SECURE DATA DISCOVERY AND DATA DISSEMINATION IN WSN USING DiDrip PROTOCOL

Prof.N.B.Kadu[1], Patil Priya[2], Thorat Komal[3], Ghige Ashwini[4]

1.Prof.N.B.Kadu, Computer Engineering, Pravara Rural Engineering College, Maharashtra, India
2.Patil Priya, Computer Engineering, Pravara Rural Engineering College, Maharashtra, India
3.Thorat Komal, Computer Engineering, Pravara Rural Engineering College, Maharashtra, India
4.Ghige Ashwini, Computer Engineering, Pravara Rural Engineering College, Maharashtra, India

ABSTRACT:

A data discovery and data dissemination protocol for wireless sensor networks (WSNs) is liable for updating configuration parameters of, and also distributing commands to, the sensor nodes. All existing system which uses data discovery and dissemination protocols have two drawbacks. First drawback is, they are depend on the centralized approach; data items are distributed from only base station. This approach is not appropriate for multi-owner-multi-user Wireless Sensor Networks. Second drawback is, some protocols were not made with security in mind and that's why attacker can easily launch attacks to mischief the network. This paper introduce concept of first secure and distributed data discovery and dissemination protocol is called as DiDrip protocol. DiDrip allows the network owners to authorise complex network users with distinct privileges to instantaneously and directly disseminate data items to the sensor nodes. It found a number of possible security issues that we have identified. According to security analysis show DiDrip is provably secure.

Keywords: *Distributed data, Security, Wireless Sensor Networks.*

1.INTRODUCTION:

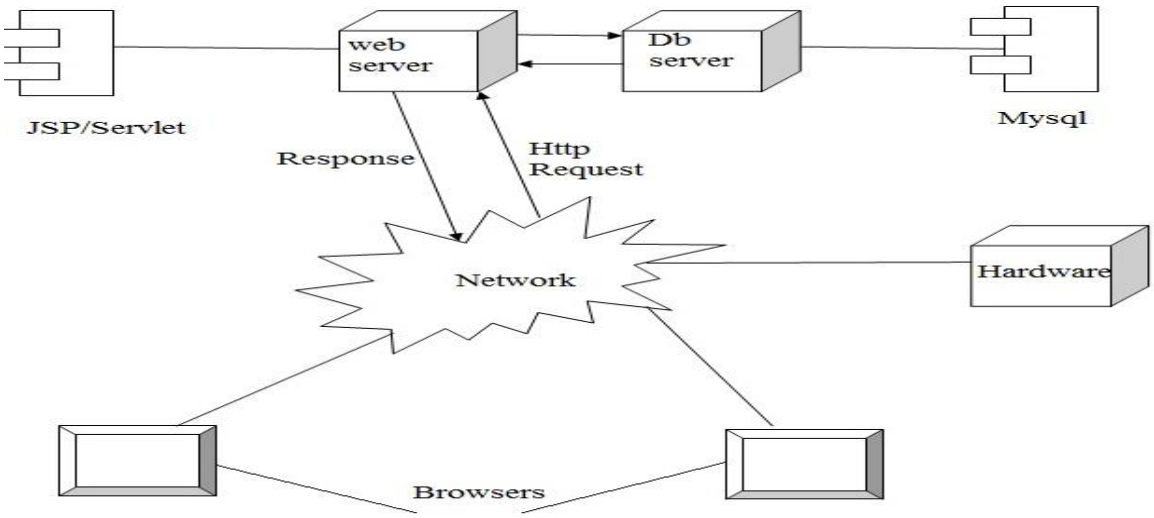
A secure data discovery and data dissemination protocol for wireless sensor networks (WSNs) is responsible for updating configuration parameters and the distributing management commands to the sensor nodes. All existing data discovery and dissemination protocols preferable from the two drawbacks. First, they are based on the centralized approach; only the base station can distribute data items. This approach is not suitable for emergent multi-owner-multi-user WSNs. Second this protocols were not designed with security in mind and hence adversaries can easily launch attacks to harm to the network. This paper use the secure and distributed data discovery and dissemination protocol named DiDrip. It is allows the network owners to authorize multiple network users with different privileges to simultaneously and directly disseminating data items to the sensor nodes. Moreover, as demonstrated by our theoretical analysis, it addresses a number of possible security issues that we have identified. Extensive security analysis show DiDrip is provably secure.

