

User-Behavior-Orientation AI-based Applications Management

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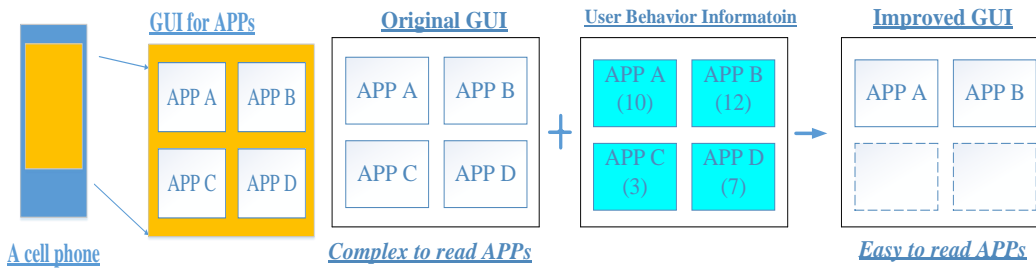
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Abstract : In this paper, we explore the concept that how the graphic user interfaces displays dynamically according the user operation frequency. In this paper, we test the applications (APP for short) display system according to the user-defined threshold. Therefore, the user GUI can be easily to find the key applications instead of the situation, which many user GUI applications are display, even though the user application is seldom used.

The contributions of the paper are as follows. First, we make the data structure to record the operation frequency of each user applications. Second, we develop the approach to integrate the user frequency concept to manage the applications according to the user operation frequency. Third, the user-defined threshold is defined to dynamically display the GUI applications. Experimental results show that the GUI applications can be shown according to the user operation frequency.

Key words: Artificial Intelligent, Applications management, Frequency-based.

II. Motivation and Problem Definition



Algorithm: User-Behavior-Orientation AI-based App Mgmt

Input: (1)names of applications $C=\{c_1, c_2, c_3, \dots, c_b\}$
(2)initial positions applications $P=\{p_1, p_2, p_3, \dots, p_b\}$
(3)statuses of the applications $S=\{s_1, s_2, s_3, \dots, s_b\}$
(4)user frequency $F=\{f_1, f_2, f_3, \dots, f_b\}$
(5)threshold number for the applications v_{th}

Output:

(1)Final positions applications $P=\{p_1, p_2, p_3, \dots, p_b\}$

Method:

- (1)Apply the necessary data structure to record the used applications ;
- (2)Set the threshold number for all applications
- (3)Utilize the user behaviors information to update the user frequency statuses ;
- (4)Update the display of the applications according to the user frequency information.

IV. Experimental Results

To show the effect of the proposed algorithm, we take the examples in TABLE I. The benchmark 1 contains the information, application 1 with 11 times, application 2 and 3 are with 1 and 2 times, respectively.

	Application 1	Application 2	Application 3
Benchmark 1	11	1	2
Benchmark 2	11	21	2
Benchmark 3	11	21	21

USER APP A1
USER APP B0
USER APP C0
APP A-----
USER APP A1
The final positions

USER APP A1
USER APP B0
USER APP C0
APP A-----
USER APP A0
USER APP B1
USER APP C0
*APP A*APP B*-----

The final positions

USER APP A0
USER APP B0
USER APP C1
*APP A*APP B*APP C*
USER APP A*APP A*APP B*APP C*
final positions ↑

V. Conclusions

In this paper, we finish the user behavior-based GUI management mechanism to show the application icons with the high user operations. From experimental results, we observe that the GUI applications automatically manage the GUI according to the user behaviors frequency in daily life.

References

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