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VOLUME 15   ISSUE 2   VERSION 1.0

GLOBAL JOURNAL OF COMPUTER SCIENCE AND TECHNOLOGY: E
NETWORK, WEB & SECURITY

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QoS Variance Aware Spectrum Sensing and Allocation Strategy for Cognitive Radio Wireless Mesh Networks

By A.V.R. Mayuri & Dr. M.V Subramanyam

Mewar University Chittorgarh, India

Abstract- QoS (Quality of Service) aware spectrum sensing and channel allocation in cognitive radio wireless mesh networks is a continuous practice due to the divergent scope of communication in wireless mesh networks. Henceforth the current research is moving in a direction to find effective solutions towards QoS aware spectrum sensing and channel allocation. But all of these solutions are specific to one or two QoS factors. According to the real-time practices the QoS assessment by one or two factors is impractical.

Keywords: cognitive radio networks, channel assign-ment, dynamic spectrum access, wireless mesh networks, dynamic frequency selection, selective cooperative sensing.

GJCST-E Classification : C.2.1

QOSVARIANCEAWARESPECTRUMSENSINGANDALLOCATIONSTRATEGYFORCOGNITIVERADIOWIRELESSMESHNETWORKS

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QoS Variance Aware Spectrum Sensing and Allocation Strategy for Cognitive Radio Wireless Mesh Networks

A.V.R. Mayuri [α] & Dr. M.V Subramanyam [σ]

Abstract- QoS (Quality of Service) aware spectrum sensing and channel allocation in cognitive radio wireless mesh networks is a continuous practice due to the divergent scope of communication in wireless mesh networks. Henceforth the current research is moving in a direction to find effective solutions towards QoS aware spectrum sensing and channel allocation. But all of these solutions are specific to one or two QoS factors. According to the real-time practices the QoS assessment by one or two factors is impractical. Moreover majority of current approaches are delivering the computational complexity as $O(n^2)$, which due to the magnification of number evolution against the increment in number of channel availability in cognitive radio wireless mesh networks. In this context here we devised a QoS variance assessment strategy for cooperative spectrum sensing and channel allocation strategy, which enables to assess the QoS state of a spectrum that is based on multiple number of QoS factors and also should stabilize the computational complexity to $O(n*log(n))$. The experiment results are indicating the significance of the proposed model towards scalable and robust QoS variance aware spectrum sensing and channel allocation strategy for cognitive radio wireless mesh networks.

Keywords: *cognitive radio networks, channel assignment, dynamic spectrum access, wireless mesh networks, dynamic frequency selection, selective cooperative sensing.*

I. Introduction

Cognitive Mesh Network (COMNET) based on Cognitive radio technology [9], [12], [15], [26], [27] is the recent network type implemented in wireless networking that is influencing the communication scenario in many ways. COMNET is a spectrum aware and self-managed meshed network and based on Dynamic Spectrum Access (DSA) improves spectrum detection enhancing the communication approach. The Dynamic Spectrum Access (DSA) is implemented with cognitive radio technology is an efficient way of handling the spectrum utilization as well as the communication for the business organization with spectrum rights of a geographical area and for the user accessing the network.

The existing Wireless Mesh Networks (WMNs) is an accepted technology for connectivity and broadband networking [3] between clients and networks of mobile, Wi-Fi etc. However scarcity of bandwidth is a drawback for its wide implementation and user acceptance. DSA overcomes the problems of the previous technique of spectral allocation which is Fixed Spectrum Allocation. FSA due to gross mismanagement of spectrum usage causes spectrum shortage as well as user saturation. This can be overcome with the COMNET approach implemented in DSA for detecting the allotted and underutilized spectrum in the licensed spectrum space. It automatically makes suitable spectrum in this region available in the unlicensed spectrum space. COMNET utilizes the technology of cognitive radios included in the algorithmic framework [4] and with the cognitive capability and reconfiguration [2] the network dynamically modifies its settings in real time [1] for improving the spectrum availability to the users.

Exploring the best spectrum selection and channel assignment for minimizing interference and improving connectivity is a known difficult problem [24]. The channels accessibility varies in terms of intensity of primary user activity and data error rates as unexpected alterations in these parameters will change available spectrum and disturb prevalent path flows and the connectivity. The best channels for allocation are selected based on high idle time and less error rates. Intelligent channel assignment decisions by the way of improving the algorithms as well as other factors of CRN avoid channel switching delay as well as retransmissions and give an enhanced throughput.

Several approaches for channel selection have been studied in the past for WMNs and CRNs. The channel selection approaches in [7], [19] for wireless communication aim at the dynamic selection of channels for cognitive radios with distinct primary user bands. The channel selection approaches in [11], [14], [15], [17], [18], [21] have been developed for cognitive radio nodes and in these a few selection strategies are intended for Multi-Radio nodes. Interference-aware channel assignment in multi-radio wireless WMNs are given in [13], [16], [23], [24]. The literature work [11], [15], [26] discusses the modeling of the interferer's activity as a continuous-time alternating ON/OFF Markov Renewal Process (MRP) and this process of primary

Author α: *Research Scholar, CSE Mewar University, Chittorgarh Rajasthan. e-mail: mayuriavr@gmail.com*

Author σ : *Principal, Santhi ram Engineering College, Nandyal, Kurnool Dist, A.P, India. e-mail: mvsraj@yahoo.com*

user ON/OFF activity model for occurrence of the primary user signal in IEEE 802.11b is proved in the study [28].

II. Related Work

In this section, brief information of some of the important techniques of research done in channel assignment for Networks of Wireless Mobile and Cognitive Radios are, The heuristics for spectrum allocation, Clique Based and Localized Heuristic by V. S. Rao, R. V. Prasad, C. Yadati, I. G. M. M. Niemegeers [6] are proposed for spectrum allocation in Cognitive Radio Adhoc Networks.

The channel access techniques by L. Yang, L. Cao, H. Zheng [10] for DSA networks, are two strategies for channel selection and switching propose to ease the primary users based disruptions. They are practical in accessing the spectrum and cleverly forecasts the future spectrum availability based on integrating previous histories of channels.

The strategy for modeling the problem of maximum channel selection (MCS) as a binary integer nonlinear optimization problem is developed by Fen Hou, Jianwei Huang [19]. The approach for secondary networks proposes to maximize the usage of the complete channel. The greedy channel selection problem for cognitive radio networks with channel diversity is also further studied and measureable efficiency close to the optimal value is offered by the approach.

A distance based MAC protocol (DDMAC) by H. Bany Salameh, M. Krunz, and O. Younis [20] in Channel Assignment for Cognitive Radio Networks is both Distance and Traffic-aware. An algorithm is developed for channel assignment based on DDMAC and includes the traffic profile that's based on association between signal's attenuation model and distance.

III. Qos Variance Aware Spectrum Sensing and Allocation

Let us consider a cognitive radio wireless mesh network with set of network regions and each region is having set of nodes as secondary and primary users.

The spectrums in set $st_i = \{s_1, s_2, s_3, ...s_x\}$ are x number of spectrums that available for sensing and allocation to secondary users of the mesh network. Hence the spectrum allocation to a secondary user should be considered from set of x spectrums.

The selected spectrum to allocate to secondary user can influence the QoS. Hence, it is essential to pick optimal spectrum. The QoS variance aware strategy proposed in this paper is based on the characteristics of spectrum and their earlier allocation impacts, which are described as follows:

➢ A spectrum can be rated best in a particular factor, but might fail to deliver the same performance under the consideration of multiple QoS factors.

➢ A spectrum can be rated divergently with respect to its various QoS factors. As an example, a spectrum s can be best with respect to Primary User conflict scope, but the same spectrum might be moderate in terms of retransmissions and inference scope, worst in the context of channel occupancy time elapse scope.

➢ The importance of the QoS factors might vary from context of mesh network to other.

According to the characteristics of the spectrums described, it is evident that the best ranked spectrum under single QoS factor is not always the optimal towards spectrum sensing allocation. The spectrum that performed well under some prioritized QoS factors are always need not be the best fit under other prioritized QoS factors. In regard to this the devised QoS variance aware strategy finds the fitness of the spectrum, which is based on QoS variance and primary QoS factor opted. This process is labeled as QoS variance evaluation of the spectrum. Further spectrums are ranked according to their QoS variance and will be used in the same order to finalize a spectrum towards sensing and allocation.

The QoS metrics of each spectrum considered to assess the best fit spectrum for sensing and allocation are describe below, and these metrics are categorized as positive and negative, which is based on their value. The metrics with desired value as high referred as positive metrics and the metrics with desired value low are referred as negative metrics.

• *PU (Primary User) conflict scope (-ve metric):* Since low conflict scope is desired, this metric is categorized as negative metric. This metric indicates the ratio of conflict between primary user of a spectrum with the secondary user to whom that spectrum allocated. The conflict scope can be measured as follows.

$$cs(s_i) = ecot_{PU} - ecrt_{SU} - celt$$

o Here in the above equation $cs(s_i)$ is conflict scope of the spectrum s_i, $ecot_{PU}$ is expected channel occupancy time by PU, $ecrt_{SU}$ is expected channel release time of SU, $celt$ is channel release elapse time threshold. If $cs(s_i) <= 0$ then discard this spectrum from selection criteria

• *Retransmissions scope (-):* This is also a negative metric, since the lower values are desirable. This metric indicates the average of retransmissions required on specific spectrum. This can be measured as follows:

$$rs(s_i) = \frac{notr(s_i)}{trr(s_i)}$$

o Here in the above equation $rs(s_i)$ indicates the retransmission scope metric value of a spectrum s_i, $notr(s_i)$ is indicating the number of transmissions occurred in previous allocations and $trr(s_i)$ is indicating the transmissions required in earlier allocations.

- *Inference scope (-):* This metric is also desired with lower values, henceforth it is categorized as negative metric. This metric indicates the possible inference observed at spectrum, which is due to unpredictable spectrum utilization intervals of the PU. This metric can be measured as follows

$$is(s_i) = \frac{noii}{noi}$$

o Here in the above equation $is(s_i)$ is indicating the Inference scope of the spectrum s_i, $noii$ is indicating the no of irregular intervals of spectrum utilization by PU, noi is indicating the number of intervals

- *Occupancy time elapse scope (-):* This is also a negative metric, since it desires low values. This metric indicates that how frequently this spectrum effected by time elapse in usage by secondary users. This metric can be measured as follows:

$$os(s_i) = \frac{nol}{noa}$$

o Here in the above equation $os(s_i)$ is indicating the occupancy time elapse scope, nol is indicating the number of occupancy time elapses observed and noa is indicating the number of allocations done.

- *Fading scope (-):* Is also another negative metric, which indicates the possibility of channel fading during spectrum utilization. this metric can be measured as follows:

$$fs(s_i) = \frac{nof}{nos}$$

o Here in the above equation $fs(s_i)$ indicating the fading scope of the spectrum s_i, nof is indicating the number of times fading observed and nos is indicating the number of attempts to sense the spectrum.

- *Usage Scope (+):* is only positive metric, which is indicating the successful spectrum usage ratio. This can be measured as follows:

$$us(s_i) = \frac{nsu}{noa}$$

o Here in the above equation $us(s_i)$ is indicating the usage scope of a spectrum s_i, nsu is indicating the no of successful fair utilizations and noa is indicating the no of spectrum allocations.

a) *Evaluation strategy of QoS variance of Spectrums*

Let PU conflict scope, retransmissions scope, inference scope, channel occupancy time lapse scope, spectrum fading scope and spectrum usage scope as a set of QoS factors $F = \{f_1, f_2, f_3, f_4, \ldots\ldots f_n\}$ of available spectrums $S = \{s_1, s_2, \ldots\ldots s_i\}$

Let a QoS factor f_{opt} is said to be the anchor to rank the spectrums. The QoS factors of the spectrums can be classified as positive and negative factors. The factors that are having highest values as optimal values are said to be positive factors and the factor that are optimal with minimal values are said to be negative factors.

Henceforth the values of negative and positive factors are normalized as follows:

For each service $[s_j \exists s_j \in S]$ begin

For each factor $[f_k \exists f_k \in F_{s_j}]$ Begin // here F_{s_j} is the set factors of service s_j

If f_k is positive factor then

$$norm(f_k) = 1 - \frac{1}{val(f_k)}$$

Else if f_k is negative factor then

$$norm(f_k) = \frac{1}{val(f_k)}$$

End

End

Then the available spectrums are ranked by their normalized values from maximum to minimum, such that each service gets different rank for different factors.

Further these ranks will be used as input to measure the QoS fitness.

Let rank set of a spectrum $[s_j \exists s_j \in S]$ is $rs(s_j) = [r(f_1), r(f_2), \ldots\ldots r(f_n)]$, then QoS variance value (qvv) of each spectrum can be measured as follows.

$$qvv(s_j) = \left[\dfrac{\sqrt{\displaystyle\sum_{k=1}^{n}\left(\left[\dfrac{\displaystyle\sum_{i=1}^{n} r(f_i \exists f_i \in F_{s_j})}{n} \right] - r(f_k \exists f_k \in F_{s_j}) \right)^2}}{n} \right]^{-1}$$

The above equation is derived from the statistical approach of calculating variance between given number of attribute values. Here in this equation, $\left(\dfrac{\sum_{i=1}^{n} r(f_i \exists f_i \in F_{s_j})}{n} \right)$ represents the mean of the all feature ranks of the feature set F_{s_j}.

Then the QoS fitness of the spectrum will be sorted based on the rank of the f_{opt} ($[f_{opt} \exists f_{opt} \cong f_i \exists f_i \in F]$), which is the anchor factor.

Then the set of spectrums $[pst_{ij} \subseteq st_{ij}]$ will be considered, which is based on the max rank threshold mrt given.

Then the processed spectrums set pst_j will be sorted from minimum to maximum of their QoS variance value and the same order will be preferred to select services for composition.

IV. EMPIRICAL STUDY BY SIMULATION

The aim of the simulations is to analyze the relevance of quality of service towards handling the Spectrum Sensing and allocation to secondary users in cognitive radio wireless mesh networks. A simulated model of a cognitive radio wireless mesh network is devised with the nodes of range between 80 and 500 of 8 to 35 network groups. The characteristics and attributes are illustrated in table1. The devised QoS variance value (qvv) metric for cooperative spectrum sensing and allocation model for cognitive radio wireless mesh networks is assessed by comparing with detect and relay model [20], since this proposed QoS variance aware spectrum sensing and allocation strategy for cognitive radio wireless mesh networks and Cooperative Spectrum Sensing by Detect and relay [20] are both comes under similar category called cooperative spectrum sensing by QoS assessment. The metrics used in this assessment are (i) ratio of inference observed and (ii) ratio of spectrum fair utilization.

Figure 2 shows the ratio of inference between secondary and primary nodes spectrum utilization activity. The average inference ratio observed under the 'detect and relay' strategy [20] is more than that observed under QoS variance aware spectrum sensing and allocation strategy that devised here in this paper. The average ratio of inference observed in 'detect and relay' strategy is around 3.2% more than that observed in QoS variance aware strategy. The performance of the devised model is observed better, which is due to the QoS factors considered and the approach of identifying the variance of these factors. The QoS variance aware spectrum sensing and allocation strategy is scalable and robust against divergent percentage of nodes and network groups.

