

Low power wandering detection for elderly suffering from dementia

Wandering is a large problem among elderly. In the Netherlands alone, 270.000 elderly suffer from dementia. Six out of ten of that group will wander.

Someone with dementia may forget their name or address and start walking around looking for familiar places. This is called wandering. While wandering, they may not even recognize their own house and therefore wander until someone finds them.

Current solutions for this problem generally contain a GPS module and a GPRS data connection. These systems consume a large amount of energy and will therefore require the device to be charged every few days. However, someone with dementia will not remember to do this themselves, therefore keeping the device charged becomes the responsibility of professional care providers or loved ones. This causes them a lot of stress.

Nedap is working on a solution that uses an LPWAN data connection and smart localization in order to improve the battery life to a year. This requires the device to be extremely low power (~100uW average consumption for the entire system). Therefore energy efficient algorithms for movement analysis and localization are required. We are currently looking for someone to do a short research on and implementation of such an algorithm.

Contactperson:	A.B.J. Kokkeler
Location:	Zilverling 5037
e-mail:	a.b.j.kokkeler@utwente.nl
Phone:	053-4894291