Guidelines for the deployment of serious games for rehabilitation

SG Design guidelines

Process

Therapy goal should be the focal point; Involve rehabilitation professionals.

Technical/Functional

Interaction should be intuitive; Setting up a SG should be easy, fast, and transparent; Instructions should be part of the SG; Player performance should be used for feedback but also for therapeutic evaluation; Account for accessibility; (VR)Therapist should see what patient sees; (VR/AR) AR is preferred when dealing with balance or disorientation; Use

Motivation

Alignment between game tasks and activities of daily living depends on the patient's motivation; Reward structure is important; Multiplayer options can help with encouragement; Graphic style should be decided based on target audience.

Personalization and Adaptation

SGs should be set up based on a patient's past performance; Difficulty of the SG should be balanced dynamically based on in-game performance; Allow therapist to define parameters for the SG (difficulty, tempo, etc.).

SG Organizational Implementation guidelines

Design and Evaluation

All stakeholders should be involved in the design and evaluation; An evaluation cycle should be implemented to verify proper integration of SG; Innovation team can help secure participation; Be clear about expectations and end goals (readiness level of prototype, publications).

Business Case or Value Proposition

Evidence-based analyses are needed for decision making; Market placement must be done early in the process; A business case should be defined early in the process.

Focus

Make sure available SGs cater to a variety of patient groups; When creating a new SG it is easier to start with a specific target group and afterwards branch out; SGs are an addition to therapy not a replacement; SGs should have a high technological readiness level.

Training and Support

Invest in education and continuous support on using SGs; Give professionals time and space to become proficient with SGs; A dedicated technical department helps with the adoption of technology.

Integration/Deployment

Formulate clear organizational policies; Raise awareness of SGs and their use in practice; Explore if and how SGs can be integrated into care paths; Explore if and how SGs can be used for in-home rehabilitation; Formulate clear guidelines for the use of a SGs; Scheduling and accessing a SG should be easy for all departments; Provide enough financial resources for acquiring and integrating SGs into treatment.