Table 1 : The parameters and their values range used in simulations. (*radios per second)

Number of nodes	80 to 500
Percentage range of secondary users	45% to 75%
Range of network groups formed as a mesh network	8 to 35
Mesh network coverage area	2750 m × 1550 m
Radio spectrum minimal range	124 sqm
No of channes	92
Radio frequency per second	9 rps*
Average transmission load	0.9 KB
Transmission speed	256 to 512 kb per second
Core transmission size at physical link	3.0 Mb per second

Figure 3 indicates the ratio of idle spectrum utilization by secondary users in cognitive radio wireless mesh networks, which indicates the advantage of the QoS variance aware spectrum sensing and allocation strategy over detect and relay strategy. The simulation in regard to assess the metric called ratio of fair spectrum utilization, the spectrum utilization ratio is observed in dense and sparse network groups. The observations are indicating that the spectrum sensing and allocation is fair, optimal and robust in devised QoS variance aware Strategy that compared to detect and relay strategy. The average of 8% percent of fair spectrum utilization by secondary users is observed in proposed QoS variance aware Cooperative Spectrum sensing that compared to detect and relay strategy, which is due to the QoS factors considered in proposed model.
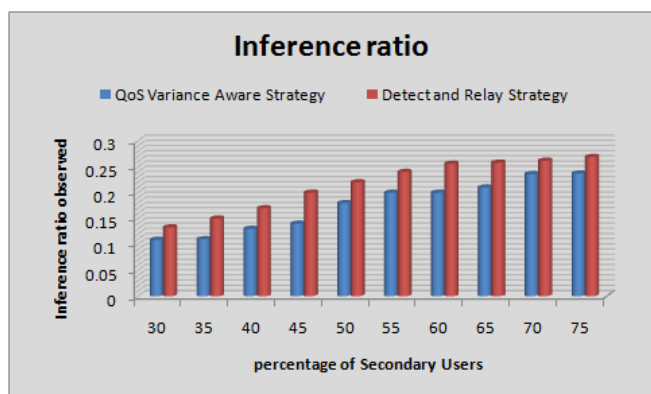
Figure 2 : The Inference Ratio observed in QoS Variance Aware Strategy and 'Detect and Relay' Strategy
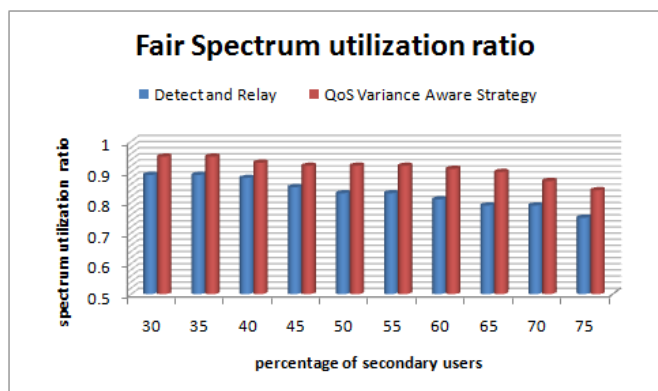
Figure 3 : The Spectrum utilization ratio observed at QoS variance aware strategy and Detect and Relay Strategy

V. Conclusion

Here in this paper we proposed a novel QoS variance aware Cooperative Spectrum Sensing and allocation strategy for cognitive radio wireless mesh networks that depends on sensitive QoS factors of spectrum and these factors are (i) Primary User conflict scope, (ii) retransmissions scope, (iii) inference scope, (iv) channel occupancy time elapse scope, (v) spectrum fading scope and (vi) spectrum usage scope. The model proposed here is capable to avoid the falsified spectrum sensing and allocation. The impact of the QoS variance assessment is observed as robust and scalable towards effective spectrum sensing and allocation. Majority of the existing models are only using the specific QoS factors and also not considering the deviation of the opted QoS factor state from other QoS factors, which in turn reflecting negative performance of spectrum sensing and allocation. Henceforth, here in this paper we consider the other dimension of QoS assessment for spectrum sensing and allocation. The model devised here is having two stages and those are (i) assessing ranks of spectrum under different QOS factors and (ii) Finding the variance between divergent spectrum ranks under different QoS factors. These two stages followed by the process of ordering the spectrums by the anchor (primary) QoS factor and then the spectrum with less QoS variance value, which is in the order of max ranked threshold will be allocated to the secondary users. The quantitative analysis done through simulations indicating that the devised model is scalable and robust towards handling the QoS ware spectrum sensing and allocation in cognitive radio wireless mesh networks. The model devised here in this paper is not considering falsified cooperation or non cooperation attitude of the malicious and selfish nodes.. Hence in our further work these factors will be considered in QoS aware spectrum sensing and allocation.

References Références Referencias

1. FCC, ET Docket No 03 – 222 Notice of proposed rulemaking and order, December 2003.
2. I. F. Akyildiz, W. Y. Lee, M. C. Vuran, M. Shantidev, NeXt generation/ dynamic spectrum access/ cognitive radio wireless networks: a survey, Computer Networks Journal (Elsevier) 50 (2006) 2127 – 2159.
3. F. Akyildiz, X. Wang, and W. Wang. Wireless mesh networks: a survey, Elsevier Computer Networks Journal, 47 (4) : 445 – 487, November 2005.
4. K. R. Chowdhury and I. F. Akyildiz, Cognitive wireless mesh networks with dynamic spectrum access, IEEE Journal of Selected Areas in Communications 26 (1) (2008), pp. 168 – 181
5. Raniwala K. Gopalan, T. Cker Chiueh, A Centralized Channel Assignment and Routing Algorithms for Multi Channel WMNs, ACM SIGMOBILE Mobile Computing and Communications Review, 2004
6. S. Rao, R. V. Prasad, C. Yadati, I. G. M. M. Niemegeers, Distributed Heuristics for Allocating Spectrum in CR Ad hoc Networks, in Proceedings of the IEEE Global communications conference (Globecom), December 2010.
7. P. N. Anggraeni, N. H. Mahmood, J. Berthod, N. Chaussonniere, L. My, and H. Yomo, Dynamic channel selection for cognitive radios with heterogeneous primary bands, Wireless Personal Communications, vol. 45, no. 3, pp. 369 – 384, May 2008.
8. Fen Hou, Jianwei Huang, Dynamic Channel Selection in Cognitive Radio Network with Channel Heterogeneity, in Proceedings of the IEEE Global Telecommunications Conference 2010, (pp. 1 – 6), IEEE.
9. L. Yang, L. Cao, H. Zheng, Proactive channel access in dynamic spectrum networks, Physical Communication 1 (2008) (pp. 103 – 111).
10. H. Bany Salameh, M. Krunz, and O. Younis, Distance- and Traffic-Aware Channel Assignment in Cognitive Radio Networks, in Proceedings of Annual

IEEE Communications Society Conference on Sensor, Mesh and Ad Hoc Communications and Networks (SECON '08), June 2008.

11. A. W. Min and K. G. Shin, Exploiting Multi-Channel Diversity in Spectrum-Agile Networks, in Proceedings of the IEEE INFOCOM 2008.

12. Q. Xiao, Y. Li, M. Zhao, S. Zhou, J. Wang, Opportunistic channel selection approach under collision probability constraint in cognitive radio systems, Computer Communications 32 (2009) (pp. 1914 – 1922)

13. G. Yuan, R. C. Grammenos, Y. Yang, and W. Wang, "Performance Analysis of Selective Opportunistic Spectrum Access With Traffic Prediction", IEEE TRANSACTIONS ON VEHICULAR TECHNOLOGY, VOL. 59, NO. 4, MAY 2010.

14. M. H. Rehmani, A. C. Viana, H. Khalife, and S. Fdida, "Surf: A distributed channel selection strategy for data dissemination in multi-hop cognitive radio networks", INRIA, Research Report, 2011, RR-7628.

15. Alexander W. Min and Kang G. Shin, "Exploiting Multi-Channel Diversity in Spectrum-Agile Networks", in Proceedings of the IEEE INFOCOM 2008.

16. C. Ghosh and D.P. Agrawal, (2006, September). Channel assignment with route discovery (card) using cognitive radio in multi-channel multi-radio wireless mesh networks. In Networking Technologies for Software Defined Radio Networks, 2006. SDR'06.1st IEEE Workshop on (pp. 36-41). IEEE.

17. L. Li, B. Qin, C. Zhang, Interference-aware Broadcast Routing and Channel Assignment in Multi-Radio Wireless Mesh Networks, Vehicular Technology Conference Fall (VTC 2009-Fall), 2009, (pp. 1 – 5)

18. Krishna N. Ramachandran, Elizabeth M. Belding-Royer, Kevin C. Almeroth, and Milind M. Buddhikot. "Interference-aware channel assignment in multi-radio wireless mesh networks", In Proceedings of IEEE INFOCOM' 06.

19. K. Athota, A. Negi, C. R. Rao , Interference-traffic aware Channel Assignment for Multi Radio Multi Channel WMNs, in Proceedings of IEEE 2nd International Advance Computing Conference (IACC), 2010.

20. Qian Chen; Motani, M.; Wai-Choong Wong; Nallanathan, A., "Cooperative Spectrum Sensing Strategies for Cognitive Radio Mesh Networks," Selected Topics in Signal Processing, IEEE Journal of , vol.5, no.1, pp.56,67, Feb. 2011; doi: 10.1109/ JSTSP.2010.2060468;

Vascular Innovation Science

By Anurag Pandey, Alpika Tripathi & Dr. Geetika Srivastava

Amity University, India

Abstract-   Vascular Innovation science are a standout amongst the most approaching innovations which is very secure. In this paperi introduces a study of machine learning techniques utilized for Vascular innovation   development applications, and distinguishes significant exploration issues. Basic mission assets and applications require instruments to recognize when honest to goodness clients attempt to abuse their benefits; unquestionably biometrics serves to give such administrations.

Keywords: *authentication, palm, security, individual, access, technology, unsupervised learning, SCADA.*

GJCST-E Classification : D.4.6

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Vascular Innovation Science

Anurag Pandey [α], Alpika Tripathi [σ] & Dr. Geetika Srivastava [ρ]

Abstract- Vascular Innovation science are a standout amongst the most approaching innovations which is very secure. In this paperi introduces a study of machine learning techniques utilized for Vascular innovation development applications, and distinguishes significant exploration issues. Basic mission assets and applications require instruments to recognize when honest to goodness clients attempt to abuse their benefits; unquestionably biometrics serves to give such administrations. This paper explores the field of biometrics as one of the late created instruments for client validation and proof social occasion regardless of its restrictions. A biometric-based arrangement model is proposed utilizing different factual based unsupervised learning methodologies for unique mark coordinating. When it implemented through the SCADA System it can enhance the security levels. The SCADA comprise critical-mission systems and information which rely on certain techniques to achieve effective security. It is the world's first contactless particular distinguishing proof framework that uses the vein designs in human palms to affirm an individual's character .It is exceptionally secure on the grounds that it utilizes data held inside the body and is additionally very correct on the grounds that the example of veins in the palm is mind boggling and remarkable to every person. Additionally, its contactless characteristic provides for it a hygienic focal point over other biometric verification engineering. From security framework SCADA system implementation for the normal family home to insurance of particular data, against-robbery gadgets for autos and different vehicles, and overall hostile to-terrorist frameworks, generally protected, okay-security frameworks are continuously looked for in an extensive assortment of fields. Biometric (living ID), which can recognize a single person to a high level of correctness by utilizing the natural qualities of the human body, is as of now being centered around as the most solid method for individual recognizable proof. Inside this field, "vein verification", which uses picture perceive and optical innovation to output the ordinarily undetectable vein example of the palm, once more of the hand, fingers, and so forth has the properties of being exceedingly correct and profoundly impervious to falsifying, mimic, and other deceptive movements.

Keywords: authentication, palm, security, individual, access, technology, unsupervised learning, SCADA.

I. Introduction

Vascular Innovation distinguish which is focused around the innate physical and behavioral qualities of an individual, has turn into a critical method for security frameworks [2]. Vascular innovation could

Author α σ: Department of Computer Science & Engineering ASET, Amity University Lucknow, India. e-mails: anuragpandey4@gmail.com, atripathi1@lko.amity.edu
Author ρ: Department of Electronics & Communication Engineering ASET, Amity University Lucknow, India
e-mail: gsrivastava2@lko.amity.edu.

decrease the probability that an aggressor can show an identifier to increase unapproved access.

In any case, biometrics is additionally not immaculate, as it has its own particular vulnerabilities. Finger impression, face, voice, iris, retina and hand geometry are a portion of the biometrics which are being used since long for individual ID. A standout amongst the most secure and exact biometric is the vascular advances. A vein confirmation framework utilization vein designs as an individual ID component. Uniqueness is one of the fundamental points of interest of this framework as the vein example of every unique contrast [6]. Additionally right and left hand vein example of the same individual is altogether diverse. It gives an elevated amount of exactness as the vein data which are inner to the human body is tricky to fashion. As the framework utilizes the close infrared imaging methods, there is no compelling reason to infuse any chemicals into the body. The fundamental part of such frameworks is to catch and concentrate the vein design effectively with a diminished cost and handling complexities. The good fortunes to execute hand vein validation framework compass a wide range requisitions including security frameworks saving money, business ventures and instructive offices[7].

In unsupervised learning redresses to the system weights are not performed by an outer operators, on the grounds that much of the time we don't even recognize what arrangement we ought to anticipate from the system[16].

Vascular Innovation improves security by interfacing a remarkable physical ascribe of a client to the information that they are permitted to get to. The client gives their unique mark (or other biometric) to the framework, then the framework give or render confirmation to client to get to the information[8]. Biometrics include an extra component of verification and are in this way a noteworthy change in machine security. The most widely recognized biometric security frame work utilization fingerprints, however today's frameworks can additionally utilize iris check innovation and retina outputs, hand working output , and face distinguishment [2]. This authentication is more convenient and secure that other security system like key, id card pin code and so on in light of the fact that more often than not keys & id card are lost or overlook the pin code of id card.

Yet in the event of Biometrics where your body part cannot be change .if there should arise an occurrence of twins veins are not matched. Likewise no human is included and the framework is completely

mechanized so risks of biasing or abuse of the character is diminished[10]. These biometric characteristics can't be replicated effectively by anybody.

For the solid Authentications SCADA System to use its capacity to confine access right, there need to be vastly improved component for giving the PC incontrovertible verification that an individual endeavoring to log is indeed the individual doled out with that specific ID. In SCADA, a control may need to enter a watchword to get access to a gadget in a crisis .If the administrator sort a secret word inaccurately a couple times, a customary IT security, which presumes an intruders attempting to figure the secret key, is to bolt out the operator [13].Here the vital thought for access to SCADA Security office and framework can incorporate how the biometrics segment work mind the framework. Where the pursuers just put and own they monitored. As we know in biometric authentication framework have several point of vulnerability. Common helplessness to any SCADA Security System ,in the same way as beast power assaults through indirect access endeavor to incapacitate a framework so its reinforcement motor can be adventure. So SCADA can analyze that powerlessness exceptional to or characteristics of SCADA framework mind biometric framework [14].

II. Biometric Features

- Taking over foreign identities will stop.
- Access to any device /computer will not possible for person without the authentication.
- Cost will drastically reduce.
- Biometric security password always be remember so problem of forgot password is not possible.
- Theft identity will reduce.
- Stolen identity cards will be prevented.

