New Processing Model for Operating Systems

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The computer plays a vital role in executing programs to solve problems. Further, for each and every such program, a process must be created, and all the required resources should be allocated to the process. In fact, the management of these processes is one of the most important jobs to be accomplished by an operating system. Moreover, by observing different behaviours that the processes display, the researchers have introduced variety of processing models such as two-state model, three-state model, five-state model, and seven-state model to increase the processing power of the computer. Here, the state of a process is related to the current task that the process does, and the term use for a state can be changed from one operating systems to another. Although, they have gained improvements, so far they have failed to produce a processing model to fully utilize the underline hardware architecture. Meanwhile, we made some observations on real world scenarios which revealed that how the human mind works is rather different from how the processing models incorporated in to the computers work till then. Furthermore, the human mind conditionally evolves with the time by drawing associations among the existing and newly arriving data and instructions. Having this insight, the research we conduct introduces a new eight-state processing model, which executes continuously depending on the presented conditions to enhance the processing power of the system. There, one additional state with the name "Terminate" with four new actions such as Ready-to-Ready, Ready-to-Terminate, Exit-to-Ready/Suspend, and Exit-to-Ready have been introduced to the existing seven-state processing model. In addition to those, two of the existing actions such as New-to-Ready/Suspend and New-to-Ready have been modified. In doing these changes, a set of fifteen from twenty four causal relations in Buddhist theory of mind, which can be exploited in explaining any phenomenon, has been applied. In order to depict the changes on each and every action, and to do the experiments, particular algorithms have being designing and these algorithms are to be integrated to the Kernel of the operating system. After doing these implementations, new processing model can be compared with the existing model by executing the same program for multiple times in the operating system with and without the new model and recording the time take in each round. Then the dependent two sample t-test which is more powerful and descriptive, can be applied on the results. Further, to check the quality of the new model a parametric test can be applied on the results of a survey conducted on a single group of users who has worked on the operating system with and without the new processing model.

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