from the submitted application parts.

19. CORRESPONDENCE ADDRESS

[ ] *Customer Number or Bar Code Label* (Insert Customer No. or Attach bar code label here) or [ ] *Correspondence address below*

Name	MUNDI FOMUKONG				
Address	10853 ROSE AVE, #49				
City	WLA	State	CA	Zip Code	90034
Country	USA	Telephone	3105598133	Fax	3105598173

Name (Print/Type)	MUNDI FOMUKONG	Registration No. (Attorney/Agent)	
Signature		Date	7/11/02

Burden Hour Statement: This form is estimated to take 0.2 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Box Patent Application, Washington, DC 20231.

10159829.071902

PTO/SB/17 (11-01)
Approved for use through 10/31/2002. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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FEE TRANSMITTAL for FY 2002

Patent fees are subject to annual revision.

[X] Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT ($)

Complete if Known	
Application Number	09 753 178
Filing Date	12/30/2000
First Named Inventor	MUNDI FOMUKONG
Examiner Name	TRIEU, VAN
Group Art Unit	2632
Attorney Docket No.	

METHOD OF PAYMENT *(check all that apply)*

[ ] Check [X] Credit card [ ] Money Order [ ] Other [ ] None

[ ] Deposit Account:

Deposit Account Number

Deposit Account Name

The Commissioner is authorized to: *(check all that apply)*

[X] Charge fee(s) indicated below [X] Credit any overpayments

[ ] Charge any additional fee(s) during the pendency of this application

[ ] Charge fee(s) indicated below, **except for the filing fee** to the above-identified deposit account.

FEE CALCULATION

1. BASIC FILING FEE

Large Entity Fee Code	Large Entity Fee ($)	Small Entity Fee Code	Small Entity Fee ($)	Fee Description	Fee Paid
101	740	201	370	Utility filing fee	370
106	330	206	165	Design filing fee	
107	510	207	255	Plant filing fee	
108	740	208	370	Reissue filing fee	
114	160	214	80	Provisional filing fee	

SUBTOTAL (1) ($) 370

2. EXTRA CLAIM FEES FOR UTILITY AND REISSUE

		Extra Claims		Fee from below	Fee Paid
Total Claims	24	-20** =	4	X 9	= 36
Independent Claims	8	- 3** =	5	X 42	= 210
Multiple Dependent					=

Large Entity Fee Code	Large Entity Fee ($)	Small Entity Fee Code	Small Entity Fee ($)	Fee Description
103	18	203	9	Claims in excess of 20
102	84	202	42	Independent claims in excess of 3
104	280	204	140	Multiple dependent claim, if not paid
109	84	209	42	** Reissue independent claims over original patent
110	18	210	9	** Reissue claims in excess of 20 and over original patent

SUBTOTAL (2) ($) 246

**or number previously paid, if greater; For Reissues, see above

FEE CALCULATION (continued)

3. ADDITIONAL FEES

Large Entity Fee Code	Large Entity Fee ($)	Small Entity Fee Code	Small Entity Fee ($)	Fee Description	Fee Paid
105	130	205	65	Surcharge - late filing fee or oath	
127	50	227	25	Surcharge - late provisional filing fee or cover sheet	
139	130	139	130	Non-English specification	
147	2,520	147	2,520	For filing a request for *ex parte* reexamination	
112	920*	112	920*	Requesting publication of SIR prior to Examiner action	
113	1,840*	113	1,840*	Requesting publication of SIR after Examiner action	
115	110	215	55	Extension for reply within first month	
116	400	216	200	Extension for reply within second month	
117	920	217	460	Extension for reply within third month	
118	1,440	218	720	Extension for reply within fourth month	
128	1,960	228	980	Extension for reply within fifth month	
119	320	219	160	Notice of Appeal	
120	320	220	160	Filing a brief in support of an appeal	
121	280	221	140	Request for oral hearing	
138	1,510	138	1,510	Petition to institute a public use proceeding	
140	110	240	55	Petition to revive - unavoidable	
141	1,280	241	640	Petition to revive - unintentional	
142	1,280	242	640	Utility issue fee (or reissue)	
143	460	243	230	Design issue fee	
144	620	244	310	Plant issue fee	
122	130	122	130	Petitions to the Commissioner	
123	50	123	50	Processing fee under 37 CFR 1.17(q)	
126	180	126	180	Submission of Information Disclosure Stmt	
581	40	581	40	Recording each patent assignment per property (times number of properties)	
146	740	246	370	Filing a submission after final rejection (37 CFR § 1.129(a))	
149	740	249	370	For each additional invention to be examined (37 CFR § 1.129(b))	
179	740	279	370	Request for Continued Examination (RCE)	
169	900	169	900	Request for expedited examination of a design application	

Other fee (specify) _____

*Reduced by Basic Filing Fee Paid **SUBTOTAL (3)** ($)

SUBMITTED BY				Complete *(if applicable)*	
Name *(Print/Type)*	MUNDI FOMUKONG	Registration No. *(Attorney/Agent)*		Telephone	3105598133
Signature				Date	7/11/02

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sub. C1

ABSTRACT OF THE DISCLOSURE

A mobile location reporting communication system consists of a network of communication sources and targets managed by one or more control stations. In the system, a communication source may request for the location of a mobile communication target from the network. The target conveys its location to the network and that information is provided to the source. In the invention a mobile communication source request for the location of mobile communication targets that are present in a prescribed geographic boundary. The network provides to the source only remote targets that are present in the prescribed boundary. Also in the invention, a concealed or clandestine mobile portable target, close to the mobile portable source, may be tracking the source. The source may invoke a method that may result in the disclosure of mobile targets that have traveled a pre-specified distance with the source while maintaining proximity to the source.

TITLE

METHOD AND APPARATUS FOR LOCATING MOBILE UNITS TRACKING ANOTHER OR WITHIN A PRESCRIBED GEOGRAPHIC BOUNDARY

CONTINUING DATA

This application is a continuation-in-part of U.S Application Serial No. 09/753,178, filed December 30, 2000, now U.S. Patent No. 6,441,752 the disclosure is incorporated herein by reference.

BACKGROUND OF THE INVENTION

This invention relates to telecommunication services and systems, specifically such services and systems that convey the location of a mobile unit.

The wireless industry is currently gearing towards the provision of a wide range of location based services to the general public. Such services will include utilizing the location of a subscriber's portable remote unit to channel a wide range of location-based services to the subscriber. For such a service to be successful, the remote unit must be able to obtain and relay its location information to other communication targets of the network requesting such information.

In relevant prior art such as US 5,689,245, Noreen and al, the location of a remote unit is employed to execute location specific instructions transmitted to the remote unit.

In Bird, US 5,418.537, a missing vehicle is located through the use of a GPS receiver

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mounted on the vehicle. When the vehicle is missing, a paging request is broadcast by the vehicle location center. Upon receiving the broadcasted message, the vehicle resolves and conveys its location to the service center.

In Buss, US 5,539,395, a remote unit is presented whereby the unit selects and displays messages matching the location of the remote unit. The network provides the unit with messages having a location signal. If the location signal picked up by the unit is within the unit's current location, the message is displayed, otherwise it is kept in memory for display at the appropriate location.

In Chapman, US 5,504,491, a global status and positioning reporting system is described. A remote unit obtains its global location and updates the network with status information and location information as required. Such status information may include an emergency condition or relevant condition of the remote unit required by the network.

In Fomukong and al, US 5,918,159 a location reporting satellite paging system with optional blocking of location reporting is disclosed. In that invention, a remote mobile unit obtains its location information and provides that information via the network to other network units requesting the information. The provision of such location information is done based on authorization information provided and routinely updated by the remote unit.

In all of the above-disclosed inventions, the location of the remote unit is utilized by the system. The deployment of location services could be quite beneficial to the general public if safely implemented. In today's market, such mobile units are usually small, compact and lightweight. These devices could easily be concealed to reveal the location of a mobile user without the user knowing or authorizing the disclosure of their location.

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Most wireless consumers might not want their location disclosed to the network or general public and the thought of being tracked by a clandestine unit concealed in an object such as a car or luggage to reveal the location of an individual would be unacceptable by the general public. The risk of abuse clearly exists and must be handled appropriately by wireless vendors. In U.S patent 5,918,159 that provides authorization for location reporting, it would be almost impossible for the network to prevent a concealed location-reporting unit to provide the location of an individual being tracked, given an abuse is occurring. A need therefore exists for location reporting devices in a specific geographic region to reveal their location upon request. In situations where a user is being tracked, the network would be able to determine which units are tracking the user by querying for the location of remote units within a specified radius of the user or tracked unit. The techniques required to provide the above result are described in the invention.

Whenever a mobile user is stranded and requires immediate help, another mobile party may exist not too far from the location of the user. The mobile user may not be aware of the presence of the other mobile party at that geographic location. By paging for the location of portable remote units (PRUs) within the stranded area, a distressed subscriber may immediately sought help at that location. If the prescribed boundary specified by the mobile user exceeds pre-specified limits, the network may split that geographic area as described hereinafter. Pages may then be sent to specific areas in order to obtain the location of portable remote units in that geographic area. The location of any mobile location-reporting unit in a geographic area that is closest to the user will be revealed to the user.

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Lots of other uses exist for such a service to be lucrative to a service provider. A wireless subscriber may opt to participate in the program and users of the system may be charged a fee each time the location of another PRU at a requested geographic boundary is provided to the user. Also, users in possession of portable remote units may be charged whenever they invoke the tracking mode in their PRU. To improve subscriber enrollment in the program, subscribers may also received benefits each time their location is provided to a distressed individual. Subscribers not requiring their locations disclosed at any time may block such information at the network. In situations where a PRU user is being tracked by another, the network will only reveal the location of the tracking unit only after both units have traveled a certain distance over a pre-specified period of time with the tracking unit maintaining proximity to the source during that period. Such distances and elapse times could be set as a standard by the industry to clearly define tracking.

The system presented requires mobile devices to communicate their location information to the network. As the number of location enabled devices within the network increases, certain components of the system may require the location of certain mobile devices reported in a manner that would prevent the component from being overloaded. Therefore, it is required that, a method and apparatus be provided to facilitate the provision of remote unit location information to the network to prevent network overloading and also minimize power consumption of the mobile device.

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From the above there is clearly a need for a system whereby a remote unit should be able to request for the location of other remote units within a specific geographic area. The components of such a system are described hereinafter.

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OBJECTS OF THE INVENTION

It is an objective of the present invention to provide a mobile telecommunication system, method and technique that could facilitate the secure provision of location information pertaining to one or more mobile communication targets that are tracking another.

It is an objective of this invention to provide a mobile telecommunication system whereby a communication source residing in a geographic location may poll for the location of communication targets that are present in another geographic area.

It is an objective of this invention to provide a technique to report the location of communication units within a pre-specified boundary.

It is an objective of the current invention to provide adequate technology that would facilitate the disclosure of location information of communication units that are present in a wider than normal geographic area.

It is an objective of this invention to provide a remote unit that could provide location information and geographic boundary information where a search could be initiated for the presence of one or more location reporting communication targets.

It is another objective of the invention to provide a portable mobile device that provides its location to the network only when the device has covered a minimum distance from a reference location prescribed by the network.

Other objects and advantages of the system will appear hereafter.

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SUMMARY OF THE INVENTION

The aforementioned objectives are achieved by an improved telecommunication system that can provide location information pertaining to other communication targets that are present within a pre-specified geographic boundary.

In the system, a communication source may query for the location of communication targets at a specified geographic boundary .The communication source may also enter into a mode to determine if another communication unit is tracking it. Communication sources and targets of the system should be able to obtain their location using any relevant location determination technique. This information is conveyed securely across the network based on system and subscriber requirements. When a communication source requires the location information of communication targets in a specific geographic area, the source obtains its location and may determine if the geographic boundary of the required targets is within its querying radii. Although the design could also be such that the network handles all queries, a communication source may poll directly for the location information of targets in a specified geographic boundary. This could happen if the communication targets are within the source's querying radii; preventing unnecessary overloading of shared network resources. For more complex and distant queries, the source may simply provide its location and geographic boundary information where targets should be interrogated for location disclosure. The network utilizes its resources and determines where and how a search for relevant communication targets should be initiated.

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Once the search for possible communication targets within the specified geographic boundary is completed, the network provides the communication source with information pertaining to communication target(s) closest to the source and in the geographic region specified by the source.

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BRIEF DESCRIPTION OF DRAWINGS

Figure 1 shows a general schema depicting the invention.

Figure 2 shows a diagram of a mobile portable remote unit employed by the system.

Figure 3 shows a diagram indicating how a wider than normal geographic area is divided to locate remote units in the area.

Figure 4 shows a diagram that is employed to determine if a remote unit is within a prescribed geographic boundary.

Figure 5 shows a flow chart illustrating the steps that a communication unit may employ to determine if it is being tracked by another unit.

Figure 6 is a flow chart illustrating the steps utilized by a communication unit to disclose a global location when the unit is within a pre-specified geographic area.

Figure 7 is a flow chart illustrating how a search for the location of mobile communication units in a wider than normal pre-specified geographic boundary is carried out.

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DET AILED DESCRIPTION OF THE PREFERRED EMBODIMENT

An overview of the present system in accordance with the invention is depicted in FIG.1. The system consists of a network or portable remote units (PRU) 501-510 scattered throughout a wide geographic area. Mobile Users 701-709 are in possession of the portable remote units 501-509, respectively. Geographic regions 201-204 are standard geographic areas that may have present, one or more portable mobile users 701-709 as shown in FIG. 1. Mobile user 701 is in geographic region 201 and mobile users 502-506 are in geographic regions 202.

Other mobile portable users exist in the system and are scattered as shown in FIG. I. Geographic location 201-204 may simply be defined by latitude, longitude and radii information or simply by points defining the geographic boundary as illustrated in FIG. 3. The terrestrial network center (TNC) FIG. 1, 801 is used to control the actions of the mobile system. The TNC communicates with ground based transmitters (GBT) 401-404 and earth based satellite transmitters 301-302 to relay information pertaining to the mobile system across the network. Other functionalities of the terrestrial network center may include determining which transmitters to employ to complete a call and how to prevent portable remote units from receiving calls when they are out of jurisdiction. Multiple terrestrial control or network centers may be employed as required by the system. Ground based transmitter stations (GBT) FIG.1, 401-404 are employed to relay mobile information to and from the portable mobile units of the network. Interface to a fixed telephone network such as home telephone or other communication units such as the personal computer could be achieved through the public telephone switching network (PTSN). Satellites 101-102 are employed by the system to relay

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information to remote areas and also to provide referenced signals, which ground base communication units, may utilize in establishing their geographic location. Communication between the satellites and the ground network is achieved through earth based satellite transmitters 301-302.

