

Project Summary: Development of a Conversational Agent for Seniors

The project involves designing and developing an interactive web application tailored for elderly users, featuring an intelligent conversational agent. This chatbot, powered by a large language model (Llama 2), primarily aims to prevent domestic risks while assisting the user in their daily life in a simple, intuitive, and accessible manner. The target audience includes seniors aged 65 and over, living either at home or in care institutions. These individuals often face difficulties using traditional digital tools.

The system offers a clear conversational interface with customizable chat bubbles, an avatar, and context-aware responses based on weather conditions or the user profile. It also features a searchable and editable conversation history. A built-in form allows the creation of a detailed user profile, including information about health, housing, activities, nutrition, and emergency contacts. The application integrates a real-time weather module using the WeatherAPI, offering personalized daily advice based on current weather conditions.

Designed to combat isolation and promote autonomy, the application places strong emphasis on accessibility: adjustable text size, customizable visual styles, and simplified navigation. It is built on a lightweight web architecture (HTML/CSS/JavaScript), and uses localStorage to save user data locally, ensuring user privacy by avoiding the transmission of sensitive data to external servers.

The development of the prototype was carried out in two main phases: identifying real needs and the technical implementation. Each of these phases was accompanied by workshops and discussions with senior users. Special attention was paid to usability, simplicity, and functional safety, resulting in a tool that is both practical and user-friendly.

This project addresses major challenges related to population aging, the digital divide, and domestic accident prevention. It embodies a user-centered, inclusive, and socially responsible approach, where technology is used to support the well-being and independence of older adults.