Abstract

WSN is a system based on a wireless network in the form of data on a computer. In a network there are nodes that function to transfer data. When the data transfer in the node experiences a delay, there will be a delay in data transmission. Hence the importance of synchronizing the time on the nodes. This implementation will be carried out on a microcontroller which is likened to a node, using the consensus method, communication between nodes using the UDP protocol, data collection for the first-time using GPS. The microcontroller will be connected to Wi-Fi first, after that it will issue Ip as a connected sign, then the time data will be captured using GPS and stored in the real time clock on the microcontroller. Time root is the process that determines who will be the leader on the node. The fastest time root will be the leader on the node. After that the leader node will broadcast the time data to other nodes and the other nodes will also receive the broadcast data. This process is known as consensus clock synchronization.