

“GIZMOGENIX”



Department of Electronics and Telecommunication Engineering



**SAU. SUNDARABAI MANIK ADSUL
POLYTECHNIC**

A. Y. 2024-2025

About Trust

Sakeshwar Gramin Vikas Seva Sanstha was established on 24th September 2004 to promote the noble cause of education. The founder member & president of this sanstha is Hon. Prof. Anirudha Manik Adsul. Prof. Anirudha Adsul is well known personality all over Maharashtra in Education field. The work in the field of education which is started 25 year ago under the name of Adsul's Classes for 11 and 12th Science students has today been transformed into Adsul's Educational campus (Engineering, Polytechnic and MBA) College, and B.Ed. college under the Sakeshwar Gramin Vikas Seva Sanstha. Today 2000+ students from rural areas are studying in in the institute and thousands of pass out students are contributing to the progressive development of country.

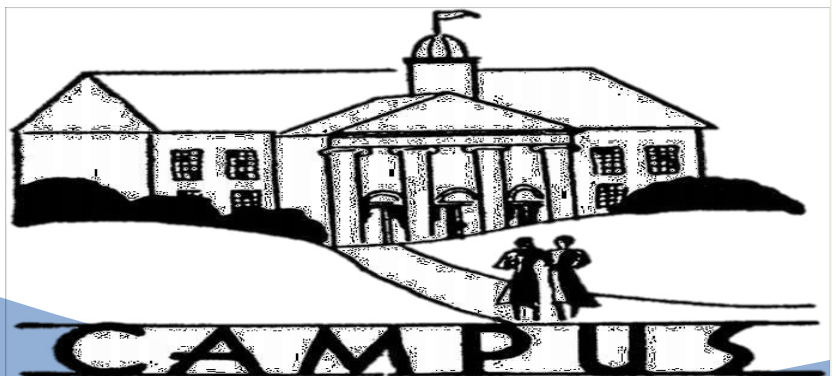


About (SSMA POLYTECHNIC)

Sau. Sundarbai Manik Adsul Polytechnic, Chas, Ahilyanagar established in 2010 and approved by Directorate of Technical Education Mumbai (DTE), Maharashtra Government & affiliated to Maharashtra State Board of Technical Education (MSBTE). The institute is approved by All India Council for Technical Education (AICTE).

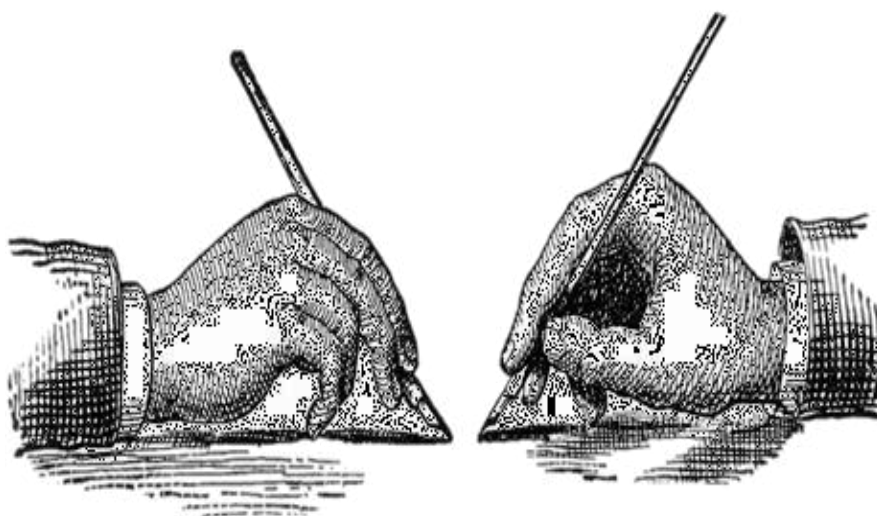
At present, the institute offers Three Year Diploma Courses in the following faculties.

1. Electronics & Telecomm. Engineering
2. Mechanical Engineering
3. Computer Engineering
4. Electrical Engineering
5. Civil Engineering



Editorial Board

Chief Editor	:	Prof.Palande S.C.
Teacher Incharge	:	Prof. Aher S.K.
Teacher Editor	:	Prof. Darandale J.P.



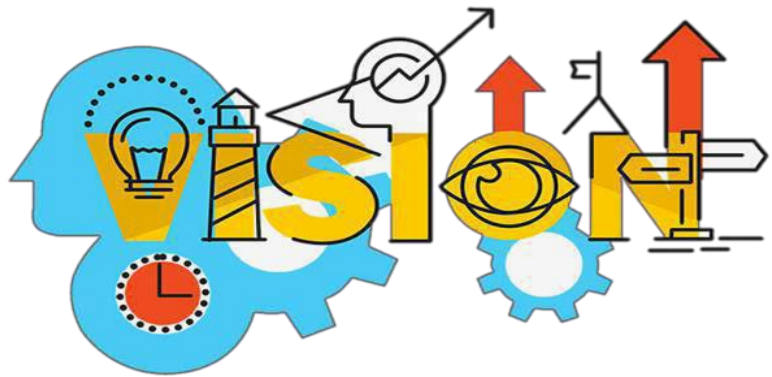
Students

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Creative Head	:	Gunjal Suraj
Creative Head	:	Anand Hiwale
Coordinator Writing	:	Darkunde Suraj
Student Volunteer	:	Abbas Nagarwala



Vision

To be a premier department in the field of Electronics and Telecommunication engineering with emphasis on hands-on activities.



Mission

M1: Producing professional engineers to handle the state-of-the-art technologies in the field.

M2: Imparting research and innovative aptitude with high moral for overall development of students.

M3: Establish leadership skills, team spirit and high ethical values among the students.

M4: Encourage students to become entrepreneur.



