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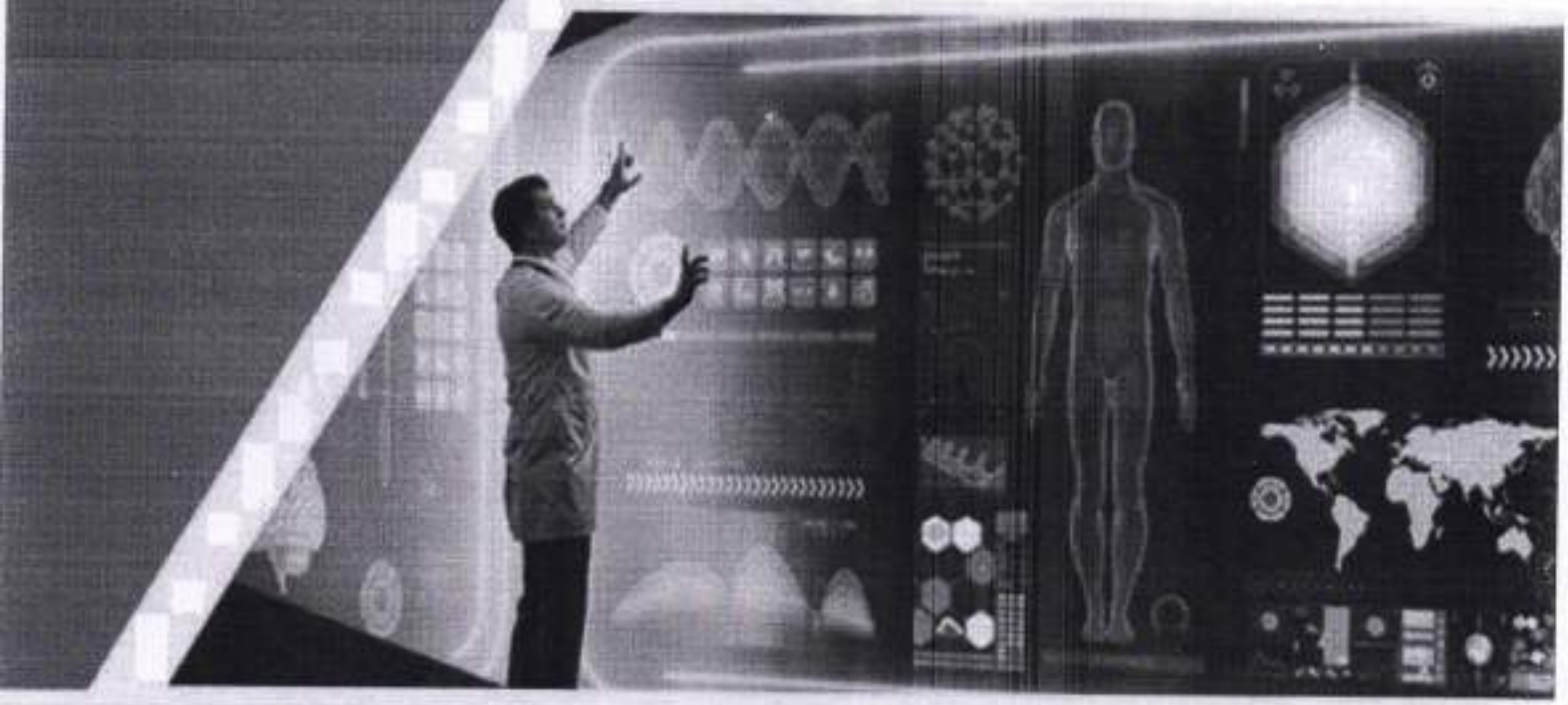

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FDI in Health Care Sector in India – A Study

Dr. E. Hari Prasad[1] S. Sridhar Reddy[2]
[1]Associate Professor, Department of Business Management, Vaageswari College of Engineering, Karimnagar, Telangana
[2]Assistant Professor, Vaageswari Institute of Management Science, Karimnagar, Telangana.

Abstract
Health care sector, part of service sector, is rapid growing sector in Indian economy. It is providing excellent health care services at affordable price to not only India's population and to abroad people and attracting health tourists. It is providing huge opportunities to the medical service providers and other related service providers. Foreign investors have been focusing on Indian hospitals and trying to enter in this sector through partnership. In India, since January 2000, foreign direct investment (FDI) is permitted up to 100% under the automatic route in hospitals and diagnostic centers i.e. health care sector. With the entry of FDI in Indian health care sector enhance the competitiveness, raise the quality of service and generate more employment opportunities to upcoming medicos. The present paper aims to discuss the present status of FDI in health care sector in India and challenges that are facing by the Indian health care sector.

Key Words: FDI, Healthcare, Hospitals and diagnostic centers, Foreign investment

INTRODUCTION

Healthcare is one the fastest growing service sector in India. Healthcare sector has a great potential in the present globalized world. Healthcare has become one of India's largest sectors - both in terms of revenue and employment. Healthcare comprises hospitals, medical devices, clinical trials, outsourcing, telemedicine, medical tourism, health insurance and medical equipment. The Indian healthcare sector is growing at a brisk pace due to its strengthening coverage, services and increasing expenditure by public as well private players.

Indian healthcare delivery system is categorized into two major components - public and private. The Government, i.e. public healthcare system comprises limited secondary and tertiary care institutions in key cities and focuses on providing basic healthcare facilities in the form of primary healthcare centers (PHCs) in rural areas. The private sector provides majority of secondary, tertiary and quaternary care institutions with a major concentration in metros, tier I and tier II cities.

India's competitive advantage lies in its large pool of well-trained medical professionals. India is also cost competitive compared to its peers in Asia and Western countries. The cost of surgery in India is about one-tenth of that in the US or Western Europe.

The healthcare sector in India includes: (i) Medical care providers; (ii) Diagnostic Centre and Pathology Lab; (iii) Medical equipment manufacturers; (iv) Research organizations and (v) Third party service providers.

The growing importance of the healthcare sector and the significant development of international trade in healthcare services have attracted FDI in this sector in the recent years. In India, 100 per cent FDI is permitted in hospitals and all health-related services under the automatic route. The healthcare sector includes medical care providers, physicians, specialist clinics, nursing homes, hospitals, medical diagnostic centers, medical equipment manufacturers, research organizations, pathology laboratories and third party service providers.

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About the Editor

Dr. Sunitha Chakravarthy is presently working as Assistant Professor at Kakatiya Institute of Technology & Science, Department of Management, Warangal, Telangana, India. She did her MBA, Ph.D from Kakatiya University and also Completed Master teacher programme from ISB, Hyderabad . She has been teaching in the areas of Marketing, Human Resources Management. She has published 35 research papers in various National and international conferences to her credit and visited countries like Newzealand and Cyprus on academic work. Her research and consultancy domain includes Marketing management, Consumer behaviour, Entrepreneurship, Creativity & Innovation and Human resource management.

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Digital Payments in Indian Banking Sector- A Study

Dr. E. Hari Prasad[1], Prof. G. V. Bhavani Prasad[2]

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Abstract

The Indian banking sector has undergone a several changes and recorded a remarkable growth since liberalization. With the development of technological innovations, in the banking sector, new regulations along with increasing needs of the customers, the banking sector is facing new challenges. The Indian banking sector has been introducing new operations to satisfy its customers. The present paper is aimed to study the technological innovations which are introduced in the banking sector for digital payments which made easy for payments and settlements to banks as well as customers.

Key Words: Indian Banking Sector, Technological innovations, Challenges in Banking Sector, Digital Payments, Product and Services

INTRODUCTION

The banking sector in India has undergone tremendous changes after 1991 industrial liberalization to meet the increasing needs of customers. Advance in the technology has changed the perceptions of customers towards banking services. To meet the changing needs and perceptions of customers banking sector began to introduce innovative methods in their operations to provide immediate, fast, fair, prompt, and transparent services to their customers with an objective of creating more value for customers. Now a day, banking sector has two types operational system i. electronic system and ii. Currency notes system. Financial sector in India moving from currency notes system to electronic system. The main objective of the introduction of technology in banking services i.e. electronic system is to reduce and make 'zero' the currency note system for fair and prompt operations. At present, all the banks have started multi-channels like ATM (Automic Teller Machine) debit cards, credit cards, internet banking, mobile banking, telephonic banking etc. Now, the role of banking has been redefining and becoming financial super markets that are providing not only financial intermediary and also various financial services under single roof. Banking institutions are facing high competition and are looking for innovative ways of services to attract and retain customers and trying to gain competitive advantages against their competitors.

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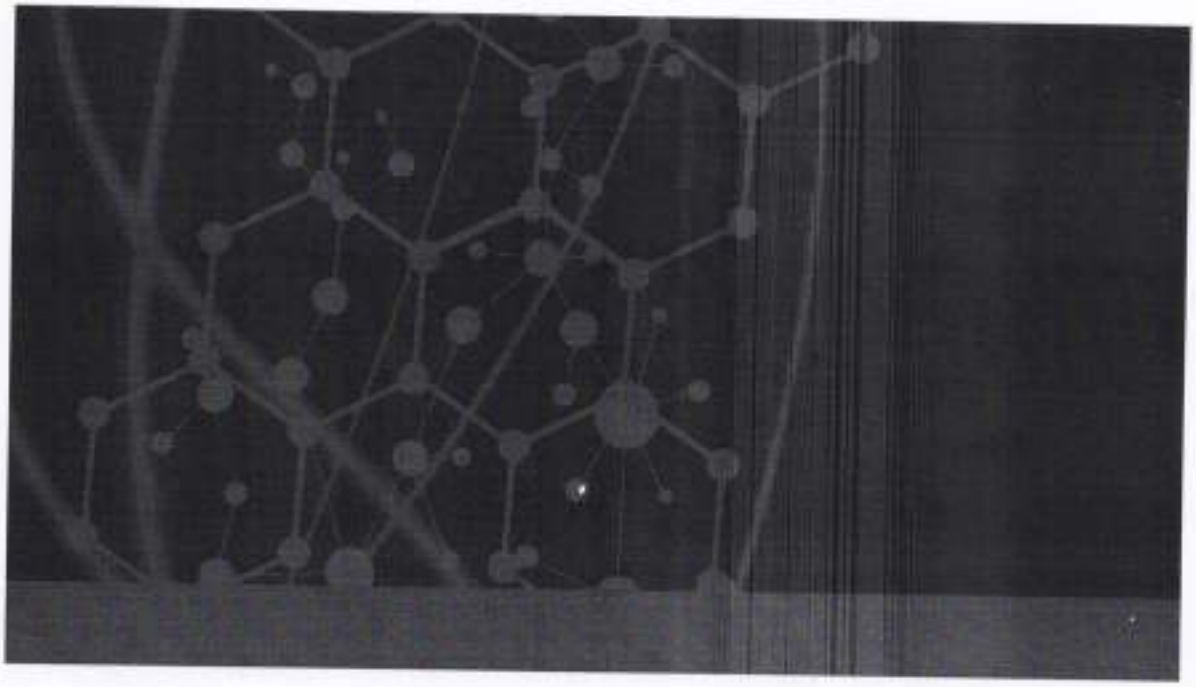

SOFT COMPUTING IN WIRELESS SENSOR NETWORKS

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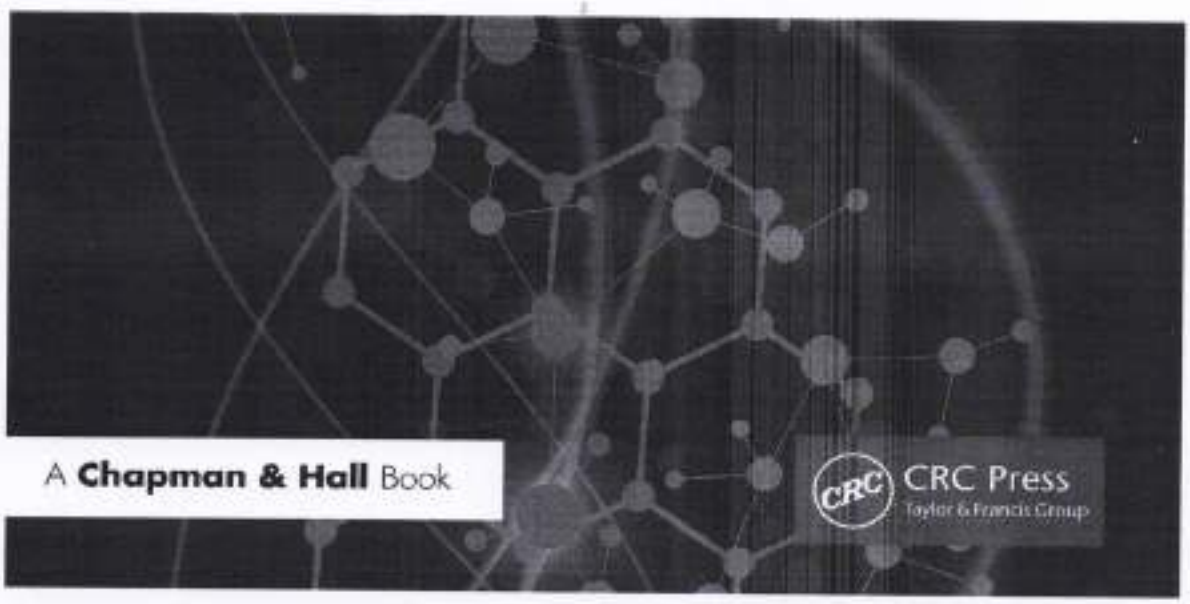

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Soft Computing Technique for Intrusion Detection System in Mobile Ad Hoc Networks

V. Bapuji, B. Manjula, and D. Srinivas Reddy

CONTENTS

INTERNET OF THINGS INTEROPERABILITY USING EMBEDDED WEB TECHNOLOGIES

Dr. V.Bapuji[1], D. Srinivas Reddy[2]

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Vaageswari College of Engineering, Karimnagar, Telangana, India

I) ABSTRACT: - With IoT all the objects in the world are becoming smart. The use of smart devices are increased every field. In order to enhance the efficiency and lifestyle convenience, they are also increasing the target space for malicious cyber attacks. This paper discussed various applications of IoT and also the possible security threats that could have a huge impact on businesses and individuals.

Keywords: Sensors, RFID, WSN, Security, DoS, Privacy, Internet

1. INTRODUCTION

Internet of Things (IoT) is a computing concept where each physical object is connected to Internet and is able to identify itself and also other devices are present in the network. These devices include everything from cell phones, coffee makers, headphones, washing machines, lamps and almost all the devices one can think of. In other words, IoT is a giant network of connected "things".

In IoT, each device has inter-connected microchip inside it. The inserted microchips help not only to keep track of the devices but also sense their surrounding and report it to other machines as well as to humans. In IoT, every physical and virtual entity is communicable, addressable and accessible through the Internet. At present, technology cost is going down, broadband Internet is becoming more widely available, cost of connecting is decreasing, and most devices are created with Wi-Fi and have built in sensors. All these things are creating a "perfect storm" for IoT. According to Gartner, Inc. (NYSE: IT), the world's leading information technology research and advisory company, there were 4.48 billion connected IoT devices in 2015 and the number is expected to grow 30% in 2016. These connected devices could provide a much larger surface for attackers to target home or office networks.

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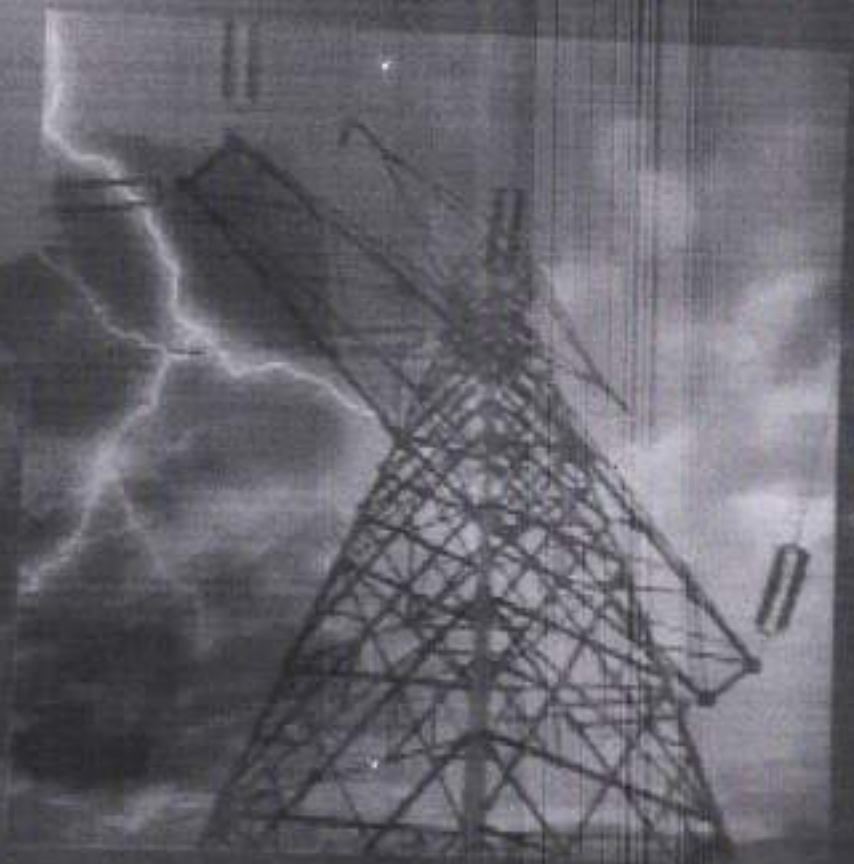

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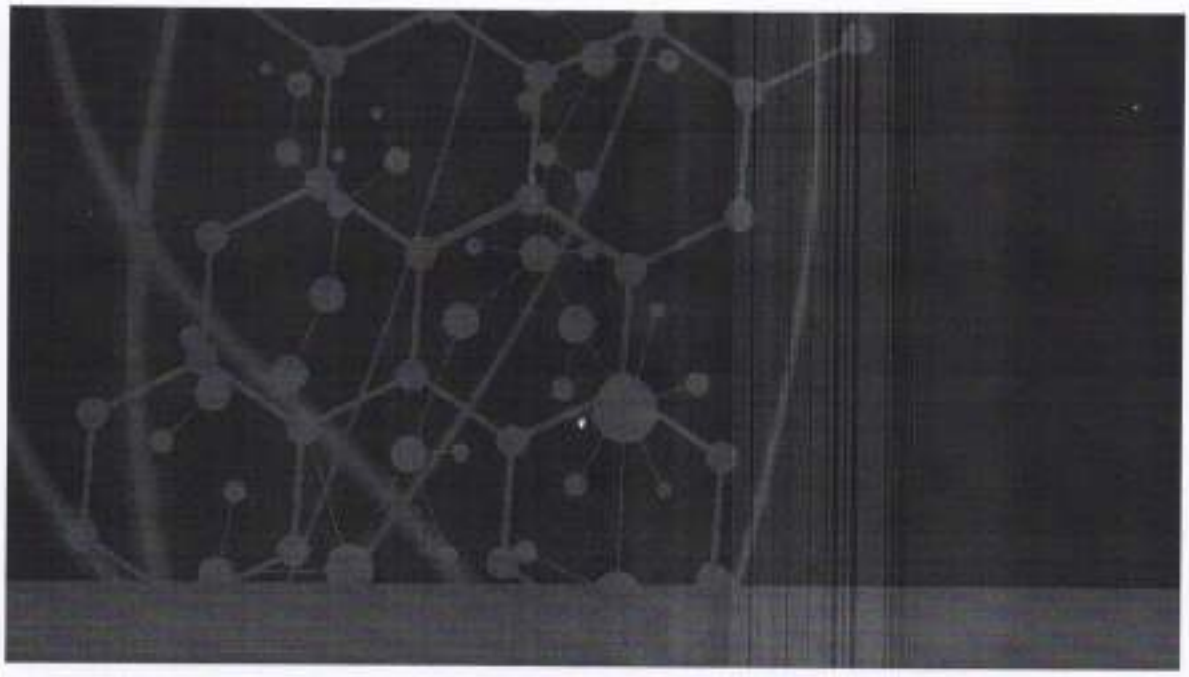

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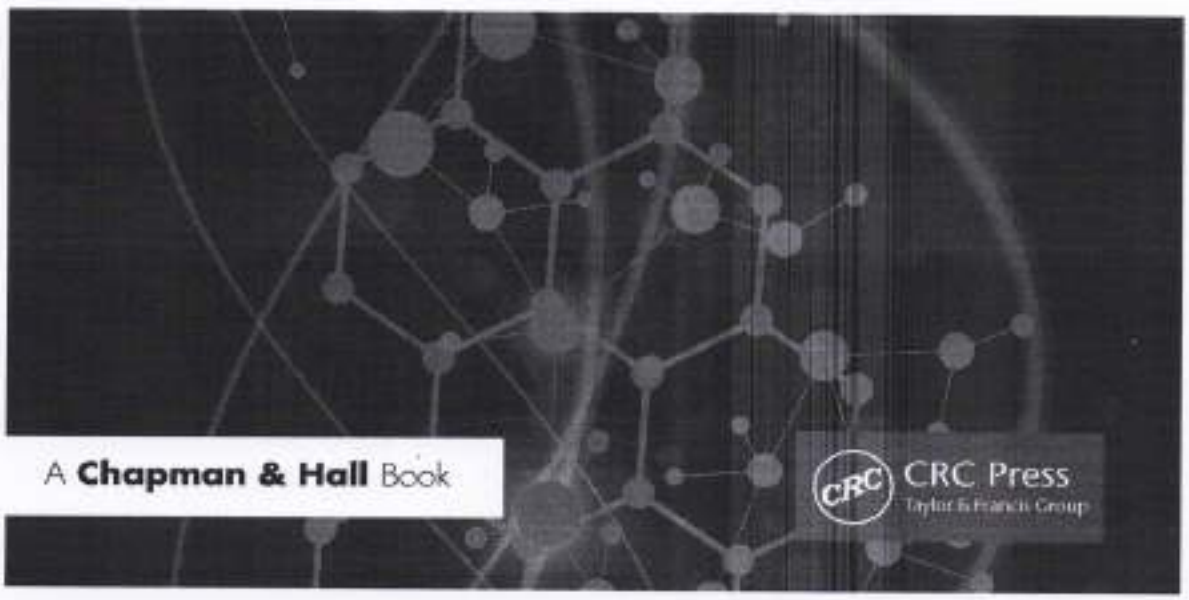

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Soft Computing Technique for Intrusion Detection System in Mobile Ad Hoc Networks

V. Bapuji, B. Manjula, and D. Srinivas Reddy

CONTENTS

EXPERIMENTAL INVESTIGATION ON CLAYEY SOIL REINFORCED WITH POLYESTER (RECRON -3S) FIBRES

Kodurupaka Rajesh[1], Adep Dhanalaxmi[2], Velugandula Vaishnavi[3]
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Abstract - Soil reinforcement is defined as a technique to improve the engineering characteristics of soil. In this way, using natural fibers to reinforce soil is an old and ancient idea. Consequently, randomly distributed fiber reinforced soils have recently attracted increasing attention in geotechnical engineering for the second time. The objective of this project is to identify a synthetic fiber to enhance the shear strength and bearing capacity of a cohesive soil. This study includes investigation of the reinforced soil and determination of the optimum reinforcement in terms of fiber's content and length by conducting Proctor Density Test and Direct Shear Test.

