new products and above all to ensure that they are compatible with the needs of their eventual consumers.


CO10-002–EN
Experience of the Angers sensorial platform for auditory and visual deficiencies
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No abstract provided.


CO10-003–EN
The school of autonomy: Experience of the May institute
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No abstract provided.

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CO10-004–EN
Cognitive developmental impairments and learning to drive
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Within the background of developmental impairments, few studies have demonstrated what abilities are necessary to obtain a driver's license. Some disabled patients learn driving skills directly from a driving school with no specialized training in teaching the disabled, and without prior assessment. For patients with developmental impairments, as for patients with cognitive impairments, multidisciplinary assessment is necessary before deciding on the decision to drive and accepting the associated financial burden. Before a real try at learning to drive, an initial assessment, especially a neuropsychological assessment, can evaluate the speed of information processing, visuospatial, attention and executive abilities, as well as praxis and gnosis functions and behavior. Language and long-term memory assessments are notably necessary in a developmental impairment background. Praxis assessment is important because of the frequency of this impairment in this context. It is very important to assess verbal and visual episodic memory skills and learning and language abilities to estimate the probability of passing the driving regulations examination. At the Lille university hospital, a protocol of multidisciplinary assessment of driving abilities is organized during three days spread over one week. In 2009 and 2010, 47 patients with cognitive impairment were assessed with a driving simulator before starting real driving lessons. Among these 47 patients, 13 patients had developmental impairments. For eleven of them (85%) a favorable recommendation was given. The two patients, for whom an unfavorable recommendation was given, had already begun driving lessons. Only one patient did not start driving learning after assessments. To talk about driving and to propose pertinent assessments available on a local level is an important approach in a context of disability as part of the follow up care for patients presenting cognitive developmental impairment.


CO10-005–EN
Location-based services: Technology and applications
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Location-based services are enabled by a technology, which allows to localize mobile phone end-user to propose targeted services. Today the main French operators (SFR, Telecom Bouygues, Orange) propose these types of services. There are several location technologies:

– CellId: bases on mobile networks cells (location precision of 500 m in town and up to 2.5 km in countryside but accessible on all the mobile phones). Around the cellID based technology, other technologies allow to strengthen the precision of the location (for example the triangulation);

– “Enhanced Assisted” GPS: location by satellites, associated with correction data, for a precision from 5 to 20 meters. This type of location requires nevertheless to be equipped with a mobile phone supporting the assisted GPS technology. These location technologies are offered on platforms integrated into operators’ networks, which offer to the subscribers, through the management of their authorizations, to be localized, a respect of their private life is the main requirement for the development of this type of services.

The applications proposed today by the operators cover various domains:

– localized parental control: allows parents to know where their children; are systems of tracking allow to make sure for example that a child will not go out of an established route. An example of this type of service is OOTAY, offered by most of the operators. This type of application can also address old persons who have difficulties finding a way. They can be localized by close relations or localize themselves;

– navigation;

– management of car fleets or the other materials through equipments provided with SIM cards;

– convenience services: allow the subscribers to find services near the place where they are: pharmacy, gas station, cinema etc.;

– geomarketing: access to advertisements or promotional operations near the location etc.

CO10-006–EN
Assessment of a GPS-based tracking system for people with dementia: Prevention, intervention, and safe wandering
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The purpose of this study was to assess the use of a positioning system by people with Alzheimer disease or dementia. This system is composed of bracelets equipped with GPS, connected to a remote-assistance service. First, a geofencing area, called “Safe Zone”, is determined, representing the location where the user is able to go safely. If the user leaves this Safe Zone, the remote-assistance service receives an alert and starts a retrieval procedure. The time of the alarms is automatically recorded, as well as the comments of the remote-operator about the follow-up of the alerts. “Leaving Safe Zone” (LSZ) alerts are considered as an indication of wandering.

This system was tested by 181 subjects with Alzheimer disease and related dementia (99 people living at home and 82 people living in specialized residences) and their caregivers from January to December 2010. The analysis of the data revealed that 77% of the alerts received concerned LSZ. Among these alerts, 53% were elicited in safe conditions (accompanied or planned outings), and 15% were followed by the retrieval of the person. Finally, many more alerts were recorded in the Home group than in the Residence group, as persons at home were more able to go out than people in residences. Nevertheless, after normalization of the proportion of LSZ alarms, we observed that, proportionally, an equivalent number of persons were retrieved in both groups.

These results suggest that such a GPS-based Positioning System could offer more autonomy in safe conditions for people living in residences. It might even help avoid placing in residence persons whose only problem is wandering, by guaranteeing them a safe environment. Nevertheless, complementary analyses, which are being conducted in a larger-scale project called ESTIMA (French acronym for: Sociological and ethical Assessment of Information Technology for the Localization of people with Alzheimer’s disease who wander) are essential to extract eventual significant differences concerning the wandering in residence versus home residents. We thus plan to bring other important observations for improving medico-social...