A general internal circuitry of a portable remote unit or PRU, FIG 1, 501-510 is shown in FIG. 2. The portable remote unit consists of an antenna 20 and a transceiver circuitry 21. The transceiver circuitry receives and transmits portable remote unit information via the antenna 20. On receipt, this information is processed and the intelligence portion is extracted and sent to the control unit 22 for further processing. The transceiver also receives portable remote unit information from the control unit 22, processes it, and forwards it as required to the network via the antenna 20. The control unit 20 controls the action of the PRU. Relevant information pertaining to the PRU could be stored in the allocated memory means 26. The memory means may include a Random Access Memory, a Read Only Memory and additional memory to store PRU data. Input panel 25 is employed to take user instructions and the display 23 is used to present PRU information to a user. The audio means 24 is used for annunciation of voice messages. A PRU may be able to assist the network in determining its global location or use any location determination technique to resolve and provide its location to the network. As a PRU is carried from one location to the other it may obtain and provide information concerning its current location to the network

As stated in one of the objectives of the invention and illustrated in FIG. 1, a portable remote unit 501, utilized by a subscriber 701, in a moving vehicle 601, could be tracked by a clandestine unit 510, such unit concealed in vehicle 601. A subscriber -let say 704 in

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region 202- in another geographic region trying to keep track of the whereabouts of user 701 may have concealed unit 510 in vehicle 601 to track subscriber 701. As most portable remote units are small and compact they could easily be hidden without subscriber 701 knowing of such activity. As vehicle 601 travels from one location to the next, authorized users will be able to receive location information from PRU 510 whenever they poll for it. As PRU 510 discloses its location to the authorized party, the party may obtain the location of subscriber 701 without their authorization. It is of utmost importance that a subscriber in possession of unit 501 should be able to determine it they are being tracked by another unit. In the current invention subscriber 701 will at any point in time activate the tracking feature provided by PRU 50 I. This could be achieved by invoking the appropriate function through the input panel, FIG. 2,25 of the PRU. In tracking mode, a tracked PRU, FIG. 1,501, may simply alert a user in possession of the tracked PRU with the location information of any tracking device -PRU 510 -that has resided within a pre-specified radius of the tracked PRU, with both units having traveled a minimum distance. Parameters such as elapse time, minimum distance traveled and tracking radii could be set as a standard by the industry .The tracking feature could be invoked by the tracked PRU or a request could simply be forwarded to the closest ground control station so that the operation is performed for the tracked PRU. In tracking mode, the geographic location of the tracked unit, FIG. 1, 501, is utilized to determine the geographic boundary where a search for possible tracking units 510 could be initiated. Over a period of time and at pre-determined time intervals a page is sent to the geographic location 201 where the tracked unit 501 resides for all location-reporting units within that geographic boundary to disclose their location. The geographic boundary

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required to establish tracking could be set as a standard by the industry. For instance, it could agreed upon that a unit could be deemed as tracking another it stays within a 5 meter radius of the tracked unit over a 1 mile stretch. As the tracked unit 501 is moving, that unit or an appropriate network unit, may page for the location of other communication units within the tracking boundary of the tracked unit to disclose their location. Only communication units within that geographic boundary would disclose their location. Timing information could also be included in the disclosed information to help eliminate errors that may occur when a tracked unit, FIG. 1, 501, is in a vehicle 601 that is moving at a high velocity. This exercise could be done at fixed time intervals and over a pre-determined time period. At the first time interval, a list could be maintained of all PRUs that responded within the specified geographic boundary defined for tracking. At subsequent time intervals, PRUs that where in the list at the first tracking interval and not responding in later intervals could be eliminated as possible tracking units. At the end of the tracking period, if there are any units in the tracking list and the minimum tracking distance was covered, such communication units are deemed to be tracking another and are reported to the requested party. The minimum traveling distance must be maintained to eliminate the risk of identifying communication units that reside in a fixed geographic boundary over the tracking period as possible tracking units. Also, a maximum time limit must be set for the tracking exercise such that if the minimum distance is not traveled within that time period, then tracking process is aborted. If such a time is not maintained a PRU could be in the tracking mode indefinitely. The steps for this process are shown in FIG. 5.

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According to FIG. 5, once the tracking mode is invoked at a search unit, tracking is initialized, FIG. 5, 1. Note that the search unit could be any relevant mobile communication unit trying to identify possible mobile communication units that are tracking another. The search unit then operates repeatedly over pre-defined time intervals 2 until the end of the tracking period 9, 13. At each tracking interval 2, the location of the tracked unit is obtained 3. Possible tracking units within a specified geographic boundary of the tracked unit are paged to reveal their location 4. For the first tracking interval 5, all tracking units that provided their location at that interval are stored in a list 7.At subsequent tracking intervals, a tracking unit that responded in the first tracking interval and not responding in a subsequent tracking interval is eliminated 6 as a possible tracking unit. If the tracking list is empty at any tracking interval 8, the tracking process is aborted 9. A test 10 is next performed to verify that the tracking units in the list traveled the minimum pre-defined distance. If it is determined that the tracking units traveled the minimum distance 10, they are reported as tracking units to the network 11. If it is determined that the tracking units have not yet traveled the minimum distance 10, a check is done to establish if the maximum tracking time has elapsed 12. If no time is left to establish tracking 12, the process is aborted, 13, otherwise it is repeated 2. A maximum time must be set for the tracking process to ensure that a PRU is not in tracking mode indefinitely.

As previously indicated, a PRU may invoke this method directly to determine if other units residing in its immediate geographic area have been tracking it. This would help reduce network overload and, at the end of the tracking period, a status signal may simply be forwarded to the network. In circumstances where a tracked PRU cannot

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perform this operation, a ground control unit may be employed to carry out the tracking operation for the PRU and report any findings to the PRU. Maintaining a list of all tracking units at the first tracking interval is efficient as it reduces storage space and processing time. It is also possible to maintain a list of all units that are within a pre-defined geographic boundary of the tracked unit throughout the entire tracking process. At the end of the process, the list could be used to determine which units reported their location over a pre-specified distance traveled by the tracked unit

For a unit to report a global location within a specified geographic boundary, the unit must be able to obtain geographic boundary information and further determine if its location is within the prescribed boundary . There are several techniques well known in the art that a remote unit may employ to resolve its geographic location or assist the network in resolving its location. Once the PRU obtains its location from whatever technique, that information is utilized to perform the functions in accordance with the invention. Apart from determining if a remote unit is being tracked, other uses exist for a remote unit to disclose its location at a particular geographic location. For instance a distress subscriber at a specific global location may simply want to know if there mobile users in the immediate geographic area. Furthermore, a subscriber might want to know if there are any individuals at their home, office or a specified geographic location. By specifying the required location and further information such as radii information, the network may provide a portable remote unit with the location of portable remote targets that are closest to the PRU and in the geographic area specified by the PRU .

For a simple search where the geographic region does not exceed a pre-specified limit, a

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page may simply be sent to the required region for all units in the region to disclose their location. As it would be inefficient to page for portable remote units in wider geographic boundaries to reveal their location, searches in these areas could be managed differently by the network. In this situation, the network may simply split the wider area into sub regions and recursively query for the location of PRUs, starting in sub-regions that are close to the origin before extending to geographic regions that are further away.

To disclose a global location within a prescribed geographic boundary, a PRU at the geographic location picking up the request must determine if it is within that boundary before providing its location to the network. FIG. 3 shows a geographic location with mobile units M_1-M_N. This location is divided into cells (C_1- C_N) or grids (G_1-G_N) where N is the total number of cells or grids, also known as region. Each region could be defined by its latitude, longitude and radii information or by distinct points that define the grid. Looking at FIG. 3, cell C_1 is defined by radius R and its latitude and longitude information is that of mobile user M_1 (Xo,Yo). Grid G_1 is defined by four points P_I, P_2, P_3 and P_4. Subsequent cells and grids are defined in that fashion as shown in FIG. 3. FIG. 3 depicts a wide geographic area. Ground stations and control centers, not shown, may also be available in that area. Such an illustration my also be seen in a general sense in FIG. 1.

As shown in FIG .3, a distressed mobile user M_1 may need to find where another party might exist in that geographic region. The user could initiate a page from their PRU for the closest available PRUs that could be found in that geographic jurisdiction. Looking at FIG. 3, mobile user M_1 will provide its location, latitude and longitude (Xo,Yo) to the closest available ground station serving area C_1 or grid G_1. As stated earlier, appropriate terrestrial technology will be scattered in that region to serve the

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PRUs in that area as shown in FIG 1. Once a ground station picks up this signal, it sends a page for all location reporting devices in the specified boundary surrounding mobile unit M_1, FIG. 3 to disclose their location. Such boundary information could simply be specified by the latitude and longitude of unit M_1 and appropriate radii information. For the very first request, such radii information would be the distance R as shown in FIG 3. A PRU within that area will pick up the signal and determine if it is within the specified radii. Also, if the ground station specifies grid information for the first cell, G_1, a PRU will have to determine if it lies within the grid GI boundary, P_1, P_2, P_3 and P_4. According to FIG.3, when a ground station sends a page for the location of PRUs in cell C_1 or grid G_1 only mobile unit M_1 may respond. As M_1 is the PRU that initiated the search, the ground control station would make the determination and obtain the next region -radii or grid- information for a possible search. The geographic boundary information of cell C_2 or grid G_2 will be provided for the next search. Subsequent searches will include incrementing the radii information to from C_1-C_N or grid boundary information from G_1-G_N until a PRU within that geographic boundary responds or system limitations are encountered. A possible limitation may be the size of a geographic boundary to page for remote unit locations. According to FIG. 3, the radius of each cell is from the origin of mobile unit M_1, (Xo,Yo). The radii of subsequent cells is a factor of the radius of the first cell, C_1. The grid is usually the tightest rectangular boundary defining the cell. As the grid or cells become larger, exclusion zones, as described hereinafter, may also be specified if it is required that PRUs in certain areas should not disclose their location. Another possibility might be not to increase the next geographic area on a subsequent page but split the entire geographic boundary into small regions of about the same size.

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Each region could then be paged, starting in areas that are closed to the origin. This could be done until a PRU at a region discloses their location.

Considering that mobile unit M_1 is initiating a search for possible portable remote units in its immediate area, a relevant ground control station will send three pages. The first page will cover cell C_1 or grid G_1. As no units are available in the area a second page will be sent to cover cell C_2 or grid G_2. Examining FIG. 3, the next PRUs exist only in cell C_3 or grid G_3. Once a page is sent out for cell C_3, PRU, M_2 and M_3 will respond. If grid G_4 is specified PRU M_2, M_3, M_4 and M_5 will respond. The ground control station will next select the unit closest to PRU M_I, which is M_2, in this instance. The location of PRU M_2 will then be forwarded to PRU M_1. M_1 may also choose to request for the number of PRUs in its area and the ground control station would respond again, based on system requirements. Using the system, a user in possession of a PRU may check for the existence or other PRUs at another geographic location. A user may select a geographic area from a map presented by the PRU. In FIG. 1, a mobile user 709 at location 204 may utilize this system to request for the location of mobile units in another geographic region such as 202 or 203. This could be for instance, checking to see if there are PRUs at the office or house or any location of interest. The system would simply return the appropriate information such as number of PRUs responding, location of PRUs and relevant information requested. In such a system, subscribers may choose to participate to have their location disclosed when a search is initiated. Subscribers may also opt to block or activate this feature at any time at the network. A subscriber to the service may be charged a fee each time the system is used. A possible technique utilized to implement the above is shown in FIG. 7.

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According to FIG. 7, the geographic information of the area where a search for possible remote targets sought is first obtained. This information could be provided by a PRU to the network. This information may simply be the latitude and longitude of the area where the search would be performed and other relevant information to assist the network with the search. A PRU may display a map where a user may select a specific geographic area. From this information the next geographic region where a possible search for PRUs is estimated 2. This could be the latitude longitude and radii information of the searched area. Also, the tightest rectangular grid surrounding the cell having that radii information could also be calculated and utilized. Once that information is obtained a page is sent out to that geographic region for remote units in the region to reveal their location 3. If remote units are identified in the paged area 4, that information is forwarded to the network 5 and the process is aborted 7. If no remote units are identified in the area 4, a check is done to establish if there are any remaining cells or grids higher up in the chain to be searched 6. If no regions exist for a possible search, the process is aborted, otherwise, the process is repeated until all geographic cells or grids have are searched for the existence of portable remote units.

Whenever a portable remote unit receives a page to disclose its location within a specified geographic boundary, the PRU obtains its location and attempts to determine if it is within that boundary .As mentioned before, the PRU may employ any relevant location determination technique well known in the art to obtain its geographic location. If the boundary information specified by the network contains a well-defined set of points – latitude and longitude for that region - defining the geographic region, the PRU will simply establish if its location is within the geographic boundary and provide its location

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to the network based on that. The points may simply define the minimum and maximum latitude and longitude values within which a PRU should respond. Such a procedure would be stored in the memory means, FIG. 2,26 of the PRU and invoked by the control unit FIG. 2,22 of the PRU as required. If the network simply provides the origin -latitude and longitude- and radii information of the region where a search is to be performed, the PRU will utilize these values to establish if it is within the area defined by the network as shown in FIG 4.

