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(57) Abstract :

The invention discloses a computer-based system (100) for energy-efficient smart home management, comprising a central controller (101), sensors (102), communication module (103), smart appliances (104), energy storage (105), renewable energy integration (106), and a user interface (107). The system employs AI algorithms for real-time monitoring, predictive control, and optimization of energy consumption. It integrates renewable energy, supports demand-response programs, and ensures interoperability among diverse devices. The invention reduces energy wastage, lowers electricity bills, and enhances user convenience while promoting sustainable and eco-friendly living.

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