Review on Communication Technologies for Home Automation

MS. Rupasinghe, MWP Maduranga

Department of Computer Engineering, Faculty of Computing, General Sir John Kotelawala Defence University, Ratmalana, Sri Lanka

Abstract. Automation has been a critical element of the modern era. The concept of home automation or smart home is considered as a significant subset of this domain. The primary idea of this concept is to enable people to monitor and control home appliances from remote geographical locations. The home automation concept gives out positive consequences such as energy conservation and enhancing human living standards. Communication technology is the platform or medium which is used to transfer data between home appliances and the user. Design and development of home automation Systems are done incorporating various communication technologies. Many researchers in this domain applied different communication technologies to develop a smoothly running home automation system. This paper elaborates and differentiates those communication technologies based on different parameters (data rate, coverage, power consumption, etc.). The advantages and drawbacks of each approach are emphasized through this paper while pointing out the applicability of each communication technology. Classification of communication technologies in the context of home automation falls into two main categories wired and wireless communication technologies. All those technologies exhibit a unique set of specifications. This paper focuses on certain situations and locations where each of those technologies can be used to optimize the available resources and assets to achieve the primary goal of the smart home concept.