FIG. 4 shows four mobile objects, $Object_o$, $Object_1$, $Object_2$ and $Object_3$. Considering that $Object_O$ is the source and needs to know if any portable remote units are available in the geographic region of radius R. The location of $Object_0$ is the origin of the region and the radii information provided by the network for that region is R. All objects within that radius must respond upon receiving the signal requesting for their location in the specified radii. Looking at FIG.4, only $Object_3$ and $Object_2$ exist in the region specified and would respond to the page. If all the mobile objects are served by the same ground station they will all receive the signal for location disclosure if in the region. To establish if they are within the region specified, each mobile object will obtain its location and calculate its tangential information from the specified geographic origin (Xo,Yo) defined by the source, $Object_0$. The tangent of an angle is usually the opposite/hypotenuse: Looking at FIG 4, the tangent is between the origin of $Object_o$ and $Object_1$, and that angle is θ. As $Object_3$ lie on the same line as $Object_1$ the tangent between the origin of Objecto and Object3 is also θ. The tangent between the origin of Objecto and Object2 is α. Standard trigonometric equations dictate that the tangent of an angle is the opposite / hypotenuse. According to FIG. 4, $\text{Tan}\ \theta = (y_1-y_O) / (x_1- xo)$ for $Object_1$ and

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(y_3-y_O) / (x_3- xo) for Object$_3$, for Object$_2$ Tan α = (y_2-y_O) / (x_2- xo). Once the inclination or tangent of the object to the origin is calculated, the distance of the object to the origin could easily be calculated by using the sine formula -Sine θ = opposite / hypotenuse where the opposite is (y_1 -y_o), (y_3 -y_o) for Object $_1$ and Object$_3$ respectively. The hypotenuse is the distance from the mobile object to the origin; Ro_1 and Ro_3 for Object$_1$ and Object$_3$ respectively. For Object$_2$, the distance from the origin R_{o2} = (y_2- yo) / Sine α. Once the distance from the origin (XoYo) is calculated for each mobile object, an evaluation could easily be made as to whether the mobile object lies within the specified boundary and the location of the mobile object could be provided to the network based on that. Furthermore, the network may choose to provide an exclusion region or regions to the portable mobile remote units or PRUs. A PRU in that exclusion region will not disclose its location to the network even if it lies in the network's specified geographic boundary . This exclusion zones may be specified simply as grid points anywhere in the paged region or as a direction aft the origin. A direction aft the origin contains information that will indicate to PRUs in the region not to disclose their location if they are East, West, North or South of the origin. Considering FIG. 3 as a further example, if a request is received in that region for the location of mobile units in G_4 or C_4 and the origin is the location of M_1, with the exclusion zone specified as East, all the mobile units in G_4 or C_4 will receive the request to disclose location in that area. Upon detecting the exclusion zone information in the signal only the mobile units to the West of M_1 will reveal their location. Again, such exclusion zone information may simply specify sub region(s), where PRUs should not reveal their location.

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FIG. 6 shows the steps utilized by a remote unit to reveal its location if it is within the geographic boundary specified by the network. The unit first obtains geographic boundary information specified by the network 1. This information may consist of latitude and longitude information defining the region's origin and radii information. The unit next obtains its location 2. This could be done in association with the network or by using any remote unit location determination techniques such as GPS. The next step is to determine if the unit is within the boundary prescribed by the network 3. Such a technique has already been described in the invention. Further checks are carried out to ensure that remote unit is not in a location reporting exclusion zone defined by the network 4. The location of the remote unit is provided to the network 7 once it is established at the remote unit that the subscriber 6 authorized such an action.

It could be made mandatory that all PRUs reveal their location once they receive a request to establish tracking. A PRU may not respond to any tracking establishing routines if it is at a fixed location. Tracking is only possible when the tracking and tracked unit are in motion. If a network's request is just to establish if a PRU is within a geographic location, the PRU's response could be based solely on the requirements of the subscriber -whether such action is authorized or not. A PRU may choose to instruct the network to relay certain information to mobile units in a specific geographic region. That information would then be appended to the geographic boundary information and beamed in the specified geographic region. The target PRUs would determine if they are in the specified boundary before alerting a subscriber as to the content of the message. In circumstances where a subscriber in possession of the PRU is in motion and a request is received for the location of the PRU if within a specified region, the PRU may provide

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this information and also provide additional information such as its velocity to the network. This might help a party seeking help to establish if they would be able to catch up with another subscriber in the region which help was sought. Also, a party requesting for the location of remote units in a geographic boundary may also forward maximum velocity information. If a PRU is in the region and establishes its velocity is above what is specified, no response is sent to the network. A PRU may calculate its velocity by using the equation, velocity = distance/time. At time intervals T_1 and T_2, a PRU may obtain its location, Y_1 and Y_2 and calculate the distance between these two points, as previously disclosed. The velocity is given by (distance between Y_2 and Y_1.) / (Time at Y_2- Time at Y_1. Such information could then be provided to the network. In situations where a PRU cannot perform any of the tasks described herein, the network may obtain its location information and the required functions performed at the network and forwarded to the appropriate communication target on completion.

In the invention, portable mobile remote units would find the need to routinely update the network with their location information over time. As lots of PRUs exist in the network this could prove difficult for the network to manage. Considering that most PRUs usually travel a small distance over time, it would prove insignificant if their location is continuously provided to the network. A solution will be to instruct the PRU to provide its location to the network only if the location has changed by a constant, such constant defined from a reference position provided by the network. In this scenario, an initial reference location and radii is provided to the PRU, from within which the PRU should not disclose its location to the network. So long as the PRU is within the undisclosed geographic boundary, its location will never to provided to the network. Once the PRU is

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out of this boundary a new undisclosed geographic boundary is provided to the PRU. With this technique the network will not be burdened with managing insignificant changes in the location of the mobile device, for a time. If for instance, the undisclosed radii is set to five miles, the reference coordinate would always be updated each time the PRU travels in excess of five miles off its original reference position. The network or the user may control the undisclosed radii value to ensure reasonable disclosure of location information t.o the network. The network may, of course, override this feature at anytime to obtain the location of a PRU at any time.

The invention also teaches a way to determine if a mobile device is tracking another by examining the location information of the tracking and tracked device over a period of time. Another possibility could be to examine the characteristics of signals emitted from tracking devices that are within close proximity of the tracked device during the tracking period. Such characteristic may include monitoring signal strength and other relevant information –such as location- provided by a tracking device to establish if the device is continuously present within proximity of the tracked unit over time. Also, tracking devices that are within proximity of the tracked device could be instructed to provide their information at predetermined time intervals over the tracking period. The intervals and tracking period could be set and forwarded to the relevant geographic location by the network. The devices picking up that information will periodically update the required information to a control unit at the network and the end of the tracking period the control unit will process the information and determine if a mobile unit is being tracked within the system.

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What is claimed is:

1. A communication system comprising:

a portable mobile remote unit;

a network of communication units;

means to obtain the location of the portable mobile remote unit;

means to obtain geographic boundary information in order to disclose a global location at the network;

means to provide the location of the portable mobile remote unit to the network upon determination that the portable mobile remote unit is within the geographic boundary obtained at the network;

means to determine and report to the system upon request that, another mobile remote unit of the network has tracked the portable mobile remote over a period of time.

2. The portable mobile remote according to claim 1, having means to further determine if location disclosure for the remote unit is prohibited at a specific geographic boundary before sending its location to the network.

3. The portable remote unit of claim 1 having means to establish its velocity at the network and having means to further determine that, its velocity is within the network's prescribed velocity before divulging its location to the network.

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4) A communication system for providing the location of portable mobile remote units in a geographic region to a wireless consumer requesting that information comprising:

i) means to specify and forward to system , geographic boundary information describing the geographic region where the location of portable mobile remote units are required by the wireless consumer;

ii) means to locate from the system, portable mobile remote units that exist in the geographic boundary of (i) , said mobile remote units capable of establishing a global location at the network;

iii) means to provide to the wireless consumer the location of a portable mobile remote unit that exist in the geographic boundary defined by the wireless consumer.

5) The system of claim 4, the portable mobile remote units able to establish and report their location to other communication units of the system;

6) A control unit of the system of 4, having means to receive a request for the location of portable mobile remote units situated in a geographic region of the system and having means to search for mobile remote units that are located in said geographic region.

7) A method for providing the location of portable mobile remote units to a wireless consumer requesting the location of PRUs within a geographic region of a communication system comprising:

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i) obtaining from the wireless consumer, geographic boundary information indicating where a search should be undertaken for PRUs;

ii) providing the information defined in (i) to a control unit of the system;

ii) generating at said control unit a request for the location of PRUs within said geographic boundary;

iii) verifying after said request, whether a portable mobile remote unit in said geographic boundary responded with location information;

iv) providing to the wireless consumer, at least the identity and location of a portable remote unit after the verification of (iii);

8) A method further employed in 7 to determine if a portable mobile remote unit is within a specific geographic boundary defined by the system comprising:

i) receiving at the PRU geographic boundary information, within which the location of the PRU should be disclosed;

ii) establishing at the PRU if the PRU is within said geographic boundary and, if yes, forwarding the location of the PRU to the system;

9. A method further employed in 7 to obtain the location of mobile remote units wherein said prescribed geographic boundary obtained from the wireless consumer is wider than normal, comprising;

i) splitting the wider than normal geographic boundary into sub geographic regions to constitute the geographic boundary;

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ii) requesting in the sub geographic region(s) , the location of remote units that are present in each sub region;

iii) verifying after each request of (ii) in a sub region, whether at least a portable remote unit disclosed a global location in the region;

iv) maintaining a list of all remote units that disclosed their location after each request from the verification of step (iii) ;

v) providing to the system and from the list of (v) the location of at least a remote unit that revealed its location in the sub region.

10. A technique according to claim 9, utilized to terminate a request for the location information of portable mobile remote units in the prescribed geographic boundary comprising:

checking to establish that a request for remote unit location information was undertaken in all re-defined or sub regions of the prescribed boundary or a portable remote unit in a defined or sub region responded with location information.

11. A method utilized to provide to a source of request, the location of mobile remote units that exist in a geographic region from the list according to claim 9 comprising:

(i) estimating and obtaining from the list, the location mobile remote units that are closer to the source of request;

(ii) providing the information obtained in (i) to the source of request before

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releasing the location of other mobile remote units that are further from the source of request.

12. A method for providing the location of a portable mobile remote unit in a geographic region of a wireless network to a wireless consumer requesting the location of portable mobile remote units that are maintaining close proximity to the wireless consumer in the geographic region comprising:

i) obtaining the location of the wireless consumer at intervals over a period of time;

ii) requesting, at each interval, at the network , that all mobile remote units within close proximity of the wireless consumer disclose their location to the network ;

iii) maintaining a list of mobile remote units that provided their location at each interval after the request of (ii) ,

iv) from the list of (iii), forwarding the location of at least a mobile remote unit to the mobile consumer upon determination that the remote unit maintained close proximity to the mobile consumer over the period of time of (i).

13. A technique according to claim 12, utilized to determine if a mobile remote unit is within a prescribed geographic boundary or within close proximity of a wireless consumer comprising:

obtaining radii information of the geographic boundary from the network;

obtaining geographic information describing the origin of the geographic boundary;

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calculating the angle of inclination of the remote unit to the geographic boundary origin;

calculating from the angle of inclination the distance between the remote unit and the geographic boundary origin;

comparing the radii of the geographic boundary to the calculated distance to establish if the remote unit lies in the geographic boundary .

14. A technique employed by the method according to claim 12 to determine if a remote unit is within a specified geographic boundary or close proximity to a wireless consumer comprising:

obtaining from the network geographic information describing the geographic boundary;

estimating at the remote unit if the current location of the remote unit is within the geographic boundary obtained at the network.

15. A method according to claim 12 utilized to further limit the provision of remote unit location to the network comprising:

obtaining at the network, exclusion region information within which the remote unit should not provide its location the network;

determining that the remote unit is not in the exclusion region before providing the location of the remote unit to the network.

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16. A technique utilized in the method according to claim 12, to terminate requesting at each interval, the location of mobile remote units within close proximity of the wireless consumer comprising;

i) keeping track of the time since the first request for tracking units within proximity of the wireless consumer was enacted by the system;

ii) validating that the elapsed time at each interval when a request is to be made does not exceed the total time set for establishing tracking in the system;

iii) requesting that all mobile remote units within close proximity of the wireless consumer divulge their location if the result of the validation of (ii) is true.

17. A method for determining that a first portable remote unit associated with a network is being tracked by at least a second portable remote unit over a tracking period comprising;

obtaining the location of the first portable remote unit or tracked unit;

obtaining the location of the at least a second communication unit or tracking unit that is within proximity or a pre-specified radius of the tracked unit;

verifying whether the tracking and tracked unit(s) have traveled a minimum pre-specified distance over the tracking period;

forwarding the result of the verification to the network at the end of the tracking period.

18. The verification technique employed in the method of claim 17 comprising:

retaining a tracking list of all tracking units that are within a pre-specified radius or region of the tracked unit at the first tracking interval;

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eliminating or removing at subsequent tracking intervals, all tracking units in the tracking list that do not report their location during a subsequent tracking interval;

validating at the end of the tracking period that at least a tracking unit exist in the tracking list and a minimum distance was traveled by the tracked unit.

19. Another verification technique employed in the method of claim 17 comprising:

maintaining a list of all tracking units that are maintaining a close distance to the tracked unit over the period of time;

searching the tracking list at the end of the tracking period to obtain tracking units that traveled a minimum pre-specified distance with the tracked unit.

20. A communication system comprising:

a network of communication units;

at least a first communication unit and at least a second communication unit able to provide location information to the network;

the system able to determine and report that the at least second communication unit maintained close proximity to the at least first communication unit over a period of time.

21. The system of claim 20, the at least first communication unit able to invoke a tracking mode at the at least first communication unit in order to determine if a clandestine unit is tracking it.

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22. A method for providing the location of a portable remote unit that exists within a prescribed geographic boundary in a wireless network comprising:

i) providing geographic boundary information to the mobile remote unit in a geographic region to disclose their location;

ii) further providing exclusion region information associated with said geographic boundary of (i) to the mobile remote unit in the geographic region;

iii) determining that a mobile remote unit is in the geographic boundary of (i) and not in the exclusion region of (ii) before providing the location of the mobile remote unit to the network.

23. A method for providing the location of a portable remote unit that exists within a prescribed geographic boundary to a wireless network comprising:

i) providing to remote units in the geographic boundary velocity information required in order to divulge location information;

ii) estimating at the remote unit or network, the velocity at which the remote unit is moving;

iii) validating that the estimated velocity of the remote unit meets the velocity requirement provided by the network (i) ,if yes, forwarding the location of the remote unit to the network.

24) A method for providing the location of a portable mobile remote unit to a network of communication units comprising:

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i) establishing the current location of the mobile remote unit within the system;

ii) obtaining a reference location and radii information pertaining to the current location (i) of the portable mobile remote unit from the system;

iii)verifying whether said current location of the portable mobile remote lies within the geographic boundary defined by said reference location and radii information in (ii)

iv)if the result of verification (iii) determines that the portable mobile remote unit is not in said geographic boundary, then,

providing the current location of the mobile remote unit to the network and replacing said reference location and/or radii information (i) with new information that is consistent with said current geographic location of the portable mobile remote unit;

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PTO/SB/01 (10-01)
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DECLARATION FOR UTILITY OR DESIGN PATENT APPLICATION (37 CFR 1.63)

☐ Declaration Submitted with Initial Filing OR ☐ Declaration Submitted after Initial Filing (surcharge (37 CFR 1.16 (e)) required)

Attorney Docket Number	
First Named Inventor	
COMPLETE IF KNOWN	
Application Number	09 / 753178
Filing Date	12 / 30 / 2000
Art Unit	2632
Examiner Name	TRIEU, VAN THANH

As the below named inventor, I hereby declare that:

My residence, mailing address, and citizenship are as stated below next to my name.

