# A Non-preemptive Utility Accrual Scheduling Algorithm in iAdaptive Real Time System

## ABSTRACT

In this paper, we proposed a Non-preemptive Utility Accrual Scheduling (or NUAS) algorithm that enhanced the existing General Utility Scheduling (or GUS) proposed by Peng Li [1]. These algorithms were designed for adaptive real time system environment where undesirable effects such as overloads and deadline misses are tolerable and do not have great consequences to the system. We consider the independent task models that are subject to deadline constraints specified using step Time/Utility Functions (or TUFs). The main idea of our proposed algorithm is to reduce the unnecessary abortions by eliminating the greedy scheduling decision identified in GUS. We consider the scheduling objective of maximizing the accrued utility by completion of all tasks. Simulation results reveal that the proposed NUAS algorithm outperforms GUS algorithm with higher accrued utility in its entire load range.