



Example 27                      **NOPPA - Navigation and Guidance System for the Blind**

Country                              **Finland**

Similar service in                The Netherlands (SONIS)

good practice for people with ...	kind of vehicle	kind of measure/approach
... visual impairment	city bus regional bus tram underground local train long-distance train	engineering/technology approach organisational/operational support

**Project description**

NOPPA personal navigation system is a three-year pilot project that is part of Finland's Passenger Information Programme (HEILI). It was funded by the Ministry of Transport and Communications Finland (VTT) along with several other partners and lasted from 2002 to 2004. The system was designed to offer public transport passenger information and pedestrian guidance for people with visual impairments. NOPPA is based on available personal navigation components and services and uses public service databases over Internet. The main features of NOPPA personal navigation system are:

- public transport information (timetables, route planning, real time passenger information)
- navigation (outdoor and indoor positioning, personalised route planning, route guidance, heading information, roadwork warnings)
- communication (PDA or 3G phone, speech user interface, GPRS server connection, SMS, news services)
- local information (short range radio, communication (Bluetooth), areas and points of interest)
- optional accessories (collision warning device, video camera)

The information server is an interpreter between the user and Internet information systems. It collects, filters and integrates information from different sources and delivers the results to the user. The server handles speech recognition (e.g. from 13,200 street and destination names) and functions requiring either complex calculations or large data transfer from the Internet. The data transfer between the server and the client is kept to a minimum. The client terminal holds speech synthesis, user interface, positioning and most of the route guidance. The user interface is menu-based and selections are made with hardware buttons and speech input.

NOPPA is currently able to offer basic route planning and navigation services in Finland. In practice, the limits are that map data can have outdated information or inaccuracies, positioning can be unavailable or inaccurate, and that wireless data transmission is not always available.

Sources:

VTT (Ed.) (2004) Noppa - Navigation and Guidance for the Blind,  
[http://www.heili.info/raportti/loppuraportti/sivut/kirj/Noppa\\_eng\\_short.pdf](http://www.heili.info/raportti/loppuraportti/sivut/kirj/Noppa_eng_short.pdf) (22/10/2007)  
 Virtanen, A.; Koskinen, S. (2004) NOPPA - Navigation and Guidance System for the Visually Impaired,  
<http://www.cemt.org/topics/handicaps/FIN-Noppa.pdf> (22/10/2007)

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