LAB REPORT

TUTORIAL -3

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INTRODUCTION

Visual search activities are used to show how visual attention affects tasks that require target recognition among distractions. The ability to discern between the target and the distractor has a significant impact on search task performance, according to psychophysics study. Attention has an impact by increasing the response to the attended stimuli and decreasing the range and volume of units responding to the distractions. Both methods improve performance by improving the signal's ability to be distinguished. In order to find a goal among distractions, a procedure known as visual search is utilised. Many times, a single topic shines out among the distractions from many perspectives. The search task can be changed to affect the sensory, perceptual, and cognitive processes involved in visual search. Attention alters visual search by limiting and selecting from all the information available at various levels of processing. The effects of set size (the number of stimuli in a display) and the effects of cueing specific subsets of stimuli within the display draw attention to the respective effects of divided attention and selective attention.

PROCEDURE

In this exam, participants must find a target among several distractions. The target must be differentiated from distractions and frequently has a specific shape and colour. Distractors can come in a variety of colours, shapes, or both. Participants in this activity must pick out the letter "T" among "L" distractions. It is the participant's responsibility to click while aiming the mouse at the target that is visible in the scenario. From trial to trial, three aspects of the scenario frequently change:

Either the target is present or not in this round of the experiment, there is a 50% chance that the "T" will either be one of the objects in the scene or it won't.

Whether a quality is unique or prevalent:

Feature-based search: Distractors all have a characteristic that sets them apart from the target, like the letter "L."

For this experiment, we created the Target "T" and a loop of distractions using Python code in the start and end functions. We evaluate the person's precision and response time for each trial in identifying whether the target was one of the distractions (response time).

RESULTS

|  |  |
| --- | --- |
| Slope : |  |
| x2 | 10 |
| x1 | 5 |
| y2 | 1.99 |
| y1 | 1.79 |
| y2 - y1/ x2 - x1 | -25 |
| Slope = | -16.66 |

DISCUSSION

According to the data and graph depicting reaction time when there were 5 distractions, it took much less time to react than when there were 10 distractions. The slope aids in determining how quickly a target is processed during a visual search. It is also possible to quantify the role of attention in visual search research by analysing the slope of reaction time over the number of distractions. When extreme amounts of attention are required to look at a complex array of stimuli, the slope frequently increases as reaction times increase (conjunction search). Simple visual search tasks (feature search) have a smaller slope since they call for rapid responses and less focus. The use of a reaction time slope to measure attention is controversial, though, because non-attentional factors can also affect response time slope.