Objective of the Project

Show that smaller difference in time between the onset of the stimuli (called Stimulus Onset Asynchrony or SOA) results in a higher response time for the second stimulus (RT2).

Hypothesis

People can only handle the central processing of one task at the time. This is the central bottleneck. The time taken before another task can be processed is called the refractory period.

Methodology

Stimuli: A short sound clip (single note) followed by a coloured rectangle. The sound clip will be one of four - two of high frequency (660Hz, 880Hz) and two of low frequency (220Hz, 440Hz). The coloured rectangle will be a yellow or blue.

Number of Trials/Blocks: There are 20 training trials to familiarise the user with the system, and then 100 actual trials whose data is used for the analysis.

Number of Participants (expected): An expected number of around 58 participants from the students enrolled in the course. An additional 10-15 particpants estimated from other peers, etc.

Dependent Variable: The quantity being measured: here, the response times (RT1 and RT2).

Independent Variable: The quantity being manipulated: here, the stimulus (sound and shape) as well as the stimulus onset asynchrony (SOA).

Results

Statistical Analysis: We will plot the means of the response times of Task 1 (RT1) and Task 2 (RT2) against the SOA. We will also be checking the effect of difficulty on the response times.

Expected Results: We expect to see that as the SOA is increased, the RT2 decreased. At the same time, the RT1 stays unaffected by SOA. We also expect to see greater response times for higher difficulty.