Empowering Communication: Eye Gaze and Head Tracking Technologies

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Short Abstract

This hands-on workshop explores eye gaze and head tracking, offering participants an understanding of these alternate access methods. Attendees will gain insights into the considerations for implementing eye gaze access and head tracking as access methods with their AAC communicators.

The session will guide participants through conducting effective assessment for eye gaze and head tracking, utilizing the SETT framework to identify optimal solutions for individual communicators. We'll review the eye gaze continuum and provide strategies to foster operational competence in both access methods.

Join us for some hands-on experience setting up an Accent device with the LOOK2 eye gaze camera and NuPoint headtracking camera, and the VersaEye with eye gaze technology and additional head tracking capability. Practical demonstrations will include a review of the features of the Unity 28 Help Me Grow vocabulary file, as well as the Timocco software for building and measuring operational skills.

Attendees will leave equipped with valuable resources and information about ongoing support, ensuring continued growth and implementation of these eye gaze and head tracking access methods in their professional practice.

Long Abstract

In the rapidly evolving field of assistive technology, eye gaze and head pointing systems have emerged as powerful tools for individuals with limited mobility to interact with their environment and communicate effectively. This presentation aims to provide a brief overview of eye gaze and head pointing technologies, focusing on practical applications, assessment techniques, and strategies to enhance user proficiency.

The session will begin by exploring the fundamental considerations for implementing eye gaze access and head pointing systems. We will delve into the unique challenges and opportunities these technologies present, discussing factors such as user positioning, calibration requirements, and environmental considerations that can significantly impact system efficacy.

Attendees will be guided through the Accent device with the LOOK2 eye gaze camera and NuPoint head tracking camera. We will examine the distinctive features of each

system, highlighting their strengths and potential applications across various user scenarios. This comparison will provide valuable insights for professionals seeking to match the most appropriate technology to individual user needs. Attendees will learn about tools for feature matching, ensuring that the selected eye gaze or head pointing system aligns optimally with the user's skills, strengths and requirements.

Building operational competence will be discussed, highlighting the eye gaze continuum and reviewing available frameworks for understanding the developmental stages of eye gaze proficiency. This discussion will extend to head pointing, emphasizing the importance of fostering operational competence in both. We will present evidence-based strategies and best practice guidelines for encouraging skill development, enabling users to progress along the continuum towards more advanced and efficient system usage.

To demonstrate practical applications and assessment tools, we will showcase the Timocco software platform. This suite of games provides activities designed to measure and track improvements in operational competence for both eye gaze and head pointing. Through live demonstrations, attendees will gain insights into how to effectively utilise such tools to monitor user progress and inform intervention strategies.

The presentation will feature hands-on components, allowing participants to gain practical experience in setting up and configuring eye gaze and head pointing systems. Using an Accent device as an example, attendees will learn the intricacies of system calibration, customization, and troubleshooting. This practical session will also highlight advanced features such as Unity Help Me Grow and the vocabulary builder, illustrating how these tools can be leveraged to enhance user communication and interaction.

By the conclusion of this presentation, attendees will have gained an understanding of eye gaze and head pointing technologies, from theoretical foundations to practical implementation. They will be equipped with the knowledge, skills and resources to conduct assessments, consider technology selection, and implement effective strategies for developing user proficiency.