

CyKey: See-through, Gaze-optimized Text Entry in augmented reality head mounted display as an Alternative and Augmentative Communication System

Authors

Mahya Mirbagheri – Tom Chau

Objective:

Will a combination of a context relevant word prediction, and phrase suggestion and the designed structure of the keyboard design increase text entry rate?

Answer:

In this study number of typed words per minute is around 36 which is comparable with previously designed keyboards results which was at most 17.35.

An example of the strategy that complements gaze typing mechanism

when gazed upon 'h' for 100 ms, the most probable word starting with h is displayed by replacing the key letter into the predicted word 'how'.

By dwelling an additional 500 ms, the predicted word 'how' will be selected. By dwelling on the word 'how', the most probable phrases and next word relevant to 'how' are displayed. If one of the predicted next words is chosen, then the predicted next three words will be displayed on top of the target. Simultaneously, by dwelling at phrases they will be completed as well. Next word and phrase prediction are built using transformer model.

