

PLC based Home Automation System

Abstract:—

Programmable Logic Controller (PLC) is utilized extensively for automation of electromechanical processes. In this study, a home automation system is designed using PLC. The proposed control module will consist of software simulation and hardware implementation. The control module provides multiple components fault detection, tolerance and switch on or off in critical areas.

The system is easy to build, service, modify and it provides reliable communication of home automation with reduced cost. In this paper, we propose the idea of designing a smart home with optimized energy consumption. The system is programmable to meet demands, adding different home appliances in short time by optimizing the entire hardware assembly and software algorithms.

The PLC is easy to understand and the system provides multiple solutions by using a single component. Although new but more efficient than previous systems, the PLC can become the epicenter to many new applications. Once the system is designed and implemented; the only cost is that of maintenance. It is also possible to combine PLC model with other devices such as GSM.

Such kind of an application will be extremely beneficial for the aged and disabled people by offering voice control and safety items.

Block Diagram:-

