Industry Workshop

Workshop Title
Interactive Online Computer Gaming Platform for Rehabilitation of Children With Cerebral Palsy

Workshop Responsible
Kjetil Helland (Hugintech)

Speakers
Oleh Kachmar (Elita Rehabilitation Center)
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Attendee Engagement
During the workshop, participants will:

- learn how serious gaming could be used for the rehabilitation of motor disorders
- get acquainted with the interactive online computer gaming platform, specially designed for children with cerebral palsy
- learn about the rehabilitation games and diagnostic tools available on the platform
- play the games, try different settings and modes
- learn how to adapt the game's features according to the child's abilities and needs

After the presentation of the platform, we will engage attendees with a "hands-on" demo, Q&A, and discussion. During the "hands-on" demo, participants will have an opportunity to play the games, try different settings and modes, and learn how to use tests and additional platform features.

Abstract
Cerebral palsy (CP) is the leading cause of childhood disability. Children with CP often require continued and intense physical rehabilitation Child's motivation to exercise tends to decrease that can affect the rehabilitation outcomes. Another problem that youth with disabilities face is a lack of possibilities to interact and play with peers. Rehabilitation computer games could be an essential element of the physical therapy program that provides motivation and social interaction. Games designed specifically for youth with disabilities provide all prerequisites for effective motor learning and the regular performance of the required movement with the optimal intensity and motivating feedback in a safe environment. Recent evidence suggests that serious games have great potential in rehabilitating children with movement and balance disorders.

We will present the online platform Stasism.com developed in multidisciplinary collaboration within the Horizon 2020 AbleGames project. It aims to provide motor learning along with engagement and social interaction. The platform includes games and diagnostic tools specifically designed for youth with CP. Games can be controlled by movements of the trunk, hand, and mouth. Movements are tracked with a balance board or web camera. The platform allows creating an account for each user to save progress in different games and personalize games. Therapists or caregivers can adjust the game settings individually using level editors. Multiplayer modes support playing with peers and caregivers that facilitate interaction between children. The platform provides an opportunity to add

friends and communicate with peers. Diagnostic tools allow assessing static and dynamic balance. Information about the player's performance and analytics is stored and available to the therapist. The workshop will include the "hands-on" demo during which participants will play the games and learn how to use tests and additional features of the Stasism.com platform.