3.3.2 Number of research papers per teachers in the Journals notified on UGC website during the year 2021

Year	Number of Publication
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3.3.2 Number of research papers per teachers in the Journals notified on UGC website during the year 2021

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Convolutional Neural Network-based harmonic mitigation technique for an adaptive shunt active power filter

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ABSTRACT

Owing to the use of nonlinear loads in the distribution side, there are power quality issues such as voltage swell/sag, harmonics, flickers, voltage imbalance, and outage. The harmonics in power system affect the quality of power and hence a suitable methodology is vital to mitigate the harmonics and compensation of reactive power. In this paper, CNN (Convolutional Neural Network)-based harmonic mitigation is performed. A 5-level cascaded H-bridge inverter is employed as a shunt active filter in which the reference current is generated by the SRF theory, incorporating CNN for harmonic extraction. The DC-link potential across capacitor is retained by means of ANN (Artificial Neural Network) controller whose behaviour is compared with a proportional controller as well as FLC. The gating pulse for the cascaded inverter is generated by means of PWM generator incorporated with Hysteresis Current Controller (HCC). By this control strategy, the harmonics in the current and voltage get mitigated; subsequently, the reactive power compensation is achieved with unity power factor. By implementing the five-level inverter, the THD and the settling time are minimized. The performance of the system is analysed using MATLAB for nonlinear load and the hardware is implemented with FPGA Spartan 6E. The THD of 0.93% is accomplished in simulation and 1.4% in the hardware execution.

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KEYWORDS
SRF theory; shunt active filter; Hysteresis Current Controller; five-level cascaded inverter; Convolution Neural Network; Artificial Neural Network

1. Introduction

Power System faces many serious issues because of various disturbances that affect the quality of power, mainly because of the nonlinear loads applied in the domestic and industrial background. Some of the Power Quality (PQ) problems that affect the distribution side are voltage sag/swell, harmonics, flickers, outage, and voltage imbalance. Among these power system harmonics is a vital factor that affects the quality of power which occurs mainly because of the use of power electronic devices, variable speed drives, SMPS, arcing devices, etc. These can be rectified by evaluating the source of the issue [1,2]. SVC, STATCOM, and DVR are FACTS devices which are employed in mitigating the PQ disturbances, also controllers are incorporated with these devices to attain the ideal performance [3–5]. PQ problems, including harmonics, are achieved by means of passive or active filters. Usually, passive filters are employed for these problems, but for its large size and fixed compensation active filters are preferred [6,7]. In this paper, shunt active filter (SAF) is employed and several papers review the functioning of shunt active filters. Over damping performance can be achieved by adjusting the gain in shunt active filters is discussed in [8]. Adaptive shunt filter-based Artificial Neural Network that is introduced to reduce the harmonics in current for unbalanced load conditions is discussed in [9]. The performance of SAF with fluctuating supply potential provided a constant dc-link voltage is studied in [10]. A simple optimization algorithm without complex techniques introduced to mitigate the current harmonics with unity power factor is discussed in [11]. An adaptive controller, introduced for the proper working of shunt active filters to mitigate the harmonics for an unbalanced load condition, is discussed in [12]. A high crest factor is attained by a modular shunt active power filter, which reduces harmonics, is discussed in [13]. Compensation of reactive power and harmonics is carried out without transformer reducing the cost and size, as discussed in [14].

An ideal power circuit for the shunt active filters to mitigate harmonics is the use of Multi level inverters (MLI). Among the different topologies of MLI, the diode clamped topology produces more harmonics as there are a number of diodes, in the flying capacitor topology, there is unbalancing in the capacitor voltage. And so in this paper cascaded topology is chosen because the problem of voltage unbalances and the use of extra-clamping diodes is avoided. Several literatures discuss the use of multi-level inverters. A cascaded H-bridge MLI is introduced in [15], in which high power quality can be achieved by adding the number of volt-

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Convolutional Neural Network-based harmonic mitigation technique for an adaptive shunt active power filter

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Owing to the use of nonlinear loads in the distribution side, there are power quality issues such as voltage swell/sag, harmonics, flickers, voltage imbalance, and outage. The harmonics in power system affect the quality of power and hence a suitable methodology is vital to mitigate the harmonics and compensation of reactive power. In this paper, CNN (Convolutional Neural Network)-based harmonic mitigation is performed. A 5-level cascaded H-bridge inverter is employed as a shunt active filter in which the reference current is generated by the SRF theory, incorporating CNN for harmonic extraction. The DC-link potential across capacitor is retained by means of ANN (Artificial Neural Network) controller whose behaviour is compared with a proportional controller as well as FLC. The gating pulse for the cascaded inverter is generated by means of PWM generator incorporated with Hysteresis Current Controller (HCC). By this control strategy, the harmonics in the current and voltage get mitigated; subsequently, the reactive power compensation is achieved with unity power factor. By implementing the five-level inverter, the THD and the settling time are minimized. The performance of the system is analysed using MATLAB for nonlinear load and the hardware is implemented with FPGA Spartan 6E. The THD of 0.93% is accomplished in simulation and 1.4% in the hardware execution.

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Neutral Point Clamped Transformer-Less Multilevel Converter for Grid-Connected Photovoltaic System

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Abstract: Transformer-less (TL) inverter topologies have elicited further special treatment in photovoltaic (PV) power system as they provide high efficiency and low cost. Neutral point clamped (NPC) multilevel-inverter (MLI) topologies-based transformer-less are being immensely used in grid-connected medium-voltage high-power claims. Unfortunately, these topologies such as NPC-MLI, full-bridge inverter with DC bypass (FB-DCBP) suffer from the shoot-through problem on the bridge legs, which affect the reliability of the implementation. Based on the previous above credits, a T type neutral point clamped (TNP)—MLI (TNP-MLI) with transformer-less topology called TL-TNP-MLI is presented to be an alternate which can be suitable in the grid-connected PV power generation systems. The suggested TL-TNP-MLI topologies free from inverter bridge legs shoot-through burden, switching frequency common-mode current (CMC), and leakage current. The control system of the grid interface with hysteresis current control (HCC) strategy is proposed. The effectiveness of the proposed PV connected transformer-less TNP-MLI topology with different grid and PV scenario has been verified through the MATLAB/Simulink simulation model and field-programmable gate area (FPGA)-based experimental results for a 1.5 kW system.

Keywords: photovoltaic system; transformer-less inverter; neutral point clamped multilevel inverter; hysteresis current control; PV tied grid-connected system

1. Introduction

Renewable energy sources (RES) are a current asset for the electric power generation. Photovoltaic (PV), fuel cells, and wind turbines are the most popular among the renewable sources. After thumping about 260 GW of PV power installed capacity by the end of 2014, global PV generation power is expected to hit 400 GW soon [1,2]. All PV modules generate parasitic earth capacitance (CPV) approximately 1–2 μF/kW in the middle of the PV modules and their ground. As a result, any PV connected high-frequency inverter/converter suffers from a high leakage current which emanates from the PV system [3,4]. To avoid this problem, a low-frequency isolated transformer is directly associated in the middle of the

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An IoT- Enabled Augmented Reality Framework for Plant Disease Detection

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augmented reality, convolutional neural network, cloud computing, deep learning, head mount display, IoT, plant disease detection, smart agriculture

ABSTRACT

Augmented reality system enables effective interaction with field view data and executes a particular task effectively by visual display aid. Precision agriculture involves precision measurement, data generation, analysis for interpretation of data, and decision-making to improve the yield and monitor the plant. Augmented reality will help to systematically acquire the needed data and interpret the required information from the analytical result on the field. This paper presents a low-cost development of the augmented reality system for on-field analysis of plant diseases. The article also presents a framework of deep learning-based cloud data analytic to enable on-field real-time interaction between the farmers and cloud data processing systems using a head-mounted unit. The proposed augmented reality system performance is validated for its accuracy in detecting plant diseases, real-time interaction response time, and ease of usage by the farmer community. The results show that the proposed mechanism will be able to produce real-time augment interaction to the farmer for the task of disease inspection of the plant effectively and accurately.

1. INTRODUCTION

Augmented Reality (AR) is a futuristic technology that provides an interactive experience with the real-world environment. AR defines a simple combination of a real and virtual environment. Specifically, AR feeds the input data from the live environment to the application, which automatically presents them to the eyeglass display. The end-user automatically receives the supervised information without any other need to search for information. AR system has three basic features, first is a fusion of near-real worlds environment, second, it provides an effective and precise 3D registration of virtual as well as real objects and the third feature is live interaction [1].

Enhancement in display technology includes wearable devices and Augmented Reality. This paper proposed situational analytics-supported decision-making and merged with visual analytics augmented reality based on supermarket shopping context [2]. This module evaluated on the simulated supermarket. It supports analytical reasoning in physical space and AR detailed information supports multi-dimensional data analysis about the object decision making. This system is less prone to error and Statistical analysis was faster than the traditional manual methodology.

AR allows users to gain information on image right on the spot. It gives a 3-Dimensional view ignoring the difficulty and hardness nature. By combining image composition and image special effects, the AR system validated and produced a valid result on 3D tracking camera images [3].

Virtual reality technology applied to the agriculture field is called as virtual agriculture. It helps researchers to explore in finding various soil stress conditions, agricultural machinery design, and manufacturing [4]. It can aid the farmers in different ways, like inspect the field, identifying the species of insects, and also determining the ways to handle it.

In smart agriculture, AR wearable glass makes the farmers to view the virtual portion of the field with their naked eye and also provides flexibility to operate by their hands. It serves as a piece of distinct hardware equipment for the farmers [5]. Combining IoT with AR deploys live environment makes superimposed IoT data into physical objects and delineation of such information [6]. A supporting computer graphics system is developed to visualize direction for farming operations and overlay them on a field. For example, it records the driver's state and viewpoints during their operations [7].

A drone imaging method with AR is proposed by Huuskonen and Oksanen [8] to automatically find the position of soil sampling based on details from the soil map. Samples are taken from the field soil via worn AR smart glass and analyzed the nutrient contents such as pH, Mg (Magnesium), field soil type, Ca (calcium), K(Potassium), phosphorous, and S(Sulphur). Augmented reality wearable was used to guide the farmer based on the generated soil sample points.

Agricultural land will not always be perfect and smooth for the tractor driver's naked eye perception while tractor navigation is carried out. This developed tractor navigation AR model gives superimposed images of virtual graphics (3D) three-dimensional images, and area captured by AR camera [9]. This system is able to do effective and uniform plowing on the soil. This system model will supervise the driver on the tractor to wrap the field areas completely in a uniform manner, by the way, which prepares the soil for more productive

A Survey on Mathematical, Machine Learning and Deep Learning Models for COVID-19 Transmission and Diagnosis

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***Abstract*—COVID-19 is a life threatening disease which has a enormous global impact. As the cause of the disease is a novel coronavirus whose gene information is unknown, drugs and vaccines are yet to be found. For the present situation, disease spread analysis and prediction with the help of mathematical and data driven model will be of great help to initiate prevention and control action, namely lockdown and qurantine. There are various mathematical and machine-learning models proposed for analyzing the spread and prediction. Each model has its own limitations and advantages for a particluar scenario. This article reviews the state-of-the art mathematical models for COVID-19, including compartment models, statistical models and machine learning models to provide more insight, so that an appropriate model can be well adopted for the disease spread analysis. Furthermore, accurate diagnose of COVID-19 is another essential process to identify the infected person and control further spreading. As the spreading is fast, there is a need for quick auotomated diagnosis mechanism to handle large population. Deep-learning and machine-learning based diagnostic mechanism will be more appropriate for this purpose. In this aspect, a comprehensive review on the deep learning models for the diagnosis of the disease is also provided in this article.**

***Index Terms*—SEIR, SIR, Machine Learning, Deep Learning, Natural Language Processing, Sentimental Analysis, COVID-19 Diagnosis**

I. Introduction

During the end of December, 2019, a few cases of acute pneumonia with unknown causes were reported in the city of Wuhan, Hubei Province, China. Analysis made on the lower respiratory tract samples clearly indicated an infection caused by a novel virus, named as novel Coronavirus 2019 (COVID-19) by world health organization [1]. This virus resembles "severe acute respiratory syndrome coronavirus" (SARS-CoV) and is widespread among healthcare workers and others indicating a transmission from human-to-human. It has a 70% of genetic sequence similarity with "severe acute respiratory syndrome coronavirus". Moreover, among the family of ribonucleic acid (RNA) coronavirus, it is a seventh member to infect humans. It originated from China and became pandemic.

As of 5th, January, 2021, there are 84,233,579 confirmed cases, among them 1,843,293 are dead across the globe . It has been declared as a pandemic of massive destruction to human lives by the world health organization. Signs of symptoms of the disease include, dry cough, high fever, sore throat and viral pneumonia [2].

It is needed to model the transmission dynamics of COVID-19 mathematically to assess the impact of different intervention strategies [3], [4]. Whenever a new virus like COVID-19 outbreaks, and the process of finding the drug is on the go, its spreading nature and number of cases that will be affected can be at least predicted, so that the pandemic can be controlled [5].

Authors [6] gave an idea on how to search for a balance between analyzable, simple and unsolvable models. Though there are various resources, namely World Health Organization and repository of Johns Hopkins University [7], which provide updated research data in the form of excel sheets [8], which can be used in prediction models. There are a lot of challenges in modelling the pandemic. One of the difficulties in mathematical modeling relies on the selection of models. The selected model should be simple enough, so that the prediction or estimation of some parameters will be quite easy [9]. Another challenge in the modeling is the incorporation of preventive measure taken by the people, since it affects the change of dynamic of spreading. A few more such challenges include unableness of quantifying the quarantine and social distancing [10], [11].

When the differential equation based model is considered, SEIR is one of the best known models [2], [12]. The Susceptible, Exposed, Infectious, and Recovered (SEIR) model divides the group of people into compartments namely, susceptible (S), exposed (E), infectious (I), and removable (R). In [2], some additional parameters, namely, infectious but undetected I_u, hospitalized or quarantined at home H_R, hospitalized that will die H_D, recovered after being detected as infectious R_d, and Recovered after being previously infectious but undetected R_u are included into the fundamental parameters of SEIR and prediction was carried out. The bayesian SEIR epidemiological model is used to perform

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Deep learning based modulation classification for 5G and beyond wireless systems

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Abstract

The 5G and beyond wireless networks will be more dynamic and heterogeneous, which needs to work on multistrand waveforms. One of the most significant challenges in such a dynamic network, especially non cooperated cases, is the identification of particular modulation type, which the transmitter uses at the given time to decode the data successfully. This research proposes a modulation classification algorithm using the combination architectures of modified convolutional neural network. The proposed deep learning architecture is developed by combining the convolutional neural network, dense network, and long short-term memory network (LSTM), which is named as convolutional LSTM dense neural network (CLDNN). Moreover, the mean cumulative sum metric (MCS) is introduced in the pooling layer for improved classification accuracy. Dimensionality reduction through Principal Component Analysis is also applied to minimize the training time, so that the proposed architecture can be adopted for its practical usage. The simulation results prove that the presented CLDNN outperforms an ordinary CNN, while taking less training time.

Keywords Convolutional neural network · Dense network · LSTM · Modulation classification

1 Introduction

Automatic modulation classification is used at the receiver to classify the modulation type of the signal that was transmitted. Typical modulation classification requires expert signal processing algorithms that perform noise reduction and estimation of signal parameters, namely, carrier frequency and signal power. In general, the classification algorithms can be of

- Likelihood based (LB)
- Feature based (FB)
- Artificial Neural Networks based

In LB [22, 25, 26] and FB [6, 9, 27] techniques, the decision threshold is chosen manually, while in the Artificial Neural Network based techniques [15, 16, 19], the threshold is determined adaptively and automatically. In other words, LB algorithms compare the likelihood ratio of each possible hypothesis against a threshold, which is derived from the probability density function of the observed wave.

The deep neural networks, which is built in terms of Convolutional Neural Network (CNN) can successfully classify various numbers of modulation types [20]. The performance characteristics of CNN not only gives better accuracy, but is also flexible in detecting the various modulation types compared to other approaches. Moreover, deep learning applications show remarkable progress in image recognition, 3D action recognition [11], node localization and classification problems. To further the

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REAL-TIME DETECTION OF UNMARKEDSPEED BUMP FOR INDIAN ROADS

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Abstract:

One of the important roles of Driver Assistance System (DAS)is to assiststhe driver by alertingthe road anomalies. Detection of the speed bumps/breakers, potholes, and maintenance holes will fall under the road anomalies category.In India, generally there are two type of speed bump i) marking type speed bump ii) unmarking or non-marking speed bump. Among the two, using image processing technique identification of speed bump in earlier is comparatively easily than the later. Still, it is very challenging to detect the unmarked speed bump sincethere is a noyellow or white stripe to indicatetheir presence. During driving, the human visual system recognises the marking type speed bump in long-distance, but it is very tough in the case unmarked speed bump. So, a new method is proposed to identify the Real-time speed bump.The detection of such type of speed bump is essential for the driver to avoid accidents/inconvenience in driving. In the proposed method, after converting the RGB image into a grayscale image,a Gaussian filter is used to remove the noisy environment in the road image. Followed by canny edge detection to identify the edges of the image. This helps to locate the edges of speed bump though the colour of road and speed bump remains the same;there is a minute transition between them. Commonly the speed bump is constructed horizontally in the form of the linethat can be identified easy using Hough transform. On average, the accuracy ratio of corrected detected speed bump is 95.5%. In addition to driver assistance, the system can also be implemented in self-driving cars.

Introduction:

The dream of an Intelligent Transportation System (ITS) gets fulfilled when the critical component Driver Assistance System gets developed. The objective is to alert or warn the driver when the speed bump is recognised. Sometimes it can work ahead to act directly on the Engine control unit to reduce the vehicle speed automatically for safedriving. The DAS subsystem includes warning system for running away from lane, warning downside-updriving, Traffic sign recognition,Speed bump Detection, Adaptive cruise control (ACC), Driver drowsiness detection, Zebra or predestines crossing, and an automotive navigation system. Obstacledetection in roadside like a speed bump, potholes is also one of the vitalresearch areas for self-driving cars.The speed bump plays the role of sleeping police on roadways to decrease the speed of the vehicle in a restricted area.The restricted area can be a danger zone, accident-prone zone, school zone, hospital and residential space. Detection of

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QUEST FOR IDENTITY IN CHITRA BANERJEE DIVAKARUNI'S SISTER OF MY HEART AND THE VINE OF DESIRE

R. Kanagaselvam*
T.S. Geetha**

ABSTRACT

Women's identity can't be separated from the religious, public, ethnic and social setting of her reality. The unpredictability of her circumstances and assorted nature function in various places of the world. This causes a case of comprehensiveness of gender to an excess. Both men and women have wrestled with the subject of character, yet with time, woman's quest for acknowledgment as an individual has been confounded, as she beginsto understand her capacities and failures.Divakaruni's courageous women come from all segments of society and the setting of her novels lie between India and America. Divakaruni's Indian women who were caught between the two countries and their character istrapped by social changes and they battle to find out their identity. This article deals with identity crisis in the novels Sister of My Heart and The Vine of Desire.

***Keyword**: quest for identity, identity crisis, feminism, women's identity issues*

INTRODUCTION

The quest for identity is the establishment of the human world. With the decrease of glory and nobility of human existence in the Post World War Era, the emergency has escalated and the quest for self identity including self-definition and self-advancement has been a focal topic of contemporary women's novels. Literature includes this cycle – the crisis of self, the self identity and succeeding revelations. The cycle of this quest is both environmental and psychological. Different numerous cultural and social, outside just as inside powers include in this quest that repudiate upon the way toward comprehension of the individual self. For a woman, it is a twofold journey the mission for way of life as a lady and as an individual. Woman's enlivening to the truth of her social and cultural part of a woman and her resulting endeavors to rethink her life and shape it as per her new women's activist awareness goes about as a catalyzer as she continued looking for the identity.

