Abstract

The need to develop a system capable of locating misplaced objects in homes has resulted in many efforts toward developing object detection system. While few systems are already available in markets, these systems have been largely unaffordable and less efficient due to high market price, short range of coverage among others. This paper attempts to design and implement an object detection system that when produced in large quantity can be affordable by the majority and provide solutions to the short-range problem experienced in the existing systems, thereby eliminating the stress of finding lost items in homes. Existing object detection systems were carefully studied to understand the design process, the cost implication and why the systems have been less efficient. Radio frequency based detection model capable of detecting lost items was designed and implemented using various components such as encoder, decoder, transmitter, receiver and buzzer. The performance of the designed system was evaluated using detection based metric. The developed object detection system was further compared with the existing systems available in markets using the cost in market and the technology used. The result showed that the proposed system is cost effective and will be
affordable to people living in low income countries.

References


Index Terms

Computer Science Wireless

Keywords
Tagged item; Electromagnetic spectrum; Encoder; Decoder; RF Transmitter; RF receiver.