# Screen Orientation

## Introduction

As a part of IT-340 (Human and Computer Interaction) class our team has conducted research to examine which of the touch screen orientations (portrait or landscape) people would be most comfortable using and make few typo errors. Our group has decided to do this experiment because it is a daily activity to type/text people using mobile device.

We have approached random students on BYU-Hawaii campus in various locations. Some of the participants were met individually, some in the Aloha Center and some in the Information Technology/Computer Science tutor lab.

Participants have also been informed that the only sensitive information we needed for this experiment is the name and signature of the participant. All the sensitive information will be in the consent form and not on any digital/social platform. Participants sensitive information which is on a consent form will be shredded right after the end of the semester.



## Method

To determine whether students type more efficiently using landscape or portrait orientation, we conducted an experiment measuring typing speed and accuracy.

1.) Participants: Students were asked at random to participate.

2.) Typing task: Each participant was given the same paragraph to type twice- once in landscape and once in portrait mode.

3.) Data collection: We recorded the time they took to complete the paragraph and number of typos made in each mode

4.) Procedure:

- Students were randomly assigned an order to minimize learning effects.

- They typed the paragraph in one orientation then switched to the other

- Each session was timed and typos were recorded manually

5.) Analysis: We compared the average typing speed and accuracy in both orientations to determine which was more efficient.



## Results

All participants in our experiment preferred the portrait screen orientation. Most of them typed more quickly in portrait mode compared to landscape mode. When asked, the majority explained that they are accustomed to using portrait orientation for texting in their daily conversation with others. Some participants added that even though landscape mode may be optimal for gaming, it is less convenient for text.
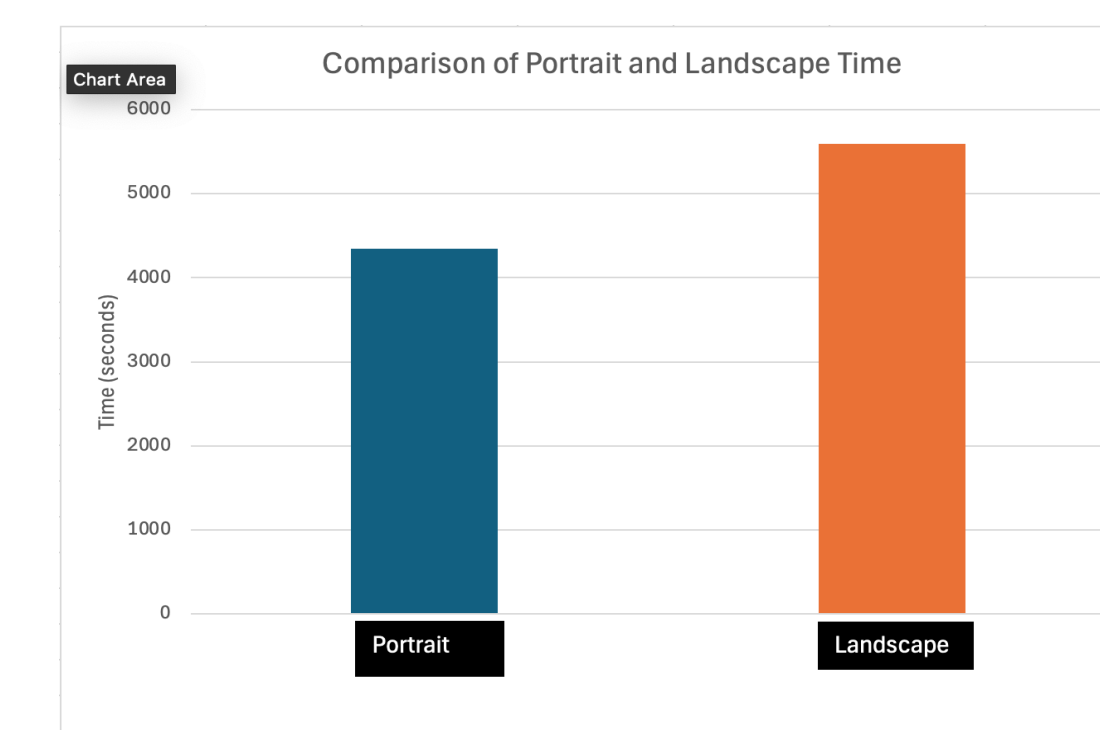


