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Efficient Design of Drone Flight Control Using Delay Tolerant Algorithm

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Abstract

As the activities of drones which are specifically concerns to flying, racing are growing, drone crashes are also growing. Many of these crashes are linked with operational problems, and hence, improving drone controls is urgently needed. The main objective of this entire study was to reduce the accident of drone due to mistakes made by a human. The approach given in the paper describes a composable pipe model for task scheduling. The primary objective of this system is to enhance the efficiency of task scheduling; for this, we have used two proportional integration derivative (PID), controllers. Two end-to-end terms are analyzed using the pipe model: reaction time and freshness time. We have used Cleanflight control firmware with Real-Time Operating System (RTOS). The experimental results convey that the latency time and delay time of task are getting reduced.

Keywords

End-to-end timing analysis Flight controller PID controller RTOS VCPUs

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