Key words: Stabilisation ,Soil Reinforcement,

INTRODUCTION

For any land-based structure, the foundation is very important and has to be strong to support the entire structure. In order for the foundation to be strong, the soil around it plays a very critical role. So, to work with soils, we need to have proper knowledge about their properties and factors which affect their behavior. The process of soil stabilisation helps to achieve the required properties in a soil needed for the construction work.

From the beginning of construction work, the necessity of enhancing soil properties has come to the light. Ancient civilizations of the Chinese, Romans and Incas utilized various methods to improve soil strength etc., some of these methods were so effective that their buildings and roads still exist.

In India, the modern era of soil stabilisation began in early 1970's, with a general shortage of petroleum and aggregates, it became necessary for the engineers to look at means to improve soil other than replacing the poor soil at the building site. Soil stabilisation was used but due to the use of obsolete methods and also due to the absence of proper technique, soil stabilisation lost favor. In recent times, with the increase in the demand for infrastructure, raw materials and fuel, soil stabilisation has started to take a new shape. With the availability of better research, materials and equipment, it is emerging as a popular and cost-effective method for soil improvement.

Soil can often be regarded as a combination of four basic types: Gravel, sand, clay, and silt. It generally has low tensile and shear strengths. On the other hand, reinforcement consists of incorporating certain materials with some desired properties within other material which lack those properties. Therefore, soil reinforcement is defined as a technique to improve the engineering characteristics of soil in order to develop the parameters such as shear strength, compressibility, density and hydraulic conductivity. The primary purpose of reinforcing soil mass with fibers is to improve its stability, to increase its bearing capacity, and to reduce settlements and lateral deformation.

1.1 HISTORY

- The concept of fiber reinforcement was recognized more than 5000 years ago.
- The Mesopotamians and Romans separately discovered that it was possible to improve the ability of pathways to carry traffic by mixing the weak soils with a stabilizing agent

Experimental Investigation on Strength Properties of Light Weight Aggregate Concrete using Agricultural by Product Such as Ground Nut Shell Ash

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ABSTRACT

Light weight aggregate concrete has become more popular in recent advancements owing to the tremendous advantages it offers over the conventional concrete but at the same time strong enough to be used for structural purpose. The most important characteristic of light weight concrete is its low thermal conductivity, lower density, internal curing property etc. Groundnut Shell Ash (GSA) is a waste material obtained from oil mills as an agricultural waste. Pelletized Groundnut Shell Ash aggregate can be used as one type of coarse aggregate in the production of stronger, more durable and more ductile concrete used in certain places where natural aggregate is not available or costly or recycling of the agricultural wastes is aimed at or where the dead weight of the structure is to be reduced. But a limited work on the study of strength property has been carried out on replacement of conventional granite aggregate in different percentages (0, 25, 50,75,100) with light weight aggregates such as pelletized Groundnut Shell Ash(GSA), cinder, pumice, perlite etc. So true need of wide range of investigation in this direction is needed to explain the exact behaviour of the light weight aggregate in partial and full replacement of conventional granite aggregate by light weight aggregate. In the present experimental investigation an attempt has been made to study the compressive strength, split tensile strength, flexural strength properties etc., are to be studied to have a comprehensive understanding by replacing natural aggregate with pelletized GSA aggregate in different percentages (0,25,50,75 and 100) by volume of concrete.

Keywords— light weight aggregate, ground shell ash, pellets.

INTRODUCTION

Groundnut Shell is agricultural waste product produced from oil mills and by burning this Ground nut shell (GS) it gets converted in to Groundnut Shell Ash (GSA) which is the material with fully fused particles. After burning of 1 kg of ground nut shell, the ash quantity obtained is 145 gm. This ground nut shell ash powder is crushed by machine. It is then sieved through 90 micron sieve. Due to continuous usage of naturally available aggregate, within a short length of time natural resources get depleted and it will be left nothing for future generations. Hence there is a necessity for artificially preparing both the normal and artificial aggregate making use of waste materials from agricultural products and industries. From the earlier studies it appears that much less attention has been paid towards the study using artificial coarse aggregates.

In this investigation an attempt has been made to make light weight concrete with light weight GSA aggregate as coarse aggregate which is available as an agricultural waste material. The loose densities of GSA aggregate vary from 810 to 1013 kg/m^3 and the compacted densities are varying between 940 to 1075 kg/m^3. GSA pellets areprepared by mixing 47% GSA, 47% lime and 6% cement as binding material with 12.50% water by overall weight, and by rotation of this mixture in a drum type pelletizer machine. This machine is designed especially for making artificial aggregate in pellets form.

The GSA aggregate can be really brought under light weight aggregate because the concrete made with this

Detecting Stress Based on Social Interactions in Social Networks

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ABSTRACT:

Mental pressure is undermining individuals' wellbeing. It is non-paltry to recognize pressure opportune for proactive care. With the notoriety of online networking, individuals are accustomed to offering their day by day exercises and communicating to companions via web-based networking media stages,making it doable to use online informal community information for stretch discovery. In this paper, we find that clients stretch state is firmly identified with that of his/her companions in online networking, and we utilize an expansive scale dataset from certifiable social stages to efficiently think about the connection of clients' pressure states and social cooperations. We initially characterize an arrangement of stress-related literary, visual, and social qualities from different viewpoints, and after that propose a novel half and half model - a factor chart display joined with Convolutional Neural Network to use tweet substance and social communication data for push location. Test comes about demonstrate that the proposed model can enhance the discovery execution by 6-9% in F1-score. By additionally dissecting the social collaboration information, we likewise find a few charming wonders, i.e. the quantity of social structures of inadequate associations (i.e. with no delta associations) of focused on clients is around 14% higher than that of non-focused on clients, showing that the social structure of focused on clients' companions have a tendency to be less associated and less entangled than that of non-focused on clients.

INTRODUCTION:

1.1 Motivation

Psychological stress is becoming a threat to people's health nowadays. With the rapid pace of life, more and more people are feeling stressed. According to a worldwide survey reported by *Newbusiness* in 20101, over half of the population have experienced an appreciable rise in stress over the last two years. Though stress itself is non-clinical and common in our life, excessive and chronic stress can be rather harmful to people's physical and mental health. According to existing research works, long-term stress has been found to be related to many diseases, e.g., clinical depressions, insomnia etc..

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ProGuard: Detecting Malicious Accounts in Social-Network-Based Online Promotions

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ABSTRACT: Now a day's Online Social Networks(OSN) plays an important role that integrate financial capabilities by enabling the usage of real and virtual currency. OSN serves as great platforms to host a large variety of business activities such as online advertisements, where users can possibly get virtual currency as rewards by participating in such events. Both OSN and business organizations are highly concerned when attackers uses a set of accounts to collect virtual currency from these events, which make these events unsuccessful and leads to financial loss and OSN reputation is also damaged. It becomes a great importance to proactively detecting these malicious accounts before the online promotion activities and eventually decrease their main concern to be satisfied. In this paper, a novel system is proposed, namely ProGuard. ProGuard employs a collection of general behaviors, recharging patterns, and the usage of currency of the participants. ProGuard is evaluated using data collected from Tencent QQ, a Chinese online social network that uses virtual currency i.e., Q coin to support financial activities on online social networks. Experimental results have analyzed that ProGuard can accomplish a high detection rate of 96.67% at a very low false positive rate of 0.3%.

Keywords—Online Social Networks(OSN's), Virtual Currency, Malicious Accounts, Detection, ProGuard.

INTRODUCTION:

In an online social network a user can create a profile and build a personal network that connects the user to other users. It is ideal for exchanging of ideas, views and also a biggest platform in multilevel marketing. In online promotion events conducted by business organizations, the users get rewards in the form of virtual currency which can be used for shopping, transferring currency and exchanging currency vice versa to others. As a result, it is gained public interest at a great demand.

But, it faces a threat from attackers who can control large number of accounts to participate in promotional events for virtual currency. Due to these malicious activities, it is not only lessen the effectiveness of promotional events. But also defame of the reputation.

It is more important to detect these malicious accounts and designing a detection method is faced with few challenges like, the attackers can attack by simply clicking links offered by business organizations

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TWO-FACTOR DATA SECURESYSTEM FOR CLOUD STORAGE

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ABSTRACT

In this paper, we propose a two-factor data security protection mechanism with factor revocability for cloud storage system. Our system allows a sender to send an encrypted message to a receiver through a cloud storage server. The sender only needs to know the identity of the receiver but no other information (such as its public key or its certificate). The receiver needs to possess two things in order to decrypt the ciphertext. The first thing is his/her secret key stored in the computer. The second thing is a unique personal security device which connects to the computer. It is impossible to decrypt the ciphertext without either piece. More importantly, once the security device is stolen or lost, this device is revoked. It cannot be used to decrypt any ciphertext. This can be done by the cloud server which will immediately execute some algorithms to change the existing ciphertext to be un-decryptable by this device. This process is completely transparent to the sender. Furthermore, the cloud server cannot decrypt any ciphertext at any time. The security and efficiency analysis show that our system is not only secure but also practical.

I.INTRODUCTION:

Cloud storage is a model of networked storage system where data is stored in pools of storage which are generally hosted by third parties. There are many benefits to use cloud storage. The most notable is data accessibility. Data stored in the cloud can be accessed at any time from any place as long as there is network access. Storage maintenance tasks, such as purchasing additional storage capacity, can be offloaded to the responsibility of a service provider. Another advantage of cloud storage is data sharing between users.

When data is distributed, the more locations it is stored the higher risk it contains for unauthorized physical access to the data. By sharing storage and networks with many other users it is also possible for other unauthorized users to access your data. This may be due to mistaken actions, faulty equipment, or sometimes because of criminal intent.

In a normal asymmetric encryption, there is a single secret key corresponding to a public key or an identity. The decryption of ciphertext only requires this key. The key is usually stored inside either a personal computer or a trusted server, and may be protected by a password. The security protection is sufficient if the computer/server is isolated from an opening network. Unfortunately, this is not what happens in the real life. When being connected with the world through the Internet, the computer/server may suffer from a potential risk that hackers may intrude into it to compromise the secret key without letting the key owner know. In the physical security aspect, the computer storing a user decryption key may be used by another user when the original computer user (i.e. the key owner) is away (e.g. when the user goes to toilet for a while without locking the machine). In an enterprise or college, the sharing usage of computers is also common. For example, in a college, a public computer in a copier room will be shared with all students staying at the same floor. In these cases, the secret key can be compromised by some attackers who can access the victim's personal data stored in the cloud system. Therefore, there exists a need to enhance the security protection.

II.EXISTING SYSTEM:

This is the most convenient mode of encryption for data transition, due to the elimination of key management existed in symmetric encryption. If the user has lost his security device, then his/her corresponding ciphertext in the cloud cannot be decrypted forever! That is, the approach cannot support security device update/ revocability.

Principal

As cloud computing becomes more mature and there will be more applications and storage services provided by the cloud, it is easy to foresee that the security for data protection in the cloud should be further enhanced. They will become more sensitive and important, as if the e-banking analogy. Actually, we have noticed that the concept of two-factor encryption, which is one of the encryption trends for data protection1, has been spread into some real-world applications, for example, full disk encryption with Ubuntu system, AT&T two factor encryption for Smartphones2, electronic vaulting and druva - cloud-based data encryption3. However, these applications suffer from a potential risk about factor revocability that may limit their practicability.

III.PROPOSED SYSTEM:

Our system is an IBE (Identity-based encryption)- based mechanism. That is, the sender only needs to know the identity of the receiver in order to send an encrypted data (ciphertext) to him/her. No other information of the receiver (e.g. public key, certificate etc.) is required. Then the sender sends the ciphertext to the cloud where the receiver can download it at anytime.

Our system provides two-factor data encryption protection. In order to decrypt the data stored in the cloud, the user needs to possess two things. First, the user needs to have his/her secret key which is stored in the computer. Second, the user needs to have a unique personal security device which will be used to connect to the computer (e.g. USB, Bluetooth and NFC). It is impossible to decrypt the ciphertext without either piece.

More importantly, our system, for the first time, provides security device (one of the factors) revocability. Once the security device is stolen or reported as lost, this device is revoked. That is, using this device can no longer decrypt any ciphertext (corresponding to the user) in any circumstance. The cloud will immediately execute some algorithms to change the existing ciphertext to be un-decryptable by this device. While the user needs to use his new / replacement device (together with his secret key) to decrypt his/her ciphertext. This process is completely transparent to the sender.

The cloud server cannot decrypt any ciphertext at any time.We provide an estimation of the running time of our prototype to show its practicality, using some benchmark results. We also note that although there exist some naive approaches that seem to achieve our goal, that there are many limitations by each of them and thus we believe our mechanism is the first to achieve all the above mentioned features in the literature.

IV.IMPLEMENTATION:

Implementation is the stage of the project when the theoretical design is turned out into a working system. Thus it can be considered to be the most critical stage in achieving a successful new system and in giving the user, confidence that the new system will work and be effective.

The implementation stage involves careful planning, investigation of the existing system and it's constraints on implementation, designing of methods to achieve changeover and evaluation of changeover methods.

MODULE DESCRIPTION:

1. Cryptosystems with Two Secret Keys
2. Cryptosystems with Online Authority
3. Cryptosystem with Security Device
4. Cryptosystem with Revocability

1. Cryptosystems with Two Secret Keys

There are two kinds of cryptosystems that requires two secret keys for decryption. They are certificate less cryptosystem and certificate-based cryptosystem. Certificate less cryptosystem (CLC) was first introduced in further improvements can be found. It combines the merits of identity based cryptosystem (IBC) and the traditional public-key infrastructure (PKI). In a CLC, a user with an identity chooses his own user secret key and user public key. At the same time the authority (called the Key Generation Centre (KGC)) further generates a partial secret key according to his identity. Encryption or

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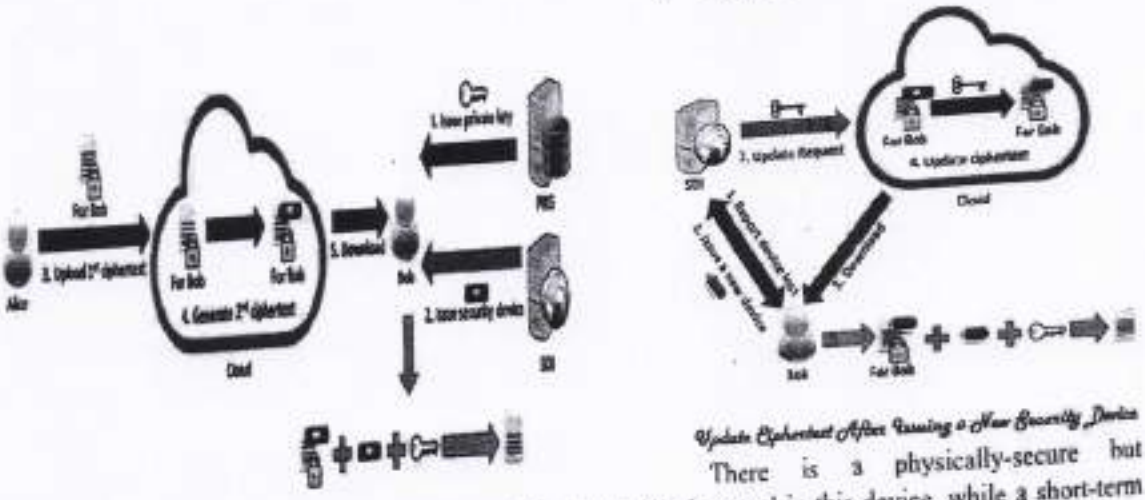
signature verification requires the knowledge of both the public key and the user identity. On the opposite, decryption or signature generation requires the knowledge of both the user secret key and the partial secret key given by the KGC. Different from the traditional PKI, there is no certificate required. Thus the costly certificate validation process can be eliminated. However, the encryptor or the signature verifier still needs to know the user public key. It is less convenient than IBC where only identity is required for encryption or signature verification.

2. **Cryptosystems with Online Authority**

Mediated cryptography was first introduced for the purpose of revocation of public keys. It requires an online mediator, referred to a SEM (SEcurity Mediator), for every transaction. The SEM also provides a control of security capabilities. If the SEM does not cooperate then no transactions with the public key are possible any longer. In other words, any revoked user cannot get the cooperation from the SEM. That means revoked users cannot decrypt any ciphertext successfully. Later on, this notion was further generalized as security mediated certificateless (SMC) cryptography. In a SMC system, a user has a secret key, public key and an identity. The user secret key and the SEM are required to decrypt a ciphertext or sign a message. On the opposite side, the user public key and the corresponding identity are needed for signature verification or encryption. Since the SEM is controlled by the revocation authority, the authority can refuse to provide any cooperation for revoked user so that no revoked user can generate signature or decrypt ciphertext. Note that SMC is different from our concept. The main purpose of SMC is to solve the revocation problem. Thus the SME is controlled by the authority and it has to be online for every signature signing and ciphertext decryption. Furthermore, it is not identity-based. The encryptor (or signature verifier) needs to know the corresponding public key in addition to the identity. That makes the system less practical and looses the advantages of using identity-based system.

3. **Cryptosystem with Security Device**



Update Ciphertext After Issuing a New Security Device

There is a physically-secure but computationally-limited device in the system. A longterm key is stored in this device, while a short-term secret key is kept by users on a powerful but insecure device where cryptographic computations take place. Short term secrets are then refreshed at discrete time periods via interaction between the user and the base while the public key remains unchanged throughout the lifetime of the system. The user obtains a partial secret key from the device at the beginning of each time period. He then combines this partial secret key with the one from the previous period, in order to renew the secret key for the current time period.

Different from our concept, key-insulated cryptosystem requires all users to update their key in every time period. It may require some costly time synchronization algorithms between users which may not be practical in many scenarios. The key update process requires the security device. Once the key has been updated, the signing or decryption algorithm does not require the device anymore within the same time period. While our concept does require the security device every time the user tries to decrypt the ciphertext.

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4. **Cryptosystem with Revocability**

Another cryptosystem supporting revocability is proxy re-encryption (PRE). Decryption rights delegation is introduced in Blaze, Bleumer and Strauss formally defined the notion of PRE. To employ PRE in the IBE setting, Green and Ateniese defined the notion of identity-based PRE (IB-PRE). Later on, Tang, Hartel and Jonker proposed a CPA-secure IB-PRE scheme, in which delegator and delegatee can belong to different domains. After that there are many IB-PRE systems have been proposed to support different user requirements. Among of the previously introduced IB-PRE systems, is the most efficient one without loss of revocability. We state that leveraging can only achieve one of our design goals, revocability, but not two-factor protection.