I believe I am the original and first inventor of the subject matter which is claimed and for which a patent is sought on the invention entitled:

METHOD AND APPARATUS FOR LOCATING MOBILE UNITS TRACKING ANOTHER OR WITHIN A PRESCRIBED GEOGRAPHIC BOUNDARY

(Title of the Invention)

the specification of which

☒ is attached hereto

OR

☐ was filed on (MM/DD/YYYY) 12/30/2000 as United States Application Number or PCT International

Application Number 09/753178 and was amended on (MM/DD/YYYY) _____ (if applicable).

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment specifically referred to above.

I acknowledge the duty to disclose information which is material to patentability as defined in 37 CFR 1.56, including for continuation-in-part applications, material information which became available between the filing date of the prior application and the national or PCT international filing date of the continuation-in-part application.

I hereby claim foreign priority benefits under 35 U.S.C. 119(a)-(d) or (f), or 365(b) of any foreign application(s) for patent, inventor's or plant breeder's rights certificate(s), or 365(a) of any PCT international application which designated at least one country other than the United States of America, listed below and have also identified below, by checking the box, any foreign application for patent, inventor's or plant breeder's rights certificate(s), or any PCT international application having a filing date before that of the application on which priority is claimed.

Prior Foreign Application Number(s)	Country	Foreign Filing Date (MM/DD/YYYY)	Priority Not Claimed	Certified Copy Attached? YES	NO
			☐	☐	☐
			☐	☐	☐
			☐	☐	☐
			☐	☐	☐

☐ Additional foreign application numbers are listed on a supplemental priority data sheet PTO/SB/02B attached hereto:

Burden Hour Statement: This form is estimated to take 21 minutes to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

1L 9829.071902

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DECLARATION — Utility or Design Patent Application

Direct all correspondence to: [X] Customer Number or Bar Code Label [ ] OR [ ] Correspondence address below

Name MUNDI FOMUKONG

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City WEST LOS ANGELES State CA ZIP 90034

Country U.S.A Telephone 3105598133 Fax 3105598173

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. 1001 and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

NAME OF SOLE OR FIRST INVENTOR : [ ] A petition has been filed for this unsigned inventor

Given Name (first and middle [if any]) MUNDI Family Name or Surname FOMUKONG

Inventor's Signature Date 07/11/02

Residence: City WEST LOS ANGELES State CA Country USA Citizenship CMR

Mailing Address 10853 ROSE AVE. #49.

City WLA State CA ZIP 90034 Country US

NAME OF SECOND INVENTOR: [ ] A petition has been filed for this unsigned inventor

Given Name (first and middle [if any]) Family Name or Surname

Inventor's Signature Date

Residence: City State Country Citizenship

Mailing Address

City State ZIP Country

[ ] Additional inventors are being named on the ____supplemental Additional Inventor(s) sheet(s) PTO/SB/02A attached hereto.

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6,441,752 (12/2000)

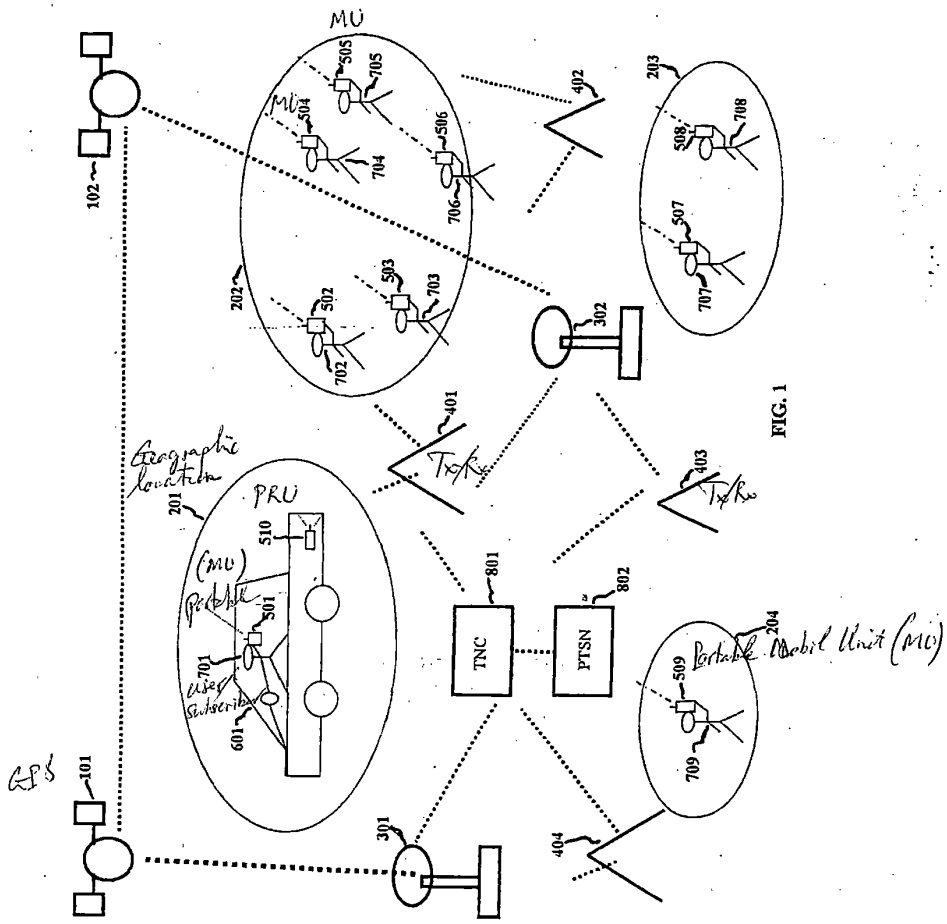


FIG. 1

6,522,882
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6,584,084 (period)
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FIG. 2

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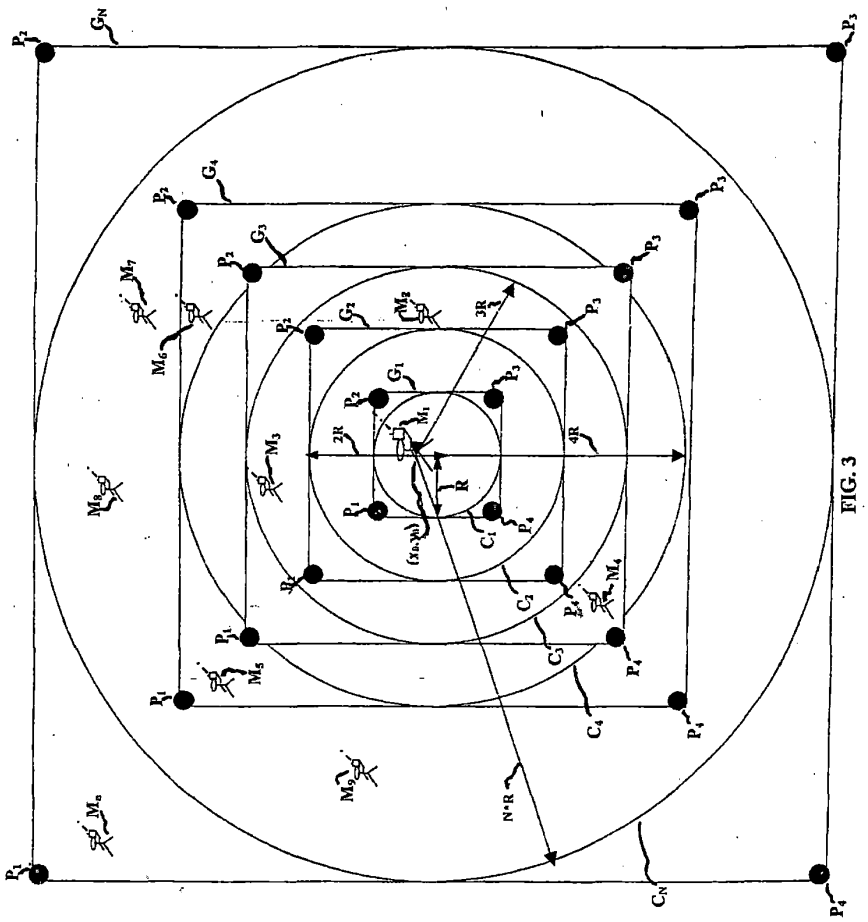


FIG. 3

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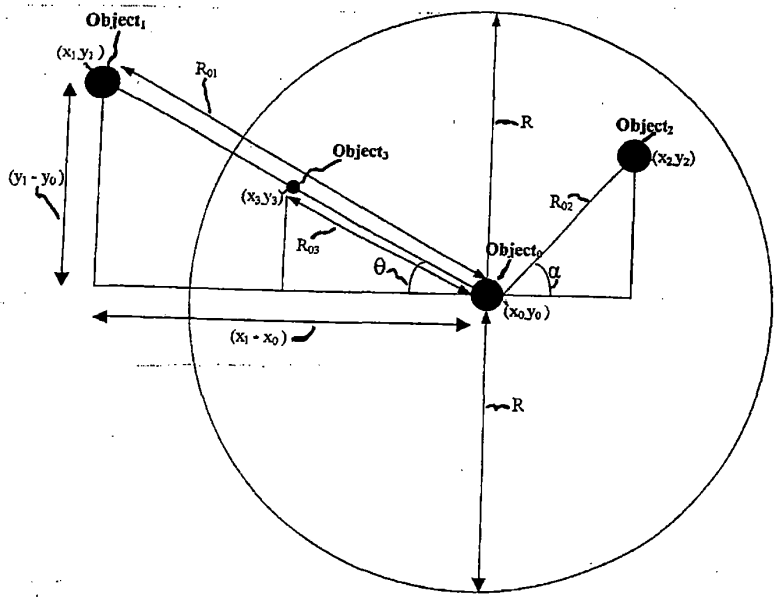


FIG. 4

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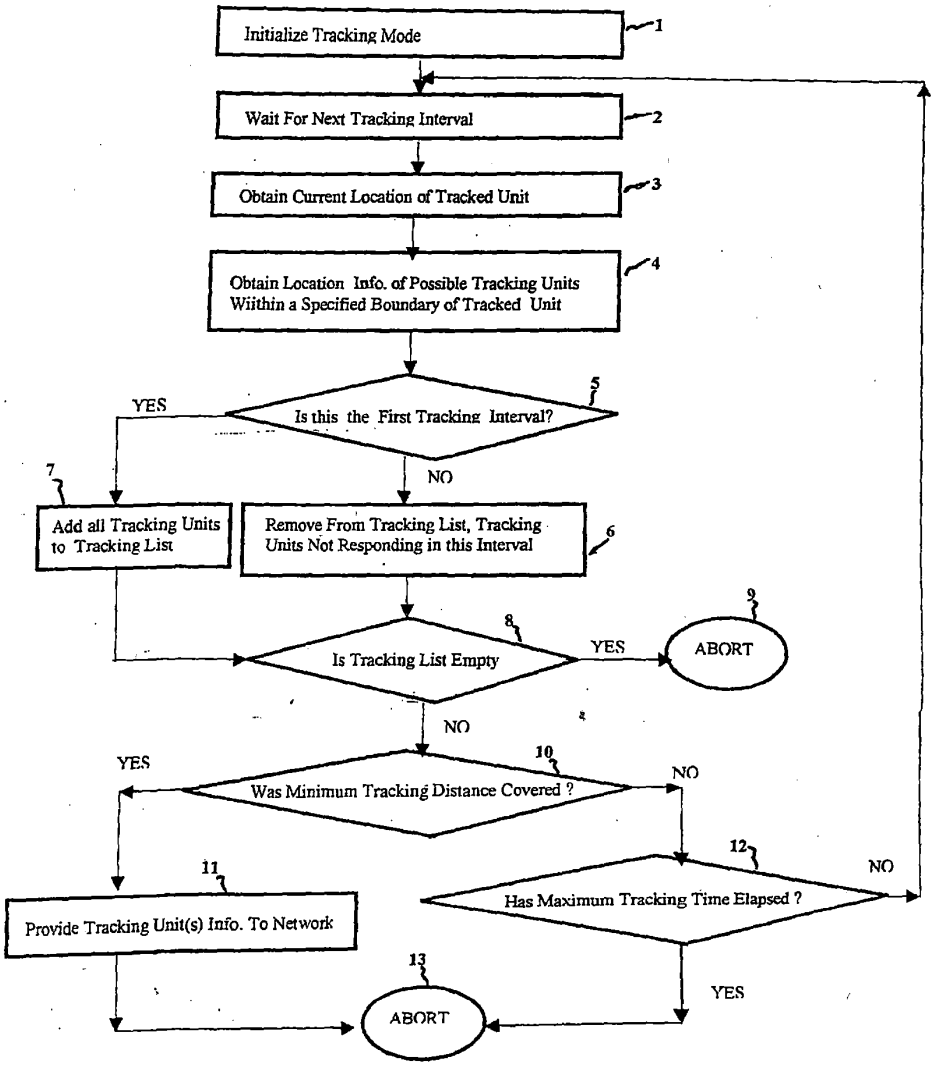


