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BASE STATION DESIGN AND WIRELESS BLUETOOTH TECHNOLOGY

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ABSTRACT−*In this paper present to wireless network technology and implant to network connection of wave length, mobile hardware and software bandwidth collection. Wireless Sensor Network (WSN) systems are an invaluable tool in agriculture. Currently these systems are good at reporting and logging data, though newly available WSN systems also provide features to control irrigation and other environmental parameters. The received data of this work is making the data useable and actionable and send to transmitted. A secure framework is also needed for WSN based irrigation control and for remotely accessible user interfaces in this problem consider we introduced to Adhoc technology. All key components including the base software, base to node communications, user interfaces, and data storage. After discussing the base station design the user interface that has evolved with constant feedback from user and researchers will be presented. This system is a fully featured base station that enables growers and researchers to maximize the benefit from their WSN Bluetooth technology system.*

Keywords: Adhoc, mobile access

I. INTRODUCTION

Wireless Sensor Networks (WSN's) are becoming an invaluable tool to growers. The ability to monitor environmental and crop conditions in real time has allowed growers to decrease costs while improving crop quality However in order for processor to recognize these benefits they must be able to interpret, understand, and act on the data types provided by the WSN.

This paper focuses on the base station component of the system, the part in which data is collected, viewed, and transformed into useful information for the end user. Other key components such as sensing needs and node development are discussed in depth of wave length. and size. Base stations are often thought of as

just a central component that is used to gather data from distributed nodes .the receive station that are just wave length and distance parameters . And makes it easy to generate actionable and capacity that can be used to improve growing conditions. And this rate of speed. Wireless sensor networks consist of individual nodes that are able to interact with the environment by sensing or controlling physical parameters. These nodes have to collaborate to fulfill their tasks. The nodes are interlinked together and by using wireless links each node is able to communicate and collaborate with each other. the wireless sensor network and the classical infrastructure comprises of the standard components like sensor nodes, gateways, Internet, and satellite link, etc. Though MAC protocols have been extensively studied in traditional areas of wireless voice and data communications .that mobile access about company variation. Received frequency. That access to four types level they are Time division multiple access (TDMA), frequency division multiple access (FDMA) and code division multiple access (CDMA) ALOHA and carrier sense multiple access (CSMA) , sensor networks requirements of a MAC protocols differ from these traditional wireless voice or data networks in several ways. First of all, most nodes in sensor networks are likely to be battery powered and it is often very difficult to change batteries for all the nodes. Second, nodes are often deployed in an ad-hoc fashion rather with careful pre-planning.to be successful transmission.

Adhoc base station services:

In this network transmitted each data and file have prepare to important types :

- Hard ware base station
- Software base station

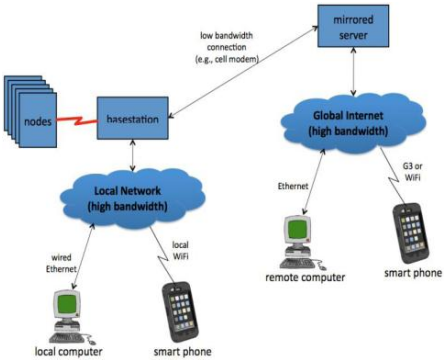
Hardware base station:

In our mobile system, the base station consists of two main components, the mobile radio and is typically an inexpensive of times that runs. It is important to note that while most hardware systems are using with relatively. small memory requirement the easiest way to improve system performance is by upgrading to a faster hardware access. This system supports several radio modules including the

Digi DigiMesh 900 MHz and 2.4 GHz modules and the Digi XSC radio operating at 900MHz. For most cases the Digi XSC radio is utilized for its simplicity as well as for the 900 MHz operating frequency which has better range and better foliage penetration mobile characteristics. The other radios provide features such as multi hop networking and alternate operating frequencies services . It should be noted that prior work has developed and implemented a multi-hop adhoc networking algorithm optimized for WSN's that can be used with the Digital cellphone radios.

Software base station:

The base station software system has four primary components: the database, the base module, the user interface, and the Grower Tools module. The glue for the entire mobile system was chosen for the fast read times associated with a file based database. Data efficiency is very important since users need to query large amounts of data (for example to quality images). Many database optimization methods are not effective for this application distance . All of the data is stored in its store form and conversions are applied as users access the data for mobile access control system in specify frequency controls.



Bluetooth Communication:

Communication device is used to exchange data between individual nodes. The communication medium between the two nodes is through radio frequencies. Radio frequency-based communication fits the requirements of most wireless sensor applications because it provides relatively long range and high data rates, acceptable error rates at reasonable energy expenditure, and does not require line of

sight between sender and receiver. The 915 MHz and 2.4 GHz industrial, scientific and medical (ISM) band has been widely suggested for sensor networks For actual communication, both a transmitter and a receiver are required in a sensor node. The essential task is to convert a bit stream coming from a microcontroller and convert them to and from radio waves. As half duplex operation is recommended in wireless sensor network, a transceiver is generally used. In the transceiver, circuitry includes modulation, demodulation, amplifiers, filters, mixers. The table below summarizes the frequency bands, modulation and data parameters that could be used in the communication medium.

The transceiver must provide an interface that allows the medium access control (MAC) layer to initiate frame transmissions and to hand over the packet from the main memory of
the sensor node into the transceiver. In other direction, incoming packets must be streamed into buffers accessible by MAC protocol.