V.CONCLUSION:

In this paper, we introduced a novel two-factor data security protection mechanism for cloud storage system, in which a data sender is allowed to encrypt the data with knowledge of the identity of a receiver only, while the receiver is required to use both his/her secret key and a security device to gain access to the data. Our solution not only enhances the confidentiality of the data, but also offers the revocability of the device so that once the device is revoked, the corresponding ciphertext will be updated automatically by the cloud server without any notice of the data owner. Furthermore, we presented the security proof and efficiency analysis for our system.

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TWO-FACTOR DATA SECURESYSTEM FOR CLOUD STORAGE

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ABSTRACT

In this paper, we propose a two-factor data security protection mechanism with factor revocability for cloud storage system. Our system allows a sender to send an encrypted message to a receiver through a cloud storage server. The sender only needs to know the identity of the receiver but no other information (such as its public key or its certificate). The receiver needs to possess two things in order to decrypt the ciphertext. The first thing is his/her secret key stored in the computer. The second thing is a unique personal security device which connects to the computer. It is impossible to decrypt the ciphertext without either piece. More importantly, once the security device is stolen or lost, this device is revoked. It cannot be used to decrypt any ciphertext. This can be done by the cloud server which will immediately execute some algorithms to change the existing ciphertext to be un-decryptable by this device. This process is completely transparent to the sender. Furthermore, the cloud server cannot decrypt any ciphertext at any time. The security and efficiency analysis show that our system is not only secure but also practical.

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When data is distributed, the more locations it is stored the higher risk it contains for unauthorized physical access to the data. By sharing storage and networks with many other users it is also possible for other unauthorized users to access your data. This may be due to mistaken actions, faulty equipment, or sometimes because of criminal intent.

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This is the most convenient mode of encryption for data transition, due to the elimination of key management existed in symmetric encryption. If the user has lost his security device, then his/her corresponding ciphertext in the cloud cannot be decrypted forever! That is, the approach cannot support security device update/ revocability.

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Study of Speed Characteristics on Multilane Highway

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Abstract-Speed is one of the basic traffic flow parameter and useful in understanding of vehicular interactions for calculating highway traffic capacity and formulation of effective traffic regulation and control measures. In this paper an appropriate method was adopted to study thespeed characteristics on urban multilane highway.The traffic flow data was collectedat certain location on Delhi-Gurgaon expressway (NH-8) using videography technique. The probability distribution function and descriptive statistics of traffic stream speed was investigated. It was found that the speed follows the normal distribution and it varies through the various lanes of highways, due to difference in lane usage. The findings of this study has a great applicability in microscopic simulation modelling, level of service and safety analysis.

Keywords-Traffic characteristics, Average speed, Traffic composition

Introduction

The versatile behaviour of Indian traffic has brought opportunities and challenges to the planning and management of Indian transport system. If we compare with other developed countries traffic characteristics in India is characterized by poor roadway infrastructure and limited operation and management experience. In developed countries there exists homogeneous traffic conditions but in case of developing countries like India traffic condition is highly heterogeneous in nature and vehicles do not follow traffic discipline which makes it difficult to study, extract and analyse traffic flow characteristics.

Speed is the fundamental measurement of the traffic performance on the highway system. It is the rate of movement of traffic usually expressed in Kilometre per hour and is one of the most important factors directly influencing mobility. Speed of vehicles is affected by traffic density, driver's behaviour, behaviour and type of vehicles, weather condition, physical characteristics of the road etc. In heterogeneous traffic, the road space being used by different types of vehicles. Also, lanes play an important role in study of traffic characteristics and performance. Estimation of traffic capacity is highly concerned with the lane position and their number. Most of the previous analysts assumed that average capacity per lane on different

SIMULATION OF ISOLATED BOOST CONVERTERS

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***Abstract:** In this paper two implementations of the isolated boost converter that exhibit no parasitic voltage ringing across all semiconductor devices on the primary and secondary sides of the transformer are introduced. Ringing-free operation is achieved by clamping the voltages of the primary switches and rectifiers to the voltage of the primary-side energy-storage capacitor and clamping the voltage across the secondary-side rectifiers to the output filter capacitor.The performance of the proposed topology was successfully verified by using MATLAB simulation.*

1. INTRODUCTION

The conventional nonisolated boost converter topology has been extensively used in various ac–dc and dc–dc applications. In fact, the front end of today's ac–dc power supplies with power-factor correction (PFC) is almost exclusively implemented with the boost topology. The boost topology is also used in numerous battery-powered applications to generate a high output voltage from a relatively low battery voltage.

However in some applications, it may be advantageous to use a boost converter with a galvanically isolated input and output. For example, fault tolerant power systems that use a dual ac-input architecture can be implemented with isolated boost converters. In fact, the isolated-boost-converter implementation offers a reduced number of components compared to the implementations with nonisolated boost converters in applications which require dual ac input . Also, in applications where a power supply with both ac and dc inputs is required, the isolated boost converter can be applied to provide safety-required isolation between the inputs. So far, a number of boost topologies utilizing an isolation transformer have been proposed. Generally, these circuits exhibit increased voltage stresses on the switches and/or diodes due to the parasitic ringing of the leakage inductance of the transformer with the output capacitances of the switching devices.

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ASSESSMENT AND ENHANCEMENT OF A FULL-SCALE PMSG-BASED WIND POWER GENERATOR PERFORMANCE UNDER FAULTS

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Abstract: *A full-scale permanent-magnet synchronous generator (PMSG)-based wind turbine with dc-link voltage control via the machine-side converter has the potential to provide inherent low-voltage ride-through (LVRT) performance without additional hardware components. However, several important performance aspects related to this topology are not addressed in this literature. This paper investigates the impacts of the LVRT control on the stability and risk of resonance, successful operation, and fatigue in a full-scale PMSG-based wind power generation system. An analytical model, considering the double-mass nature of the turbine/ generator and typical LVRT requirements, is developed, validated, and used to characterize the dynamic performance of the wind generation system under LVRT control and practical generator characteristics. To enhance the operation and reduce the fatigue under LVRT control, two solutions, based on active damping control and dc-link voltage bandwidth retuning, are proposed, analyzed, and compared. The detailed nonlinear time-domain simulation results validate the accuracy of the developed model and analytical results.*

1. INTRODUCTION

Wind turbines technology has become very advanced So that wind power is considered as a major green source In modern power systems. Therefore, the penetration level of Wind power generation is increasing rapidly with no signs of Slowing down [1]–[3].While the classical issues of wind power, Such as extracting the maximum available wind power, have Been solved, the increased penetration level of wind power is Creating new problems for power systems. Incorporating wind Power generators in frequency regulation and low-voltage ride thorough (LVRT) are among these serious issues. Frequency Regulation has gained significant attention in the literature in Recent years [4]–[6], and grid codes for LVRT have been standardized And implemented in several countries [7].

Generally, LVRT standards emphasize the need to keep a wind power generator connected to the grid and to improve the voltage profile during low-voltage transients. Reference [8] shows that all the generators in a wind farm are not required to provide LVRT capability; however, this reference does not question the need to implement LVRT implementation in wind power generators. The performance of a doubly-fed induction generator (DFIG), as the most popular type of wind generator, has been extensively studied under LVRT [9]. Although the crowbar method is widely utilized in DFIGs, it is characterized by the loss of control and the waste of energy [10]. As an alternative, the demagnetizing control method has been proposed; however, it has not been widely adopted due to its complexity.

All these difficulties, besides some other problems, such as reliability, losses, and the cost of slip rings and gearboxes, reduce the advantages of DFIGs and result in an increasing trend toward using direct-drive permanent-magnet synchronous generators (PMSG) with full-scale back-to-back converters. The

CONTROL AND OPERATION OF A DC GRID-BASED WIND POWER GENERATION SYSTEM IN A MICRO GRID

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Abstract—**This paper presents the design of a dc grid-based wind power generation system in a poultry farm. The proposed system allows flexible operation of multiple parallel-connected wind generators by eliminating the need for voltage and frequency synchronization. A model predictive control algorithm that offers better transient response with respect to the changes in the operating conditions is proposed for the control of the inverters. The design concept is verified through various test scenarios to demonstrate the operational capability of the proposed micro grid when it operates connected to and islanded from the distribution grid, and the results obtained are discussed.**

Index Terms—**Wind power generation, dc grid, energy management, model predictive control.**

I. INTRODUCTION

Poultry farming is the raising of domesticated birds such as chickens and ducks for the purpose of farming meat or eggs for food. To ensure that the poultries remain productive, the poultry farms in Singapore are required to be maintained at a comfortable temperature. Cooling fans, with power ratings of tens of kilowatts, are usually installed to regulate the temperature in the farms [1]–[3]. Besides cooling the farms, the wind energy produced by the cooling fans can be harnessed using wind turbines (WTs) to reduce the farms' demand on the grid. The Singapore government is actively promoting this new concept of harvesting wind energy from electric ventilation fans in poultry farms which has been implemented in many countries around the world [4]. The major difference between the situation in poultry farms and common wind farms is in the wind speed variability. The variability of wind speed in wind farms directly depends on the environmental and weather conditions while the wind speed in poultry farms is generally stable as it is generated by constant-speed ventilation fans. Thus, the generation intermittency issues that affect the reliability of electricity supply and power balance are not prevalent in poultry farm wind energy systems.

In recent years, the research attention on dc grids has been resurging due to technological advancements in power electronics and energy storage devices, and increase in the variety of dc loads and the penetration of dc distributed energy resources (DERs) such as solar photo voltaics and fuel cells.

Many research works on dc micro grids have been conducted to facilitate the integration of various DERs and energy storage systems. In [5], [6], a dc micro grid based wind farm architecture in which each wind energy conversion unit consisting of a matrix converter, a high frequency transformer and a single-phase ac/dc converter is proposed. However, the proposed architecture increases the system complexity as three stages of conversion are required. In [7], a dc micro grid based wind farm architecture in which the WTs are clustered into groups of four with each group connected to a converter is proposed. However, with the proposed architecture, the failure of one converter will result in all four WTs of the same group to be out of service. The research works conducted in [8]–[10] are focused on the development of different distributed control strategies to coordinate the operation of various DERs and energy storage systems in dc micro grids. These research works aim to overcome the challenge of achieving a decentralized control operation using only local variables. However, the DERs in dc micro grids are strongly coupled to each

POWER FACTOR IMPROVEMENT AND DYNAMIC PERFORMANCE OF AN INDUCTION MACHINE WITH CONVERTER-FED ROTOR

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Abstract—This paper investigates an induction machine with a novel concept of the rotor fed by a converter. The stator is Y connected and directly connected to the grid, while the rotor windings are open-ended and fed by a back-to-back converter with a floating capacitor. Power factor and efficiency improvements of the induction motor are studied with different settings of phase-shift angle between the two converters. Moreover, the dynamic performance of the induction machine is explored in MATLAB/ Simulink and verified experimentally on a 1.8-kW induction machine in the laboratory. The result shows good agreement between simulation and experiment. At a constant speed, variable load operation of the induction machine is obtained by setting the frequency of the rotor voltage.

I. INTRODUCTION

The induction machine is widely used in industry because of its reliability, robustness and cost effectiveness. One inherent drawback of induction machines is that they draw reactive power from the grid and the power factor can be poor. Especially when the machine starts or operates with light loads, power factor and efficiency are drastically reduced [1]. Power factor improvement of induction machine is thus attractive and has been pursued for decades.

The simplest way to compensate the reactive power is to connect capacitor banks at the machine terminals. However, an unsuitable selection of capacitance may result in overvoltage due to self-excitation when the machine is disconnected from the supply, which could damage the machine [1]–[4]. This approach is not flexible since different capacitances are needed when the loading condition changes. A scheme of supplying variable capacitance is proposed in [5], where the induction machine is directly connected to the grid while a three phase pulse width modulation (PWM) converter with a floating capacitor is connected at the induction machine terminals. However, the improved power factor is realized only for the grid but not for the induction machine itself. The losses in the machine are not reduced thus the machine still suffers from poor power factor and hence poor efficiency.

In the 1980s, as an alternative to improve the mains power factor, the stator windings of a cage-rotor induction machine were rewound to achieve unity power factor [6], [7]. The stator windings were divided into two groups with different number of turns. The two sets of windings were electrically connected. This attracted a lot of interest at that time [8]. Different connections of two sets of identical stator windings are investigated in [9]. The results from [6], [9] both show that the mechanical output capability of the rewound induction machine is reduced compared with the original machine.

With the development of power electronics, topologies using rectifiers and inverters become interesting. In one of these topologies, a rectifier is connected to the grid and supplies a dc voltage to the

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ARTIFICIAL INTELLIGENCEWITH PYTHON

FIRST EDITION

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PERFACE

Abundance technical books on Artificial Intelligence are available in the market and online, then why this kind of book again? Well, here is the emphasizing answer to this- it is not another book of that kind which is available in any forms nowadays!! This is the book which takes the reader from the basics of python, where the student's hunt of such a book come to an end here. The book's overall approach, refined by the authors' experience with large sections of undergraduates from various universities, addresses the challenges of teaching and learning when prerequisite knowledge varies greatly from student to student. This book can be read by ordinary people with a limited, if any, scientific background. Throughout, the book has been written with this audience in mind. At times, the science presented might seem overwhelming: Some chapters are very light and can be easily understood by a lay person. One of the important features of this book is that it does not have a textbook structure when the chapters, in order to be understood, need to be read in the sequence given. In fact, you can start the journey from any chapter, based on your interests, tastes, and preferences. But I do hope that the information and knowledge presented here will become a wake-up call for the students who were eager to know the basics of optics.

Spread across five simpler chapters for better understanding the contents, Chapter 1: Python for Artificial Intelligence: Introduction, Agents and Control, Searching for Solutions, Reasoning with Constraints, Propositions and Inference, Planning with Certainty

Chapter 2: Supervised Machine Learning: Representations of Data and Predictions, Generic Learner Interface, Learning with No Input Features, Decision Tree Learning, Cross Validation and Parameter Tuning, Linear Regression and Classification, Deep Neural Network Learning, Boosting

Chapter 3: Reasoning Under Uncertainty: Representing Probabilistic Models, Representing Factors, Conditional Probability Distributions, Graphical Models, Inference Methods, Recursive Conditioning, Variable Elimination, Stochastic Simulation, Hidden Markov Models, Dynamic Belief Networks, Causal Models Chapter 4: Planning and Learning with Uncertainty: Decision Networks, Markov Decision Processes, K-means, EM

Chapter 5: Reinforcement Learning: Representing Agents and Environments, Q Learning, Q-leaning with Experience Replay, Model-based Reinforcement Learner, Reinforcement Learning with Features, Multiagent Learning, Collaborative Filtering

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PREFACE

I feel encouraged by the widespread response from teachers and students alike to the first edition. I am presenting thoroughly revised and enlarged, to my readers in all humbleness. All possible efforts have been made to enhance further the usefulness of the book. The feedback received from different sources has been incorporated

This book on Construction Techniques, Equipment and Practice my ambition in life is to publish a book on Construction Techniques, Equipment and Practice. This is a wonderful subject, but unfortunately remained an anathema for several courses. From my interaction with the students I could understand that the reason for fearing this subject is the difficultly in comprehending the subject matter. Further, the language used in the books on this subject is reported to be very complex. So the basic objective kept in mind while preparing this book was to present the subject matter in a very simple and lucid language. As part of simplification effort, throughout the text, a number of examples have been given to make the understanding easy.

The distinguishing feature of this book is that the subject matter has been introduced in a gradual manner and at the end of each chapter short answer type questions and essay type questions have been given in such a manner that the students can easily understand the subject matter in depth. This will be more useful to the students who aspire for competitive examinations. Moreover, to test the understanding of the students and to have sufficient practice, have also been given at the end of each chapter. I hope this book will be highly useful to the students of Civil Engineering.

Considering the importance of the Construction Techniques, Equipment and Practice most Universities have included "Construction Techniques, Equipment and Practice" as one of the subjects in their Graduate Programmes such as Diploma in Civil Engineering, BE (Civil Engineering). ME (Structural Engineering), ME (Construction Management Engineering) and ME (Irrigation Engineering).

This book provides strong conceptual framework for the study and understanding of the various aspects of Construction Techniques, Equipment and Practice. I hope that the book would be useful to students, teachers and the Construction Techniques, Equipment and Practice.

I register my profound sense of gratitude to the professors for their co-operation and encouragement in writing this book and also for familiarizing this book among the students.

SYLLABUS

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DEEP LEARNING TRENDS ANDTECHNIQUE

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CONTROL OF A SMALL WIND TURBINE IN THE HIGH WIND SPEED REGION

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Abstract—This paper proposes a new soft-stalling control strategy for grid-connected small wind turbines operating in the high and very high wind speed conditions. The proposed method is driven by the rated current/torque limits of the electrical machine and/or the power converter, instead of the rated power of the connected load, which is the limiting factor in other methods. The developed strategy additionally deals with the problem of system start up preventing the generator from accelerating to an uncontrollable operating point under a high wind speed situation. This is accomplished using only voltage and current sensors, not being required direct measurements of neither the wind speed nor the generator speed. The proposed method is applied to a small wind turbine system consisting of a permanent magnet synchronous generator (PMSG) and a simple power converter topology. Simulation and experimental results are included to demonstrate the performance of the proposed method. The paper also shows the limitations of using the stator back electromotive force to estimate the rotor speed in PMSG connected to a rectifier, due to significant d-axis current at high load.

Index Terms—Energy management, micro wind generator, small wind generator, soft-stalling control, torque control, wind energy, wind power generation.

I. INTRODUCTION

Renewable energy generation and integration are important topics not only from an electrical engineer perspective but also from a social perspective, due to environmental, economic, and strategic reasons. For small consumers, the interest in energy self-production is growing due to the rise of the electricity price, especially in countries without gas and oil production. One of the more affordable and efficient technologies to produce electricity for residential or small business consumers are small wind turbines [1]–[3]. Small wind turbine systems can inject the energy directly into the grid [4] or store the captured energy in batteries. The system presented in this paper is intended for grid-tied operation. Different power converter topologies have been proposed for the case of grid-tied applications. The most widely used converter topology on the generator side for low-power grid-tied systems consists of a diode rectifier and a boost converter. Alternatively, a boost rectifier has also been proposed. To interface the generating-system with the grid, either an H-bridge inverter [4]–[7] or three phase inverter can be used. However, that solution implies a more complex control and the need of a shaft position sensor. The simplest topology based on the passive rectifier, boost rectifier, and H-bridge converter is used in the present study.

One of the challenges in the operation of small wind turbines is the control and protection under high wind speeds. Whenever the wind power exceeds the turbine power rating, the turbine must be operated below its maximum efficiency point to prevent damage. Some braking mechanism must be enabled if the wind power excess is too high. Pitch control, furling control, stall control, mechanical brakes, and electric brakes have been proposed for this purpose. The electric brake using a crowbar to shortcut the generator windings to produce a high braking torque is the preferred option for small wind turbines, due to its

A QUAD TWO LEVEL INVERTER CONFIGURATION FOR FOUR POLE INDUCTION MOTOR DRIVE WITH SINGLE DC LINK

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ABSTRACT: A multilevel inverter topology for a four-poleinduction-motor drive is presented in this paper, which is constructed using the induction-motor stator winding arrangement. A single dc source with a less magnitude when compared with conventional five-level inverter topologies is used in this topology. Therefore, power balancing issues (which are major challenges in conventional multilevel inverters) are minimized. As this configuration usesa single dc source, it provides a path for zero-sequence currents because of the zero-sequence voltages present inthe output, which will flow through the motor phase winding and power electronic switches. To minimize these zero-sequence currents, sine–triangle pulse width modulation (SPWM) is used, which will shift the lower order harmonicsnear to switching frequency in the linear modulation region. However, in the case of over modulation, harmonic voltages will be introduced close to the fundamental frequency. In this regard, a modified SPWM technique is proposed in thispaper to operate the drive in the over modulation region up to the modulation index of 2 /√3. The proposed quad two-level inverter topology is experimentally verified with alaboratory prototype on a four-pole 5-hp induction motor. Experimental results show the effectiveness of the proposed topology in the complete linear modulation region and the over modulation region.