III. Different Vascular Innovation

- Taking over foreign identities will stop.
- Pattern recognition Technology.
- Voice recognition Technology
- Retinas scan Technology.
- Face recognition Technology.
- Iris scans Technology.
- Ear shape recognition Technology.
- Vascular Technology.
- Signature recognition Technology

IV. Vascular Innovations Science

Friction inflexible skin alludes to the skin of the palm of the hand and fingers and the soles of the feet and toes. Contact edge skin could be separated from the skin of whatever is left of the body by the vicinity of raised edges by the epidermis that is thicker and more intricate structure, by expansion tangible capacities, by

the nonattendance of hair and sebaceous organs. This make the erosion improve for the skin[5].

The palm of the hand and fingers and the sole of the feet and toe have a skin that is notably unique in relation to whatever is left of the body. This skin is phoned as THICK SKIN, VOLAR SKIN OR HAIRLESS SKIN however in biometric & legal groups it is phoned as FRICTION RIGID SKIN because of the classifiable example of raised edges that can be utilized within recognizable proof [6].

Skin is a defensive obstruction that hold nerve receptors for a mixed bag of sensations, temperature, permit a pass of sweet and oils and house of hair and nails [3]. Grinding Edge skin is vary from meager skin in light of the fact that fiction edge skin is thicker on the grounds that epidermis that is much thicker and structurally more mind boggling , by expansion tactile capability by the nonattendance of hair and sebaceous organs.

Skin throughout the body is made out of three fundamental layers: HYPODRMIS, DERMIS AND EPIDRMIS. The deepest is Hypodermis is made of connective tissues that stores fat. The dermis is made out of dense connective tissues that give quality and pliancy The dermis and the epidermis are joined by PAPILLAE which are the region of epidermis [5].

The ranges of rubbing edge skin (palm) the most unpredictable example typically found in the furthest portion of the fingers , at the bury advanced share of the palm over the base of the fingers , the edges in these range have tight bending examples . The other region of grinding skin, for example, great tip and more level joints of the fingers, easier bit of the palm hold tenderly bending edges. For the peripheral fragments of the fingers the edge is arranged into 3 general example (1) WORLS, in this edge stream in a complete circuit (2) LOOPS, in this edge enter from one side then bends and return in same heading where it hail from and (3) ARCHES, in which edge enter from one side and passageway from other side [7].
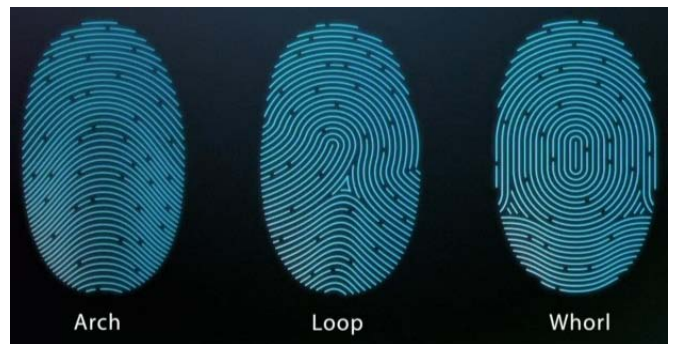

Figure 1 : Fingers Edges

To do investigation of human hand is not new yet it is discovering another provision in the field of biomerics. The hands of person are multi fingered body

parts found at the end of each one arm [9]. It comprise of expansive palm with five fingers, each one joined to the joint called the wrist. The cover of the hand is known as DORSUM of the hand. The uniqueness of human hand is that all fingers are autonomous of one another and the thumb can contact to each one finger. The hand veins biometric speak to the uniqueness in the hand vein while palm print speaks to Epidermis of the palm[11].

Palm vein verification is one of the vascular example confirmation advances. Vascular example verification incorporates vein design confirmation utilizing the vein examples of the palm, back of the hand or fingers as particular recognizable proof information, and retina distinguishment utilizing the vascular examples at the cover of the eye as individual ID.

The vascular example utilized within this verification engineering alludes to the picture of vessels inside the body that might be seen as an arbitrary lattice at the surface of the body[10]. Since everybody has vessels, vascular example validation could be connected to very nearly all individuals. In the event that vascular examples were contrasted with the characteristics utilized as a part of other biometric validation innovations, for example, the face, iris, unique finger impression, voice, et cetera, and the main distinction might be whether the characteristic is at the surface of the body[4]. Thusly, vascular examples can't be stolen by shooting, following, or recording them. This implies that fabrication might be amazingly troublesome under common conditions.

Vein examples are remarkable to every person; even indistinguishable twins have diverse vein patterns. Furthermore vein examples don't change inside a human's lifetime with the exception of on account of damage or illness. In spite of the fact that these truths have not been medicinally demonstrated, as with the finger impression, iris, and soon, exploratory effects focused around broad information and huge-scale pragmatic outcomes got from fiscal foundations demonstrate that palm vein validation has the benefits of consistency and high correctness for affirming an individual's character[11].

Authentication has the merits of consistency and high accuracy for confirming a person's identity. In the universal system public opinion, where people can undoubtedly get to their data whenever and anyplace, individuals are likewise confronted with the hazard that others can without much of a stretch get to the same data at whatever time and anyplace[2]. On account of this danger, particular distinguishing proof engineering is utilized which incorporates Passwords, individual ID numbers and ID cards. However, cards might be stolen and passwords and numbers could be speculated or overlooked. To tackle these issues, Fujitsu created four systems:Fingerprints, confronts, voice prints and palm veins. Around these, due to its high correctness, contact

less palm vein validation innovation is, no doubt consolidated into different monetary result items for utilization openly puts[3].

The contact less palm vein verification gadget that uses vein designs as a particular recognizing element. The vein data is difficult to double since veins are interior to the human body. The palm vein validation engineering offers a large amount of correctness, and conveys the taking after comes about: a false dismissal rate (FRR) of 0.01%, and a false acknowledgement rate (FAR) of 0.00008% or easier, taking into account Fujitsu examination utilizing the information of 140,000 palms[6]. Presently utilized for personality, validation and measurable purposes, biometric innovations have been extensively assembled into four ranges with a few methods in each:

- Hands;
- Heads and face;
- Other physical attributes; and
- Behavioral attributes.

While fingerprints are generally acknowledged as a biometric measure, different strategies identifying with hands are, maybe, less well known or acknowledged. Maybe the best comprehended is palm prints. Different systems incorporate hand geometry and vein designs distinguishment[9]. Palm print recording and ID for law requirement purposes has been in presence just about as long as unique finger impression frameworks and palm prints are accounted for to contain 30% of all wrongdoing scene .As much as an alternate 20% are made up of the edge of the hand, fingers between the palm and fingertips and different parts of the hand.

V. How To Register In Vascular Innovation

Step 1: Palm vein confirmation innovation comprises of a little Palm vein scanner that is simple and common toutilize, quick and exceedingly precise. Basically hold your palm a couple of centimeters over the scanner.

Step 2: Scanner use of a special feature of the hemoglobin through the palm veins, then it absorb near infrared light.

Step 3: The incorporated optical framework in the sensor utilize the phenomena to create a picture of the palm vein example and created picture is digitized , scrambled lastly put away as an enlisted format in database .

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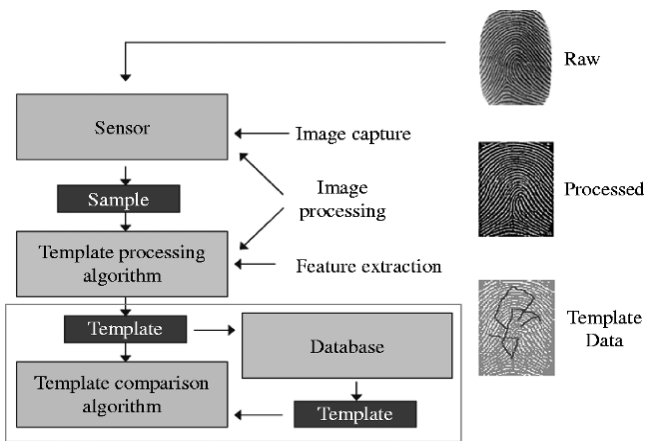
Figure 2 : Vascular Registration

Figure 3 : SCADA Architecture

VI. OPERATION METRICS OF VASCULAR INNOVATION SCIENCE USED IN SCARDA SYSTEM

In this proposed method I have created a model of SCADA System for the defenselessness testing in vascular science. This work enhances the security measures in the field of vascular innovation.

- False acceptance rate (FAR)-:The probability that the framework mistaken matches the data example to a non matching layout in database, it fundamentally measures the amounts of invalid inputs which is inaccurately acknowledged.
- False rejection rate (FRR)-:The probability that the framework neglects to recognize match between the data example and a matching information or layout in the database, it fundamentally measures the amounts of substantial inputs which is erroneously dismisses.
- Relative operating characteristic (ROC)-:This is fundamentally concern with the diagram of visual characterization between the FAR &FRR. All in all , the matching is perform here and the choice focused around an edge which figures out how near a format the data needs to be for it to be viewed as a match[1,2] . On the off chance that the edge is diminished, there will be less false non matches' condition yet all the more false acknowledges. A higher edge will decrease the FAR yet build the FRR.
- Equal error rate (ERR)-:The rates at which both accept and reject errors are equal. The value of the EER can be easily obtained from the ROC curve [2] or the rates at which both acknowledge and reject slips are equivalent. The quality of the EER might be effortlessly acquired from the ROC bend (curves) [2]. The ERR is an equivalent approach to contrast or compare the correctness (accuracy) of gadget (device) with unlike (different) ROC bends (curves) .Device with the least EER is more correct .
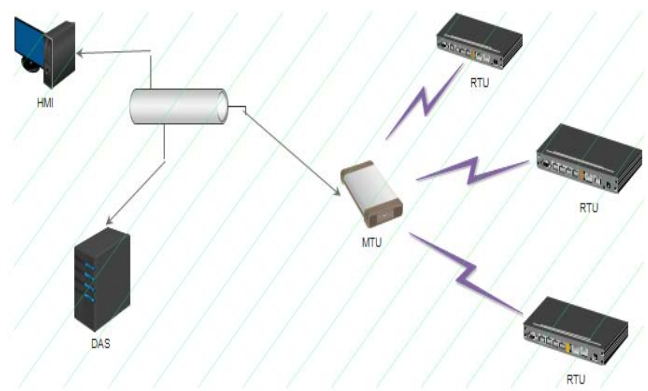
a) Components of SCADA Architecture

- *Remote Terminal Unit (RTU):* This is the communicational device within the SCADA system .It gather the data from various devices in memory until the MTU request that information.
- *Data Acquisition System (DAS):* Gather information from MTU generates and stores alerts for the operators.
- *Master Terminal Unit (MTU):* It is called a heart of the SCADA System. It Communicate with interface and remote unit with the DAS and HMI.
- *Human Machine Interface (HMI):* Interface where user logs on the System. It gather information from DAS and send commands to MTU.

VII. TECHNICAL DETAIL VASCULAR INNOVATION SCIENCE

In this engineering One's PALM is utilized as the "Secret key" for check. The vein present in the palm of the singular are checked and confirmed consequently giving the right to gain entrance. Palm vein validation has an elevated amount of verification exactness because of the uniqueness and intricacy of the vein pattern [5] .The central which is included is not at all like the skin, through which close infrared light passes, deoxygenated hemoglobin in the blood coursing through the veins assimilates close infrared beams making it be noticeable as dark locale to the scanner [3]. Supply routes and vessels, whose blood hold oxygenated hemoglobin, which does not assimilate close infrared light, are undetectable to the sensor consequently we picked "Veins"[2].A singular palm vein picture is changed over by calculation into information focuses, which is then compacted, scrambled and put away by the product individual at whatever point access it, the information is contrasted and put away one, subsequently confirmation is carried out.

Vascular innovation utilizes diverse calculations and projects for distinctive phases of the engineering. In SCARDA the matching pattern used, Likewise diverse calculations are proposed for same procedures like

Icp(iterative Closest Point), P2pm (Point to Point Matching), SMM (Similarity based Mixed Matching) and so on [3,5]. More often than not, in the picture based biometric frameworks, various preprocessing undertakings are needed preceding upgrade the picture quality, for example, contrast, shine, edge data, commotion evacuation, hone picture, and so forth, besides, to generate a finer nature of picture that will be utilized on the later stage as an info picture and guaranteeing that applicable data might be located.

VIII. Conclusion

The Fijitsu Palm secure is a vascular innovation verification framework that uses the most recent in Biometric Security Technology[5,8]. Noting an overall need from governments to the private segment, this contact less gadget offers a simple to-utilize hygienic answer for checking personality. This engineering is very secure on the grounds that it utilizes data held inside the body and is additionally exceptionally faultless on the grounds that the example of veins in the palm is perplexing and exceptional to every individual[9].

In this report we have examined about Vascular innovation in SCARDA system. By the implementation of SCARDA system the vascular innovation get more secure. Vascular innovation engineering with SCARDA system is the new face of the biometric. It gives the most extreme security as contrasted with other biometric advances on the grounds that it utilizes data held inside the body and is additionally exceedingly exact on the grounds that the example of veins in the palm is unpredictable and exceptional to every individual[7,9]. Vascular innovation run under the functional matrices FRR, FAR, EER around them, engineering is exceptionally secure on the grounds that it utilizes data held inside the body [7]. It is additionally exceptionally correct on the grounds that the example of veins in the palm is perplexing and exceptional to every person. Also, the contact less characteristic provides for it a cleanliness advantage over other verification technology.

References Références Referencias

1. Hasan TUTUMLU HErdinc KOCER and Novus ALLAHVERDI "An *Efficient hand dolsal vein Recognition based on neural netwok*" journal of Selcuk University Natural and applied science, ISSN: 2147-3781.
2. Krishna arthamwar, Smitapawar, Chaitanyagosavi, Sachindevhadrao *"Palm Vein Authentication Using Vascular Pattern Analysis* " volume-2, issue-2, april 2014.
3. Gayathri , K Gerard Joe Nigel, sPrabakar*"Low Cost Hand Vein Authentication System"* International Journal Of Innovative Technology and Exploring Engineering , Volume-2, Issue-4, March 2013.
4. Chaitanya Kommini, Kamalesh Ellanti, Harsha Ellanti *" HAND DORSAL VEINS AND KNUCKLE SHAPE BASED AUTHENTICATION SYSTEM* "International Journal of Computer Science and Information Technologies, Vol. 2 (4) , 2011, 1633-1638.
5. Ajay Kumar, K. Venkata Prathyusha *"Personal Authentication using Hand Vein Triangulation and Knuckle Shape"* IEEE Transactions on Image Processing vol. 38, pp. 2127-2136, September 2009.
6. Omidiora Elijah Olusayo, Oladosu John Babalola, Ismaila Wasiu Oladimeji, Agbaje K. M., Adeniyi A. Yusuf "*Palm Vein Recognition System Using Hybrid Principal Component Analysis and Artificial Neural Network*" International Journal of Advanced Research in Computer Science and Software Engineering Volume 3, Issue 7, July 2013.
7. 1E.Sridevi, 2B.Aruna, 3P. Sowjanya*, "An Exploration of Vascular Biometrics*" Vol. 2, SP-1, Dec . 2011.
8. Chin-Chuan Hana, Hsu-Liang Chengb, Chih-Lung Linb, Kuo-Chin Fanb "*Personal authentication using palm-print features*" Received 21 December 2001.
9. M. Senthil Kumar, R. Gayathri" *Robust Palm Vein Recognition*" Vol. 4, Issue 1(Version 1), January.
10. Pankaj Kumar "*Plam vein technology* ", 26 , April 2012.
11. Mr.VishalU. Bhosala, Mr. OnkarS. kale, Mr.Mahesh W.pawar, Mr.Roshan R.PAtil ,MR. Pritam S Patil , Prof MrsSonali Madankar " *Palm Vein Extraction And Matching For Personal Identification "*volume-16 , issue 2, march 2014.
12. Sravya.V, Radha Krishna Murthy, Ravindrababukallam, Srujana B "A survey on Fingerprint Biometric System" volume 2,issue 4, April 2012.
13. Anupamsaxena, Om pal, Sharda Saiwan and Zia Saquib, "*Token Based Key Managemnet Scheme For SCARDA Communication* "International Journal of Distributed and Parallel Systems (IJDPS) Vol.2, No.4, July 2011.
14. Anupamsaxena, Om pal, Sharda Saiwan and Zia Saquib, Dhiren Patel "*Customized PKI for SCADA System*" Int. J. of Advanced Networking and Applications 282Volume: 01, Issue: 05, Pages: 282-289 (2010).
15. Asser S. Abouzakhar and Muhammed Bello Abdulazeez School of Computer Science, The University of Hertfordshire, college Lane, Hatfield AL 10 9AB, Hertfordshire, UK "*A Fingerprint Matching Model usingUnsupervised Learning Approach*".

