CLAIMS

1. A method of determining a location of a mobile device having both a module that is part of a terrestrial-based location system and a module that is part of a satellite-based global positioning system, the method comprising:

(i) determining the location of the mobile device using one or more of the location determining modules;

(ii) establishing a connection between the mobile device and a remote system;

(iii) transmitting the determined location to the remote system over the established connection;

(iv) determining a period of time for waiting before again determining the location of the mobile device;

(v) receiving a message from the remote system via a messaging service, the message comprising a time period datum that represents the determined time period before again determining the location of the mobile device;

(vi) waiting the determined period of time; and

(vii) determining the location of the mobile device after the waited period of time has elapsed.

2. A method according to Claim 1, in which the messaging service is independent from the connection established between the mobile device and the remote system.

3. A method according to Claim 1, in which the messaging service operates whether or not the connection established between the mobile device and the remote system is established.

4. A method according to Claim 1, in which the messaging service operates after the connection established between the mobile device and the remote system has been terminated.

5. A method according to Claim 1, in which the time period before again determining the location of the mobile device by use of the terrestrial-based location system is determined by the remote system according to a set of criteria.

6. A method according to Claim 1, in which the or each used location determining module calculates an accuracy value of the determined location, the transmission to the remote system

includes the accuracy value, and the accuracy value is used by the remote system to determine the time period before again determining the location.

7. A method according to Claim 1, in which the transmission to the remote system includes an indication of a speed and direction of movement of the mobile device, and the speed and direction of movement are used by the remote system to determine the time period before again determining the location.

8. A method according to Claim 5, in which the criteria for determining the time period before again determining the location of the mobile device comprise one or more of the following:

Use a longer time period when a battery level of the mobile device is below a first specified amount;

Use a longer time period when an accuracy of the last determination is better than a fourth specified amount;

The time period may be varied according to altitude of the mobile device;

Use a longer time period when a location sensitive application is running in the background of the mobile device.

9. A method according to Claim 5, in which the criteria for determining the time period before again determining the location of the mobile device comprise: use a longer time period when the time of day is within a specified period; and use a shorter time period when the time of day is outside the specified period.

10. A method according to Claim 5, in which the criteria for determining the time period before again determining the location of the mobile device comprise: use a longer time period when the mobile device has a speed of movement less than a second specified amount; use a longer time period when the mobile device has a speed of movement more than a third specified amount; and use a shorter time period when the mobile device has a speed of movement between the second specified amount and the third specified amount.

11. A method according to Claim 5, in which the criteria for determining the time period before again determining the location of the mobile device comprise: use a longer time period when an accuracy of the last determination is better than a fourth specified amount; use a

shorter time period when the accuracy of the last determination is worse than a fifth specified amount

12. A method according to Claim 1, in which the location determining module to be next used to determine the location is selectable and in which the message received from the remote system comprises a datum indicative of a selected type of location determining module to be next used to determine the location.

13. A method according to Claim 12, in which the selected type of location determining module is selected according to an accuracy of the last location determination.

14. A method according to Claim 12, in which the selected type of location determining module is selected according to a distance the mobile device is from entering a geofence.

15. A method according to Claim 12, in which the selected type of location determining module is selected according to a size of a nearby geofence.

16. A method according to Claim 1, in which the location determining modules are deactivated after a second period of time has elapsed from the time at which the location determination module is activated.

17. A method according to Claim 16, in which the second time period is a predetermined value according to the type of activated location determining module.

18. A method according to Claim 16, in which the second time period is based on a location determining time calculated by the remote system, in which the remote system sends a datum indicative of the location determining time in the received message from the remote system.

19. A method according to Claim 1, in which a background service in the mobile device causes activation of the location determining module at the end of the wait period and deactivates the location determining module at the end of the location determining time period.

20. A method according to Claim 1, in which in the case that the selected location determining module is a terrestrial location determining module and it is unable to determine the location of the mobile device within the second time period, the satellite-based location determining module is activated, the location of the mobile device is determined using the

satellite-based location determining module; and the satellite-based location determining module is deactivated after a further time period.