1. INTRODUCTION

Multilevel inverter technology has been widely usedfor the control of medium- and high-voltage ac drive applications from the past few decades [1] because of its improved output voltage quality [2], better harmonic performance [3], less voltage stress on power electronic devices [4], and so on. The basic concept of multilevel inverters is to achieve the staircase voltage waveform by using more low-rated power electronic switches and voltage sources. As the number of output voltage levels increase, the requirement of series-connected switches will also increase in the case of conventional multilevel inverters such as diode-clamped and flying-capacitor (FC) multilevel inverters. Therefore, if any of the switches fails, the entire topology has to be shut down [5], [6], resulting in decreased system reliability. Moreover, these topologies have some inherent drawbacks such as neutral-point voltage balancing [7] and capacitor voltage balancing [8] problems, which in turn cause unequal voltage sharing across the switches and adds dc offset voltage to the output voltage waveform. Therefore, specinl capacitor voltage balancing techniques are needed to eliminate these issues [9]. The reliability of the system can be increased using the H-bridge configuration, as presented in [10], which will also eliminate the capacitor voltage balancing issue and the neutral-point voltage balancing issue. However, as the number of voltage levels increase, it requires more isolated dc sources [11]. Another interesting topology to increase the reliability of the system is the dual-inverter configuration using an open-end winding induction motor. In this configuration, the neutral point of the induction motor is disconnected, and both sides of the winding are fed from two two -level (or multilevel). This configuration requires only half of the dc source voltage when compared with conventional neutral-point-clamped (NPC) or FC multilevel inverters. To eliminate the aforementioned problems, such as capacitor voltage balancing and the requirement of more voltage sources, a five-level inverter topology is

PERFORMANCE OF THREE PHASE II-LEVEL INVERTER WITH REDUCED NUMBER OF SWITCHES USING DIFFERENT PWM TECHNIQUES

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Abstract-As compared to conventional inverter topologies like diode clamped and capacitor clamped inverters, the cascaded multilevel inverter has lesser harmonics as well as lower switching stress. The cascaded topology has more number of power switches leading to greater heat losses, larger size, higher cost and more gate drive circuitry. The proposed configuration contains less number of switches and produces lesser harmonics in the output voltage than the cascaded topology. A comparison between four different types of pulse width modulation (PWM) techniques, namely, In-phase disposition (IPD), Anti-phase disposition (APD), Carrier Overlap (CO) and Variable Frequency (VF) PWM methods, has been done. The results have been verified through simulation study in MATLAB/Simulink inorder to select the best PWM method that provides minimum THD in the output voltage. An LC filter has been designed to improve the harmonic profile.

Keywords: Multilevel inverter, PWM technique, total harmonic distortion, LC filters.

I. INTRODUCTION

Power electronic devices play a major role in the conversion and control of electric power, especially to extract power from renewable energy sources like photovoltaic array and wind energy [1]. Conversion of DC to AC power can be done with the help of inverters (single phase or three phases). Conventional bipolar inverters produce alternating staircase waveforms with higher harmonics. Thus, the multilevel inverters (MLI) were developed [2]. This paper provides a new three phase configuration to produce the II-level output with less total harmonic distortion (THD) in its output voltage. IPD, APD, CO and VF PWM techniques were used to produce switching pulses[3].

The cascaded H-bridge (CHB) configuration has lesser number of components as compared to the conventional diode clamped or capacitor clamped inverters [4]. It contains single phase inverters connected in series with separate DC sources that can be derived from renewable energy sources like solar PV cell, bio fuel cell or wind turbine [5]. Each single phase inverter produces two DC voltage levels. Bridges with separate DC sources are cascaded to each other for more DC levels. The switches operate at fundamental frequency of

50Hz. The diode clamped MLI has 20 switches, 90 diodes and 10 main DC-bus capacitors per phase to produce an 11- level staircase as the output voltage. The capacitor clamped MLI uses 20 switches, 45 clamping capacitors and 10 main DC-bus capacitors per phase whereas the cascaded H-bridge inverter uses only 24 switches per phase to produce the same output [6-7]. This paper describes a single phase inverter configuration with eight switches and three DC sources. A three phase multilevel inverter is obtained by interconnecting three single phase inverters to a star connected pure resistive load with a common earth point. Therefore, this circuit offers lesser gate control circuitry, lesser cost, lesser heating, more ease of installation and lesser electromagnetic interference. Table.I shows the comparison of the number of

DECOUPLED ACTIVE AND REACTIVE POWER CONTROL FOR LARGE-SCALE GRID-CONNECTED PHOTOVOLTAIC SYSTEMS USING CASCADED MODULAR MULTILEVEL CONVERTERS

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Abstract:-This paper presents a robust PI controller design for a three-phase grid-connected photovoltaic (PV) system to control the Active and Reactive power flow in the grid and the dc-link voltage for extracting maximum power from PV units by using a Cascaded multilevel converter. However, power distribution and control in the cascaded PV system faces tough challenge on output voltage over modulation when considering the varied and non-uniform solar energy on segmented PV arrays. This paper addresses this issue and proposes a decoupled active and reactive power control strategy to enhance system operation performance. The relationship between output voltage components of each module and power generation is analyzed with the help of a newly derived vector diagram by using a PI which illustrates the proposed power distribution principle. Finally, a 3-MW, 12-kV PV system with the proposed control strategy is modeled and simulated in MATLAB/Simulink software and the performance also analyzed by using both controllers.

I.INTRODUCTION

In response to global concerns regarding the generation and delivery of electrical power, photovoltaic (PV) technologies are gaining popularity as a way of maintaining and improving living standards without harming the environment. To extract maximum power from the PV system [1], a robust controller is required to ensure maximum power-point tracking (MPPT) [1]–[3] and deliver it to the grid through the use of an inverter [4]–[6]. Robustness is essential since the power output of PV units varies with changes in atmospheric conditions. Thus, the controller must be robust enough to provide a tighter switching scheme for the inverter to transfer maximum power into the grid over a wide range of operating conditions with a short transient period. In a grid-connected PV system, control objectives are met by using a pulse-width modulation (PWM) scheme based on two cascaded control loops [7]. The two cascaded control loops consist of an outer voltage-control loop to track the maximum power point (MPP) and an inner current control loop to control the duty ratio for the generation of a sinusoidal output current which needs to be in phase with the grid voltage for unity power factor operation [7].

The current loop is also responsible for maintaining power quality (PQ) and for current protection that has harmonic compensation. Linear controllers are widely used to operate PV systems at MPP [8]–[13]; however, most of these controllers do not account for the uncertainties in the PV system. Over the past few decades, one of the most important contributions in the field of control theory and applications has been the development of robust linear controllers for linear systems in the presence of uncertainties through the control scheme which is often obtained from linear matrix inequality (LMI) methods. A feed forward approach to control the current and dc-link voltage, and the robustness is assessed through modal analysis.

A 80-KW ISOLATED DC–DC CONVERTER FOR RAILWAY APPLICATIONS

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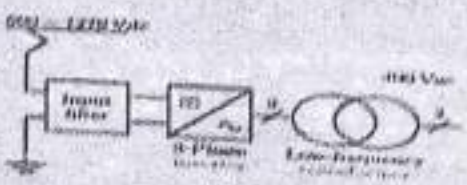
Abstract—This paper provides an analysis of a three-phase dual active bridge (DAB) topology used as high-power-density dc–dc converter for railway applications. The three-phase DAB is analyzed concerning the current intervals, the output power, and soft switching region, including the impact of zero-voltage switching capacitors. Furthermore, two measures are proposed to achieve soft-switching in the entire operating range, being auxiliary inductors and a straightforward switching strategy called the burst mode. Optimal component values are calculated to minimize losses in the complete operating range and to assess which measure is best suited. A prototype with the specifications acquired from the application has been built, yielding an efficiency of 95.6% at a nominal output power of 80 kW.

Index Terms—DC–DC power conversion, power electronics, power supplies, rail transportation electronics.

I. INTRODUCTION

Since the electrification of rail transportation systems, the amount of additional electrical systems in the vehicle has been increasing substantially. These, so called "auxiliary systems" are all systems on a rail vehicle that have functions other than traction. Nowadays, many auxiliary systems are present on rail vehicles. Examples are lighting, compressors, pumps, air-conditioning, and passenger information systems. In order to provide energy to these auxiliary systems, an auxiliary power unit (APU) converts the voltage from the overhead line or a third rail to the required levels of supply voltages. The total auxiliary power demand is typically in the range of tens of kilowatts up to a few hundreds of kilowatts. For safety reasons, galvanic isolation between the input and the output of the APU is required. In conventional APUs, the galvanic isolation is often realized with low-frequency transformers, an example is shown in Fig. 1(a). These transformers are bulky and result in relatively large and heavy APUs. Especially for light rail vehicles, like trams and metros, this becomes a problem when the auxiliary power demand increases. Therefore, size and weight reduction of the APU is necessary to meet the auxiliary power demand within the capabilities of light rail vehicles.

Most of the light rail transport systems are using a dc electrification system with common nominal voltages of 600 or 750V.



(a)

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Torque ripple minimization of a Switched Reluctance Motor using Fuzzy logic control Current compensating technique

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Abstract:Switched reluctance motors (SRMs) are attractive for industrial applications because of their structural simplicity and low cost, ruggedness & capability to cover a wide speed range and relatively high torque-to-mass ratio. The primary disadvantage of an SRM is the higher torque ripple compared with conventional machines, which contributes to acoustic noise & vibration. The origin of torque pulsations in an SRM is due to the highly nonlinear & discrete nature of torque production mechanism. Torque-ripple reduction in switched reluctance motors (SRM) has become a major research theme. In servo control applications or when smooth control is required at low speeds, reduction of the torque ripple becomes the main issue in an acceptable control strategy. In this paperan intelligent controller such as Fuzzy Logic Controller (FLC) current compensating technique is employed for minimizing the torque ripples in switched reluctance motor. For the purpose of comparison, the performance of conventional Proportional- Integral (PI) controller & PID controller are also considered. The statistical parameters like minimum, maximum, mean of total torque, torque ripple coefficient are reported. From the simulation results, it is found that both FLC-PID & FLC-PI controller gives better performance than conventional PI & PID controllers, thereby improves the dynamic performance of SRM drives.

Keywords:SRM, FLC, PID controller, membership functions, FLC-PID controller

1.Introduction

Switched reluctance motors (SRM) have many advantageous characteristics comparing to those of the conventional AC and DC machines. The mechanical simplicity in construction of the SRM can be seen through their purely laminated-steel structure without permanent magnets, rotor windings and squirrel-cage bars. Thus, SR machines offer high reliability and robustness in operation. Due to their ruggedness, the SR motors are inherently suitable for high-speed drives and applications in high-temperature and hazardous environments. In addition, the SRM are efficient and suitable for some applications which required high torque and high dynamics. The highly non-uniform reluctance torque is produced from magnetic saliency between stator poles and rotor poles. Phase flux linkages and instantaneous phase torque are nonlinear functions of phase currents and rotor positions. Therefore, without proper control, the inherent torque ripples, vibrations and acoustic noise can become major problems of the SRM drives. The

DESIGN AND FABRICATION OF AGRO VECHICLE FOR PLOUGHING

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Abstract— **The paper aims on the design, development and the fabrication of vehicle which can dig the soil the advantages of this vehicle is low fuel consumption and reduce the cost in the recent years the development of autonomous vehicle in the agriculture has experience increased interested presently, small land holder farmer use work bulls mostly for land preparation. There use can be increased and made more economical by using them for farm operation such as ploughing. Manual method of farming causes back ache to the formers and cost price of imported machine has gone beyond the purchasing power of most of our farmers. This project work is focused on the simple design and multipurpose equipment which implements all farming operations with minimum cost as possible. The multi agro machine able to cut crops, cut grass ploughs the land. Its maintenance cost is low, we can easily operate , simple in construction Multi cutter is a new innovative and effective concept used for agriculture field. it is simple in construction and the working process is very easy and it is mostly used in agriculture for ploughing the fiel..**

Keywords— castiron wheels,ploughing ridger , Battery, petrol, shaft, engine

1. INTRODUCTION

Agriculture is the backbone of India. The history of Agriculture in India dates back to Indus Valley Civilization Era and even before that in some parts of Southern India. Today, India ranks second worldwide in farm output. The special vehicles plays a major role in various fields such as industrial, medical, military applications etc., The special vehicle field are gradually increasing its productivity in agriculture field. Some of the major problems in the Indian agricultural are rising of input costs, availability of

Design and fabrication of Agro vehicle for Leveling

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Abstract— The paper aims on the design, development and the fabrication of vehicle which can dig the soil the advantages of this vehicle is low fuel consumption and reduce the cost in the recent years the development of autonomous vehicle in the agriculture has experience increased interested presently, small land holder farmer use work bulls mostly for land preparation. There use can be increased and made more economical by using them for farm operation such as ploughing. Manual method of farming causes back ache to the formers and cost price of imported machine has gone beyond the purchasing power of most of our farmers. This project work is focused on the simple design and multipurpose equipment which implements all farming operations with minimum cost as possible. The multi agro machine able to cut crops, cut grass ploughs the land. Its maintenance cost is low, we can easily operate , simple in construction Multi cutter is a new innovative and effective concept used for agriculture field. it is simple in construction and the working process is very easy and it is mostly used in agriculture for ploughing the fiel.

Keywords— castiron wheels,ploughing ridger , Battery, petrol, shaft, engine

Design And Fabrication Of Automatic Paper Punching And Cutting Machine By Using Geneva Mechanism

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Abstract: The design and fabrication of automated paper punching and cutting machine based on Geneva mechanism. The machine cut the papers equal lengths as well as punching based on geneva mechanism. The machine uses a 12V motor in order to drive the entire system. A shaft was used in this machine which is directly connected to the motor and cam drive by the support(frame). This shaft has a sprocket which is connected to scissors by a chain in order to drive the cutting mechanism for cutting paper. And also the cam drive is employed with slider crank mechanism which gives the motion to punching motion. Now another sprocket is connected to a geneva mechanism wheel. This wheel was used to drive paper feed into the cutter mechanism. When the motor is run through battery and the cam drive rotates clockwise direction then punching is doing on paper as well as cutting through chain drive here punching and cutting is doing on single operation. With this machine save the lot time.

1. INTRODUCTION

Thereis lot of competition in the market. So there is need of developing a new method or process for effective manufacturing. That process or methods should fulfill the requirement about accuracy Productivity. This represents the automatic paper cutting and punching machine by using Geneva mechanism. And it is the extension of the project both punching and paper cutting is done on single operation. This equipment is very accurate to cut and punching the papers. This concept will be mainly used in the paper manufacturing industry to cut the papers in huge numbers as well as in Xerox centers for punching. The equipment is fabricated in less cost and good efficient. The aim of this concept is to reduce the human fatigue and time savings in industries by eliminating the paper marking time and human need for punching. Here it has analyzed to use Geneva Mechanism. This is the mechanism used to get intermittent motions. This mechanism consists of the following parts like Geneva wheel, rotating disc, bearing, frame and DC motor. In industries the paper cutting machines go through a time taking process of paper marking which is required to cut the paper of required dimensions, so this model is designed by using Geneva mechanism which eliminates the paper marking time and feeds the paper of equal length in each rotation. Geneva mechanism is used as a mechanism for transforming rotary motion into intermittent motion running with acceleration jumps at the beginning and the end of the active phases.

OPTIMIZATION OF PARAMETERS IN TURNING FOR INCONEL 718 USING TAGUCHI METHOD

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Abstract- **In this paper the cutting of inconel 718 material using lathe by taguchi methodology. Taguchi optimization methodology is applied to optimize cutting parameters in turning inconel 718 material with carbide tipped tool under dry conditions. The lathe machine is used to conduct experiments based on the taguchi design of experiments (DOE) with orthogonal (L_9) array. The orthogonal array signal to noise ratio (S/N) and analysis of variance were employed to find the minimum surface roughness. Optimum results are finally verified with the help of conformation experiments.**

Keywords Turning process, speed, feed, depth of cut, inconel 718 material, taguchi method , Anova.

I. INTRODUCTION

Productivity plays significant role in manufacturing market. The manufacturing industries are continuously challenged for achieving higher productivity with lesser time with high quantity products. In current state of economy and consequent market pressure has formed manufactured to simultaneously decrease the surface roughness affects wear resistance, ductility, tensile strength, fatigue strength etc. Cutting parameters (speed, feed, depth of cut) cutting speed has the highest impact on the surface roughness. Cutting speed is defined has the speed at which the work piece progress with respect to the cutting tool. Feed rate is defined as the distance the tool travels during one revoluation of part. Depth of cut is the distance that tool bit moves into the work. Usually measures in the thousands of an inch in millimetres. Turning process is used in the experimentation. Turning is one of the common metal cutting operation used for machining parts in manufacturing industry. In turning process surface quality is one of the most important performance measures. Surface roughness (Ra) is a widely index of product quality and in most cases a technical requirement for mechanical products.

Taguchi method was developed by DR.GENICHI TAGUCHI. This method involves three stages. They are system design, parameters design, and tolerance design. The taguchi method is a statistical method used to improve the product quality. It is commonly used in improving industrial product quality due to the proven success with the taguchi method, it is impossible to significantly reduce the number of experiments. The taguchi method is not only an experimental design technique, but also a beneficial technique for quality system design.

STEPS INVOLVED IN TAGUCHI METHOD ARE FOLLOWS:

1. Identification of main function, side effects and failure mode.

Principal

DESIGN AND FABRICATION OF STAIR CLIMBING TROLLEY

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Abstract:Trolley is generally use for the carrying heavy weights with the help of less human effort. The manufacturing of the trolley deals with proper design, accurate fabrication and prescribed analysis using finite element software gives better motion which resist to high load by applying less effort this paper deals with manufacturing of such stair climbing trolley with simple mechanism(i.e. ratchet mechanism) initially the model is sketched using solid works and imported into ANSYS software for structural analysis used to find von-mises stresses under load which deals to fabricate trolley with better performance under heavy duty with less effort.

1.0 INTRODUCTION:

It requires much effort, time to lift a heavy weight component and to transport them to different locations. This type of problems raises in industrial sector, factory, manufacturing units and production sector where heavy mechanical components are to be transported from one place to another place and also from one floor to another floor using simple mechanism in involved in such operation it becomes very much difficult to move heavy components to different locations. This stair climbing trolley is one of the simplest operating vehicles which require less human effort without any external electrical power input to operate the trolley and move on the ground even though the path is uneven. The wheel mechanism adjusts itself to stair to climb different floors by vehicle and also on rough ground. Even though main researchers investigated on fabrication and design of stair climbing trolley less effort where implemented to perform analysis on cabin structure and wheel alignment. In this paper the efforts are insisted to carry analysis on entire trolley structure is including wheels and fabricated with optimal measurements with suitable materials.

1.1 MAIN OBJECTIVE OF INVESTIGATION:

The main objective of this project is to perform the following analytical experimental investigation drawn in following point below:

- To design all parts of trolley i.e. frames, wheels, bearing, and assembling them with modeling software PROE software according to specific dimensions.
- Structural analysis on entire trolley with ANSYS workbench software which delivers suitable results based on parameters such as deformation, von-mises stresses, load applied, on component such as wheels, frames, platform cabin etc.
- Fabrication of trolley based on above analysis with accurate measurements to withstand maximum load.

Principal

MODAL ANALYSIS OF A CRACKED CANTILEVER BEAM USING ANSYS WORKBENCH

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Abstract: Structure health monitoring using finite element software such as ANSYS workbench is an emerging trend in recent years to detect damage in structures used in mechanical, civil constructions, aerospace, locomotive, automobile, turbine blades etc. In this paper, modal analysis on a Cantilever beam is considered to identify the effect and severity of damage detection with and without crack on beam near to the fixed end. The load applied at free end of the cantilever beam is considered as 100N. The forced vibration on Timoshenko beam model considered for study. Natural frequencies of the beam are compared for identification of optimal results.

KEYWORDS: Structure health monitoring, ANSYS workbench, Cantilever beam, Crack, Modal analysis

1.0 INTRODUCTION:

Cantilever beams are the basic fundamental structures of mechanical components used for manufacturing several engineering applications. These beams may have internal voids, uneven distributed material surface formed as a structural defect leads to failure. Crack is serious form of a structural which must be encountered to reduce its propagation. Crack is an advanced formed fracture mode of Failure when a component or machine part subjected to extreme load. It actually starts from internal irregularities of materials such as voids, cavities, cracks which are difficult to identify. Structural health monitoring is a technique to identify crack propagation and arrest it to a confined region which leads to reduction of stress concentration around the catastrophic failure of damage areas of structures. These stress concentration, when left unattended, will lead to growth of the crack and cause structural failure. There are several methods to detect crack propagation.

Vibration of a component is time dependent displacements of a particle or a system of particles with respect to an equilibrium position. If these displacements are repetitive which are executed at equal interval of time with respect to equilibrium position the resulting motion is said to be periodic Gawali A.L. and Sanjay C. K [1].

HARMONIC ANALYSIS OF A CRACKED CANTILEVER BEAM USING ANSYS WORKBENCH

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Abstract: In this present paper, Structure health monitoring is performed by harmonic analysis which is a widely acceptable finite element method using ANSYS workbench to detect damage in a healthy and a cracked structure. Harmonic analysis on a cantilever beam is considered to identify the effect and severity of damage detection with and without crack on beam near to the fixed end. The load applied at free end of the beam is considered as 100N. The forced vibration on Timoshenko beam model is considered for this study. Amplitude, deformation of the beam is compared for identification of optimal results with the change of crack depth and position.

KEYWORDS: Structure health monitoring, ANSYS workbench, Cantilever beam, Crack, Harmonic analysis.