FIG. 5

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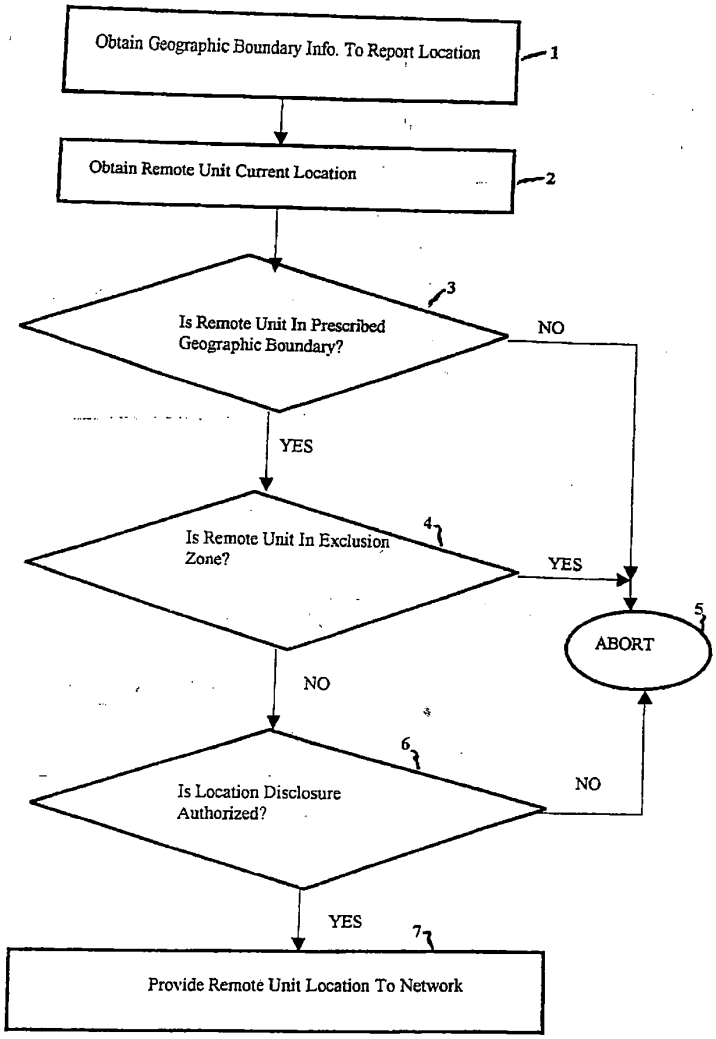


FIG. 6

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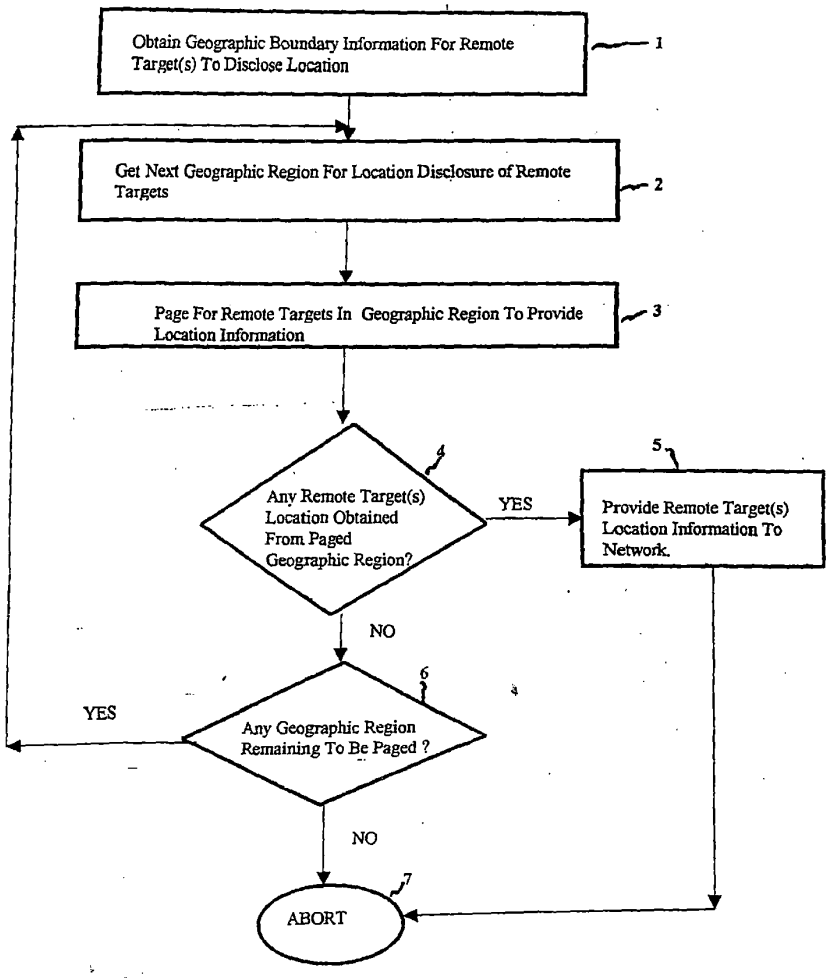


FIG. 7

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FIG. 1

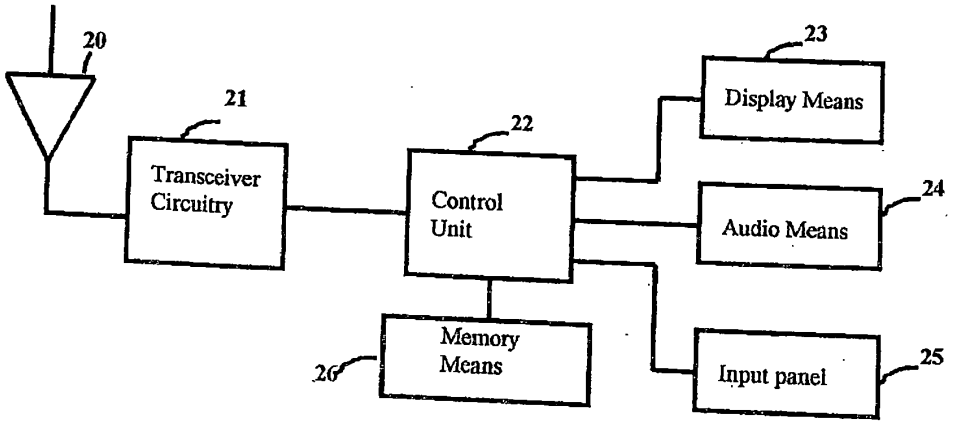


FIG. 2

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FIG. 3

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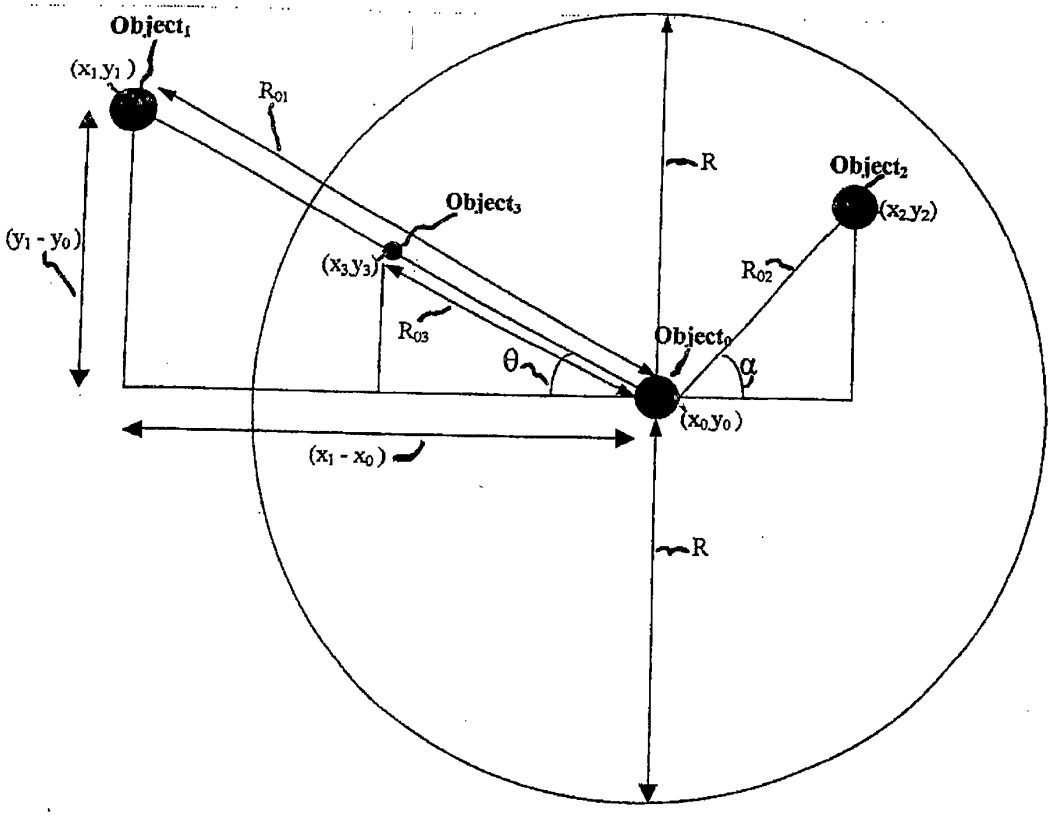


FIG. 4

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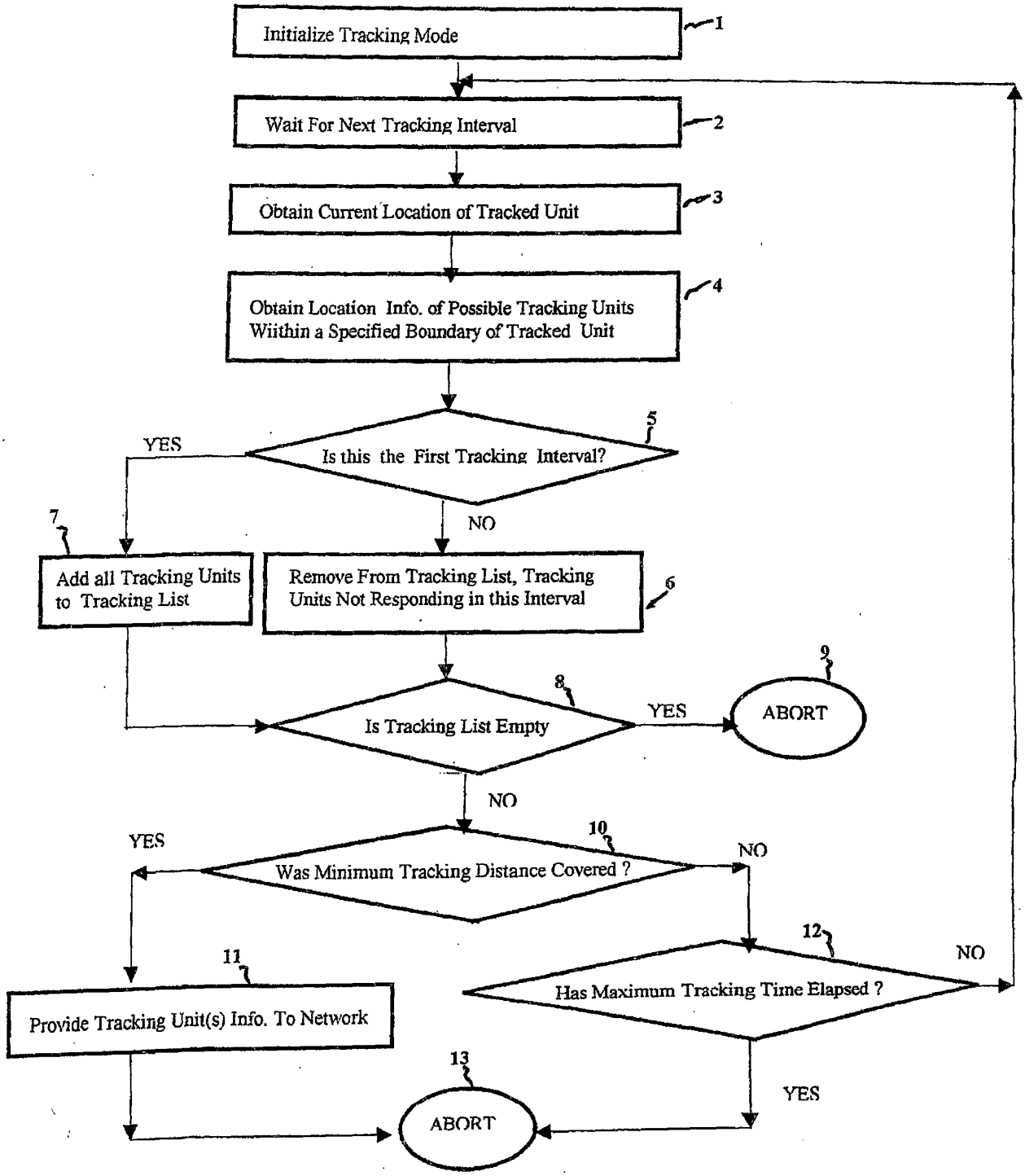


FIG. 5

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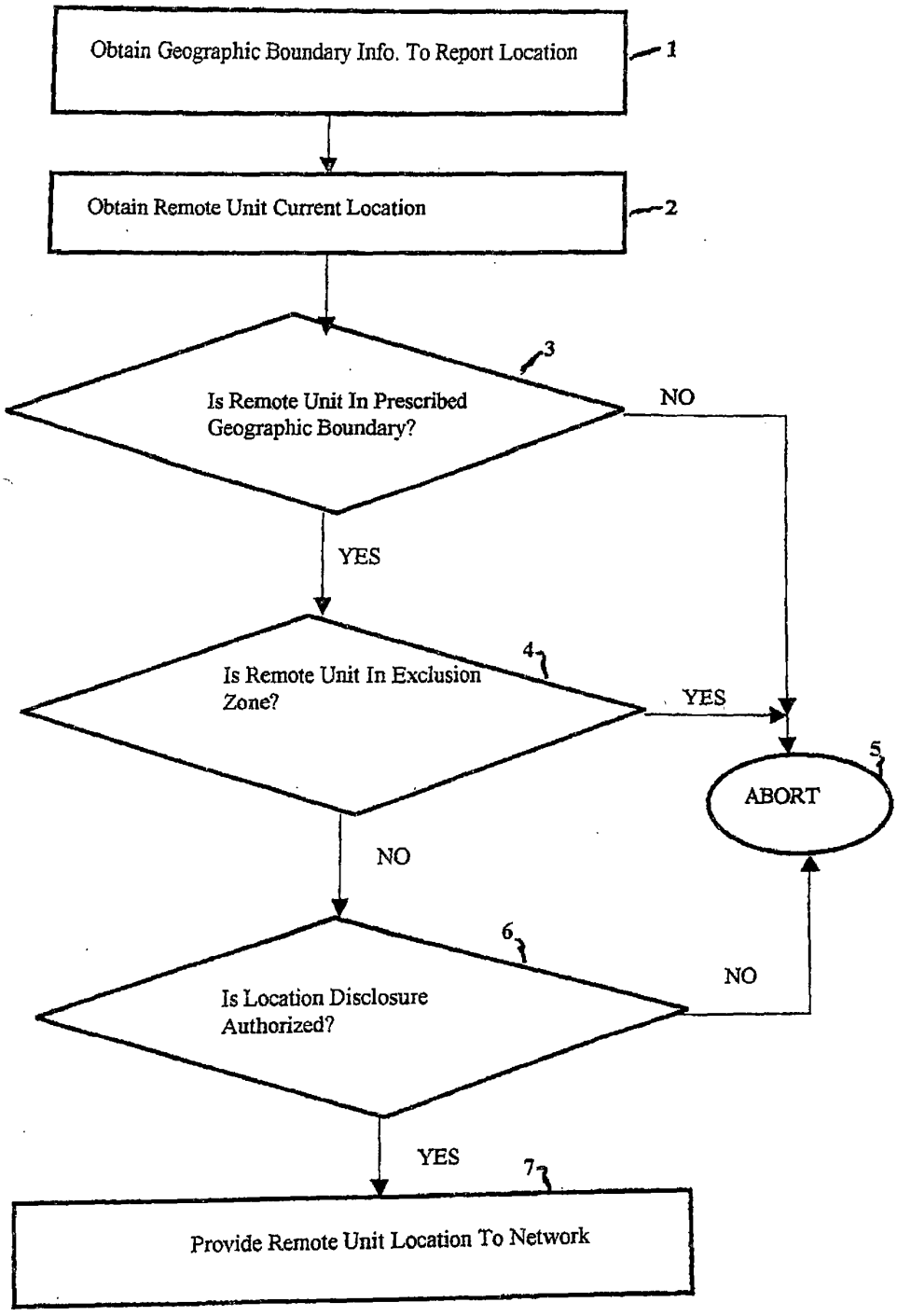


