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Visual Clustering on a Computer Display: A Validation Study

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Abstract: In order to better model eye movements in a visual task, it was important to understand whether the layout of a display exerted an influence on where the eye wants to go next. A study was therefore conducted to determine how people naturally perceive items to be visually clustered in a given display. The goal was to use the parameter values derived from clustering judgments for the eye data analysis of a radar choice task. A validation study was also conducted to determine whether the clustering judgments made by participants using a web-based interface are comparable to judgments made by participants who did a paper-based version of the task and therefore had the more intuitive task of circling the visual clusters. Data was collected both at Rensselaer Polytechnic Institute and through Amazon Mechanical Turk and results will be compared.