

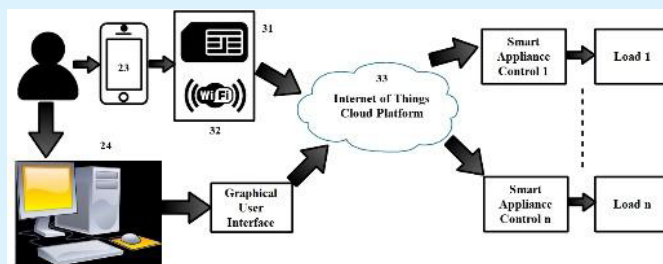
7. Title: A smart appliance control solution for a building energy management system

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Key Words: Appliance control solution, Energy management system, IoT/GPS based/time-based scheduling

Domain: Energy Management

Summary: A unique IoT/Cloud-server/wi-fi/GPS based retrofitted appliance control device is developed for operating a plurality of appliances in various operating modes as per requirement. The appliance control device being retrofitted allows the existing infrastructure to be utilized. The plurality of appliances in a physical region are divided into multiple zonal groups. The device is placed in parallel to existing manually operable switches. The plurality of appliances can be switched ON/OFF as per a pre-decided time-based scheduling strategy. The device provides data logging and real time health monitoring for an individual appliance. User can take over control in an event of failure or malfunction of the appliance control device. GPS location of the user is utilized for authentication purpose.



Schematic Diagram: Appliance control device

Advantages:

- » Low installation cost owing to the retrofitted design
- » An appliance consuming large energy can be switched off to reduce overall energy consumption

Applications: domestic and office environment

Scale of development: A functional prototype was developed and deployed at IIT Delhi and performance was evaluated.

Technology Readiness Level: 6

IP status: Indian Patent Application 202111028753