

Multishape Task Scheduling Algorithms for Real Time Micro-Controller Based Application

Authors : Ankur Jain, W. Wilfred Godfrey

Abstract : Embedded systems are usually microcontroller-based systems that represent a class of reliable and dependable dedicated computer systems designed for specific purposes. Micro-controllers are used in most electronic devices in an endless variety of ways. Some micro-controller-based embedded systems are required to respond to external events in the shortest possible time and such systems are known as real-time embedded systems. So in multitasking system there is a need of task Scheduling, there are various scheduling algorithms like Fixed priority Scheduling(FPS), Earliest deadline first(EDF), Rate Monotonic(RM), Deadline Monotonic(DM), etc have been researched. In this Report various conventional algorithms have been reviewed and analyzed, these algorithms consist of single shape task, A new Multishape scheduling algorithm has been proposed and implemented and analyzed.

Keywords : dm, edf, embedded systems, fixed priority, microcontroller, rtos, rm, scheduling algorithms

Conference Title : ICCAR 2015 : International Conference on Control, Automation and Robotics

Conference Location : Copenhagen, Denmark

Conference Dates : June 11-12, 2015