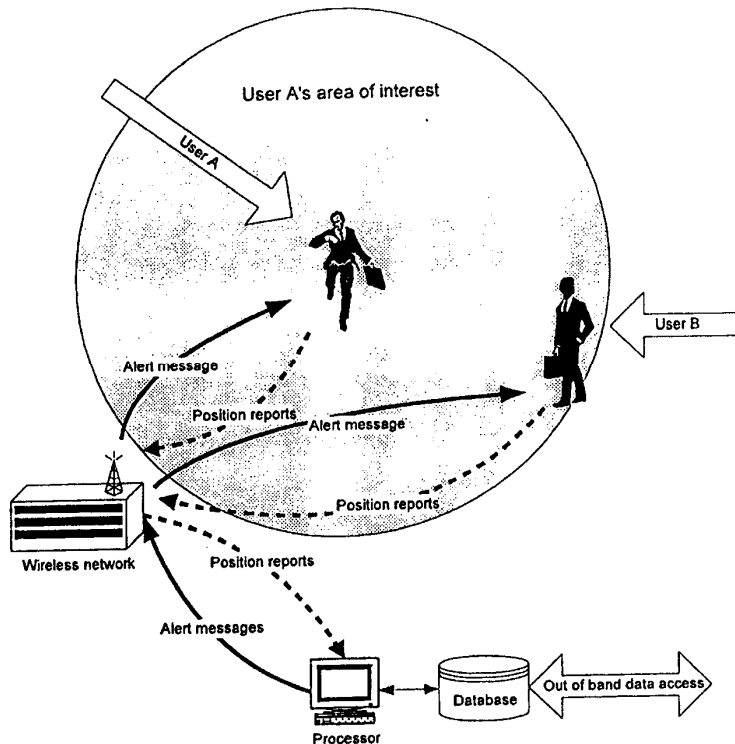# PCT

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(54) Title: A METHOD AND A SYSTEM FOR TRANSMITTING DATA BETWEEN UNITS

(57) Abstract

The present invention relates to a method and a system for transmitting data between communication units. In particular, the present invention relates to a method and a system for use in wireless communication networks. Even more particular, the present invention relates to a method and a system for automatic notification of a user "A" of the entry of pre–selected user "B" into a pre–determined area (or proximity to a particular location). The notification may further depend on a successful match of user specified parameters. The location of users "A" and "B" is determined by reference to the position of their personal wireless communication unit, such as a mobile telephone or a pager.

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A METHOD AND A SYSTEM FOR TRANSMITTING DATA BETWEEN UNITS

FIELD OF THE INVENTION

5 The present invention relates to a method and a system for transmitting data be-
tween communication units. In particular, the present invention relates to a method
and a system for use in wireless communication networks. Even more particular, the
present invention relates to a method and a system for automatic notification of a
user "A" of the entry of pre-selected user "B" into a pre-determined area (or proxim-

10 ity to a particular location). The notification may further depend on a successful
match of user specified parameters. The location of users "A" and "B"" is determined
by reference to the position of their personal wireless communication unit, such as a
mobile telephone or a pager.

15 BACKGROUND OF THE INVENTION

Numerous systems for location determination in mobile networks exists, e.g.
WO98/00821, WO94/12892, WO93/24911, WO92/05672, EP 0766491, EP
0546758, EP 0335558, US 5,600,706, US 5,508,708, US 5,293,645, GB

20 2310098, GB 2304500.

The simplest form of location determination is based on the fact that all cellular net-
works are built of a number of "cells", each covering an area ranging from a few
hundred meters to several miles. Users of the system are constantly located by the

25 systems universal tracking function. This means the individual users are tracked by
cell. Although this method is not very accurate and precision varies with cell size, it
may be sufficient for some embodiments of the system described in this document.

More precise systems use technologies such as time difference of arrival, (TDOA),

30 power/signal attenuation, angle of arrival (AOA), Radio Signal Mapping, GPS (Global
Positioning System) or a combination to establish the position of the user. These sys-
tems can be purchased from third-party providers and installed in existing cellular
networks. The only requirement for use in this system is that they can provide a
streaming real-time or near real-time feed of user location data to a database.

Systems which automatically alert a central location of the exit of a wireless com-
munication unit from a pre-determined area are well-known, e.g. US Patent
5,327,144. These are typically used for vehicle theft alarms, bail absconding units
and the like.

5

Systems which automatically notify arrival at a particular location are also well-
known, e.g. international patent application WO 94/27264, a system for notifying a
recipient of an unscheduled delivery of an item.

10   GB Patent 2814736 describes a system which, on request of a user, presents a list
of active handsets allowing the user to see which other users are available for com-
munications, but this only refers to whether the users handset is active or not, and
does not include location information.

15   US Patent US 5,144,301 describes a system for alerting school children that a
school bus is moving towards a nearby bus stop, thus prompting the children to
leave their residences to reach the bus stop at or before the bus arrives at the stop.

An Internet equivalent of the first embodiment of this system exists in the form of
20   so-called "Buddy List" programs, of which the most well-known is "ICQ"
(http:/www.icq.com). These systems provide a user with the ability to be notified
when friends are on-line, allowing the user to contact them using a variety of meth-
ods such as real-time chat, instant messages or e-mail.

25   It is a disadvantage of the above-mentioned systems, that none of these systems
provide automatic notification of a user "A" of the entry of pre-selected user "B" into
a pre-determined area (or proximity to a particular location).

It is a further disadvantage of the above-mentioned systems, that none of these sys-
30   tems provide automatic notification of a user "A" of the proximity of another user
with a matching Personal Profile.

SUMMARY OF THE INVENTION

It is an object of the present invention to solve the above-mentioned problem by pro-
viding a method and a system wherein e.g. a user "A" is automatically notified of the
5 entry of pre-selected user "B" into a pre-determined area (or proximity to a particular
location). Furthermore, it is an object of the present invention to provide a method
and a system wherein e.g. a user "A" is automatically notified of the proximity of
another user "B" when a match is found between the Personal profiles of users "A"
and "B".
10

Thus, it is an object of the present invention to provide a method and system for e.g.
two-way (wireless) communication devices (e.g. telephones or pagers) comprising
the ability to alert user "A's" communication device when a user "B" enters a pre-
defined area (or proximity to a particular location), according to user "A's" personally
15 defined selection criteria.

It is a further object of the present invention to provide a method and system for e.g.
two-way (wireless) communication devices (e.g. telephones or pagers) comprising
the ability to alert user "A's" communication device when a user "B" enters a the
20 proximity of user "A" and a match is found between the Personal Profiles of users
"A" and "B".

It is an advantage of the present invention that user "A" can be alerted when user
"B" arrives or leaves the defined location(s) or area(s). The particular effect of this
25 information is to enable user "A" to know in advance the proximity or approximate
whereabouts of user "B" before possibly acting upon this information by contacting
user "B" – or allowing "B" to contact "A":

It is a further advantage of the present invention that user "A" can be automatically
30 alerted of the proximity of another user with a matching Personal Profile. The par-
ticular effect of this information is to enable user "A" to know about the presence of
another person with one or more matching interests, allowing user "A" to act upon
this information by contacting the other user – or vice versa.

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