Staff



Prof. Palande S.C
Head of the department



Prof. Darandale J.P.
Lecturer



Prof. Palve D.S
Lecturer



Prof. Aher S.K.
Lecturer



Prof. Garje A.S.
Lecturer



Prof. Dhirde P.N.
Lecturer

5G and Beyond” Is A Dynamic and Multidisciplinary Field

Research on 5G and beyond is a dynamic and multidisciplinary field that encompasses various aspects of wireless communication, network architecture, device design, and applications. Here are

Some potential research areas within the broader domain of 5G and beyond: → Network Performance

Optimization: Investigating methods to enhance the performance, capacity, and efficiency of 5G networks, including techniques such as spectrum sharing, resource allocation, interference management, and network densification. → Millimeter Wave Communications: Exploring the potential of millimeter wave frequencies for high-speed, short-range communication in 5G and beyond. This includes investigating propagation characteristics, beam forming techniques, and channel modeling to improve coverage and capacity in mm Wave bands. → Massive MIMO: Researching advanced multiple-input, multiple-output (MIMO) techniques for 5G and beyond, including large-scale antenna arrays beam forming, and spatial multiplexing. Focus areas include optimizing

MIMO algorithms, reducing hardware complexity, and improving energy efficiency. → Ultra- Reliable Low-Latency Communications (URLLC) .



Cultural Activity performed by students



A large group of students and faculty members posing for a group photo in front of a building entrance. Many students are wearing blue shirts, and a banner in the background reads "INTER COLLEGE COMPETITION".

A large group of students and staff members are posed for a group photograph in a spacious hall. The students, dressed in blue uniforms, are lined up behind long tables on both sides of a central aisle. Staff members, wearing white shirts, stand in the center of the group. The hall features a polished floor, large windows at the far end, and ceiling fans.

A large, well-lit classroom with rows of students seated at desks, facing the front. The students are wearing school uniforms. The room has large windows at the front and side, and a teacher is visible standing near the front.

Rangoli Making Competition



Paper Presentation



National Science Day



Industrial Visit



Parents Meet



Academic Toppers



Mrs. SANSKRUTI
KSHIRSAGAR
FY E&TC



Mrs. MANJUSHRI MORE
FY E&TC



Mrs. AKANKSHA GHUNGARDE
FY E&TC



Academic Toppers



Mrs. KOMAL ZINE
SY E&TC



MR. ADITYA KSHIRSAGAR
SY E&TC



Mrs. ANUSHKA DUDHADE
SY E&TC



Academic Toppers



MR. SARTHAK
ANANDKAR
TY E&TC



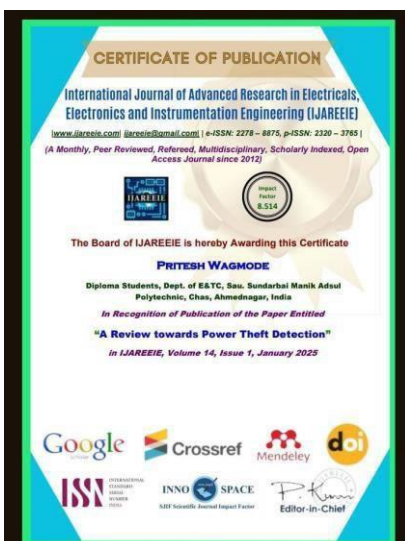
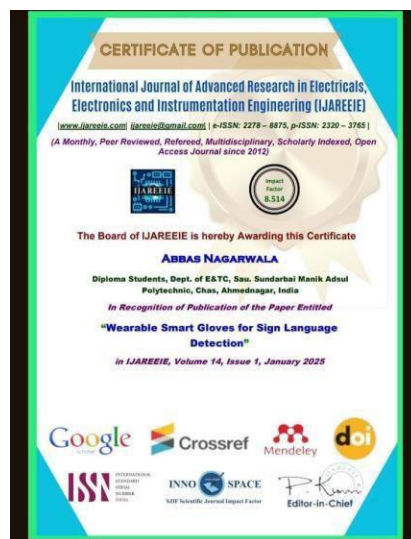
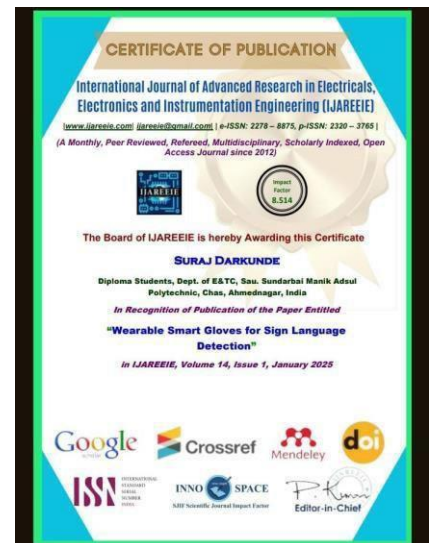
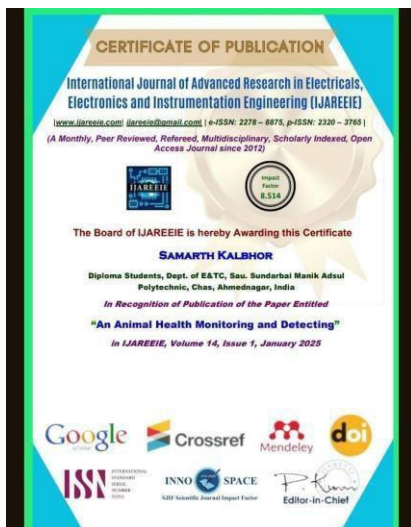
MR. SURAJ DARKUNDE
TY E&TC

