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* What is the proposed CPU scheduling algorithm proposed by the researcher?  Is it a novel algorithm or an improvement of a previously proposed or existing algorithm?

The research paper discusses a CPU scheduling algorithm that is called “An Optimum Multilevel Dynamic Round Robin Scheduling Algorithm (OMDRRS). It is an improvement of the Round Robin Scheduling Algorithm (RR) and the Priority Scheduling Algorithm.

* Illustrate/demonstrate the proposed algorithm.

The proposed algorithm is a combination of the working principles of fundamental scheduling algorithms. A Dynamic Time Slice (DTS) is implemented which calculates the allocation of different time quantum for each process based on priority, shortest CPU burst time, and context switch avoidance time. OMDRRS goes as follows:

Step 1:

Compute the factor analysis F = Burst time \* 0.2 + Arrival time \* 0.3 + Priority \* 0.5

Step 2:

Shuffle the processes in ascending order according to the factor of each process in the ready queue such that the head of the ready queue contains the lowest factor.

Step 3:

Low = RQ (burst value of the first process)

High = RQ (burst value of the last process)

TQ = (low +high)/2

Step 4:

Assign the time quantum and apply for each process. Suppose k = TQ.

Step 5:

IF (burst time of the process < k)

{

Allocate the CPU to that process until it is completed and terminated.

}

ELSE IF (Remaining burst time < k/2)

{

Allocate the CPU to that process again until it is completed and terminated.

}

ELSE

{

The process will occupy the CPU until the time quantum and it is added to the ready queue in ascending order according to the remaining burst time for the next round of execution

TQ = TQ \*2 or TQ = TQ/2

K = TQ

Go to Step 4

}

* What are the difficulties and issues encountered in CPU scheduling and its implementation?
* How will this proposed algorithm be implemented in a uni- and multiprocessor systems (homogeneous and heterogeneous), and threads.
* What algorithm analysis approach did the researcher used to test the performance of the proposed algorithm?  If not presented in the article, perform an algorithm analysis to present the performance of the chosen algorithm.
* What is the performance of the proposed algorithm compared to the classic CPU scheduling algorithms?
* What are the advantages and disadvantages of the chosen algorithm?
* Name 1 kind of system, application or component in MIS where your chosen scheduling algorithm may be implemented (aside from CPU) and can possibly improve its operation.