



METHOD FOR VIRTUAL SURVEILLANCE OF AT LEAST ONE MOBILE OBJECT

Technological advantages

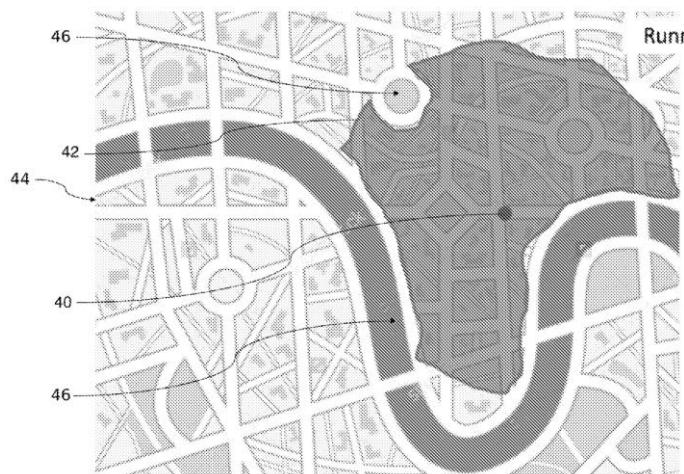
Efficient system :

- Can use a shared central surveillance server or a unit attached onto the mobile.
- Several mobiles can interact one another.
- Complex virtual fences and inputs from the environment (e.g. road traffic).
- Displacements can be 1D, 2D or 3D.

Invention synthesis

The invention deals with a virtual surveillance unit (geofencing) to manage mobile objects and alerts. In regular systems, a mobile unit can be tracked by a central surveillance unit storing a set of virtual fences. This solution does not offer an optimal security.

The invention presents a surveillance unit (smartphone, computer) that can be remote or attached to the mobile unit. The mobile unit location may be obtained using GNSS positioning or an inertial central (IMU) taking into account uncertainties in the positioning to improve the system reliability for the authorized virtual area. The area can be 1D (path), 2D (area) or 3D (volume). The virtual map can be symbolic (such as a transportation map), it can also represent a trip taking into account the velocity, heading, time. The virtual authorized area can also be relative and attached to a mobile unit. The virtual fences can be physical, natural (rivers...) or artificial (traffic lights). Several mobile units can share the same virtual map, mobile units can be related one another in their positioning.



Example of application for this invention :

- (40) First mobile object
- (42) First authorized area
- (44) Virtual map
- (46) Obstacles

Commercial benefits

- Secured system and cost effective.
- Wide range of applications : goods transportation, assembly chains, ...
- Surveillance systems either autonomous or shared between mobiles.
- Rapid alert of unwanted displacements.

Potential applications

- Transportation (inc. secure transport), assembly chain, surveillance...

Patented invention - under license.