

Child Tracking using ZigBee and GPS Technologies

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This project aims to develop a Child Tracking System. The system will be based on ZigBee technology and Global Positioning system (GPS). It helps parents to locate their children in case of loss in open or crowded places. It is worth mentioning that this device works as an alarm device by developing a model of statistical power to have alarm. The system consists of transmitter at the child, and receiver with parent. The transmitter consists of a GPS receiver and Xbee device. When the system become on at parent, the GPS determines the coordinates of the child, passes them to Xbee. Xbee at child sends packets that contain GPS data to Xbee at parent using node to node ZigBee network. Where the Xbee at parent will receive these packets, and pass them to microcontroller. There is a value indicates to signal strength of the receive packets, which will be analyzed and applied in model that determine distance of the child, to alert the parent if his child out of specific range, which is fifteen meter. Then, microcontroller will take the first GPS coordinates as a reference value for parent; compare it with the child coordinates, in order to view the direction and the distance of the child at parent display. This system is flexible; it can be used for monitoring and locating people who need special supervision. Such as people who cannot express themselves as autism, elders. Also in hajj seasons, the companies can use it with pilgrims to determine their locations and communicate with them. And it can be developed for more than one child.