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Automated Traffic Control System for Emergency Services

By M Prasanth, G Sai Abhinay & Dr. J V N Ramesh

KL University, India

Abstract- This project aims at creating an effective automated traffic control system to prevent ambulances/emergency service vehicles from getting caught up in traffic, there by decreasing hindrances to vital services both in regular and critical situations. The system is implemented by using the Zig Bee wireless communication protocol for wireless communication, IR speed sensors, GPS technology, secure protocols and analytics to create a smart, secure, energy efficient and a cost-effective solution thus making it a practical solution.

Keywords: *traffic, ambulance, emergency, automated, wireless sensor networks (WSN), strategic locations.*

GJCST-E Classification : C.3

AUTOMATEDTRAFFICCONTROLSYSTEMFOREMERGENCYSERVICES

Strictly as per the compliance and regulations of:

Automated Traffic Control System for Emergency Services

M Prasanth [α], G Sai Abhinay [σ] & Dr. J V N Ramesh [ρ]

Abstract- This project aims at creating an effective automated traffic control system to prevent ambulances/emergency service vehicles from getting caught up in traffic, there by decreasing hindrances to vital services both in regular and critical situations. The system is implemented by using the Zig Bee wireless communication protocol for wireless communication, IR speed sensors, GPS technology, secure protocols and analytics to create a smart, secure, energy efficient and a cost-effective solution thus making it a practical solution.

Keywords: traffic, ambulance, emergency, automated, wireless sensor networks (WSN), strategic locations.

I. Introduction

We are much aware of the fact that ambulances and various other emergency services get disrupted by getting caught up in traffic. On an average each ambulance/fire-engine takes over 28 % more time and in the case of cities and urban areas delays could even go as far as up to 1-2 hours regardless of distance to destination. Establishing proper coordination among authorities at all times is neither possible nor feasible, apart from this due to increased dependence on electronic and wireless systems there is the threat of undesired intrusions. Hence a smart, reliable and autonomous traffic control system is required to prevent the loss of many lives/collateral delays.

On thorough, systematic evaluation of the problem we made the following observations – ambulances/emergency service vehicles get caught up in traffic due to taking less favorable (e.g. traffic prone) owing to the drivers' lack of knowledge and also because those on the roads are unaware/unguided of an ambulance/emergency service vehicle approaching and the actions needed to be taken in order to make way for them.

II. Design

Through the analysis of the problem it has been decided to solve the problem in two parts- the first part of the problem i.e. drivers' awareness of approaching ambulance/emergency service vehicles and information for necessary measures/actions to be taken is solved by using the RF-Transceivers and a additional sensor on the ambulance that transmits its location on the road to nearby traffic-signal posts fitted with systems to react accordingly by warning and diverting traffic to make way for the ambulance/emergency service vehicle.

The communication between the ambulances /emergency service vehicles and device at signal posts is done via RF signals using a secured low-power Zig bee wireless transmission protocol, a technology with proven ease of deployment, functionality and cost-effectiveness.

The second part of the problem i.e. choosing the most favorable route is solved by gathering road-specific and other custom data of traffic conditions from various sensors (IR etc.)fixed at several strategic locations along the roads. The data obtained is then analyzed for information and searched for patterns to obtain a list of best routes (represented in colors based on traffic intensity, distance etc.) to guide the drivers at real-time assisted with in-vehicle GPS system.

III. Module 1

The first part i.e., system to prevent ambulances/emergency service vehicles from getting caught up in traffic due to fellow drivers' lack of awareness/guidance is realized by using this method .The construction of this module include two pairs of RF transceivers of different frequencies say TX1-RX1-433MHz and another pair say TX-RX2-836 MHz for communication between signal posts and ambulances/emergency service vehicles. By using the two frequency pairs of RF trans receivers the protocol will be more secure.
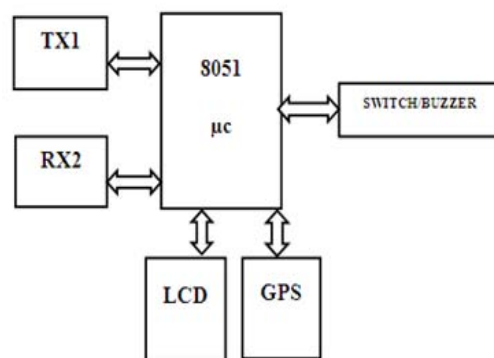
Figure 1.1 : 1Module in Ambulance/Emergency Service vehicle

The ambulance module uses one transceiver package say TX1-RX2433/836 MHz for sending and

Author α σ ρ : Department of Electronics and Computer Engineering, KL University, Vaddeswaram, Guntur, Andhra Pradesh, India.
e-mail: mokaprasanth7@gmail.com.

receiving signals from traffic post mounted system. The module is incorporated with a LCD to view the map and other details aided by a GPS system, an 8051 microcontroller activated by the switch/buzzer. A12 V DC is supplied to each component of this unit.
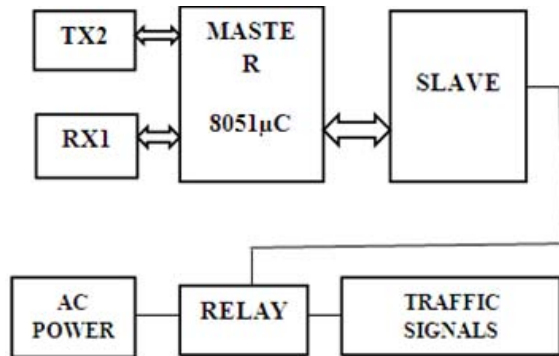
Figure 1.1.2 : Module at traffic signal post

The above is the traffic post module which is fitted at the traffic junctions it uses another transceiver say TX2-RX1-836/433 MHz for sending and receiving signals between the ambulance and traffic post. The master unit uses an 8051 microcontroller for processing which is connected to the traffic controller that acts as a slave. When an interrupt is generated by an emergency vehicle the master unit will disable the slave (traffic controller) and it takes control over the whole action.

IV. MODULE 2

The second part i.e., system to help the ambulance/emergency service vehicle driver choose the most favorable route is realized by placing IR/speed sensors at strategic positions and infrared sensors to detect speed of vehicles, traffic intensity all connected by an ad-hoc network. The data is then processed and with analytics the most favorable route is calculated based on the ambulance/emergency service vehicle's current location obtained through GPS and shown to the driver as routes color-coded in order of time taken on his on-board device.
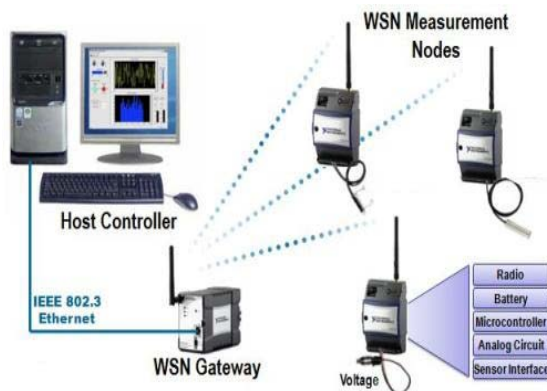
Figure 1.2.1 : Data is transmitted from all locations to the main System

The above setup shows the WSN nodes set at strategically located hoardings/traffic posts used to collect data that is sent to the host controller at the control room for further action.
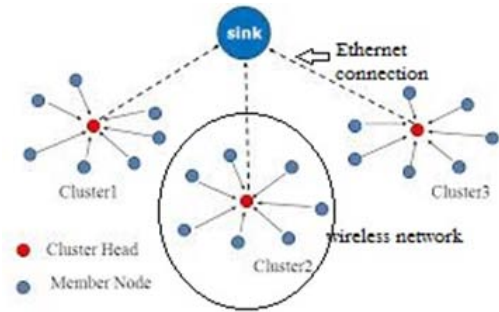
Figure 1.2.2 : Establishing Network Connections

The above setup shows the network pattern - various clusters of the WSN nodes, each member node is a place where sensors are fixed for calculating the speed. The data will be transmitted from all member nodes to the cluster node through wireless network established between them the cluster heads act as a common terminal connected to the WSN nodes via Ethernet connections which are connected to the central point at the control room.

V. WORKING

a) Implementation the first module

The working of the automated traffic control system for emergency services is such that, the vehicle at time of dispatch sends its unique id, location(junction id) and direction in the form of a code word from the ambulance to the system fixed at the traffic posts the microcontroller checks the unique id with the look up tables stored in the memory and checks the junction id when the data bits are matched the authorization is sanctioned and the traffic is cleared according to the direction in which the ambulance is stuck

Using the data other vehicles on the road are affectively guided to make way for the emergency service vehicles by giving appropriate signals.

Apart from this the ambulance/ emergency service vehicle drivers get a mapping of the most favorable routes on their LCD screens with driving instructions.

Coming to the working of the encoding system, the module at the ambulance/emergency service vehicle sends a 16-bit codeword consisting of its unique id, junction id, direction value, parity bits as shown below,

14

8 bits						4 bits				4 bits			
0	1	1	0	1	0	0	1	1	1	x	x	x	x
Unique code of ambulance/emergency service vehicle						Each junc- tion is assigned by a 4 bit unique value				These are the parity bits.			
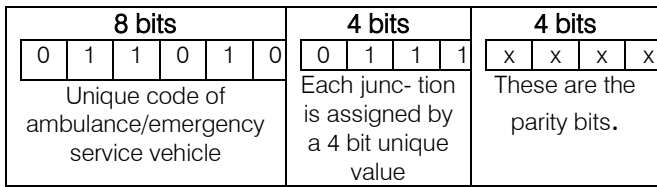
16 bits i.e. 1 word

This is implemented using acknowledgement based approach

Ping 1

Ack 1

Direction bits
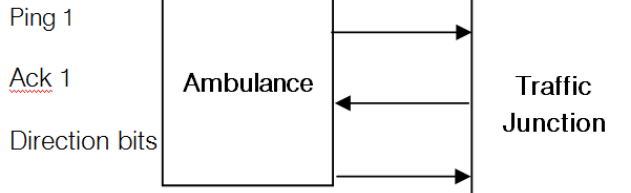
Ping1: first the unique ambulance id with the junction's unique code is transmitted through the rf tx under 433 mhz which is received by the rf rx and process the data bits accordingly and will give the acknowledgement. Depending upon the received acknowledgment the direction bits or the resending (pinging again) are sent to let the system know in which direction it has to clear the traffic or what functionality it has to perform.

Ambulance identification bits direction bits   + junction + Identification bits
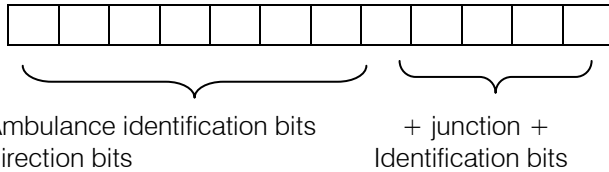
Ack 1: The ack is based on the output of the processes data if suppose the bits are matched then the ack will be accepting

00-Not accepted
01-Accepted
10-Busy mode

Direction: The direction bits denote the compass directions of the ambulance, such as:

> 00-North direction
> 01-West direction
> 10-East direction
> 11-South direction

The direction bits indicate in which road the ambulance has been stuck.
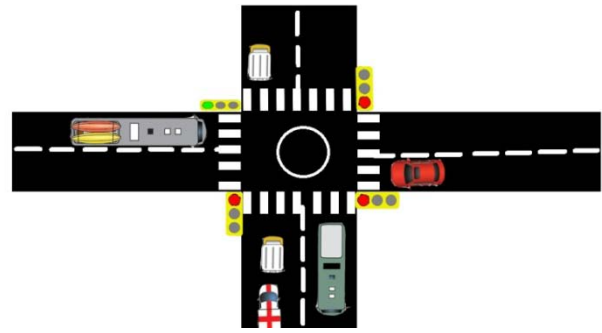
Figure 2.1.1 : An ambulance stuck in traffic

The ambulance is stuck close to the junction as the vehicles in frontobstruct it due to lack of proper coordination or long traffic jams.
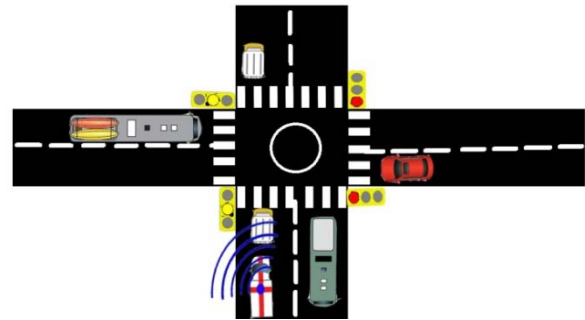
Figure 2.1.2 : The ambulance signals the system to make the road available

The presence of an ambulance is first detected by the sensor/detector at the junction and communicates with the ambulance after the authorization is sanctioned the route will be cleared automatically without human operation.
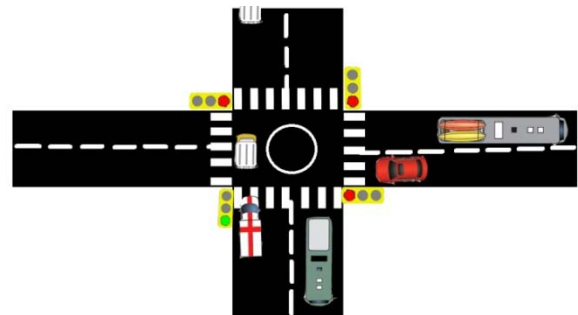
Figure 2.1.3 : The road is made available for the ambulance as per request

Once the authorization is obtained, the path is cleared for the ambulance to move ahead.

b)   *Implementation of second module*

The WSN, IR sensors mounted on strategic locations such as this hoarding.
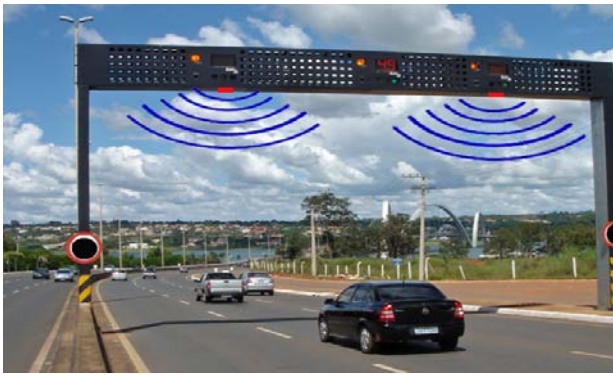
Figure 2.2.1 : Infrared sensors fixed to find speed

The system uses IR sensors, located at strategic locations such as traffic signal posts, hoardings etc. to sense the traffic movement.