1.0 INTRODUCTION:

The structure health monitoring is most widely accepted and accurate method used to identify the damage in a component which has a superior quality of changes in the response parameters of a structure compared to traditional non destruction methods for the assessment of structural integrity, performance and safety. Irregular variations in the measured vibration response characteristics show whether the crack is closed, open or breathing during vibration. Harmonic analysis is an expression of a periodic function as a sum of sin and cosin specifically by Fourier series. Industrial sector follow a basic damage detection technique before manufacturing procedure to identify the structure health.

Kulkarni A. S. et al. [3] obtained a reduced order model for a cracked turbine rotor blade modeled cantilever beam. Accurate dynamical model of this system using Finite Element would typically possess large number of degrees of freedom due to refinement of the mesh near crack and contact, which makes the system computationally intensive for long term analysis. Breathing crack is modeled as piecewise linear system with bilinear natural frequency while geometric nonlinearities are incorporated in a cubic Duffing's term. The reduced order model was able to match the original FEM data to desired accuracy with only first two POD modes of the system and capture the change in frequency introduced by the damage. Robustness of the macromodel is checked under different loading conditions viz. changed forcing frequency, pressure loading and damping. Natural frequency of the cracked beam reduces due to presence of local flexibility in the form of breathing crack and is observed from FFT of the forced vibration response.

S K SAHU and B ROHINI et al. [5] Mild steel specimens of square area of cross section are considered for the experiment and experimental results are contrasted with numerical analysis using Finite Element Method (FEM) in MATLAB environment. The variation of natural frequency with respect to the uniform cantilever beam with single crack is studied and compared with Shiffrin et al [6]. The crack considered is transverse crack which open in nature. Due to the presence of crack, the total flexibility matrix is established by adding local additional flexibility matrix to the flexibility matrix of the corresponding intact beam element. The local additional flexibility matrix is obtained from Linear Elastic Fracture Mechanics theory.

Malay Quila et al. [7] proposed that the presence of cracks causes changes in the physical properties of a structure with an inherent reduction in modal natural frequencies which leads to the change in the dynamic response of the beam. Theoretical analysis of transverse vibration on a fixed cantilever beam of Euler-Bernoulli model includes mode shape, natural frequency using ANSYS software and co relate the theoretical values with the numerical values to find out percentage error between them. Variations of natural frequencies due to crack at various locations and with varying crack depths have been studied.

SOLAR POWERED PESTICIDE SPRAYER

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Abstract: This paper mainly focuses on the concept of SOLAR POWERED PESTICIDE SPRAYER and reduce the pollution. Generally, this type of sprayers has low self weight and low maintenance cost than the conventional engine pumps.

In this product we are using non convention energy is used to run the sprayer. Non conventional energy means the energy is renewable and available unlimited and pollution free energy. In this Solar Pesticide Sprayer a pump running by using electricity which is generated by solar panel or the photovoltaic cell are collect the solar radiation. In This pesticide sprayer we are replace the conventional engine by DC pump. Here the non conventional energy source is a solar energy. In this project, We are Using Level Sensor To monitor the level of pesticide inside the tank. When the level is below minimum required then automatically an Audible alert will be given to the farmer. So then he can refill the pesticide in tank.

Keywords: Solar Panel, Battery, DC pump, Pesticide Tank.

INTRODUCTION

The operation of solar powered pesticide pump has less impact on the environment than the internal combustion engine(ICE) and this pump is more economical at lower operations and has less maintenance cost .The solar pumps are very useful when grid electricity is unavailable places and alternative sources i.e. wind energy. Specially wind energy do not produce the sufficient energy due to fluctuations occurs than the solar energy . The size of the PHOTOVOLATIC-system is directly dependent on the size of the DC pump, the amount of water that is required (m^3/d) and the availability solar irradiance.

The solar powered sprayer has many advantages. Solar sprayers reducing the cost of spraying due to no utilization of fuel. The solar sprayer maintenance is simple than petrol based pesticide sprayer. There

FABRICATION OF MINI FORK LIFT USING WI-FI MODULE

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Abstract:Here we propose the design and fabrication of a remote controlled mini fork lifter. The mini fork lifter defines the concepts of using forklifts for weights lifting as well as placement using pulley based mechanism. Our system allows for efficient implementation of this concept. The mini forklift uses pulley and belt arrangement In order to lift loads. It is connected to a powerful 12V motor in order to lift weights and also consists of a counter weight in the back to maintain proper balance while lifting weights. The lifting mechanism is attached onto a 4 wheel drive frame chassis strong to support the frame as well as counterweight. It consists of 4 motors needed to control vehicle movement in all 4 directions. The system uses 2 supporting rods with bearing setup in order to achieve smooth vertical movement of the forklift. Also we use 4 motor drive in order to drive the forklift with efficient strength. We now use a Wi-Fi based circuit system in order to run the mini forklift from a distance by receiving wireless control commands by Wi-Fi.

I. INTRODUCTION

In general the forklift can be defined as a tool capable of lifting hundreds of kilograms. A forklift is a vehicle similar to a small truck that has two metal forks on the front used to lift cargo. The forklift operator drives the forklift forward until the forks push under the cargo, and can then lift the cargo several feet in the air by operating the forks. The forks, also known as blades or tines, are usually made out of steel and can lift up to a few tons.

Forklifts are either powered by gasoline, propane, or electricity. Electric forklifts relay on batteries to operate. Gasoline or propane forklifts are sometimes stronger or faster than electric

Forklifts, but they are more difficult to maintain, and fuel can be costly. Electric forklifts are great for warehouse use because they do not give off noxious fumes like gas powered machines do.

Forklifts are most often used in warehouses, but some are meant to be used outdoors. The vast majority of rough terrain forklifts operate on gasoline, but some use diesel or natural gas. Rough

FABRICATION OF FOUR SIDES POWER HACKSAW BY USING SCOTCH YOKE MECHANISM

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Absrtact:In this project we are used scotch yoke mechanism. Scotch yoke mechanism also called as slotted link mechanism. This mechanism using the principle is that the rotary motion of motor is convert in to linear motion by using the connecting rods and links. We are using this mechanism to operate the four hacksaws by the four sides with side by side. The main use of this project to cut different metal bar work pieces with high rate of accuracy to maximum utilization of ideal time. This project is able to cut the wood, flat plates, metal pipes, and other thin materials. This project of four side hacksaw machine is used for cut the metals with four sides in a single time or simultaneously. So the work efficiency of labour is high and productivity improves than the conventional hacksaw machine with low cost. The fabrication cost of four sides of power hacksaw machine is less.

Keywords:- Scotch yoke mechanism, Four side hacksaw.

1. INTRODUCTION

In present many electrically operated hacksaw machines are available in out side with different specifications and manufactured by the different industries or different companies for different operations. This hacksaw machines are can be cut only one type of materials at every time. So the production time is increasing while the delay or idle time also increases so interval between every operation time is high then the working of labour time is also increasing then the supply of products by using conventional hacksaw machine is very less.

So we introduce the 4 side hacksaw machine with using the scotch yoke mechanism. This machine consists of 4 bench vices. In this type of machine the above disadvantages are overcome with some advantages like production is high with less time.

2. MAINPARTS:-

1. Basic frame (mild steel)
2. Electric motor (single phase,1 hp motor)
3. Gear box
4. Disc (circular)
5. Connecting rods

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FABRICATION OF ROCKER BOGIE MECHANISM

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ABSTRACT The place, where the value of gravity remain lower than earth's own gravitational coefficient, at that place the existing suspension system fails to fulfill desired results as the amount and mode of shock absorbing changes. To counter anti-gravity impact, NASA and Jet Propulsion Laboratory have jointly developed a suspension system called the rocker-bogie Suspension system. It is basically a suspension arrangement used in mechanical robotic vehicles used specifically for space exploration.

It consists of two arms with wheel mounted to each. Both arms are connected through a movable joint. This enables to have a suspension based mechanism that distributes the vehicle load as evenly as possible even on bumps and irregular surfaces. The design consists of a spring free suspension based differential drive system that allows the bogie to move over rocks, pebbles with ease. The sensors mounted on a rover must be stable to work properly and also to increase their life spam. More vibrations and jerks lead to faster wear and tear in sensors, circuit boards. The rocker bogie mechanism was designed keeping this in mind by providing maximum stability in all terrains. Thus we study the design and fabrication of the rocker bogie mechanism by fabrication of this rough terrain vehicle using concepts of the bogie mechanism.

Key words: Rocker Bogie Mechanism, Suspension vehicle controlled by mobile app.

1. INTRODUCTION

In rocker bogie suspension system, the term rocker" describes the rocking aspect of the larger links present each side of the suspension system and balance the bogie as these rockers are connected to each other and the vehicle chassis through a selectively modified differential. As accordance with the motion to maintain center of gravity of entire vehicle, when one rocker moves up-word, the other goes down. The chassis plays vital role to maintain the average pitch angle of both rockers by allowing both rockers to move as per the situation. As per the acute design, one end of a rocker is fitted with a drive wheel and the other end is pivoted to a bogie which provides required motion and degree of freedom [1].

In the system, "bogie" refers to the conjoining links that have a drive wheel attached at each end. Bogies were commonly used to bare loading as tracks of army tanks as idlers distributing the load over the terrain. Bogies were also quite commonly used on the trailers of semi-trailer trucks as that very time the trucks will have to carry much heavier load [2].

Designing of Low Power High speed Fast Fourier Transform (FFT) Processor

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Abstract— **Fast Fourier transform (FFT) is an efficient algorithm to calculate Discrete Fourier Transform (DFT) and its inverse. A wide variety of applications like Digital Signal processing and image processing rely heavily on it. The FFT computation is done by the FFT processors and its design is a key factor for the application. The proposed design implements a radix-4 FFT processor, which incorporates a low power commutator and a butterfly structure without a multiplier. The parallel pipe lined architecture of the processor also has higher throughput with lowered power consumption.**

Keywords— dragonfly structure; shift addition; commutator.

INTRODUCTION

The conventional method of Fast Fourier Transform FFT calculation involves N^2 complex multiplications and N(N-1) complex additions. The radix-2 Cooley-Tukey algorithm performs the same computation involving (N/2)log_2^N complex multiplications and (N) log_2^N complex additions. So, a 16point FFT requires 256 multiplications and 240 additions. It is reduced to 64 multiplications and 192 additions when the proposed radix-4 approach is used. The equations for radix-4 FFT are:

$$X(4k) = \sum_{n=0}^{\frac{N}{4}-1}\{x(n) + x\left(n+\frac{N}{4}\right) + x\left(n+\frac{N}{2}\right) + x\left(n+\frac{3N}{4}\right)\}W_N^0\ W_{N/4}^{Kn}$$

$$X(4K+1)=\sum_{n=0}^{\frac{N}{4}-1}\{x(n) - jx\left(n+\frac{N}{4}\right) - x\left(n+\frac{N}{2}\right) + jx\left(n+\frac{3N}{4}\right)\}W_N^n\ W_{N/4}^{Kn}$$

$$X(4K+2)=\sum_{n=0}^{\frac{N}{4}-1}\{\overline{x(n)} - x\left(n+\frac{N}{4}\right) + x\left(n+\frac{N}{2}\right) - x\left(n+\frac{3N}{4}\right)\}W_N^{2n}\ W_{N/4}^{Kn}$$

$$X(4K+3)=\sum_{n=0}^{\frac{N}{4}-1}\{x(n) + jx\left(n+\frac{N}{4}\right) - x\left(n+\frac{N}{2}\right) - jx\left(n+\frac{3N}{4}\right)\}W_N^{3n}\ W_{N/4}^{Kn}$$

A. 16 point 2-parallel FFT design

The input data stream was split into even and odd data streams which were then sent to two commutators. The output from the commutator was then fed in to the butterfly unit. The butterfly unit computes the factors which are then multiplied with co-efficient in the multiplier unit. A

A Novel Improved Irrigation System Using Image Processing and Wireless Technology

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***Abstract*— A novel irrigation system was implemented to use in agricultural crops. This system uses a raspberry pi with webcam to capture and process digital pictures of the soil close to the root zone of the plant, and estimates optically the relative wet soil (RWS) percentage. The entire system is confined in a chamber and placed it at the root level of the plant under controlled illumination. An algorithm was developed in Python OpenCV to operate directly the computing and communication components such as webcam and ZigBee network. The algorithm runs continuously and activate the all components with pre-defined parameters. Then, the webcam takes an image of the soil through associate window and an RGB to grey conversion is achieved to estimate the quantitative ratio between wet and dry area of the image. After the serial communication is enabled, this ratio is transmitted using ZigBee wireless device to gateway unit. Gateway unit consists of Arduino microcontroller with ZigBee. Arduino processes received information and control the water pump. The system is powered by using rechargeable batteries and charged by using solar panel. The experimental results show that by the usage of this automatic irrigation system we reduce water consumption and increase yield.**

Keywords*— *Automation irrigation, Raspberry pi, Python OpenCV, Webcam, Zigbee, wireless sensor network.

INTRODUCTION

Irrigation is very important for agriculture to get high yield in semiarid and arid areas. Because the fields in needs of irrigation can contain different plants such as trees, grass and vegetables, each field should be irrigated in a different plan having different period and amount. Of course the person who irrigates the field should be experienced in irrigation methods of the plants to have yield from the plants. In case of wrong irrigation methods, the expected agricultural output cannot be most probably taken.

Raspberry pi have powerful computing and on chip image processing capabilities, connectivity resources and run different applications for multiple purposes. The Raspberry pi microcontroller includes a high performance processor at low-power consumption, running on 1GHz processer, and a memory of variable size, also contains a high-resolution graphics capability. These processers have diverse connectivity options, Local Area Network(LAN), third- or fourth-generation (3G/4G), Bluetooth, and Wi-Fi for Internet and local access. They have a multi-tasking operating system for running first- and third-party Apps, resulting an attractive developing platforms for a specific applications in different domains. Also with additional external sensors the Raspberry pi can enable attractive sensing applications elsewhere, such as environmental monitoring, healthcare, security and transportation.

Raspberry pi been used as external database server, including automated data processing by means of an Algorithm [1]. Other monitoring algorithm was designed for driver fatigue

Android Based a Real Time Data Acquisition and Monitoring System Using ARM7 for Industrial Applications

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Abstract— **In recent years there is a vast technology improvement in industrial control rooms for monitoring the entire field of Industrial plants. High end PLC's are being implemented for controlling the entire process of fields. But a problem is that even though automation takes the complete control of total plants few authentication and manual actions are needed from user side for completing the control action. Hence there is a must situation for users presence at all times in the control room for taking some timely needed control actions. Due to the static nature of control room environment, the user should always be static to monitor the process. In this project, we propose a system that promotes the control engineer to obtain the data values anywhere and everywhere within the control room. This new system is suited for acquiring the control parameters like temperature and level process variables of an existing temperature process controller. The main objective of this proposed work is to acquire both the temperature and level sensor values with the help of microcontroller device and transmit the signals via blue tooth device interfaced with ARM7 Microcontroller and thereby monitoring and storing the process variable parameters in a smart digital device running on an android platform.**

Keywords*— *Automation; Sensors; Relays; Bluetooth HC-05; Android Application.

INTRODUCTION

Automation is need of any industry to manage industrial machinery and processes, reducing the necessity for human interference. With technology growing at a quick rate, automatic machine status trailing system of fully automatic processes is today's need which will be utilized in a variety of the way to trace and show machine info or status in real-time with wireless technology like Zigbee/Bluetooth/GSM [1] .

Presently obtainable system aren't totally automatic, these need to monitored on time basis. Currently systems like SCADA are used for the purpose of automation however the problem is that such systems can't be controlled from remote location. Additionally the shop floor information isn't offered to the higher authority persons like Manager, MD etc. In business environment some process are completely automatic for e.g. Sterlite trade is making the production of fiber optic cables, once the process started it runs unceasingly for months. In this processes some quantities like temperature, pressure, gas discharge, production achieved etc got to be controlled in period from remote location. There are few trained persons within the industry; they have to touch in each moment concerning the parameters like temperature, pressure, gas outflow, production achieved etc. By concerning thisa fully automation system is developed in such a way that update and control the standing of that particular plant with the assistance of automaton mobile using Bluetooth communication. Different sensors are mounted to induce the

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Camera Based Text and Product Label Reading From Handheld Objects For Blind Persons

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***Abstract*— Now a days printed text is one of the prominent communication medium to get product names, sign boards message, Restaurant menu etc. In order to get this information blind people need some assistance. In recent years there is a vast improvement in image processing and embedded systems. In this project we proposed an efficient system for blind people to read printed text by combining image processing and embedded systems. Camera acts as main vision in detecting the label image of the product or board then image is processed internally and separates label from image by using Matlab and finally identifies the product name and by using serial communication transfer this information to ARM 7 microcontroller. Microcontroller processes received information and pronounces product name or message by using voice module APR 9600 and speaker. To isolate the object from complex backgrounds, we first propose an effective motion-based method to define a region of interest (ROI) in the image. In the extracted ROI, text localization and recognition are conducted to acquire text information. An experimental result shows that our system achieves the state-of-the-arts and Self-Dependency for disabled persons increased.**

Keywords*— *Assistive devices; Blindness; Arm 7; Image processing; Text to voice.

INTRODUCTION

The National Census of India has estimated around 21.9 Million disabled people in the country. Out of which more than 15 million people in India are blind. This is considered to be the highest among all other disabilities. Blind people are an integral part of the society. However, their disabilities have made them to have less access to computers, Internet, and high quality educational software than the people with clear vision. Consequently, they have not been able to improve on their own knowledge, and have significant influence and impact on the economic, commercial, and educational ventures in the society. One way to narrow this widening gap and see a reversal of this trend is to develop a system, within their economic reach, and which will empower them to communicate freely and widely using the information infrastructure.

Reading is obviously essential in today's society. Printed text is everywhere in the form of reports, receipts, bank statements, restaurant menus, classroom handouts, product packages, instructions on medicine bottles, etc. And while optical aids, video magnifiers, and screen readers can help blind users and those with low vision to access documents, there are few devices that can provide good access to common hand-held objects such as product packages, and objects printed with text such as prescription medication bottles.

Blind people always wanted to live independently like normal People. But most of the times like while reading texts they need to depend on others. Latest advancements in technology made it possible to provide assistance to these people by designing products that use computer vision and camera with optical character recognition (OCR) system. Reading has become an essential part in the modern world. Texts in printed form are available everywhere in books, bills, cheques,

DESIGN AND IMPLEMENTATION OF NOVEL IRRIGATION SYSTEM USING IOT AND WIRELESS TECHNOLOGY

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Abstract— **In recent years there is a vast technology improvement in agriculture controlling and monitoring the entire field. High end PLC's are being implemented for controlling the entire process of fields. But a problem is that even though automation takes the complete control of total field few authentication and manual actions are needed from user side for completing the control action. Hence there is a must situation for users presence at all times near the agriculture field for taking some timely needed control actions. Due to the static nature of environment, the user should always be static to monitor the irrigation process. In this project, we propose a IOT and WSN based novel irrigation system that promotes the farmer to obtain the field environment conditions anywhere and everywhere within the globe. This new system uses ARM 7 microcontroller, ZigBee and sensors. It controls the field motor and roof motor based on parameters like temperature and soil moisture of the field. The main objective of this proposed work is to minimize the human intervention in the field of irrigation thereby increase efficiency and save money, time and power. Microcontroller tracks the information from each sensing element and transmit this data to Graphical user Interface specially designed for this purpose through ZigBee wireless technology. This GUI upload received parameters values to internet server we monitor them from anywhere in the globe with internet connection. We also control the field motor from GUI. This novel irrigation system was found to be cheaper, effective, feasible by the limited usage of water.**

Keywords-- Irrigation Automation; Sensors; Relays; Zigbee; GUI .Net; IOT;

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DESIGN AND IMPLEMENTATION OF VEHICLE TRACKING SYSTEM USING CAN PROTOCOL

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Abstract— **Avoiding Vehicle Theft is making buzz in present automobile industry. Design and development of a theft control system for an automobile, can be achieved by making use of ARM LPC2148, GSM and GPS. The developed system makes use of an GSM that is embedded in the vehicle with an interfacing to Engine Control Module(ECM) through Control Area Network (CAN) Bus, which is in turn, communicated to the ECM. The vehicle being stolen can be stopped by using SMS feature of GSM and GPS is used to get the location information and this information is used by the owner of the vehicle for future processing. The owner sends the message to the GSM which is embedded in the vehicle which has stolen which in turn controls the vehicles engine by locking the working of the engine immediately. The developed system accept the message and broadcasted to the Vehicle Network through CAN Bus. The engine can be unlocked only by the owner of the vehicle by sending the message again. The goal behind the design is to develop security for vehicles and embedded system to communicate with engine of the vehicle.**

Index Terms— Controller Area Network Bus ; Engine Control Unit; Vehicle Network ; Mobile Phone ; GPS ; GSM ; Theft Control Unit.

