Title (tentative): A motion-based touchless application for children/adult with neurological disease

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**Description**

**Motivation and application domain**

Exploring motion-based touchless applications for children/adult with neurological disease, investigate their design issue and the benefits they can bring to rehabilitation program with potential remote control. Collaboration with hospital clinical team and users observation opportunity.

**General objectives and main activities**

Our research want to sheds a light on further opportunities to usable and ergonomic therapeutic experiences by custome-made exergame. With our findings we want to focus on the potential of motion-based touchless software in technology-enhanced interventions by the realization of tailor-made software, design guidelines that distill clinical and therapeutic experience to examining the correlation between dedicated software use and usual rehabilitation program.

**Training Objectives (technical/analytical tools, experimental methodologies)**

Engineering tasks related to this study will include:

- Development of the software for real time control
- Kinematic data collection

Research skills such as methods design, data analysis, data interpretation, signal processing and machine learning methods will also be learned and exercised during this project.

**Place(s) where the thesis work will be carried out:** DIBRIS, IIT(erzelli) & Collaboration with the hospital clinical team of dr. L. Bartoli (Asl4, Chivari)

**Additional information**

Maximum number of students: 1