The aim of this task is to develop serious games that can be used during balance physiotherapy. The main aim of cognitive training and exercise games, is to create an environment for empowering and motivating people during their balance physiotherapy.

Main Functionalities
All exergames are divided in four groups according to the exercises in the flowchart that player should do: standing, sitting, walking and bending.

Methodology
- AR enables interaction with the environment that cannot be ignored when it comes to maintaining walking, standing, or even sitting balance.
- Method for improving athletes' motor performance regardless of environmental complexities has been adopted in the CTG in order to cause patients to allocate their attention from the secondary tasks in order to process a primary task.
- Dual task is an untapped opportunity to more fully improve patient's functions through the reaction speed, accuracy, tolerance of distracting environments, and awareness of unsafe task demands.

Technology
- Unity framework is enabling integration of CTEG with Android in unified manner. It provides access to all hardware resources of the smartphone enabling augmented reality presentation and interaction.
- REST APIs are used as protocol for communication between CTEG and Edge computer in both directions in stateless manner. Interface of this kind allows CTEG to receive feedback regarding evaluation of player performance in real-time and provides interoperability.

Results/ Interfaces
Exergames

Initial Scoring Setting
First setups of scoring functions have been made. The implementation of this task is going in tight cooperation with clinicians.

References
- Selma Papegaaij, Floris Morang; Frans Steenbrink, Virtual And Augmented Reality Based Balance And Gait Training, Improve Human Performance, 2017.