



APPTIVAMENT

Description

Attention to patients with **Alzheimer's** disease has transcended from the purely medical field to encompass multiple areas of health sciences. The treatment of the disease, both in the purely cognitive and behavioral aspects, is no longer solely dependent on the medical/pharmacological field, but is fundamentally supported by non-pharmacological therapies.

Among them, one of the fundamental therapies is cognitive stimulation. This approach involves the inclusion of the patient in a retraining program in which the basic cognitive functions (memory, orientation, language, judgment ...) are stimulated by means of programmed activities and diverse exercises. Other important aspects of cognitive stimulation are the practice of instrumental tasks, the maintenance of motor skills (psychomotricity), and the promotion of communication, among others.

On the other hand, new technologies and mobile devices are allowing the creation of a new range of applications and possibilities never seen before, reducing their difficulty of use and allowing reaching new population groups previously excluded.

APPTIVAMENT is a software for mobile devices and tablets with the aim of contributing to the functional and cognitive stimulation of patients with Alzheimer's disease and other neurodegenerative diseases.

It involves a change from the usual paradigm of cognitive stimulation, choosing electronic gaming techniques for such stimulation. The goal is to entertain while training multiple cognitive functions by performing tasks of daily life, through friendly screens and with rewards such as photos or personalized music. In this way, the patient's stimulation is achieved, focused on basic daily activities, with a degree of difficulty appropriate to the cognitive level of the user, previously studied.

This novel approach focuses on the most vital aspects of the patient, exercising primary activities in their actions throughout the day, allowing them to benefit not only the patient but caregivers and professionals.

Unlike other available applications, therefore, it is not intended to divide the exercises into areas such as calculation, language, memory, etc., but rather by functional activities such as cleaning, shopping, home, etc. which will indirectly exercise the former.

Technical Advantages

This application offers a functional approach that other available applications do not have. Thanks to the use of the technological capabilities of the new devices, it allows the virtual reproduction of the patient's personal day-to-day life, contributing through retraining to maintain for as long as possible their ability to solve everyday problems and therefore, their autonomy.

- Stimulation and maintenance of cognitive functions through a functional approach, based on functional activities linked to daily activity in different environments (self - care, home, ...).
- Improved quality of life for patients and their caregivers while reducing their emotional burden.
- Touch interface, intuitive and specifically designed for each user profile, with real everyday multimedia files of the patient captured by the device itself, and interactive.
- Recording and monitoring of the information limited to the use of the application for subsequent study and analysis.
- Generation of alarms and notifications to caregivers and professionals.





Status of technology development and intellectual property

Recently, the team has completed development of the first of the scenarios to be covered, specifically that of activities at home, such as showering, cooking or dressing. Other areas are being developed, such as travelling to well-known places or shopping. At the same time, this technology will be applied to patients in mild-moderate phases to prove its efficacy in the clinical setting.

The ownership of this *app* belongs to the FISABIO Foundation, the Foundation for the Development of Neurology Research in the Valencia Region and the Polytechnic University of Valencia.

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