This collection of data is through a network of clusters containing member nodes and a cluster head to which the data is sent shown in the fig1.2.2.The clusters are connected to a common host network at the control room. The internal and external connections are via Ethernet.

As shown above Fig 2.2.1 the WSN, IR sensor pairs are used to calculate speed of moving vehicles, frequency of moving vehicles etc. used to determine the most favorable path.

c) Speed Calculation

The speed of moving vehicles is determined by dividing an average car length value by the time obtained from an IR sensor pair. Whenever the beam cuts the timer in the 8051microcontroller will start and value will be noted till the beam rejoins

Speed = Avg. Car Length /Time spent by the vehicle b/w IR beams

The table 3.1shows the theoretical values of traffic intensities and color-coding for routes based on speed of vehicles, traffic intensity. The theoretical values are calculated through statistical observations.

Table 3.1 : Theoretical Values

SPEED(KM)	COLOR
>60	Green
40-30	Yellow
<30	Red

The speed of the vehicles moving on a road is found using sensors, the data taken from those sensors are moved to control point further computations are done on the data acquired to find an average value and is compared with the theoretical value stated in the table 3.1 and the relevant color-coding is given to that road in the maps which can be viewed in the LCD screen by the driver in the ambulance to choose the most favorable route
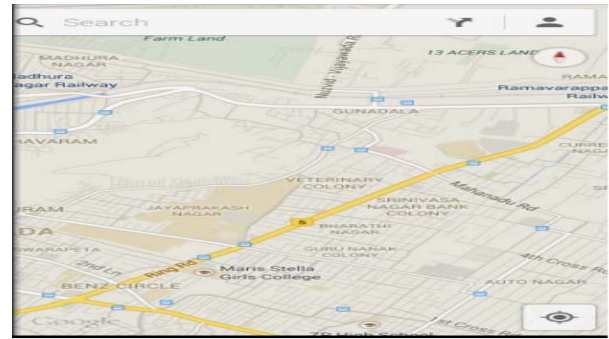
Figure 3.1: Display showing the various paths that may be taken

The fig 3.1 above is a screen short of a area of the Vijay awadain the google maps which we have taken as an example to test. These are the maps that we generally get on our smart phones, laptops or a GPS systems.

Figure 3.2 : The display showing paths with colors representing levels of traffic intensity

In the above fig 3.2 is the similar fig 3.1 with an extra feature incorporated is that it indicates the traffic intensity representing what are the favorable paths for the ambulance to choose avoiding it to get captivated in the traffic.

The roads, colored in green and yellow are the routes that the ambulance has to choose and avoid the red colored routes

VI. SECURITY

Being a vital, heavily used system it has the potential to be manipulated/exploited/hacked by hackers and other anti-social elements. This problem is solved by using fool-proof secure protocols and cryptography while processing signals. A secure protocol consists of the encryption algorithm applied to conceal the message from attackers.

The encryption cipher used in a protocol is very important such that even the data is stolen he may not find the patterns to use it. The cipher must be small size, consume less power and provide satisfactory level of security the Tiny Encryption Algorithm (TEA) seems to be optimal block ciphers notable for their simplicity of

description and implementation typically a few lines of code and most suitable for implementation in tiny microcontrollers.

We have implemented this using 8051 microcontroller which executes instructions in two clock cycles. It has 4 kB -erasable Flash code memory, 128-byte RAM data memory, high-accuracy internal RC oscillator and several system-level functions just perfect for the requirements of low cost, and less power consuming device. When compiled, the cipher occupies 218 bytes of code Decipher needs 224 bytes of code and runs for little more than the encryption.

The protocol itself is much secure it's hard penetrate or hack. Moreover, by using this tiny encryption algorithm (TEA), it adds greater benefit for the safety of the system and the whole process like data transmission and communication.

VII. Conclusion

This solution can be used to prevent greatly the interruption of ambulances and other emergency services, ensure in-time reach of emergency services and not to mention it could greatly improve the chances of survival of patients/victims thus preventing irrecoverable or collateral damages as is the case. This is highly effective when implemented in cities and urban areas.

VIII. Summary

This is a project with the aim to minimize the time taken by ambulances/VIP/emergency service vehicles in reaching their intended destinations, aiming to prevent deaths and collateral damage due to untimely arrival.

A highly efficient, elegant and cost-effective system has been devised using various advanced, reliable, secure technologies as the solution for the problem discussed.

References Références Referencias

1. http://en.wikipedia.org/wiki/Radio-frequency _identifi cation
2. http://en.wikipedia.org/wiki/RF_module
3. http://en.wikipedia.org/wiki/Passive_infrared_sensor
4. The 8051 Microcontroller by Kenneth J Ayala
5. Embedded Systems Architecture, Programming and Design by Raj kamal
6. http://en.wikibooks.org/wiki/Embedded_Systems/80 51_Microcontroller
7. http://www.ijesit.com/Volume%202/Issue%201/IJESI T201301_65.pdf
8. http://en.wikipedia.org/wiki/I%C2%B2C

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Real Time Kernel Based Hot Spot Communication Using Raspberry PI

By K.Tamilsevan, Dr. A. Satheesh "Scientist" & Dr.S.Natarajan

Nandha Engineering College University, India

Abstract- The Real time application of an embedded Linux is essential in the area of device driver platform. Device driver plays a vital role of both hardware and software. Configuration of raspberry Pi Processor in various commands sets in Embedded Linux by enabling of Wi-Fi Device by scratch Process of various units in hardware. More number of devices can be accessed without any problem enabling N number of connections. The development of a kernel is finally changed into an image. That Backup structure will enabled by the Core-image-minimal process.

GJCST-E Classification : D.4.7

REALTIMEKERNELBASEDHOTSPOTCOMMUNICATIONUSINGRASPBERRYPI

Strictly as per the compliance and regulations of:

Real Time Kernel Based Hot Spot Communication Using Raspberry PI

K.Tamilsevan [α], Dr. A. Satheesh "Scientist" [σ] & Dr.S.Natarajan [ρ]

Abstract- The Real time application of an embedded Linux is essential in the area of device driver platform. Device driver plays a vital role of both hardware and software. Configuration of raspberry Pi Processor in various commands sets in Embedded Linux by enabling of Wi-Fi Device by scratch Process of various units in hardware. More number of devices can be accessed without any problem enabling N number of connections. The development of a kernel is finally changed into an image. That Backup structure will enabled by the Core-image-minimal process. Implementations of the bit bake execution to form an image configuration. Finally a pure kernel with a Device Driver bride module is done. Here efficient to create a new hotspot communication by Raspberry Pi board.

I. Introduction

The kernel development for Raspberry Pi was essential to execute reduced time consuming methodologies. The description is systematic developments of kernel development and various control strategy proposed techniques are given below. The need for highly reliable time efficient system real-time operating systems are useful for measurement and control applications, and how they differ from standard general-purpose operating systems like Windows..

II. Problem Identification

GUIs take up a much larger amount of hard disk space than other interfaces.They need significant more memory RAM to run than other interface types.They can slow for experienced programmers to use. These people often find CLI interfaces faster than to use. More time is required for allocate individual application. Not able to execute multitasking sections. Flexibility is more.

III. Existing System

Existing system microcontroller will be configured RTOS code. There will not have a sufficient memory for a large code. Microcontroller not able to support for multitasking and scheduling process.

IV. Proposed System

The main objective of the system,

- To implement a pure kernel system in an Empty manner for creates an efficient platform for device driver.

- To make and configure they image data and beagle bone setup in terminal window.unless the hardware being control

a) Algorithm for Empty kernel

In Linux operating system will able to execute the instructions in the terminal window. Here various parameter and command sets will run in the terminal window. Creating a directory setup updating the essential packages. Then install Yocto project simulator tool is prospective manner from the company website.

Step 1 - go to terminal and connect to internet

Step 2 - sudo apt-get update

Step 3 - sudo apt-get install build-essential

Step 4 - git clone -b dylan git://git.yoctoproject.org/poky.git

Step 5 - cd poky (getting into the folder of yocto)

Step 6 - source oe-init-build-env build-tamil-arm-simulation (creating a build directory in the name of yours)

Step 7 - bitbake -k core-image-minimal (compiling ---- it will take more time to download and compile)

Step 8 - runqemuqemuarm (running the simulation)

V. Block Diagram

These patches usually do only one thing to the source Code they are built on top of each other, modifying the source code by changing, adding, or removing lines of code. Each patch should, when applied, yield a kernel which still builds and Works properly. This discipline forces kernel developers to break their changes down into small,of the traditional embedded bootloaders (uBoot, RedBoot, etc..), delivering high flexibility and total system control in a 100% Linux-based small-footprint embedded solution. Version. On embedded systems, devices are often not connected through a bus allowing enumeration, hot plugging, and providing unique identifiers for devices.

Author α σ ρ: P.G Scholar, Professor & Dean, School of Electrical Sciences, Nandha Engineering College, United institute of technology. e-mail: tamilselvankesavan@yahoo.com

Figure 5.1 : Block Diagram for Hotspot

VI. Boot Loader

Boot loader is a piece of code that runs before any operating system is running.

Figure 6.1 : Image formation for SD card

However, we still want the devices to be part of the device model. The solution to this is the platform driver / platform device. Infrastructure. The platform devices are the devices that are directly connected to the CPU, without any kind of bus.

Figure 6.2 : Hardware Module

VII. Comparision

Table 1.1 : Comparisons of Parameters

Parameter	Existing System	Proposed System
Boot loader size	40 KB	32 KB
Kernel size	2MB	1.5MB
Boot time	30 Sec	25 Sec
Threading	Single Thread	Multi thread
No of Devices Connectivity	Limited to 5 Devices	N number of Device Connectivity

VIII. Conclusion

Embedded Linux is an essential platform for advanced real world interfaces. Here kernel development will Executed in the idea of image formations. Various command sets are used to develop a kernel in the research idea of bit bake executions. Here poky setup will identify directory setup respective progress. Here setup of a core images are configured in poky configuration of a tool. YOCTO project are used to make a simulate and analyse the hardware bridge module as a device driver section. Finally creation of an empty kernel in a reduced boot time execution. Finally hot spot communication are achieved.

References Références Referencias

1. AndiKleen "On submitting kernel patches" article 2010.
2. Andrew Morton kernel.org development and the embedded world http://userweb.kernel.org/~akpm/rants/elc-08.odp.
3. Dumitru TODOROI "Creativity's Kernel Development for Conscience Society"InformaticaEconomicăvol. 16, no. 1/2012
4. Divya Sharma "Porting the Linux Kernel to Arm System-On-Chip And Implementation of RFID

Based Security System Using ARM" Volume 3, Issue 5, May 2013

5. http://www.ijisr.issr-journals.org.
6. http://www.sciencedirect.com/science/journals/all
7. http://landley.net/writing/docs/cross-compiling.html
8. Jae Hwan Koh and ByoungWook Choi "Real-time Performance of Real-time echanisms for RTAI and Xenomai in Various Running Conditions"International Journal of Control and Automation Vol. 6, No. 1, February, 2013.
9. JaydevsinhJadeja, ChintanKapadiya, "Porting the Linux Kernel to Beagle Bone Black"IJSRD - International Journal for Scientific Research & Development│ Vol. 2, Issue 02, 2014 | ISSN (online): 2321-0613.
10. Jonathan Corbet, "Linux Kernel Development" A White Paper By The Linux Foundation December 2010.
11. James William TOPLISS "Latency Performance for Real-Time Audio on BeagleBone Black" in IEEE RealTime Technology and Applications Sympo-sium, pages 133{142. IEEE Computer Society.

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Third Party Web Advertisements

By Dr. D. Aruna Kumari, Ch. Maniteja & M.Hari Prasad

K L University, India

Abstract- Web is driving the evolution of the current system, allowing users to find, share and combine information more easily and delivery of web pages built for the content of websites. HTML, JavaScript and CSS no restrictions on a web page that includes elements or even delegating complete control of a fully decoupled website. These design options have contributed to a number of vulnerabilities well studied and known safety, including cross-site scripting (XSS) and cross-site request forgery (CSRF or XSRF) [1], allowing an unauthorized and unrelated "third party" web page to retrieve information or perform actions on the "website first part" that the user has interacted willingly.

     This article examines the privacy implications of jurisprudence, where in front of a web site first part authorizes a third party website to learn about their users.

GJCST-E Classification : C.2.5

THIRDPARTYWEBADVERTISEMENTS

Strictly as per the compliance and regulations of:

Third Party Web Advertisements

Dr. D. Aruna Kumari [α], Ch. Maniteja [σ] & M.Hari Prasad [ρ]

Abstract- Web is driving the evolution of the current system, allowing users to find, share and combine information more easily and delivery of web pages built for the content of websites. HTML, JavaScript and CSS no restrictions on a web page that includes elements or even delegating complete control of a fully decoupled website. These design options have contributed to a number of vulnerabilities well studied and known safety, including cross-site scripting (XSS) and cross-site request forgery (CSRF or XSRF) [1], allowing an unauthorized and unrelated "third party" web page to retrieve information or perform actions on the "website first part" that the user has interacted willingly.

This article examines the privacy implications of jurisprudence, where in front of a web site first part authorizes a third party website to learn about their users.

I. Introdection

Third-party services bring tremendous value to the web: allow websites to implement trivially first party advertising, analysis, integration of social networks, and more. But also raise privacy issues: in recent years, researchers, civil society and the authorities have drawn attention to the growing trend of third party websites recording and analyzing browsing activities of users through unrelated websites first part.

The technological part begins by surveying technologies and stateless state that can be used to correlate the activities of users on various websites. Next provides an overview of the technologies that enable the provision of third party privacy risk decreased. Finally, the user choice and self-help technologies currently available, including opt cookies, blocking, and Do Not Track is analyzed.

This work is a secondary objective. Discussions on how to respond to third-party web tracking are happening every day in Washington and Brussels. We hope that through the systematization of knowledge about third party web tracking for the community of computer security and privacy, we will ensure that you are better able to assist policy makers in developing solutions that security and privacy, we will ensure that you are better able to assist policy makers in developing solutions that adequately balance privacy, trade, and a thriving network.

Author α : Associate Professor, Department of Electronics and Computer Engineering, K L University, India.
Author σ ρ : Dept.of EB-Tech Iv/Iv..K L University
e-mails: maniteja.chennareddy@gmail.com,
prasad.manigandla@gmail.com

II. Third-party Tracking

Many websites, especially those providing data or free content, rely on advertising to continue operations. several of these sites do not have the infrastructure for technical and business development to hire their own accounts of publishers and serve their own ads. As a result, the trust placed in different websites, third party ad serving corporations, to recruit advertisers and serve those ads on publisher sites. This arrangement allows websites to specialize in what they do best and save time and cash.

We must now how the web-site are responsible for third-parties

- First, in order to make money we force-fully advertise the ads to our own web-site.
- And in order to sell our products on the website, we are announcing our advertisements on other websites.