*This compares the time taken in Portrait and Landscape orientations, with Blue representing Portrait and Orange representing Landscape.*

Another observation from our experiment is that the typos typed by the participants were less in portrait mode than in landscape mode. This is an expected result since the participants are more comfortable typing in portrait mode.
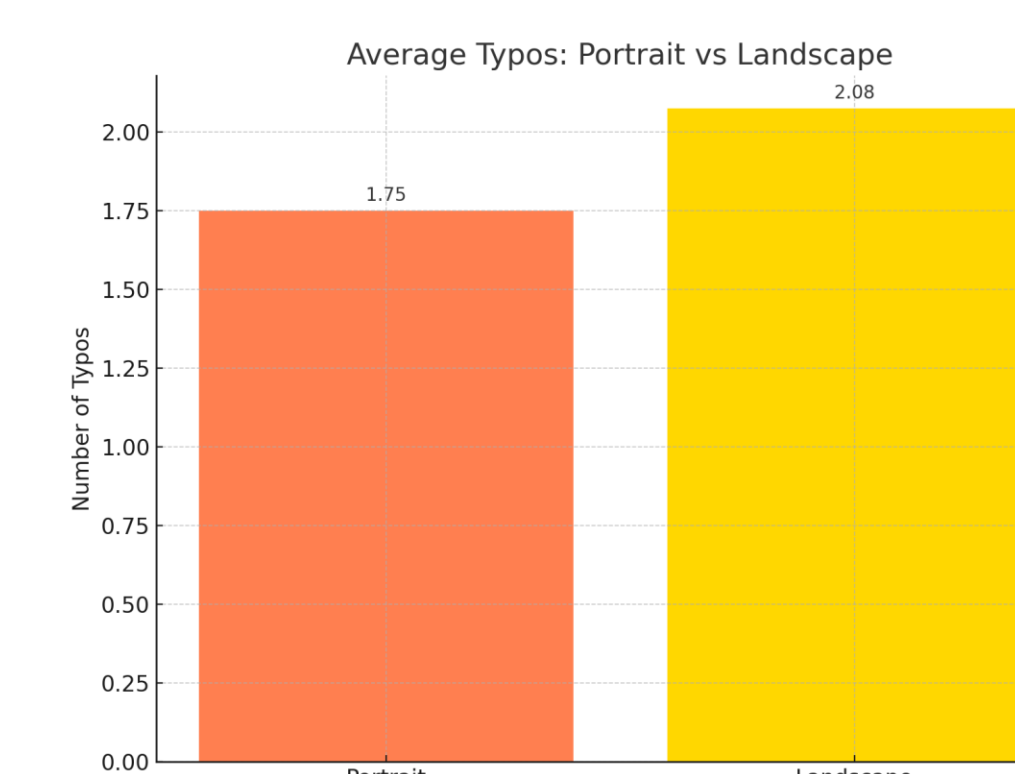


*This shows the average number of typos in Portrait and Landscape orientations when typing, with Orange representing Portrait and Yellow representing Landscape.*

The two graphs effectively demonstrate that the goal of the experiment has been achieved.

## Conclusion

Our objective was to determine whether participants prefer and type more accurately using a touch screen in portrait or landscape orientation and which orientation makes them make fewer errors. From the results that we got from 30 BYU–Hawaii participants, we found that most of them preferred and performed better in portrait mode. All participants typed slightly faster and made fewer errors when they were in portrait view, primarily because they were accustomed to it in normal use.

Although our study was successful in reaching its objective, the participant sample was largely comprised of college students. To guarantee the accuracy and applicability of the findings, future research could have participants with a wider age range and possibly collect data through online forums for broader access.