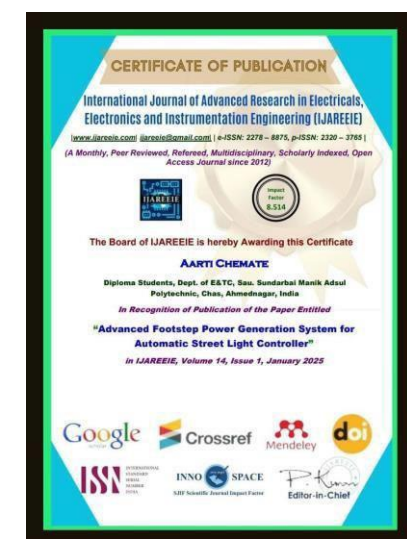
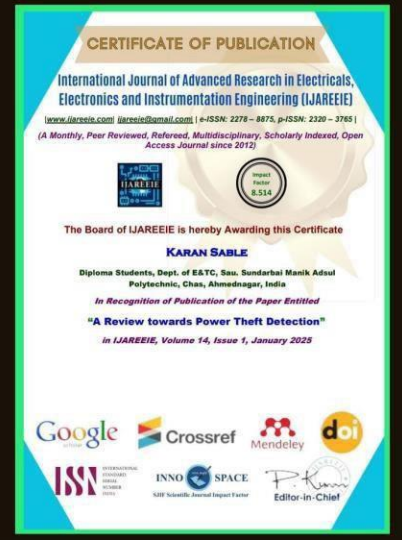
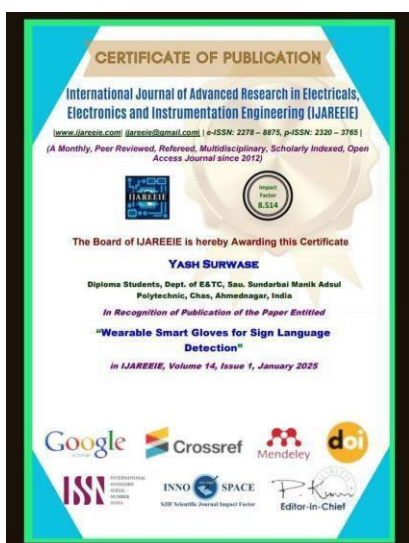
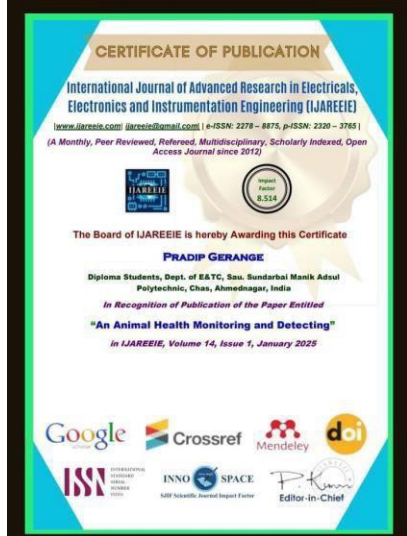
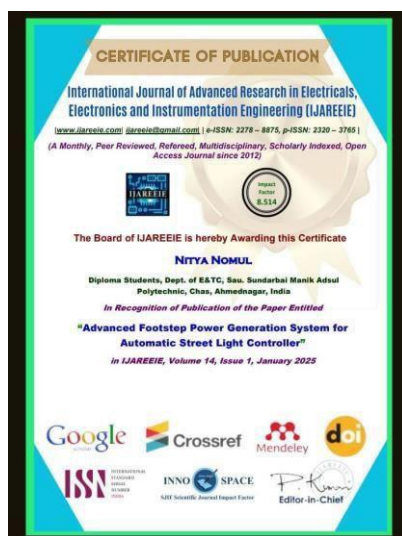
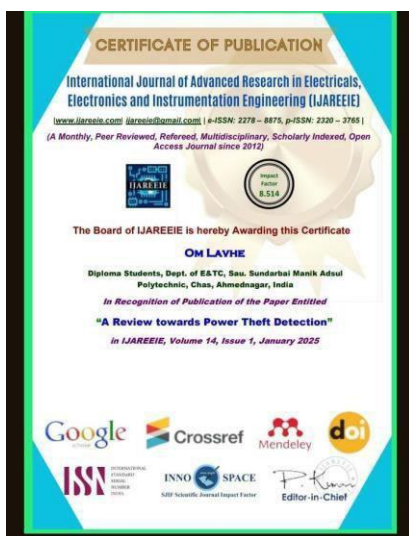
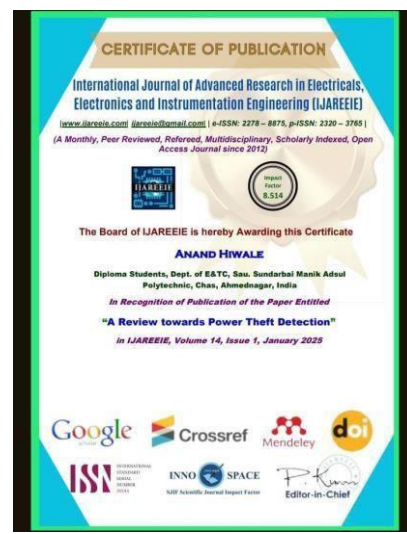
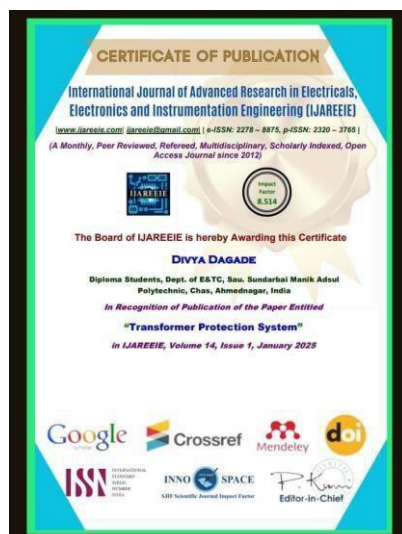


