Idea Resume

Solution name:	CLARC, smart CLinic Assistant Robot for CGA	**Coordinator:**	Cristina Suárez Mejías

Solution Description

CLARC is a complete framework supporting the clinical professionals on the performing of Comprehensive Geriatric Assessment (CGA). We will use robotics technology to conduct the tests to patients and relatives, but also will automatize the process of data management and consulting, reducing the time that professionals have to spend with tasks not related with the development of individualized care plans for their patients.

Key Features and Functions

- Clinician-centered design
- Automatic monitoring and planning of the CGA procedure
- Autonomous response to unexpected events
- Professional mobile assistant robot
- Multi-language support
- Specialised interfaces allowing the clinical professional to manage and supervise all information related to patients and sessions
- Automatic scoring and easy addition of tests

Feasibility Assessment

- CLARC robot is able to perform the tests without supervision
- Clinical professional is able to online monitor the sessions from a smartphone or pc
- Clinical professional can offline visualize the sessions and edit the scores
- Successful response of preliminary tests with real patients
- Consortium coordinated by experts in health-care of elderly patients

Critical Uncertainties

- Being accepted as an autonomous assistant by the patients
- Being accepted by the clinical professionals as a practical medical tool

Economic Viability

- Low-cost robotic platform
- Capability of interfacing the whole framework from multiple non-dedicated devices (smartphone, tablet…)
- Use of Open-source and standard components

Potential Impact

The creation of a new framework for helping the clinicians to provide a better service to their geriatric patients. The framework is endowed with abilities coming from the Robotics and Planning & Learning research fields. The robotic assistant provides an animated interface to the framework, and being certified as a medical device, it could be launched to the market in the short-term.

Challenges Phase I

- Building a software architecture enabling the robot to unfold all required functionalities autonomously
- Integrated unfolding of the whole framework including robotic assistant, dataset server and interfaces

End-User Involvement

- Continuous monitoring of the advances by the clinical professionals of the Hospital Virgen del Rocio (Seville), the largest clinical center in Spain
- Proactive collaboration with geriatric patients

Idea Sketch

The large increase on the elderly population will force public healthcare systems to look for new solution for optimizing the use of their human resources. CLARC aims to help the medical professional by automatizing the performing and posterior management of the tests.