GPK: An Efficient Special Symbol Input Method for Keyboards

Xiyuan He, Zhuohao Zhang*, Kai Zhang   Zhejiang University

PROBLEMS

Existing input methods for special symbols (symbols that do not appear directly on universal keyboards) in rich contents are inefficient, incomplete, or requiring users to learn much additional spelling.

GOALS

1. Provide users with a quick and intuitive method to input special symbols.
2. Ensure speed and efficiency comparing to other input methods.

FEATURES

Intuitive gliding on physical keyboard

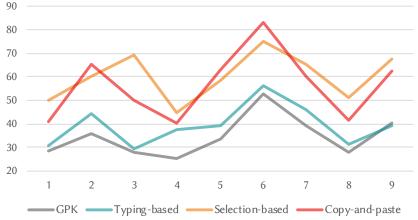Extendable library of supported symbols, more than Greek Letters and mathematical symbols

An accuracy of 96.3% in the top three predicted results, while top five results are provided for selection

96.3%

USER STUDY

Typing time (s) for each method among nine users

GPK   Typing-based   Selection-based   Copy-and-paste

Typing-based Method: Also efficient enough, but it requires users to master the spelling of special symbols.

Selection-based Method: Requires longer time to call out a series of special symbols to find the right symbol.

Copy and Paste Method: Requires longer time to search on the Internet or dictionaries to find the right symbol.

Explanation: In the figure, each axis represents one participant in the user study. The value on the axis is the **typing time of one sentence** for each input method.

Compared to other methods, *GPK* is proved to be the most efficient one to input special symbols **after a simple training process** on our demo website.