MR. ABBAS NAGARWALA
TY E&TC

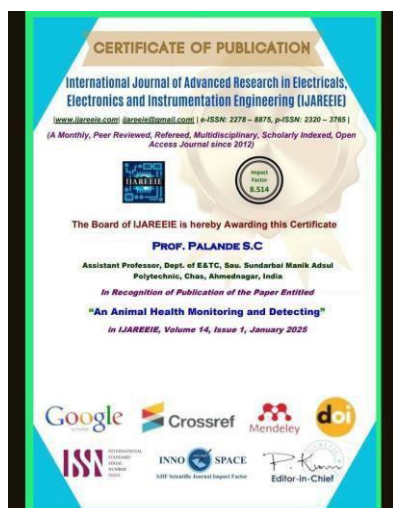
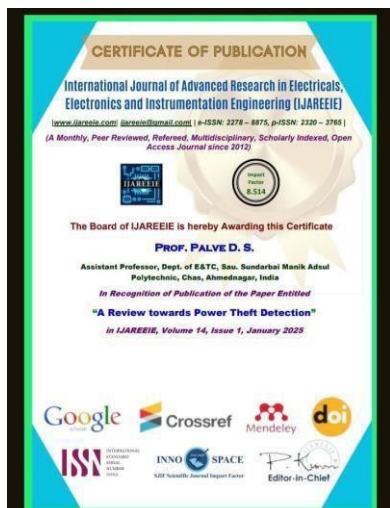
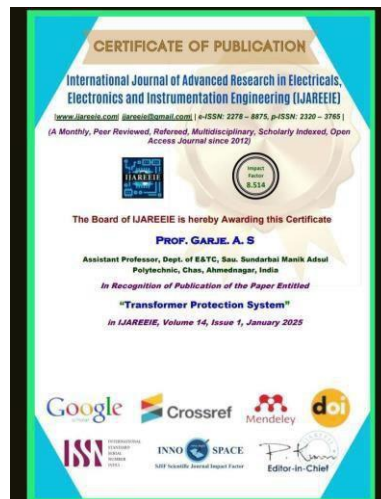
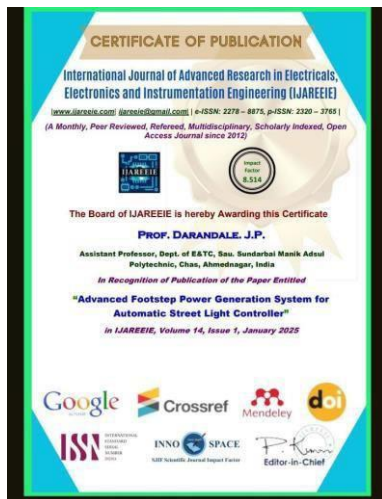
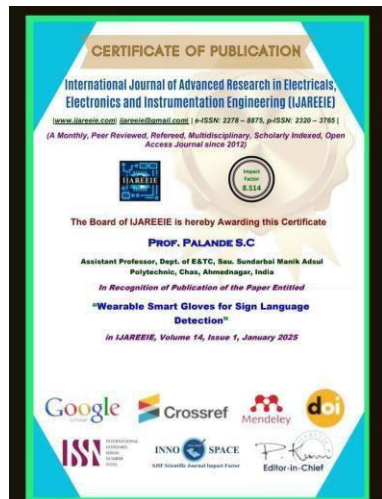


Paper publish by Students



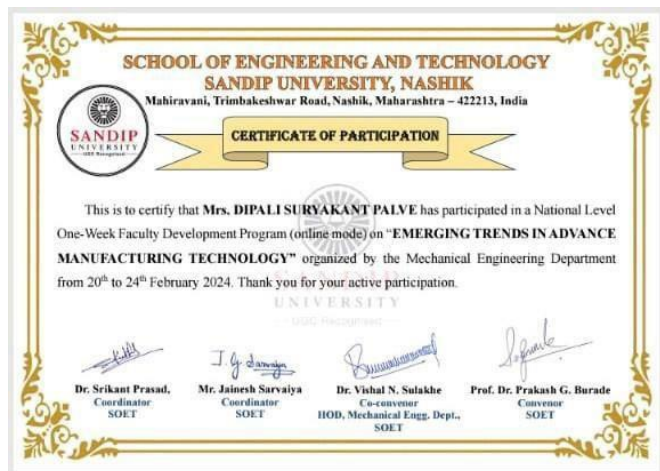


Paper publish by faculty

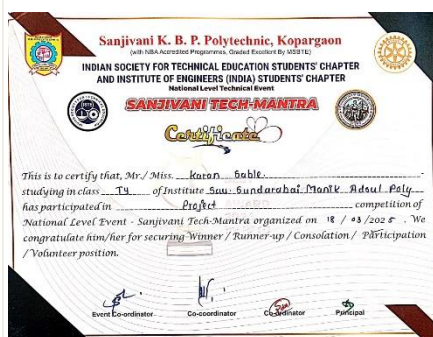
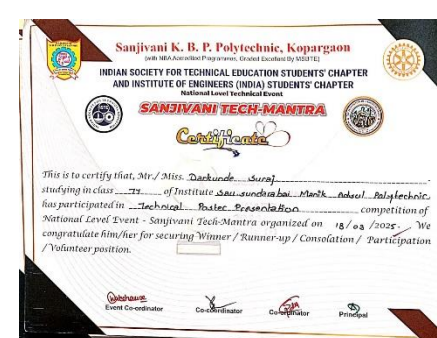
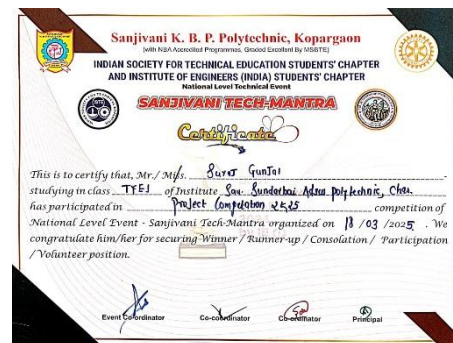


Faculty Achievements





National and state level achievement



Faculty Achievements

Sr. No	Name of Faculty	Achievements
1	PROF.PALANDE S.C.	1.Recent trends in mobile computing with real time approach 2.Faculty development program. 3.Paper published to Animal Health Monitoring and Detecting 4.Paper published to Wearable Smart Gloves for Sign Language Detection
2	PROF. DARANDALE J.P.	1.Emerging trends in a advance manufacturing technology. 2.Faculty development program. 3.Training in a electrical vehicle technology 4.Faculty development programme on effective teaching 5.Paper published to Advanced Footstep Power Generation System for Automatic Street Light Controller
3	PROF. AHER S.K.	1.Emerging trends in a advance manufacturing technology
4	PROF. PALVE D.S.	1.Emerging trends in a advance manufacturing technology 2.Paper published to A Review towards power theft detection
5	PROF. GARJE A.S.	1.Paper published to Transformer Protection System



An Animal Health Monitoring and Detecting

Prof. Palande S.C., Samarth Kalbhor, Sarthak Anandkar

Amit Myana, Pradip Gerange

Assistant Professor, Dept. of E&TC, Sau. Sundarbai Manik Adsul Polytechnic, Chas,
Ahmednagar, India Diploma Students, Dept. of E&TC, Sau. Sundarbai Manik Adsul
Polytechnic, Chas, Ahmednagar, India

