

Full Citation

Brittany Lewis and Krishna Venkatasubramanian. 2021. “I...Got my Nose-Print. But it Wasn’t Accurate”: How People with Upper Extremity Impairment Authenticate on their Personal Computing Devices. In Proceedings of the 2021 CHI Conference on Human Factors in Computing Systems (CHI '21). Association for Computing Machinery, New York, NY, USA, Article 379, 1–14.

<https://doi.org/10.1145/3411764.3445070>

Link to published paper

<https://dl.acm.org/doi/10.1145/3411764.3445070>

Abstract

Authentication has become increasingly ubiquitous for controlling access to personal computing devices (e.g., laptops, tablets, and smartphones). In this paper, we aim to understand the authentication process used by people with *upper extremity impairment (UEI)*. A person with UEI lacks range of motion, strength, endurance, speed, and/or accuracy associated with arms, hands, or fingers. To this end, we conducted semi-structured interviews with eight (8) adults with UEI about their use of authentication for their personal computing devices. We found that our participants primarily use passwords and PINs as a verification credential during authentication. We found the process of authentication to have several accessibility issues for our participants. Consequently, our participants implemented a variety of workarounds that prioritized usability over security throughout the authentication process. Based on these findings, we present six broad subareas of research that should be explored in order to create more accessible authentication for people with UEI.