The viewpoints of women novelist are very extraordinary with regards to making women characters. They notice her at close quarters to uncovering heretofore immaculate corners of her heart. The authors are trapped in their own reality. The tangled relationship of women and the ordinary unpredictable encounters are found in their books. The women characters portrayed by women writers oppose the man centric network to investigate their own latent capacity or to live on their own terms, paying little heed to the result that such defiance may have on their lives. In their works, postcolonial Indian women writers have not just urged a piece of the male centric philosophies and their harsh inclinations towards feminist

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DYNAMICS OF SOCIAL REALISM IN CHITRA BANERJEE DIVAKARUNI'S THE OLEANDER GIRL

R. Kanagaselvam*
T.S. Geetha**

ABSTRACT

Divakaruni, known for her magical realism, has been destitute in depicting the contemporary society in its most realistic manner. She has focused upon the social strata and the prevailing abuses of the society. In the novel The Oleander Girl Korobi at one place remembers the pathetic condition of the poor in Kolkata and on the other hand faces a pick picketer and struggles in America. Divakaruni describes America through the eyes of Korobi. Divakaruni's protagonist Korobi is a young girl of seventeen and orphan by birth. And in this young age, she faces the circumstances that realize the true nature of life. She is engaged to Rajat Bose and on their engagement night, her grandfather dies due to heart failure. She learns about her father and the bitter truth that he is alive and probably living in America. She decides to abandon her marriage and search for her father. Korobi faces a strong opposition within her family. She finds no one with her at this crucial time and even her fiancé Rajat fails to understand her feelings. She feels isolated during this crucial time, but this protected and fragile girl shows her inner strength in this time and determines to continue her search.

Keyword: *Feminism, Identity Crisis, Quest for Identity, Social Realism*

Introduction

Literary endeavors are mostly reflections of society that emerges out of life and records our dreams and ideas, hopes and aspiration, failures and disappointments, motives and passions and experience and observations. Literature is the medium to mirror the force construction of the specific time frame, qualities and customs of the predominant culture, and the issues of the minimized. In Literature, realism is a methodology that endeavors to depict existence without admiration or sentimental subjectivity. Fiction is very distinct forceful and dominant form of literary expression and it epitomizes the experience and the ideals of the time. It is powerful and acute presentation of the social traditions and social changes. Only the literary texts are the genuine sensations of the author as what he/she looked in the specific period and it considers the truth of the set of experiences. Over the years, the prevailing social issues have been reflected in the works of eminent authors under the shadow of realism. Realism is a style of writing that gives the impression or reflecting faithfully the way of life.

Social realism is the acute awareness of the social forces that surround the individual and exercise its power to influence the lives of man and the overall interaction of the

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Diasporic Consciousness of Women in Chitra Banerjee Divakaruni's Oleander Girl

Mr. R. Kanagaselvam*

Dr. T.S. Geetha**

Abstract :- Chitra Banerjee Divakaruni has A high position in the contemporary circle of Indian Diaspora. She comes the struggle, footlessness And Anxiety As conjointly the difference And Assimilation of foreign cultures by the Indian diaspora. Indian females Are physically And mentally slave by traditions in their native country however they encounter overwhelming experiences in A very foreign land. Divakaruni finely portrays however expatriate women Are naturally blessed with the female Ability to relate At the same time to two homes. They use knowledge And compassion to understand with two completely different cultures, India And America. They synthesize the moderateAnd therefore the best within the two cultures And therefore heal the broken selves of their own And people of fellow-beings. Divakaruni has given A sensible And delicate portrayal of these women within the novels. Divakaruni has explored the diasporic consciousness in Oleander Girl proficiently. She has bestowed cross cultural understanding And explore for identity inA very foreign country with An excellent mastery within the pretext of the protagonist of this novel Korobi, A seventeen year old girl. Divakaruni in her novel *Oleander Girl* skilfully footage the empowering feminine charactersAnd explains the peak And depth of female strength Across the the generational separation. it's the story of Affection, loss, discovery And therefore the final explore for self.

Keywords :- Feminist Narrative, diaspora, identity,AlterityAnd transcultural

INTRODUCTION :- Chitra Banerjee Divakaruni has A place with the gathering of youthful Indian journalists who have Arisen on the Artistic scene with A postcolonial diasporic character. She is well- recognized As A South-Asian essayist in English. She has beenAcknowledged As An essayist with crossover personality. Her works reflect self-portraying contact. She has been hailedAsA "brilliant storyteller" by Junot Diaz And As A "skilled cartographer of the heart" by People magazine. She has created books of different classification. She has put resources into expounding on the settler experience which keeps on having reverberation in today's world. Divakaruni's Oleander Girl (2013) is A reverberating page turne rAnd A fortune of different encounters to A reader. The hero Karobi's transcultural excursion significantly Affects her persona. As she encounters social conflicts As A migrant she investigates her characterAnd finds her Alterity with A women's Activist insight.

Woman's rights difficulties in the male centric structure And Androcentric nature of the general public. It emphatically opposes the since quite A while Ago Acknowledged generalizations And gender-roles thrust upon women. It requests for equivalent treatment of ladies And equivalent freedoms for women. As per dictionary.com, the word feminist describes "a person whose beliefsAnd behaviour Are based on feminism".According to dictionary.com,

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IDENTITY CRISIS IN BHARATI MUKHERJEE's DESIRABLE DAUGHTERS

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ABSTRACT

Bharati Mukherjee has arisen as a writer of a domestic thriller in her novel, Desirable Daughters. She presents three sisters got between cultures. Desirable Daughters, is a splendidly woven, insightful story of three Indian conceived Brahmin sisters, prestigious for their excellence, minds, riches and privilegedposition in the society of the 1970's. Two sisters emigrate to America and the othersettles in India. These three strikingly wonderful sisters in Calcutta, feel the pull among custom and freedom as they attempt to meet the assumptions of life and society. Tara the storyteller is additionally the youthful heroine. Immigrants have imagined tales that exhibit experiences of independent and arising nations. Cultures have taken up new structure in the contemporary times, where the issues of Diaspora, globalization, industrialism, transnationalism social hyberidity and identitycrisis have become new theme in the postcolonial writings. The new issues rise to identity crisis that inspires sensations of a person that depicts socio-cultural setup that shows the mix of custom and modernity. The new identity makes issues for Tara in Desirable Daughters by Bharati Mukherjee, where she is alienated, moping in the tension and boredom of the diasporic experience, yet to cut out a niche for herself.

Keyword: quest for identity, identity crisis, feminism, women's identity issues.

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Characterization of jute fibre-epoxy reinforced composites

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ABSTRACT

By incorporating fibre, the comparatively low strength and stiffness qualities of most composites can be improved. The processing and characterization of organic jute fibre reinforced composites has been examined in the current investigation. Jute fibre was used as filler and epoxy resin as matrix in this work. Using hand debilitate method, the composites samples were prepared in the Hi-tech Rudolf laboratory with a suitable fabricating method and quality control. With various proportions of fibres and matrix ratios, the prepared composites are randomly orientated. The SEM, FTIR, impact and hardness tests were employed. From the test results, the increase in the composite's jute fibre volume fraction caused the impact energy and hardness strength of the composite to increase. In addition Taguchi analysis is performed for optimization of single response problem.

Selection and peer-review under responsibility of the scientific committee of the 3rd International Conference on Materials, Manufacturing and Modelling.

1. Introduction

Conventional composite materials such as metals, woods etc., have been replaced by the material with high stiffness, lightweight and high strength-to weight ratio properties. The development of natural fibre composites concentration was increased to the fast growth and used as reinforcement [1]. Natural composite fibres constitute alternatives for the production of synthetic fibres as polymer reinforcement materials for the production of renewable composites and the environment. In recent years waste plastics have caused unsustainable pollution. Environmental knowledge, new regulations and laws have forced the industry to search for new, greener materials [2]. Natural crop plants' fibres were renewable materials that could be used to produce green products and replace synthetic materials such as plastic fibres glass fibres and carbon fibres. Bio-polymer and Bio fibre compounds can be produced from composite materials that can be fully biodegraded. Of particular relevance for the reduction of the density of automotive components is due to its high rigidity and strength. natural fibres (strengthened materials [3–5]. Examples of natural fibres are flax, sisal or jute. The researchers have tried several times to use natural fibres in composite materials production. Natural fibre-reinforced composites have been found to have better good thermal, electrical strength, chemical resistance and acoustic insulating properties, and are becoming increasingly aware of the introduction of environmentally friendly, renewable and cheap reinforcement materials [6–9] (Table 1).

The widely used E-class fibre hardness strength is higher than natural fibres such as kenaf, hemp and jute. but the E-glass fibre density is about 2–2.5 g/cc, while the natural fibres are about 1–1.5 g/ccc much lower [10]. The natural fibre's low cost, weight and density make them an attractive alternative. Among all-natural fibre-reinforcing materials, jute is the most useful fibre that is cost-effective and commercially available. In the literature it has been documented that the jute fibres in thermoplastics may be used as reinforcement. Examples in thermoplastics are polyvinyl chloride and polypropylene, polyethylene, and thermo sets such as epoxy resin and unsaturated polyester [11–16]. Presence of OH groups in the structure of jute fibres make themsusceptible

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The widely used E-class fibre hardness strength is higher than natural fibres such as kenaf, hemp and jute, but the E-glass fibre density is about 2–2.5 g/cc, while the natural fibres are about 1–1.5 g/ccc much lower [10]. The natural fibre's low cost, weight and density make them an attractive alternative. Among all-natural fibre-reinforcing materials, jute is the most useful fibre that is cost-effective and commercially available. In the literature it has been documented that the jute fibres in thermoplastics may be used as reinforcement. Examples in thermoplastics are polyvinyl chloride and polypropylene polyethylene, and thermo sets such as epoxy resin and unsaturated polyester [11–16]. Presence of OH groups in the structure of jute fibres make themsusceptible

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SMART SHOE USING PIEZOELECTRIC EFFECT

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ABSTRACT **In Day To Day life, People always tend to satisfy their needs by doing some activities which are referred to as Human activities. Human activities include Exercising activities [Like walking, running, jog], Dancing activities, Industry recreation and also for entertainment purposes. The main motive is to generate the energy by foot impression (Piezoelectricity) of the people while walking and to monitor health parameters, further to track the location. In Our Proposed systems it generates electricity by piezoelectric sensors. Sensors generate electricity by mechanical stress created by humans while performing activities like walking, running, etc...The generation of electricity from human activities is referred to as parasitic harvesting. The piezoelectricity current is transmitted wirelessly through wireless power transmission techniques. Normally Transmission technique is classified into two Near Field and Far Field. In our system, we use the Near field technique where the power is transmitted over a short distance by the capacitive coupling method. The transmitted power is used for charging purposes. It also used to monitor the health parameters like blood pressure (varies among ages but Normal range is less than 120mm Hg systolic to 80mm Hg diastolic), pulse rate(60-100 Beats Per Minute), glucose level(less than 140mg\dL) and other health parameters like temperature (The normal human body temperature range is typically stated as 36.5–37.5 °C (97.7–99.5 °F) are recorded and updated instantly.**

I. INTRODUCTION

Piezoelectricity is the electric charge that pile-up in certain solid materials such as crystals, ceramics, and biological matter such as bone, in response to applied mechanical stress. Harvesting mechanical energy from human movements is one of the most unfamiliar methods to obtain sustainable electric energy. Piezoelectricity is electrical energy produced from mechanical pressure by a human while walking, running. The energy is harvested from human movements and is transmitted wirelessly through wireless power transfer techniques and is used to charge devices like mobile. The energy is not stored in batteries. It can simultaneously be used by another sensor or charging a power bank. Health parameters (blood pressure, glucose level, pulse rate, and other health parameters) monitored are recorded and updated instantly. The data collected from health measuring sensors are transferred in a combined unit to Mobile phones.

II. RELATED WORK

The paper [1] proposes an attractive approach to harvest energy from Soldier' shoes. A soldier carries numerous electronic gadgets for his mission which need an uninterrupted power supply. With the help of piezoelectric materials, an alternative way is proposed here to power the Soldier's Electronic System. The idea is to incorporate piezo polymers stacks beneath the heels of their shoes and generate electrical power while walking or running. This approach generates power that can even be stored for future use in absence of a load. DC-DC converters were employed to maximize the electrical power from the material, to store it in a Super capacitor, and to enhance the efficiency of the system. This power can

INTELLIGENT LUMINOUS CONTROL

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Abstract—**In today's world, many people are affected by light pollution. high luminous emitting LED light which will cause more strain in people's eyes. The luminous intensities of the LED are tuned or varied according to the need. The luminous intensities can be varied in two ways, both manually and automatically. The manual method defines the tunning of the luminous intensities using a remote control or over the internet by the user whereas the automatic method varies the lumens of the LED from 0 to 100 based on the detection of human activities(3 dimensions) to fulfill the appropriate amount of requirement which further enhances the power consumption.**

I. INTRODUCTION

Light is a form of electromagnetic energy. The mechanisms by which light is thought to cause damage to the retina include photothermal, photomechanical, and photochemical. Lights that are too bright or too dark, might lead to high eyestrain. They attribute migraine headaches are because of intense light. The General Objective is to design and develop a product that controls the luminous intensities of a light-emitting diode (LED) and optimizes the power consumption. This concept can be developed as a product and would be helpful to reduce eye strain and migraine headaches.

II. RELATED WORK

A novel methodology was presented by [1] for automatic light detection and control using both a microprocessor and light sensors. The Home Light Control Module consists of the pyroelectric infrared sensor circuit, the light sensor circuit, the microprocessor, and the RF module is installed in every light fixture of a family. Using, the PIR sensor circuit the HLCM detects whether a human body enters the detection area or not. If no one is present, all controlled lights will turn off. If someone is present, the HLCM detects the light intensity under the environment and maintains sufficient light by controlling the number of lights. RF module transmits and receives the data from each HLCM which controls different lights in different regions. The result of using the HLCM shows that the power consumption can be reduced.

The paper [2] presents smart techniques that involve IoT for controlling the devices to detect the presence of a human being inside a room, to increase and decrease the intensity of the light in a room,

Feature Extraction for the Classification of Human Chromosomes from G-Band Images using Wavelets

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Abstract - **Chromosomes contain genes that provide the coded information for human beings to grow, develop and function. Any change in the number, size or structure of the chromosome leads to chromosomal abnormalities which will cause birth defects. However many of these defects are preventable, if detected earlier. The main objective of this work is to determine good features to classify human chromosomes and to detect chromosomal abnormalities from G-Band chromosome images. As a first step, chromosome images are analyzed using Discrete Wavelet Transform (DWT) to get coefficients which contain information about the banding pattern. The banding patterns allow a chromosome to be reliably differentiated from other chromosomes of same size and centromere position. From the coefficients, statistical features are calculated. A neural network may be used for further classification using these features.**

Index Terms- **Chromosome, DWT, Statistical Features, Neural Networks, Chromosomal abnormalities**

I. INTRODUCTION

Globally, at least 7.6 million children are born annually with severe genetic or congenital malformations. 90 % of these are born in mid and low income countries. The genetic and congenital disorder is the second most common cause of infant and childhood mortality and occurs with a prevalence of 25-60 per 1000 births. Genetic diseases can vary in severity, from being fatal before birth to requiring continuous management; their onset covers all life stages from infancy to old age [1]. In India 25 million births occur annually. Chromosomal abnormalities form a major part of genetic disease burden in India. Nearly 5,00,000 babies are born with some form of birth defects every year. It occurs when an individual is affected by a change in the number, size or structure of his or her chromosomes.

Down syndrome is the most common genetic disorder caused by a chromosomal abnormality. It affects 1 out of every 800 to 1,000 babies. It occurs when some or all of a person's cells have an extra full or partial copy of chromosome 21.The most common form of Down syndrome is known as Trisomy 21. Individuals with Trisomy 21 have 47 chromosomes instead of the usual 46 in each of their cells.Only two other trisomies have been observed in babies born alive (trisomies 13 and 18), but babies born with these trisomies have only a 5% chance of surviving longer than one year[1]. Chromosomal abnormality is an important cause of mental retardation. Apart from sex specific genes present on X and Y chromosomes some autosomal genes also play a role in sex determination. Any alteration in the genes, gene dosage or the sex chromosomes lead to abnormalities of sexual development, ranging from complete sex reversal to hermaphroditism [2].

Many genetic disorders or possible abnormalities that may occur in future generations can be predicted by analyzing the shape and morphological characteristics of chromosomes[3]. Automated chromosome classification is an essential task in cytogenetics and has been an important pattern recognition problem. Numerous attempts are being made to characterize chromosomes for the purpose of clinical and cancer cytogenetic research.

It is important to determine good features for chromosome classification. Centromere intensities are believed to be important differentiating features of homologous chromosomes[4]. Each chromosome displays a unique banding pattern. Specific pairs of chromosomes can be identified using the centromere position and arm ratios. Inevitably several pairs of chromosomes appear identical by these criteria and some of the chromosomes are also overlapped. Many algorithms have been tried in the past to separate the touching chromosomes and overlapping chromosomes[5],[6].

The concept of automated chromosome classification has been under research for many years [7],[8]. Commercial systems available now are very costly. It is not possible for common people to make use of this facility in developing countries. Moreover there is a scope to improve the recognition rate and accuracy [9]. Hence an effort is made in this work to develop a cost effective automated classifier for chromosomes using G-Band chromosome images.

G-Band is the most common type of banding. It generates a distinct transverse banding pattern characteristic of each class which is an important feature for chromosome classification and pairing The idea of using G-band images is that, it helps to identify even tiny abnormalities [10].

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AUTOMATIC WATER MANAGEMENT SYSTEM FOR INDUSTRIAL AND RESIDENTIAL PURPOSE

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AI POWERED BOT WITH CONTROL MONITORING SYSTEM FOR BABY CARE

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Abstract—The present Indian culture has changed from a man-centric and male-ruled society to a progressive one, where ladies work side by side with men. Also, ladies need to deal with their work life and family at the same time. The innovation will be of moving bot that has set of gear motor controlled through the driver circuit. Likewise, a servo motor has also been interfaced with the goal that the support can swing consequently to detect the baby's position. The bot enables the user to limit the area and have the child in the safer region and do not allows the child to cross the specified region. The bot is connected wirelessly with the wall mountable vision sensor that continuously detects the face of baby by image processing and it is controlled by the micro controller. The bot avoids hitting the obstacles by the respective sensor. If the baby starts crying, then parents can stimulate the bot to entertain the baby through mobile application using IoT technology, audio will start in their parent's tone or it starts executing random music with dancing light. The bot is capable of intimating the parents, time for a diaper change and feed a food and water .The live status of the child can be visualized on the Web site page or through mobile application using Internet protocol address. Likewise, notices with respect to child's well-being status are sent to the parents through the voice alert or as message and when required. This proposed framework will help parents to remotely monitor their babies.

Keywords—Baby monitoring, Image processing, Powered bot, GSM alert.