Because of this third we also face some problems:

III. Privacy Problems

This section reviews the privacy issues of persecution thirdparty internet and varying points of policy responses. Return discussion in 3 phases. First, the browsing history information is obtainable from third parties and how that information is recognizable detailed. Secondly, however explains third persecution Internet could harm users. Third, the survey results consistently show that users would like semioruga not be reviewed. Here in (Fig 1) we are able to see the ads but the third is putting on a selected site.

a) Information Available

Web browsing history is inextricably linked to non-public data. The pages you visit reveal their location, interests, purchases, employment standing, sexual orientation, financial challenges, edical conditions, and more. Browse loads individual pages is usually adequate to several conclusions a few user; analyzing patterns of activity permits however additional deductions. Once a page first part featuring content from third parties, the third party website is created usually attentive to the direction Computer Part page through communications protocol regarding associate degree or equivalent.

Figure 1 : Particular Website with ads

Publicly stated its interest knowledge phase, providing a rare insight into what others are asking supporters to find out regarding users. Segments locked biological time, getting pregnant, unhealthy credit repair and debt relief users. many months If the page includes a script tag of a third party, the third also usually will learn the title page online document. Title. Some first parties may voluntarily transmit additional data assortment including sensitive personal data is not a theoretical concern. In mid- 2011 tend to discovered that advertising network associate degree, Epic market, had after I tend to find that qualitative Free online site web analytics OkCupid causality was the Lotame information provider, however usually drinks user, smoke, and the will of medicine. once Krishnamurthy et al. They tasted search queries in ten health websites fashion, found a third party learned of the user question in nine of them.

b) Identifiability

The third may be a first part in another context, where the user voluntarily provided its identity. Facebook, for example, has over 800 million users and enforces the requirement that users provide their real name service. When a page includes a third social Facebook widget, Facebook identifies the user to customize the widget [2]. If a website puts identification information in a URL or page title, you can unintentionally leak information to third parties. In a document of 2011, Krishnamurthy et al. Registration examined and interaction with 120 popular sites for information leakage to third parties. It was reported that a total of 48% identifier7 leaked a user in a request URI or reference. Using a similar methodology, the identification information leakage analyzed on top US Quantcast 250 websites. We could try recording and interaction with 185 sites; found that a username or user ID is sent to a domain with a different suffix public + 1 (PS + 1) 8 113 (61%) of our sample websites. The five most frequent and most prolific user name and user ID

senders recipients are presented in Tables I and II respectively. In most cases the user name or user ID was part of a user profile URL or page title.

c) Possible Harms

The risk of harm to consumers arises web tracking possible innumerable situations. each specific state of affairs might have a chance Coffee occur. However, the prospect of some situations that happens is considerable, especially once thought about the time and most companies. After taking into account net harmful situations persecution, we found it useful to point four variables. First actor, associate degree that causes harm to a client. The possibly actor, for example, be a certified worker, malicious employee, competitor, acquirer, hacker, or office. Secondly, a form of access that allows the player to use knowledge chase. information could voluntarily transferred, sold, stolen, misplaced, or accidentally distributed. Action Thirdly, associate degree that damages the patron. The action can be, for example, publication, less favorable supply, denial of a benefit, or termination of employment. Lastly, a damage inflicted selected. The damage may be physical, psychological or economic. The countless mixtures of these variables lead to thousands of potential dangerous results for buyers. To illustrate our thinking, one usually thought-about here scenario: A hacker (actor) breaks into a search company (access) and publishes its search data (action), inflicting a shameful reality in relation to the employer to become the best known and inflict emotional distress.

IV. Cookies

Cookie is a cute for what is basically a text file name. When you visit a website, the website can ask your web browser (like Internet Explorer or Firefox) to create a text file to store some useful information. This information can only be read by the website that created the information first. This is the concept behind Internet cookies.

When you vist a domain as www.somedomain.com, the somedomain.com server can order your browser to set a cookie. This is a cookie source, since it is determined by the domain you have chosen to visit. Party cookies are vital to many of the biggest websites. Usually they are a good thing, allowing a site to remember you entered in the system, or to remember what items you have added to your cart.

a) Third-party cookies

But when you visit a domain as www.somedomain.com, web pages on that domain can present content from a third party domain []. For example, there may be an ad run by www.anotherdomain.com showing graphic ad banners.

When your browser requests the image of the flag of www.anotherdomain.com, allowing the third domain to set a cookie. Each domain can only read the cookie that was created, so there should be no way to www.anotherdomain.com read the cookies created by www.somedomain.com. So what's the problem?

Some people do not like third-party cookies for the following reason: assume that most Internet sites have banner ads www.anotherdomain.com. Now that the advertiser can use your third cookie to identify you as you move from one place to another place their ads with your ads. Although the advertiser www.anotherdomain.Com may not know his name, you can use the random identification number in the cookie to build an anonymous profile of the sites you visit. Then when you see the unique ID in the cookie third, you can tell yourself: "Away 3E7ETW278UT regularly visit a music site, so that he / she advertisements about music and music show products".

Some people do not like the notion of advertising companies building up profiles acerca Their browsing habits, even if the profile is anonymous. ".

V. WEB PERFORMANCE TODAY

There is a growing awareness of the fact that the third party content may cause a major blow to the performance of your site. Okay. Grande. Now we have to deal with what I have called "fourth-party calls". Not only can these insidious server calls leaching yield, they also have massive implications for safety.

b) Single third-party call

You own a website and you are about a third party company to add a single line of code. We sent an implementation guide and work your developer to paste a simple code snippet. The output on page might look something like this:

<iframe src = "https://secure.img- cdn.mediaplex.com/ 0/932/home_page.html? Home=0 and mpuid = Wednesday, July 13, 2011 at 16:49:10 EDT" height = "1 "width =" "frameborder =" 1 0 "> </ iframe>

What happens next is the scary part: all is lost effective control.

This file starts a cascade of fourth-party calls - calls from third label you authorized to lots of other sites. You thought that with that one snippet, which had put in a single call to a server, but look at the waterfall below. Almost all of this is produced from a line that:

If you are new to reading the waterfalls, here's a quick primer. If you prefer to skip the primer, here's a quick interpretation:

- "simple" third label This led to 49 calls
- per server - requires that the site owner
- does not authorize - several fourth-party servers.

- Of these 49 calls fourth game, 21 are redirects. (These are indicated by the red dots.) The result: a ping pong effect as each rebounds calls redirected from server to server, wasting valuable time load.
- Each of these calls quarter is over SSL, which has a significant impact on the charging time.
- What this adds up to: all these calls fourth game add 1.8 seconds to the load time of the page.

The performance impact is severe. But what really worries me is the fact that all these four parties - companies that have no relation - are filling their databases with every last bit of information you can about your customers and your site.

c) Fourth-party call

What is especially troubling implications for security and privacy of calls of Game is the fact that they have unrestricted access to user data: you can view and capture all about its users without their express consent. And the kind of information we may collect is amazing [8]. Here's a fairly innocuous example (Fig2). A few months ago, I went to the artists website:

A while later, I was visiting the site of the New York Times. Note the ad in the lower right corner in (fig 3):

Figure 3 : The NYT site with Ad

This is a classic example of retargeting. Retargeting is when ads are delivered to you based on previous things you did or places you went online. Although Skechers is very happy to have the NY Times show me this announcement, my concern is that all data authorizing a third party to use to make this happen is available for any of the other fourth- party calls.

Data flowing out of the original site and in one, or perhaps even many, databases, scary. Want the entire browsing history of users, including what products you looked at your site, collected and sold by strangers?

Worse, perhaps, is that the fourth-party calls may change at any time at the whim of the third part - or even another fourth game - as many of these call cascade and delivered from one company to another.

People routinely in a stew every time Facebook changes its privacy settings, but at least the Facebook privacy settings are something that can be controlled via a dashboard. If people knew how much of their personal navigation history has already been captured and stored in a number of databases, the protest could stifle complaints related to Facebook.

VI. ADVANTAGES

- Measurement of third-party content can pinpoint whose domain is responsible for the poor performance.
- Further analysis may allow content management under their ownership.

- It is easier to monitor ongoing performance of all content, whether inside or third.
- The specific alarms in case of a drop in performance can lead to a quicker resolution of potential problems.
- Specific tests and associated alarms can help improve development practices, as some performance problems are due to erroneous modifications of previously working code.
- Performance monitoring selective third party content may establish proof of the liability of third party vendors. This may also establish accountability for performance problems that slow or block the Web site.

VII. DO NOT TRACK

Do Not Track is a proposal technology and policy that allows users to opt out of tracking by websites that are not visited, including analysis services [11], advertising networks, and social platforms. Today some of these third parties offer reliable opt out monitoring, and tools for blocking them are easy to use nor nor complete. Like the popular not call, Do Not Track provides users with a single option, simple and persistent to opt out of third party web tracking.

Do Not Track signals opt-out preference of a user with an HTTP header, a simple technology that is fully compatible with the existing network. While some third parties have pledged to honor Do Not Track, many more do not. In February
2012, major trade groups online advertising pledged at the White House to support Do Not Track end of the year;

that promise remains unfulfilled. Efforts to standardize Do Not Track in the Consortium of the World Wide Web have resulted in a stalemate, despite frequent urge Americans and Europeanpolicymakers.

We do not track that could be a success, but at this time, must be implemented through either a legal or technical requirement. Meanwhile, new technical countermeasures as Cookie- Clearinghouse promising options to provide simple and effective user web tracking.

VIII. CONCLUSION

This paper surveyed and technology policy issues in the thirdparty web crawling principles. The field is changing rapidly; new ads, questions and research results appear in the week. We hope the information presented here provides researchers security and privacy with the necessary background to contribute to this developing field and participate meaningfully in public debate.

References Références Referencias

1. The broad political security .Content World web Available: http://www.w3.org/TR/CSP/
2. Jonathan R. Mayer and John C. Mitchell Stanford University Stanford, CA, "Third-Party Tracking Web: Politics and Technology" 2012
3. The leakage of personally identifiable information available: http://www2.research.att.com/~bala/papers/wosn09.pdf
4. Third-party tracking available: https://support.google.com/dfp_premium/answer/1242569?hl=en
5. University of Santa Clara Available: http://www.scu.edu/ethics- center/privacy/harm/
6. On the web analytics Available: http://en.wikipedia.org/wiki/Web_analytics
7. Between the first and third parts: http://www.opentracker.net/article/third-party-cookies-vs-first-party-Cookies
8. Fourth game called Available: http://www.Webperformancetoday.com/2011/07/14/fourth-party-calls-third-party- content/
9. The benefits of third party Content Monitoring available:http://www.keynote.com/resources/white-papers/benefits-of-3rd-party-content- monitoring
10. About cookies available: http://www.bobulous.org.uk/misc/third- party-cookies.html
11. No Track Available:http://donottrack.us/

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Intersection RSU in Vanet

By Rohini Avinash Nere & Prof. Uma Nagaraj

University Maharashtra Academy of Engineering, India

Abstract- Vanet is most important and new type adhoc networking which needs attention. If research of scholars and technology of automobile industry combinely work in this area they can reduces accidents happening on roads. Basically Vanet is Adhoc network in which vehicles are treated as Node. And these nodes are communicating with each other as well as rsu [Road side unit] s on the road. In This paper we shortly studied real time examples of vanet. There is huge no of accidents happens at the intersection.

Keywords: vanet, intersection Rsu, broad casting at intersection.

GJCST-E Classification : C.2.6

INTERSECTIONRSUINVANET

Strictly as per the compliance and regulations of:

Intersection RSU in Vanet

Rohini Avinash Nere [α] & Prof. Uma Nagaraj [σ]

Abstract- Vanet is most important and new type adhoc networking which needs attention. If research of scholars and technology of automobile industry combinely work in this area they can reduces accidents happening on roads. Basically Vanet is Adhoc network in which vehicles are treated as Node. And these nodes are communicating with each other as well as rsu [Road side unit] s on the road. In This paper we shortly studied real time examples of vanet. There is huge no of accidents happens at the intersection. Our motive is to prevent accidents at intersection by introducing Intersection RSU in the system. We have discussed simulators results for the same.

Keywords: vanet, intersection Rsu, broad casting at intersection.

I. Intorduction

In this type of a network the vehicle is equipped with communicating devices like gprs, computer operated radio model, forward radar, location tracking device, display. This equipped vehicle is allowed to communicate with another vehicle. Only condition for communication is the range of both vehicles. This network is named as VEHICULER ADHOC NETWORK. Main intention of this network is to provide safety to car and comfort to driver.

II. Related Servy

a) Real time Servy

In [1] & [2] Some real time examples of vanet are described. This are the projects of US and Germane government. [1] is ITS connect vehicle project developed by department of transportation [dot] U.S. According to them Transportation Safety is the topmost priority of this project. Their expectations from the system are as follows

- system must Prevent or minimize the severity of crashes
- Minimize driver workload i.e. driver should not be busy in giving inputs to system
- Ensure that to do not disturb driver while driving
- All road users are taken in to consideration
- The system is making sure that safety applications like radio frequency or tracking devices cannot be turned off.

After detail study of this system we can conclude that this system is revolution in the world of vanet. It is achieving all its goals and expectations. But

this system is facing some problems like memory of the devices, cost of road side installment, increased cost of new cars, ownership issues with investors, revenue generation after one time installment will grow slowly which will directly question to profit. Most importantly this system does not concentrate on problem accidents at intersection.

[2] FleetNet is another real time example of vanet. It is developed by German Bundesministerium. The objectives of this project are

- To develop a communication platform Which will help for inter-vehicle communications
- To implement demonstrator applications
- To develop promising introduction strategies
- To standardize the solutions found in order to improve drivers' and passengers' safety and comfort Application of FleetNet are as follows
- Cooperative driver assistance which includes Overtaking assistance, Obstacle warning
- Traffic jam monitor Route weather forecast
- User communications and information services like distributed games, mobile advertising, hot spot internet accesses.

As FeepNet is totally based on the position based routing technique it is also having some drawback of PBR. This system is assuming that vehicle is all aware of the geographical area. But in case of vehicle new for the system then routing can not be handled properly. Memory required for storage is more as compared to first system. Data security is another issue faces in this system. Most importantly FleetNet also does not provide any attention to intersections problem.

So finally we came to analysis that actual work is done only on security, data transmission, etc but one of the main reason of accidents may get neglected. We had also surveyed some reason s of accidents.

[3] Is the survey of accidents happen in India in year 2013 to 2015 and it is stating that more than 40% of accidents happen at the intersection. Main reason behind this is driver from one road is unaware about the vehicle and speed of vehicle on another road. So if someone at intersection is kept to just notify that vehicle is coming towards the intersection then this problem can be solved. And no of accidents happening at intersection can be reduced. So what are available solutions to this we can keep signals to all intersection or we can keep one traffic police at intersection. Both

Author α σ: Computer dept, MIT Alandi, Pune, Maharashtra, India.
e-mails: rohini.nere9@gmail.com, umanagaraj@comp.maepune.ac.in

this solutions are impossible to implement in country like India. Because keeping signals at intersection will increase unnecessary waiting time and it also degrade the performance of the vehicle. Second option is also not good solution because it needs no of employees to be recruited. So here comes idea about the inter section RSU.

III. RELATED SEARCH

Till now we have observed what happened at intersection with respect to vehicle. Or we can say taking accidents into consideration. Now we have to consider that what happen at intersection with respect to package loss. For fast delivering packets we need connectivity in network. As we know node stability is major challenge in Vanet. Packets may loss due to poor connectivity.