FIG. 6

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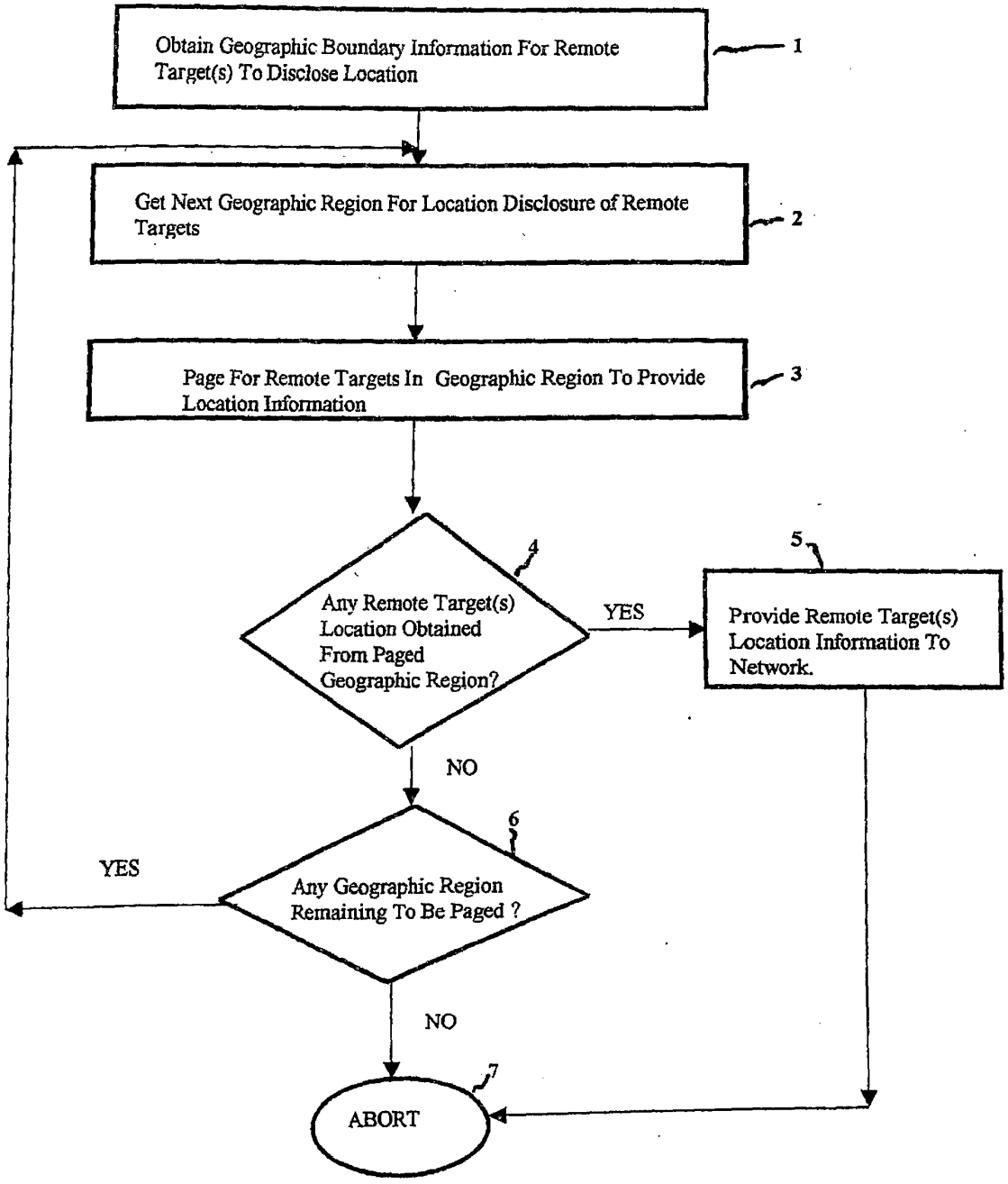


FIG. 7

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FIG. 1

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FIG. 2

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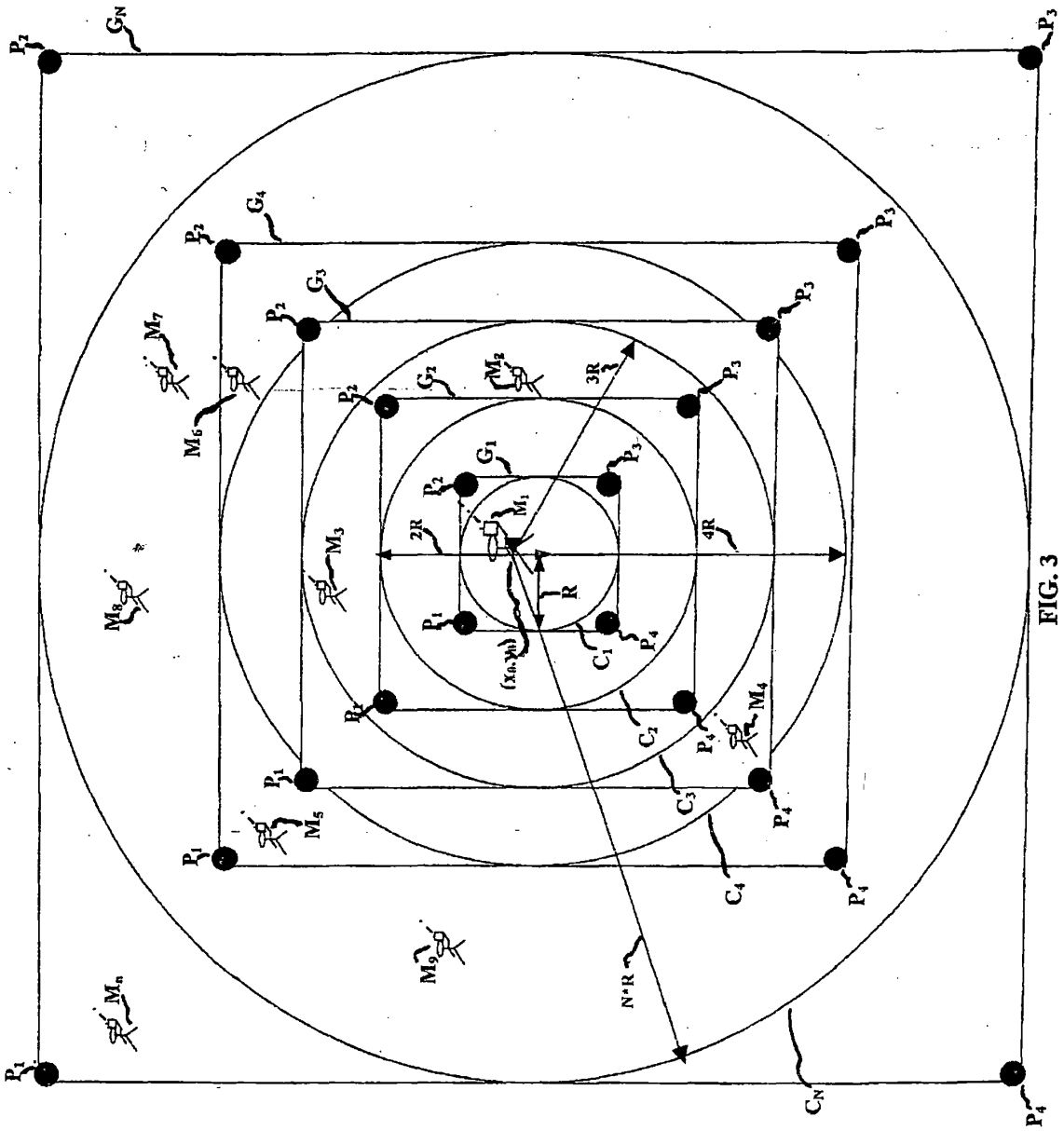


FIG. 3

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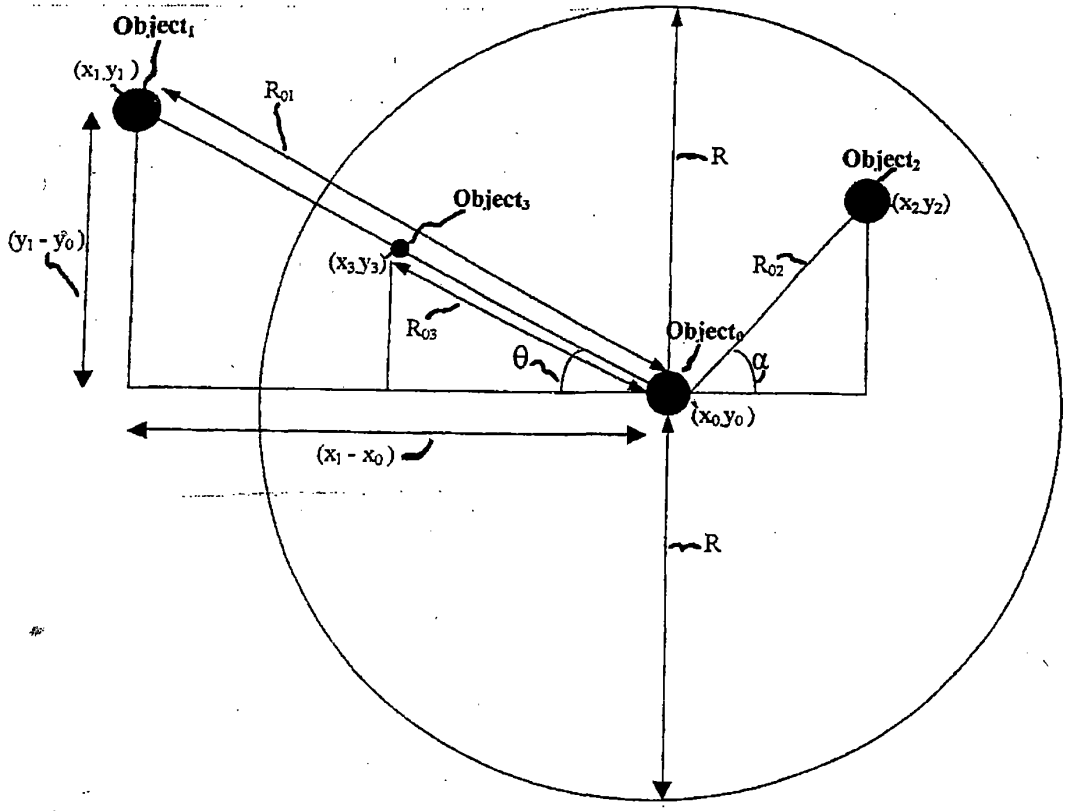


FIG. 4

Petitioner Uber Ex-1005, 0305

PRINT OF DRAWINGS
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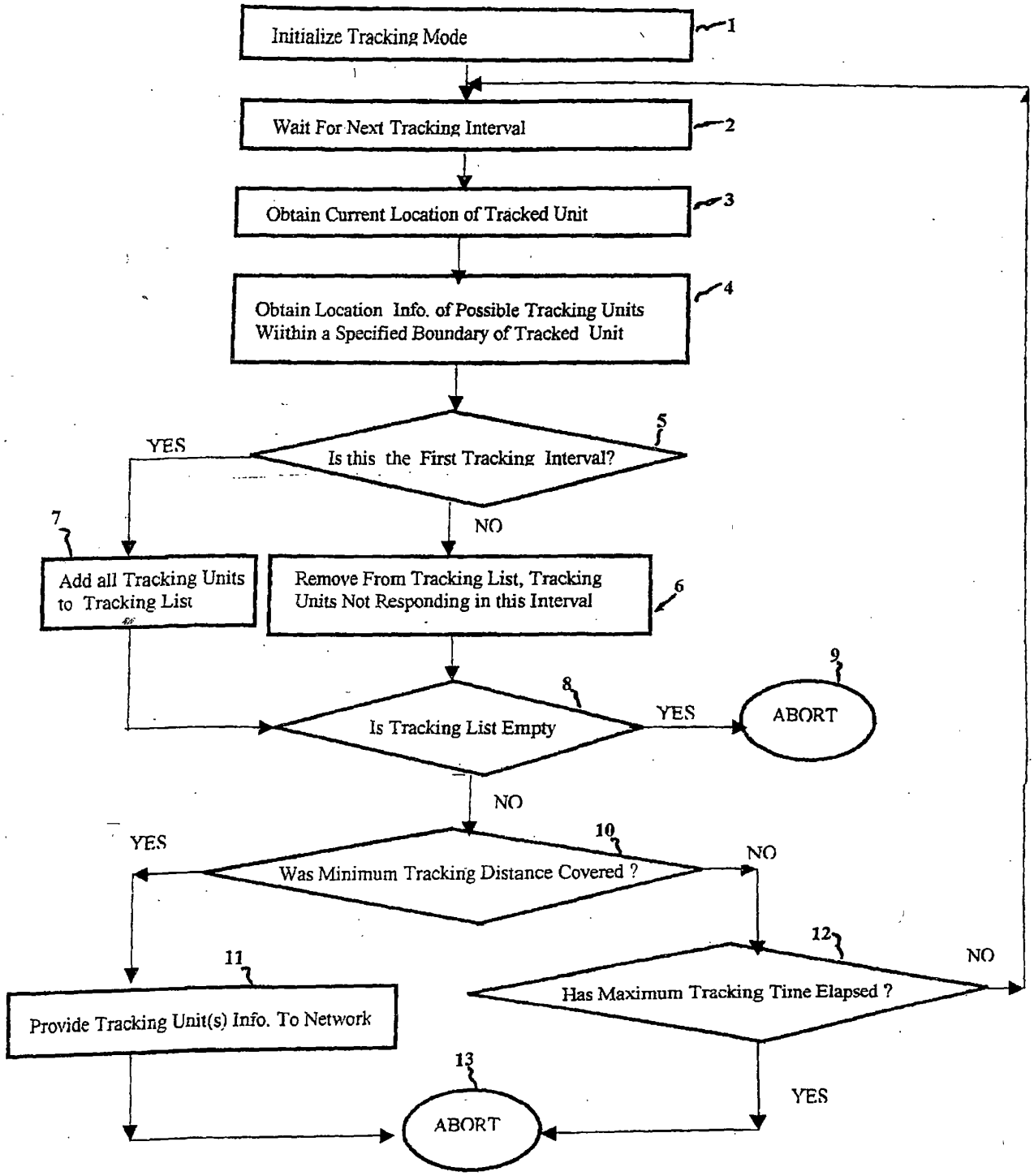