INTRODUCTION

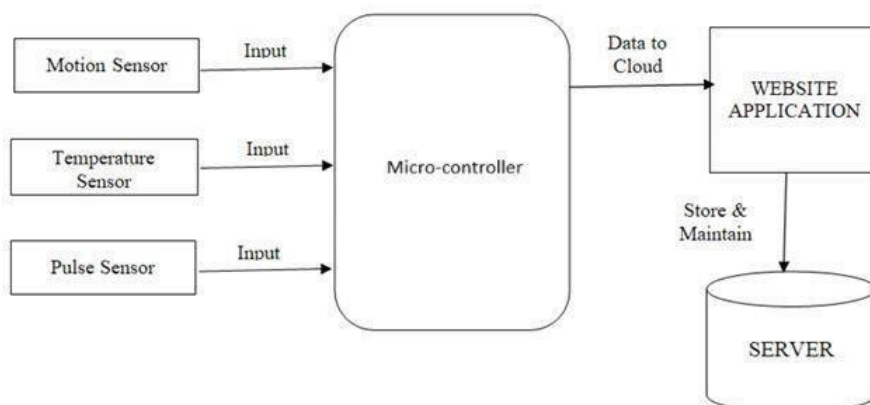
As per web data and different specialists it has been distinguished that many pets and even stray animals endure medical issues and even die because of carelessness of the pets and their owners. If there should arise an occurrence of some crisis the owner of the pet or the individuals around will most likely be unable to see or feel that the pet is having some issue with its wellbeing or it is debilitated. Some of the time, it gets hard to get to the area of the pet if there is any emergency and because of this it might even cost the pet with life. After all, it is important to guarantee the wellbeing of the pet. not discover location of pet in a wide area. To sidestep such issues for discovering explicit position of pet, the following framework is utilized. Discussing current innovations in and medical history. certain nations, belts are put on the pet's neck. This existing belt has a remote transmitter

ABSTRACT

For keeping up a solid environmental parity on this planet, animals, plants and marine species are as significant as people. Every life form on this planet has an extraordinary spot in evolved way of life that adds to the biological system in its own uncommon manner. Pets have become integral part of biological system. The day to day life has become very risky for pets, there is need of assurance to the pets. In this situation observing their health and keeping track of the pet is very important.

So as to enable the pets to carry on with a sound and healthy life of wellbeing, the proposed framework will help in doing so by keeping track and monitoring their health parameters. This project prototype will alarm the guardian of the pet or the owner about wellbeing of their pet especially the pulse temperature, movement of that pet, which will accordingly build the concern towards pets and lower loss of their life

BLOCK DIAGRAM



A Review towards Power Theft Detection

Prof. Palve D. S., Karan Sable, Anand Hiwale, Suraj Gunjal, Om Lavhe, Pritesh Wagmode Assistant Professor, Dept. of E&TC, Sau. Sundarbai Manik Adsul Polytechnic, Chas, Ahmednagar, India Diploma Students, Dept. of E&TC, Sau. Sundarbai Manik Adsul Polytechnic, Chas, Ahmednagar, India

INTRODUCTION

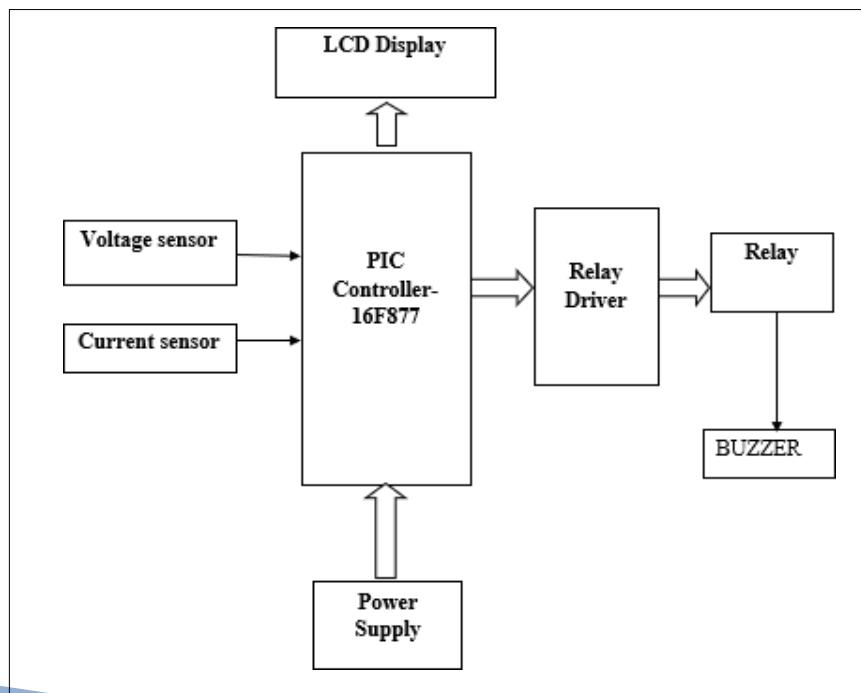
Electricity has become one of the most necessary elements of our daily life. Nowadays, it is something that people cannot live without. It has become a necessary element for the survival of maximum human beings. But with the increasing need of the electricity, the electricity theft is also increasing and it will keep on continuing until some measures are not taken to detect and control it. With the advancement of technology particularly in the field of microcontrollers, all the activities in our day-to-day living have become a part of information and we find microcontrollers at each and every application. Nowadays, energy distribution/consumption has become a big subject for discussion because of huge energy theft. Theft in this case refers to a deliberate attempt to steal considerable amount of energy by ensuring no/low energy recording in the metering device.

Hence, there is a need to think in this line and prefer a solution to this ugly trend. Thus, this paper focuses on electrical energy monitoring so that energy theft can easily be detected and huge penalties be imposed on these thieves. By detecting energy theft cases, the economy of a nation can grow rapidly.

ABSTRACT

Power theft is normally done by two methods that is bypassing or hooking. So to detect it, a system (current measuring and comparing) is proposed in which the household distribution of current is done indirectly from the electric pole to an intermediate distributor box and then to the individual houses. The current is measured periodically in the distributor box and is posted to the server database for each house using GSM/GPRS module. Similarly, for each house electric meter is designed which can measure the value of the current and post the same to the server database periodically using GSM/GPRS module. At the time of the installation of the electric meter the details of the users are stored in the database through a user friendly mobile application including the address, latitude, longitude using mobile GPS and the photograph of the user's house/area.