In [4] This paper technique of connectivity of a routing path is discussed. The direction of packets may change at point of turn or intersection. Packets have options when it come at intersection it may select wrong intermediate intersection due to which it can loss packet. Author introduce back bone node which takes care of void regions on road, disturbances created by changing source and destinations positions. These back bone nodes are divided in two types first is intersection backbone node and another is back bone node at road segment this nodes are responsible for maintenance of connectivity at intersection. This system proposes a distance based greedy routing protocol whose aim is to reduce the end-to-end delay. This delay is reduced by a routing path which includes the minimum number of intermediate intersections.

So after studying this paper we came for observation that here packet loss problem is solved by minimizing number of intersections. Or we can say this system is avoiding that path which is having more intersection.

In [5] In this paper authors presented broad casting approach in Vanet, Specially for the intersection. Vehicle may come across the communication range of other vehicle at the intersection. Which will results in cancellation of rebroadcasting, miss guided message, hidden terminal problem, negative effect, etc. This paper proposed the system in which vehicles are classified into six classes based on their location; this will help to reduce negative effect.

This paper is somehow manages the problems faced at intersection with respect to broadcasting. But still this system fails to inform driver regarding vehicle coming towards intersection.

IV. PROPOSED WORK

In proposed research work first we create a VANET system which will maintain the an intersection for every turning points it will maintain every node location which is arrive in that area.
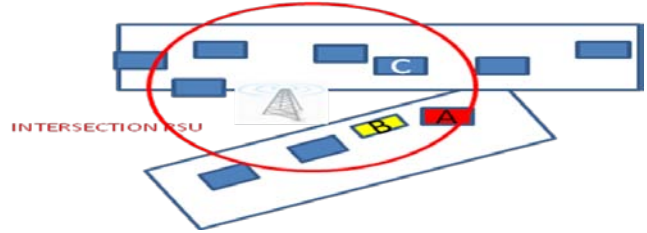
Figure 1 : Fig showing proposed work system

This RSU will also inform all vehicles coming within its range that how many vehicles are taking turn or going straight. This project we presented an improved scheduling algorithm for Vehicular Ad-Hoc networks (VANETS). Such algorithm is required for improving the throughput of the network. The algorithm differs from basic scheduling algorithm which was used before due to the fact that it has better throughput capability and more stable on a cluster with growing number of cars.

V. SIMULATON RESULTS

As we have proposed intersection RSU. Our simulation results will have road vehicles and road intersection.

The fig 2 explains the vehicular network construction
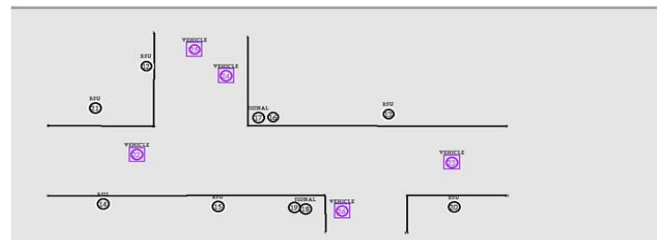
Figure 2 : Result after simulation

RSU is road side unit which is located in road side. i.e. this is result of first module "initialize network". Here we have just organized vehicles on road and various attributes like speed, starting point, ending point, color of vehicle, RSU are set
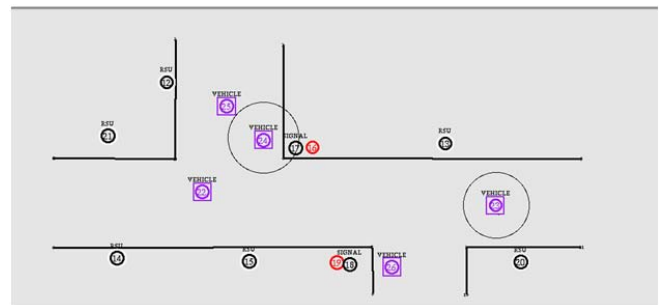
Figure 3 : Intersection Rsu Communication

The fig 3 explains broadcasting the information at the intersection point of junction, vehicle 24 transmits

information to nearest vehicle communication this is actual screen shot after intersection RSU is introduce in system So our proposed work intersection RSU is implemented here. Other work like cluster making and relay node selection we will implementation we will do in future scopeAfter the text edit has been completed, the paper is ready for the template. Duplicate the template file by using the Save As command, and use the naming convention prescribed by your conference for the name of your paper. In this newly created file, highlight all of the contents and import your prepared text file. You are now ready to style your paper; use the scroll down window on the left of the MS Word Formatting toolbar.

VI. Performance Analysis

a) Result analysis
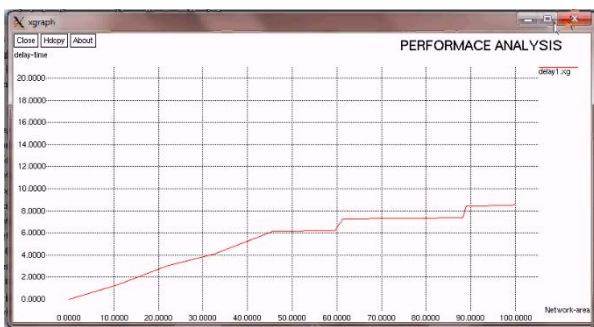
Figure 4 : Performance analysis [Delay]

This graph is of performance analysis of delay in package transmission. This graph actually justifies that average delay in delivering packets. Graph is plotted on delay in packages and network area. This graph shows us that delay growth is not so rapid we somehow manage to stabiles delay graph.
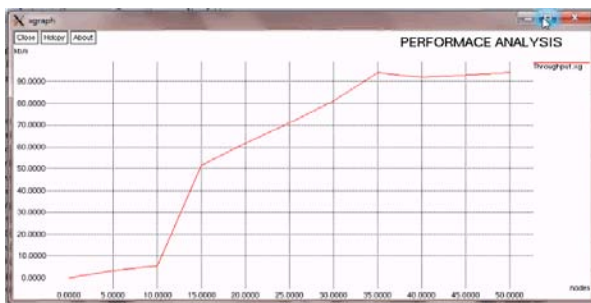
Figure 5 : Performance analysis [Throughput]

This graph explains data rate traveling speed in kilo bits per second. This graph is plotted in between kilobytes and nodes. So we can analysis from this graph that through put of our system is increasing rapidly. It is very high, which means we have help to improve performance o four system.

VII. Conclusion

In this paper we presented an approach to broadcast a message among highly mobile hosts like vehicles in road traffic. The proposed and implemented method considers unreliability that can occur in propagating message in roads that constitute an intersection. This unreliability happens because vehicles in different road of an intersection can be in communication range of each other and according to many recent methods broadcasting in one way may affect on vehicles of another way and cancels their broadcasting that result in reducing delivery ratio. So we proposed a broadcast method that works on the minimum waiting time principle we have also introduce intersection RS. This RSU is used to count the no of vehicles turning Left or Right. This will reduce no of accidents happening at the intersection of roads. Thus, our approach could indeed inform drivers on different roads. For future work we will consider other challenges that affect delivery ratio of broadcasting like fragmentations, bends, curve roads, different communication ranges of vehicles.

References Références Referencias

1. http://www.its.dot.gov/connected_vehicle/principles_connectedvehicle_environment.htm
2. http://uk.nec.com/en_GB/emea/about/neclab_eu/-projects/fleetnet.html
3. http://savelifefoundation.org/statistics/?gclid=CjwKEAjw0LmoBRDHuo7UkaKXhn8SJADmDTG00KRNvhn6Nlty5C1rNblWCbHpWT1WVuQXLxHGXfNH9RoCCzfw_wcB
4. http://iraj.in/up_proc/pdf/116-141813546772-78.pdf
5. 2010 International Conference on Electronics and Information Engineering (ICEIE 2010) The Challenge of Broadcasting at Intersections in Vehicular Adhoc Networks.

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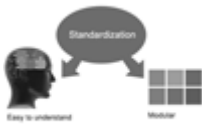
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Metric SI units are supposed to generally be used excluding where they conflict with current practice or are confusing. For illustration, 1.4 l rather than 1.4 × 10-3 m3, or 4 mm somewhat than 4 × 10-3 m. Chemical formula and solutions must identify the form used, e.g. anhydrous or hydrated, and the concentration must be in clearly defined units. Common species names should be followed by underlines at the first mention. For following use the generic name should be constricted to a single letter, if it is clear.

Structure

All manuscripts submitted to Global Journals Inc. (US), ought to include:

Title: The title page must carry an instructive title that reflects the content, a running title (less than 45 characters together with spaces), names of the authors and co-authors, and the place(s) wherever the work was carried out. The full postal address in addition with the e-mail address of related author must be given. Up to eleven keywords or very brief phrases have to be given to help data retrieval, mining and indexing.

Abstract, used in Original Papers and Reviews:

Optimizing Abstract for Search Engines

Many researchers searching for information online will use search engines such as Google, Yahoo or similar. By optimizing your paper for search engines, you will amplify the chance of someone finding it. This in turn will make it more likely to be viewed and/or cited in a further work. Global Journals Inc. (US) have compiled these guidelines to facilitate you to maximize the web-friendliness of the most public part of your paper.

Key Words

A major linchpin in research work for the writing research paper is the keyword search, which one will employ to find both library and Internet resources.

One must be persistent and creative in using keywords. An effective keyword search requires a strategy and planning a list of possible keywords and phrases to try.

Search engines for most searches, use Boolean searching, which is somewhat different from Internet searches. The Boolean search uses "operators," words (and, or, not, and near) that enable you to expand or narrow your affords. Tips for research paper while preparing research paper are very helpful guideline of research paper.

Choice of key words is first tool of tips to write research paper. Research paper writing is an art.A few tips for deciding as strategically as possible about keyword search:

- One should start brainstorming lists of possible keywords before even begin searching. Think about the most important concepts related to research work. Ask, "What words would a source have to include to be truly valuable in research paper?" Then consider synonyms for the important words.
- It may take the discovery of only one relevant paper to let steer in the right keyword direction because in most databases, the keywords under which a research paper is abstracted are listed with the paper.
- One should avoid outdated words.

Keywords are the key that opens a door to research work sources. Keyword searching is an art in which researcher's skills are bound to improve with experience and time.

Numerical Methods: Numerical methods used should be clear and, where appropriate, supported by references.

Acknowledgements: Please make these as concise as possible.

References

References follow the Harvard scheme of referencing. References in the text should cite the authors' names followed by the time of their publication, unless there are three or more authors when simply the first author's name is quoted followed by et al. unpublished work has to only be cited where necessary, and only in the text. Copies of references in press in other journals have to be supplied with submitted typescripts. It is necessary that all citations and references be carefully checked before submission, as mistakes or omissions will cause delays.

References to information on the World Wide Web can be given, but only if the information is available without charge to readers on an official site. Wikipedia and Similar websites are not allowed where anyone can change the information. Authors will be asked to make available electronic copies of the cited information for inclusion on the Global Journals Inc. (US) homepage at the judgment of the Editorial Board.

The Editorial Board and Global Journals Inc. (US) recommend that, citation of online-published papers and other material should be done via a DOI (digital object identifier). If an author cites anything, which does not have a DOI, they run the risk of the cited material not being noticeable.

The Editorial Board and Global Journals Inc. (US) recommend the use of a tool such as Reference Manager for reference management and formatting.

Tables, Figures and Figure Legends

Tables: Tables should be few in number, cautiously designed, uncrowned, and include only essential data. Each must have an Arabic number, e.g. Table 4, a self-explanatory caption and be on a separate sheet. Vertical lines should not be used.

Figures: Figures are supposed to be submitted as separate files. Always take in a citation in the text for each figure using Arabic numbers, e.g. Fig. 4. Artwork must be submitted online in electronic form by e-mailing them.

Preparation of Electronic Figures for Publication

Even though low quality images are sufficient for review purposes, print publication requires high quality images to prevent the final product being blurred or fuzzy. Submit (or e-mail) EPS (line art) or TIFF (halftone/photographs) files only. MS PowerPoint and Word Graphics are unsuitable for printed pictures. Do not use pixel-oriented software. Scans (TIFF only) should have a resolution of at least 350 dpi (halftone) or 700 to 1100 dpi (line drawings) in relation to the imitation size. Please give the data for figures in black and white or submit a Color Work Agreement Form. EPS files must be saved with fonts embedded (and with a TIFF preview, if possible).

For scanned images, the scanning resolution (at final image size) ought to be as follows to ensure good reproduction: line art: >650 dpi; halftones (including gel photographs) : >350 dpi; figures containing both halftone and line images: >650 dpi.

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6. AFTER ACCEPTANCE

Upon approval of a paper for publication, the manuscript will be forwarded to the dean, who is responsible for the publication of the Global Journals Inc. (US).

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(Free of charge) from the following website:

www.adobe.com/products/acrobat/readstep2.html. This will facilitate the file to be opened, read on screen, and printed out in order for any corrections to be added. Further instructions will be sent with the proof.

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Before start writing a good quality Computer Science Research Paper, let us first understand what is Computer Science Research Paper? So, Computer Science Research Paper is the paper which is written by professionals or scientists who are associated to Computer Science and Information Technology, or doing research study in these areas. If you are novel to this field then you can consult about this field from your supervisor or guide.

TECHNIQUES FOR WRITING A GOOD QUALITY RESEARCH PAPER:

1. Choosing the topic: In most cases, the topic is searched by the interest of author but it can be also suggested by the guides. You can have several topics and then you can judge that in which topic or subject you are finding yourself most comfortable. This can be done by asking several questions to yourself, like Will I be able to carry our search in this area? Will I find all necessary recourses to accomplish the search? Will I be able to find all information in this field area? If the answer of these types of questions will be "Yes" then you can choose that topic. In most of the cases, you may have to conduct the surveys and have to visit several places because this field is related to Computer Science and Information Technology. Also, you may have to do a lot of work to find all rise and falls regarding the various data of that subject. Sometimes, detailed information plays a vital role, instead of short information.

2. Evaluators are human: First thing to remember that evaluators are also human being. They are not only meant for rejecting a paper. They are here to evaluate your paper. So, present your Best.

3. Think Like Evaluators: If you are in a confusion or getting demotivated that your paper will be accepted by evaluators or not, then think and try to evaluate your paper like an Evaluator. Try to understand that what an evaluator wants in your research paper and automatically you will have your answer.

4. Make blueprints of paper: The outline is the plan or framework that will help you to arrange your thoughts. It will make your paper logical. But remember that all points of your outline must be related to the topic you have chosen.

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10. Bookmarks are useful: When you read any book or magazine, you generally use bookmarks, right! It is a good habit, which helps to not to lose your continuity. You should always use bookmarks while searching on Internet also, which will make your search easier.

11. Revise what you wrote: When you write anything, always read it, summarize it and then finalize it.

12. Make all efforts: Make all efforts to mention what you are going to write in your paper. That means always have a good start. Try to mention everything in introduction, that what is the need of a particular research paper. Polish your work by good skill of writing and always give an evaluator, what he wants.

13. Have backups: When you are going to do any important thing like making research paper, you should always have backup copies of it either in your computer or in paper. This will help you to not to lose any of your important.

14. Produce good diagrams of your own: Always try to include good charts or diagrams in your paper to improve quality. Using several and unnecessary diagrams will degrade the quality of your paper by creating "hotchpotch." So always, try to make and include those diagrams, which are made by your own to improve readability and understandability of your paper.

15. Use of direct quotes: When you do research relevant to literature, history or current affairs then use of quotes become essential but if study is relevant to science then use of quotes is not preferable.

