

[Name of Document] Abstract

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To acquire a method to specify a communication device which is recognized by a communication device exists nearby from small information bits in ad hoc network.

A UWB wireless device is mounted onto both mobile device and cradle. In the state in which a mobile device is housed in a cradle, antennas in the UWB wireless devices included in both the apparatuses are fixed in such a posture that the main radio wave directions thereof are oriented toward each other and with such an ultra-short distance therebetween that the peripheral environment has no effect on the communication between the antennas. Accordingly, when the mobile device is housed in the cradle, the state in which the apparatuses have come within a predetermined distance from each other is detected by the ranging function of the UWB wireless device, and hence wireless data transmission operation is started, so that high-transmission-rate communication and high-quality transmission with a low error rate can be achieved.