I. INTRODUCTION

In the last few decades, India has progressed at such an enormous rate that many companies have strongly established themselves here. These companies bring a huge amount of workforce with them. Arranging transportation to such a huge mass is a cumbersome task involving many intricacies. Generally, this transport is arranged through the local transport vendors on a yearly contract basis, recently happen mishaps such as burglary, rape cases etc. The development of satellite communication technology is easy to identify the vehicle locations. Vehicle tracking systems have brought this technology to the day-to-day life of the common

14) SIMCOM publication, "SIM300 AT Commands Set",1.06.Vehicle Tracking Systems Overview [Online:]

DESIGN OF ENERGY EFFICIENT SYSTEM FOR CLASSROOMS USING FACE RECOGNITION

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***Abstract*—A novel face recognition based door access system was implemented to use in classrooms. This system uses a ARM7 with webcam to capture and process digital pictures of the students and recognize the faces to open the door, and automatically switch on the lights and fans based on number of students. The entire system uses two cameras with two GUI apps one for entry and one for exit. The algorithm runs continuously and detects registered faces and sends it to the microcontroller. Based on received data microcontroller open the door and also increments the number of students. If at exit side GUI detects the face then microcontroller decrements the number of students. The GUI designed especially for this system. The experimental results shows that the efficiency of this project is high when compared with IR based door access system.**

Index Terms—automatic door access, face recognition, LPC2148, VB.Net GUI, energy efficient system.

VI. INTRODUCTION

Today power accommodates virtually all the devises in the world. Day to day no of incipient electronic and electrical devices are incrementing. So, the potency demand is growing at an immensely colossal rate in this world. Our country is dependent on an old, outmoded, fossil-fuel energy system that is simultaneously speeding environmental degradation and making us less secure. There is a better way. We have two possible solutions to reach the potency demand. First solution is to increment the electrical energy generation and the second solution is to decrement the electrical energy consumption.

Dual Carrier Modulation using Improved Data Allocation Scheme

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Abstract

Purpose: The increasing need for high speed low power data transmissions over frequency selec-tive fading channels has drawn attention to suggest dual carrier modulation (DCM) for multiband orthogonal frequency division multiplexing (OFDM) transceiver for ultra wideband (UWB) wireless personal area network (WPAN).

Design/Methodology/Approach: Under frequency selective fading channel conditions, the de-coder is not su_cient enough to decode the transmission bits of severely attenuated data tones hence,we suggest DCM for a multiband OFDM transceiver due to its multiple capability of providing both frequency diversity and coding gain. It also resulted in low bit-error-rate (BER) at a given signal-to-noise ratio (SNR) when compared to conventional multiband OFDM system. In order to achieve an optimised BER, DCM transforms four re-ordered bits into two quaternary phase shift keying (QPSK) symbols and further transforms to two 16-quadrature amplitude modulation (16-QAM) like symbols with a suitable mapping technique and at the receiver end they are decoded with maximum likelihood (ML) decision rule. After performing the transformation, the outage probability and average BER expressions are derived to analyse the system performance.

Findings: DCM is suitable for high data rate transmission and is immune to frequency selective fading. The outage and BER performance outstands over conventional multiband OFDM transceiver due to the inclusion of DCM mapping.

Practical Implications: It is widely used in WPANs like high de_nition multimedia interface and wireless universal serial bus (WUSB).

Originality/Value: This paper derives novel closed-form outage probability and a tight upper bound on average BER expressions for DCM based multiband OFDM UWB transceiver over frequency selective Nakagami-m fading channels, for any arbitrary value of m. For this, moment generating function (MGF) of sum of squared, identical independently distributed, Nakagami-m random variables are used. Further the system performance is also validated for the case of exponential decaying PDP and the simulation results are provided to check the accuracy of the derived expressions.

IOT and WSN Based Power Management with Monitoring and Controlling Remotely in Smart Buildings

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Abstract: In this project we designed an efficient power management system with remote monitoring and controlling using IOT and Wireless Sensor Networks. Electrical parameters such as voltage ,current and Household electrical Appliances power consumption are monitored by the proposed system. By using Zigbee and Internet Of Things(IOT) electrical parameters are controlled and monitored remotely. By using Visual basic GUI application from anywhere in the world we control appliances because the system that is proposed is efficient and flexible. By using proposed prototype we get better results when compared to existing systems.

Keywords: ACS712, LPC2148, ZIGBEE, Visual basic GUI App.

I. INTRODUCTION

The universal wireless communication network can be utilized for the Advanced Metering Infrastructure (AMI). New wireless communication technologies are used in this project to design and implement a smart power meter based on zigbee

The full system is classified into two types that is power meter based on zigbee and the control system. Firstly, by using data acquisition module current waveforms of loads and voltage are acquired by using the ADC module of MCU it is converted into digital signal. The obtained analog data fed to ADC of microcontroller. Power consumption calculation carried out by using digital information captured in the memory (such as Active, Reactive Power and Phase angle) and if necessary outage event recording is performed. Proposed smart power meter software and zigbee coordinator forms the control system. To establish the power consumption by using proposed control system and blackout occasion database and in addition to offer the request of force utilization information and blackout information recorded in the proposed savvy power meter which are displayed on LCD and PC. By using IOT Graphical User Interface we monitor the electrical parameters like Voltage and Current and also control electrical appliances

NETWORK BASED INTELLIGENT FIRE ALARM

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***Abstract*— This system is mainly used in shopping malls and multi-level apartments to detect the fire and take necessary actions which were configured by the user. This product will detect fire within a short span of time (5 sec max) and the information will be triggered to authority via SMS and also in the main panel it will be acknowledged via LEDs, printing message on LCD and giving loud buzzer sound. The main advantage of selecting this product is to avoid so much wiring between main panel and slave zones. This reduction of wiring is achieved by using RS-485 networking concept, hence cost of the total system will be reduced by 50% of project cost. Another advantage is to configure the system settings of main panel will be done through LCD with keypad and also FIRE detected zone address will be displayed on LCD.**

Index Terms— Automatic fire detection, P89V51RD2 Microcontroller, GSM/GPRS, Rs-485, wireless network.

XII. INTRODUCTION

Fire, being an important process that affects ecological systems across the globe, still pose a serious challenge to the security of lives and properties. Even though it is been used by humans for various activities like cooking, signalling, propulsion purposes, it still remains as a serious threat to life & properties. In a developing nation, like India, Fire accident creates serious health and safety hazard, which also resulted into catastrophic situation. Associated with it is unnecessary injury or complete loss of lives in one hand, partial or complete damage to expensive and valuable properties on the other hand. This huge loss is inestimably enormous; hence this project proposes an idea to develop a networked Fire Alarm system, assisted with GSM support. The project aims at developing a efficient, cost effective prototype which detects fire/smoke and alerts the public through various mechanisms such as Alarm, LEDs, LCD Displays. The system also employs a SMS mechanism to alert the concerned authority, even remotely. The prototype

A NOVEL TRAFFIC MANAGEMENT SYSTEM USING IOT AND RASPBERRY PI 3 MICROCONTROLLER

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***Abstract*— The existing Traffic control system is based on the "time" which is already assigned in the system. According to these times the signals are working in each lane. But in these system condition is occurs as all vehicles in lane(L1) are passed and vehicles in another lane (L2) still in waiting state because time is not over and hence signal is still red. These systems are very inefficient because they are unable to handle various simple situations which are occurs throughout the day. Major drawback is it has unnecessary waiting time and there is no facility to handle emergency vehicles. The project is designed to develop a system which performs execution based on density of vehicles (Vehicle Count). After calculating the number of vehicles we will came to know in which side the density is high based on which signals will be allotted for a particular side. Raspberry pi is used as a microcontroller which provides the signal timing based on the traffic density. Raspberry pi directly uploads the Traffic status to the server by using Ethernet connection or Wi-Fi connection. The end user access this data by using GUI designed for specific application. By using webcam it captures the traffic Congestion and emails it to the predefined user.**

Index Terms—Traffic Management system, Raspberry pi 3, iot, Automation.

XVI. INTRODUCTION

India is the second most populous country in the world and is a fast growing economy. Infrastructure growth is slow as compared to the growth in number of vehicles, due to space and cost constraint. Also, Indian traffic is non-lane based and chaotisic. In traffic environments, traffic sign recognition (TSR) is used to regulate traffic signs, warn the driver, and command or prohibit

Real-Time Fire Detection, Alerting and Suppression System using Live Video Surveillance

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Abstract— **Real- time fire detection, alerting and suppression system detects the presence of fire in indoor scenarios by recording the video inside the room via surveillance camera installed. This system introduces an image processing technique through video surveillance to detect the fire using different experts by combining three classifiers based on color, shape and motion of the fire. This detection system follows an alerting and suppression system. The alerting system uses GPS/GSM technologies to share the location information, where the fire occurs to alert the nearest fire station. The automatic fire suppression system activates the fire sprinkler exactly where the fire occurs instead of activating all. To find the sprinkler nearest to the fire QR code has to be with each sprinkler. The QR code has been encoded with latitude and longitude place of the sprinkler. The microcontroller is planned to activate that particular sprinkler, only where the fire occurs. It will protect the properties which are away from the fire and helps early detection and suppression of fire.**

Keywords—Raspberry pi microcontroller; GSM Module; fire detection, image processing, suppression system, video surveillance.

2. INTRODUCTION

Fire is an undesirable event that could bring a great loss of social wealth and human life. To prevent these losses, various alarm systems have been developed such as smoke detectors, temperature sensor based systems etc. As technologies evolved and instruments such as temperature sensors, camera etc. becomes affordable, various automated fire alarm systems are now available. In conjunction with the cheaper instruments, internet based and wireless

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SMART BUILDINGS POWERMANGEMENT WITH MONITORING AND CONTROLLING USING WSNS

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***Abstract* - The design and development of a smart monitoring and controlling system for household electrical appliances in real time. In this system the sensors gives the values like voltage, current of electrical appliances and calculates the power consumed. The developed system is economical and flexible. the main aim of system is power management by controlling mechanism of household appliances and it can saves power.**

By this we can control of the electrical appliances through application. It can be extended for monitoring the whole intelligent building. We aim to determine the areas of daily peak hours of electricity usage levels and come with a solution by which we can lower the consumption and enhance better utilization of already limited resources during peak hours.

Index terms : Energy management, home automation, intelligent control system, wireless sensor network, ZigBee,ACS712, Visual basic GUI App.

I. INTRODUCTION

The ubiquitous wireless communication network can be utilized for the Advanced Metering Infrastructure (AMI). Therefore, this project tries to use the new wireless communication technologies to design and implement a smart power management system

Firstly, the voltage and current waveforms of loads are acquired by a sensor module and then converted to digital signal through the ADC module of MCU. The digital information is transmitted through wireless transmitter(zigbee).A wireless receiver recieves and sends to a Wireless coordinator(ZigBee)and residential gateway after processing data ,it is send to the pc-gui based monitoring and controlling through application. power consumption data or output values of current and voltage are displayed on LCD and

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Modified Cuckoo Search Algorithm for PAPR Reductionin OFDM

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Abstract:-Over the last years, Orthogonal Frequency DivisionMultiplexing (OFDM) technique plays anvital role in wirelessdigital communication system. OFDM is a multi-carriermodulation technology which permits high capacity of datatransmission over a single path.A large PAPR distorts the signal if thetransmitter contains non-linear components, which can increasethe complexity and reduces the efficiency of power amplifier. Numerousmethods are surveyed to decrease the PAPR level andcomplexity. Partial Transmit Sequence is also one of thedistortions less method that progresses PAPR performance.Conversely, the high computational complexity is the majordrawback of PTS due to many IFFT operations. This paperpresents innumerable algorithms to decrease the computationalcomplexity. The partial transmit sequences (PTS) method, variable to variable crossover in Cuckoo search algorithm (CSA) and combinationbetween the two methods are the most popular algorithms for optimization PAPR reduction.

Index Terms:Orthogonal Frequency Division Multiplexing(OFDM); Peak-to-average power ratio (PAPR); Partial transmitsSequence (PTS).

I. INTRODUCTION

In recent times, OFDM has been selected for the mobile cellularradio preferred 3GPP LTE and future broadband wireless access to requirements inclusive of HIPERMAN and IEEE 802.16x[1-2]because of it has excessive spectral efficiency and low complexreceiver. The precept of OFDM is to divide a high rateinformation bitstream into numerous parallel low rate datasubstreams and use these substreams to modulate more than a fewof orthogonal subcarriers through Fourier transform techniques.However, one downside of OFDM is that the transmittedsign has a high PAPR whilst the subcarriers add up coherently. An excessive PAPR not best degrades the performance of a linearelectricity amplifier but also to restriction the software of OFDMtransmission systems. Therefore, PAPR reduction in OFDMsystems is a lively vicinity of research and has broadly attractedthe eye of researchers[3-4].Recently, various answers were proposed to relieve the excessive PAPR problem, such as selective mapping(SLM)[5-6], partial transmit sequence (PTS)[7-9].

Using the PTS method needsan exhaustive seek of the feasible segment factors to achievemost suitable PAPR performance. Moreover, the computationalload turns into impractical while the quantity of subblocksor segment factors increased. Although a whole lot study hasbeen dedicated to improving the

ADVANCED ROAD SAFETY SYSTEM FOR PASSENGER CARS

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ABSTRACT: In every year, there are thousands of highway deaths and thousands of serious injuries due to "Run-Off-Road" accidents. There are many reasons for accidents to be occurring. Everything from simple driver inattentiveness, to fatigue, callousness, to drunk driving, is responsible. Simple sensors can be fitted inside vehicles embedded with various features like, automatic collision notification, vehicle security, speed control which can give impetus to an efficient road safety system. We proposed this paper for Automatic collision notification that gives notification to the victim's relative, Red light traffic control makes sure vehicle doesn't break signal, Speed control alters speed in different zones, Horn control prevents honking in horn prohibited zone, Alcohol detection detects drunk driving and Vehicle security is used to prevent theft.

KEYWORDS: LCD display, Embedded System, Collision Notification, GSM (Global System for Mobile Communication), GPS (Global Positioning System).

I. INTRODUCTION

Currently Road safety systems are available in high end luxury cars such as Audi, Mercedes Benz etc. to name a few. Example: OnStar Corporation provides subscription-based communications, in-vehicle security, hands free calling, turn-by-turn navigation, and remote diagnostics systems throughout the United States, Canada and China. A similar service is known as Chevy Star in Latin American markets. OnStar FMV became available to the public on July 24, 2011. It provides some of the features an OEM system has, such as Automatic Crash Response, Stolen Vehicle Tracking, Turn-by-Turn Navigation, and Roadside Assistance.

Road traffic crashes are one of the world's largest public health and injury prevention problems. According to the World Health Organization (WHO), more than a million people are killed in road accidents, each year, all over the world . A report published by the WHO in 2009 revealed that more people

[21] http://www.vexrobotics.com/wiki/Bumper_Switch [Date of Access: March 22, 2013].

Synthesis, Characterization of Nano Lanthana and Studies of Energy Band Diagrams For MOS Capacitor Applications

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Abstract

Most digital applications require MOS devices with high linearity and capacitors with high specific capacitance per unit area. In this paper Lanthana (La_2O_3) nano particles are synthesized by Pechini method and characterized by X-Ray Diffractometer (XRD), Particle Size Analyzer (PSA), Scanning Electron Microscopy (SEM), Energy Dispersive X-Ray spectrometry (EDX), Fourier Transform Infrared Spectroscopy (FTIR), Thermo Gravimetric and Differential Thermal Analysis (TGDTA), Transmission Electron Microscopy (TEM), LCR meter analysis for the purpose of material analysis and further application in the device fabrication. Also the La_2O_3 has been studied for various parameters like Charge density, Electric field, Device potential and Energy and are compared against SiO_2 for MOS capacitor applications. From the results, it is observed that the MOS device containing La_2O_3 oxide layer drives high drain current compared to that of SiO_2 contained MOS device.

Key Words: MOS Capacitor, Lanthana, Charge Density, Pechini Method, Si substrate, Aluminium

1. Introduction

Traditional silicon MOS (Metal Oxide Semiconductor) device scaling has driven the semiconductor industry for the past four decades and in recent years, new materials and processes has been introduced to maintain pace with Moore's law which states the development of high density integrated circuits. Aiming the higher device performances like low power consumption and high frequency operations, the MOS devices dimensions are going down to deep submicron scales [1]. However, the drastic reduction in the

INTERNET OF THINGS INTEROPERABILITY USING EMBEDDED WEB TECHNOLOGIES

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1) ABSTRACT: - With IoT all the objects in the world are becoming smart. The use of smart devices are increased every field. In order to enhance the efficiency and lifestyle convenience, they are also increasing the target space for malicious cyber attacks. This paper discussed various applications of IoT and also the possible security threats that could have a huge impact on businesses and individuals.

Keywords: Sensors, RFID, WSN, Security, DoS, Privacy, Internet

1. INTRODUCTION

Internet of Things (IoT) is a computing concept where each physical object is connected to Internet and is able to identify itself and also other devices are present in the network. These devices include everything from cell phones, coffee makers, headphones, washing machines, lamps and almost all the devices one can think of. In other words, IoT is a giant network of connected "things".

In IoT, each device has inter-connected microchip inside it. The inserted microchips help not only to keep track of the devices but also sense their surrounding and report it to other machines as well as to humans. In IoT, every physical and virtual entity is communicable, addressable and accessible through the Internet. At present, technology cost is going down, broadband Internet is becoming more widely available, cost of connecting is decreasing, and most devices are created with Wi-Fi and have built in sensors. All these things are creating a "perfect storm" for IoT. According to Gartner, Inc. (NYSE: IT), the world's leading information technology research and advisory company, there were 4.48 billion connected IoT devices in 2015 and the number is expected to grow 30% in 2016. These connected devices could provide a much larger surface for attackers to target home or office networks.

A Formal Assessment on Raspberry Pi 3 Model B+

It's better, faster and stronger

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Abstract—The Raspberry Pi 3 Model B+ is a very powerful, small computer having the dimensions of credit card which is invented with the hope of inspiring generation of learners to be creative. The Raspberry Pi 3 Model B+ is the latest product in the Raspberry Pi 3 range, boasting a 64-bit quad core processor running at 1.4GHz, dual-band 2.4GHz and 5GHz wireless LAN, Bluetooth 4.2/BLE, faster Ethernet, and PoE capability via a separate PoE HAT. The dual-band wireless LAN comes with modular compliance certification, allowing the board to be designed into end products with significantly reduced wireless LAN compliance testing, improving both cost and time to market. The Raspberry Pi 3 Model B+ maintains the same mechanical footprint as both the Raspberry Pi 2 Model B and the Raspberry Pi 3 Model B.

Keywords—quadcore, dual-band, wireless LAN, Bluetooth, faster Ethernet, PoE capability

VII. INTRODUCTION

The Raspberry Pi 3 Model B+ is a small computer, same as the computers with which you're already familiar. It uses a many different kinds of processors. In this Model we can also install Microsoft Windows 10 IoT on it. But most of the cases people can install several versions of the Linux operating system. Raspberry Pi is also used to surf the internet, to send an email to write a letter using a word processor, but you can too do so much more. Simple to use but powerful, affordable and in addition difficult to break, Raspberry Pi is the perfect device for aspiring computer scientists [1]. This small computer features amazing HD (high-definition) quality, video playback, also sports high quality audio and has the capability to play 3D games. This includes amazing projects like a custom Pi-powered, Switch-esque retro games console, a Minecraft Pi hack that creates a house at the touch of a button, and the Matrix Voice. The device use the ARM

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A LIGHTWEIGHT SECURE DATA SHARING SCHEME FOR MOBILE

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ABSTRACT:

With the popularity of cloud computing, mobile devices can store/retrieve personal data from anywhere at any time. Consequently the data security problem in mobile cloud becomes more and more severe and prevents further development of mobile cloud. There are substantial studies that have been conducted to improve the cloud security. However, most of them are not applicable for mobile cloud since mobile devices only have limited computing resources and power. Solutions with low computational overhead are in great need for mobile cloud applications. In this paper, it is proposed a lightweight data sharing scheme (LDSS) for mobile cloud computing. It adopts CP-ABE, an access control technology used in normal cloud environment, but changes the structure of access control tree to make it suitable for mobile cloud environments. LDSS moves a large portion of the computational intensive access control tree transformation in CP-ABE from mobile devices to external proxy servers. Furthermore, to reduce the user revocation cost, it introduces attribute description fields to implement lazy-revocation, which is a thorny issue in program based CP-ABE systems. The experimental results show that LDSS can effectively reduce the overhead on the mobile device side when users are sharing data in mobile cloud environments.

