Building Management System

The proposed project is an applied research project that aims to build a cost-effective system, which has the capability to optimize and properly manage a building's electrical loads, and effectively cut the cost of running using **monitoring**, **control** protocols, software **algorithms**, and **rule sets**.

The outcome of the system is differentiated as a control infrastructure, complete with an implementation of a net of sensors for monitoring most of the environmental variables within a building, and using the data retrieved from such sensors, a set of rules defined by the user allows the building to be automated and controlled. Moreover, the system is implemented using a flexible hybrid of wired and wireless technology, where cost and flexibility is taken in regards; also it is meant to provide local wireless control via a remote control, an interactive screen interface using the WPF technology, voice control over the system via synthesis and recognition, and an off-site mean of control with a standard mobile phone.

With the proper use, the system will hopefully be able to control heating systems, water systems, and provide information that will hopefully help users reduce the amount of money they pay for electrical bills, and insure that they're fully aware of their environmental blueprint, and how they can properly save resources to be morally and environmentally committed human beings. Another point is that the system is extremely valuable to those who are physically disabled, as it allows remote control over the entire electrical grid within the building via voice or via controller.

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