

# Interactive app to assist rehabilitation of Alzheimer's patients

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Testing the Alzheimer's app prototype in the community

Researchers from the Polytechnic University of Valencia take their new Alzheimer's app out for first testing and feedback from real-life users.

Collaborating with the "Virgen de los Lirios" Hospital in Alcoy, and the regional Foundation for the Promotion of Health and Biomedical Research (FISABIO), researchers at the Universitat Politècnica de València (UPV) have developed a first prototype of their app to improve the rehabilitation and quality of life of Alzheimer's patients.

The app turns the patient's daily routine into a game, recreating it on-screen and issuing prompts for them to complete various day-to-day activities. Complete with different levels of difficulty, patients are reminded to do their food shopping and carry out various household chores, among other things.

Manuel Llorca, lecturer at the UPV's Alcoy campus IT department, explains: "The app will incorporate interactive images, sounds and animations related to the patient's daily routine and surroundings, including photos of family members or their home", adding that "the main aim of the app is to assist their rehabilitation in a way that makes things very simple and engaging".

At this early stage, the app focuses on basic, everyday functions, such as getting dressed, eating, showering, reading or watching TV, etc. With the sense of time being one of the first casualties in neurodegenerative diseases, it asks them to indicate the time of day, season and temperature each time the patient accesses the app. Doing so encourages the patient to be aware of these factors and act accordingly, preparing breakfast foods in the morning and evening meal foods in the evening, and dressing suitably for the season.

Also working on the app is Dr. José Manuel Moltó, neurologist at the "Virgen de los Lirios" Hospital and researcher at FISABIO, who tells us that "through these basic activities, like walking, brushing their hair, choosing what to wear and getting dressed, patients are indirectly working on important skills such as calculus, language and memory". It

also helps keeps them rooted in a routine, which is known to be beneficial to patients with neurodegenerative diseases.

Use of the app will also allow on-going monitoring of the patient's actions and progress, since each interaction is recorded. It is aimed at all patients with neurodegenerative diseases in need of rehabilitation assistance, not just Alzheimer's sufferers.

## First phase testing

In this first round of testing, carried out in December last year, a group of 150 older non-Alzheimer's patients were invited to use the app to assess the baseline willingness and ability of this demographic to interact with mobile devices. Gestures like the tap, double tap, drag and drop, multi-touch, and use of the tablet's sensors were put to the test. This is important to ensure that the [app](#) will ultimately be usable on a practical level by [patients](#) with age-related [neurodegenerative diseases](#) like Alzheimer's, whether on their own or with the help of their [family members](#) or carers.

Provided by Asociacion RUVID

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