2.LITERATURE SURVEY:

In this literature survey, multiple data discovery and dissemination security protocols [2], [3], [4], [5] have been used for WSNs. In That, DHV [2], DIP [4] and Drip [3] are used for security purpose in WSNs.This issue has only been addressed recently by which identifies the security issues of Drip and proposes an effective solution. In addition, the centralized approach is non-scalable,inefficient and vulnerable to security attacks that can be launched any- where along the communication path [3]. Even worse, some WSNs do not have any base station at all. Most existing research depends on the location information it is not always obtained easily, efficiently and accurately[1]. Multicast communication is becoming the basis of a growing number of applications. Therefore, securing multicast

communication is the strategic requirement for effective deployment of the large scale business multi party applications[1]. One of the main issue in the securing multicast communication is the source authentication service.

3.ARCHITECTURE:



This is more importantly, all existing data discovery and dissemination protocols employ the centralized approach in which, as shown in the Fig. 1, data items can only be disseminated by the base station. Unfortunately, this approach realized from single point of failure as dissemination is impossible when the base station is not functioning or when the connection between the node and a base station is broken. In addition, the centralized approach is inefficient, vulnerable, and non-scalable to attacks of security that can be launched anywhere along the communication path. For the data dissemination, networks is preferable to be carried out by authorized network users in a distributed manner. Additionally, distributed data discovery and dissemination is increasingly relevant matter in WSNs, especially in the emergent context of share sensor networks, where communication infrastructures from multiple owners will be shared by applications from multiple users. These networks are owned by multiple owners and used by various authorized third-party users. Moreover, it is expected that network owners and the different users may have different privileges of dissemination. In this context, distributed operation by networks owners and users with different privileges will be a crucial issue, for which efficient solutions are missing. Motivated by the above observations, this paper has the following main contributions:

1) Based on the design objectives, we propose DiDrip. It is the first distributed data discovery and dissemination protocol, which permits to the network owners and authorized users to disseminate data items into WSNs without relying on the base station.

2) Moreover, our extensive analysis demonstrates that DiDrip satisfies the security requirements of the protocols of its kind.We apply the security technique to formally prove the authenticity and integrity of the data items in DiDrip.

3) The performance of the DiDrip in practice by implementing the secure and distributed data discovery and dissemination protocol.

4.IMPLEMENTATION:

In our project we implement system which is secured and distributed WSN using didrip protocol. here project divided into two main section that is software part and hardware part.

In software part we connect database through the wampserver phpmyadmin and also used net beans for creating web pages that is login registration.

Then hardware part is being coded in the eclipse which include mainly two main file mainframe.java and upload.java .

Fig.-Temperature sensor

First we start net beans and run module or program and then start wampserver and go to phpmyadmin page .after that connect to hardware part through usb hardware part include arduino board and with arduino board sensor is attach. Basically we used temperature sensor for our project to find out temperature .after attaching hardware part run the eclipse program that is mainframe java then object created and pass to the upload.java and from there upload values of temperature .when run program window comes this window ask or shows option of start monitoring and then click on start monitoring after that go to the web browser and first register user with respective secure password and all information then after registration go to login page and login with respective password and username .after login user shows one option which is log .by click on log this shows temperature value long with date and time.

We are give user security with respective password and each user there login under phpmyadmin.

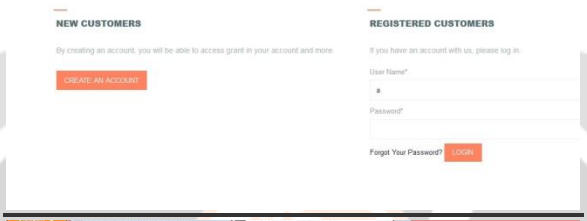
After minute time span the each user see the temperature value if temperature change then value is updated to user log.