Key words : *Cloud Computing,CP-ABE,LDSS,Ciphertext .*

EXISTING SYSTEM:

- In general, we can divide these approaches into four categories: simple ciphertext access control, hierarchical access control, access control based on fully homomorphic encryptionand access control based on attribute-based encryption (ABE). All these proposals are designed for non-mobile cloud environment
- Tysowski et al. considered a specific cloud computing environment where data are accessed by resource-constrained mobile devices, and proposed novel modifications to ABE, which is assigned the higher computational overhead of

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Energy-efficient Query Processing in Web Search Engines

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ABSTRACT:Web search engines are composed by thousands of query processing nodes, i.e., servers dedicated to process user queries.Such many servers consume a significant amount of energy, mostly accountable to their CPUs, but they are necessary to ensure lowlatencies, since users expect sub-second response times (e.g., 500 ms). However, users can hardly notice response times that are fasterthan their expectations. Hence, this is proposed the Predictive Energy Saving Online Scheduling Algorithm (PESOS) to select the mostappropriate CPU frequency to process a query on a per-core basis. PESOS aims at process queries by their deadlines, and leveragehigh-level scheduling information to reduce the CPU energy consumption of a query processing node. PESOSbases its decision onquery efficiency predictors, estimating the processing volume and processing time of a query. We experimentally evaluate PESOS uponthe TREC ClueWeb09B collection and the MSN2006 query log results show that PESOS can reduce the CPU energy consumptionof a query processing node up to 48% compared to a system running at maximum CPU core frequency. PESOS outperforms alsothe best state-of-the-art competitor with a 20% energy saving, while the competitor requires a fine parameter tuning and it mayincurs in uncontrollable latency violations.

Keywords: PESOS,Search engine,Query processing .

EXISTING SYSTEM:

- Kayaaslan et al. consider a scenario where datacenters hold the same replica of the inverted index. They propose to use query forwarding to exploit the difference in energy price at different sites, due to the different datacenter locations and time zones. In this way, they aim to minimize the energy expenditure of the search engine. At the same time, the approach ensures that the remote sites can process forwarded queries without exceeding their processing capacity.
- Blanco et al. extend this idea by forwarding queries towards datacenters that can use *renewable energy sources* that are both environmental friendly and economically convenient and feasible.
- Teymorian et al., instead, consider a scenario where each site hold a different inverted index. In their approach, the authors use query forwarding to maximize

Increasing the life span of Wireless S ensor networks using improved LEACH protocol

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***Abstract*—Wireless Sensor Networks (WSNs) are usually formed by the collection of the large no of sensor nodes. In the Wireless Sensor Network (WSN), sensor nodes are connected mutually through radio frequency Micro waves. LEACH and other Routing protocols are used to transmit data among sensor nodes. Wireless sensor networks are facing many challenges such as the limited processing power, storage and energy. The limited energy resource is one of the main challenges of Wireless sensor networks. In this synopsis, we are proposing a new improved LEACH protocol, which is very energy-efficient. The proposed protocol increases overall WSN life-time by considering remaining portion of the energy and distance from nodes to BS in the selection of cluster head and by using multi-hope communication. Comparing the result simulation between LEACH and proposed protocol showed that proposed protocol is very energy efficient and increases the network life-time.**

Keywords— LEACH, Multi-hope, WSN, Routing

XXV. INTRODUCTION

Wireless Sensor Network (WSN) is a trending research topic in the world. It possesses a wide application prospect in the application of the three technologies of computing, communication and sensor Wireless sensor network (WSN) consists of a large number of closely connected sensors. There are various applications of WSNs like military, environment monitoring, surveillance, health care, and industrial monitoring. In WSNs, sensor nodes have limited storage, transmission range, network bandwidth, and energy. Due to resource constraint nature of sensor nodes, incorporating security features (e.g. encryption/decryption, authentication) is a challenging task. Depending on the security features, network performance (in terms of energy, memory, communication cost) can be degraded.

The development of sensor technology allows the procedure sensor to produce *large* quantities and reasonable price. Sensors are in charge of sensing the environment for the specific application. The sensor nodes are connected together via radio communication that are called wireless sensor network. Wireless sensor networks have been applied in military and civilian

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PERVIOUS CONCRETE IN RIGID PAVEMENT

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ABSTRACT

Pervious concrete is a special type of concrete, which consists of cement, coarse aggregates, water and if required, admixtures and other cementitious materials. As there are no fine aggregates used in the concrete matrix, the void content is more which allows the water to flow through its body. So the pervious concrete is also called as Permeable concrete and Porous concrete. There is lot of research work is going in the field of pervious concrete. The compressive strength of pervious concrete is less when compared to the conventional concrete due to its porosity and voids. Hence, the usage of pervious concrete is limited even though it has lot of advantages. If the compressive strength and flexural strength of pervious concrete is increased, then it can be used for more number of applications. For now, the usage of pervious concrete is mostly limited to light traffic roads only. If the properties are improved, then it can also be used for medium and heavy traffic rigid pavements also. Along with that, the pervious concrete eliminates surface runoff of storm water, facilitates the ground water recharge and makes the effective usage of available land. The main aim of our project is to improve the strength characteristics of pervious concrete. But
it can be noted that with increase in strength, the permeability of pervious concrete will be reduced. Hence, the improvement of strength should not affect the permeability property because it is the property which serves its purpose.

INTRODUCTION

In reviewing technology advances through the centuries it is evident that material development plays a key role. Considerable efforts are still being made in every part of the world to develop the new construction materials.

Pervious concrete is an innovative material which is a mixture of coarse aggregate, cement, water and little to no sand along with chemical admixtures, containing a network of holes or voids, to allow air or water to move through the concrete. This allows water to drain naturally through it and allow replenishment of groundwater when conventional concrete does not. This innovative material sometimes called as No Fines Concrete also. Absence of sand or fine aggregate permit the properly placed pervious concrete to have about 15 to 30% of void space, the pores can range from 0.08 to 0.32 inches (2 to 8mm), which permit water to pass through without causing any damage to the matrix of the porous concrete.

Principal

FINE-GRAINED TWO-FACTOR APPROACH FOR WEB-BASEDCLOUD COMPUTING MAINTENANCE

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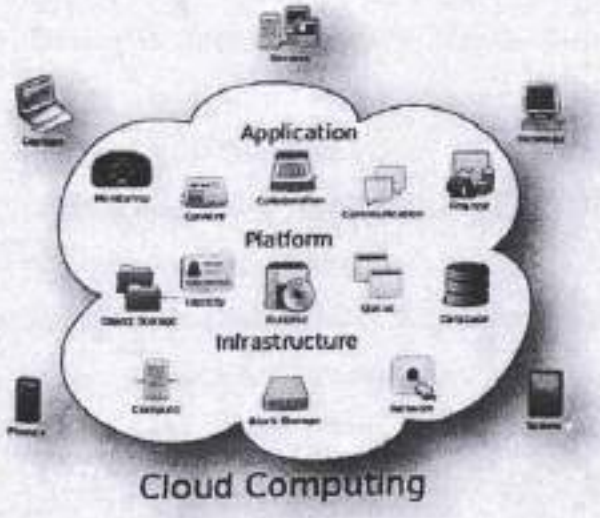
ABSTRACT:

In this paper, we introduce a new fine-grained two-factor authentication (2FA) access control system for web-based cloud computing services. Specifically, in our proposed 2FA access control system, an attribute-based access control mechanism is implemented with the necessity of both a user secret key and a lightweight security device. As a user cannot access the system if they do not hold both, the mechanism can enhance the security of the system, especially in those scenarios where many users share the same computer for web-based cloud services. In addition, attribute-based control in the system also enables the cloud server to restrict the access to those users with the same set of attributes while preserving user privacy, i.e., the cloud server only knows that the user fulfills the required predicate, but has no idea on the exact identity of the user. Finally, we also carry out a simulation to demonstrate the practicability of our proposed 2FA system.

I.INTRODUCTION

What is cloud computing?

Cloud computing is the use of computing resources (hardware and software) that are delivered as a service over a network (typically the Internet). The name comes from the common use of a cloud-shaped symbol as an abstraction for the complex infrastructure it contains in system diagrams. Cloud computing entrusts remote services with a user's data, software and computation. Cloud computing consists of hardware and software resources made available on the Internet as managed third-party services. These services typically provide access to advanced software applications and high-end networks of server computers.



Structure of cloud computing

How Cloud Computing Works?

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A Novel Approach WGS Software Model for Software Defects

Dr. K Babu Rao

Abstract

Trends are changing towards new systems, new inventions and sophisticated devices are introduced to the world but still there are unsolved puzzles in the history of the world. Still there are such devices unsolved. This paper focus on the systems to store issues or bugs or faults or breach or glitch related to the software defects in non-volatile devices for future use. WGS is a software model to capture the system related issues. WGS is the part of a system which contains high dimensional data, feature selection, ensemble classifier, correlation FS, classification and regression techniques. By store we can have an idea of upcoming errors by past behavior and history of the device. When new issue rises we can focus on how it was made. This is similar to a machine learning technique for a system. We can use WGS datasets for other system or related systems.

Keywords: machine learning, datasets, feature selection, correlation FS, classifier.

1. Introduction

We advancing in technology very fast but we are poor in maintaining them. Our leaders, professionals speak about sophisticated technology but very poor in maintaining. During the last two decades, different feature selection methods and classification models have been used for prediction of different defect datasets. People are depending upon the technology, so technology should be made perfectly suit to the world. Top 10 mega failures are because of software code. UK immigration is the costlier software but which is a failure. Likewise HMRC big tax blunder, Sony security breach, Amazon security glitch, NATS air traffic control centre, Microsoft Azure crashes, Code spaces murder in the cloud, Bitcoin Mt. Gox Exchange collapses, Brunswick electric company software glitch, Screwfix pounds price glitch and so on. There are so many failures and disasters in the history but they are very few.

As technology is growing the failures related to them are also growing. It is impossible to predict them due to the high dimensional features and imbalance properties. Both machine learning and conventional methods suffer from this problem. These problems are not new to the world, they are carried conventionally. This problem can be resolved by either decreasing the number of variables or increasing the number of training datasets. Sample feature ratio must be more than 4:1 every time. Machine learning is a study of artificial intelligence that provides systems the ability to automatically learn and improve from experience or past history without being explicitly programmed. Machine learning focuses on the development of computer programs that can access data and use it and learn for themselves.

Machine learning algorithms can be categorized into three broad types, they are Supervised machine learning, Unsupervised machine learning and

An Approach for Serving the Web by Exploiting Email Tunnels

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ABSTRACT:

Exposed infrastructures on the Internet signify a serious threat to countries with suppressed powers, which leads them to develop and deploy review mechanisms in their networks. Unfortunately, the existing suppression system does not offer guarantees of high availability for its users because censors can use the current advanced suppression technologies to easily identify and destroy the traffic that belongs to these systems. In this article, we propose to provide services (SWEET) through the use of email tunnels, which is a highly available suppression system. SWEET works by encapsulating the traffic of users who have been reviewed in emails transported by public email services such as Gmail and Yahoo Mail. Since the SWEET operation is not restricted by any particular email provider, we trust that the acceptor should block email communications to undermine SWEET, which is unlikely because email is an important part of the Internet today. Through experiments in our system pattern, we exposed that the SWEET performance is sufficient for web surfing.

KEYWORDS: Email communications; traffic encapsulation, suppression

1. INTRODUCTION:

We consider deep packet inspection (DPI) harmful. Whileoriginally meant to detect attack signatures in packet payload, it is ineffective in practice due to the ease of evasion. At the same time, DPI technology is increasingly usedby censoring countries to filter the free flow of information or violate network neutrality [4]. We argue that what makesDPI particularly harmful is the asymmetry of blocking effectiveness, i.e., it is hard to stop motivated and skilled networkintruders but very easy to censor ordinary user's Internet

A SEMENTIC ENHANCED TECHNIQUE FOR CYBERBULLING DETECTION

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ABSTRACT:

Now-a- days internet is mostly useful for the people for school, work, and social use, so too do more people turn to the Internet to take out their frustrations and aggression. One form of cyber aggression has been gaining the attention of both researchers and the public in recent years: cyber bullying. Cyber bullying is typically defined as aggression that is intentionally and repeatedly carried out in an electronic context (e.g., e-mail, blogs, instant messages, text messages) against a person who cannot easily defend him-or herself. Many researchers have noted that cyber bullying is occurring at widespread rates among youth and adults, with some studies showing nearly 75% of school-age children experiencing this form of aggression at least once in the last year. The experience of cyber bullying has been linked with a host of negative outcomes for both individuals and organizations (e.g.,schools), including anxiety, depression, substance abuse, difficulty sleeping, increased physical symptoms, decreased performance in school, absenteeism and truancy, dropping out of school. To deal with these problems, In this paper, we investigate one deep learning method named stacked denoising auto encoder (SDA). We develop a new text representation model based on a variant of SDA: marginalized stacked denoising auto encoders (mSDA), which adopts linear instead of nonlinear projection to accelerate training and marginalizes infinite noise distribution in order to learn more robust representations. Our proposed Semantic-enhanced Marginalized Stacked Denoising Auto encoder is able to learn robust features from BoW representation in an efficient and effective way. These robust features are learned by reconstructing original input from corrupted (i.e., missing) ones. The new feature space can improve the performance of cyber bullying detection even with a small labeled training corpus.

Principal

Privacy Preserving for User-Uploaded Images on Content Sharing Sites

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Abstract:

As users share through social networking sites, the number of images is increasing, privacy remains a major issue, since some users inadvertently participate in a recent public act, such as this is shown by personal information. In the light of these events, we need tools to help users control access to shared content. To meet this need, an adaptive prediction privacy policy (A3P) is proposed to help users create their image privacy settings. We have examined the role of social origin, the content of the image and the metadata, as possible indicators of user privacy preferences. We propose a two-stage framework, based on the user history available on the site to determine the best user privacy policy available for the image being uploaded. Our solution is based on a similar strategy can be associated with a picture box image classification categories, as well as in accordance with the prediction algorithm of the user's social strategy automatically for each image has A new generation strategy has risen.

Keywords: Adaptive Privacy Policy Prediction (A3P), A3P-Core

Introduction:

Images are now useful for user's connectivity. Sharing of images takes place with in group of known people or social circle and increasingly outside the group, for discovery of new people. Some images might be content sensitive. Sharing images on content sharing sites may lead to unwanted disclosure and privacy violations. Persistence nature of media gives rich aggregated information about the owner of content and subject of content. The collected information can results in unexpected exposure of one's social environment and lead to misuse of one's personal information. Most social networking and content sharing sites provide set privacy preferences. Unfortunately, user finds difficult to set privacy and maintain it. The large amount of shared information makes process error prone and tedious. Therefore there is need of policy recommendation

Principal

REVOCABLE-STORAGE INTEGRITY-BASED ENCRYPTION SECURE DATA SHARING IN CLOUD COMPUTING

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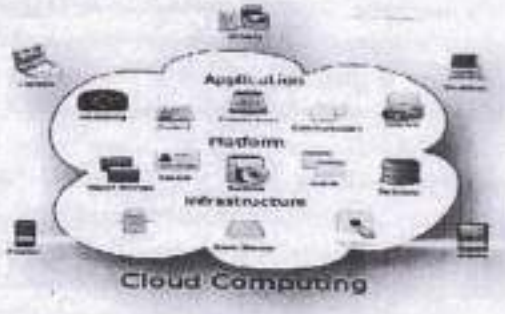
ABSTRACT:

Cloud computing provides a flexible and convenient way for data sharing, which brings various benefits for both the society and individuals. But there exists a natural resistance for users to directly outsource the shared data to the cloud server since the data often contain valuable information. Thus, it is necessary to place cryptographically enhanced access control on the shared data. Identity-based encryption is a promising cryptographical primitive to build a practical data sharing system. However, access control is not static. That is, when some user's authorization is expired, there should be a mechanism that can remove him/her from the system. Consequently, the revoked user cannot access both the previously and subsequently shared data. To this end, we propose a notion called revocable-storage identity-based encryption (RS-IBE), which can provide the forward/backward security of ciphertext by introducing the functionalities of user revocation and ciphertext update simultaneously. Furthermore, we present a concrete construction of RS-IBE, and prove its security in the defined security model. The performance comparisons indicate that the proposed RS-IBE scheme has advantages in terms of functionality and efficiency, and thus is feasible for a practical and cost-effective data-sharing system. Finally, we provide implementation results of the proposed scheme to demonstrate its practicability.

I.INTRODUCTION:

What is cloud computing?

Cloud computing is the use of computing resources (hardware and software) that are delivered as a service over a network (typically the Internet). The name comes from the common use of a cloud-shaped symbol as an abstraction for the complex infrastructure it contains in system diagrams. Cloud computing entrusts remote services with a user's data, software and computation. Cloud computing consists of hardware and software resources made available on the Internet as managed third-party services. These services typically provide access to advanced software applications and high-end networks of server computers.



Structure of cloud computing

ENABLING CLOUD STORAGE AUDITINGVERIFYING WITH VALIDREDISTRIBUTE KEY CHANGE

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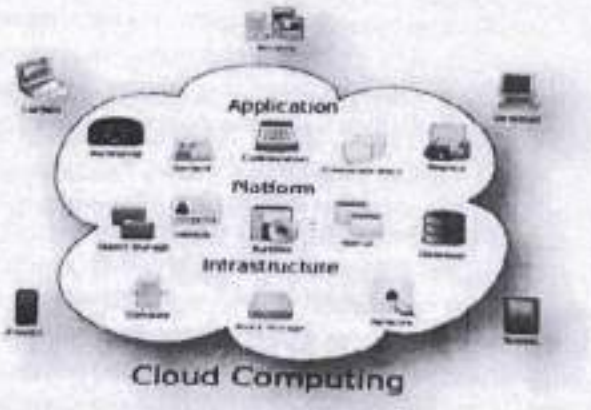
ABSTRACT:

Key-exposure resistance has always been animportant issue for in-depth cyber defence in many securityapplications. Recently, how to deal with the key exposure problemin the settings of cloud storage auditing has been proposed andstudied. To address the challenge, existing solutions all requirethe client to update his secret keys in every time period, whichmay inevitably bring in new local burdens to the client, especiallythose with limited computation resources, such as mobile phones.In this paper, we focus on how to make the key updates astransparent as possible for the client and propose a new paradigmcalled cloud storage auditing with verifiable outsourcing of keyupdates. In this paradigm, key updates can be safely outsourcedto some authorized party, and thus the key-update burden on theclient will be kept minimal. In particular, we leverage the thirdparty auditor (TPA) in many existing public auditing designs, letit play the role of authorized party in our case, and make it incharge of both the storage auditing and the secure key updates forkey-exposure resistance. In our design, TPA only needs to hold anencrypted version of the client's secret key while doing all theseburdensome tasks on behalf of the client. The client only needs todownload the encrypted secret key from the TPA when uploadingnew files to cloud. Besides, our design also equips the client withcapability to further verify the validity of the encrypted secretkeys provided by the TPA. All these salient features are carefullydesigned to make the whole auditing procedure with key exposureresistance as transparent as possible for the client. We formalizethe definition and the security model of this paradigm. Thesecurity proof and the performance simulation show that ourdetailed design instantiations are secure and efficient.



I.INTRODUCTION

What is cloud computing?

Cloud computing is the use of computing resources (hardware and software) that are delivered as a service over a network (typically the Internet). The name comes from the common use of a cloud-shaped symbol as an abstraction for the complex infrastructure it contains in system diagrams. Cloud computing entrusts remote services with a user's data, software and computation. Cloud computing consists of hardware and software resources made available on the Internet as managed third-party services. These

Principal

PLEXUS SPAM UNMASKING SCHEMA SCRUTINY IN SOCIAL WEB

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ABSTRACT

Nowadays, a big part of people rely on available content in social media in their decision for example, reviews and feedback on a topic or product. The possibility that anybody can leave a review provide a golden opportunity for spammers to write spam reviews about products and services for different interests. Identifying these spammers and the spam content is a hot topic of research and although a considerable number of studies have been done recently toward this end, but so far the methodologies put forth still barely detect spam reviews, and none of them show the importance of each extracted feature type. In this study, we propose a novel framework, named Plexus Spam, which utilizes spam features for modeling review datasets as heterogeneous information networks to map spam detection procedure into a classification problem in such networks. Using the importance of spam features help us to obtain better results in terms of different metrics experimented on real-world review datasets from Yelp and Amazon websites. The results show that Plexus Spam outperforms the existing methods and among four categories of features; including review-behavioral, user-behavioral, review linguistic, user-linguistic, the first type of features performs better than the other categories.

I. INTRODUCTION

Online Social Media portals play an influential role in information propagation which is considered as an important source for producers in their advertising campaigns as well as for customers in selecting products and services. In the past years, people rely a lot on the written reviews in their decision-making processes, and positive/negative reviews encouraging/discouraging them in their selection of products and services. In addition, written reviews also help service providers to enhance the quality of their products and services. These reviews thus have become an important factor in success of a business while positive reviews can bring benefits for a company, negative reviews can potentially impact credibility and cause economic losses. The fact that anyone with any identity can leave comments as review, provides a tempting opportunity for spammers to write fake reviews designed to mislead users' opinion. These misleading reviews are then multiplied by the sharing function of social media and propagation over the web. The reviews written to change users' perception of how good a product or a service are considered as spam [11], and are often written in exchange for money.

As shown in [1], 20% of the reviews in the Yelp website are actually spam reviews. On the other hand, a considerable amount of literature has been published on the techniques used to identify spam and spammers as well as different type of analysis on this topic [30], [31]. These techniques can be classified into different

categories; some using linguistic patterns in text [2], [3], [4], which are mostly based on bigram, and unigram, others are based on behavioral patterns that rely on features extracted from patterns in users' behavior which are mostly metadata based [34], [6], [7], [8], [9], and even some techniques using graphs and graph-based algorithms and classifiers [10], [11], [12].