I INTRODUCTION

In India, in recent days both the parents need to work in order to balance the financial demands for their and look after their babies, so more workload and stress is there in such families, especially on female counterparts. They are now thinking about adopting the technological and engineering inventions for getting advantages and benefits in terms of safety issues of their babies. Monitoring a baby continuously is really a tough job as well as it is not possible for the parents to carry out their babies all the time with them especially while working. Hiring a caregiver for the non-stop monitoring of babies is an option when parents are busy at home or in the working places or as an alternative solution is day care center. But these two methods may

AUTOMATIC FOOD SUPPLY AND SICK BROILER CHICKENIDENTIFICATION IN POULTRY FARMING USING IMAGE PROCESSING

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***Abstract*–Agriculture and poultry are the backbone of any country's economy. Indeed, there is a strong correlation between agricultural growth and economic prosperity. This work aims to provide details on how to build an automated Environment Controlled PoultryManagement System (ECPMS) using low-cost commodity hardware and open-source software. A comprehensive system was built using Raspberry Pi, used as a Linux embeddedsystem board for interfacing with different sensors. The system has been thoroughly investigated for various physical parameters associated with effectivepoultry management which includes temperature, humidity, moisture content in the air and air quality. It was found that the system not only monitors these parameters, but alsoregulates these parameters effectivelyand to detect problems in a broiler house using cameras and image analysis software. The framework wasobserved tobe veryuseful forfarmers as theycould easily access and control the system remotelyusing their handheld mobile devices. The system reduces human intervention, saves time, optimizes resource utilization and increases poultry production.**

***Keywords*:Raspberry pi,poultry,chicken,IoT.**

I. INTORDUCTION

The agricultural sector of India is one of the fastest growing sectors, with poultry industry gaining new dimensions. India is witnessing an 8 to 10% rising rate in broiler and egg production, while the rise of production of agricultural crops is just from 1.5 to 2%. Hence, the poultry industry of India is contributing a good per capita income for the GDP growth of India. Due to this, the poultry industry is undergoing a drastic shift in its structure and operation, thus becoming a major commercial practice.

For last few decades, with growing high level of awareness about safety aspects, demand for high quality chicken and nutrient rich eggs have become very high.With the world shifting towards automation, automating manual practices in the poultry sector will help in good farming management and manufacturing process. This results in good profit combined with quality achievement. The practices which are highly dependent on human labor are controlling of ammonia gas emanation from bacteria decomposition, maintaining of temperature within standard levels, timely feeding of birds. Various works have undergone in atomizing these works.

II. RELATED WORK

Based on the poultry farm management perspective, the modern technologies had been used to monitor and manage poultry farm for better production improvements.

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Bed Wet Detection for Childcare and Welfare

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Abstract— **Child Care and Welfare system give a solution to care for a child and keep healthy. Now days taking care of babies is one of the toughest or painful tasks for a mother. In these, bed-wetting is the major problem for all babies. Bed-wetting is the involuntary urination of infants and children, especially during the night. Every day,5 Million babies are waking up due to bed-wetting. Especially in the nighttime, if a baby lies for a long time in the wetted area, it causes health issues like cold, fever, and infection. It will cause stress to parents and caretakers. Working women will be an additional pain to them as they can't sleep well and can't focus their work on the next day. Using diapers throughout the day causes rashes and even cancer for babies. So, we aim to detect a child's wetting and to change its requisite things automatically.**

Keywords—**bed wet, Detection, Rain sensor, Node MCQ , Gear motor .**

I. INTRODUCTION

Bed-wetting, also called enuresis, is the unintentional discharge of urine during sleep. Although most children between the ages of three and five begin to stay dry at night, the age at which children are physically and emotionally ready to maintain complete bladder control varies.

Most children wet the bed occasionally, and definitions of the age and frequency at which bed-wetting becomes a medical problem vary somewhat. The word enuresis is derived from a Greek word meaning "to make water." Enuresis is defined as the repeated voiding of urine into the bed or clothes at least twice a week for at least three consecutive months in a child who is at least five years of age. It can be nocturnal (occurring at night) or diurnal (occurring during the day). Enuresis is a fairly common condition in children. It can be a stressful condition as well for both parents and children. Some children find bed-wetting extremely embarrassing. Parents sometimes become both frustrated and angry.

Enuresis is divided into two classes. A child with primary enuresis has never been consistently dry through the night. A child with secondary enuresis begins to wet after a prolonged dry period. Some children have both nocturnal and diurnal enuresis. The prevalence of bed-wetting gradually declines throughout childhood. Of children aged five years, 23 percent have nocturnal enuresis. During elementary school years, the problem remains common, with 20 percent of seven-year-old children and 4 percent of ten-year-old children still experiencing nighttime bed-wetting. Nocturnal enuresis is more common in males. It occurs in boys aged seven and ten years at 9 percent and 7 percent, respectively, compared to 6 percent and 3 percent, respectively, in girls.

Over 70 percent of children with two parents who wet the bed will also wet the bed. Twin studies have shown that both of a pair of identical twins experience enuresis more often than both of a pair of fraternal twins. Sometimes bed-wetting can be caused by a severe medical problem like diabetes, sickle-cell anemia, or epilepsy. Snoring and episodes of interrupted breathing during sleep (sleep apnea) occasionally

VIRTUAL QUEUING SYSTEM FOR HOSPITAL

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Abstract— **Virtual Queue (VQ) allows Hospitals or other locations to control the number of people within the building and reduce the number of people waiting in line using a virtual pre-booking and queuing system. The project is creating a Web portal for hospital virtual queuing and Face recognition to verify whether the person in profile and check-in is the same. This is done by the Raspberry pi, which processes the data and extracts the data from the firebase cloud to verify the patient's identity .pi camera to capture the patient's photo during check-in. The web portal front end is created using React(.JS), which builds the user interface and creates the on-screen menu, search bars, buttons in the web portal. The web portal's backend is created using node(.JS) and express(.JS). The node(.JS) is for building applications and web portal for non-blocking, event-driven servers due to single thread nature. Then the express (.JS) is to provide server-side logic for the web. The above all are built on JavaScript. Firstly, Customers add themselves to the queue using their mobile phone and can either schedule an appointment time or take the next available slot. They are informed via SMS or push notification of the expected wait time and can then wait safely in their car or at home instead of standing outside in proximity to other people. They receive a second message when it is their turn to enter the location. Optionally, owners can set a time limit for customers to keep the line moving, and VQ will notify them when their time is up and they need to leave. Hospital Management Information System (HMIS) provides multiple interfaces for token generation and consumption on mobile devices integrated with hospital service counters while using intelligent algorithms for token generation and allocation.**

Keywords— Virtual queuing, Google cloud, React (.JS), Express(.JS), Node(.JS), Firebase, Raspberry pi, Face recognition Include

I. INTRODUCTION

Queues are primarily formed when customers request a service. In healthcare, patients are the customers where outpatient clinics, laboratory diagnostic centers, or hospitals are the service facilities. A typical healthcare center consists of one or more service counters with one or more servers where patients are entertained. Most queues formed at healthcare facilities are ubiquitous and cause frustration as prolonged delay in services is observed. This results in patient discomfort resulting in medical conditions that can increase subsequent treatment costs and poor health outcomes. Given the problems and negative consequences of patients due to poor queuing at healthcare, patient flow management systems arise as the best solution to overcome this problem. Our patient queue management system makes your patient service area more informed and increases operational efficiency.

Now more than ever, healthcare facilities are striving to deliver quality healthcare to a swiftly expanding number of Patients. With people 65 and older expected to account for almost 20% of the nation's population by 2030, there will soon be an even higher demand for healthcare. At the same time, patients are demanding a better experience from their healthcare providers. Failure to meet patients' needs can lead to negative reviews and millions of dollars in lost reimbursements. The healthcare queue management system and healthcare patient scheduling app save patients and caregivers time and energy using cloud-based software to serve better and easily connect with patients. By improving patient satisfaction scores by up to 99%, we can help you deliver needed care quickly.

AUTOMATED COVID-19 INVESTIGATION KIT USING CONVOLUTIONAL NEURAL NETWOK

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***Abstract*— In order to effectively prevent the spread of COVID-19 virus, almost everyone wears a mask during coronavirus epidemic. This makes conventional facial recognition technology ineffective in many cases, such as community access control, face access control, facial attendance, facial security checks at train stations, etc. Therefore, it is very urgent to improve the recognition performance of the existing face recognition technology on the masked faces. Most current advanced face recognition approaches are designed based on deep learning, which depend on a large number of face samples. However, at present, there are no publicly available masked face recognition datasets. Detects end of 2019 witness the out break of coronavirus. Disease 2019 (COVID-19) which has continued be the cause of plight for millions of lives and business even in 2020 and 2021. As the world recovers from the pandemic and plans to return to a state of normally, there is a wave of anxiety among all individuals, especially those who intend to resume in person activity. Studies have proved that risk of viral transmission as well as provides a sense of production. However, it is not feasible to manually track the implementation of this policy. temlearning-based system that can detect instance where face masks are not used convolutional neural network (CNN) architecture capable of detecting masked and unmasked faces and can be integrated with pre-installed CCTV cameras. This will help track safety violation, promote the use of face masks, and ensure a safe working environment.**

***Keywords*— Mask detection, temperature detection, sanitizer dispense, convolution neural network.**

I. INTRODUCTION

The first human cases of covid-19, the disease caused by the novel corona virus were reported by officials in Wuhan city, China, in December 2019. It has since spread worldwide, leading to an ongoing pandemic. Symptoms of covid-19 are variable, but often include fever, cough, breathing difficulty, loss of smell and taste etc. Preventing methods of covid-19: hand washing, face coverings, self-quarantine, keep social distancing. In world, there are 12,46,13,347 Confirmed cases and 27,40,562 Death cases up to (March-2021). Artificial Intelligence has been witnessing a monumental growth in bridging the gap between the capabilities of humans and machines. Researchers and enthusiasts alike, work on numerous aspects of the field to make amazing things happen. One of many such areas is the domain of Computer vision. We are introducing Fully automatic covid-19 test kit by using the concept of Convolutional Neural Network (CNN). By using our system, we hope, we can able to control the spread of this covid-19. Because the

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Abstract—The present Indian culture has changed from a man-centric and male-ruled society to a progressive one, where ladies work side by side with men. Also, ladies need to deal with their work life and family at the same time. The innovation will be of moving bot that has set of gear motor controlled through the driver circuit. Likewise, a servo motor has also been interfaced with the goal that the support can swing consequently to detect the baby's position. The bot enables the user to limit the area and have the child in the safer region and do not allows the child to cross the specified region. The bot is connected wirelessly with the wall mountable vision sensor that continuously detects the face of baby by image processing and it is controlled by the micro controller. The bot avoids hitting the obstacles by the respective sensor. If the baby starts crying, then parents can stimulate the bot to entertain the baby through mobile application using IoT technology, audio will start in their parent's tone or it starts executing random music with dancing light. The bot is capable of intimating the parents, time for a diaper change and feed a food and water .The live status of the child can be visualized on the Web site page or through mobile application using Internet protocol address. Likewise, notices with respect to child's well-being status are sent to the parents through the voice alert or as message and when required. This proposed framework will help parents to remotely monitor their babies.

Keywords—Baby monitoring, Image processing, Powered bot, GSM alert.

I INTRODUCTION

In India, in recent days both the parents need to work in order to balance the financial demands for their and look after their babies, so more workload and stress is there in such families, especially on female counterparts. They are now thinking about adopting the technological and engineering inventions for getting advantages and benefits in terms of safety issues of their babies. Monitoring a baby continuously is really a tough job as well as it is not possible for the parents to carry out their babies all the time with them especially while working. Hiring a caregiver for the non-stop monitoring of babies is an option when parents are busy at home or in the working places or as an alternative solution is day care center. But these two methods may

AUTOMATIC FOOD SUPPLY AND SICK BROILER CHICKENIDENTIFICATION IN POULTRY FARMING USING IMAGE PROCESSING

Dr. P.Veena[1], Dr.R.Jeyabharath[2],Dr.A.Murugesan[3], Kalimuthu.Y[4]

#1, #2 Professor, #3 Associate Professor, #4 Assistant Professor

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***Abstract*–Agriculture and poultry are the backbone of any country's economy. Indeed, there is a strong correlation between agricultural growth and economic prosperity. This work aims to provide details on how to build an automated Environment Controlled PoultryManagement System (ECPMS) using low-cost commodity hardware and open-source software. A comprehensive system was built using Raspberry Pi, used as a Linux embeddedsystem board for interfacing with different sensors. The system has been thoroughly investigated for various physical parameters associated with effectivepoultry management which includes temperature, humidity, moisture content in the air and air quality. It was found that the system not only monitors these parameters, but alsoregulates these parameters effectivelyand to detect problems in a broiler house using cameras and image analysis software. The framework wasobserved tobe veryuseful forfarmers as theycould easily access and control the system remotelyusing their handheld mobile devices. The system reduces human intervention, saves time, optimizes resource utilization and increases poultry production.**

***Keywords*:Raspberry pi,poultry,chicken,IoT.**

I. INTORDUCTION

The agricultural sector of India is one of the fastest growing sectors, with poultry industry gaining new dimensions. India is witnessing an 8 to 10% rising rate in broiler and egg production, while the rise of production of agricultural crops is just from 1.5 to 2%. Hence, the poultry industry of India is contributing a good per capita income for the GDP growth of India. Due to this, the poultry industry is undergoing a drastic shift in its structure and operation, thus becoming a major commercial practice.

For last few decades, with growing high level of awareness about safety aspects, demand for high quality chicken and nutrient rich eggs have become very high.With the world shifting towards automation, automating manual practices in the poultry sector will help in good farming management and manufacturing process. This results in good profit combined with quality achievement. The practices which are highly dependent on human labor are controlling of ammonia gas emanation from bacteria decomposition, maintaining of temperature within standard levels, timely feeding of birds. Various works have undergone in atomizing these works.

II. RELATED WORK

Based on the poultry farm management perspective, the modern technologies had been used to monitor and manage poultry farm for better production improvements.

TOUCH FREE INTELLIGENT MEASURING TAP

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Abstract—Theevolution of technology in the automation field helps the development of touch free equipment which are needed in various field during this current pandemic period .In most of all places like stationery, milk bank needto dispense the liquid from the container according to the customer needs like milk, kerosene and oil be measured , It leads to the quantity of the liquid is reduced due to human error human error occurs and man work be needed .This paper describes the design and development of low costand touch free automatic liquid dispensing which supplies required amount of liquid .The smart tap system is used to turn over liquid from source point usage point in an efficient way and avoids human error. The proposed system using the wifi enabled nodemcu it can operate through smart phone.The proposed system can deliver a liquid accurately according to our needs which can be given through the smart phones in addition to this the amount of liquid and cost be sent to the respective customers through the message.

Keywords—*Node MCU,Water pump, keypad, Relay.*

I. INTRODUCTION

The touch free intelligent liquid measuring tap is a modern approach to the conventional liquid dispenser. To reduce their work and time in such kind of smart things we go with automation. The automation provides the advantage of improving productivity and quality wise reducing waste, increasing safety and adding flexibility to the manufacturing process.

In automation yields increased safety and adding flexibility to the manufacturing process/In automation yields profitability. It also provides cost savings through making process regular and collecting data for making confident decisions. The automation also applied in tap also.

The taps are much important for controlling the flow of liquid as well as saving the time too. Again,with the changes in technology, the designs of the tap have also changed to a great extent. The traditional screw taps are now replaced with advanced taps that works on infrared, electrical or even batteries. Not only the types but the materials they are made fromhave also changed to a great extent while looking for advance improvement in them. We can make the dispenser handy and user friendly by giving it an electronic touch. We can make use of the technology and make machine far advanced than its counterparts. In case use of the flow sensor there occurs a problem which cannot deliver a liquid accurately.

II. LITERATURE REVIEW

The automatic water dispenser [19] is an electromechanically operated valve. It is controlled through electric current through a solenoid. Fluids are generally controlled by using this solenoid valves. In the existing system, the liquid will be dispensed when the object is being placed under the tap with the help of proximity sensor but in which it cannot be measured and it help the

SOLAR POWERED GROUNDNUT SEPARATOR MACHINE

Y.Kalimuthu [1] Dr.A.Murugesan [2]

[#1] Assistant Professor, [#2] Associate Professor
Department of Electrical and Electronics Engineering,
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Abstract— **Agriculture is the backbone of our country. In country like India, groundnut is grown on a small scale by farmer. Since the 20th century the production of groundnut is increased. It is the main underground crash crop giving more profit. In the beginning the groundnut pods were separated from its plants by the workers. They simply remove groundnut pods by their hands and separate from the plants. The output got from this method, was very low because it was very time consuming process. It was also a boring work for the worker. Traditional method of separating pods from groundnuts plants by hands. The aim of paper is to design & develop a low-cost solar powered groundnut separator which will help farmer to reduce time required to separate groundnuts and also used to reduce the working hours.**

Keywords —**Groundnut separation, solar power-renewable energy.**

I. INTRODUCTION

The Groundnut is one of the major seed crop. This product in the cultivated in abundant quantity. There is lot of time waste in old method of groundnut separating process. The average kernel price is approximately twice the price of groundnut. Lack of groundnut processing machines, especially in groundnut separation, is a major problem of groundnut production, especially in our country India. In the beginning the groundnut plants were separated from its hands by the workers. They simply separate the groundnut by their hands. The output got from this method, was very low and it does not fulfil the market demand because it was very time consuming process. Since last 50 year's lot of changes has been occurred in agriculture sector. Many new agricultural based industries have been started new varieties and species of plant have been discovered. In our country most of the people can be depend on the agriculture sector/field. The new and small former or business man can start their business by investing less capital. So working on the above points, we design and fabricate a new medium production capacity machine and today we proudly present this machine called groundnut separator machine with the help of solar power. In our country due to heavy cultivation of groundnut there is a need of selling groundnuts in safe.

