Usability Challenges in Touchscreen Interfaces for Public Kiosks

Human-machine interaction (HMI) is the field of computer science that aims to maximize the efficiency of interaction with digital systems. An area that has increased in relevance in recent years is the use of Touchscreen Interfaces in public kiosks. Existing research shows that these platforms reduce wait times and improve service accessibility. However, these studies also come to the conclusion that a lot of users show frustration for reasons such as difficulty navigating or design inconsistencies.

While research has already been conducted on the proper implementation of general usability principles for these touchscreen interfaces, there is clearly still a gap in knowledge of how the real-world environment might be creating new unaddressed challenges for usability.

The purpose of this study would be to explore the usability challenges specific to touchscreen interfaces used in these public kiosks, focusing possibly on the environmental conditions and user demographics with the objective of finding ways to improve efficiency of these interactions.

The specific research questions guiding this study are:

1. What could be accessibility challenges specific to these types of user interactions?
2. How do real-world/environmental factors affect the user experience when using these interfaces?
3. What changes can be made to improve usability and accessibility for a wide range of users?