

Performance Analysis of Domotics System as Real-Time Non-Intrusive Load Monitoring

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Abstract : The deployment of smart meters by utility providers to gather fine grained spatiotemporal consumption data has grossly influenced the consumers' emotion and behavior towards energy utilization. The quest for reduction in power consumption is now a subject of concern and one the methods adopted by the consumers to achieve this is Non-intrusive Load (appliance) Monitoring. Hence, this work presents performance Analysis of Domotics System as a tool for load monitoring when integrated with Consumer Control Unit of residential building. The system was developed with basic elements which enhance remote sensing, DTMF (Dual Tone Multi-frequency) recognition and cryptic messaging when specific task was performed. To demonstrate its applicability and suitability, this prototype was used consistently for six months at different load demands and the utilities consumed were documented. The results obtained shows good response when phone dialed, and the packet delivery of feedback SMS was quite satisfactory, making the implemented system to be of good quality with affordable cost and performs the desired functions. Besides, comparative analysis showed notable reduction in energy consumption and invariably lessened electrical bill of the consumer.

Keywords : automation, domotics, energy, load, remote, schedule

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