The agriculture industries in the world country have heavy machines to do the same. But the farmers in rural areas and small industries it's necessary to have an economic and efficiency machine which can easily separate the groundnut from the plant with the help of solar energy to get this by machines. Hence the group of our class found the need of designing and manufacturing such a system which will make the groundnuts come out from its plant with the help of solar energy. The present system for groundnut harvesting involves only human labour. That is the main problem we are now facing and it

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Keywords– **Road safety, autonomous-vehicle, traffic sign detection.**

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Everyday more than 3500 people are died due to road accident, from 20 to 50 million were suffered due to injury and cause disability. Major cause of road accident due to distracted driving, speeding, disobey of traffic rules. 95% of the driving accident occur due to human error. To overcome this problem many countries has implemented rules, but many were not obey the rules so that cause road accident. To solve the problem we need some rules and regulation that built into the vehicle. In future autonomous car will rule the era, many new innovation will take. To be a part in lead to autonomous vehicle we created a traffic sign detector that detect the traffic sign and signal, by that we can control the vehicle from the data received. Experiments have been conducted on self-driving cars since at least the 1920s;[1] promising trials took place in the 1950s and work has proceeded since then. The first self-sufficient and truly autonomous cars appeared in the 1980s, with Carnegie Mellon University's Navlab [2] and ALV [3][4] projects in 1984 and Mercedes-Benz and Bundeswehr University Munich's Eureka Prometheus Project[5] in 1987. Since then, numerous major companies and research organizations have developed working autonomous vehicles including Mercedes-Benz, General Motors, Continental Automotive Systems, Autoliv Inc., Bosch, Nissan, Toyota, Audi, Volvo, Vislab from University of Parma, Oxford

WIRELESS ENABLED BAND AS AN ALTERNATING SYSTEM FOR PATIENT SUPERVISOR

K. Meenatchi [#1], Dr. A. Murugesan[#2]

Department of Electrical and Electronics Engineering,

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***Abstract*—In the recent development of, Internet of Things (IoT) makes all objects interconnected and it has been recognized as the next technical revolution. Some of the applications of the Internet of Things (IoT) are smart parking, smart home, smart city, smart environment, industrial places, agriculture fields and health monitoring process. One such application is in healthcare to monitor the patient health status Internet of Things (IoT) makes medical equipment more efficient by allowing real-time monitoring of patient health, in which sensor acquire data of patient's and reduces the human error. As a result, this paper describes a system to solve a healthcare problem currently society is facing. The firstly beings with detection of patient's Health using sensors and sending data to cloud storage and further the data is to analyzed, if any abnormalities occur alert is sent to the patient supervisor. Health monitoring for active and assisted living can use the IoT advantages to improve the patient's lifestyle. In this paper, I have presented an IoT architecture customized for healthcare applications. The aim of the project was to come up with a Wi-fi enabled band for an alerting system for patient supervisor that can be made with locally available sensors with a view to making it affordable if it were to be mass produced. Hence the proposed architecture collects the sensor data through Node MCU, and the data stored in cloud where it is processed and analyzed for remote viewing. Feedback actions based on the analyzed data by the patient supervisor if any abnormalities observed then, it can be sent to the doctor through Emergency Call and/or SMS alerts in case of any emergencies.**

I INTRODUCTION

Wireless health monitoring system or emergency alerting system involves monitoring of patient's vitals and triggers the supervisor wirelessly. The inclusion of telecommunication devices in health care helps all evirate the difficulty experienced by the medical experts in monitoring multiple patients simultaneously. It enables them to observe patients without having to be physically present at their bed side, be it in the hospital or in their home. But there is no improved technology to help the patient super-visor whenever the abnormalities that happens to the respective patient. Wide variety of sensors are used in the devices to monitor the patient vitals ranging from heart rate, body temperature,oxygen saturation etc. The deployment of wireless alerting system may reduce the sleeping death rater rapidly

II LITERATURE REVIEW

Daily monitoring of health condition at home is important for an effective scheme for early diagnosis, treatment, and prevention of lifestyle-related diseases such as adiposis, diabetes and cardiovascular diseases. While many commercially available devices for home health care monitoring are widely used, those are cumbersome in terms of self-attachment of biological sensors and self-operation of them. From this viewpoint, we have been developing a non-conscious physiological monitoring system without attachment of any sensors to the human body as well as any operations for the measurement. We developed some devices installed in a `toilet, a bath, and a bed and showed their high measurement precision by comparison with simultaneous recordings of ordinary biological sensors directly attached to the body. To investigate that

AI POWERED BOT WITH CONTROL MONITORING SYSTEM FOR BABY CARE

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ELECTROCOAGULATION RECTIFIER FOR WASTE WATER TREATMENT

R. Sacithraa [#1], C. Sivakumnar [#2], T. Arvind [#3],

[#1#2#3] Assistant professor,

Department of Electrical and Electronics Engineering,
K S R Institute for Engineering and Technology,

Abstract—**Electrocoagulation has become a rapidly growing area of wastewater treatment due to its ability to remove contaminants that are generally more difficult to remove by filtration or chemical treatment systems, such as suspended solids, dye, oil, heavy metals, and refractory organics. Environment Sector has shown a largely growing interest in the treatment of different types of dyeing wastewater by electrocoagulation. It has recently attracted attention as a potential technique for treating industrial effluent due to its versatility, treatment efficiency, low cost and environmental compatibility. The aim of the present study is to review the mechanism, factors responsible and application of the EC technology of industrial dyeing waste water and removal of pollutants and dye from surface and potable water. In this process electrode, initial dye concentration, direct current is used as materials. The treatment efficiency of EC depends on various factors i.e., choice of electrodes, material, electrodes distance, arrangement of electrodes, operating current density, electrolysis time, PH of the solution, temperature, and industrial dye.**

Keywords—. **Electrocoagulation, filtration, stabilization, Rectification.**

I. INTRODUCTION

I. A. Problem

Waste water management is biggest concern in nowadays industry reduce their dye waste water (Figure 1) at nearby river and oceans bodies resulting in health and hygiene disturbance for human and marine life but the same waste water has an enormous potential of being turned into wealth. Electrocoagulation has become a rapidly growing area of dye waste water treatment due to its ability to remove contaminants that are generally more difficult to remove by filtration or chemical treatment system, such as emulsified oil, total petroleum hydrocarbons, suspended solids.

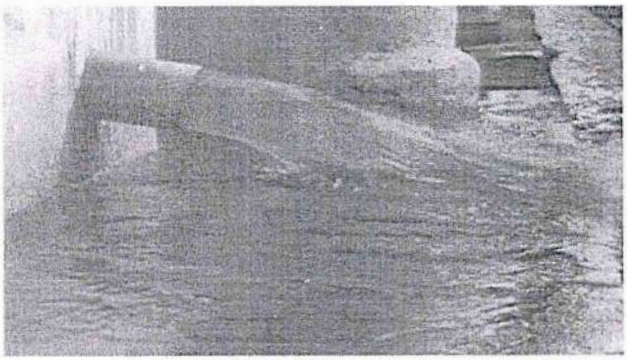

Figure 1Dying waste water

II. ELECTROCOAGULATION

Electro coagulation (Figure2) is the process of destabilizing suspended, emulsified or dissolved contaminants in waste water by introducing an electrical current into the medium. It utilizes direct current

ANALYSIS AND ENHANCEMENT OF TRANSIENT STABILITY IN GRID CONNECTED MICROGRID

Mr.C.Sivakumar [1], R.Sacithraa [2], T.Arvind [3]

[1,2,3] Assistant professor,
Department of Electrical and Electronics Engineering,
K S R Institute for Engineering and Technology,

Abstract— **The technology evaluation, and also in the same way increase in population and rapid industrialization and for some development projects there will be electricity demand. To reduce these issues, deployment of microgrid in power system is one of the best ways to compensate the energy demands. If any fault occurs in the utility grid, the grid connected microgrid will also get affected. Due to the low equivalent inertia of the microgrid, rate of change of frequency of the islanded microgrid is very high which make microgrid sensitive to disturbance during transient in the system. A grid connected microgrid suffers a severe stability issues during a fault in utility grid. Due fault in the microgrid, the frequency change in the microgrid is very high which makes the microgrid sensitive to disturbance during transient in the system. The main purpose of this paper is to analyze transient stability of the microgrid. For easy understanding the microgrid system was analyzed and the simulations are performed in ETAP (Electrical Transient Analyzer program) software.**

Keywords— **ETAP, Intelligent load shedding Islanding, Microgrid, Transient stability, Under frequency load shed.**

I.INTRODUCTION

A microgrid is a trending small scale power system comprising of distributed power generation, load and it can also be an integrated energy system consisting of loads and distributed energy resources in power storage. Microgrid technology can effectively integrate the advantages of distributed generation, and also provide a new technical way for large scale application of grid-connected generation of new energy and renewable energy. Microgrid can not only enhance the efficiency of energy cascade utilization, but also be used as an effective complementary of power grid and improve the reliability of power supply and power quality. It is one of the latest cutting-edge research topics in the field of electrical engineering. It is also an effective way to solve the grid connection problem brought by the large number of DG.

The power quality is a very important issue in a microgrid because it directly affects the operation of a microgrid. It can create efficiencies in many ways. For instance, using cogeneration to serve balanced electric and thermal loads, it can also achieve generation efficiencies above 80 percent compared to around 30 to 50 percent for conventional generation. In addition, including renewable energy allows microgrid to undertake efficient and flexible hybrid generation operations. By using thermal and electrical storage to manage time of use of imported electricity and fuel, microgrid help moderate power prices by efficiently shifting load to times of lower demand and pricing. Building temperatures generally move slowly, and by

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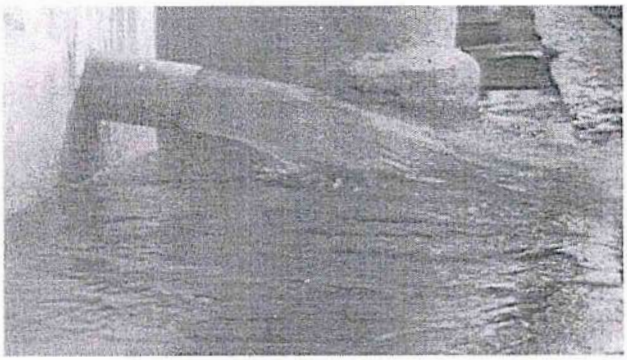

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Abstract— **The technology evaluation, and also in the same way increase in population and rapid industrialization and for some development projects there will be electricity demand. To reduce these issues, deployment of microgrid in power system is one of the best ways to compensate the energy demands. If any fault occurs in the utility grid, the grid connected microgrid will also get affected. Due to the low equivalent inertia of the microgrid, rate of change of frequency of the islanded microgrid is very high which make microgrid sensitive to disturbance during transient in the system. A grid connected microgrid suffers a severe stability issues during a fault in utility grid. Due fault in the microgrid, the frequency change in the microgrid is very high which makes the microgrid sensitive to disturbance during transient in the system. The main purpose of this paper is to analyze transient stability of the microgrid. For easy understanding the microgrid system was analyzed and the simulations are performed in ETAP (Electrical Transient Analyzer program) software.**

Keywords— **ETAP, Intelligent load shedding Islanding, Microgrid, Transient stability, Under frequency load shed.**

I.INTRODUCTION

A microgrid is a trending small scale power system comprising of distributed power generation, load and it can also be an integrated energy system consisting of loads and distributed energy resources in power storage. Microgrid technology can effectively integrate the advantages of distributed generation, and also provide a new technical way for large scale application of grid-connected generation of new energy and renewable energy. Microgrid can not only enhance the efficiency of energy cascade utilization, but also be used as an effective complementary of power grid and improve the reliability of power supply and power quality. It is one of the latest cutting-edge research topics in the field of electrical engineering. It is also an effective way to solve the grid connection problem brought by the large number of DG.

The power quality is a very important issue in a microgrid because it directly affects the operation of a microgrid. It can create efficiencies in many ways. For instance, using cogeneration to serve balanced electric and thermal loads, it can also achieve generation efficiencies above 80 percent compared to around 30 to 50 percent for conventional generation. In addition, including renewable energy allows microgrid to undertake efficient and flexible hybrid generation operations. By using thermal and electrical storage to manage time of use of imported electricity and fuel, microgrid help moderate power prices by efficiently shifting load to times of lower demand and pricing. Building temperatures generally move slowly, and by

ELECTROCOAGULATION RECTIFIER FOR WASTE WATER TREATMENT

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Abstract—**Electrocoagulation has become a rapidly growing area of wastewater treatment due to its ability to remove contaminants that are generally more difficult to remove by filtration or chemical treatment systems, such as suspended solids, dye, oil, heavy metals, and refractory organics. Environment Sector has shown a largely growing interest in the treatment of different types of dyeing wastewater by electrocoagulation. It has recently attracted attention as a potential technique for treating industrial effluent due to its versatility, treatment efficiency, low cost and environmental compatibility. The aim of the present study is to review the mechanism, factors responsible and application of the EC technology of industrial dyeing waste water and removal of pollutants and dye from surface and potable water. In this process electrode, initial dye concentration, direct current is used as materials. The treatment efficiency of EC depends on various factors i.e., choice of electrodes, material, electrodes distance, arrangement of electrodes, operating current density, electrolysis time, PH of the solution, temperature, and industrial dye.**

Keywords—. **Electrocoagulation, filtration, stabilization, Rectification.**

I. INTRODUCTION

I. A. Problem

Waste water management is biggest concern in nowadays industry reduce their dye waste water (Figure 1) at nearby river and oceans bodies resulting in health and hygiene disturbance for human and marine life but the same waste water has an enormous potential of being turned into wealth. Electrocoagulation has become a rapidly growing area of dye waste water treatment due to its ability to remove contaminants that are generally more difficult to remove by filtration or chemical treatment system, such as emulsified oil, total petroleum hydrocarbons, suspended solids.

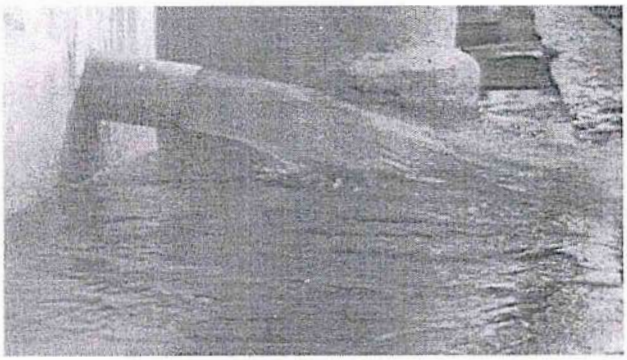

Figure 1Dying waste water

II. ELECTROCOAGULATION

Electro coagulation (Figure2) is the process of destabilizing suspended, emulsified or dissolved contaminants in waste water by introducing an electrical current into the medium. It utilizes direct current

ANALYSIS AND ENHANCEMENT OF TRANSIENT STABILITY IN GRID CONNECTED MICROGRID

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Abstract— **The technology evaluation, and also in the same way increase in population and rapid industrialization and for some development projects there will be electricity demand. To reduce these issues, deployment of microgrid in power system is one of the best ways to compensate the energy demands. If any fault occurs in the utility grid, the grid connected microgrid will also get affected. Due to the low equivalent inertia of the microgrid, rate of change of frequency of the islanded microgrid is very high which make microgrid sensitive to disturbance during transient in the system. A grid connected microgrid suffers a severe stability issues during a fault in utility grid. Due fault in the microgrid, the frequency change in the microgrid is very high which makes the microgrid sensitive to disturbance during transient in the system. The main purpose of this paper is to analyze transient stability of the microgrid. For easy understanding the microgrid system was analyzed and the simulations are performed in ETAP (Electrical Transient Analyzer program) software.**

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WIRELESS ENABLED BAND AS AN ALTERNATING SYSTEM FOR PATIENT SUPERVISOR

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***Abstract*—In the recent development of, Internet of Things (IoT) makes all objects interconnected and it has been recognized as the next technical revolution. Some of the applications of the Internet of Things (IoT) are smart parking, smart home, smart city, smart environment, industrial places, agriculture fields and health monitoring process. One such application is in healthcare to monitor the patient health status Internet of Things (IoT) makes medical equipment more efficient by allowing real-time monitoring of patient health, in which sensor acquire data of patient's and reduces the human error. As a result, this paper describes a system to solve a healthcare problem currently society is facing. The firstly beings with detection of patient's Health using sensors and sending data to cloud storage and further the data is to analyzed, if any abnormalities occur alert is sent to the patient supervisor. Health monitoring for active and assisted living can use the IoT advantages to improve the patient's lifestyle. In this paper, I have presented an IoT architecture customized for healthcare applications. The aim of the project was to come up with a Wi-fi enabled band for an alerting system for patient supervisor that can be made with locally available sensors with a view to making it affordable if it were to be mass produced. Hence the proposed architecture collects the sensor data through Node MCU, and the data stored in cloud where it is processed and analyzed for remote viewing. Feedback actions based on the analyzed data by the patient supervisor if any abnormalities observed then, it can be sent to the doctor through Emergency Call and/or SMS alerts in case of any emergencies.**

I INTRODUCTION

Wireless health monitoring system or emergency alerting system involves monitoring of patient's vitals and triggers the supervisor wirelessly. The inclusion of telecommunication devices in health care helps all evirate the difficulty experienced by the medical experts in monitoring multiple patients simultaneously. It enables them to observe patients without having to be physically present at their bed side, be it in the hospital or in their home. But there is no improved technology to help the patient super-visor whenever the abnormalities that happens to the respective patient. Wide variety of sensors are used in the devices to monitor the patient vitals ranging from heart rate, body temperature,oxygen saturation etc. The deployment of wireless alerting system may reduce the sleeping death rater rapidly

II LITERATURE REVIEW

Daily monitoring of health condition at home is important for an effective scheme for early diagnosis, treatment, and prevention of lifestyle-related diseases such as adiposis, diabetes and cardiovascular diseases. While many commercially available devices for home health care monitoring are widely used, those are cumbersome in terms of self-attachment of biological sensors and self-operation of them. From this viewpoint, we have been developing a non-conscious physiological monitoring system without attachment of any sensors to the human body as well as any operations for the measurement. We developed some devices installed in a `toilet, a bath, and a bed and showed their high measurement precision by comparison with simultaneous recordings of ordinary biological sensors directly attached to the body. To investigate that

TOUCH FREE INTELLIGENT MEASURING TAP

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Abstract—Theevolution of technology in the automation field helps the development of touch free equipment which are needed in various field during this current pandemic period .In most of all places like stationery, milk bank needto dispense the liquid from the container according to the customer needs like milk, kerosene and oil be measured , It leads to the quantity of the liquid is reduced due to human error human error occurs and man work be needed .This paper describes the design and development of low costand touch free automatic liquid dispensing which supplies required amount of liquid .The smart tap system is used to turn over liquid from source point usage point in an efficient way and avoids human error. The proposed system using the wifi enabled nodemcu it can operate through smart phone.The proposed system can deliver a liquid accurately according to our needs which can be given through the smart phones in addition to this the amount of liquid and cost be sent to the respective customers through the message.

Keywords—*Node MCU,Water pump, keypad, Relay.*

I. INTRODUCTION

The touch free intelligent liquid measuring tap is a modern approach to the conventional liquid dispenser. To reduce their work and time in such kind of smart things we go with automation. The automation provides the advantage of improving productivity and quality wise reducing waste, increasing safety and adding flexibility to the manufacturing process.

In automation yields increased safety and adding flexibility to the manufacturing process/In automation yields profitability. It also provides cost savings through making process regular and collecting data for making confident decisions. The automation also applied in tap also.

The taps are much important for controlling the flow of liquid as well as saving the time too. Again,with the changes in technology, the designs of the tap have also changed to a great extent. The traditional screw taps are now replaced with advanced taps that works on infrared, electrical or even batteries. Not only the types but the materials they are made fromhave also changed to a great extent while looking for advance improvement in them. We can make the dispenser handy and user friendly by giving it an electronic touch. We can make use of the technology and make machine far advanced than its counterparts. In case use of the flow sensor there occurs a problem which cannot deliver a liquid accurately.

II. LITERATURE REVIEW

The automatic water dispenser [19] is an electromechanically operated valve. It is controlled through electric current through a solenoid. Fluids are generally controlled by using this solenoid valves. In the existing system, the liquid will be dispensed when the object is being placed under the tap with the help of proximity sensor but in which it cannot be measured and it help the

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Smart bi-facial solar inverter with effective charging system

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ABSTRACT

Generating and sustaining energy is an essential part of the modern technological age. The role of the solar in creating energy is very important one. This paper mainly represents the effective utilization of solar power and reducing power consumption for house hold appliances. A Solar bi-facing panel, an effective charging system and power consumption algorithm are the requirements for accomplishing this task. Mainly we can monitor the power consumption and its reductions using IoT module through mobile. The main advantage in this method is whenever sufficient output power received from Solar panel that will be used for maximum charging of the battery. The effective charging system which was controlled by microcontroller, increases the life time of the battery is an added advantage. Controller, updates the analysed data frequently to IoT cloud through IoT gateway.

Selection and peer-review under responsibility of the scientific committee of the Emerging Trends in Materials Science, Technology and Engineering.

1. Introduction

World widely the solar power installations extending up to 629 Gigawatts of power and its growths increasing strongly by every year. Most of the peoples install rooftop solar panels at home to reduce the power consumptions. Because of this more research's developing the system to use solar energy effectively. In this paper, a typical home-based bi-facial solar inverter with an effective charging system contains a pulse width modulation technique to charge the battery periodically by three different duty cycles. This charging mechanism used to avoids the overcharging and full draining of the battery. So it increases the lifetime of the battery and avoids unnecessary repairs. The second thing, utilizing the battery power for home appliances in periodic rotation to reduce power consumption. And the third one, an indication of solar voltage level, battery voltage level, the power consumption of appliances through EB (conventional electric supply), power consumption through solar, and how much of power saved are these data's updated to the cloud via IoT module and it viewed by the user through mobile phone.

An algorithm developed to control the battery charging through the PWM technique determines the effectiveness of battery charging and utilization of a bifacial solar array. And the second algorithm developed to utilize the saved battery power up to 50 percent of the battery power level. These special algorithms can enhance the ability to maintain the health and extend the lifetime of a battery.

