

# Can numerical analysis be applied to a keyboard?

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When I was in boy scouts, as part of learning Morse code, I was told that the inventor of the typewriter originally put the letter 'e' under the left middle finger, just below its present position. The typist was often too fast and the print bars would jam. I heard the same story when I took a typing class. This led me to wonder if 't' might have been moved from the home row for the same reason. 'E is dit and T is dash, under middle and index the print bars would clash'.

If e and t on the home row made the human 'typewriter' too fast for the machine, now that the machine can keep up, wouldn't it be a good idea to put these letters back where they belong?

My letters over the years to various publications and keyboard companies have often been answered with the observation that the Dvorak keyboard, the gold standard, hasn't done very well in the market place and that even small changes have big costs. Several days ago an employee Segin suggested I try 'keytweek'. I hope that you will email, or even publish, the following for anyone who might be interested.

The transposition of the letters dfjk with etni on a standard keyboard increases the amount of text typed from the four keys under the middle and index fingers by five times, from 7.5% to 37%. While not as efficient as the Dvorak keyboard, it is much easier to learn. The transposed keys remain under the same fingers and feel very natural. The transposition can be thought out without benefit of a keyboard map.

For those who might worry that they will not be able to go back to qwerty, the experience of many Dvorak users is that a typist can be bikeyboardal. The letters etni are fairly easy to get used to but you may find yourself trying to type dfjk from their old locations.

I have found a keyboard remapping program that is free, downloads quickly and is very easy to use. I am typing this email on a keyboard remapped to the 'etni' transposition layout. The program is called 'Keytweek 2.11' and can be googled up by that name. It is available from several sites, includeing PC magazine and recommended by several keyboard manufacturers, includeing TypeMatrix. The creator of the program is Travis Krumsick.

- 1) After you have loaded the program hit start.
- 2) Click the keytweek icon and a graphic of a keyboard will appear.

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- 3) Click the 'Full teach mode' at the bottom of the screen.
- 4) A box will appear. Click 'begin teach mode'.
- 5) Press the key you want to reassign, then the key you want it reassigned to. In this case d and e.
- 6) Click 'remap key#1 to key#2'
- 7) The box will disappear and the scancodes of the keys will appear in the 'pending changes' window at the bottom right.
- 8) Follow the same procedure (from 3) for the remaining seven remaps.
- 9) Click 'apply' and you will be asked if you want to turn off the computer to apply the changes.

At the top there is also a clickable 'restore defaults' to give you back your qwerty layout.

I was able to remap in under three minutes and restore qwerty in thirty seconds, not including the restart.

If you would like to determine if etni on the home row is comfortable for you, you might try typing the paragraph below in pretend mode.

Google is going to have a service that grants a location search option, it gives unique results in the place where you are. Recently a company began selling a wrist computer that uses the palm pilot operating system and entry character set. It has real potential to receive emails, cell phone text messages or the google service. Perhaps 'may I have the time' will become 'may I have the time and weather'. This will come out as shown below.

Googld ks gokjg fo havd a sdrvkd fhaf grajfs a locafkoj sdarch opfkoj, kf gkvds ujkqud rdsulfs kj fhd placd whdrd you ard. Rdcdfly a compajy bdgaj sdllkjg a wrksf compufdr fhaf usds fhd palm pklof opdrafkjg sysfdm aje sfylus djfry characfd r sdf. Kf has rdal pofdjfkal fo rcdkvd dmakls, cdll phojd fdxf mdssagds or fhd googld sdrvkd. Perhaps 'may I havd fhd fkmd' wkll bdcmd 'may K havd fhd fkmd aje wdafhdr'. Fhks wkll comd ouf as showj bdlow.

sfdphdj