

DISTRIBUTED MANAGEMENT SYSTEM FOR UNMANAGED UPS

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ABSTRACT

Department of Computer Science and Engineering - University of Moratuwa Information and communication networks have transformed the world to a global village. A typical distributed local area network often consists of one or more network distribution cabinets powered by uninterrupted power supplies of various capacities ranging from 400VA to 2 KVA. Maintaining high availability at correct time is the key issue faced by technical personnel involved in network maintenance today. The research project "Distributed Management System for Unmanaged UPS" is intended to provide effective monitoring of environment and timely notifications of status or interruptions to background services such as electricity and temperature control of the distributed network locations by a remote unit installed in each remote location. The status of the remote location is sent back to a central software module through Ethernet network then to appropriate technical personnel for necessary actions.

The research project utilizes embedded electronic device and sensors with some custom programmed or pre programmed intelligence to monitor and control equipment at the remote network locations. An embedded device named TINI "Tini InterNet Interfaces" [1], [8] is used in order to monitor the status of UPS using smart! non smart serial protocol of the UPS via its serial port to measure the electrical stability of remote location, and uses a temperature sensor to get feedback on temperature status of the remote location. Immediate evasive actions also triggered automatically in temperature increases without intervention from technical personnel.

A central software module with real time status monitor is used to integrate status logging and alerting on behalf of remote units. SMS and Intercom alerts are used as alerting mechanisms with specified / customized thresholds, messages suiting to each remote network location and alerted only to personal intended to attend to specific location.