Improved Dynamic Time Slice Round Robin Scheduling Algorithm with Unknown Burst Time

Abstract

Round-Robin (RR) is one of the algorithms mostly used in time sharing system and in network scheduling. Time slices are assigned to each process in equal portions and in circular order handling all processes without priority. Round Robin algorithm requires some parameter such as arrival time, burst time and quantum time which enables the scheduler to predict the behavior of possible processes. Prior to the execution of a process, the burst time is not known. This paper proposed a more improvement in the Round Robin CPU scheduling algorithm by improving the algorithm of Anju et. al. where burst time is determined using an initial time quantum. However, the improved algorithm determines burst time using instruction count in each of the process and by experimental analysis. This proposed algorithm performs better than Dynamic Time Slice Round Robin Scheduling Algorithm with Unknown Burst Time in terms of minimizing average waiting time, average turnaround time and number of context switches.

**Index Terms**

Computer Science  
Algorithms

**Keywords**

CPU scheduling algorithm, Average Waiting time, Average Turnaround Time, Number of Context Switches.