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MSc Project in Computer Science

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Abstract:

There is no single one is idle absolutely for every application. Most of the multiprocessor scheduling techniques consider a single parameter such as task execution time, priority, delay, etc. In real-time systems, both the task completion time and its priority are very important factors. Therefore, it is required to develop a multiprocessor scheduling algorithm to deal with more than one parameter. On multiprocessors scheduling, the scheduler algorithm has to decide which task run and which processor to run it on. The task which is scheduled, should be independent task process, and can be scheduling using timesharing. The dependent or related task can be scheduled using space sharing or gang scheduling algorithms.

There are many scheduling algorithms applied for multiprocessor environment. In this project, the gang scheduling algorithm will be considered to evaluate the proposed scheduler.

The main objective of the proposed research project is to design and evaluate an active scheduling algorithm based on fuzzy logic for multiprocessor systems.

Results Expected from the Research:

1. Design and implementation of a multiprocessor scheduller by incorporating more than one parameter in selecting the task.
2. Using fuzzy logic in the decision making of the proposed scheduling algorithm.
3. Comparing the performance of the proposed scheduling algorithm with that obtained from well-known scheduling algorithms.