Hes·so/// FRIBOURG FREIBURG
Haute Ecole Spécialisée de Suisse occidentale
Fachhochschule Westschweiz

iCoSys
Institute of Artificial Intelligence and Complex Systems

UNIVERSITY OF WINCHESTER

RMS (Resident Monitoring System)

RMS brings technological resources within nursing homes, personal homes or protected apartment in order to improve the life comfort of vulnerable people and the working conditions of their medical staff.

Realization

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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

RMS 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 their physiological state and their 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 RMS 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.