

IT 351 Human Computer Interaction

Lab 1 – Serial Position Effect

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Serial Position Effect

The serial position effect refers to the finding that, on list-learning tasks, the probability of retrieving an item is dependent on the item's position in the study list. Generally, items are more likely to be retrieved if they were present at the beginning (i.e., the primacy effect) or at the end of the list (i.e., the recency effect), relative to items presented in the middle.

The primacy effect makes it easier to remember items at the beginning of a list because it is easy to process and it gets stored in our long-term memory. The recency effect makes it easier to remember items at the end of a list because they get stored in a short-term memory.

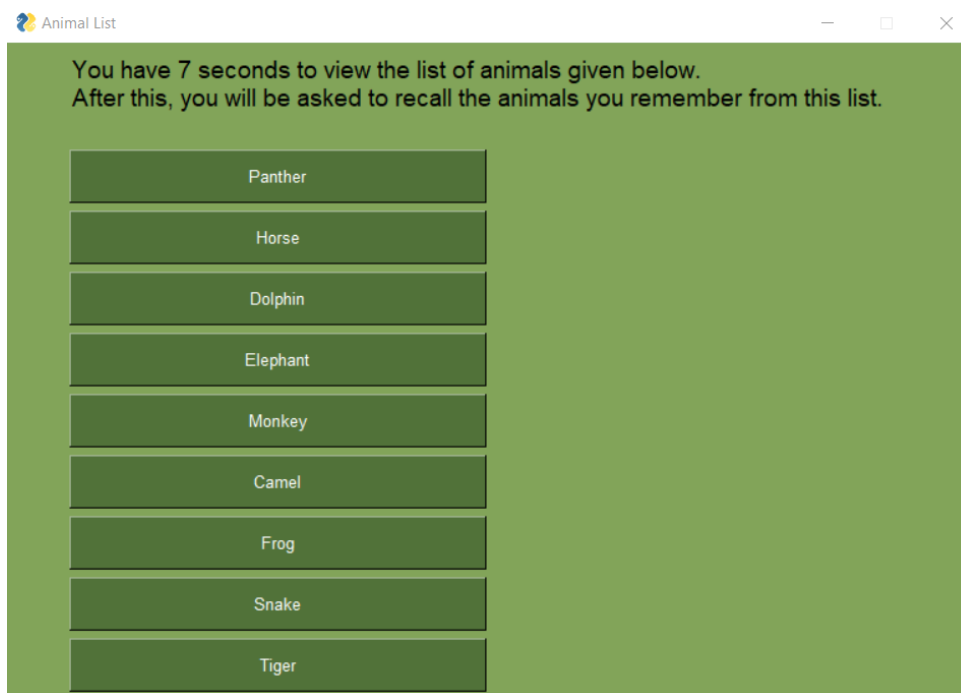
Experimental Survey

A list of 9 animals is prepared and shown to people for 7 seconds. After this, they are asked to recall as many animals as they can (in order, if possible).

This survey is done by designing a GUI to collect user responses and display their recall frequency and positions remembered successfully.

To conduct the survey, simply run the *Serial_Position.exe*, Windows executable file.

GUI Screenshots



SP Blocks

Recall the animals shown in the previous screen by clicking the buttons. Try to remember them in order.

Monkey	Camel	Elephant
Frog	Snake	Horse
Tiger	Dolphin	Panther

Submit

SP Blocks

Recall the animals shown in the previous screen by clicking the buttons. Try to remember them in order.

Frog	Tiger	Elephant
Panther	Horse	Monkey
Camel	Dolphin	Snake

Submit

Based on your submission, your recall frequency is 0.67.
Recalled Positions are: 1,2,3,7,8,9.

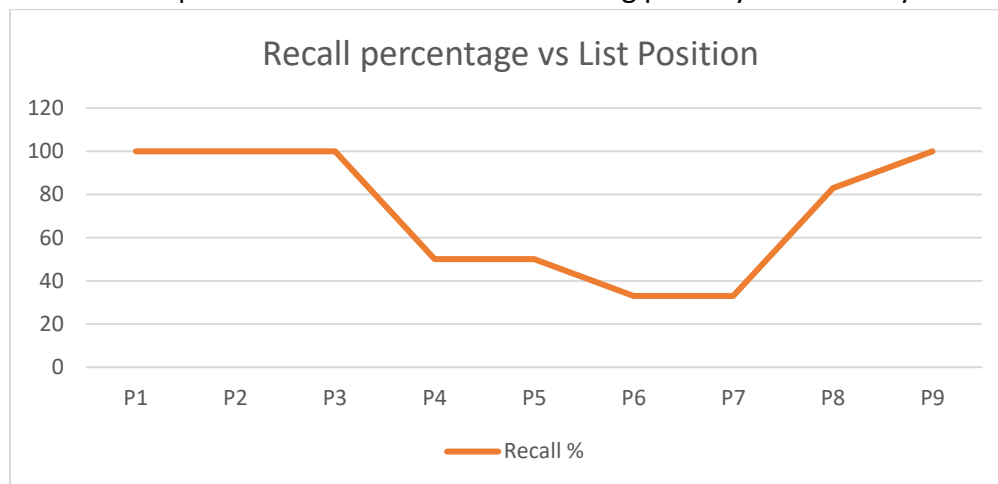
Survey Results

Total participants: 8, Number of animals: 9, Time given to observe list: 7s. Table shows the recall percentage of each person, with the positions they recalled correctly.

Sl. No.	Correct Recall Ratio	P1	P2	P3	P4	P5	P6	P7	P8	P9
1	0.56	█	█	█					█	█
2	0.78	█	█	█	█	█			█	█
3	0.67	█	█	█	█	█				█
4	1.00	█	█	█	█	█	█	█	█	█
5	0.78	█	█	█			█	█	█	█
6	0.67	█	█	█				█	█	█
7	0.56	█	█					█	█	█
8	0.78	█	█	█	█			█	█	█

Analysis

- Variation with position:** This graph clearly demonstrates that most people recalled the first and last parts of the list thus demonstrating primacy and recency effects.



- Variation with age:** The effect changed with individuals. Older people tend to recall the first half well and seem to miss out the end (primacy effect dominated). Younger people seem to remember both parts (primacy and recency), with some recalling the whole list.
- Relation with favorite animal:** Not a very pronounced effect. People seemed to remember better by making associations between adjacent/similar animals.

This experiment thus proves Serial Position Effect.

Suggestions for GUI Design

- Keep menu items less (5-6).
- In case of long menus, highlight middle elements to draw peoples' attention.