SYSTEM FOR A CUSTOMIZED AND NATURAL REHABILITATION AND INTERACTION OF DISABLED PEOPLE

TECNOLOGÍA PATENTADA

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RESUMEN

Researchers at Institute for Computing Research of the University of Alicante have developed a multisensor system for rehabilitation and interaction of people with motor and cognitive disabilities. The system enables to perform different therapies using multiple modes of interaction (pose and gestures of the body and hands, voice, touch and gaze position) depending on the type and degree of disability. Through a training process, the system can be customized enabling the definition of patients' own gestures for each sensor.

The system is integrated with a range of applications for rehabilitation through virtual reality applications and 3D interfaces. Examples of these applications could be the realization of puzzles, mazes and writing with predictive text. The system also provides a flexible and modular framework for the development of new applications oriented to new therapies. Entities and companies interested in commercial agreement, technical assistance or technical cooperation or a combination of some of these services are sought.

VENTAJAS Y ASPECTOS INNOVADORES

- Enables interaction and rehabilitation therapies performed to disabled with both motor and cognitive impairment.
- Enables multiple modes of interaction (gestures, poses / hand movement, voice, look, and touch) for people with different disabilities offering significant advantages over other systems.
- Enables customization of patient own gestures for each sensor providing a natural interaction experience with the system.
- Provides biometric identification (facial recognition) patients adapting the interaction (sensors and gestures) depending on the user disability level.
- Combines the data obtained from the sensors with 3D interfaces efficiently. The system provides a more realistic way of rehabilitation through the use of advanced virtual reality techniques.
- It provides a flexible and modular development workspace of new applications oriented to new therapies based on the different needs of patients.
- Comprises sensors and devices available on the market, therefore, can be modified, adapted and replicated easily at a reasonable cost depending on the type of patient, disabilities and therapies to implement.

APLICACIONES DE LA OFERTA

The proposed system can be used to perform rehabilitation therapies for people with motor and cognitive impairments. The system also facilitates communication with others through a customized and natural interaction between patients and devices (sensors, tablet, etc.).

Potential stakeholders:

- Companies for disabled support systems development and trading.

- Associations or public/private entities aimed at providing support services to disabled.
- Regional or national governments in the Social Welfare and Disability areas.

COLABORACIÓN BUSCADA

Companies and organizations interested in technology **use and/or commercial exploitation** are sought. Possible agreements:

- License agreements (use, manufacture or marketing).
- R & D project agreement (technical cooperation) for system use and / or adaptation to other sectors.
- Subcontracting agreement (technical assistance, turnkey solutions, training, etc.).