16. Use proper verb tense: Use proper verb tenses in your paper. Use past tense, to present those events that happened. Use present tense to indicate events that are going on. Use future tense to indicate future happening events. Use of improper and wrong tenses will confuse the evaluator. Avoid the sentences that are incomplete.

17. Never use online paper: If you are getting any paper on Internet, then never use it as your research paper because it might be possible that evaluator has already seen it or maybe it is outdated version.

18. Pick a good study spot: To do your research studies always try to pick a spot, which is quiet. Every spot is not for studies. Spot that suits you choose it and proceed further.

19. Know what you know: Always try to know, what you know by making objectives. Else, you will be confused and cannot achieve your target.

20. Use good quality grammar: Always use a good quality grammar and use words that will throw positive impact on evaluator. Use of good quality grammar does not mean to use tough words, that for each word the evaluator has to go through dictionary. Do not start sentence with a conjunction. Do not fragment sentences. Eliminate one-word sentences. Ignore passive voice. Do not ever use a big word when a diminutive one would suffice. Verbs have to be in agreement with their subjects. Prepositions are not expressions to finish sentences with. It is incorrect to ever divide an infinitive. Avoid clichés like the disease. Also, always shun irritating alliteration. Use language that is simple and straight forward. put together a neat summary.

21. Arrangement of information: Each section of the main body should start with an opening sentence and there should be a changeover at the end of the section. Give only valid and powerful arguments to your topic. You may also maintain your arguments with records.

22. Never start in last minute: Always start at right time and give enough time to research work. Leaving everything to the last minute will degrade your paper and spoil your work.

23. Multitasking in research is not good: Doing several things at the same time proves bad habit in case of research activity. Research is an area, where everything has a particular time slot. Divide your research work in parts and do particular part in particular time slot.

24. Never copy others' work: Never copy others' work and give it your name because if evaluator has seen it anywhere you will be in trouble.

25. Take proper rest and food: No matter how many hours you spend for your research activity, if you are not taking care of your health then all your efforts will be in vain. For a quality research, study is must, and this can be done by taking proper rest and food.

26. Go for seminars: Attend seminars if the topic is relevant to your research area. Utilize all your resources.

27. Refresh your mind after intervals: Try to give rest to your mind by listening to soft music or by sleeping in intervals. This will also improve your memory.

28. Make colleagues: Always try to make colleagues. No matter how sharper or intelligent you are, if you make colleagues you can have several ideas, which will be helpful for your research.

29. Think technically: Always think technically. If anything happens, then search its reasons, its benefits, and demerits.

30. Think and then print: When you will go to print your paper, notice that tables are not be split, headings are not detached from their descriptions, and page sequence is maintained.

31. Adding unnecessary information: Do not add unnecessary information, like, I have used MS Excel to draw graph. Do not add irrelevant and inappropriate material. These all will create superfluous. Foreign terminology and phrases are not apropos. One should NEVER take a broad view. Analogy in script is like feathers on a snake. Not at all use a large word when a very small one would be sufficient. Use words properly, regardless of how others use them. Remove quotations. Puns are for kids, not grunt readers. Amplification is a billion times of inferior quality than sarcasm.

32. Never oversimplify everything: To add material in your research paper, never go for oversimplification. This will definitely irritate the evaluator. Be more or less specific. Also too, by no means, ever use rhythmic redundancies. Contractions aren't essential and shouldn't be there used. Comparisons are as terrible as clichés. Give up ampersands and abbreviations, and so on. Remove commas, that are, not necessary. Parenthetical words however should be together with this in commas. Understatement is all the time the complete best way to put onward earth-shaking thoughts. Give a detailed literary review.

33. Report concluded results: Use concluded results. From raw data, filter the results and then conclude your studies based on measurements and observations taken. Significant figures and appropriate number of decimal places should be used. Parenthetical remarks are prohibitive. Proofread carefully at final stage. In the end give outline to your arguments. Spot out perspectives of further study of this subject. Justify your conclusion by at the bottom of them with sufficient justifications and examples.

34. After conclusion: Once you have concluded your research, the next most important step is to present your findings. Presentation is extremely important as it is the definite medium though which your research is going to be in print to the rest of the crowd. Care should be taken to categorize your thoughts well and present them in a logical and neat manner. A good quality research paper format is essential because it serves to highlight your research paper and bring to light all necessary aspects in your research.

Informal Guidelines of Research Paper Writing

Key points to remember:

- Submit all work in its final form.
- Write your paper in the form, which is presented in the guidelines using the template.
- Please note the criterion for grading the final paper by peer-reviewers.

Final Points:

A purpose of organizing a research paper is to let people to interpret your effort selectively. The journal requires the following sections, submitted in the order listed, each section to start on a new page.

The introduction will be compiled from reference matter and will reflect the design processes or outline of basis that direct you to make study. As you will carry out the process of study, the method and process section will be constructed as like that. The result segment will show related statistics in nearly sequential order and will direct the reviewers next to the similar intellectual paths throughout the data that you took to carry out your study. The discussion section will provide understanding of the data and projections as to the implication of the results. The use of good quality references all through the paper will give the effort trustworthiness by representing an alertness of prior workings.

Writing a research paper is not an easy job no matter how trouble-free the actual research or concept. Practice, excellent preparation, and controlled record keeping are the only means to make straightforward the progression.

General style:

Specific editorial column necessities for compliance of a manuscript will always take over from directions in these general guidelines.

To make a paper clear

· Adhere to recommended page limits

Mistakes to evade

- Insertion a title at the foot of a page with the subsequent text on the next page
- Separating a table/chart or figure - impound each figure/table to a single page
- Submitting a manuscript with pages out of sequence

In every sections of your document

· Use standard writing style including articles ("a", "the," etc.)

· Keep on paying attention on the research topic of the paper

· Use paragraphs to split each significant point (excluding for the abstract)

· Align the primary line of each section

· Present your points in sound order

· Use present tense to report well accepted

· Use past tense to describe specific results

· Shun familiar wording, don't address the reviewer directly, and don't use slang, slang language, or superlatives

· Shun use of extra pictures - include only those figures essential to presenting results

Title Page:

Choose a revealing title. It should be short. It should not have non-standard acronyms or abbreviations. It should not exceed two printed lines. It should include the name(s) and address (es) of all authors.

Abstract:

The summary should be two hundred words or less. It should briefly and clearly explain the key findings reported in the manuscript-- must have precise statistics. It should not have abnormal acronyms or abbreviations. It should be logical in itself. Shun citing references at this point.

An abstract is a brief distinct paragraph summary of finished work or work in development. In a minute or less a reviewer can be taught the foundation behind the study, common approach to the problem, relevant results, and significant conclusions or new questions.

Write your summary when your paper is completed because how can you write the summary of anything which is not yet written? Wealth of terminology is very essential in abstract. Yet, use comprehensive sentences and do not let go readability for briefness. You can maintain it succinct by phrasing sentences so that they provide more than lone rationale. The author can at this moment go straight to shortening the outcome. Sum up the study, with the subsequent elements in any summary. Try to maintain the initial two items to no more than one ruling each.

- Reason of the study - theory, overall issue, purpose
- Fundamental goal
- To the point depiction of the research
- Consequences, including <u>definite statistics</u> - if the consequences are quantitative in nature, account quantitative data; results of any numerical analysis should be reported
- Significant conclusions or questions that track from the research(es)

Approach:

- Single section, and succinct
- As a outline of job done, it is always written in past tense
- A conceptual should situate on its own, and not submit to any other part of the paper such as a form or table
- Center on shortening results - bound background information to a verdict or two, if completely necessary
- What you account in an conceptual must be regular with what you reported in the manuscript
- Exact spelling, clearness of sentences and phrases, and appropriate reporting of quantities (proper units, important statistics) are just as significant in an abstract as they are anywhere else

Introduction:

The **Introduction** should "introduce" the manuscript. The reviewer should be presented with sufficient background information to be capable to comprehend and calculate the purpose of your study without having to submit to other works. The basis for the study should be offered. Give most important references but shun difficult to make a comprehensive appraisal of the topic. In the introduction, describe the problem visibly. If the problem is not acknowledged in a logical, reasonable way, the reviewer will have no attention in your result. Speak in common terms about techniques used to explain the problem, if needed, but do not present any particulars about the protocols here. Following approach can create a valuable beginning:

- Explain the value (significance) of the study
- Shield the model - why did you employ this particular system or method? What is its compensation? You strength remark on its appropriateness from a abstract point of vision as well as point out sensible reasons for using it.
- Present a justification. Status your particular theory (es) or aim(s), and describe the logic that led you to choose them.
- Very for a short time explain the tentative propose and how it skilled the declared objectives.

Approach:

- Use past tense except for when referring to recognized facts. After all, the manuscript will be submitted after the entire job is done.
- Sort out your thoughts; manufacture one key point with every section. If you make the four points listed above, you will need a least of four paragraphs.

- Present surroundings information only as desirable in order hold up a situation. The reviewer does not desire to read the whole thing you know about a topic.
- Shape the theory/purpose specifically - do not take a broad view.
- As always, give awareness to spelling, simplicity and correctness of sentences and phrases.

Procedures (Methods and Materials):

This part is supposed to be the easiest to carve if you have good skills. A sound written Procedures segment allows a capable scientist to replacement your results. Present precise information about your supplies. The suppliers and clarity of reagents can be helpful bits of information. Present methods in sequential order but linked methodologies can be grouped as a segment. Be concise when relating the protocols. Attempt for the least amount of information that would permit another capable scientist to spare your outcome but be cautious that vital information is integrated. The use of subheadings is suggested and ought to be synchronized with the results section. When a technique is used that has been well described in another object, mention the specific item describing a way but draw the basic principle while stating the situation. The purpose is to text all particular resources and broad procedures, so that another person may use some or all of the methods in one more study or referee the scientific value of your work. It is not to be a step by step report of the whole thing you did, nor is a methods section a set of orders.

Materials:

- Explain materials individually only if the study is so complex that it saves liberty this way.
- Embrace particular materials, and any tools or provisions that are not frequently found in laboratories.
- Do not take in frequently found.
- If use of a definite type of tools.
- Materials may be reported in a part section or else they may be recognized along with your measures.

Methods:

- Report the method (not particulars of each process that engaged the same methodology)
- Describe the method entirely
- To be succinct, present methods under headings dedicated to specific dealings or groups of measures
- Simplify - details how procedures were completed not how they were exclusively performed on a particular day.
- If well known procedures were used, account the procedure by name, possibly with reference, and that's all.

Approach:

- It is embarrassed or not possible to use vigorous voice when documenting methods with no using first person, which would focus the reviewer's interest on the researcher rather than the job. As a result when script up the methods most authors use third person passive voice.
- Use standard style in this and in every other part of the paper - avoid familiar lists, and use full sentences.

What to keep away from

- Resources and methods are not a set of information.
- Skip all descriptive information and surroundings - save it for the argument.
- Leave out information that is immaterial to a third party.

Results:

The principle of a results segment is to present and demonstrate your conclusion. Create this part a entirely objective details of the outcome, and save all understanding for the discussion.

The page length of this segment is set by the sum and types of data to be reported. Carry on to be to the point, by means of statistics and tables, if suitable, to present consequences most efficiently.You must obviously differentiate material that would usually be incorporated in a study editorial from any unprocessed data or additional appendix matter that would not be available. In fact, such matter should not be submitted at all except requested by the instructor.

Content

- Sum up your conclusion in text and demonstrate them, if suitable, with figures and tables.
- In manuscript, explain each of your consequences, point the reader to remarks that are most appropriate.
- Present a background, such as by describing the question that was addressed by creation an exacting study.
- Explain results of control experiments and comprise remarks that are not accessible in a prescribed figure or table, if appropriate.
- Examine your data, then prepare the analyzed (transformed) data in the form of a figure (graph), table, or in manuscript form.

What to stay away from

- Do not discuss or infer your outcome, report surroundings information, or try to explain anything.
- Not at all, take in raw data or intermediate calculations in a research manuscript.

- Do not present the similar data more than once.
- Manuscript should complement any figures or tables, not duplicate the identical information.
- Never confuse figures with tables - there is a difference.

Approach

- As forever, use past tense when you submit to your results, and put the whole thing in a reasonable order.
- Put figures and tables, appropriately numbered, in order at the end of the report
- If you desire, you may place your figures and tables properly within the text of your results part.

Figures and tables

- If you put figures and tables at the end of the details, make certain that they are visibly distinguished from any attach appendix materials, such as raw facts
- Despite of position, each figure must be numbered one after the other and complete with subtitle
- In spite of position, each table must be titled, numbered one after the other and complete with heading
- All figure and table must be adequately complete that it could situate on its own, divide from text

Discussion:

The Discussion is expected the trickiest segment to write and describe. A lot of papers submitted for journal are discarded based on problems with the Discussion. There is no head of state for how long a argument should be. Position your understanding of the outcome visibly to lead the reviewer through your conclusions, and then finish the paper with a summing up of the implication of the study. The purpose here is to offer an understanding of your results and hold up for all of your conclusions, using facts from your research and generally accepted information, if suitable. The implication of result should be visibly described. Infer your data in the conversation in suitable depth. This means that when you clarify an observable fact you must explain mechanisms that may account for the observation. If your results vary from your prospect, make clear why that may have happened. If your results agree, then explain the theory that the proof supported. It is never suitable to just state that the data approved with prospect, and let it drop at that.

- Make a decision if each premise is supported, discarded, or if you cannot make a conclusion with assurance. Do not just dismiss a study or part of a study as "uncertain."
- Research papers are not acknowledged if the work is imperfect. Draw what conclusions you can based upon the results that you have, and take care of the study as a finished work
- You may propose future guidelines, such as how the experiment might be personalized to accomplish a new idea.
- Give details all of your remarks as much as possible, focus on mechanisms.
- Make a decision if the tentative design sufficiently addressed the theory, and whether or not it was correctly restricted.
- Try to present substitute explanations if sensible alternatives be present.
- One research will not counter an overall question, so maintain the large picture in mind, where do you go next? The best studies unlock new avenues of study. What questions remain?
- Recommendations for detailed papers will offer supplementary suggestions.

Approach:

- When you refer to information, differentiate data generated by your own studies from available information
- Submit to work done by specific persons (including you) in past tense.
- Submit to generally acknowledged facts and main beliefs in present tense.

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Topics	Grades		
	A-B	**C-D**	**E-F**
Abstract	Clear and concise with appropriate content, Correct format. 200 words or below	Unclear summary and no specific data, Incorrect form Above 200 words	No specific data with ambiguous information Above 250 words
Introduction	Containing all background details with clear goal and appropriate details, flow specification, no grammar and spelling mistake, well organized sentence and paragraph, reference cited	Unclear and confusing data, appropriate format, grammar and spelling errors with unorganized matter	Out of place depth and content, hazy format
Methods and Procedures	Clear and to the point with well arranged paragraph, precision and accuracy of facts and figures, well organized subheads	Difficult to comprehend with embarrassed text, too much explanation but completed	Incorrect and unorganized structure with hazy meaning
Result	Well organized, Clear and specific, Correct units with precision, correct data, well structuring of paragraph, no grammar and spelling mistake	Complete and embarrassed text, difficult to comprehend	Irregular format with wrong facts and figures
Discussion	Well organized, meaningful specification, sound conclusion, logical and concise explanation, highly structured paragraph reference cited	Wordy, unclear conclusion, spurious	Conclusion is not cited, unorganized, difficult to comprehend
References	Complete and correct format, well organized	Beside the point, Incomplete	Wrong format and structuring

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ISSN 9754350