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Lessons learned on factors to consider in testbedding – Smarta Äldre

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Background. The number of commercially available digital calendars, sensor-based solutions and personal health records is increasing. Many companies contacting SÄ claim to have the optimal solution to a posed problem. Our experience from assisting companies in testing their products during three years is that integrity, privacy, security, interoperability, integration, legalities and usability are neglected due to the focus on development instead of the prospective users and the context in which the system is to be used.

Results. Systems working flawlessly in the lab do not always work 24/7 in real homes. One common reason is the range of WiFi routers being considerably shorter with the addition of structural elements. This could seem like a small problem but many elderly want to please the testbed and never inform about malfunctioning systems or the inability to operate them. It is important that systems blend in to the environment and that there is no disturbing light or noise. Failing in this respect may result in systems being turned off or hidden where noone can see or hear them.

Relatives want to access information at any moment but some solutions are only accessible within the home environment. The useworthiness of a sensor network is limited by current short-comings in semantic interoperability between humans and systems. The medical history needs to be taken into account while analyzing sensor data. Meta-information about the context in which a physiological measure was taken needs to be provided to care givers.

Elderly want to decide who can access what information but many systems lack the possibility to configure multiple access levels. It is important to consider integrity, privacy and security already at the design stage.

This talk provides further information on the lessons learned while testing different technical solutions with elderly people, relatives and care providers.