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Proposta de Projeto Eng. de Computadores e Informática (2024-2025)

Evaluation of complex smart environment scenarios

Keywords: Assistants, Smart Homes, Evaluation, Complex Scenarios.

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CONTEXT

The population in many countries, including Portugal, is ageing. Also, there is a decrease of human resources in healthcare. It is essential to invest in prevention, creating conditions for older adults to stay longer in their homes and remain active, but at the same time provide some assistance in their daily life tasks.

Developing these solutions still presents many challenges, such as evaluating the complex interactions between users and their environment. Assessing these solutions is crucial for enhancing user experience and engagement.

To serve as a proof-of-concept for this new paradigm, University of Aveiro, in partnership with OLI company, Rovisco Pais Rehabilitation Center, and several companies associated with INOVADOMUS, is exploring novel solutions for an older adult smart home. A key part of this project is the construction of a real home (with the main infrastructure already in place).

OBJECTIVES

Learn about and improve a previous assistant solution developed in the context of the project CAVA VIVA+.

Design and develop a modular architecture that is easy to integrate into the previous assistant prototypes, capable of intercepting the user's interactions, and dynamically questioning users about these interactions to gather real-time feedback, identify intent, and adapt responses accordingly.

TENTIVE WORK PLAN

- Acquisition of knowledge regarding the state-of-the-art on conversational assistants and dynamic evaluation (Pereira, 2015).
- Getting acquainted with the existing proofs of concept for the home (for example (Almeida, 2022)).
- Definition of main requirements and system architecture.
- Development of a simple evaluation framework
- Improvement of a smart assistant
- Integrate the systems evaluation capabilities.
- Demonstrations.
- Writing documentation and reports.

REFERENCES

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NUMBER OF STUDENTS

4 or 5

RELATION WITH PROJECTS

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