Quarterly News Bulletin
Volume 6 Issue 01
Shri Vithal Education And Research Institute's
College of Engineering (Polytechnic), Pandharpur
15th August, 2019

TECH– EXPLORER

(From Page- 3.) Police Duty Android App

In the project competition, the project received the second prize worth Rs. 50,000. Similalry, in SKN Sinhgad College, Pune the project achieved the best project award worth Rs 21,000/- .
Using this application, police department can control the duty allocation and attendance of each and every on duty official. In case of any emergency, duties can be rearranged as per the availability of the reserve staff. Each staff is personally informed about instructions or notifications without being present physically at the duty allocation spot as during *Wari* reaching the duty allocation spot itself is a challenge for the staff due to non availability of any mode of fast travel. Officers and policeman can make phone calls to each other for information sharing. The app works both in online and offline mode therefore in case of network congestion there is no confusion for smooth working of the administration. The policeman can know the other team members on duty with them. Location of the policeman can be tracked while marking the attendance hence; no policeman leaves his/her duty point. Controlling officers can also generate various reports like absenteeism report, allocation report, memo report, duty chart etc. in single click. This project is developed by teachers Mr. S. A. Zambare, Mr. A. S. Bhise. A.S. Bhatlavande, Mr. P. S. Bhandare and students Siddhesh Khadake, Ttil, Yashraj Chavan, Dhawal Dyavanpalli, Rohit Konde, Prajwal Bendale, Abhishek Warpe and Atharv Ruplag.

(From Page-1..) Electric Vehicle Trends in India

These detractors coupled with their high cost have led to Lithium-ion (Li-Ion) batteries leading as the predominant battery for EVs.
Lithium-ion batteries' price is constantly decreasing, thus, making electric vehicles more affordable and attractive on the market. The power of a vehicle's electric motor, as in other vehicles, is measured in kilowatts (kW). 100 kW is roughly equal to 134 horsepower, but electric motors can deliver their maximum torque over a wide RPM range. This means that the performance of a vehicle with a 100 kW electric motor exceeds that of a vehicle with a 100 kW internal combustion engine, which can only deliver its maximum torque within a limited range of engine speed. Energy is lost during the process of converting the electrical energy to mechanical energy. Approximately 90% of the energy from the battery is converted to mechanical energy, the losses being in the motor and drive train.
Usually, direct current (DC) electricity is fed into a DC/AC inverter where it is converted to alternating current (AC) electricity and this AC electricity is connected to a 3-phase AC motor.
For electric trains, forklift trucks, and some electric cars, DC motors are often used. In some cases, universal motors are used, and then AC or DC may be employed. In recent production vehicles, various motor types have been implemented, for instance: Induction motors within Tesla Motor vehicles and permanent magnet machines in the Nissan Leaf and Chevrolet Bolt.

(From Page-1..) DARK WEB

onion and the traffic anonymization technique of onion routing.The dark web has often been confused with the deep web, which refers to the parts of the web not indexed (searchable) by search engines. This confusion dates back to at least 2009. Since then, especially in reporting on Silk Road, the two terms have often been conflated, despite recommendations that they should be distinguished. Darknet websites are accessible only through networks such as Tor ("The Onion Routing" project) and I2P ("InvisibleInternet Project"). Tor browser and Tor-accessible sites are widely used among the darknet users and can be identified by the domain ".onion". While Tor focuses on providing anonymous access to the Internet, I2P specializes in allowing anonymous hosting of websites. Identities and locations of darknet users stay anonymous and cannot be tracked due to the layered encryption system. The darknet encryption technology routes users' data through a large number of intermediate servers, which protects the users' identity and guarantees anonymity.
The darknet is also used for illegal activity such as illegal trade, forums, and media exchange for pedophiles and terrorists. At the same time traditional websites have created alternative accessibility for the Tor browser in efforts to connect with their users.

Quarterly News Bulletin
Issue 01 Volume 6
Shri Vithal Education And Research Institute's
College of Engineering (Polytechnic), Pandharpur
15th August, 2019
TECH– EXPLORER

In this Issue >>>

Page 1.1: Electric Vehicle Trends in India
Page 1.2: Dark Web
Page 2.1: Smart LEDs
Page 2.2: RCC The Remarkable Construction Technology
Page 2.3.: First Year Toppers of Summer-2019
Page 2.4: Winners of Various Sports Event
Page 3.1: Police Duty Management App.
Page 3.2: Amazon Web Services

Message From Principal

I feel very proud that our SVERI's College of Engineering (Polytechnic) has endeavored to come up with this "Tech-Explorer" quarterly news bulletin which explores the hidden potential of our students.
SVERI's Polytechnic is growing day by day and reaching the heights of success with the exceptional performance of our students. Recently, this college has been recognized as the best campus in Maharashtra and Goa.
"Tech-Explorer" is a platform through which our students explore their ideas, thoughts as well as skills. I feel delighted to say that our students have shown excellent performance in recent MSBTE examination as well as in extra-curricular activities, particularly sports.
I appreciate the students and faculty members who have taken much efforts to bring this "Tech-Explorer" quarterly news bulletin in existence.
I wish you all Happy Independence Day..!