FIG. 5

Petitioner Uber Ex-1005, 0306

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AS ORIGINALLY FILED

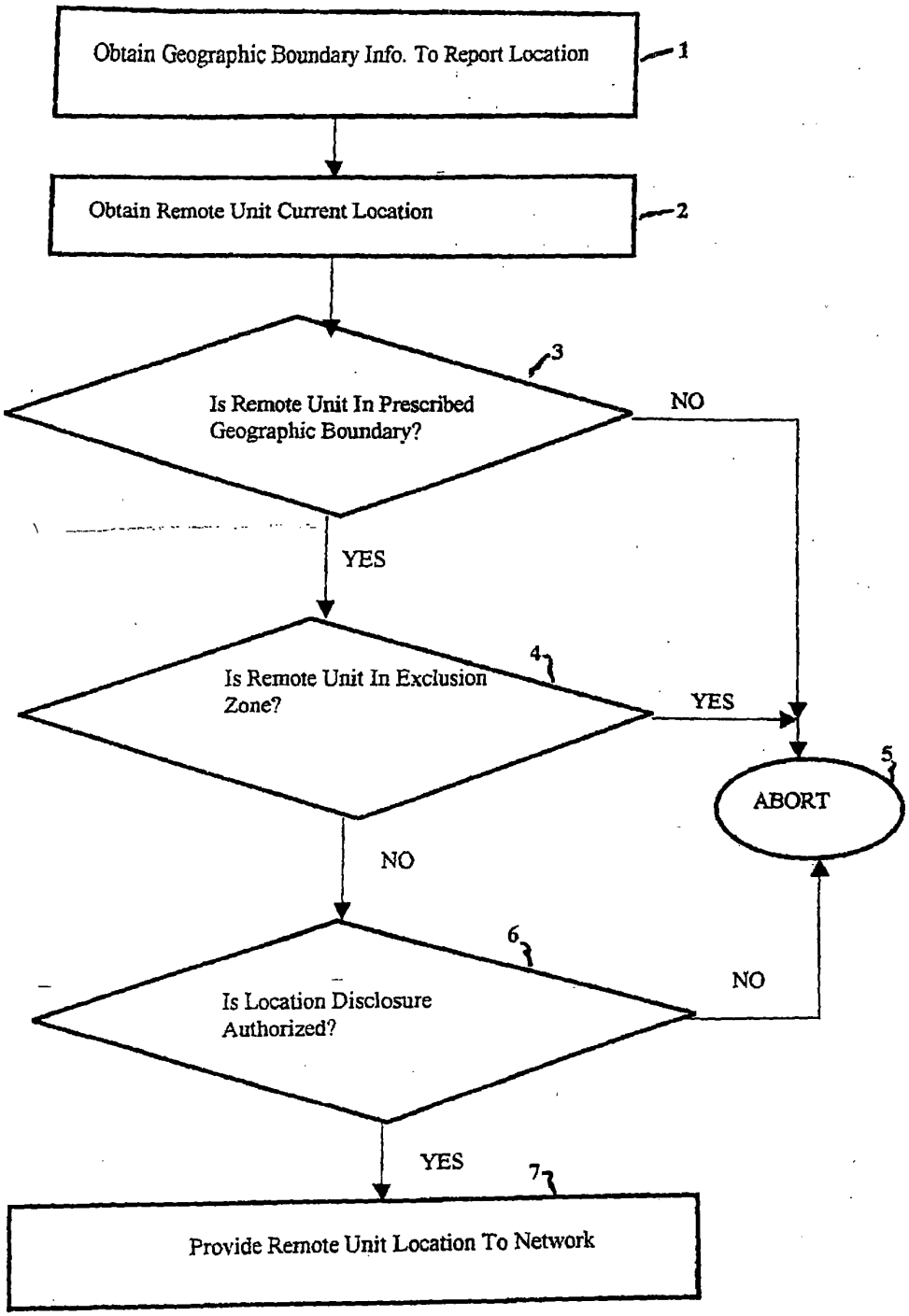


FIG. 6

Petitioner Uber Ex-1005, 0307

PRINT OF DRAWINGS
AS ORIGINALLY FILED

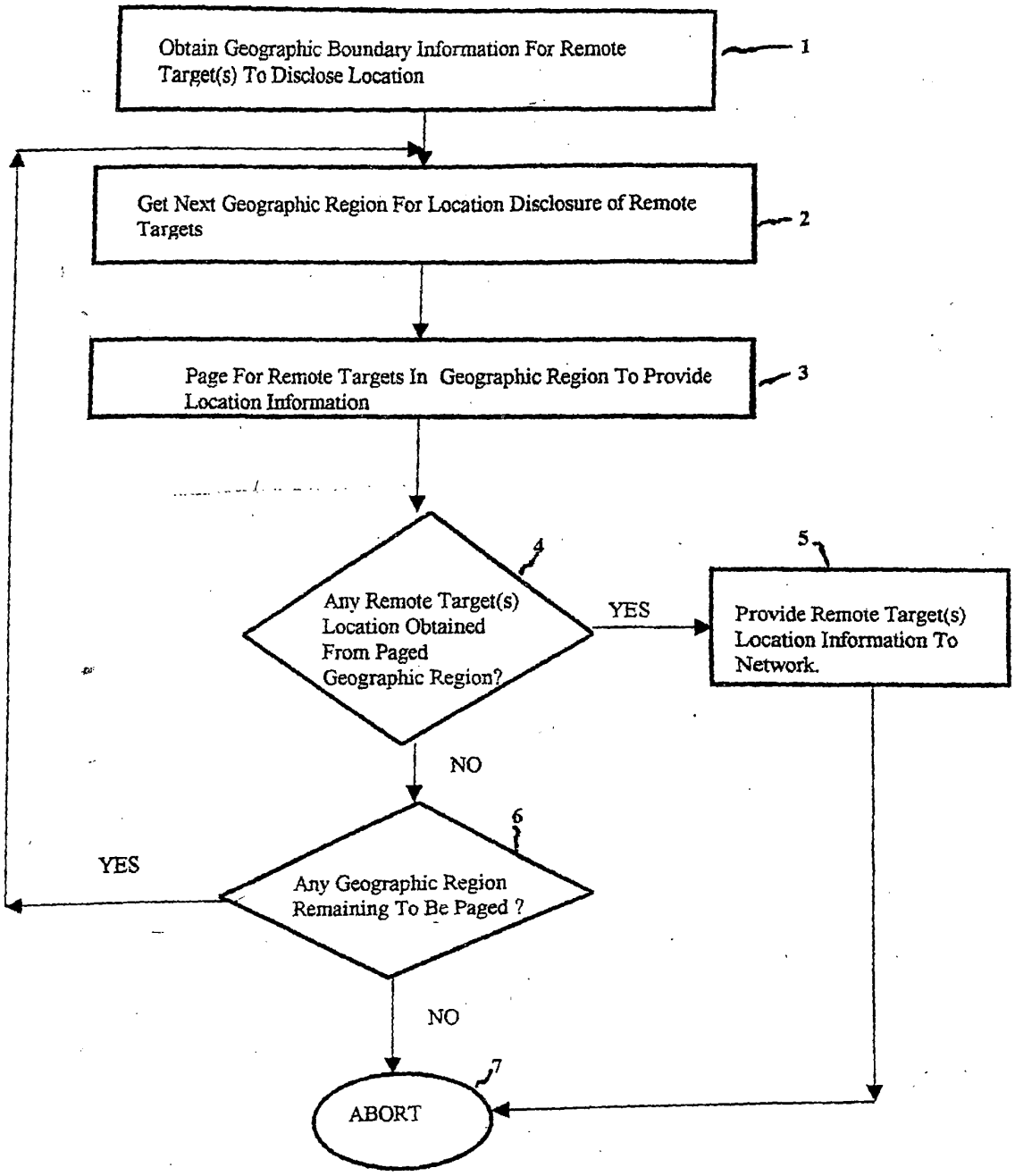


FIG. 7

10/199829 .071902

7-22-02 A

JC882 U.S. PTO 07/19/02

PTO/SB/05 (03-01)
Approved for use through 10/31/2002 OMB 0651-0032
U.S. Patent and Trademark Office, U.S. DEPARTMENT OF COMMERCE

Please type a plus sign (+) inside this box → +

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jc846 U.S. PTO 10/199829 07/19/02

UTILITY PATENT APPLICATION TRANSMITTAL

(Only for new nonprovisional applications under 37 CFR 1.53(b))

Attorney Docket No.	
First Inventor	MUNDI FOMUKONG
Title	
Express Mail Label No.	

APPLICATION ELEMENTS

See MPEP chapter 600 concerning utility patent application contents.

ADDRESS TO: Assistant Commissioner for Patents
Box Patent Application
Washington, DC 20231

1. [X] Fee Transmittal Form (e.g., PTO/SB/17) *(Submit an original and a duplicate for fee processing)*
2. [X] Applicant claims small entity status See 37 CFR 1.27
3. [X] Specification [Total Pages 34] *(preferred arrangement set forth below)*
   - Descriptive title of the invention
   - Cross Reference to Related Applications
   - Statement Regarding Fed sponsored R & D
   - Reference to sequence listing, a table, or a computer program listing appendix
   - Background of the Invention
   - Brief Summary of the Invention
   - Brief Description of the Drawings *(if filed)*
   - Detailed Description
   - Claim(s)
   - Abstract of the Disclosure
4. [X] Drawing(s) *(35 U.S.C. 113)* [Total Sheets 7]
5. Oath or Declaration [Total Pages]
   - a. [Z] Newly executed (original or copy)
   - b. [ ] Copy from a prior application (37 CFR 1.63(d)) *(for continuation/divisional with Box 18 completed)*
     - i. [ ] DELETION OF INVENTOR(S) Signed statement attached deleting inventor(s) named in the prior application, see 37 CFR 1.63(d)(2) and 1.33(b).
6. [ ] Application Data Sheet See 37 CFR 1.76
7. [ ] CD-ROM or CD-R in duplicate, large table or Computer Program *(Appendix)*
8. Nucleotide and/or Amino Acid Sequence Submission *(if applicable, all necessary)*
   - a. [ ] Computer Readable Form (CRF)
   - b. Specification Sequence Listing on:
     - i. [ ] CD-ROM or CD-R (2 copies); or
     - ii. [ ] paper
   - c. [ ] Statements verifying identity of above copies

ACCOMPANYING APPLICATION PARTS

9. [ ] Assignment Papers (cover sheet & document(s))
10. [ ] 37 CFR 3.73(b) Statement *(when there is an assignee)* [ ] Power of Attorney
11. [ ] English Translation Document *(if applicable)*
12. [X] Information Disclosure Statement (IDS)/PTO-1449 [X] Copies of IDS Citations
13. [ ] Preliminary Amendment
14. [ ] Return Receipt Postcard (MPEP 503) *(Should be specifically itemized)*
15. [ ] Certified Copy of Priority Document(s) *(if foreign priority is claimed)*
16. [ ] Nonpublication Request under 35 U.S.C. 122 (b)(2)(B)(i). Applicant must attach form PTO/SB/35 or its equivalent.
17. [X] Other: Credit Card Payment Form

18. If a CONTINUING APPLICATION, *check appropriate box, and supply the requisite information below and in a preliminary amendment, or in an Application Data Sheet under 37 CFR 1.76:*

[ ] Continuation [ ] Divisional [X] Continuation-in-part (CIP) of prior application No: 09/753,178

Prior application information: Examiner: TRIEU, VAN Group Art Unit: 2632

For CONTINUATION OR DIVISIONAL APPS only. The entire disclosure of the prior application, from which an oath or declaration is supplied under Box 5b, is considered a part of the disclosure of the accompanying continuation or divisional application and is hereby incorporated by reference. The incorporation can only be relied upon when a portion has been inadvertently omitted from the submitted application parts.

19. CORRESPONDENCE ADDRESS

[ ] Customer Number or Bar Code Label (Insert Customer No. or Attach bar code label here) or [ ] Correspondence address below

Name	MUNDI FOMUKONG				
Address	10853 ROSE AVE. #49				
City	WLA	State	CA	Zip Code	90034
Country	USA	Telephone	3105598133	Fax	3105598173

Name (Print/Type)	MUNDI FOMUKONG	Registration No. (Attorney/Agent)	
Signature	[signature]	Date	7/11/02

Burden Hour Statement: This form is estimated to take 0.2 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Box Patent Application, Washington, DC 20231

[redacted]

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FEE TRANSMITTAL for FY 2002

Patent fees are subject to annual revision.

☒ Applicant claims small entity status See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT ($)

Complete if Known	
Application Number	09/753,178
Filing Date	12/30/2000
First Named Inventor	MUNDI FOMUKONG
Examiner Name	TRIEU, VAN
Group Art Unit	2632
Attorney Docket No.	

METHOD OF PAYMENT *(check all that apply)*

☐ Check ☒ Credit card ☐ Money Order ☐ Other ☐ None

☐ Deposit Account.

Deposit Account Number

Deposit Account Name

The Commissioner is authorized to: *(check all that apply)*

☒ Charge fee(s) indicated below ☒ Credit any overpayments

☐ Charge any additional fee(s) during the pendency of this application

☐ Charge fee(s) indicated below, **except for the filing fee** to the above-identified deposit account.

