

Hestia – Smart Assistance System

Bring safety and security to vulnerable people

Realization

HES-SO Fribourg

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Keywords

- Health Assistance
- Mobile Applications
- Smart Ecosystem
- Machine Learning

Our skills

Deploying easy-to-use mobile applications in order to improve the life of elderly people and the working conditions of their medical staff.

Valorization

Bring safety and security to elderly people through a complete and efficient assistance ecosystem.

Partnership

- University of Winchester

Funding

HES-SO

Schedule

2017 - 2022



Hestia aims to explore solutions that blend **new technologies** with a respect for human relationships in the context of nursing homes by installing an intelligent environment that monitors, in a **none-intrusive way**, the situation of the resident in a broad sense. By situation, we mean his / her physiological state and his / her general state. Our system is **also adapted** for personal homes or protected flats.

The client mobile applications, one for the resident and one for the medical staff, communicate through a central server, SEMS. This server contains several algorithms that manage the **smart environment**. All alerts and instant messages are handled by the Messaging Server, which is responsible of sending push notifications to clients. There is also an Android smartwatch version of the resident application, and a monitoring web application is proposed for the head nurses and other managers for a complete overview of the environment.

Currently developed within the iCoSys institute at the School of Engineering and Architecture of Fribourg (HEIA-fr), its prototype is already in an **advanced state**. A partnership is established with the University of Winchester, which brings their expertise regarding social impacts, new techniques or more academic fields into the project. We also have contacts with medical and social specialists.

New techniques have been developed for the detection of falls. We studied and integrated Artificial Intelligence mechanisms for this end and we aim to improve the Hestia ecosystem (response time, problem detection, performance) by various other elaborations. We also focus on the **privacy** of the final users, which must be protected during such usage. We also place the **system security** at the center of our approach.