Electric Vehicle Trends in India -Mr.S.M.Ghodake

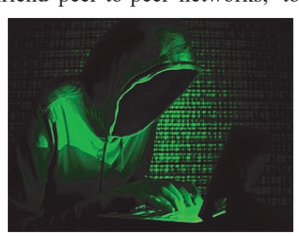
An electric vehicle, also called an EV, uses one or more electric motors or traction motors for propulsion. An electric vehicle may be powered through a collector system by electricity from off-vehicle sources or may be self-contained with a battery, solar panels or an electric generator to convert fuel to electricity. EVs include but are not limited to road and rail vehicles, surface and underwater vessels, electric aircraft and electric spacecraft.

EVs first came into existence in the mid-19th century, when electricity was among the preferred methods for motor vehicle propulsion, providing a level of comfort and ease of operation that could not be achieved by the gasoline cars of the time. Modern internal combustion engines have been the dominant propulsion method for motor vehicles for almost 100 years. But electric power has remained common place in other vehicle types, such as trains and smaller vehicles of all types.
In the 21st century, EVs saw resurgence due to technological developments and an increased focus on renewable energy. A great deal of demand for electric vehicles developed and a small core of do-it-yourself (DIY) engineers began sharing technical details for doing electric vehicle conversions. Government incentives to increase adoptions were introduced which including in the United States and the European Union.Most electric vehicles use lithium-ion batteries (Li-Ions or LIBs). Lithium ion batteries have higher energy density, longer life span and higher power density than most other practical batteries. Complicating factors include safety, durability, thermal breakdown and cost. Li-ion batteries should be used within safe temperature and voltage ranges in order to operate safely and efficiently. Increasing the battery's life span decreases effective costs. One technique is to operate a subset of the battery cells at a time and switching these subsets.
In the past, Nickel Metal Hydride batteries were used among EV cars such as those made by General Motors. These battery types are considered out-dated due to their tendencies to self discharge in the heat. Also the batteries' patent was held by Chevron which created a problem for their widespread development.

(Conti. on Page no.4)

DARK WEB – Contributed by- Ajinkya Bahirat-(TYIF)

The dark web is the World Wide Web content that exists on dark nets, overlay networks that use the Internet but require specific software, configurations, or authorization to access. The dark web forms a small part of the deep web, the part of the Web not indexed by web search engines, although sometimes the term deep web is mistakenly used to refer specifically to the dark web. The dark nets which constitute the dark web include small, friend-to-friend peer-to-peer networks,



as well as large, popular networks like Tor, Freenet, I2P, and Riffle operated by public organizations and individuals. . Users of the dark web refer to the regular web as Clearnet due to its unencrypted nature. The Tor dark web may be referred to as onion land, a reference to the network's top-level domain suffix .

(Conti. on Page no.4)

EDITORIAL

It gives us great pleasure to present the eighth issue of our College of Engineering (Polytechnic), Pandharpur newsletter "Tech-Explorer", which gives us the opportunity to focus the achievements in our college and new trends in Engineering field. We are thankful to all the students and faculties who have contributed during the preparation of this newsletter. We have tried our best and given positive efforts, expecting creative responses from everyone to continue the flow of knowledge through this quarterly newsletter.

Mr. S. A. Zambare
Mr. M. M. More
Ms. S. K. More

from page 2… Sports' Winner

Name of Student	Sport Type
Kiran Mane	Volleyball
Pranav Sonavne	Volleyball
Onkar Chavan	Volleyball
Saurabh Shinde	Volleyball
Prathamesh Mule	Volleyball
Prasad Bhosale	Volleyball
Keval Doshi	Volleyball
Nikhil Jadhav	Basketball
Abhijeet Zanje	Basketball
Shubham Sherkhane	Basketball
Ajinkya Shelake	Basketball
Kunal Gunje	Basketball
Prem Patil	Basketball
Ameykumar Dudgikar	Basketball
Nilesh Pawar	Basketball
Suyash Mane	Basketball
Paris Jadhav	Basketball
Manthan Menkudale	Basketball

Police Duty Management Android App

Mr. S. A. Zambare (Project Head)

Pandharpur is known as the South *Kashi* of India, where there are total four *Waris* (Quarterly Pilgrimage) held every year in Pandharpur. The pilgrims from all over Maharashtra as well as from different states of India visit Pandharpur. So, handling the *Wari* without any inconvenience is the biggest challenge before the administration and Police Department.

Therefore, Solapur Rural Police sponsored one project on Online Police *Bandobast* (Management) System which is named as BAAS (Bandobast Allocation and Attendance System). According to their requirement, a website and an Android App are developed for distributing and controlling police *Bandobast* through an online system. The first testing of this software was held in the month of December 2018 for VIP *Bandobast*. After that, it has been used in various Police *Bandobast* like General Election-2019, *Magh Wari*, *Chaitra Wari* and recently this application is used in holiest *Wari* of Maharashtra i.e. *Ashadhi Wari* 2019 and there was successful execution of BAAS.In the month of March 2019, MSBTE organized **State Level Project Competition** at Sanjay Ghodawat Polytechnic Kolhapur.

