**Visual Search Experiment**

**PSY310 Lab In Psychology**

**Lab Report**

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GitHub link:

Introduction

Visual search, the search for a target amongst distractors, is a basic tool for exploring attention and perception. It illustrates how efficiently humans filter pertinent information from rich visual environments (Chan & Hayward, 2013). One early account, the Feature Integration Theory, proposed that single features (e.g., shape, color) are processed in parallel, whereas feature combinations require serial, effortful attention (Treisman & Gelade, 1980). This difference emphasizes the significance of set size and target–distractor similarity as factors in deciding search efficiency.

The current experiment investigates how these two variables—similarity and set size—moderate search performance, as it is indexed by reaction time and accuracy. In so doing, it tests predictions regarding whether search is powered by parallel feature processing or more laborious, serial processes. Of course, theory aside, findings from visual search have real-world implications, including the design of efficient displays and enhancing accuracy in visual diagnostic tasks.

Method:

Participants:

Subject 001 – An undergraduate female aged 20 from Ahmedabad University (designated as subject 1) was the participant.

Subject 002 – An undergraduate male aged 22 from Ahmedabad University (designated as subject 2) was the participant.

Subject 003 – An undergraduate female aged 19 from Ahmedabad University (designated as subject 3) was the participant.

Subject 004 – A 21-year-old male undergraduate from Ahmedabad University (subject 4) was used in the experiment.

Subject 005 – A 20-year-old female undergraduate from Ahmedabad University (subject 5) was used for the study.

All subjects had normal or corrected-to-normal vision and no neurological disorder history. They were instructed clearly on how to perform the task, and written informed consent was signed before the beginning of the experiment.

Materials and Procedure:

The Visual Search Experiment was conducted on PsychoPy-2025.2.0 Builder (beta). All the participants had the task undertaken on a laptop in a quiet environment to prevent distractions. The screen was driven on the monitor screen of DESKTOP-7Q2TB4F with a resolution setting of standard.

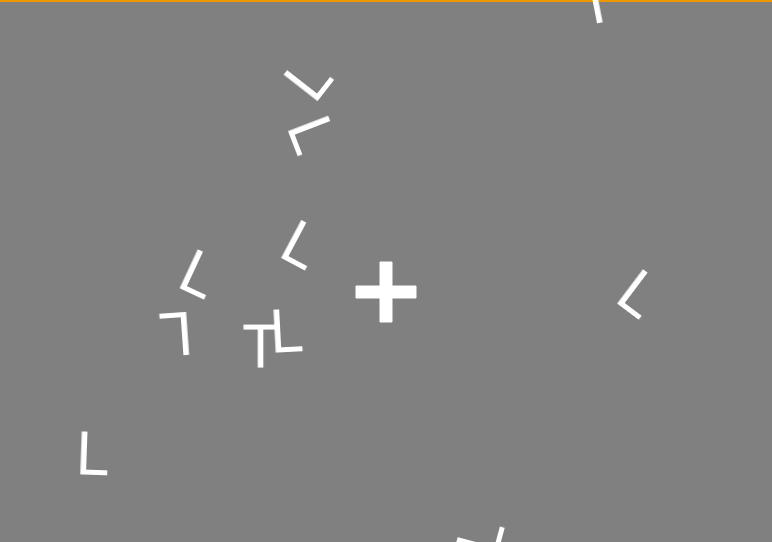
All the participants performed a total of 200 trials. Each trial had various elements: a fixation cross, the target, distractors, and randomized coding so that the display was always different. The experiment involved trying to identify the target letter "T" among several "L" distractors distributed on the screen. The target and distractors were in new locations for every trial, which tested attention and search efficiency.

The fixation cross remained at the center of the screen throughout the task to maintain participants' gaze. Participants used a mouse to click on the target after finding it. Since the letters looked alike and were presented in random order every time, the task required concentrated attention and rapid decision-making.



***Figure 1:*** *Target (T) is to be pressed; distractors (L); fixation (+)*

*(set size 5)*



***Figure 2****: set size of 10*

**References**

* Chan, L. K. H., & Hayward, W. G. (2013). Visual search. *Wiley Interdisciplinary Reviews: Cognitive Science, 4*(4), 415–429. <https://doi.org/10.1002/wcs.1233>
* Treisman, A. M., & Gelade, G. (1980). A feature-integration theory of attention. *Cognitive Psychology, 12*(1), 97–136. <https://doi.org/10.1016/0010-0285(80)90005-5>