

AR4U - Research to Business Project

Department of Neuroscience and Biomedical Engineering
Aalto University

1. Introduction

Are you interested in new media and technology and eager to make a real impact on people's lives? We're looking for students to join our project that uses Augmented Reality (AR) and gamification to support senior citizens with mild cognitive impairments, such as early-stage dementia, to live more independently at home.

2. Project goals

The primary objective is to assist older adults in living independently at home for longer. The technologies we use can be adapted based on students' interests. Each subtask within the project has its own specific goals.

3. Technologies

We have three areas to explore. Student groups can choose the topic they would like to work on.

1. **Voice Recognition and AI Assistance:** Exploring voice recognition to convert speech-to-text and text-to-speech, and enabling a seamless interaction with AI virtual assistants in AR.
2. **IoT Integration:** Connect IoT devices like TilePro tags to the AR experience, enhancing the ability to locate items, navigate home environments, and enable care-providers to monitor their loved ones while they are not wearing the AR glasses.
3. **Care-Provider Application:** Designing a parallel application for care providers to monitor events in real-time, ensuring a safety net for seniors. The application is also a platform to set up daily routines and other data to customize the AR experience.

4. Requirements for the students

Students' technical skills and abilities will vary based on the chosen task. We are seeking highly motivated and collaborative people.

5. Legal Issues

All IPRs to all Results will be transferred to the Aalto University.

Confidentiality:

The client will share some confidential information with the students.

6. Client

AR4U is a Research-to-Business project based in Aalto University's Department of Neuroscience and Biomedical Engineering. The project has two full-time employees: Gautam Vishwanath (Technical Lead) and Timo Niskanen (Commercial Lead). Professor Juha Salmitaival serves as the Principal Investigator.

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