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\textbf{A study for reducing energy consumption in electronic white stick module}

\textbf{DOI:} 10.1109/ICCIT.2009.188

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\textbf{Abstract}
Recently, there are a number of researchers interested in conducting and developing an electronic white stick, which is the electronic version of the normal white stick for blind people. Concept of inventing this electronic stick is developed from studying mechanism to determine close range or distance between the stick and the obstacles - by means of some electronic sensing devices. Parameters that rate this sticks could be its size, and weight, i.e., its size and weight should be as same as that of the normal white sticks. However, its battery (utilization) time is also important. The battery of the stick should not be last before twelve hours when using it continuously. This paper studies techniques to reduce power consumption in electronic white stick. In addition, several batteries with different discharged rate were employed for determining utilization time. The results show that the proposed module of electronic stick consumed lower energy than the previous work and a NiMHC-size of 2,200 mAh battery is adequate for operating the stick more than twelve hour at any modes of alarming. © 2009 IEEE.

\textbf{Author Keywords}
Battery time; Electronic white stick; Power consumption; Power reduction; Utilization time

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Document Type: Conference Paper
Source: Scopus