Blue Mirror's AI software lifts the safe use of PPE to the next level

COVID-19 continues to throw up many challenges and we can expect more of the same from 2021. It is during testing times like these that innovators come to the fore. In this case to develop a solution to minimise risks to our healthcare workers on the frontline who use PPE extensively.

Having the right PPE is only part of the story, putting it on properly and taking it off safely are also critical to keeping the wearer safe. Health authorities recommend the presence of a specialist observer to monitor the donning and doffing process.

Through a system named "Blue Mirror", leading-edge intelligent vision technologies were adapted to develop a virtual buddy that can assist healthcare workers to correctly and safely put on and take off protective equipment such as masks, face shields, gloves and gowns.

CEO of Fysight Rommie Nunes explains that the automated buddy is a virtual mirror that observes workers 'donning and doffing' PPE, prompting them to follow correct procedures, and identifying and helping them to rectify errors.

"The magical thing about Blue Mirror's AI is that the software learns over time. The more times the buddy is used, the more accurate it becomes." says Rommie.

"Blue Mirror is here to keep healthcare workers and patients safer by providing a virtual PPE instructor. We believe this can become the next level of PPE practice globally, enabling every healthcare worker access to a virtual PPE instructor when they most need it." says Rommie.

Via Innovations approached the Manawa Simulation Centre to trial
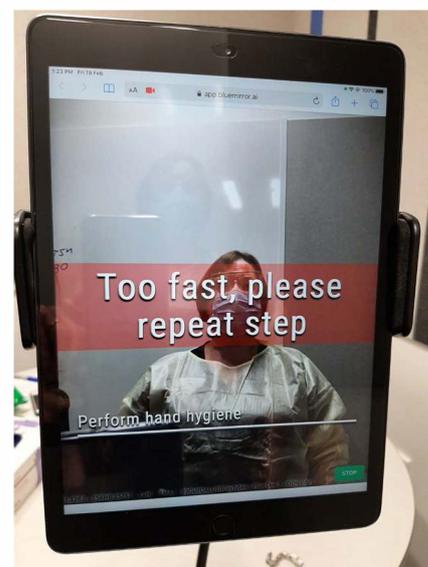
Clinical Skills Coordinator Christine Beasley using the Blue Mirror PPE virtual buddy

Blue Mirror in a teaching environment first - partly because that would be one of its ongoing applications, but also because of the need to refine it to ensure it would function optimally in a care environment.

By evaluating Blue Mirror in a hospital-like setting with students and nurses about to head out to Managed Isolation and Quarantine (MIQ) facilities, subtle but important improvements were identified and added during the pilot.

Examples included changing the instruction from "take off your gown" to "without touching the outside of the gown, take off your gown"; and developing the app to automatically identify when someone was ready to start, without the user having to touch the device.

Clinical Skills Coordinator at Manawa Christine Beasley explains that the system is easy to set up and operate and you are guided through the whole process with instructions and checks.

"It is so easy! Nurse Educators and Nurse Lecturers have needed only one orientation session to become proficient in setting it up. Trial candidates were enthusiastic to use this education tool, finding it interesting and liking the interactive nature:'

The system can be tailored for any PPE requirements, depending on the environment and infection. It can also be configured to meet theatre suite requirements.

"There is also the potential for Blue Mirror to be used to enable visitors to put on PPE safely before visiting people in isolation wards:'

Innovation Director at Via Innovations Anya Homsey appreciated Blue Mirror's (the company) professionalism, their responsiveness and their agility in adapting the app to an educational learning environment. "It was great to achieve such a successful outcome during a difficult 2020, where the only constant was change:'

Via Innovations, Manawa Simulation Centre and Blue Mirror continue to work together to further validate Blue Mirror's ability to improve frontline healthcare workers' safety.

To learn more about Canterbury DHB's Via Innovations Unit visit Via Innovations or watch these videos:

> PPE donning

> PPE doffing