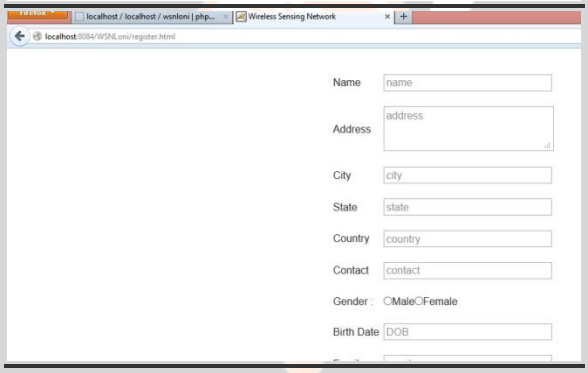
Fig.- Arduino board

5.ADVANTAGES:

1) User can send the data directly to the sensor nodes without using the base station.
2) Provide more security for data.
3) Increase packet delivery ratio.

6.RESULTS:





7.CONCLUSION:

In this paper, we have identified the security issues in the data discovery and dissemination when used in WSNs, which have not been addressed in previous research. Therefore in this paper, a secure and distributed data discovery and dissemination protocol named DiDrip used. Besides analyzing the security of DiDrip, this project has also reported the evaluation results of DiDrip in network of resource limited sensor nodes, which shows that DiDrip is feasible in practice.Thus, we consider how to ensure data confidentiality in the design of this paper.In this project we avoid the centralized approach for distributing the data. It recovers the two drawback of existing system one is base station replaced by multi-owner and multi-user. Second is it provides authorization according to privilege.

8.REFERENCES:

[1]Danging He,Sammy Chan, Moorhen Guinean, Naomi Yang and Loyang Thou, "Secure and Distributed Data Discovery and Dissemination in Wireless Sensor Networks", IEEE TRANSACTIONS ON PARALLEL AND DISTRIBUTED SYSTEMS, VOL. 26, NO. 4, APRIL 2015.

[2]T.Dang,N.Bulusu,W.Feng,andS.Park,"DHV:Acodeconsistency maintenance protocol for multi-hop wireless sensor networks," in Proc.6thEur.Conf.WirelessSensorNetw.,2009,pp.327–342.

[3] G. Tolle and D. Culler, "Design of an application-cooperative management system for wireless sensor networks," in Proc. Eur. Conf. Wireless Sensor Netw., 2005, pp. 121–132.

[4] K. Lin and P. Levis, "Data discovery and dissemination with DIP," in Proc. ACM/IEEE Int. Conf. Inf. Process. Sensor Netw., 2008, pp. 433–444.

[5] M. Ceriotti, G. P. Picco, A. L. Murphy, S. Guna, M. Corra, M. Pozzi, D. Zonta, and P. Zanon, "Monitoring heritage buildings with wireless sensor networks: The Torre Aquila deployment," in Proc. IEEE Int. Conf. Inf. Process. Sensor Netw., 2009, pp. 277–288.

[6]Senthil Kumar, S.Velmurugan, Dr. E. Logashanmugam " A SECURE DISTRIBUTED DATA DISCOVERY AND DISSEMINATION IN WIRELESS SENSOR NETWORKS ".

[7]Mahfuzulhoq Chowdhury, Md Fazlul Kader and Asaduzzaman Department of Computer Science & Engineering, Chittagong University of Engineering & Technology, Chittagong, Bangladesh.

[8]Jisha Mary Jose, Jomina John , Student, Department of Computer Science & Engineering,
Rajagiri School of Engineering & Technology, Kochi, India Assistant Professor, Department of Computer Science & Engineering, Rajagiri School of Engineering & Technology.

[9]Jisha Mary Jose 1 , Jomina John 2 "Data Dissemination Protocols in Wireless Sensor Networks - a Survey"International Journal of Advanced Research in Computer and Communication Engineering
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