Abstract

People with Down Syndrome have peculiar physical and cognitive characteristics due to genetic alterations. Given this, self-knowledge is essential for identity formation. Recently, it is possible to use technological resources that facilitate the application of therapeutic and educational activities. This paper proposes a system called Virtual Mirror, which enables activities that stimulate self-knowledge. Previously programmed questions are reproduced by the mirror, concomitantly with the projection of user images. After that, the system waits for responses, evaluates agreement and consistency, and issues a response to the user in the form of greetings. Also, the Virtual Mirror provides a channel for biofeedback. It analyzes user behavior during the execution of each activity. Twenty-seven volunteers evaluated the virtual mirror, people with Down Syndrome, male and female, aged 13 to 51 years. It was done at the Pontifical Catholic University of Goiás (PUC Goiás), in the space reserved for the activities of the Alfadown project, an extension project maintained by PUC Goiás. The results showed that
the virtual mirror had 77.14% of agreement and 55 % for consistency. Through facial expressions, it was possible to reach an average of over 95% for visual attention throughout activities. It shows that the proposed tool has the potential for use with the Down Syndrome population.

References


Index Terms

Computer Science Information Sciences

Keywords

Down Syndrome, Virtual Mirror, Self-Knowledge Activities.