



Shaftesbury Brings its Entertainment Expertise and Content to Augmented and Virtual Reality with Positive Distraction Therapy Trials in Pediatric Medical Applications

Partners include Holland Bloorview Kids Rehabilitation Hospital, Scarborough Health Network, and Ryerson University

TORONTO – June 6, 2019 – Today at Holland Bloorview Kids Rehabilitation Hospital (Holland Bloorview), **Shaftesbury** -- the award-winning producer of international hit series watched in over 150 countries worldwide including *Murdoch Mysteries*, *Carmilla*, and *Life with Derek* -- presented an update and overview of promising clinical trials that the company's technology and VR division is currently working on in collaboration with leading Canadian pediatric healthcare professionals and researchers, focused on the use of immersive media to relieve stress experienced by children undergoing medical procedures and surgery, and as therapeutic support tools.

Holland Bloorview's research institute (the **Bloorview Research Institute**) and **Scarborough Health Network (SHN)** are each examining the benefits of augmented and virtual reality (AR and VR) and a unique game engine that uses Shaftesbury's original content in bringing stress relief to children ages 8 - 15 in clinical settings. SHN's trial is focused on Positive Distraction Therapy for perioperative stress relief with a large test group of 120 children. Holland Bloorview has conducted a research study (which is under review for publication) to examine the usability and safety of VR technologies for children with autism spectrum disorder (ASD).

"Over the last two years, Shaftesbury has been exploring opportunities in the healthcare sector to marry our rich expertise in storytelling with our commitment to exploring and advancing immersive media. Today we are pleased to announce that many of these efforts, in particular, AR/VR applications for children with autism spectrum disorder as well as applications that can help transform the hospital experience for young patients, have exceeded our targets and expectations at the clinical trial stage. We look forward to bringing these applications to market and continuing to explore opportunities with leading institutions like Holland Bloorview, Ryerson University, and Scarborough Health Network, to create innovative and engaging positive distraction therapy applications for children," says **Christina Jennings, Chairman and CEO of Shaftesbury**.

"Our partnership with Shaftesbury is enabling us to explore the potential of virtual reality technologies for supporting children with autism spectrum disorder," says **Dr. Azadeh Kushki, Mary & James W. Davie Scientist** at Holland Bloorview and **Assistant Professor** at the **University of Toronto**. "Our preliminary research findings are promising, and we look forward to continuing our research to build a strong evidence base for these technologies."

"At Scarborough Health Network (SHN), we understand that having surgery can be stressful for children. This can affect their entire hospital experience, possibly leading to longer recovery times and resistance to treatment. In partnership with Shaftesbury, our team is testing an original virtual reality headset game that we have developed to reduce anxiety in children ages six to 12 who are undergoing surgery for the first time. I'm delighted to be a part of this pioneering research that is helping transform our



Holland Bloorview
Kids Rehabilitation Hospital



youngest patients' experiences before they go into the operating room. This partnership is a shining example how we improve our patients lives through exceptional care, while living our values of innovation and compassion at SHN," says **Dr. Michael Chang, Division Head of Otolaryngology, Centenary Hospital, SHN and Primary Investigator of the study.**

Applying immersive reality, machine learning, and affective computing – with facial and human emotion recognition, voice recognition, and various other interfaces that make the interaction with the computer seem more responsive and human – Shaftesbury has added a layer of games to its content. "This unique approach we are taking is what differentiates us. It makes the experiences we are developing more engaging for Positive Distraction Therapy in clinical settings," says **Ted Biggs, Vice President of Convergent / Technology at Shaftesbury.** "Most of all, we are led by frontline clinicians. We listen to what they dream of doing with entertainment and then work to make it happen."

The adaptive games and experiences developed by Shaftesbury in collaboration with its partners adjust to an individual's responses, resulting in a very unique experience for each child, depending on emotional state and state of mind. The objective of the Positive Distraction Therapy, enabled by the Shaftesbury system, is to rapidly reduce a child's anxiety and make it easier to proceed with a medical procedure.

