





SmartHome4E

The project's main objective is to gain productivity benefits by enabling new working methods in social and health care services by using novel IoT technology. The project implementation consists of two independent parts which are integrated together to form a larger whole (SmartHome4E concept). The relevant information is gathered together by the customer's interface, which can also be used by the care personnel, the elderly person as well as his/her relatives.

In our ICT unit, research on IoT (Internet of Things) technologies and applications has been going for a long while. The unit has been developing a wide range of WSN (Wireless Sensor Network) applications, including applications for environmental noise monitoring and building automation. Our new research subject is well-being technology, especially activity monitoring in homes.

The research is carried out mainly with project funding, in cooperation with industry and the society around us. The ICT unit has had a long experience in project activities and in exporting project results to local companies and to our education Master Studies in Mathematical Information Technology.

The research has been focused on IoT technologies and applications, sensor networks and the related services such as network management, localization and synchronization. In recent years, wireless environmental noise monitoring has become a new research subject of great interest. Over the years, the unit has accumulated great expertise on wireless technologies, embedded hardware and software, and it has its own WSN/IoT development platform.

Project objectives

- To develop a smart home monitoring system for the needs of elderly care.
- To implement the novel SmartHome4E service platform, which provides services that promote vigor and functional capacities to support the occupants and help them bear their relevant responsibilities.
- To create a novel operational concept to support ageing people living at home, safeguarding their health and functional capacity with the help of activation and simulation.

Results and benefits

- The SmartHome4E service platform offers a tool for preventive care for the providers of social and health care services.
- The needs of the elderly can be addressed earlier, enabling them to live longer at home, independently and safely with their functional capacities.
- The elderly person as well as his/her relatives can be made to feel safe with the help of home monitoring and communication from distance.



UNIVERSITY OF JYVÄSKYLÄ
KOKKOLA UNIVERSITY CONSORTIUM
CHYDENIUS

Professor Ismo Hakala
ismo.hakala@chydenius.fi
+ 358 40 7518 089

Project Manager Ilkka Kivelä
ilkka.kivela@chydenius.fi
+ 358 40 7710 482

Designer Jukka Määttälä
jukka.maattala@chydenius.fi
+ 358 400 714 128

cinetcampus.fi

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KOKKOLAN KAUPUNKI
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