(Conti. on Page no.4)

Amazon Web Services (AWS)

-Ms. Gund Pratiksha (TY CO)

Amazon Web Services provides services from dozens of data centers spread across availability zones (AZs) in regions across the world. An AZ represents a location that typically contains multiple physical data centers, while a region is a collection of AZs in geographic proximity connected by low-latency network links. An AWS customer can spin up virtual machines and replicate data in different AZs to achieve a highly reliable infrastructure that is resistant to failures of individual servers or an entire data center.

Amazon Web Services provide services from dozens of data centers spread across availability zones (AZs) in regions across the world. An AZ represents a location that typically contains multiple physical data centers, while a region is a collection of AZs in geographic proximity connected by low-latency network links. An AWS customer can spin up virtual machines and replicate data in different AZs to achieve a highly reliable infrastructure that is resistant to failures of individual servers or an entire data center. The AWS technology is implemented at server farms throughout the world, and maintained by the Amazon subsidiary. Fees are based on a combination of usage, the OS/software/networking features chosen by the subscriber, required availability, redundancy, security, and service options.

College of Engineering (Polytechnic), Pandharpur

First Year Toppers of Summer 2019

Name of Student	Percentage
Gohad Sumedha Trivkram	96.43
Sarade Keshav Rajendra	96.14
Chavan Gitanjali Mahadev	96.13

Winner of Various Sports Event

Name of Student	Sport Type
Jitendra Patil	Badminton
Samarth Mane Deshmukh	Badminton
Ajinkya Bahirat	Badminton
Suraj Katkar	Badminton
Sushant Ankushrao	Badminton
Sanket Gajare	Badminton
Harshal Patil	Table Tennis
Akash Shinde	Table Tennis
Harshad Kamale	Table Tennis
Shubham Sherkhane	Table Tennis
Arbaj Tamboli	Weightlifting
Uttam Bichukale	Wrestling
Shubham Vasekar	Volleyball
Shubham Bhosale	Volleyball
Onkar Bhosale	Volleyball
Dipak Shinde	Volleyball

Continue on Page 3……..

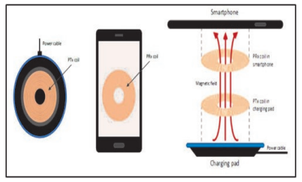
SMART LEDS

-Ms. Patil Parvati (TY EJ)

Multi-Function LED Lamps with Built-in wireless chargers has examined LED lighting from the stand point of safety, light quality, energy efficiency, and sustainable design, so now let's take a look at the features and underlying technology of some commercial LED-based lamps. Brightech manufactures LED lighting systems for homes and small offices. Several of its products feature added conveniences such as USB ports and wireless pads that charge cell phones, tablets and other battery-powered devices.

Features and Specifications-Two Brightech lamps that provide wireless charging pads and USB ports are the Grace Table Lamp and the Madison Nightstand Lamp. Both include LED bulbs that screw into an E26 base (the same socket as a standard incandescent light bulb) and provide 800 lumens of light—about the same as a 60W incandescent.

LED Technology- The Brightech Light Pro LED Bulbs in these lamps consist of surface-mount LEDs surrounded by an aluminum housing that's engineered to enhance convective currents, which helps to dissipate the heat generated by the control circuitry. The LEDs emit white light; a phosphor coating tunes the color temperature to a warm 3000K. The company also offers cool white lamps that use blue LEDs with a different phosphor coating to provide a 6000K color temperature (better suited for office and task lighting), and a few lamps whose color temperatures can vary using tri-color LEDs.



Charging Technology and the Qi Specification

Each lamp comes with USB ports capable of delivering 5 Watts at 1 Amp That's enough to charge a 3000 mAh battery in about three hours. The wireless charging pad delivers the same amount of power using the Qi wireless power transfer specification.

RCC-The Remarkable Construction Technology

Mr. Pimpale Maruti (TY CE)

Roller compacted concrete (RCC) is of great importance due to its advanced procedures which has been used for past 25 years all over the world. As frequently being used the most economical way to build safe dams, concrete is the second largest material consumed by human beings after food and water as per WHO. RCC has three key properties that make it uniquely suited to dam's economy, performance and high speed construction. American concrete Institute (ACI) defines Roller compacted concrete (RCC) as concrete compacted by roller compaction.

In the quarter century, since willow creek dam considerable research and experimentation have yielded innumerable improvements in concrete mix design. Currently the highest dams of this type is Longtan Dam in China at 216m with Diamer Basha dam in Pakistan planned at 272m. The repair of the collapsed intake tunnel of terbeila dam proved that the material had more adequate strength and durability. Diamer Basha dam with a height of 272 meters cost of US $13.684 billion dollar would generate 4500 MW. Electricity and store over 8.1 million. Acre feet of water to meet country's growing power and irrigation needs are being built on Indus River, about 315 km upstream of Tarbela Dam.