II. HIGHTECH PROTOCOL:

For CSMA based MAC protocols, the nodes in the network are generally uncoordinated and the protocols operate in a fully distributed manner. In the class of CSMA protocols , a transmitting node is always “respectful” to the ongoing transmissions. First the node is required to listen to the medium; this is called *mobile sensing*. If the medium is found to be idle, the node starts transmission. If the medium is found busy, the node defers its transmission for an amount of time determined by one or several possible algorithms. For example, the node draws a bluetooth random waiting time, after which the medium is sensed again.

Before that, the nodes do not care about the state of the medium . Though the CSMA has its advantage as mentioned earlier, it has its disadvantage. For example, CSMA has possibility of packets collision and retransmission. The energy spent on collided packets is wasted and the packets have to be retransmitted.

III. MEET TO ISSUES:

Busy-Tone:

In the busy-tone solution two different frequency channels are used, one for data packets and the other one as control channel. As soon as a node starts to receive a packet destined to it, it emits an unmodulated wave on the control channel and ends this when packet reception is finished. A node that wishes to transmit a packet first senses the control channel for the presence of a busy tone. If one hears something, the node back-offand transmit later. If it hears nothing, the node starts packet transmission on the data channel.

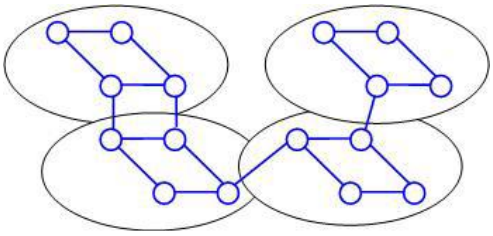
RTS/CTS Handshake:

In RTS/CTS handshake methodology, it uses only a single channel and two special Control packets. Suppose that node B wants to transmit a data packet to node C. After B has obtained channel access, it sends a Request to Send (RTS) packet to C, which includes a duration field indicating the remaining length of the overall transaction. If C has properly received the RTS packet, it sends a Clear To Send (CTS) packet, which again contains a duration field. When B receives the CTS packet, it starts transmission of the data packet and finally C answers with an acknowledgement packet. The acknowledgement is used to tell B about the process of the transmission; lack of acknowledgement is interpreted as collision. Any other station A or D hearing either the RTS, CTS, data or acknowledgement packet sets an internal timer called Network Allocation Vector to the remaining duration indicated in the respective frame and avoids sending any packet as long as this timer is not expired.

This way, the ongoing transmission between B and C nodes is not distorted.

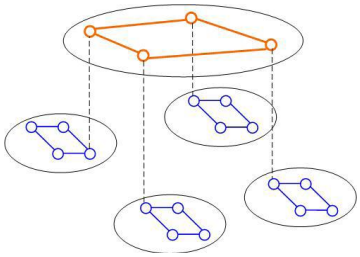
MOBILE NETWORKING PRODUCT PROCESS:

Another consideration for the sensor network design is the network topology. A survey on the possible network configurations for sensor nodes in the sensor field is performed in this subsection. Two popular sensor networks topologies are depicted in the following.

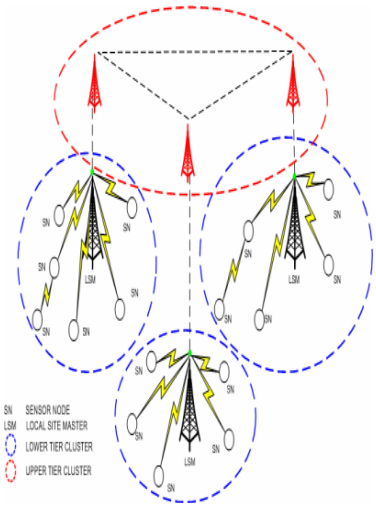


Hierarchical Networks

Higher nodes can be used to process and send the information while low energy nodes can be used to perform the sensing in the proximity of the target.



TOWER ACCESS



As demonstrated in Figure 10, most sensor nodes are deployed in regions where there is no infrastructure at all. A typical way of sensor nodes deployment in this wetland area would be tossing the sensor nodes from an airplane. After deployment, the nodes have to identify its connectivity and distribution, get them organized with each other and form a communicative sensor network topology. Once deployed, sensor networks have no human intervention. The nodes themselves are responsible for reconfiguration in case of any changes. Therefore, it

is important to select appropriate sensor node to suit the application purpose. In this project application context, we have selected micro phone length. The reasons can found in section The lowest level of this proposed sensor network consists of the monitoring system, source and sink. Monitoring system is placed in/near to the location of interest and it will sense potential event occurrence based on the environment parameters. These monitoring systems may be deployed in patches that may be widely separated . If high spatial resolution is desired, one can achieved through dense deployment of sensor nodes within the patch. Compared with traditional approaches, which use a few high quality sensors with sophisticated signal processing, this architecture provides higher robustness against component failures.

IV. CONCLUSIONS

In this technical report, we investigate the important requirements of mobile communication architecture of wireless sensor networks for wide-area large scale soil without infrastructure moisture estimation and wave length monitoring and explain the support key issues that are faced in the design of the wireless sensor adhoc network monitoring strategy. We will study the further details the MAC layer and all access control and network layer communication protocols for wireless sensor networks with the applications for Bluetooth technology large scale soil moisture estimation and transmit monitoring we consist in future case implemented to all types mobile technology that enable to improve frequency and transmit capacity ,code division .connection time division, and frequency division .support to all the mobile transmit services using Bluetooth technology for adhoc network services in the world.

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