21. A method of determining a location of a mobile device having both a module that is part of a terrestrial-based location system and a module that is part of a satellite-based global positioning system, the method comprising:

(i) establishing a connection between the mobile device and a remote system;

(ii) receiving a determined location from the mobile device over the established connection;

(iii) determining a type of location determining module to be used by the mobile device in the further location determination;

(iv) sending a message from the remote system to the mobile device the message comprising a location module type datum representing the determined type of location determining module to be next used by the mobile device.

22. A method according to Claim 1, in which the method further comprise comparing the most recently received location with a previously received location and determining whether to accept the most recently received location.

23. A system configured to determine a location of a mobile device having both a module that is part of a terrestrial-based location system and a module that is part of a satellite-based global positioning system, the system comprising:

a processor for fetching the location of the mobile device using one or more of the location determining modules;

a data transceiver for establishing a connection between the mobile device and a remote system and transmitting the determined location to the remote system over the established connection, the data transceiver being configured to terminate the connection when the transmission is sent;

a processor for determining a period of time for waiting before again determining the location of the mobile device, in which the data transceiver is configured to receive a message from the remote system via a messaging service, the message comprising a

time period datum that represents the determined time period before again determining the location of the mobile device; and

a timer for signalling when the determined period of time has elapsed;

in which one or more of the modules is configured to determine the location of the mobile device after the waited period of time is signalled to have elapsed.

24. A system according to Claim 23, in which the remote system is in which the data transceiver is configured to receive from the remote system a datum indicative a selected type of location determining module to be next used to determine the location.

25. A system according to Claim 23, in which the messaging service is configured to operate whether or not the connection established between the mobile device and the remote system is established.

26. A system according to Claim 23, in which the data transceiver is configured to include an accuracy value of the determined location in the transmission to the remote system and the processor is configured to use the accuracy value to determine the time period before again determining the location.

27. A system according to Claim 23, in which the data transceiver is configured to include an indication of a speed and direction of movement of the mobile device in the transmission to the remote system and the processor is configured to use the speed and direction of movement to determine the time period before again determining the location.

28. A system according to Claim 23, in which the processor for determining a period of time is configured to increase the waiting period of time before again determining the location of the mobile device according to one or more parameters.

29. A system of determining a location of a mobile device having both a module that is part of a terrestrial-based location system and a module that is part of a satellite-based global positioning system, the system comprising:

a remote system;

a processor in the mobile device for activating one of the location determining modules of the mobile device, where the type of either location determining module activated is

selected according to a location module type datum in a message received by the mobile device from the remote system;

a transmitter in the mobile device for establishing a connection between the mobile device and a remote system;

a receiver in the remote system for receiving the determined location to the remote system over the established connection;

a processor for determining a type of location determining module to be used by the mobile device in the further location determination;

a receiver in the mobile device receiving a message from the remote system, the message comprising a location module type datum representing the determined type of location determining module to be next used by the mobile device.

30. A computer program comprising computer executable instructions stored in a non-transient manner for controlling a processor of a mobile device to perform the method defined in Claim 1.

31. A method of determining a location of a mobile device having both a module that is part of a terrestrial-based location system and a module that is part of a satellite-based global positioning system, the method comprising:

establishing a connection between the mobile device and a remote system;

receiving a determined location from the mobile device over the established connection;

determining a proximity of the mobile device to a predefined set of boundaries;

determining a type of location determining module to be used by the mobile device in further location determination;

sending a message from the remote system to the mobile device, the message comprising a location module type datum representing the determined type of location determining module to be next used by the mobile device.

32. A system configured to determine a location of a mobile device having both a module that is part of a terrestrial-based location system and a module that is part of a satellite-based global positioning system, the system comprising:

a data transceiver for receiving a connection between the mobile device and the system and receiving across the connection a location of the mobile device as determined by one or more of the location determining modules to the remote system over the established connection;

a processor for determining a period of time for waiting before again determining the location of the mobile device, and for constructing a message to the mobile device;

in which the data transceiver is configured to send the message from the remote system via a messaging service to the mobile device,

in which the message comprises a time period datum that represents the determined time period before again determining the location of the mobile device such that the mobile device is able to use one or more of the modules to determine the location of the mobile device after the period of time has elapsed.

33. A system according to Claim 32, in which the processor is configured to determine a type of location determining module for the mobile device to next use when determining its location and the processor is configured to construct the message so as to comprise a module indicating datum that represents the determined location determining module that the mobile device such that the mobile device should use when next determining the location of the mobile device.