2. Existing methodology

A microcontroller-based grid-tied solar inverter developed for higher DC to AC conversion efficiency using the PWM technique. In this inverter design, a PWM signal modulated with grid voltage and filtered by the capacitor circuit to get an efficient AC signal with the help of PIC16F88 microcontroller [1]. A single-phase solar inverter technique designed for low cost, low harmonics voltage source using 16F628A controller. It generates a 4 kHz PWM switching signal for efficient voltage conversion used for low power electronic appliances [2]. A solar energy monitoring system using IoT

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An improved two-way secure key supervision (tsks) scheme for secure scada

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Two-way Secure Key Supervision (TSKS)
Lamport's Hash Chain
Industrial Control Systems (ICS)

ABSTRACT

Supervisory Control Data Acquisition (SCADA) systems are mainly designed for industrial purposes. Providing security to SCADA is a more challenging and demanding task in network security. Thus, this paper proposes a new scheme: Two-way Secure Key Supervision (TSKS) is proposed to provide high security to SCADA. For this purpose, the Wireless Sensor Network (WSN) is integrated with the Mobile Ad-hoc Network (MANET). Generally, the SCADA system used in Industrial Control Systems (ICS) is more prone to detect hostile users' attacks. Hence, it requires safety, product quality, real-time response, reliability and fault tolerance in emergencies. The SCADA targets secure power grid estimators used to travel power streams and locate defective centers. Here, the attack resistance of SCADA is increased with the help of TSKS mechanisms. In addition, the Lamport's reverse hash chain algorithm is also used in this work to provide more privacy. The main advantage of this paper is that the proposed TSKS effectively increases the SCADA security and reduces external attacks' possibilities.

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1. Introduction

In the fields such as water and power delivery, Supervisory Data Acquisition (SCADA) systems are used in various industrial control systems. When combined with new wireless technology[21] and the internet, these control systems are vulnerable to numerous defense challenges and attacks. The key goal of SCADA [1,2] is to converge data from field instruments, output data, present warnings to a human operator, and include real-time statistics. In general, managing processes in real-time is not censorious since the automatic control systems are seen to respond in real-time automatically. In the event of a malfunction, this sort of device permits an operator to survey details or problem controls. It monitors data from remote devices and transmits them via communication networks to control centers. Fig. 1 illustrates the SCADA general architecture. The low-powered sensor nodes of WSNs [3] are used to sense the information and process it and forward it to an efficient base station (BS). The BS routes the information to the SCADA network, and the flexibility of the SNs goes beyond typical retrieval and includes warnings and disruptive alarms. In this case, connectivity requirements allow co-existence with other communication networks such as MANET [4].

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of the SNs goes beyond typical retrieval and includes warnings and disruptive alarms. In this case, connectivity requirements allow co-existence with other communication networks such as MANET[4].

It provides alternative communication between the operators and the remote substations. The MANET [5] requires the followings for providing security:

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Connected vehicles using Internet of things

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ABSTRACT

In This paper we are going to design and create the low cost connected vehicle communication module and establish the network between the Vehicles-to- Vehicles, Vehicles-to-Infrastructure, Vehicles-to-Services centre. It creates the machine-to-machine (M2M) that facilitates the data transfer between the nodes in the network. It uses the standard AES128 bit encryption formats for data transfer to ensure the user privacy.

Terms– *Vehicles-to- Vehicles(V2V), Vehicles-to-Infrastructure(V2I), Vehicles-to-Services centre(V2S), machine-to-machine(M2M).*

1. INTRODUCTION

The usual road transport system there is no direct vehicles to vehicle communication system with the defined unit of the radius. It will leads to the congestion the road at peek hours and another hand if there is any accidents happens in ahead of vehicle's path it will give clear intimation to this users. It will direct assistance to the advanced driver assistance system to take better decisions. This decisions both combination's of autonomous vehicle and human interactions. both are consider in order to makes better decisions but make

I.Vehicle to vehicle communication:

In this paper we will see directly how to communicate with the to two vehicles through wirelessly. This system uses the ZigBee Modules to transfer the data between the car which is low power consumption and same time it will communicate over long distance. ZigBee's standard is IEEE 802.15.4. It will uses the unlicensed bands like 900 MHz, 868 Mhz, 2.4 GHZ. We can able to configure up to 200K Devices in this network. Each devices have coverage range of up to 1.3 Km in their line of sight. The processed information transferred through the ZigBee wireless with the Data-rate of 256Kbps. If cars enters into the another cars location and that automatically connected to the network simultaneously and starts transferring the data direction (Uploading and downloading).

II. Vehicle to infrastructure :

This module establishes the direct communication link between the car and infrastructure such as the Cloud and Service Centres, Mobile nodes. It uses the LTE communication module to establish the connection between the vehicle and the internet through the internet it will data reaches the cloud data centres. here it all the data obtained from the vehicle are processed and analysed to produce the consolidated results. Advanced analytic facilities used to convert the raw data into usable infographics. This processed data can be used for the better predictions like vehicles health report it includes how much continuity vehicle maintained last services date and services report, what are damages are occurred in the last few months these data are stored in the cloud

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SOCIAL NETWORK FOR LAND RENTING WITH GREEN REVOLUTION

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ABSTRACT

The main aim of the project is acting as an intermediate for both farmers and land providers. This project is a web application designed using ASP.Net as front end and MS SQL as back end. The coding language used here is VB.Net . The project helps to identify the persons who are ready to provide land as well as willing to make tree plantation. The administrator options in the web site help to approve both kinds of users for their further activities. Only after the approval they can login and provide details. The administrator can track all the land posted by land owners. Various reports such as available lands, land providers, requests raised by farmers and approved requests can be generated. Thus the web site helps to improve the environment in an efficient manner. This web site helps farmers and land providers to communicate effectively. The web application which is developed to improve the environment resembles the activities of non-profit organization. The web site administrator, land providers, crop providers and cultivators are the end users of the site. The environment condition will improve through the efforts and cooperation of the end users by reducing the environmental pollution through cultivating lands.

Keywords : *Web application, Land renting, Farmers and owners.*

I. INTRODUCTION

There are a lot of reasons for the introduction of a new computerized system. Since the data to be handled is more, manual record maintenance became a time-consuming one especially generating the reports. To overcome the above difficulties, a system is required so that the problems may not be happening. The computerized system now reduces the risk and time involved in the tree cultivation. The easy menu-driven web pages make the land provider and tree planter entries; the land providing request and the tree planting become easier than the old system. The reports can be viewed with less or no effort. The report preparation methods are simple. Generations of various reports like providers details, lands available can be generated easily. The web site provides them with a good user interactive environment.

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CLASSIFICATION ALGORITHM BASED MENTAL HEALTH PREDICITON USING DATA MINING

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ABSTRACT

Mental Stress Predicition is the popularity and ease of use of social networking services have excited institutions with their potential in a variety of areas. However effective use of social networking services poses a number of challenges for institutions including long-term sustainability of the services; user concerns over use of social tools in a work or study context; a variety of technical issues and legal issues such as copyright, privacy, accessibility; etc. Institutions would be advised to consider carefully the implications before promoting significant use of such services. That's Why we are Developing it.

Keywords : *Predict the Mental Health of a person.*

1. INTRODUCTION

With the explosive growth in popularity of social networking and messaging apps, online social networks (OSNs) have become a part of many people's daily lives. Most research on social network mining focuses on discovering the knowledge behind the data for improving people's life. While OSNs seemingly expand their users' capability in increasing social contacts, they may actually decrease the face-to-face interpersonal interactions in the real world. Due to the epidemic scale of these phenomena, new terms such as Phubbing (Phone Snubbing) and Nomophobia (No Mobile Phone Phobia) have been created to describe those who cannot stop using mobile social networking apps. Today, identification of potential mental disorders often falls on the shoulders of supervisors (such as teachers or parents) passively. However, since there are very few notable physical risk factors, the patients usually do not actively seek medical or psychological services.

2. METHODOLOGY

INPUT DESIGN

Input design is the process of converting user-oriented inputs to a computer-based format. The quality of the system input determines the quality of system output. Input design determines the format and validation criteria for data entering to the system.

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Fashion Data Processing using Machine Learning

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Abstract

In this paper, a new framework for Fashion design and try-on simulation based on ACGPN is presented. Users can not only gain realistic try-on experience, but also design the Dress all on their own. The design approach of this system consists of three major parts. First, collect relevant information from the camera and identify the position of the clothes. Second, process the retrieved data and modulate the color of the clothes with folds and shadows remained. Third, place built-in or user-designed pictures onto the clothes and simulate their deformation while the user moves arbitrarily. In comparison with existing virtual clothes fitting systems, our system provides the flexibility of designing customized pictures on the Dress with realistic virtual try-on simulation in real-time.

I. INTRODUCTION

In the past, customers could only decide to buy clothes or not on 2D photos of garments when shopping online. Customers could not know whether the clothes fit them well or whether the clothes look good on them until they got it. This may substantially reduce the willingness of customers to purchase apparel online. Therefore, online sales of Apparel & Accessories, a product type for which customers' desire to feel and try on items before making a purchase, was traditionally regarded as a deterrent to online shopping. However, as some improvements such as free returns and innovative visualization tools have been used, online sales of Apparel & Accessories have gradually become a success. In recent years, the Internet has emerged as a compelling channel for sale of apparel. Online Apparel & Accessories sales exceeded $34 billion in 2017, and are expected to reach $73 billion in 2021.

One of the most well -known visualization tools may be virtual try-on systems (or virtual fitting room). Through these systems, customers may have more realistic feel for the details of the garments. Currently, a variety of different kinds of virtual try-on systems is presented, which will be discussed later in Section II. All of them could simulate what we look like as if we are wearing the clothes to some extent. Nevertheless, they all face the same problem that the results are not real enough. Some systems may not fit clothes on users well, and some may not react to users' motion in real time. In order to solve these problems, we present, Try-On System.

Different from the existing methods, it comes up with some brand-new ideas. It not only retrieves users'body information, but also records many useful clothes information, such as the lightness of the cloth. Through the

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ADVANCED CCTV CAPTURE AND REPORTING SYSTEM

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ABSTRACT

A main objective of the project is focused on the work done in the way of tracking and detecting images in the way of mail conversation because of particular location fix an CCTV that only taken videos and require hard ware's so that kind of properties not used so that part of things. In this kind of project used lot of areas like hotels, malls, theaters, and more places or areas needed now a generation and lot of things updating similarly algorithm also. Nowadays problem were create in so many places even though fix a CCTV somebody was theft or broken that time we decide some strategies for this generation. Mail conversation is help us to identify the object in the manner of framing concept

I. INTRODUCTION

Identification and Tracking of objects is an important factor in analysis of video in a surveillance system. It provides the extraction of the information from frames and video sequences which can be multiple processor vision applications for example, CCTV based surveillance, understanding an activity in focus, analyzing flow of traffic, classifying and tracking an object. This exhibits that identifying and tracking an object is an important field of research in computer vision and its applications in various surveillance systems. CCTV based surveillance has become a demanding technology due to increase in terrorist threats, increase in public\private safety concerns, increase in crime rate, efficient management of public properties and various modes of transportation. Past work in the field of 'Video Surveillance', have presented various different methods. In real word scenario alarm generation in a tracked/traced event is dependent upon accuracy of these proposed models on various researches. The most accurate methodology developed has an accuracy rate of more than fifty percent; this method does a two phased background detection using parametric method, for optimum results. Also it employs background elimination method so as to reduce processing load

II. HEADING

In my journal topics are I. Introduction, III Modules, IV Proposed System, V Existing System, VI Block Diagram, VII System Testing and Implementation, VIII Conclusion, and XI Reference

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ONLINE EXAMINATION SYSTEM WITH ADVANCED MONITORING AND DIAGNOSIS USING PREDICTIVE LEARNING ALGORITHM AND NLP TOOLKIT

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ABSTRACT

An intelligent open source online examination system, that can integrate other pre existing examination systems for monitoring and tracking activities at the background

this online examination system can contain Multiple Choice Questions, image question, 2 mark question with the random pick from a set of question for setting distinct question paper. The use of AI and python for Auto correction of answers, extracting keywords, translating speech and phrase matcher The system uses advanced live monitoring system with face detection, noice detection, gadget on screen and Reports to the students through a voice alert and reports navigation, malpractice, other activities to the proctor.Reports are classified into two for marks and proctoring.

Keywords : *Artificial Intelligence, AI Proctoring.*

1.INTRODUCTION

An intelligent open source online examination system, that can integrate other pre existing examination systems for monitoring and tracking activities at the backend, the system is built to be compatible with any web browser and mobile. The intelligent system is built with predictive learning algorithm for live monitoring from remote and Gathering report on monitoring at the server end. The proposed system has additional features that can be added according to the requirements of the client. The AI algorithms such as NLP Toolkit, Spacy and python are planned to be used for processing the answers in our own system. The external online exam system can be integrated and monitored with the reports. There is a voice assistant for students to provide alert. This system is planned to have Speech to text and text to speech for improving the communication and moderate grammar correction techniques (out of Scope.

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A Hybrid model for load balancing in cloud using file type formatting

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ABSTRACT

Nowadays, cloud computing is playing a significant role by providing on-demand services on a pay as you go basis.

The service models like SaaS, PaaS, and IaaS are being exploited by the vendors for the provision of quality services which has shown huge growth (21.5 % approx.) in public cloud computing markets during the last five years.

This QoS provision also involves other internal and external factors such as environmental issues, economy, sustainability, performance, energy consumption, development of new policies and techniques.

This means that cloud computing success is highly dependent on efficient supported polices and intelligent decisions by the vendors and consumers.

I. INTRODUCTION

Nowadays, development of searching technology provides learners a new way to break free with the more traditional educational models by exploring ways in which Web-based could adapt their behaviour to the goals, tasks, interests, and other characteristics of users. In response to individual needs, personalization in education facilitates students to learn better by using different strategies to create various learning experiences. In recent years, one of the new form of learning personalization that has been expressed as a need by several studies is to give recommendations for learners in order to support and to help them through the learning process.

Indeed, recommender systems are becoming increasingly important in various interesting application domains such as e-commerce, e-entertainment, e-health and other domains. The aim of the first Recommender Systems (RSs) is to provide useful suggestions for users (books, movies, products, etc.) among their preferences and the other similar users. In summary, recommendation strategies can be divided into three major classes: the content-based recommendation, the collaborative-based recommendation, and the hybrid-based recommendation.

Nowadays, cloud computing is playing a significant role by providing on-demand services on a pay as you go basis.

The service models like SaaS, PaaS, and IaaS are being exploited by the vendors for the provision of quality services which has shown huge growth (21.5 % approx.) in public cloud computing markets during the last five years.

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ADVANCED E-COMMERCE SITE FOR SHOPPING

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ABSTRACT

The replacement of traditional shopping fashion by the various modes of online shopping in real-time. Because of traditional shopping, most of them are getting into real feel about the product whichever they buy. The product features will be manually realized by the consumers whereas in online shopping all the consumers believe the descriptive summary of the products and the various factors based on the sold historical data. Now a day's modern shopping method is moving gradually towards hitting more number of customers. Here recommendation system playing a vital role in suggesting the product by considering the earlier records and increasing the demand. Many of the consumers are attracted by factors like deals on an item, rating, review, and cost of the product. Through these factors, most of the consumers are attracted to taking online shopping instead of traditional shopping methods.

I. INTRODUCTION

The current management system is manually system which records the information of staff and supplier, stock record, and sales report in paperwork. Furniture Management System and to provide a good storage and retrieve data information in this furniture management system. Furniture is the soul of a house it gives a sense of fulfilling of needs. Types of furniture are of many designs and categories.

The proper fitting at the right place is also a matter of concern while choosing the furniture. It should be taken care that size of the room and the size of furniture align with each other. Sometimes furniture is available prepared one can go and buy and order. On the other hand, sometimes want some furniture want to customize according to a choice. In this case, the user can give his customized item's description, dimensions and other feature. Further, process will be provided dates of completion of the order. Now admin analyzes the order and takes the according to that assigned. Description is forwarded to them such that they can start with the preparation of the furniture. As the order completes it is given to the user.

A retail manager (or store manager) is the person ultimately responsible for the day-to-day operations (or management) of a retail store. All process in the store report to the retail/store manager.

The thesis is discussed on how this furniture management system to be implemented, the tools and programming

The replacement of traditional shopping fashion by the various modes of online shopping in real-time. Because of traditional shopping, most of them are getting into real feel about the product whichever they buy. The product features will be manually realized by the consumers whereas in online shopping all the consumers

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Designing and Implementation of Multilingual Lexicography

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Abstract - Our proposed system is a multilingual lexicography that will be really helpful for the students and also peoples. It overcomes the disadvantage of checking the books for the search of answers for their doubts regarding to the language of the word. Our proposed system is that they can ask the meaning of the word and get the meaning in different set of languages. This system can be utilized by students, peoples or any other groups which helps in knowing the words.

Our services division is focused to deliver the right level of sourcing to achieve the goals. Our focus is to co-source and develop in partnership with peoples and others to provide the right solution of data process. They can access the webpage of the process from anywhere and access the server based data to get their meaning of the words on the different language of words which by choosing the language.

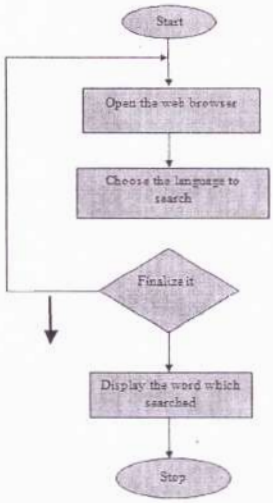
1. INTRODUCTION

A dictionary is a reference book on any subject, the items of which are arranged in alphabetical order. It is a booklists the word so language in alphabetical order and gives their meaning. The project is designed with the aim of creating a dictionary which includes options with multiple languages. In addition, an image can be added so that when viewing the meaning, the image also displayed. Today more than ever be for successful implementation of information technology is complex due to rapidly evolving needs and then to integrate with an ever growing information technology as set pool. Confronted by this situation, we strive to be a learning organization committed to challenging norms and improving our offerings with a single goal: to provide the people with the best possible value with the right return on time of the work they doing on the process. Leveraging the expertise and experience of our people, the right technology and right best practices.

Our focus is to co-source and develop in partnership with people the right solution. Working closely with people, we determine the right sourcing level required at each iteration in the project life cycle and support the people for searching anywhere, offsite, near shore and offshore. By varying our on-site through offshore presence throughout the project life cycle we provide greater value while overcoming the inherent problems in a project and in a client-vendor relationship. Leveraging our proven industry leading methodology we have successfully produced solutions including analytical solutions to facilitate financial decision making, electronic communication networks, collaboration management platforms, clinical research solutions, complex scheduling and logistics solutions and more.

2. OBJECTIVES

The project is designed with the aim of creating a dictionary which includes options with multiple languages. In addition, an image can be added so that when viewing the meaning, the image also displayed so the user can easily identify the things and word by seeing the boxes of it display.



3. METHODOLOGY

The layout and interfaces in this interactive application is simplified for the ease on the part of user launching of the web browser, the client and others can choose the language. And the user can access the data of process by server process in the Browser of data.

When the user choose from one of the languages, it will be directed to the page to confirm whether the language you

PRINCIPAL

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AUTOMATING ONLINE PROCTORING SYSTEM

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ABSTRACT

In this pandemic situation of Covid-19, online remote has blossomed. All the schools and universities have been shut down and they were switched to online applications to finish their academic activities. However, there has been a great trouble in conducting examinations. Some institutions have moved it to an assignment form where students can just copy and paste their answers from the internet. If it is the way we are living is to be the new norm there needs to be some solution. Allowing students to take exams from home through online where they will be monitored by a proctor for the whole duration of the exam was quite difficult. Further implementing this process at a large scale will not be plausible due to the workforce required. To overcome this problem, we have created an AI in python which can able to monitor the students using their laptop or system webcam and microphone itself and would enable the invigilator to monitor multiple number of students once at a time. Our AI have four vision-based capabilities which are integrated using threading so that they can work together. The four capabilities are Gaze tracking, Mouth open or close, Person counting, and Mobile phone detection. Other than that, the speech from the microphone will be recorded, converted to text, and compared to the text of the question papers of the exam to report the number of common words spoken by the test taking student individually.

