Application of Distributive Co-operative Design Method in Smart Homes

Abstract

A “smart house” that responds to the dweller’s needs and desires by adjusting lighting, temperature, even ambient music, has reached the millions of homes in the present century. The basic idea of home automation is to employ sensors and control systems to monitor a dwelling, and accordingly adjust the various mechanisms that provide heat, ventilation, lighting, and other services. The work is concerned with the development of a smart home architecture allowing to integrate information from a wide variety of sensors and actuators: information recruited for these elements is processed into microprocessors implementing computational intelligence techniques; cooperative communication between units is implemented through a wireless net into the home; and internet resources allow to link the home with external services. The paper presents an agent-based cooperative design platform which utilizes Web service to realize interoperability in the home appliances for smart homes.

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