An overview of reference architecture model in IEEE 802.15.4 communication protocols

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Abstract: The efficiency of communication in the day today life is getting smarter and smarter. We must upgrade the communication tools as well as the protocols associated with it to produce an optima environment. To give a reference model for the stakeholders who designs, test and uses this service we are analyzing the parameters and functional components that plays a major role in the communication platform. The functional components form the functional groups, which provides various services and schemes to the end user application as well as the control management. This paper analyses the functional groups, functional components and the information transformation in the protocols especially in the Bluetooth enabled communication. In addition, the even driven scenarios are also discussed.

Keywords: - Functional component, Functional group, IEEE 802.15.4, Reference Model.

I. INTRODUCTION

The communication protocols that dealt with the multiple layer architecture and the analysis we made here are the subset of the previously provided cases. Since, the protocols we analyzed here is an ergonomic scheme that initiates the distribution in the real-time environment. The process of transferring this information within the functional groups as well as the functional components are a hectic task.

There are several parameters we need to consider providing a better solution to all the queries. When the virtual identity provided by the user and the raised query are mutually matched, then the system must search for the relevant query, and it should notify the user for the corresponding subscription. Therefore, the two main flow of transfer between the devices to the application as well as the application to the actuators needed to be configured. The communication technologies that are available with the network is called as the system level layered protocols and that are already available in the resource components.

II.Related Works

Several literatures work that are already stated the necessary of the efficient Bluetooth architecture. The need for placing the functional components in the optimal functional group makes the system more efficient and reliable in most cases. This section discusses some of the literature that are already provided some optimal solutions to the stakeholders regarding the designing, analysis as well as reuse of the optimal resources.

Kardach et al, provided architecture overview that performs most of the complex task in a much efficient manner. It efficiently [1] uses the functional component in the functional groups such that the overhead among the process modelling group and the execution may behave more efficiently.

Bruno et al, provided a scheduling protocol to manage the overall communication overhead in the scheduled communication. Such that the models with various functional components associated with the values of their identity in the virtual entity [2]. The resolution provided by the virtual entity and the management process should give a proper execution platform that has been discussed in this article.

Baniukevic et al provided hybrid architecture that provision the location as well as the architecture-based orientation of the simulation environment. Thus, provided a routing model to actuate the environmental parameters as well as the overheads affected by the system [3]. Therefore, the processing component and the computational complexity provided by the system is less when compared to the available protocols.

Haartsen et al. delivered a sigmobile [4] based architecture that follows a nominal rate as well as the visionary parameters for the avoidance of all the network-based scenarios. The communication protocol that experiences the delay as well as the throughput of any singular as well as the modeled arithmetic computations shows the linear progression among the networking platform.

Träskbäck et al discussed the analytical model of the theory that provides the actual technological overview and the communication mechanism and standards [5] that are available over the decade when the bluetooth communication was the only short range and the low powered protocol available at that time.

Another literature that deals with the connectivity and the communication of the protocols that is having the configuration functional component [5-7] as well as the security functional component. Such that the mechanism of the trust and the reputation scheme should comply with the authentication as well as the authorization functions components of the system.

The multiple variable scheduling and the algorithmic pattern that are needed for the manipulation of the standard communication scheme is provided and the probabilistic model for the overhead distribution are discussed [8, 10. 12].Chan 2004 and Beg 2002 distinguished between the distributed access points of the antenna in the linear as well as the spatial domain [9, 11, 13-15]. The survey has a completely unique

pattern of analyzing the ergonomic model for data estimation as well. Thus, the propagation patter that may covers the dynamic complexity among the protocols available.

The following section provides the components of the reference architecture model.

III..Reference Model Architecture

The reference architecture model varies with the general architecture in such a way that this model provides different views in the aspect of the designing of assistive technologies and the appliances that are used in the IEEE 802.15.4 communication platform.

The functional groups available in this architecture components are management functional group, security functional group, Process management functional group, virtual entity functional group, device functional group, application functional group, Service functional group.

These functional groups are contained with their own functional components which are the major elements for the transmission of process over the network. Such kind of components that may involve the communication protocols shall follow the pattern of various subcomponents that should occupy the virtual entity and the virtual identifier followed by the group of components. Therefore, the necessary of this functional component in the process functional group is obviously required.

IV.Functional view

The functional view of this reference model will follow a linear pattern and this model will have the information about all the process and the description of the model that are all associated with each other. The implementation of the models that follows systematic scheme should emerge a multi-dynamic approach.

The information that follows the linear scheme that contains a normal approach to the system. That all the information that is transferred from the lower end to the higher end model approaches the enrichment process. The process of enrichment includes the addition of certain ephemeris data such as location, timestamp and other related parameters.

V.Information view

The architectural view and the information model that possess the same scheme to avoid the multiple entry of the virtual identifier address. The scheme that follows this pattern to provide a simple pattern of avoidance in this simulation environment provides a normal distribution. Thus the analysis taken for the architectural and the overview model is important to reduce the computational complexity of the system.

VI.Distribution and employment view

This approach associates the model and the end level sensors and the flow of control either from the top to bottom or vice versa. Thus, the analytical and the mathematical modeling of the approach should give a linear as well as the nonlinear results. The feasibility of obtaining the dynamic environmental solution is trivial.

VII.Conclusion

This paper discusses about the various functional groups as well as the functional components that the system is associated with the network. Also, it is discussed the analytical behavior of the system with the functional, informational as well as the operational model of the system. In future the extension of this research shall focus on the dynamic approach of the informational components in the reference architecture.

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