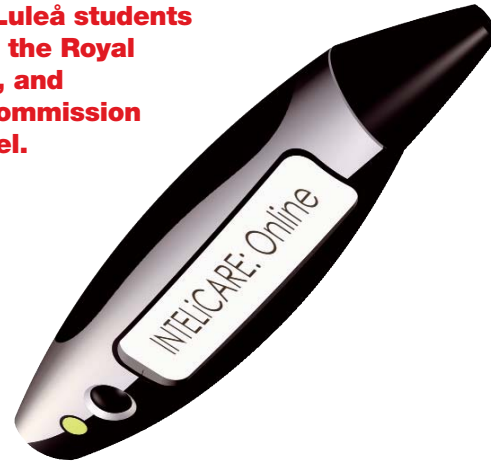


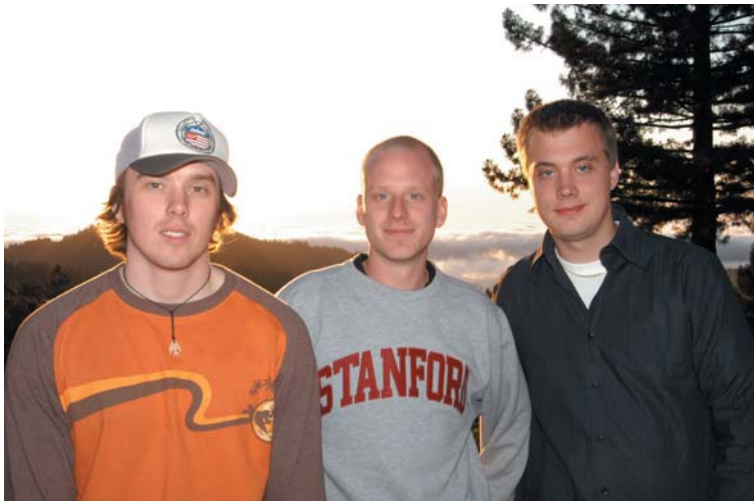
INTELiCARE

INTELiCARE is a project where Luleå students collaborated with students from the Royal Institute of Technology, Sweden, and Stanford University, USA, on a commission from technology corporation Intel.



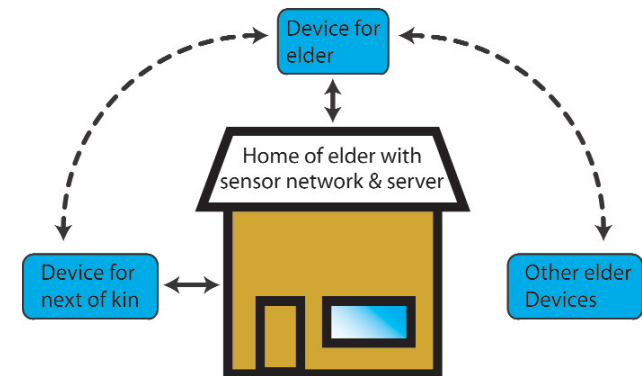
The project aim was to prolong elders' independence and enhance their quality of life. It was also intended to encourage elders to maintain and expand their social networks. The solution was to use intelligent systems at home that control the user's physical and social activity level. By using this system, a relative or caregiver gets a better insight into the elder's life. The system also encourages physical and social activities by creating active networks among elderly people, facilitating lines of communication that encourage them to socialize with other elders.

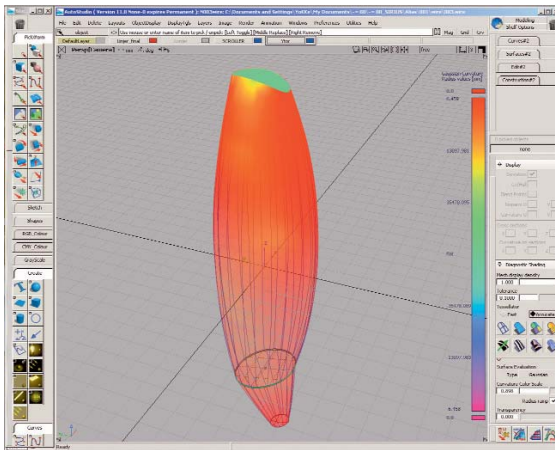
A feasible scenario is a widow in her early seventies living on her own. She has a son who is in the middle of a stressful career and family life. He does not have the time to check in on his mother as often as he would like to. Thanks to the INTELiCARE system, he can get a glimpse of his mother's social and physical



The Luleå INTELiCARE team.

The Social Health Monitoring System.





3D model in Alias|Wavefront Studio Tools.

activities. He can see her routines and her social and physical activities as well as being able to send a signal, to which she can respond to indicate that everything is okay.

His mother can see her friends' keenness to contact her and she can signal her social availability to them. She can also send a signal to her son to say that everything is okay. Another possibility with this unit is that she can counteract cognitive decline by viewing images and explanatory text of relatives and friends by projecting these images and texts with the unit on, for instance, a table or a wall.

The system consists of three main components:

1. Communication device for next of kin
2. Communication device for the elders
3. Communication system

Communication device for next of kin

This device enables relatives to monitor how the elder person's routines and social and physical activities are going. By receiving different vibration patterns from the unit the different activities can be interpreted. There is also a possibility to send a "ping" signal to the elder, a signal that can mean whatever the customer wants.

Communication device for the elders

This unit gives the elders the possibility to see what their friends' availability is at the moment. If they browse through the names of their friends they can see if they want to socialize or not.

Communication system

The communication system is a computer system that connects the two devices and it consists of a number of sensors in the home of the elder. The sensors sense a range of activities that thereafter are interpreted and translated into the three main activities that can be seen on the communication device for the relative.

The project was carried out using a product development methodology that aims to give students a solid foundation for carrying out any product development project in the future. The methodology aids the development work by giving a structured way of carrying out the project and seeing to it that the needs of the user are satisfied with the new product or service.

Result

The result presented in May was the system with the two included devices that has been successfully given the properties that the project group aimed for. A few new creative functions have emerged that aim to fulfil and further exceed the user's expectations.

Looking back on this project, having used this product development methodology in a distributed collaboration with Stanford University and the Royal Institute of Technology, the INTELiCARE members feel they have been successful in creating new solutions that promote the wellbeing of elderly people.

