

2023 STUDENT ACHIEVEMENT AWARD

Assistive Smart Mirror - Yuyao Du, Dora Modrcin, Sydni Reimer, and Hester Yin



Reimagining the use of a smart mirror as an assistive device, this project team adapted a conventional smart mirror to help guide individuals suffering from Mild Cognitive Impairment (MCI) to independently execute daily hygienic tasks. Individuals with MCI struggle with forgetfulness in one of two ways: forgetting that they need to do a task or forgetting how to do a task and may require

support from others to ensure they complete their daily hygiene routine.

The user can interact with the assistive smart mirror through a simple nine-button keypad, allowing the operator to select a variety of tasks. Once the user has selected a task, the assistive smart mirror provides cuing to execute the task by displaying each step of the task, one at a time, allowing the user to follow along.

According to the World Health Organization, over 90% of individuals requiring assistive technologies do not have access to the devices they need, partly due to a lack of training and availability of these devices. The simple user-friendly interface has been designed to be like many other common smart devices with minimal buttons and automatic on and off. Therefore, operation of the device requires minimal training as it is so intuitive.

Although the initial scope of the project was individuals with MCI, it became apparent to the group by working with occupational therapists that this assistive smart mirror has applications well beyond the initial scope. This assistive smart mirror is a device that can allow individuals to live more independently, helping grow an individual's self-confidence.

In recognition of the innovation and excellence shown in their undergraduate engineering project, Engineers Geoscientists Manitoba is pleased to present the 2023 Student Achievement Award to Sydni Reimer, Dora Modrcin, Hester Yin, and Yuyao Du.