The Application of Appliance Control Using ZigBee

E-mail: 9707903@ mail.dyu.edu.tw

ABSTRACT

Information life can be incorporated in the family life quickly with the fast developments of science schemes and popularization of the wideband networks. The whole environments of home can be easily contacted through the control of radio wave. A conformable life can be achieved by using the advantages of wireless communication without the restriction of space and time. We can remotely control the home electrical appliances by infrared communication through the hardware interfaces. Up to now, the use combing electrical appliances and wireless communication scheme is not widely developed. If the scheme combing remote control and wireless communication can be practically implemented the home life, the quality of home life can be improved. Therefore, the main object of this thesis is to achieve the comfortable home life by the implementation of automatically remote control in practice. In this thesis, we combine the schemes between ZigBee and infrared communication to achieve an adapter interface. We also use the software of Visual Basic 6.0 to carry out the remote control procedure and process through the data transmission. To get the completed information about all IR controllers of all home electrical appliances, the pre-training procedure similar to the functions of the IR controllers has to be executed through our designed ZigBee infrared adapter. After the training procedure, from the received coding codes which are obtained from the IR electrical appliances during the training procedure, the electrical appliances can be remotely controlled from the wireless communication (ZigBee) or wired communication (internet) due to the exchange and transformation of information between the server and the ZigBee infrared adapter.

Keywords : ZigBee ; Infrared ray ; Electrical appliances

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