

Virtual rehabilitation system for people with Parkinson's disease

S Albiol-Pérez¹, J A Lozano-Quilis², H Gil-Gómez², J A Gil-Gómez², R Llorens³

¹Dpto. de Informática e Ingeniería de Sistemas, Universidad de Zaragoza,
C. Ciudad Escolar S/N, 44003, Teruel, SPAIN

²Instituto Universitario de Automática e Informática Industrial, Universitat Politècnica de València,
C. Vera S/N, 46022, Valencia, SPAIN

³Instituto Interuniversitario de Investigación en Bioingeniería y Tecnología Orientada al Ser Humano,
Universidad Politécnica de Valencia, C. Vera S/N, 46022, Valencia, SPAIN

*salbiol@unizar.es, jlozano@dsic.upv.es, hgilgom@dsic.upv.es,
jgil@omp.upv.es, rllorens@labhuman.i3bh.es*

¹*eupt.unizar.es*, ²*www.ai2.upv.es*, ³*www.labhuman.es*

ABSTRACT

Patients that suffer from Parkinson's disease (PD) have different symptoms such as tremors, stiffness and slowness in the execution of first movements and absence of balance control. Traditional therapies show improvements in postural control, mobility and gait. Currently, the use of video games with low cost devices such as Nintendo® Wii Balance Board® and Kinect increases the rehabilitation process in PD patients against traditional rehabilitation. However, video games are designed for healthy people, and they are not appropriate in balance rehabilitation therapy. In this paper, we describe ABAR system, a custom, motivational and adaptive tool to rehabilitate PD patients, to help them recover from balance disorders and regain postural control. To achieve this goal, we will test patients at the beginning and at the end of the clinical study. Clinical tests include: Anterior Reach Test, the Time "Up and Go", the Stepping Test, the 30-second Sit-to Stand Test and functional reach test.

Full papers will be published in the Conference Proceedings and will be available to delegates at the conference on Sept. 10.

Full papers will be released on-line in the ICDVRAT archive on March 15.