

## Bluetooth Piconet System for Child Care Applications

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**Abstract :** This study mainly concerns a safety device designed for child care. When children are out of sight or the caregivers cannot always pay attention to the situation, through the functions of this device, caregivers can immediately be informed to make sure that the children do not get lost or hurt, and thus, ensure their safety. Starting from this concept, a device is produced based on the relatively low-cost Bluetooth piconet system and a three-axis gyroscope sensor. This device can transmit data to a mobile phone app through Bluetooth, in order that the user can learn the situation at any time. By simply clipping the device in a pocket or on the waist, after switching on/starting the device, it will send data to the phone to detect the child's fall and distance. Once the child is beyond the angle or distance set by the app, it will issue a warning to inform the phone owner.

**Keywords :** children care, piconet system, three-axis gyroscope, distance detection, falls detection

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