Keywords: *Online mode, to avoid cheating, vision-based capabilities, using python webcam monitor*

I. INTRODUCTION

In this digital world, everything has become digitalized and people were start migrating to the world of automation. All a sudden, the Covid-19 has made a great impact on everybody's life. Especially students were affected lot. They were meant to stay in the home and continue their studies through online mode. For monitoring the students activity every teachers and their school/university managed has gone through lot of approaches and find their own comfortable platforms to educate the students through online.

Process:

However, for conducting online exams, they arranged one meeting link via Google meet app, Microsoft teams app etc., by using the link students were able to logged in and the questions were displayed by the admin of the meet, by watching them, students could write the answers. At the time of examination, the invigilators were assigned to every student to monitor their activities to not to be copied answers from books, internet or by asking their friends.

Problem:

It was great difficult to monitor students for the entire scheduled timing of the examination. Despite the fact that there are already electronic proctoring tools that seek to guarantee the quality of the evaluation process without requiring the physical presence of the student in a specific place or the union of the students and the examiner in

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E-PLACEMENT ACTIVITY MANAGEMENT SYSTEM

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ABSTRACT

This paper is about an innovation that gives fast position movement the board framework in school dissimilar to the customary framework where understudies just as TPO may deal with numerous issues like inadequate subtleties, less security, issues with manual working and so forth The motivation behind the E-Position Action The board Framework site is to beaten the detriments of conventional situation framework. It empowers the end clients to enroll online through their CPASys (College Placement Activity System) account which is a site of school made for knowing the action of position, organization necessity and so forth, peruse and apply for their preferred organization and get regular reports with respect to the situations from school TPC. There is zero chance of passing up on the situation opportunity refreshes. The school position organizer won't need to get the independently gather data of each understudy. It will naturally be refreshed when the understudy registers. The venture is fundamentally a site which can be effortlessly gotten to through versatile in a hurry.

Keywords: *Authentication, CV, Coordination, SMS Joining, Secure.*

1. INTRODUCTION

These days significance is given to the remote innovation and powerful framework. PCs and innovation have become part of our life for getting to nearly all that we fundamentally do. Life currently is brimming with crucial mechanical headway and in this innovative period it is hard for any association to make due without innovation. The Internet contributes massively to the formation of a steadily expanding worldwide data information base. It could likewise be utilized as a framework to share data inside an undertaking. E-Arrangement Movement the board framework helps the preparation and situation facilitator to conquer the trouble in tracking hundreds and thousands of understudies and scanning the qualified understudies for enlistment, in view of different qualification rules of various organizations. It helps in successful and proficient usage of the equipment and the product assets. The facilitator will make their records and the director will acknowledge or dismiss their solicitation. In view of the endorsement from chairman the understudies will be permitted to continue further. The understudies will at that point enter their subtleties which will be affirmed by director. When endorsed, the understudies will get told on each update from TPC. They can likewise change their secret word and subtleties if vital in future. This gives speedy visual affirmation of safety and ensures that repetition won't be permitted, truth be told, what was proposed. Our proposed framework is essential to use in Universities for better Administrations in Situation.

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MULTI PURPOSE METRO RAIL LINE SYSTEM

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ABSTRACT

In the fast forward world of technology, Everyone is running behind the mobile application and they need all the information on the mobile phone itself. Nowadays the Mobile application users have increased and it equals the population. So Data Storage also is increased and maybe occurs some data traffic in the cloud storage. So we can move with priority wise data storage to reduce data traffic. The application had offloading the data to the mobile device for storing the data to the cloud. The application has performed a new task or existing task has required the mobile to have individual storage for the running application. Data storage has to achieve the high-performance level and flexibility to store in the cloud datacenter. The main aim is to achieve the data prioritization which tasks performed at a time multiple data to be stored in the cloud storage with priority wise. The unprioritized data will be established and take more attention to priority wise data. The process model will be taking part in the resource allocation method. In this paper, we look at the duty assignment for the metro rail project for three metropolitan cities. Previously they wanted to follow a roaster wise shift and in case of an emergency situation also an alternate person will be allocated for the current situation. This process is only accessible by admin. In case of emergency work or person, leave means we want to search for the alternate person for that occupation. It will take too long to fix the person for that job role and anyone running takes over for that job. For running staff it will affect their mileage and they lose the increment or promotion. To fix this issue we have developed the application for the cabin office staff to book the shift or roaster update that can be assigned to the running staff through that application. This application is most useful for the cabin staff and reduces human power in the office and it will not be affected by running staff for the alternate solution. In this application, we can know about the achievements of the running staff from joining date to retirement date.

Keywords : Mobile app, MMRS, Smart Ticketing System

1.INTRODUCTION

The project to reduce the manual work in the cabin office and time consuming for the office staff. In manual work, it may raise a problem for manpower any other technical issue it may happen. This work will be affected means the entire process makes delay means delay of trains will be increased and it takes over with higher end. To reduce the manpower and work for the staff this application has implemented. In this application, office staff

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ONLINE PASTRY SHOP WITH USER SERVICE RATING

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ABSTRACT

The 0nline Shopping is a web based application intended for online retailers. The main objective of this application is to make it interactive and its ease of use. It would make searching, viewing and selection of a product easier. It contains a sophisticated search engine for user's to search for products specific to their needs. The search engine provides an easy and convenient way to search for products where a user can Search for a product interactively and the search engine would refine the products available based on the user's input. The user can then view the complete specification of each product. They can also view the product reviews and also write their own reviews. The application also provides a drag and drop feature so that a user can add a product to the shopping cart by dragging the item into the shopping cart. The main emphasis lies in providing a user-friendly search engine for effectively showing the desired results and its drag and drop behavior.SMS Joining, Secure.

1. INTRODUCTION

1.1.Goal

- Shopping has long been considered a recreational activity by many. Shopping online is no exception. The goal of this application is to develop a web based interface for online retailers. The system would be easy to use and hence make the shopping experience pleasant for the users. The goal of this application is
- To develop an easy to use web based interface where users can search for products, view a complete description of the products and order the products.
- A search engine that provides an easy and convenient way to search for products specific to their needs. The search engine would list a set of products based on the search term and the user can further filter the list based on various parameters.
- An AJAX enabled website with the latest AJAX controls giving attractive and interactive look to the web pages and prevents the annoying post backs.
- Drag and Drop feature which would allow the users to add a product to or remove a product from the shopping cart by dragging the product in to the shopping cart or out of the shopping cart.

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IOT BASED SMART DOOR HANDLE DISINFECTANT

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ABSTRACT:

In these difficult times it is an extreme need to save ourselves from various harmful bacteria and viruses which are a threat to mankind. Due to this COVID-19 situation people have become more aware of the importance of cleanliness & hygiene and have started giving importance to personal and environmental sanitation. Cleaning and disinfection helps to reduce the incidences of healthcare-associated infections. In the coming years there will be a major need for various methods of eliminating biological organisms that are harmful to health and we will need different methods of sanitation to do so. In our daily lives we come across various contact surfaces such as door knobs which have great possibility of containing harmful bacteria. Thus we have come up with a new door knob sanitizing device which can be installed in various public places which treats the door knobs/handles to make it bacteria free.

Keywords: *UV-C Light, Disinfection, Door Knob/Handle, Automation, IOT Device.*

I. INTRODUCTION:

The corona virus is spreading quickly.As concern has increased,we have seen more people washing their hands and using hand sanitizer than ever before.While there is still a lot we don't know about the new corona virus,SARS-CoV-2, History would suggest that there is probably some transmission from fomites.Every one should be washing their hands and using hand sanitizer but taking efforts to clean the things around us is also important to fight the spread of the virus.A New study suggests that the novel corona virus can survive on some surfaces upto three days,but it varies depending on the material.The study found that the virus could survive for 24 hours on cardboard and upto three days on plastic and stainless steel.It's nearly impossible to keep any thing in the real-world virus-free,But during out breaks like this one it's a good idea to try to minimize the number of viruses on fomites around us.But we do not necessarily need to kill the virus to make ourself safer .Removing the virus can be just as effective and simply washing often-used objects on our hands with soap can do that.During the corona virus pandemic,it is important to clean the objects we touch frequently,like key boards,door handles, table tops and gym equipment .Cleaning objects frequently with a disinfectant is the best way to mitigate the risk of transmission from everyday objects. Environmental cleaning and disinfection are important factors of a comprehensive strategy in order to control healthcare-associated infections, especially in crowded places where there is a continuous contact with door handles . However, studies evaluating the effectiveness of improved cleaning interventions have shown that approximately 5–30% of surfaces remain

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TECHNICAL ASSISTANT TO FARMERS BY AN INSECT DETECTOR

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ABSTRACT

In order to protect the crops from harmful insects and flies, an IOT based insect detector and defender could be developed. The device uses a sensor which detects the harmful insects and flies and after detection the transducer produces UV sound and defend it.By this product, the farmers will yield the crops in an effective manner without any losses due to harmful insects and flies.

Keywords: *Acoustic Sensor,Microcontroller,Transducer.*

1. INTRODUCTION

Agriculture is the science and art of cultivating plants and livestock.It is the key development in the rise of human civilization,whereby farming of domesticated species created food surpluses that enable people to live in cities over one third of the world workers are employed in agriculture.India is the second largest country in producing highest agricultural output but,in recent days, agriculture is getting down and the farmers are facing many problems such as inadequate of water, soil fertility and plants affected by the insects and harmful flies. In such a way, various pests (insects, nematodes) each year cause crop yield losses of 20-40%. The exact percentage of yield lossses due to insects varies a lot depending on several factors, such as time of attack and potential crop protection measures. In some cases, insects can harm the crop protection completely and cause significant losses for farmers. Furthermore,the economic impact of insects on crop production is not only measured by the cost of damage on crops, but also by the resources spent on crop insect protection. In general, pests are universally recognised threat that reduce plant yield and severe infestation can even kill plants and destroy the whole crop production. Therefore, insects represent a serious problem in food and fibre crop production. Due to this, the farmers get a great disappointment. In order to protect the cropsfrom harmful insects and flies, an IOT based insect detector and defender could be developed.

OBJECTIVES

• In order to protect the crops from harmful insects and flies, an IOT based insect detector and defender could be developed.

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E-BUG TRACKING SYSTEM

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ABSTRACT

This is the world of information. The ever-growing field Information Technology has its many advanced notable features which made it what it was now today. In this world, the information has to be processed, clearly distributed and must be efficiently reachable to the end users intended for that. Otherwise, we know it led to disastrous situations. The other coin of the same phase is it is absolutely necessary to know any bugs that are hither-to face by the end users. The project "e-bug tracking system" aims to provide the solution for that. The Bug Tracker can be made from any two types. The first one being the system side, the other being the services side. Our project deals with the second one. The paper is wholly dedicated to tracking the bugs that are hither-by arise. The administrator maintains the master details regarding to the bugs id, bugs type, bugs description, bugs severity, bugs status, user details. The administrator too has the authority to update the master details of severity level, status level, etc, modules of the paper. The administrator adds the users and assign them responsibility of completing the paper. Finally, on analysing the paper assigned to the particular user, the administrator can track the bugs, and it is automatically added to the tables containing the bugs, by order of severity and status. The administrator can know the information in tact the various papers assigned to various users, their bug tracking status, their description etc in the form of reports from time to time. The paper wholly uses the secure way of tracking the system by implementing and incorporating the Server-side scripting. The administrator can now add the project modules, project descriptions etc. He too adds the severity level, its status etc. The whole beauty of the paper is its high-level and user-friendly interface which mean that is the well based Bug Tracker which helps in tracking the whole system by providing the efficient reporting system. The Bug Tracker can be further by analysed and further relevant and quick decisions can be taken.

This defect tracking system helps to track bug. There are three modules in this tracking system, Administrator, Staff and Customer. The Administrator can login to the app and can enter the details of staff, project, view bugs send from the customers. The admin can also assign work to staffs, view bug case flow status details, send messages to customers using this bug tracking application. The staff can login to the site using username and password. Then he/she can view the bugs assigned to them. He can directly give solution message to customers or he/she can assign the bugs to other staffs if the bug is related to them.

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DISK ANALYZER

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ABSTRACT

*The project "**DISK ANALYZER** "is going to be designed using Java 1.6 as front end and Microsoft Access 2003 as back end. The project aims at analyzing and managing the disk details in the system such as total, used and free space in both text and graphical manner. Pie Charts are used to show the data. The folders and files of given drive can be viewed in tree view manner. The disk management details contain searching for setup, office documents, temp files, zero-byte files and more space occupied files can be tracked. The unnecessary files removal option is provided so that temp files, zero-byte files can be removed. The repeated files in the disk can be located with path of repeated occurrences. It is a piece of software that checks drives for space and usage and explores files and folders visually, simplifying file cleanup for identifying old or unnecessary files or downloads so that you can remove them and free up space.*

Keywords: *Drive Information, Search, Redundancy, using Java as Front End and Microsoft Access as Back End.*

I. INTRODUCTION

Disk Analyzer is going to be designed using Java 1.6 as front end and Microsoft Access 2003 as back end. The project aims at analyzing and managing the disk details in the system such as total, used and free space in both text and graphical manner. Pie Charts are used to show the data. The folders and files of given drive can be viewed in tree view manner. The disk management details contain searching for setup, office documents, temp files, zero-byte files and more.

1.1 Drive Information:

The drive information module contains extracting information such as total drive space, used space, the disk type such as fixed or removable. The disk' percentage of total space, used space is displayed in pie chart format. The folders information includes selecting the drive, displaying all folders in that drive. The folder if selected displays the file information, path and name of the file.

1.2 Search:

The search module contains options search setup files, presentation, excel workbook, MS-access databases, pdf files, temporary files and zero-byte files. The temporary and zero-byte files can be deleted if not required.

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DRIVER DROWSINESS DETECTION AND VEHICLE DIAGNOSTICS USING IOT

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ABSTRACT

Drowsiness is identified using eye blink count. The alcohol consumption is also verified during the starting process of the vehicle. Drunken driving is prevented. Continuously temperature monitoring. Eye blinks count and alcohol detection using IOT, buzzer indication if driver is not wearing seat belt. Motor controls the fuel tank for drowsy person to prevent accident. GPS location indication and SMS alert in case of accident.

Keywords: *drowsiness, Eye blinks,consumption,detection.*

1. INTRODUCTION

The Growing no of fatal accidents due to drivers negligence or not following safety precautions makes it necessary to develop a system which ensures safe driving which will in turn ensures safety of driver as well as co passengers. A system which will start ignition only if the driver passes test for driver authentication, alcohol consumption and seat belt. The driver will be allowed to start ignition only after he validates himself while the vehicle is in motion it will capture values for speed control, it will ensures engine temperature is maintained and the touch sensor ensures driver is holding steering while driving another feature of the system is the drowsiness sensor which start a buzzer or start interaction with the driver so he does not feel sleepy to access diagnostics data of the vehicle as early as possible is important to avoid serious faults. Early detection and correction will increase safety up to a very large extends using GPS the location of the vehicle can be obtained with the help of longitude n longitude values. ones the right defects are obtained then instruction can send to the driver as to how to handle the situation.SMS will be send to relatives in case of accidents.

1.1. Problem Statement

An IoT-based system is designed to avoid countless mishaps due to drowsy drivers' behavioral and psychological changes by focusing on driver's eye movements. In addition to monitoring the intensity of the collisions impacts during road accidents, it is also required to keep records of the location for taking supportive action.

1.2. Contribution to This Work

The drowsiness of driver and impact of collision monitoring or alert system is constructed using IoT technology along with Raspberry Pi. For finding the fatigue or sleepiness of driver, a Pi camera can be used during driving. Apart from it, the vehicle needs to be well mounted by crash sensor and FSR sensor for detecting the extremity of collision. When the drowsiness is detected, the driver is alerted by voice speaker and a mail sent to the vehicle owner. Similarly, suppose any sudden collision happens due to drowsiness. In that case, the data

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STRESS ANALYSIS ON ABRASIVE WATER PIPLINE OF ABRASIVE WATER JET MACHINING USING CAESAR-II

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ABSTRACT

Variety of distinctive advantages over the additional Conventional material elimination method. It is an efficient machining method for processing a range of Hard and Brittle objects and has a non-traditional cutting technology, such as, high machining adaptability, smallest amount of stress on the workpiece, more Abrasive water jet machining is the non-flexibility no thermal deformation, and little cutting forces. The AWJM is a abrasive water jet machine and housed with various types parts like as motor, pump, intensifier, accumulator, controls, hydraulic unit, valves, nozzle. AWJM process is briefly explained in the introduction section of the paper. It is very useful in fields were cutting and drilling soft materials is required, it used in turning operation and also in paint removal. This paper is developing the major drawback of pressure drop due to high stress produced on the pipe. The paper concentrated on major drawback of pressure drop and gas leakage occurs.so, the material ASTM A106 Grade A Carbon Steel is used.This paper illustrates the wide range of abilities, backgrounds and will cover the fundamental principles and concepts used in pipe stress analysis. This analysis pipe is used to give the benefit of the industry for reduce the cost and maintenance and increases the lifetime of pipe.

***Keywords**: ASTM B31.3, Restrain, Nozzle, Expansion joint, CAESAR II*

I. INTRODUCTION

Water Jet Machining (WJM), or in other words water jet cutting, is a mechanically advanced unconventional machining process where water having a very high velocity is used to erode away small portions of materials from the workpiece surface. WJM was initially used for cutting soft materials, cleaning and removal of coating in early 70s. Softer materials like wood, plastic and rubber were cut using this technique. It does not encounter any vibration problems. However, in order to machine hard materials like metals and granite, another machining process called Abrasive Water Jet Machining (AWJM) was developed. Figure 1 shows as .Abrasive Water Jet Machining.

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Design And Analysis of Garlic Peeling Machine

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ABSTRACT

Garlic peeling is one of the important & difficult work in cooking. But garlic is most essential one in Indian foods and it's good for health and cures many diseases like cancer, Digestion etc. But peeling the garlic takes more time while cooking. By heating the garlic before cooking it can be easily peel. So, we slightly heat and peel the garlic means it is so easy to peel. In this we used a vibrator machine with the pre heater to peel garlic and after that by using pneumatic cylinder we cut the peeled garlic. So that we will quickly, Hygienically and efficiently peel the garlic for cooking purpose.

Keywords: *Garlic, vibrator machine, Pneumatic Cylinder, Vegetable Cutter.*

I. INTRODUCTION

India is one of the leading Garlic producing countries. The area under cultivation and production of garlic in India (2010-11) is 200.70 thousand ha and 1061.85 thousand tons. Madhya Pradesh, Gujarat, Orissa, Rajasthan, Karnataka, Tamil Nadu, Maharashtra, Bihar and UP are the major Garlic producing states. Study revealed that the area and production of garlic is increasing in most of the states.