II. EXISTING SYSTEM

Principal

IDENTITY-BASED PROXY-ADAPTED DATA TRANSMISSION AND REMOTE DATA PRINCIPLEREVIEW IN CLOUD

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ABSTRACT:

More and more clients would like to store theirdata to public cloud servers (PCSs) along with the rapiddevelopment of cloud computing. New security problems haveto be solved in order to help more clients process their datain public cloud. When the client is restricted to access PCS, he will delegate its proxy to process his data and uploadthem. On the other hand, remote data integrity checking isalso an important security problem in public cloud storage.It makes the clients check whether their outsourced data are keptintact without downloading the whole data. From the securityproblems, we propose a novel proxy-oriented data uploading andremote data integrity checking model in identity-based publickey cryptography: identity-based proxy-oriented data uploadingand remote data integrity checking in public cloud (ID-PUIC).We give the formal definition, system model, and security model.Then, a concrete ID-PUIC protocol is designed using the bilinearpairings. The proposed ID-PUIC protocol is provably securebased on the hardness of computational Diffie–Hellman problem.Our ID-PUIC protocol is also efficient and flexible. Based on theoriginal client's authorization, the proposed ID-PUIC protocolcan realize private remote data integrity checking, delegatedremote data integrity checking, and public remote data integritychecking.

I.INTRODUCTION:

What is cloud computing?

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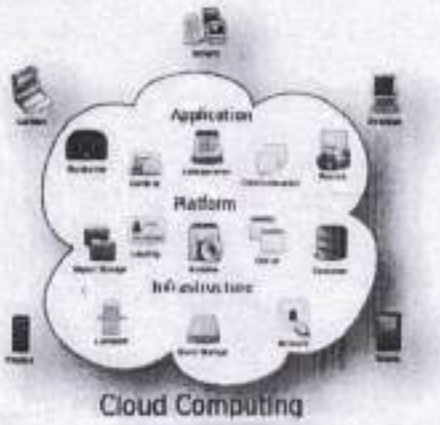

Structure of cloud computing

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An Approach for Generating Query Facets using Knowledge Bases

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ABSTRACT:

In this article, we discuss how to use a high-quality structured data base of knowledge to generate search queries. However, previous studies have shown that many users are not satisfied with this traditional search result page [1], [2], [3]. Users often need to look at many documents and see how to summarize the information they seek, especially when they want to understand topics covering different aspects. It usually takes a lot of time and makes the user difficult. Automatic summary of search results can help users save time by understanding queries without browsing across multiple pages. Using a search engine, users can quickly find web pages containing the information they want by sending queries and receiving search results that consist of "ten blue links".

Index Terms-Query Facets, Knowledge Bases, Query Dimensions

1.INTRODUCTION:

Mining query facets (or query dimensions) is an emerging approach to solve the problem above. Pentax is a Japanese camera brand. Its query facets cover aspects about related camera brands, Pentax's SLR cameras, Pentax's small digital cameras, and different kinds of optical devices. These query facets help users learn about the topic —Pentax,I and at the same time, users can further narrow down their information needs based on these facets.

The facets constructed by the two methods are further merged and ranked to generate final query facets. More specifically,

(1) **Facet Generation:** We propose directly mining query facet candidates from Freebase. Given a query, we first retrieve relevant entities from Freebase, then obtain all the properties of these entities. For example, for the query—Beijing subwayI, we first retrieve entity Beijing Subway and its properties.

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Leveraging Data Deduplication to Improve the Performance of Primary Storage Systems in the Cloud

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ABSTRACT:

With the touchy development in information volume, the I/O bottleneck has turned into an inexorably overwhelming test for enormous information examination in the Cloud. Late examinations have demonstrated that direct to high information excess obviously exists in essential stockpiling frameworks in the Cloud. Our trial ponders uncover that information repetition shows a substantially more elevated amount of power on the I/O way than that on circles because of generally high fleeting access area related with little I/O solicitations to excess information. Besides, specifically applying information deduplication to essential stockpiling frameworks in the Cloud will probably cause space conflict in memory and information fracture on plates. In light of these perceptions, we propose an execution situated I/O deduplication, called POD, as opposed to a limit arranged I/O deduplication, exemplified by iDedup, to enhance the I/O execution of essential stockpiling frameworks in the Cloud without relinquishing limit investment funds of the last mentioned. Unit adopts a two dimensional strategy to enhancing the execution of essential stockpiling frameworks and limiting execution overhead of deduplication, in particular, a demand based specific deduplication procedure, called Select-Dedupe, to lighten the information fracture and a versatile memory administration plot, called iCache, to facilitate the memory conflict between the bursty read movement and the bursty compose activity. We have executed a model of POD as a module in the Linux working framework. The trials directed on our lightweight model execution of POD demonstrate that POD essentially beats iDedup in the I/O execution measure by up to 87.9 percent with a normal of 58.8 percent. In addition, our assessment comes about likewise demonstrate that POD accomplishes tantamount or preferable limit funds over iDedup.

DRIMUX: Dynamic Rumor Influence Minimization with User Experience in Social Networks

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ABSTRACT:

With the taking off improvement of vast scale online interpersonal organizations, online data sharing is getting to be universal regular. Different data is proliferating through online interpersonal organizations including both the constructive and adverse. In this task, we center around the negative data issues, for example, the online bits of gossip. Talk blocking is a major issue in extensive scale informal organizations. Malignant bits of gossip could cause mayhem in the public arena and subsequently should be hindered at the earliest opportunity in the wake of being identified. In this task, we propose a model of dynamic gossip impact minimization with client encounter (DRIMUX). We will probably limit the impact of the talk (i.e., the quantity of clients that have acknowledged and sent the gossip) by hindering a specific subset of hubs. A dynamic Ising engendering model considering both the worldwide ubiquity and individual fascination of the gossip is displayed in light of sensible situation. Likewise, not the same as existing issues of impact minimization, we consider the limitation of client encounter utility. In particular, every hub is relegated a resistance time limit. On the off chance that the blocking time of every client surpasses that edge, the utility of the system will diminish. Under this limitation, we at that point plan the issue as a system derivation issue with survival hypothesis, and propose arrangements in view of most extreme probability rule. Tests are executed in view of expansive scale true systems and approve the viability of our strategy.

Sulfated zirconia: a novel super acid catalyst for the synthesis of homoallylic alcohols

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Abstract: A new catalytic allylation of aldehydes has been developed using solid super acid, sulfated zirconia as a heterogenous catalyst to produce homoallyllic alcohols in high yields. A high range of aromatic, aliphatic and heterocyclic aldehydes are efficiently converted into homoallyllic alcohols under the catalytic influence of sulfated zirconia (5 mol%) in acetonitrile at room temperature. The catalyst can be easily recovered by filtration and reused for further cycles with a gradual decrease in activity.

Keywords: Allylation, aldehydes, allyltin, solid superacid, sulfated zirconia, homoallylic alcohols.

INTRODUCTION

The allylation of carbonyl compounds is one of the prime methods for carbon-carbon bond formation.[1-5] Indeed, homoallylic alcohols are important building blocks for the synthesis of various biologically active compounds [6-10] especially for tetrahydropyran derivatives by means of Prins cyclization. Consequently, several methods have been developed for the preparation of homoallylic alcohols by allylation of aldehydes with various allylmetal complexes.[11-15] Of various allylmetal reagents, allylstannanes are attractive because of their relative stability and high reactivity.[16] Generally, acid catalysts are known to promote for the nucleophilic addition of allyltin reagents to aldehydes. The most widely used Lewis acids, for the allylation of aldehydes with allylstanne are $BF_3.OEt_3$, $TiCl_4$, TMSOTf and $SnCl_4$.[17-24] However, most of these acids are moisture sesnsitive and are decomposed during work-up thus they can't be recycled for further runs. Subsequently, water tolerant Lewis acids, in particular lanthanide triflates have been developed for the allylation of aldehydes. However, most these catalysts are expensive therefore

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IMPLEMENTATION OF SINGLE PHASE THREE LEG AC/AC CONVERTER WITH NEUTRAL POINT DIODE CLAMPED SCHEME

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ABSTRACT

A single-phase AC/AC converter with neutral-point diode-clamped scheme is proposed. A three-leg configuration, which has a common leg between the AC/DC and DC/AC converters, is adopted to reduce the number of switching devices compared with the conventional three-level AC/AC system. The common leg is operated in both rectifier and inverter modes. The rectifier is controlled to have a constant DC-link voltage and unity input power factor. The AC side of the rectifier has a three-level PWM waveform to reduce the voltage harmonics compared with that of a two-level scheme. The hysteresis current control scheme is used in the inner control loop to track the line current command. A proportional-integral (PI) control is adopted in the outer control loop to maintain the constant DC-link voltage. In the inverter side, a sinusoidal output voltage is generated to provide a stable and clean source voltage to the critical load. The fixed-frequency current controller is adopted to generate the properly PWM waveform. The output voltage is independent of the mains voltage to provide a stable AC power source. The neutral-point diode-clamped circuit configuration is used to reduce the voltage stress of power devices. The system model and control algorithm are described and analysed. The simulation results are obtained using MATLAB (Matrix Laboratory)/SIMULINK.

Comparison of Pulsed TIG Welding and FSW Processes of 5083 Aluminium Alloy

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Abstract- In This study AA 5083 plate of thickness 4mm have been welded by Pulsed Tungsten Inert gas (PTIG) Welding and Friction Stir Welding (FSW) Process. The Welding process was performed with different process parameters and the weldments have been investigated to find their mechanical properties. Vickers hardness tester was used to characterize the hardness of the weld area for both the welding process. Then Scanning Electron microscope is used to analyses the size and shapes of the grains at weld zone and heat affected zone. The aim of this experimental work is to see the effect of pulsed current on the characteristics of weldments and as well as characteristic of friction Stir Welding weldments. The experimental results pertaining to different welding parameters for the above material using pulsed and FSW are discussed and compared. The mechanical properties and micro structure results show that FSW weldments are better than PTIG welding. The result of impact strength of PTIG are lower than FSW weldments, because of large grain size of the welded joints and precipitate distribution at HAZ, due to The stirring effect of FSW improved the microstructure of the weld. The Vickers hardness tester was used to characterize the hardness of the weld area for both welding process. Microstructural examination reveals that smaller grain sizes are obtained in the weld center of FSW weldments and coarse grains are formed. The Scanning Electron Microscope (SEM) is used to analyze the grain structure at weld zone and heat affected zone. The Vickers hardness test results shown that FSW has more hardness when compared with PTIG weldments. The evaporation of magnesium is more in PTIG when we compared with FSW. From the observation of SEM an appreciable difference exists in the size and shape of the dimples with respect to welding processes. Then from the chemical analysis test found that the percentage of magnesium is decreased in PTIG weld joint and the slight decrement is seen in FSW joints. This is reason for in PTIG welding very

SEARCH FRAUD RANK AND MALWARE DE TECTION IN GOOGLE PLAY

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ABSTRACT

In this paper, we propose Fraudulent behaviors in Google Play, the most popular Android app market, fuel search rank abuse and malwareproliferation. To identify malware, previous work has focused on app executable and permission analysis. In this paper, we introduceFairPlay, a novel system that discovers and leverages traces left behind by fraudsters, to detect both malware and apps subjected tosearch rank fraud. FairPlay correlates review activities and uniquely combines detected review relations with linguistic and behavioralsignals gleaned from Google Play app data (87K apps, 2.9M reviews, and 2.4M reviewers, collected over half a year), in order toidentify suspicious apps. FairPlay achieves over 95% accuracy in classifying gold standard datasets of malware, fraudulent andlegitimate apps. We show that 75% of the identified malware apps engage in search rank fraud. FairPlay discovers hundreds offraudulent apps that currently evade Google Bouncer's detection technology. FairPlay also helped the discovery of more than 1,000reviews, reported for 193 apps, that reveal a new type of "coercive" review campaign: users are harassed into writing positive reviews,and install and review other apps.

I.INTRODUCTION:

The commercial success of Android app markets such as Google Play [1] has made them a lucrative medium for committing fraud and malice. Some fraudulent developers deceptively boost

Performance Investigation of Fractional-Order PI based Unified Power Quality Conditioner

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Abstract- ***To improve power quality parameters of distribution system consisting of nonlinear loads, a UPQC (Unified Power Quality Conditioner) is introduced. This UPQC shall addresswell known power quality issues. In this proposed work to make the performance of UPQC more roust by introducing novel control strategy known as Fractional Order PI (FOPI) controller. The performance of FOPI based UPQC demonstrated over PI based UPQC.***

Index Terms – Unified Power Quality Conditioner (UPQC), power quality (PQ), proportional integral (PI), fractional order PI (FOPI), voltage source inverter (VSI), Active Power filter (APF).

I. INTRODUCTION

The unified power quality control conditioner was widely studied by many as an eventual method to improve power quality of electrical distribution system [1-3]. It has been viewed as a combination of series and shunt active filter in [2-3]. In [3] it has been shown that it can be used to attenuate current harmonics by inserting a series voltage proportional to the line current. Alternatively, the inserted series voltage is added to the voltage at the point of common coupling such that the device can provide a buffer to eliminate any voltage dip or flicker. It is also possible to operate it as a combination of these two modes. In either case, the shunt device is used for providing a path for the real power to flow to aid the operation of series connected VSI. Also included in this structure is a shunt passive filter to which all the relatively low frequency harmonics are directed. The performance of UPQC depends upon the accuracy of the reference signals derived. From the distorted signal, a suitable dc-link current regulator is used to derive the actual reference signals. Various approaches, such as PI, PID, Fuzzy logic, Artificial Neural network, sliding mode controller, etc., are used in [4-5]. Similar to the PI control, the PID controller requires precise linear mathematical models, which are difficult to obtain, and hence fails to perform satisfactorily under sensitive load disturbance, etc.

In recent past authors proposed Modern control theory-based controllers are state feedback controllers, self-tuning controllers, and model reference controllers, etc.In this proposed work a controller is designed based on fractional order calculus(i.e. Fractional order PI controller) for the control of UPQC. These controllers also need mathematical models and are therefore sensitive to parameter variations.A basic system configuration of a general UPQC consisting of the combination of a series active power filter and shunt active power filter are connected back to back to a common dc-link bus [8]. A simple configuration of a typical UPQC is shown in Fig.1.Isolation of harmonics between sub transmission system and distribution system can be done by series active power filter. This filter mitigates sag, swell and harmonic compensation at Point of Common Coupling (PCC).The current harmonics are compensated by shunt active power filter. The DC link to regulate DC voltage between two filters.

Principal

Real Power Tracing and Estimation in Deregulated Environment using Big Data Analytics

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Abstract- *The tracing of real power is very much difficult in deregulated environment due to unbundle rules and increasing number of market players. In this paper for real power tracing in deregulated environment two methods are proposed, known as RED method, CAF method are demonstrated on IEEE-39 bus system using big data analysis to calculate load shearing of generators(optimal generation schedule) for forecasting of future power system for system planning. The big data analysis brought revolutionary changes in data analytics in different engineering fields one of them is power system analysis. The effectiveness of these two methods for tracing of real power has been demonstrated using big data analysis using Hadoop tools.*

Index terms:*Current Adjustment Factor (CAF) method, hadoop map reducer, Real power tracing, Relative Electrical Distance method (RED).*

INTRODUCTION

In deregulated environment there is more number of buyers and sellers. In the new model the aspects of planning and operation are to be reformulated but essential ideas remain the same [1-3]. In open market deregulated environment the tracing of real power is more complex task due to more number of buyers and sellers. The purpose of real power tracing is to understand and identify where the power is coming and where it is going in the power system network, this in turn requires for the allocation of transmission costs[4].

Due to unbundling, there arise some issues while accounting for the services provided by each entity. In regulated environment the government owns all the entities but in case of open market environment economic benefits are distributed among the service providers. Due to unbundling rules in open market environment because un contracted and contracted demands of the DISCOMS and consumers it is very difficult to trace real power. In open market environment it is quite essential to know the importance of real power tracing for optimal generation schedule and forecasting of future power system for system planning.

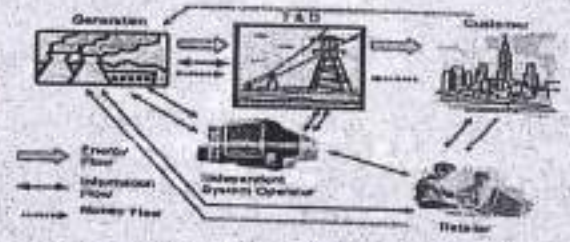

Fig1. Structure of deregulated power system

DESIGN AND TRANSIENT OPERATION ASSESSMENT OF RESONANT FCLS IN BULK POWER SYSTEMS

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Abstract:- The increasing capacity of power systems and the continuing growth in interconnections within transmission networks to improve the reliability may cause the short-circuit fault current level of the equipment in the system, including the existing circuit breakers, to exceed their rated capacities. Therefore, the equipment must be either upgraded or replaced, which is costly and requires time-intensive procedures. Fault current-limiting techniques offer benefits to the system in such cases. Using passive elements, such as current-limiting reactors, is a well-known practice in power systems; however, they impact the power flow under normal operation, cause voltage drop, and might reduce the transient stability. Alternatively, resonant fault current limiters (RFCL) offer a dynamic solution based on proven technologies of current-limiting reactors and series capacitors. This paper presents a comprehensive framework to design RFCLs in bulk power systems. The presented approach uses a combination of mathematical analyses and numerical time-domain simulations to design the RFCL elements, and its effectiveness is assessed in test power systems.

I. INTRODUCTION

Interconnections within a bulk power system improve the reliability and offer several benefits to the overall system. However, they may cause some equipment, such as circuit breakers (cbs), to experience short-circuit fault currents that exceed their rated capacities. Current-limiting techniques can help reduce the fault current and, thus, eliminate the need for immediate CB upgrades. Fault current reduction using passive elements, such as current-limiting reactors, is a well-known practice especially in low-voltage (LV) systems. However, they have some drawbacks in high-voltage (HV) transmission networks, such as impacting the power flow under normal operation, causing voltage drop and risk of voltage collapse, and having an adverse impact on the transient stability of power systems [1]. Therefore, active fault current limiters (FCL) based on new technologies have emerged to alleviate the aforementioned issues.

These fcls have low impedance under normal operation and acquire large impedance upon the inception of a fault. The operation includes limiting the first current peak below the instantaneous current capabilities of the existing equipment, and the subsequent current peaks to a level which allows correct operation of protection relays, while remaining within the interrupting capabilities of cbs. The main challenges in using sfcls, especially for HV applications, include the requirement for an extensive cooling mechanism and sophisticated electrical insulation technologies, which can reduce the reliability of these devices [5].

FCLs that incorporate solid-state valves in their configuration operate based on two main concepts [6]. In the first concept, the solid-state valves are conducting under normal operation of the system and are turned off, right after a fault is detected, to commutate the current to a current-limiting element, for example, a reactor. Moreover, RFCL is a dynamic solution based on proven and reliable technologies of current-limiting reactors and series capacitors, and is commercially offered for HV applications by some

Principal

HAND GESTURES CONTROLLED WHEEL CHAIR

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Abstract: In today's world, physically handicapped person & elder peoples are depending on others peoples. But today's world becomes fast, everyone is very busy & there are few peoples to take care of these peoples properly. They find the automated wheelchairs for an easy transportation for these physical disable persons. The proposed work is to fabricate a hand gesture based wheelchair using Gesture Control System. Wheelchairs are used by which person who cannot walk due to physiological, injury or any disability.

This project is to develop a wheel chair control which is useful to the physically disabled person with his hand movement or his hand gesture recognition using MEMS technology. The use of powered wheel chair with high navigational intelligence is one of the great steps towards the integration of severely physically disabled people. Driving wheel chair in domestic environments is a difficult task for people with arm or hands impairments .The wheel chair is developed to overcome the above problem described above allowing the end users to just perform safe movements and accomplish some daily life important tasks.

Key words: Hand gestured wheel chair, MEMS controller.

1. INTRODUCTION:

The aim of this project is to controlling a wheel chair by using MEMS ACCELEROMETER SENSOR (Micro Electro-Mechanical Systems) technology MEMS ACCELEROMETER SENSOR is a Micro Electro Mechanical Sensor which is a highly sensitive sensor and capable of detecting the tilt. This sensor finds the tilt and makes use of the accelerometer to change the direction of the wheel chair depending on tilt [1].

Automation is the most frequently spelled term in the field of electronics. The hunger for automation brought many revolutions in the existing technologies. One among the technologies, which had greater developments, is the MEMS ACCELEROMETER SENSOR. These had greater importance than any other technologies due its user-friendly nature. MEMS ACCELEROMETER SENSOR based devices can be easily reachable to the common man due to its simpler operation, and at the same time it challenges the designers of the device [2].

This device is portable and this system operation is entirely driven by wireless technology. User can wear it to his wrist like a watch and can operate it by tilting the MEMS