BLOCK DIAGRAM



Wearable Smart Gloves for Sign Language Detection

Prof. Palande S.C., Abbas Nagarwala, Suraj Darkunde, Aditya Ingale, Yash Surwase Assistant Professor, Dept. of E&TC, Sau. Sundarbai Manik Adsul Polytechnic, Chas, Ahmednagar, India Diploma Students, Dept. of E&TC, Sau. Sundarbai Manik Adsul Polytechnic, Chas, Ahmednagar, India

INTRODUCTION

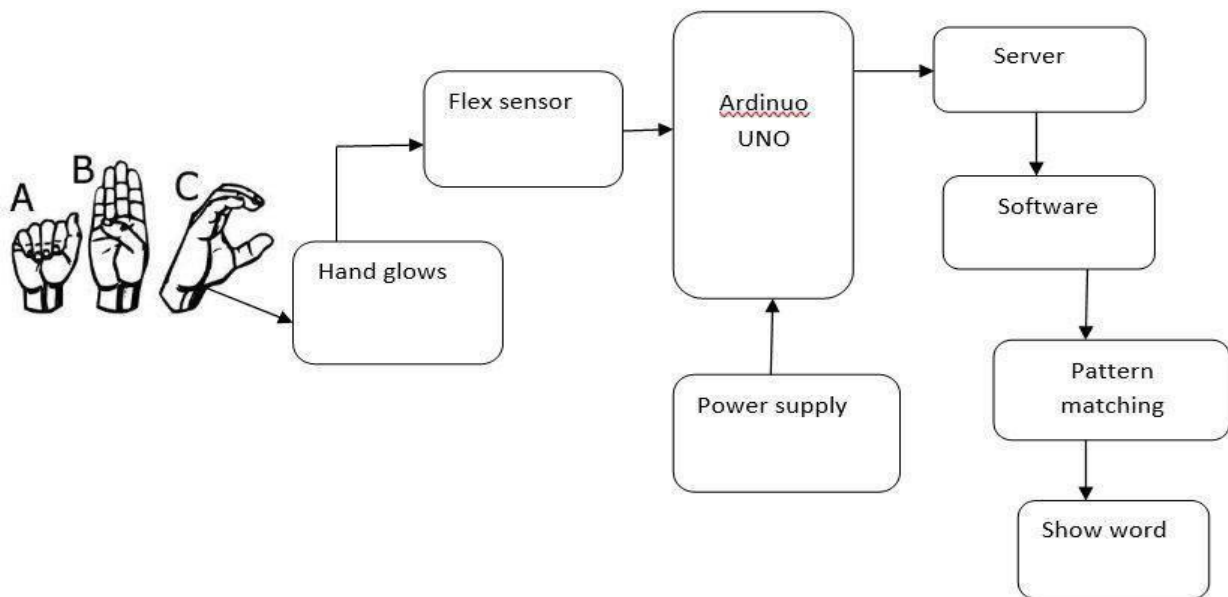
People who are deaf and dumb often tend to feel uncomfortable around other people, when drawing attention to their hearing problem. Those people want to be like their friends with good hearing, so this drives a thought in them to mainly keep to themselves and to not take part in activities with those normal people. Sign languages are used by mute people as a medium of communication. Sign languages are used to convey thoughts with symbols, and objects etc. They also convey combination of words and symbols (i.e. gestures). Gestures are different patterns made by the curls and bends of the fingers. Gestures are the best medium for their communication. As per shown in image every word/character has predefined pattern of finger and palm combination. This system is to identify this pattern or combinations electronically.

In this system glove is implemented to capture the hand gestures of a user. The gloves are having flex sensors along the length of each fingers and the thumbs. The flex sensors output a stream of data that varies with degree of bend. The analog outputs from the sensors are then fed to microcontroller. It processes the signals and perform analog to digital signal conversion. The gesture is recognized and the corresponding text information is identified.

ABSTRACT

Today the main problem faced by the deaf and dumb people is the communication part, to convey their thought with other deaf and dumb people and with other normal people. Normal people can absorb new information and knowledge through the daily noises, conversations and language that is spoken around them. Deaf and hard-of-hearing people do not have that luxury. This system will help those people by providing a medium to communicate. It implemented using devices like flex sensors, and microcontroller.

BLOCK DIAGRAM



Advanced Footstep Power Generation System for Automatic Street Light Controller

Prof. Darandale. J.P., Anushka Walekar, Aarti Chemate, Nitya Nomul

Assistant Professor, Dept. of E&TC, Sau. Sundarbai Manik Adsul Polytechnic, Chas, Ahmednagar, India Diploma Students, Dept. of E&TC, Sau. Sundarbai Manik Adsul Polytechnic, Chas, Ahmednagar, India

