VR NEURO:
Virtual Reality (VR) Technology for the Screening of Autism and Other Neurocognitive Disorders

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THE PROBLEM

Neurocognitive disorders are a group of conditions that characterize a decrease in mental and cognitive function. It affects the individual's quality of life and ability to live independently. The Autism Spectrum Disorder (ASD) is a neurocognitive disorder that causes a significant challenge in social ability, communication skills and behavior of an individual. This developmental disability generally appears in the first 2 years of life.

Early diagnosis of ASD is important so necessary interventions can be applied early on and ensure positive long-term outcomes. However, it can be difficult to diagnose ASD because to diagnose this condition, medical professionals study the behavioral development of a child. This is a very long process and is often costly. Aside from this, they also conduct interviews with the parents which may be considered unreliable due to their subjectivity.

THE SOLUTION

The University of the Philippines Manila, through a research led by Dr. Francis Gregory Samonte and funded by the Philippine Council for Health Research and Development (PCHRD), developed a Visual Reality (VR) Technology for the screening of ASD and other neurocognitive disorders, such as Attention Deficit Hyperactivity Disorder (ADHD), dementia (memory loss, language disturbances), sensory impairments, behavioral disorders, and intellectual disability. The VR system uses interactive visual stimulus and a graze tracking technology that has already been used in previous studies to measure social cognitive functioning. The graze tracking technology will provide data in screening the main characteristics of ASD, including the inability to hold prolonged eye contact which is a common sign of inability to socially interact and communicate.

The VR technology is user-friendly, efficient, accurate, and objective. It is designed with an interface that can be easily operated and it can analyze data and return results within 5-15 minutes, making it 12 times faster compared to the traditional screening process. The results are based on numerical references that are validated by medical professionals. Traditional screening takes almost 3.5 years to complete, with each session costing PhP 5,000.00 to PhP 25,000.00. While a one-time VR screening test will cost only about PhP 2,000.00.

TECHNOLOGY GENERATOR

The University of the Philippines – Manila
Project leader: Dr. Francis Gregory Samonte

TECHNOLOGY DEVELOPMENT

The product is currently at Technology Readiness Level 4 and the technology is currently being tested on its intended users. A patent application has already been filed locally. In addition, the research team is creating a spinoff company that was just recently admitted to the UPSCALE Incubation Program. The team is looking for potential partner institutions catering to ASD and other neurocognitive disorders.

Interested technology adopters may send a letter of intent addressed to:

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