"Unlike other VR/AR systems that have linear content, using advanced machine learning our content changes for individuals depending on their level of stress, resulting in faster and greater reduction of anxiety," says Biggs. "The goal is for clinicians to use Positive Distraction Therapy as an augmentation or, in some cases, as a replacement for sedatives. Stress reduction has been shown to improve the rate of recovery from a medical procedure."

Ryerson University, which engages in scholarly research and creative activity to address real-world challenges that drive economic growth and improve the quality of life for Canadians, is a key Shaftesbury partner in the advancement of this technology.

"Shaftesbury is at the cutting edge of affective computing. They have already created some of the very first immersive multimedia applications with affective computing, and have a clear vision of the future," says **Dr. Naimul Khan, Assistant Professor at Ryerson University and Director of Ryerson Multimedia Research Laboratory.** "The rise of AI and immersive media gives us an excellent opportunity to combine the fields for affective computing systems. The idea of using sensors to assess a user's engagement for dynamic immersive media applications is very innovative, and can be potentially disruptive in entertainment and healthcare. Working with Shaftesbury as a research partner has been a pleasure; they have great leadership, an excellent technology team, and an impressive list of partners to help propel the research forward into the market."

Since 2015, Shaftesbury has undertaken eight other research and development projects together with some of Canada's top researchers to test various aspects of the application of advanced gameplay for clinical effect in providing non-pharmacological stress relief in children using immersive media. Each of these projects have validated Shaftesbury's approach to creating experiences that not only bring relief to children, stressed families, medical facilities, and dental clinics, but also have the potential to reduce or eliminate the need for drugs typically administered to reduce anxiety, panic, or mood management in pediatric patients.



About Shaftesbury

Shaftesbury is an award-winning creator and producer of original content for television, film, and digital. Shaftesbury's current slate includes 13 seasons of *Murdoch Mysteries* for CBC and UKTV, three seasons of detective drama *Frankie Drake Mysteries* for CBC and UKTV, three seasons of critically acclaimed horror series *Slasher* for Netflix, and several new primetime series including *Hudson & Rex* for Citytv/Rogers Media, *Departure* for Global/Corus Entertainment and NBC Universal, *Dead Still* for RTE, Acorn TV, and Citytv/Rogers, and *The Sounds* for CBC. Shaftesbury's branded division produces original entertainment projects for brands including the global phenomenon *Carmilla* for U by Kotex/Kimberly-Clark and *Turning the Tables* for göt2b®/Henkel. Shaftesbury's technology division works with leading healthcare institutions and researchers to explore and develop clinical applications for immersive media experiences including augmented and virtual reality. www.shaftesbury.ca

About Holland Bloorview Kids Rehabilitation Hospital

Holland Bloorview Kids Rehabilitation Hospital (Holland Bloorview) creates a world of possibility by supporting children and youth living with disability, medical complexity, illness and injury. Holland Bloorview is a top 40 Canadian research hospital that is fully affiliated with the University of Toronto and serves 7,500 families annually. Providing both inpatient and outpatient services, Holland Bloorview is renowned for its expertise in partnering with clients and families to provide exceptional care. Holland Bloorview is the only organization to ever achieve 100 per cent in two successive quality surveys by Accreditation Canada.

About Scarborough Health Network

Across our three hospitals and eight satellite sites, Scarborough Health Network (SHN) is shaping the future of care. Our many programs and services are designed around the needs of one of Canada's most vibrant and diverse communities. We are home to North America's largest nephrology program, as well as the designated cardiac care and spine centre for Scarborough and surrounding communities to the east. We are proud to be a community-affiliated teaching site for the University of Toronto and partner with a number of other universities and colleges, helping to train the next generation of health care professionals. Learn more at shn.ca.

About Ryerson University

Ryerson University is Canada's leader in innovative, career-oriented education. Urban, culturally diverse and inclusive, the university is home to more than 45,300 students, including 2,600 Master's and PhD students, 3,800 faculty and staff, and nearly 198,000 alumni worldwide. For more information, visit ryerson.ca.

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