

Navigation system for disable persons, in particular visually impaired persons

Description

A navigation system is developed to improve the mobility of visually impaired people in urban areas. Sesamonet is a SEcure and SAfe MObility NETwork patented by the JRC. At the basis of the system is the recycling of transponders, small devices used mainly in animal tagging. Transponders, short for transmitter-responder, are automatic devices that can receive and retransmit predetermined signals upon proper electronic interrogation

The suggested navigation system consists in using passive transponders to create an acoustic grid in urban zones. Visually impaired people properly equipped will be able to follow paths in urban areas without any outside help.

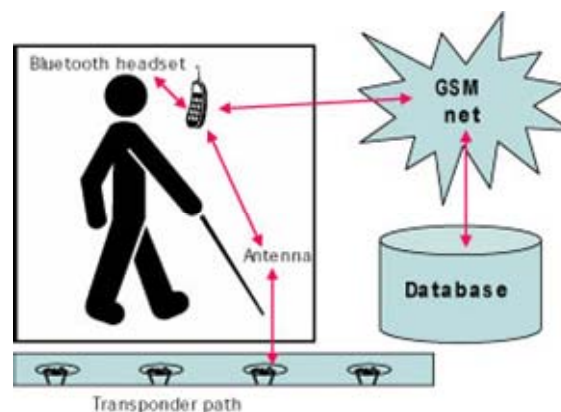
Transponders are placed in the urban tissue and their location is integrated in a database. The walking stick, equipped with an embedded antenna and a Bluetooth transmitter, detects and reads the passive transponders. When interrogated by the antenna, transponders send back electronic signals via the antenna to a smart phone containing the location database.

Innovative aspects and main advantages

- Safety is increased for disabled persons.
- The transponders path does not need any electric power supply.
- The path can be installed in all kind of urban areas (parks, town centres, buildings...) and wide outdoor spaces
- The path is very easy to install
- The system is very light and is embedded in the walking stick and in a smart phone
- The system is low costs (use of recycled transponders)
- The user can receive specific information on the path (obstacles, services nearby,...)
- Real-time information on the path is possible by connection with external database

Areas of application

- Mapping of urban areas
- Museums
- Commercial centres
- Administration
- Natural parks



Stages of development

Patent Priority date 26/10/2004 LU
Patent pending PCT/EP05/055569

Pilot tests performed
Real scale tests running in 2007

Scientific Contact

Marco Sironi - SIlab
Institute for the protection & security of the citizen
European Commission
I-21020 Ispra - Italy
Tel: (+39)0332/785754
Email address: marco.sironi@jrc.it

Licensing Contact

Intellectual Property and Scientific Collaboration Unit
JRC - European Commission
B-1049 Brussels, Belgium
Email: JRC-TechTransfer@ec.europa.eu

Reference: file n°2734