FEE CALCULATION

1. BASIC FILING FEE

Large Entity Fee Code	Large Entity Fee ($)	Small Entity Fee Code	Small Entity Fee ($)	Fee Description	Fee Paid
101	740	201	370	Utility filing fee	370
106	330	206	165	Design filing fee	
107	510	207	255	Plant filing fee	
108	740	208	370	Reissue filing fee	
114	160	214	80	Provisional filing fee	

SUBTOTAL (1) ($) 370

2. EXTRA CLAIM FEES FOR UTILITY AND REISSUE

	Extra Claims		Fee from below	Fee Paid
Total Claims	24 -20** =	4	x 9	= 36
Independent Claims	8 -3** =	5	x 42	= 210
Multiple Dependent				=

Large Entity Fee Code	Large Entity Fee ($)	Small Entity Fee Code	Small Entity Fee ($)	Fee Description
103	18	203	9	Claims in excess of 20
102	84	202	42	Independent claims in excess of 3
104	280	204	140	Multiple dependent claim, if not paid
109	84	209	42	** Reissue independent claims over original patent
110	18	210	9	** Reissue claims in excess of 20 and over original patent

SUBTOTAL (2) ($) 246

**or number previously paid, if greater, For Reissues, see above

FEE CALCULATION (continued)

3. ADDITIONAL FEES

Large Entity Fee Code	Large Entity Fee ($)	Small Entity Fee Code	Small Entity Fee ($)	Fee Description	Fee Paid
105	130	205	65	Surcharge - late filing fee or oath	
127	50	227	25	Surcharge - late provisional filing fee or cover sheet	
139	130	139	130	Non-English specification	
147	2,520	147	2,520	For filing a request for ex *parte* reexamination	
112	920*	112	920*	Requesting publication of SIR prior to Examiner action	
113	1,840*	113	1,840*	Requesting publication of SIR after Examiner action	
115	110	215	55	Extension for reply within first month	
116	400	216	200	Extension for reply within second month	
117	920	217	460	Extension for reply within third month	
118	1,440	218	720	Extension for reply within fourth month	
128	1,960	228	980	Extension for reply within fifth month	
119	320	219	160	Notice of Appeal	
120	320	220	160	Filing a brief in support of an appeal	
121	280	221	140	Request for oral hearing	
138	1,510	138	1,510	Petition to institute a public use proceeding	
140	110	240	55	Petition to revive - unavoidable	
141	1,280	241	640	Petition to revive - unintentional	
142	1,280	242	640	Utility issue fee (or reissue)	
143	460	243	230	Design issue fee	
144	620	244	310	Plant issue fee	
122	130	122	130	Petitions to the Commissioner	
123	50	123	50	Processing fee under 37 CFR 1.17(q)	
126	180	126	180	Submission of Information Disclosure Stmt	
581	40	581	40	Recording each patent assignment per property (times number of properties)	
146	740	246	370	Filing a submission after final rejection (37 CFR § 1.129(a))	
149	740	249	370	For each additional invention to be examined (37 CFR § 1.129(b))	
179	740	279	370	Request for Continued Examination (RCE)	
169	900	169	900	Request for expedited examination of a design application	

Other fee (specify) _____

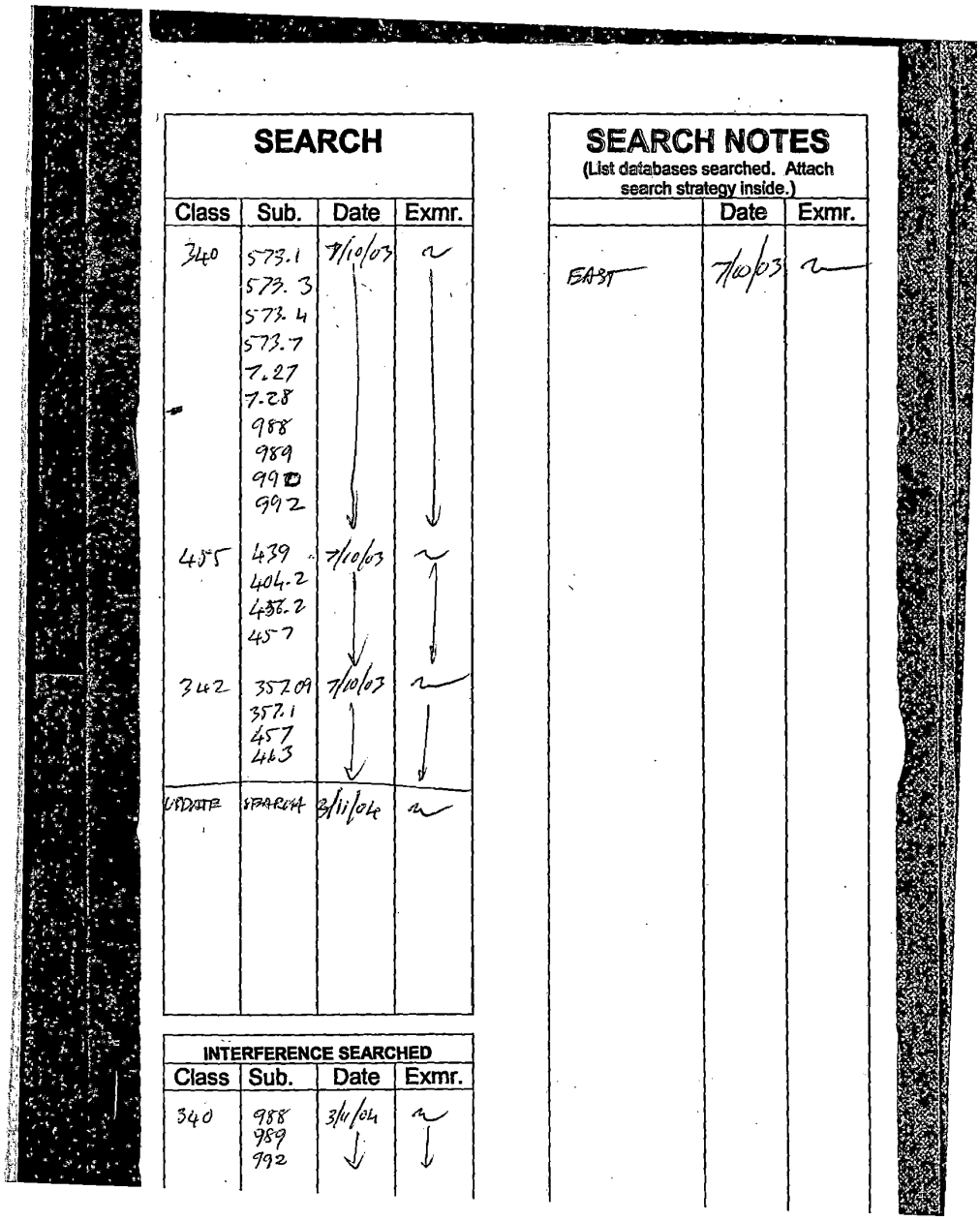
*Reduced by Basic Filing Fee Paid **SUBTOTAL (3)** ($)

SUBMITTED BY				Complete *(if applicable)*	
Name (Print/Type)	MUNDI FOMUKONG	Registration No (Attorney/Agent)		Telephone	3105598133
Signature				Date	7/11/02

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

Burden Hour Statement. This form is estimated to take 0.2 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

[redacted]



SEARCH

Class	Sub.	Date	Exmr.
340	573.1 573.3 573.4 573.7 7.27 7.28 988 989 990 992	7/10/03	~
455	439 404.2 438.2 457	7/10/03	~
342	357.09 357.1 457 463	7/10/03	~
UPDATE	SEARCH	3/11/04	~

INTERFERENCE SEARCHED

Class	Sub.	Date	Exmr.
340	988 989 992	3/11/04	~

SEARCH NOTES

(List databases searched. Attach search strategy inside.)

	Date	Exmr.
EAST	7/10/03	~

ISSUE SLIP STAPLE AREA (for additional cross-references)

ISSUING CLASSIFICATION			
ORIGINAL		CROSS REFERENCE(S)	
CLASS	SUBCLASS	CLASS	SUBCLASS (ONE SUBCLASS PER BLOCK)
340	988	340	989 992
INTERNATIONAL CLASSIFICATION			
G08G	1 1123		
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	1		
	1		^ Continued on Issue Slip Inside File Jacket

INDEX OF CLAIMS

✓ ..... Rejected – (Through numeral) ... Canceled N ..... Non-elected A ..... Appeal
= ..... Allowed + ... Restricted I ..... Interference O ..... Objected

Claim Final	Claim Original	Date
	1	✓
	2	✓
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If more than 150 claims or 9 actions staple additional sheet here

JC846 U.S. PTO 10/199829 07/19/02

JUN 2 9 2004

PATENT NUMBER and ISSUE DATE 6756918

U.S. UTILITY Patent Application

APPL NUM	FILING DATE	CLASS	SUBCLASS	GAU	EXAMINER
10199829	07/19/2002	340	18 6	2632	TR FU N

*APPLICANTS: Fomukong Mundi; 2636

**CONTINUING DATA VERIFIED: N

This application is a CIP of 09/753,178 12/30/2000 PAT 6,441,752

NOTE DISCLAIMER
The term of this patent shall not extend beyond expiration date of Pat. No. 6,441,752

** FOREIGN APPLICATIONS VERIFIED: N

PG-PUB DO NOT PUBLISH ☐ RESCIND ☐

Foreign priority claimed ☐ yes ☐ no
35 USC 119 conditions met ☐ yes ☐ no
Verified and Acknowledged Examiners's Initials N

ATTORNEY DOCKET NO

TITLE : Method and apparatus for locating mobile units tracking another or within a prescribed geographic boundary

U.S.DEPT. OF COMM./PAT.& TM-PTO-436L(Rev. 12-94)

5/24/04 Forms/ Drawings 7 sheet(s) 7 7/19/02

NOTICE OF ALLOWANCE MAILED		Assistant Examiner	CLAIMS ALLOWED	
3-16-04			Total Claims 27	Print Claim for O.G
ISSUE FEE			DRAWING	
Amount Due	Date Paid	PRIMARY EXAMINER	Sheets Drwg. 7	Figs.Drwg. 7 / Print Fig. 5
#665	5/17/04 JPM	Primary Examiner	Application Examiner 3-17-04	
☒ TERMINAL DISCLAIMER		PREPARED FOR ISSUE		

WARNING: The information disclosed herein may be restricted. Unauthorized disclosure may be prohibited by the United States Code Title 35, Sections 122, 181 and 368, Possession outside the U.S. Patent & Trademark Office is restricted to authorized employees and contractors only.

39F 10199829 RET 282021346 - 000001 SP RT ID: VI
-46-01-3-19-0017-1-04-02 01031887?1

10199829

07/19/02

INITIALS RM

CONTENTS

		Date Received (incl. C. of M.) or Date Mailed			Date Received (incl. C. of M.) or Date Mailed
1.	Application Utility papers.		31.		
2.	SRS	7-19-02	32.		
3.	1&3 marked	7-15-03	33.		
4.	Amdt. A (N.E.)	10-15-03	34.		
5.	Letter (Withdrawn)	11-25-03	35.		
6.	Amdt. B	12-24-03	36.		
7.	Terminal Disclaimer	Dec. 24 2003	37.		
8.	Ex Amdt. C	3-16-04	38.		
9.			39.		
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DATE
07-24-02
7-26-02
8-1
8-8-02

Mellon

Mellon Global Cash Management

September 9, 2004

Merchant #: 0381000800015

Dear Government Merchant: U S PATENT/TRADEMARK OFFICE

The attached file have been received from the American Express Association as a Invalid Charge posting to an American Express Account. Per instructions received from American Express, the enclosed case has been Debit to your account on 9/09/04 for $ 398.00 . Since these files work on stringent time frames, we advise that the cardholder be contacted in the event that you feel this action was not warranted.

If you have any questions regarding this action, please call the number located below with the Debit amount, your merchant number, and the date of the Debit. Thank you for your time.

Sincerely,

Chargeback Department

Note: American Express claims the Chargeback Reason is: Authorized Chargeback. Account: 3712-931357-11002 Date: 1/5/04 Amount $199.00 Plus Date: 12/24/03 Amount: $199.00. Merchant agreed to accept a debit for $398.00.

9/10 CC DV # 085184 398-

Merchant Client Support Division, Federal Sector
Suite 0490 • Mellon Client Service Center • Pittsburgh, PA 15262
1-800-832-5212 Option 2

A Mellon Financial Company

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Technology Center 2600

AMERICAN EXPRESS
Establishment Services

National Accounts
Post Office Box 53852
Phoenix, AZ. 85072-3852

038/00080000/5

INVOICE OF RETURN CHARGES

U S PATENT/TRADEMARK OFF
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500 ROSS ST 1540490
PITTSBURGH, PA. 15262

INVOICE:	**077495**
Date:	JUN-29-2004
JETS Ref#:	181077
Orig Ref#:	175440
C/B Code:	14

Chargeback Reason: AUTHORIZED CHARGEBACK

Supplementary Information:
Batch Number: 501
Julian Date : 007
SOC Number :
Ref Number : 10199829
Merch Code : 10199829
Charge Date : DEC-23-2003

Cardmember Information:
CM number: 371293135711002

MUNDI FOMUKONG
10853 ROSE AVE APT 49
LOS, CA. 90034

TICKET NO	AMOUNT	SOC NO	CHARGE DT	REF NUMBER
	199.00	06005707	12/23/03	10199829
	199.00	27002101	12/24/03	10199829
	1.99	61 2 501	01/05/04	10199829

Notes:
CAP#408-020-183-3

Gross amount:	$	398.00
Discount Rate:		0.00%
Discount Amount:	$	0.00
Net amount:	$	398.00

Original Copy

Adjustment date: 09/21/2004 TTON11

01/05/2004 SZEWDIE1 00000085 10199829

02 FC:2202 -144.00 OP

Adjustment date: 09/21/2004 TTON11

12/24/2003 AADOFO1 00000042 10199829

01 FC:2202 -144.00 OP

Adjustment date: 09/21/2004 TTON11

12/24/2003 AADOFO1 00000042 10199829

02 FC:2814 -55.00 OP

Adjustment date: 09/21/2004 TTON11

01/05/2004 SZEWDIE1 00000085 10199829

01 FC:2814 -55.00 OP

Deliver to:
Kalieb Petros
2331 Mill Road
Suite 300

