

TSK Typer

Finger Positioning Rules

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Contents

1	Finger Positions	3
1.1	General Rules	3
1.2	Simplified Typing	3
1.3	Fast Typing	4
	References	5

List of Figures

1	Finger-to-key mapping [1]	3
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1 Finger Positions

1.1 General Rules

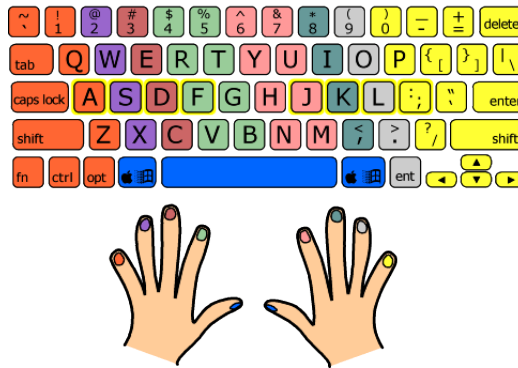


Figure 1: Finger-to-key mapping [1]

When the typist is not typing, each finger must rest on the home row. Due to the structure of the hand, the finger-to-key mapping described in figure 1 is used. This mapping illustrates how each finger generally moves in a vertical fashion along the keyboard. The main exceptions are the pinkies, the index fingers and the thumbs: pinkies are used to reach keys on the outer ends of the keyboard, the index fingers are used for the middle of the keyboard and the thumbs focus on the bottom of the keyboard [1].

Some other rules to follow are:

- The fingers must remain as close to the home row as possible, and should exhibit minimal movement [2].
- The **Shift** key must always be pressed with the hand opposite the current typing hand [2]

1.2 Simplified Typing

Assume that a typist begins in the resting position. The typist presses a single key before returning to the resting position. This results in a simple validation algorithm for determining correct positioning:

1. Map the pressed key to a finger according to figure 1

2. Ensure that each finger not equal to the above finger is resting on a home row key

1.3 Fast Typing

Since the fingers should be as close to the home row as possible, it is reasonable to assume that a typist will typically exhibit the simplified typing characteristics exhibited in section 1.2. However, a fast typist will anticipate future characters. Additionally, the typist may still have fingers in midair due to typing preceding characters. Hence, the algorithm described in section 1.2 can be updated to the following:

1. Map the pressed key to a finger according to figure 1
2. Ensure that each finger not equal to the above finger is resting on a home row key
3. For each home row key not touched by a finger, determine if the corresponding finger is mapped to a character directly preceding or succeeding the current character

References

- [1] P. Hudson, “Which fingers go where,” September 2014. Available at http://www.typing-lessons.org/preliminaries_4.html.
- [2] T. T. Labs, “Touch typing technique,” September 2014. Available at <http://www.rapidtyping.com/typing-instructions.html>.