

COSC341 Lab Assignment2 Report

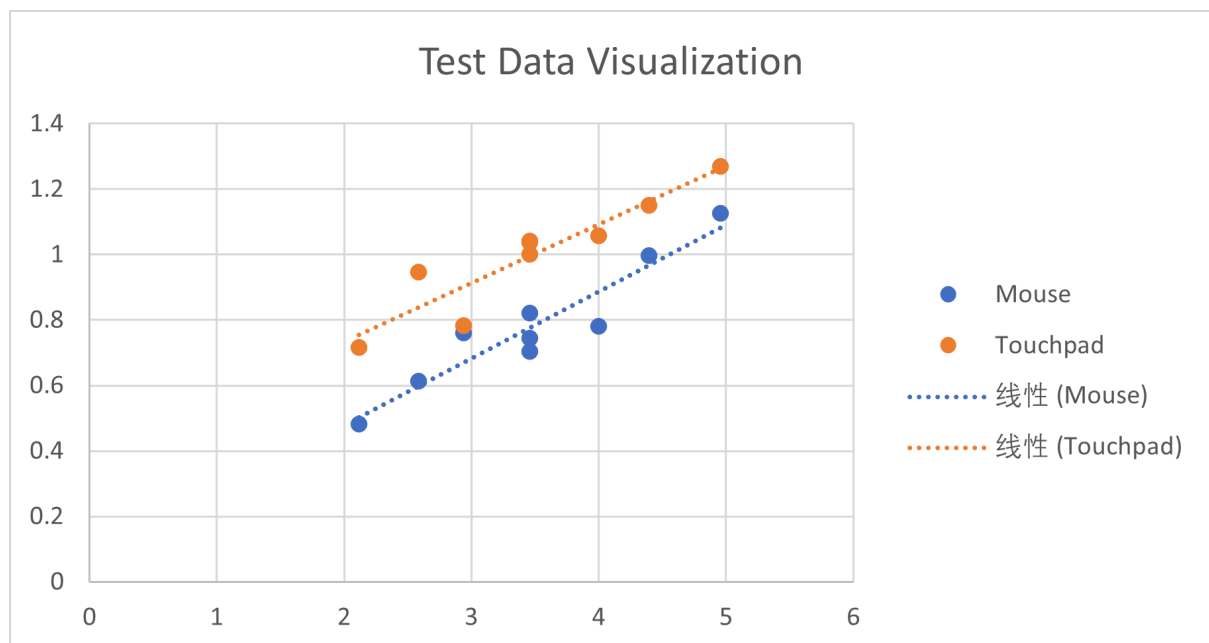
Group members:

Shirley Xu
Brian Yang
Ming Xu
Guohao Ma

Project Descriptions:

In this project, we test Fitts's Law in the target acquisition tasks. Basically, we find the relationship between the target distance, width, and time needed and find the difference in performance between Mouse and Touchpad by checking the time it takes to select a certain target. From this experiment, we found out that under the same size for the target, the larger amplitude is, the longer the time is taken and under the same amplitude, the larger the target size is, the shorter the time is taken. We also found out in general, the mouse is faster than the touchpad in completing the tasks, and when the fitts ID (which is related to amplitude and size of the target) is larger, the time difference is more obvious.

Fitts law graph:



Task allowance:

Guohao Ma- task division, the models for the 3 scenes that have 9 targets with same sizes but different amplitude, testing

Shirley Xu - task coordination, problems solving, video taking, report writing, testing

Ming Xu- transfer the data of the testing in txt file to excel and finish the excel relating tasks (which is data placement and graph construction)

Brian Yang- the models that have 9 targets with different sizes and different amplitude (6 scenes), achievement of recording each selection time and whether it was a correct selection or not in unity and transfer these data in txt file, testing

Challenges:

1. At first, when selecting the targets, the code that should have reactions when selecting the targets (which is able to allow selecting the targets, the change of color of the targets when being selected) all doesn't have any reactions, which means its code didn't connect with the targets successfully.
2. Then, the code that should record the time of the experiment goes wrong, it should be recording each time and that specific time when selecting the targets and display the time too. Instead, although it is logged every time it is selected, it doesn't display the time for each of the selections, it will only display the total time instead of the single time and only shown after all 9 selections have been achieved for each of the scenes, which is far away from what we want. Furthermore, it doesn't display if we have selected on the target or not, which means we missed the right or wrong function that is required.
3. Last, after converting the data from txt file to excel and calculating it to the data that we need, when displaying the graph for this data in excel, the trend of the graph goes exactly opposite from the example.

Solutions:

1. We checked more videos that explained why it doesn't connect with targets and we found out it is because we didn't specify the object in the code which is why it won't be able to connect. So we change our code to let it specify the object and it works.
2. We found out that our code didn't have the details that will be able to display each of the time, so instead it will only display the total time because in order for the code to work, we have managed to add the function of letting it display the total time, so we watched some videos to add the codes we need.
3. We found out it is because the way we labels/ sort of data is opposite with the example, so we managed to sort the data the way the example did and it worked properly.