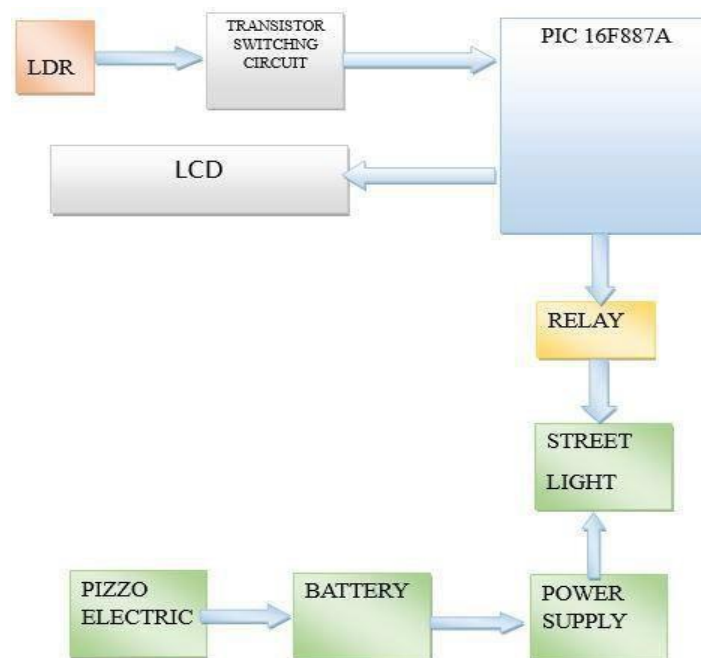
INTRODUCTION

Nowadays, road infrastructure could be a key concern within the developed world. consistent with recent studies, tierce of fatal or serious accidents square measure caused by excessive or unsuitable speed, additionally as changes within the route (like the presence of road-work or sudden obstacles). Accident reduction and mitigation square measure major issues for traffic authorities, the automotive business, and transportation analysis organizations. One essential course of action is that the adoption of advanced driver aid systems, that square measure acoustic, haptic, or visual cues provided by the automobile to alert the motive force to the danger of a collision. These systems square measure currently accessible in some business vehicles, Associate in Nursing future trends predict that automatic driving controls and an increasing range of sensors on each the road infrastructure and also the vehicle itself can improve safety. controller, that has the facility of maintaining a gentle user predetermined speed, and its evolution, accommodative controller (ACC), that adds to CC the aptitude of maintaining a secure distance from the preceding vehicle, square measure 2 distinguished samples of driver help systems. One disadvantage of those systems is that they can't severally discriminate between straight and c sections of the road, wherever the speed should be reduced to avoid accidents.

ABSTRACT

As with energy demand, the country's populace is developing rapidly. At the equal time, energy waste is growing in diverse ways. Therefore, the principle answer is to translate this power without delay right into a useful form. In this step strength technology project, power is generated from human footsteps and used to price the battery. Energy is saved in batteries that may be used to price cell telephones with RELAY. The device includes an Arduino IDE, USB cable, and LCD. Switch to the strength of this device to enter registration mode. You can add 3 new customers. When all clients enter the device, the device clears the map panel and connects to the charger. By default, all clients are given 5 minutes of load time. With that, the relay will turn on and the charger will turn on the to charge the phone. If the customer wants to interrupt the loading process, they will have to pull the field again. To prevent loading, the downtime is credited and the swipe card is displayed again.

BLOCK DIAGRAM



Transformer Protection System

Prof. Garje. A. S, Divya Dagade, Kaveri Dange, Archana Patole, Mahima Tijore

Assistant Professor, Dept. of E&TC, Sau. Sundarbai Manik Adsul Polytechnic, Chas, Ahmednagar, India

Diploma Students, Dept. of E&TC, Sau. Sundarbai Manik Adsul Polytechnic, Chas, Ahmednagar, India

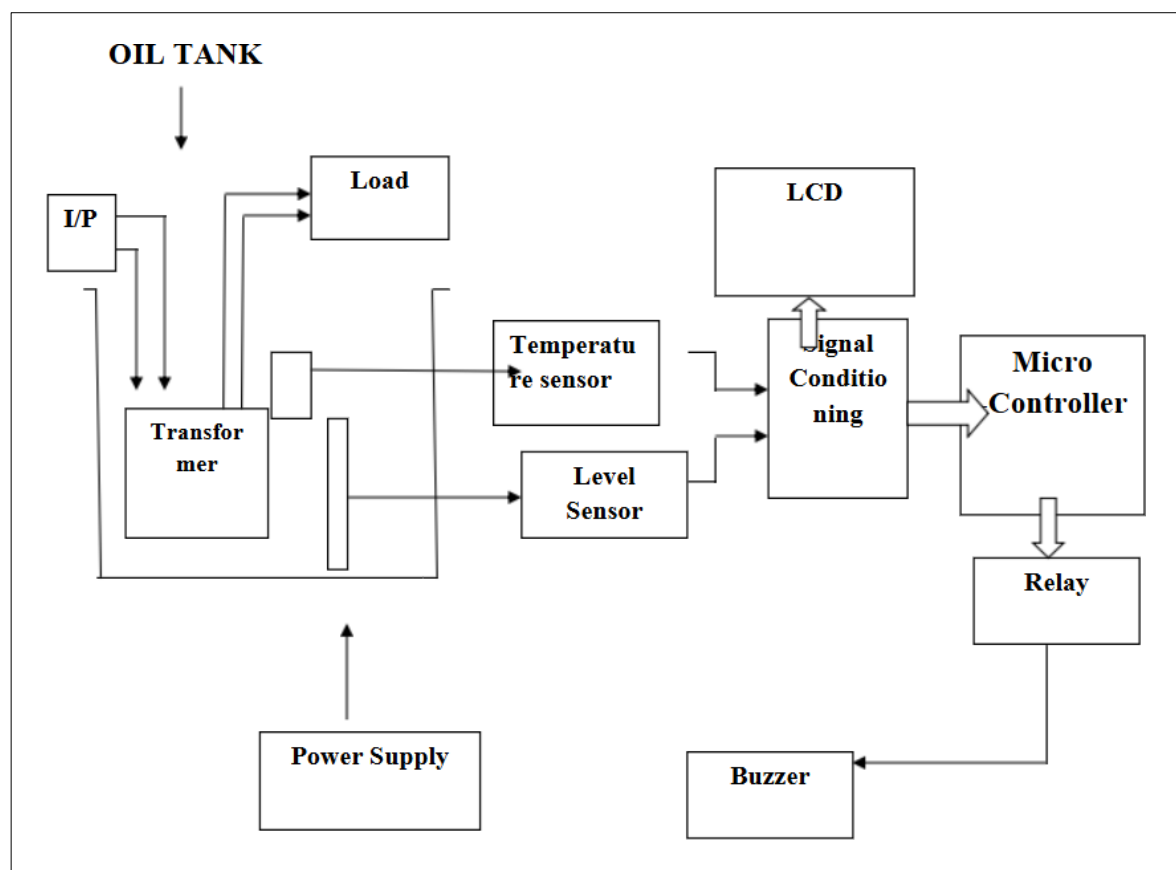
INTRODUCTION

In power systems, distribution transformer is electrical equipment which distributes power to the low-voltage users directly, and its operation condition is an important component of the entire distribution network. Operation of distribution transformer under rated condition guarantees their long life. However, their life is significantly reduced if they are subjected to overloading, resulting in unexpected failures and loss of supply to a large number of customers thus affecting system reliability. Overloading and ineffective cooling of transformers are the major causes of failure in distribution transformers. The monitoring devices or systems which are presently used for monitoring distribution transformer cause some problems and deficiencies. Ordinary transformer measurement system generally detects a single transformer parameter, such as Power, oil level, Temperature and Send Message via GSM module to Respective person. While some ways could detect multi-parameter, the time of acquisition and operation parameters is too long, and testing speed is not fast enough. According to the above requirements, we need a distribution transformer real-time monitoring system to detect all operating parameters operation, and send to the monitoring centre in time. This will help to identify problems before any serious failure which leads to a significant cost savings and greater reliability.