Fig 1. Garlic Peeling

Garlic is the most important foreign exchange earning spicy vegetable crop, commercially grown in India. Indian garlic is now exported even to Pakistan, Thailand, and USA, Nepal and Malaysia as well as the traditional market of Bangladesh. About 21,827.16 metric tons of Garlic bulbs amounting to Rs.7, 731.52 lakhs were exported during 2010-11. During the year 2006-07, the export of dehydrated powder and flakes was to the tune of 780 tonnes worth Rs. 437 lakhs and 188 tons worth Rs. 108 lakhs respectively.Garlic has digestive, carminative and ant rheumatic properties. It is used in aurvedic formulation since ancient times for curing muscular pain, giddiness, lungs, heating intestinal ulcer, etc. Garlic is consumed as green as well as dried in the spice form and as ingredient to flavor the various vegetarian, non-vegetarian dishes and pickles. Good tasty pickles, chutneys, curry powders are prepared from Garlic cloves. Garlic is also used to disguise

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DESIGN AND ANALYSIS OF SUPPLY PIPELINE FOR SCREW COMPRESSOR

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ABSTRACT

A typical piping system consists of combination of pipes and various fitting components like bends, Tees etc. In manufacturing plants, piping systems are continuously present and transport air or gas to the plants. The screw compressor piping systems are subjected to various types of loading due to Weight, Pressure, Temperature, wind etc. causing possible failure modes, based on type of loading, as plastic, rupture, fatigue, creep etc. In addition, pipe exhibits different geometric characteristics at fittings which have notable effect on the flexibility or the piping system. Such a piping layout design depends mainly on stress analysis and displacement. The present paper analyses the presence and effect of hangers and extending joints on CAESAR-II pipe layout/routing. Main aim of piping stress analysis is to provide adequate flexibility for absorbing thermal expansion, code compliance for stresses and displacement incurred in piping system. This in turn has influence on stress concentration at fittings and the loads produced due to it. This thesis attempts to explain basic concepts of flexibility, stress intensification factors and their concerns provided in ASME B31.3 codes.

Keywords: ASME B31.3, CAESAR II, Piping, Screw Compressor, Stress Analysis.

I.INTRODUCTION

The use of screw compressors in industry is widespread since they have replaced the traditional reciprocating compressor in a large range of applications such as air compression, refrigerant compression and particularly supercharging in the automotive industry. Nowadays, due to global environmental issues, energy conservation has become a very important problem. Screw compressor supply piping play a major role in industries. Piping system is the heart of any process plant. Piping stress analysis is a method which is highly reciprocal with piping layout and support. Piping layout design depends mainly on stress analysis and flexibility. It will vary with respect to pipe geometrical properties, pressure, temperature, and supports. The piping supports are designed based on the selected locations, types and the applied loads. The discussion is heavily weighted to the stress analysis of piping systems in thermal power plants, since this type of piping has the most stringent requirements. Piping system comprises of pipes, fittings like elbows, tees, reducers, sockets, half couplings, unions, flanges and valves. These all are used to transfer the fluid from one point to another through straight pipes, changing the direction with most economical means- elbow, branching through tees. In this paper, the design and analysis of

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DESIGN AND ANALYSIS OF GAS PIPE LINE IN LASER CUTTING

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ABSTRACT

Piping network design system has significant role in industrial sector to minimizing losses through designing effective and simplest network. Piping system is time consuming, complex and expensive effort process for construction and chemical plants. This project is to explore overview of piping network system design of laser cutting gas supply line, its requirements. ASME B31.3 design grade has elaborated with application. Concept of flexibility such as flexibility factor, stress intensification factor has discussed in detailed manner. Use of different piping analysis load cases overviewed for their effectiveness in this study.

Keywords- Piping, CAESAR II, Stress Analysis, ASME B31.3

INTRODUCTION

Lasers are used in many materials-processing applications: laser cutting, laser welding and surface treatment of metallic and non-metallic materials. Gas lasers and solid state-lasers are commonly used for these applications. Carbondioxide (CO2) gas lasers are the most frequently used for laser cutting of metals. In contrast, a variety of different laser types (including solid-state lasers) are being used for laser welding and surface treatment of metals. For laser welding, solid-state lasers are increasingly being used. Gas lasers such as CO2 or excimer require a gas mixture to generate a laser beam. Gas mixtures may vary depending on the type of laser. The purity of these mixes is critical to ensure best performance, efficiency and a higher return on investment. High-purity laser gases are supplied in gas cylinders, however there is no guarantee that the laser gas mixture in the resonator is of the same quality. Gas distribution systems and operators must be able to handle high-purity laser gases correctly in order to maintain the highest pure this document outlines the role of gases.

DESIGN PROCEDURE

The Methodology of design procedure is to find a piping configuration and size within the constraints, the design parameters which are safe and economical. The steps in pipeline design are as follows:

I. The determination of the problem, which includes:

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DESIGN AND ANALYSIS OF AUTOMOBILE CIRCULAR RADIATOR (HEAT EXCHANGER) PROPOSED WITH ANSYS SOFTWARE

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ABSTRACT

Radiators are heat exchangers used to transfer thermal energy from one medium to another for the purpose of cooling and heating. Radiators are used for cooling internal combustion engines, mainly in automobiles but also in piston-engine aircraft, railway locomotives, stationary generating plant or any similar use of such an engine. Also, to reduce fuel consumption along with controlling engine emission to mitigate environmental pollution norms.

In this paper we mainly focused on the change of design from existing radiator to increase the efficiency of water cooling in automobile radiators.

The model creating in CREO parametric software both existing & proposed model (circular radiator). Furthermore, analysis both the model based on computational fluid dynamics in ANSYS software. To check both the model temperature difference and choose the better radiator model with help of ANSYS software.

Keywords: *ANSYS software , CREO parametric software, Heat Exchanger, Radiator, Temperature*

I. INTRODUCTION

The work proposed relates to an improved heat exchanger (Radiator) design for either heating or cooling of a fluid. Also, it deals with the work particularly which relates to an improved fan assisted air-cooled heat exchanger used in Automobiles, Internal Combustion (IC) engines, Refrigeration system, and Power plants.

Different types of heat exchangers are known, in which air is used as heat transfer medium as it is freely and abundantly available, without any disposal issues. In known heat exchangers, flow of air is induced naturally or is aided by the use of one or more fans. The use of fan reduces the size and the cost of the equipment, which makes it more compact. Hence, fan assisted air cooled heat exchangers are more popular than others. In known air-cooled heat exchangers, the fan either forces or draws the air through the heat exchanger, some of which are described herein below by way of examples.

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DESIGN AND ANALYSIS OF ROBOT TOILET CLEANER

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I. ABSTRACT

Moving towards our glorious goal of developed and prosperous nation, cleanliness is one of the biggest need. 'Swachh Bharat Abhiyan' is our motto behind the research of 'Robot Toilet Cleaner' and it is the great leap towards the cleanliness of private as well as Public Lavatories. Dirty toilets cause contagious diseases which are hazardous for human life. This system is a remedy for human health as well as our goal towards 'clean and smart India'. The purpose of this system is to maintain hygiene level of toilets through cleaning the bowl in a semi automatic way. At present, cleaning system of toilets is worst and leads to health issues. This system automatically cleans the western toilet with the help of robotic arms. There is a sequential cleaning algorithm for the same. The robotic arm has a brush attached to its end that is used for the cleaning purpose. Water jets are provided. In this system there is minimum usage of water & electricity.To maintain the periodicity of cleanliness level servo motor and DC motors are used.

Keywords- Cleanliness, Toilet, Sequential cleaning algorithm, Robotic Arm.

II. INTRODUCTION

In our country, people do not have enough knowledge of using toilets. This leads to several diseases, such as Malaria, Hepatitis, Flu, Cholera, Streptococcus, Typhoid, etc. Hence we introduce the concept in the IOT called "Swachh Shithouse" The term Swachh means 'Clean'. Then the term Shithouse means 'Toilet'. It is introduce to use and maintain the toilets in the clean and hygienic way. The project is based on IOT concepts using different sensors like smell sensor, dirt sensor, sonic sensor, RFID reader, Database. Using these materials we are trying to provide the clean toilets and create the awareness among the people.

III. LITERATURE SURVEY

Kumar C.Adithya Arun Bharadwaj A Balasubramanian R Gowtham P

Autonomous Lavatory Cleaning System

The application of integrated robotics is becoming increasingly commonplace in day to day applications. The idea presented in this paper seeks to provide a convenient and a hassle-free means of cleaning public toilets whilst maintaining hygienic and sanitary standards. By using a counter to record the number of times of usage, a line follower mechanism to guide the robot and an RFID

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DESIGN AND ANALYSIS OF PIPING SYSTEM USED IN CHEMICAL PLANT USING CAESAR II

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ABSTRACT

Piping system is a pipe network using pipe fittings like tees, cross, elbows, etc., and other special components valves, gaskets, flanges, filters, etc., to perform the necessary fluid transfer mode (Liquids/Gas/Slurry) from one place to another. The Industrial/International Codes and Standards control the design of piping systems. The specifications for design, manufacture, and use of materials, testing and inspection of piping systems are specified by piping codes, and the standards are more applicable to the concept of application design and construction rules and requirements for piping components. The basic design code used in our project is ASME B31.3. For petroleum refineries, chemical plants, textile plants and paper plants, this code contains the process piping code. Stress in the pipe is also the key concern when constructing any pipe device. Methodologies for the design of pipe systems inside the chemical plant are viewed and analyzed. The analytical study of piping systems is derived by using CAESAR II software.

Keywords: Piping, Chemical Plant, CAESAR II, Stress Analysis, ASME B31.3

1. INTRODUCTION

Piping System design and analysis is a very important field in any process and industry. Piping system is like the blood circulating system in our human body and is necessary for the life of the plant. Design of piping network system meets various Applications which has health and safety for work environment. The performance of the plant depends on the pipe line sizing, Equipment layout, components and fittings used. This paper discusses about the stress analysis and displacement of Process Piping Plants referring to code ASME B31.3. The basic design code used in this paper is ASME B31.3 Process Piping code which includes textile plants, oil and petroleum refineries, chemical plants, paper plant, etc. But the piping system, mentioned in thesis is chemical plant which is used for supplying the chemical for process and treatment Piping stress analysis is a vital part of the Industrial plants condition assessment. At present, there is much software for piping stresses analysis, viz.-CAEPIPE, CAESAR-II, AUTOPLANT, PIPE PACK, check STRESS, PDMS, etc. In our project, Design and analysis of the piping system is done by using CAESAR II Software. The CAESAR II is Computer Aided Engineering Stress Analysis & Routing is a complete pipe stress analysis of piing system subjected to

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DEVELOPMENT AND STUCTURAL ANALYSIS OF AUTOMATIC WHEELCHAIR FOR PHYSICALLY CHALENGED PERSONS

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ABSTRACT

Some of the typical issues that wheelchair users have to utilize the small separate corridors to be provided in older buildings, parking lots that are challenging to the get around , even just shopping or going to visit loved ones. The leg fractured persons cannot be comfortable in the existing type of wheelchair for his/her personal needs to go somewhere. observation show that there is no adjustable arm rest, knee rest, smooth breaking control and difficulty in shifting the patient from wheel chair to auto rickshaw and other vehicles. The current issues the physically challenged persons and the injured persons due to accident can require assistance for their survival. The idea should overcome by designing a mechanism in the existing type wheel chair to address the above problem. The automatic toilet assistance wheel chair has a electronic control mechanism to provide the various movements required by the physical challenged person and the injured persons. This system will have a hydraulic jack and motors for the linear, vertical motion control. The developed system further investigated mechanically for the structural strength, Ergonomics aspects and operating characteristics.

Keywords: *wheelchair, Hydraulic jack, Accessibility, Disabled persons, joystick control*

1. INTRODUCTION

The number of physically impaired people is increasing rapidly in recent years. Recent statistics shows that around 15% people (700 million) of total world population are physically and mentally disabled. Among them 100 million people are physically challenged. One study presents that the number of physically challenged people in Bangladesh is around 5.6% (8.4 million) of total population, whereas, the actual scenario is much more acute.

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NDE ANALYSIS AND EXPERIMENTAL INVESTIGATIONS OF EN 19 WITH AND WITHOUT PWHT PROCESS

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ABSTRACT

GMAW is simply an art of joining metals by heating and then pressing together which simply requires a heat source to produce a high temperature zone to melt the material its application includes: used in ships building, bridges, pressure vessels, industrial machinery, automobile, rolling stock and many other fields. Welding operation is to be carried out on the medium carbon steel followed by heat treating (annealing), the specimen has to be heat treated at the weld zone to a temperature of 850°C using heat treatment furnace. For effective study of the effect of annealing on the welded joint, mechanical test hardness and tensile to be carried out of the heat treated (annealed) of the EN 19.

Keyword : *NDT , Welding joint , PWHT , Mechanical & Hardness Test, IMAGEJ.*

1. INTRODUCTION TO NDTE

Non-destructive Test and Evaluation is aimed at extracting information on the physical, chemical, mechanical or metallurgical state of materials or structures. This information is obtained through a process of interaction between the information generating device and the object under test. The information can be generated using X-rays, gamma rays, neutrons, ultrasonic methods, magnetic and electromagnetic methods, or any other established physical phenomenon.

The process of interaction does not damage the test object or impair its intended utility value. The process is influenced by the physical, chemical and mechanical.

NDT Methods range from the simple to the intricate. Visual inspection is the simplest of all. Surface imperfections invisible to they may be revealed by penetrate or magnetic methods. If serious surface defects are found, there is often little point in proceeding further to the more complicated examination of the interior by other methods like ultrasonic or radiography.

The principal NDT methods are Visual or optical inspection, Dye penetrant testing, Magnetic article testing, Radiography testing and Ultrasonic testing.

ASNT - American Society for Nondestructive Testing

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Preparation of Papers for Drowsiness and obstacle Detecting system

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Abstract

Here we are fabricating the portable safety device. Nowadays automobile department where introduce the new technology of the vehicle. In this system, we are using multiple sensors for avoiding various obstacles while being in the vehicle. PIR Sensor is used to detect any obstacle under and also blank spot on the vehicle. Mikroe Alcohol Click Sensor - MQ-3 is used to detect the driver's alcohol-consuming percentage and it does not allow to drives the vehicle while uncontrollable situation. Blink sensor used to detect driver drowsiness and it helps to avoid accidents.

INTRODUCTION

Driver drowsiness driving is one of the main reasons for road accidents. In current survey it shows that out of 5 accidents one accident is due to drowsiness of the driver which is approximately 20% of road accidents and it increasing gradually in every year. The survey highlights the facts that total number of traffic deaths are excessive because of drowsiness of the *driver*. Driving a vehicle in a crowded road has become a nightmare because of the road conditions, poor weather conditions, haste to reach the destination and excess of traffic. Drowsiness of driver, drunk and drive are coming further major reasons for road accidents. Due to less conscious we can't take care of us while driving. To provide security to driver, the vehicles are assisted with automated safety system that alerts driver by using alarm. All vehicles should be equipped with eye blink sensor and alcohol sensor sequentially to evade these types of accidents. The objective of the project is to by using Blink sensor the eye blink is measured and controlled. The infrared rays are transmitted by IR transmitter into driver's eye. The eye reflects the transmitted infrared rays and these reflected rays are received by the IR receiver. If the eye is in closed status, the output of IR receiver is high. The IR receiver output is low, if the eye is in opening position. This informs that the eye is in opening or closing position. The alarm is indicated, if the output is given to logic circuit. This project is to decrease the accidents due to comatose through eye blink.

Many vehicle manufacturers focus keenly on improvising their technologies and systems in order to provide the consumer with a safe ride to travel. In many countries various methods have been employed such as

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EXPERIMENTAL ANALYSIS TO IMPROVE EN8 AND OHNS WELDMENTS SURFACE QUALITY AND SAFETY ASPECTS BY USING MODIFIED FLUX CORE ARC WELDING (FCAW) PROCESSES

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ABSTRACT

Quality and productivity play important role in today's manufacturing market. Now a day's due to very stiff and cut throat competitive market condition in manufacturing industries. The main objective of industries reveals with producing better quality product at minimum cost and increase productivity. Welding is the most vital and common operation use for joining of dissimilar parts.In the present research work an attempt is made to understand various welding techniques and to find the best welding technique for steel. Special focuses have been put FCAW-MIG welding. On hardness testing machine and Impact various characteristics such as strength and hardness were analyzed.Experimentallyfound out the input parameter value 140 AMPS VOLT-22 BEVEL-65 °is the best value and it does not create any major changes and failures in the testing process. The toughness value of the FCAW welded dissimilar steel was comparatively higher value (140 AMPS VOLT-22 BEVEL-65 °) than other value. It also induces high tensile strength. Finally concluded that in this project investigation the 140 AMPS VOLT-22 BEVEL-65 ° is the best parameter for Disimilar-6mm thickness plate for obtains the good weldment state dissimilar joints.

***Keywords:** Heat input mechanical properties, FCAW,EN8 &OHNS*

INDRODUCTION:

Flux Core Arc Welding (FCAW) uses a tubular wire that is filled with a flux. The arc is initiated between the continuous wire electrode and the work piece. The flux, which is contained within the core of the tubular electrode, melts during welding and shields the weld pool from the atmosphere. Direct current, electrode positive (DCEP) is commonly employed as in the FCAW process. There are two basic process variants; self shielded FCAW (without shielding gas) and gas shielded FCAW (with shielding gas). The difference in the two

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EXPERIMENTAL INVESTIGATION ON AUTOMATIC SEED SOWING MACHINE USING IOT

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ABSTRACT

India is an agriculture based country in which, 70% of people depends on the outcome of farming. But if we observe that with increase in population the farm gets distributed among the family and because of this, farmer in India held averagely only two acre farm. Also economically, farmers are very poor. due to which they are unable to purchase tractors and other costly equipment hence they use traditional method of farming. Basically, many farmers in India also use bullocks, horses and he-buffalo for farming operation. This will not satisfy need of energy requirement of the farming as compared to other countries in the world. So we are thinking that human and animal efforts can be replaced by some advance mechanization which will be suitable for small scale farmer from economical and effort point of view. So we are developing this equipment which will satisfy all this need and to solve labour problem. In this equipment we used ploughing rod, seed sower and land levelling attachment. This machine performs the operation (ploughing, sowing) which is used for small scale farming. As a added advantage this machine is operated with the help of electric drive which is controlled from an internet through internet of things (IOT) concept. By using above attachments one may perform various farming operations in less time and cost with reduced man power resource.

Keywords: ***Agriculture, Agro-Machinery, Internet of Things, Work-Efficiency***

INTRODUCTION

Agriculture has been the backbone of the Indian economy and it will continue to remain so for a long time. It has to support almost 17 percent of world population from 2.3 percent of world geographical area and 4.2 percent of world's water resources. The present cropping intensity of 137 percent has registered an increase of only 26 percent since 1950-51. The net sown area is 142 Million hectare. The basic objective of sowing operation is to put the seed and fertilizer in rows at desired depth and spacing, cover the seeds with soil and provide proper compaction over the seed. The recommended row to row spacing, seed rate, seed to seed spacing and depth of seed placement vary from crop to crop and for different agricultural and climatic conditions to achieve optimum yields and an efficient sowing machine should attempt to fulfil these

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NON - DESTRUCTIVE INSPECTIVE OF PIPES WELDED BY TIG TECHNIQUES

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ABSTRACT

In this competitive world, the customers perceive the most reliable high quality with low cost product. Flux core arc welding famously abbreviated FCAW is one of the most important metals joining process in manufacturing industries. The selection of improper FCAW process parameter increases the power consumption, material consumption, man power and cost of the product decreasing the weld quality. Here in this experimental to be conducted through TIG welding for run to perform experiment. This project work is part of program for the development of steels has to be increase mechanical properties and minimization of metallurgical defects to increasing weldment. The quality of weld in FCAW mainly influenced by independent variables such as welding current, speed of electrode and arc voltage. The planned experiments has to be conducted in the TIG welding machine the test piece examination is carried out by following process.

