Objectives

The overall aim of this project is to deliver a platform that integrates bespoke VR hardware and physically- and socially-optimised gaming in order to deliver enhanced VR experiences. This will demonstrate new standards of accessibility, control, feedback and engagement for users.
In order to achieve this, the specific project objectives are to:

1 Generate a VR environment for rehabilitation exercises that allows users to socialise, play and compare progress to aid motivation in rehabilitation

2 Develop new approaches for non-invasive, accurate anatomical and mobility data collection that retains user dignity

3 Use a variety of advanced methods to build a biomechanical profile of patient injury in order to develop bespoke VR controllers aligned with specialised rehabilitation approaches

4 Create new additive controller housing structures that blend external physical requirements with internal actuation properties

5 Use advanced Human-Centred Design techniques to generate and evaluate emotional, cognitive, aesthetic and social requirements

6 Extend the principles of design for manufacture for additive structures to deliver practical and viable controller housings

7 Develop a detailed commercialisation and exploitation plan to take the Virtual Reality platform to the market

8 Implement and test the proposed platform through three distinct case studies involving different participants

Milestones

The project methodology comprises three critical milestones through which Human Centred Design methods will be employed in the development of three assisstive controllers and a VR platform.

MILESTONE 1	MILESTONE 2	MILESTONE 3
Technological review, review of state-of-the-art and key stakeholders, and initial experimentation	Development of a VR environment and assistive controller designs based on biomechanical injury profiles	Implementation and testing of the VR platform with the assistive controllers

Who said that rehabilitation should be a nuisance activity?

About PRIME-VR2

PRIME-VR2 is a Horizon 2020 project that involves the creation of an end-to-end integrated digital development platform to facilitate collaboration across stakeholders in the VR ecosystem, and to produce effective VR rehabilitation environments. The VR platform emerging from this project will be applied and tested with rehabilitation patients with upper body motor impairment particularly of the hands, fingers, wrists and forearms.

A project coordinated by the **University of Pisa**

Partners collaborating in PRIME-VR2

UNIVERSITÀ DI PISA

University of Strathclyde Glasgow

L-Università ta' Malta

UNIVERSITY OF OULU

UCL

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Capitola

Crowdhelix

SAINT JAMES HOSPITAL

NICOMED REHABILITATION CENTER

Global Disability Innovation Hub

PRIMEVR2

Personalised recovery through a multiuser environment

—— VR FOR REHABILITATION ——