One-Handed Operation UI on Smartphone

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'One-Handed Operation UI on Smartphone' is an Android application considering the human physical characteristics in order to improve the instability of one-handed manipulation according to the trend of increasing size of smartphone. After the User Survey, the Screen Touch Test which is measuring the touch accuracy and the response time of 54 panels randomly generated by using self-produced experimental program was conducted for real smartphone users and Symmetric Click Method and RIT(Right angled Isosceles Triangle) Keypad was developed to minimize the inconvenience of one-handed operation in actual use environment after distinguishing between the touchable area (Possible Zone) where the thumb easily touches and the Impossible zone not covered by thumb. The features are as the followings. First, using the Symmetric Click Method, which moves the target to the symmetry point by dragging the center downward of the screen when operating the smartphone with one hand, you can easily activate icons or search boxes in areas not covered by thumb without reducing or moving the smartphone screen unlike the existing methods. Second, RIT Keypad, which was developed to reflect the results based on user survey and the screen touch test outcomes, can minimize space utilization and reduce frequency of typing error. Using the above functions under the actual use-environment of the smartphone which most of the modern people are using in everyday life, we could solve a little bit of the inconvenience of one-handed mode which is provided by the existing manufacturers.

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