1) Hardness testing
2) Surface defects-through LPT test
3) Tensile strength
4) Internal welding defects-through RT

Keywords: *Traditional welding , FCAW welding, TIG welding methods*

INTRODUCTION:

Welding is the simplest and easiest way to join sections of pipe. Welded pipe has reduced flow restrictions compared to mechanical connections and the overall installation costs are less In a welding world, Flux-Cored Arc Welding (FCAW) process commonly used in different industries to join the metals and alloys. It has a few numbers of benefits such as high position rates, more tolerant of rust and mill scale than GMAW, simpler and more adaptable than SAW, less operator skill required than GMAW, high productivity than SMAW and good surface appeaarnce

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DESIGN AND FABRICATION OF ONION CUTTING MACHINE

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ABSTRACT

Onion cutting machine is based on reduction in effort required for cutting of onion as well as for saving cost required in cutting, specially for small scale farming. There purpose of designing and fabrication of such small equipment is that it fulfill requirements of cutting and reduce the cost of it. Onion cutting machine contains simple mechanisms with effective manually handling system that need only human efforts for operations. The purpose behind this is to just reduce production cost of onion manufacturing . By that farmer can get more output & income specially considering small scale farming. s. This project is intended to discuss the design leaf cutting machine. This machine can be used for the agricultural purpose and it can be also employed in the food industries. Leaf cutting machine works on conveyer belt and cutter arrangement. Onions are fed through feeding conveyer belt into the machine. India is world's second largest Onion harvested. But yet Farmers processes onion by hand labor after harvest to remove the leaves and roots. This operation is referred to as topping which is time consuming and They Can't afford New Techniques Because of the cost of Appraisal Our Motive is to supply them with effective and efficient method for harvesting to reduce human effort Efforts to date have all been in the direction of large and expensive machinery and none of these has as yet been perfected so as to reach the market.

Keywords: *Agriculture, Agro-Machinery, Internet of Things, Efficiency.*

INTRODUCTION

Onion (Allium cepa L.) growing is a quite widespread, albeit uneven, farming practice on the entire Italian territory. As shown by official statistics [Istat 2001], the regions where this crop is mostly concentrated are Emilia-Romagna (with about 3,000 hectares of onion crops), and Veneto (with about 2,000 hectares of onion crops). In fact, these two regions account for a total of about 48% of the entire national onion growing area. In 2001 the total national farming land destined to onion cropping was about 13,761 hectares, with an overall yield of about 430,000 tons [Istat 2001]. In the 1992-2001 period the productivity of this crop on the whole national territory was quite variable reaching about 40 t/ha in some Northern Italy late varieties and about 20 t/ha in some Southern Italy early varieties. The national average was therefore 31 t/ha, which is remarkably lower than the European average, which amounts to 55 t/ha. Such a gap can be mainly ascribed to the peculiar

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NON DESTRUCTIVE TEST ANALYSIS AND INVESTIGATION OF EN24 STEEL WELDMENT WITH VARIOUS PROCESS PARAMETER USING GTAW WELDING

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ABSTRACT

In this competitive world, the customers perceive the most reliable high quality with low cost product. In order to satisfy the customers demand, the manufacturing industries are being forced to continuously optimize their process parameters. This project work is part of program for the development of EN24 steels to increase mechanical properties and minimization of metallurgical defects to increasing weldment.

The quality of weld in TIG mainly influenced by independent variables such as welding current, speed of electrode and electrode stick out. The planned experiments are conducted in the TIG welding machine the test piece examination is carried out by Tensile and Hardness Test finally NDT test through MPI (Internal Welding Defects) Test.

KEY WORD EN 24 Steel alloy,Gas Tungsten Arc Welding, Non Destructuive Test Analysis, TAGUCHI L4 ARRAY

1. INTRODUCTION TO NDTE

Non-destructive Test and Evaluation is aimed at extracting information on the physical, chemical, mechanical or metallurgical state of materials or structures. This information is obtained through a process of interaction between the information generating device and the object under test. The information can be generated using X-rays, gamma rays, neutrons, ultrasonic methods, magnetic and electromagnetic methods, or any other established physical phenomenon.

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DESIGN AND FABRICATION OF COMPRESSED AIR DRIVEN ENGINE

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ABSTRACT

Internal-combustion engines pollute the environment seriously, and consume enormous non-renewable energy. So today the whole world is in search of alternative fuel and there are couples of option of alternative fuel such as solar power, tidal power, geothermal power, etc. and one of them is Compressed Air. The air engine runs on air only, so the need of fossil fuel is completely reduced. This practical study gives a brief description on zero pollution compressed air engines. As we are going to convert the already existing conventional engine into an air powered one, this new technology is easy to adapt and another benefit is that it uses air as fuel which is available abundantly in atmosphere. This technology is cheaper in cost and maintenance and it doesn't cause any kind of harm to the environment. Thus it is surely a revolutionary mode of transport internal combustion engine produces a large amount of harmful gases like CO2, SO2 etc. which pollute the Environment and causes global warming and it consumes enormous non-renewable energy. So today every country is in search of alternative source of energy and there is couple of alternate source of energy such as solar power, tidal power, geo-thermal power, etc. and one of them is compressed air. The air engine runs on air only, no fossil fuel. The engine is modified from 4-stroke to a 2-stroke engine (suction and exhaust) by modification of cam-gear system. The maximum pressure used is 8 bar.. This technology is cheaper in cost and maintenance and it does not cause any kind of harm to the environment. Thus the compressed air engine will play vital role in reducing air pollution and also in reducing temperature of earth. Compressed air engine uses air as fuel which is available abundantly in atmosphere.

Keywords: *Internal-Combustion Engine, Compressed Air, Non-renewable energy, Conventional Engine*

INTRODUCTION

Nowadays the need of energy is increases, but basically conventional source of energy is limited due to that price of petroleum or gasoline is continuously rising. To satisfy our need alternate fuel or energy is required. But whileconsidering alternate fuel some factors be considered as like availability, eco-friendly etc. Also, combustion

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ELIMINATION OF CARBON PARTICLES FROM SMOKE IN TWO WHEELERS

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ABSTRACT

Global warming is increasing on our earth due to major increase in the pollution. Air pollution is very serious on our earth. So it is required to solve these problems by taking various serious attempts. Hence to reduce these pollutants from Exhaust of Engine a new technology is introduced called Aqua silencer. Sound produced under water is less hear able than it produced in atmosphere. This mainly because of small sprockets in water molecules, which lowers its amplitude thus, lowers the sound level. Because of this property water is used in this silencer and hence its name aqua silencer. Aqua Silencer is a modified version of a conventional silencer aimed at the reduction of toxic emission. Aqua silencer is one of the attempt taken in reduce the air pollution. It I fitted to the exhaust pipe of engine or system. These Silencers is used to reduce the noise and control the emission of dangerous gases. An aqua silencer is an attempt in this direction which is mainly dealing with control of emission and noise. . The aqua silencer system is design for replace commonly used single unit silencers in engine with its slender structure and less weight.

Keyword: Pollution Free, Charcoal Layer, Perforated tube

I.INTRODUCTION

The aqua silencer reduces emission noise because, the sound produced in aqua silencer under water having less amplitude than the sound produced in open atmosphere .These is happen because of in water molecules there are small sprockets which lowers amplitude of emission gases and lower the sound level. In Aqua silencer the main component perforated tube which consists of number of different diameter holes. Generally these are 4 set of holes on perforated tube. The charcoal layer which is pasted over perforated tube can control the emission using the activated charcoal and highly porous extra free valences so these layer having high absorption capacity. It controls the noise & emission in an ic engine. It is fitted at the exhaust of the pipe; sound produced under water is less hear able than sound produced in the atmosphere. The emission of gases can be controlled by using the activated charcoal layer & lime water. The noise and smoke level is considerably less than the conventional silencer; there's no need of a catalytic converter and it is easy to install. In this silencer, the Charcoal and Water is used so it is called hybrid aqua silencer, and it is useful in automobile, industry, DG sets & DG machines, Marin and Boats also so, it is known as hybrid universal aqua silencer. Aqua silencer is easy to install and there is no need of catalytic converter. Aqua silencer is one of the important methods for effective

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Fabrication of Coconut Dehusking Machine

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ABSTRACT

The main objective of our project is to remove the husk of the coconut fruit. Coconuts are of different shape and size not are all the same size. The machine reduces the skilled operator work by replacing the work through automation. Manual de-husking is the conventional process followed widely among farmers. The motor shaft and gear box input shaft were in straight line to minimize the vibration and completely utilize the power of the motor. It also includes time consumption labour cost and injurious caused to the labour during manual de- husking process. The machine provides a good productivity with less human interaction. It is a commercial product which works for various stages. A completely automated machine will yield productivity higher than the manual process.

Keyword: Skilled Operator, Safe Operation, Commercial Product, Machine, Motor, Productivity, Automation.

INTRODUCTION

Coconut (*cocosnucifera*) is one of the world most useful and important perennial plants. An individual coconut fruit shown in Figure 1 is made up of an outer exocarp, a thick fibrous fruit coat known as husk; under neat his the hard-protective endocarp or shell. "Eyes" areatone end of the nut. Inside the shell is a thin, white, fleshy layer, about 12.25 mm thick at maturity, known as the "coconut meat". The interior of the nut is hollow and partially filled with a watery liquid called "coconut milk". The meat is soft and jelly-like when immature and becomes firm at maturity. The coconut milk is abundant in unripe fruits but it is gradually absorbed as ripening proceeds. The meat of immature coconut fruit can be made into ice cream while that of a mature coconut fruit can be eaten fresh or used for making shredded coconut and livestock feed. Coconut milk is a refreshing and nutritious drink while its oil is use for cooking and making margarine. Coconut oil is also very important in soap production. The shell is used for fuel purpose, shell gasifier as an alternate source of heat energy. The husk yields fibers used in the manufacture of coir products such as coir carpets, coir geo-textile, coir composite, coir safety belts, coir boards, coirasbestos.

OBJECTIVES

To make the machine to De-husk coconuts of all sizes. To make the project cost efficient to the customers. To reduce the de-husking time of coconuts. To prevent injuries caused to workers during de-huskingprocess.

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Design and Analysis of Triple Pipe Heat Exchanger with Al_2O_3 Nanofluid ImproveHeat Transfer Coefficient

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ABSTRACT

The heat transfer in a heat exchanger involves convection on each side of fluid and conduction taking place through the wall which isseparating the two fluids. In a heat exchanger, the temperature of fluid keeps on changing as it passes through the tubes and also the temperature of the dividing wall located between the fluids varies along the length of heat exchanger. The thermal behavior of Nano fluids could provide a basis for a huge innovation for heat transfer, which is a major importance to number of industrial sectors including transportation, power generation, micro manufacturing, thermal therapy for cancer treatment, chemical and metallurgical sectors, as well as heating, cooling, ventilation and air-conditioning.

Nano fluids are suspensions of nanoparticles in the base fluidwhich is a new challenge in the field of thermal science provided by nanotechnology. Heat exchanger performance is analyses by Al2O3 Nano fluid with the base fluid water. The triple pipe model creating in solid works and analysis based on computational fluid dynamics in Ansys software. To predict the temperature difference and comparedwith the results of base fluid (water)

Index Terms— Heat exchanger, Triple tube heat exchanger,nanofluid, Over all heat transfer coefficient.

1 INTRODUCTION

A heat exchanger is a device used to transfer heat between two ormore fluids. The fluids can be single or two phase and, depending onthe exchanger type, may be separated or in direct contact. Devices involving energy sources such as nuclear fuel pins or fired heaters arenot normally regarded as heat exchangers although many of the principles involved in their design are the same.

In order to discuss heat exchangers, it is necessary to provide some form of categorization. There are two approaches that are normally taken. The first considers the flow configuration within the heat exchanger, while the second is based on the classification of equipment type primarily by construction.

HEAT EXCHANGE METHOD

DIRCET HEATING SYSTEM

Direct systems have the advantage that the product is held at a high temperature for a shorter period

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DESIGN AND FABRICATION OF MEDICAL WASTE DISPOSAL MACHINE

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ABSTRACT:

Medical treatment are conducted generate wastes that are highly hazardous and put people under risk of fatal diseases. So we have designed medical waste disposal crusher. This machine is manually operated and we have attached Motor, Rotary cutting blades, Shaft, Collector, Frame, Basin, Conveyor belt. In this machine we are about crush the waste material such as plastic bottles, glass bottles, etc. the working principle and the other descriptions are explained below detail.

Keywords: Bio-Medical Waste, Hospital Infection, Medical Waste Act, Medical Waste Management.

INTRODUCTION:

Disposal of medical wastes is a growing global environmental concern. The problem is rising with an ever-increasing number of hospitals, clinics, and healthcare laboratories universally (Hassan et al.,2008). Medical waste is been generated from health-care establishments, medical institutions, diagnostic laboratories, veterinary clinics, hospitals and research institutes; it includes absorbents, sharp and needles, glass gauze, paper, plastics andhuman anatomical remains and animal carcasses (Longe and Williams 2006). It is a waste capable of producing infectious disease. According to Manyele, 2004; Medical waste is extremely infectious and hazardous. Medical waste threatens the environmental health. Therefore it must be treated before its final disposal. Until now, the management of medical wastes has been so unpopular despite its potential environmental hazards and public health risks. Moreover, medical waste constitutes a minor quota of the entire municipal solid waste. However, the potential environmental and health hazards could be dangerous if not properly handled, the worst scenario being in developing countries (Salki 2004). In modern times, the disposal of medical waste has posed more difficulties with the appearance of disposable needles, syringes, and other similar items (Askarian et al., 2006). Wastes generated in a hospital are too hazardous to be treated and carefully managed as these wastes carry infections and contaminate the environment prevailing in a hospital (Habiburet al., 1999). However, fromthe late 80s, the spreading trend of Hepatitis B Virus (HBV),Human Immunodeficiency Virus (HIV), and other agents associated with blood-borne diseases has raised the awareness level of the public regarding the dis-

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BUMPER AND ANTI-COLLISION SYSTEM FOR FOUR WHEELERS

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ABSTRACT

The technologies are developed in the field of automation that integrates heavy growth of vehicles for public transport. According to Indian road transport situation the Accident are major problem to the Vehicles, to avoid this we developed Anti-collision system especially for four wheelers. The system is based on intelligent electronically control system. This system activates brake as well as extends the bumper from its initial position to reduce the damage caused during collision. The infrared sensor (IR), which is used to sense the colliding object (Obstacles / Human / Any Vehicles in specified range of distance) which is responsible for accident. Then sensor sends feedback signal to the control unit, there by activating the solenoid valve for an activation of system. During the working of Automatic braking system simultaneously the driver can also try to stop the vehicle by pressing brake pedal. Extended bumper with the help of pneumatic pressure reduces the damage to vehicle which occurs in accidents. This system provide pre-crash safety to the vehicle. As well as it improves the response time of vehicle braking to keep safe distance between the vehicles. By using this system we can obtain control the over speed vehicle is short distance.

Keywords; Anti-collision, safety purpose

INTRODUCTION

We have pleasure in introducing our project "ANTI-COLLISION SYSTEM FOR FOUR WHEELERS". Which is fully equipped by IR sensors circuit and Pneumatic bumper and braking activation circuit. It is the project which has been fully equipped and designed for auto vehicles. The technology of pneumatics plays a major role in the field of automation and modern machine shops and space robots. The aim is to design and develop a control system based on intelligent electronically controlled automotive bumper activation system is called "automatic pneumatic bumper and break actuation before collision". The project consists of IR transmitter and Receiver circuit, Control Unit, Pneumatic bumper system. The IR sensor senses the obstacle. There is anyobstacle closer to the vehicle (within 1feet), the control signal is given to the bumper and break activation

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EXPERIMENTAL INVESTIGATION OF THE TENSILE STRENGTH AND SURFACE CRACK OF FRICTION STIR WELDED 1100 ALUMINIUM JOINT

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ABSTRACT:

Friction stir welding process is a advanced welding technique. Friction stir welding(FSW), a solid-state joining technique, is being extensively used in similar as well as dissimilar joining of Al, Mg, Cu, Ti, and their alloys. In this research work, experiments has to be carried out on Al 1100 of 4mm thick using friction stir welding process with Taper cylindrical pin as a tool. Various RPM, Feed and Axial Load. The experiments will be done in following aspects: Ultimate tensile strength and other mechanical properties. The main objective of the experimental of factors affecting to mechanical property and Surface defects-through LPT test of Aluminum Welding FSW at different welding parameters and it has to be followed by L4 arrays. The advantages in brief are 1.Weld quality is good 2.Less power consumption 3.No flux and no filler material etc. Keeping in view of its advantages and considering its growing increase the usage of FSW process in various automobile and aerospace industries, this FSW process is taken as research work. The paper reports the experimental investigations on the effects of process parameter i.e. tool rotational speed, weld speed and tilt angle on the responses.

Keywords: *Friction stir welding, Aluminium alloy, square tool.*

1. INTRODUCTION :

Friction stir welding now a days is widely using in aircraft industries for welding wings, fuel tanks, aircraft structure and marine industries in structure work, automotive industries towel wheel rims, chassis, fuel tanks, chemical industries for joining pipelines, heat exchanger, air conditioner, electronic industries for joining bus bar, aluminum to copper, connectors, electronic equipment's fabrication industries etc. The advantage of friction stir welding is that it can be used to weld both similar and dissimilar metals having no flux and no filler metal .Also, the entire process consumes less power consumption, can be made automated easily,

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Design And Analysis of Marine Propeller Using Computational Fluid Dynamics

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Abstract: This paper investigates the modelling and hydro dynamic analysis of sub merged marine propellers. The model analysis is based on the computational fluid dynamics (CFD) using fluent software. The method of meshing and the effect of mesh size are studied in this paper. Moreover, different propeller models and methods are explained; and the best setting for obtaining the accurate result are presented. The performance curve of the propeller obtained by CFD are compared and verified with the analytical result. The pressure and velocity contours around the propeller also presented.

Keywords: propeller,CFD,hydro dynamic

I. INTRODUCTION

A marine propeller is normally fitted to the stem of the ship where it operates in water that has been disturbed by the ship as it moves ahead. A propeller that revolves in the clockwise direction (viewed from front) when propelling the ship forward is called a right-hand propeller. When a propeller is moved rapidly in the water then the pressure in the liquid adjacent to body drops in proportion to the square of local flow velocity. If the local pressure drops below the vapour pressure of surrounding liquid, small pockets or cavities of vapour are formed. Then the flow slows down behind the object and these little cavities are collapsed with very high explosive force. If the cavitation area is sufficiently large, it will change the propeller characteristics such as decrease in thrust, alteration of torque, damage of propeller material (corrosion and erosion) and strong vibration excitation and During recent year's great advancement of computer performance, Computational Fluid-Dynamics (CFD) methods for solving the Reynolds Averaged Navies-Stokes (RANS) equation have been increasingly applied to various marine propeller geometries. While these studies have shown great advancement in the technology, some issues still need to be addressed for more practicable procedures. These include mesh generation strategies and turbulence model selection. With the availability of superior hardware, it becomes possible to model the complex fluid flow problems like propeller flow. A ship can be fitted with one, two and rarely three propellers depending upon the speed and maneuvering requirements of the vessel.

A propeller is a type of fan that transmits power by converting rotational motion into thrust. A pressure difference is produced between the forward and rear surfaces of the air foil-shaped blade, and a fluid (such as air or water) is accelerated behind the blade. Propeller dynamics can be modelled by both Bernoulli's principle and Newton's third law. A marine propeller is sometimes colloquially known as a screw propeller or screw.foil-shaped blade, and a fluid (such as air or water) is accelerated behind the blade. Propeller dynamics can be modelled by both Bernoulli's principle and Newton's third law. A marine propeller is sometimes colloquially known as a screw propeller or screw.

Ships propellers come in various shapes and sizes. These range from different shaped blades, thickness, size and angle. Moreover, the number of blades attached to the hub can make a variance in the flow and hence lift. Three blades are usually compromise between balance, blade area and efficiency. More than three blades help reduce the vibration and are often used on larger ships. However, the ideal amount of propeller blades is one, but is very unbalanced and generally not used. Propellers are effectively a simple design and only have a few key components. The hub is the center piece which when sufficiently strong holds the blades in place. The blades are curved in order to slice the water (leading edge) and Provide lift to move the ship forward. The blade face which can be seen from the aft of the ship is at high pressure. The blade back, which is in the direction of the ships' motion, is the low-pressure side.