ABSTRACT

This project is about design and implementation of an embedded system to monitor and record key parameters of a distribution transformer like load currents, load voltage, open circuit, short circuit, ambient temperature. The idea of on-line monitoring system. With a standalone single comparator and different sensors. It is installed at the distribution transformer site and the above parameters are recorded using an analog to digital converter (ADC) of the embedded system. The obtained parameters are processed and recorded in the system memory.

BLOCK DIAGRAM



DEPARTMENT OF E&TC INDUSTRIAL VISIT



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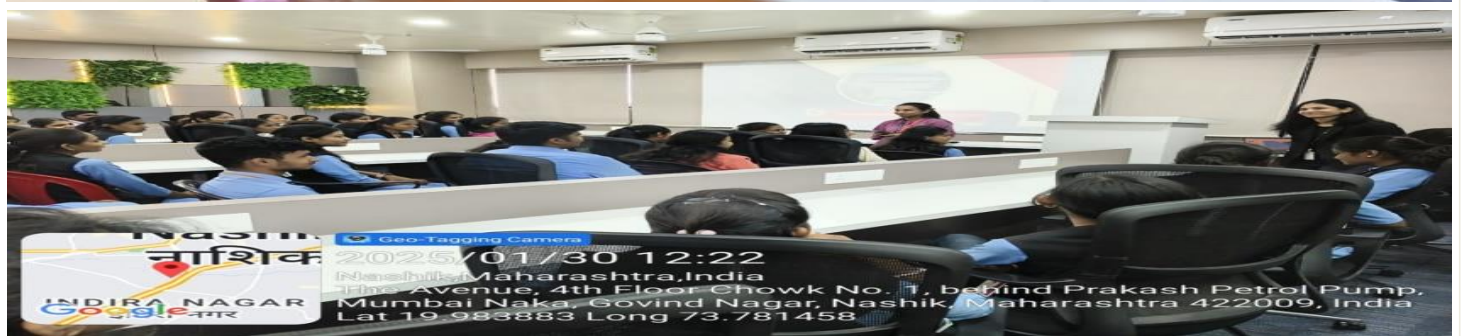


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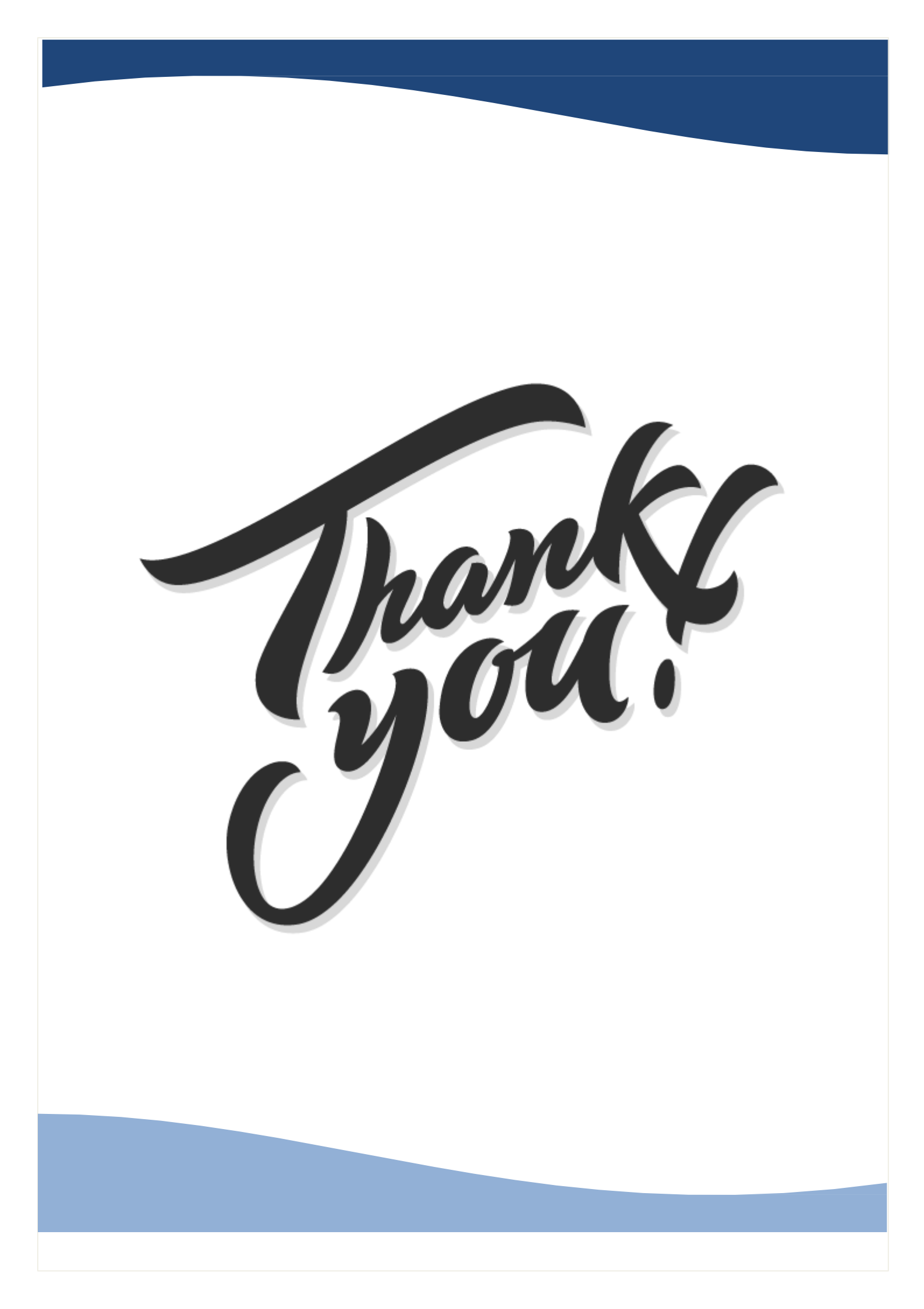


TECHNICAL EVENTS



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