

**YASHODA SHIKSHAN PRASARAK MANDAL, SATARA**

**YASHODA TECHNICAL CAMPUS**

**DEPARTMENT OF E & TC ENGINEERING**



**MAY 2024**

**....TECHNICAL MAGAZINE**

**Department of Electronics &  
Telecommunication Engineering  
Technical Magazine  
(YASHOTECH-ELECTRONICS)  
2023-24 [EVEN SEM]**



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Today's reader  
can be a tomorrow's  
leader !

## PRESIDENT'S DESK



I welcome you to YSPM's Yashoda Technical Campus, Satara, an Institution which inculcates true values while disseminating quality education for shaping the career of our students. All our institutes are approved by the concerned statutory bodies and fulfill all the norms and standards laid down by them. Our technical campus is located in a lush, green, pollution free, picturesque environment. Our institutes have well qualified, experienced and student caring faculty, well equipped laboratories, spacious lecture halls and tutorial rooms, well maintained rich library, e-library, Wi-Fi Campus, Computer with Internet Facility, and a play ground with sports facilities. We emphasize on overall personality development of our students. Our faculty pays attention to each students a platform to excel not only in academics but also in co-curricular and a multi disciplinary study culture. Amenities provided by our institutes include transport facility, hostel facility, reprographics facility, canteen, STD PCO, medical centre, sports centre etc. We are committed to import value based quality education along with development of positive attitude, skills and abilities to apply knowledge in order to meet the challenges of future. I extend my best wishes for your bright and prosperous future.

Prof. Dasharath Sagare  
Founder President  
YSPM - YSS, Satara



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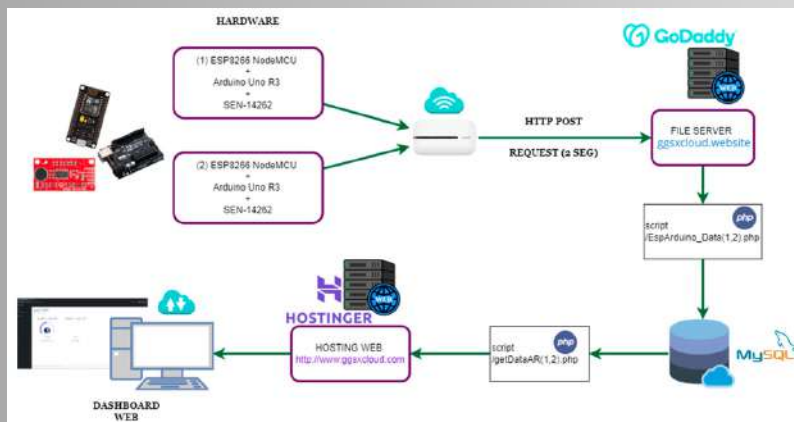


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## Noise Pollution Management using Smart Horn System based on IoT

Conventional horn system is causing too much noise pollution and is proven to have harmful effects on the human ear. We would like to provide a solution to this problem by modification of the present horn system, that is, by providing an alternative smart horn system based on distance and design an algorithm for monitoring horn usage using the average number of times horn is blown, and also in this process the silent zones are identified and the horn sound is automatically reduced. Ultrasonic sensors are placed on the sides of the vehicle with a range of 1-13 feet are used to calculate the average distance and reduce the volume of the horn based on this distance. OpenMapsapi is used to obtain 'Silent zones' and volume of horn is reduced based on this data.



Shinde Udayan Ankush, SY



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## EMBEDDED SYSTEMS AND AUTONOMOUS CAR

The technical Brilliance and Developments in different fields have led to a drastic change especially in the communication field.. There are many paradigm shifts taking place due to information explosion and the concept of autonomous vehicle is one shift. Devices with intelligence rule the world. Imbibing intelligence to these devices is through a system called Embedded System. Embedded Systems are used in many ways. In business, to track inventories with bar codes and scanners, check the credit status of customers, and transfer funds electronically. In homes, tiny embedded systems in the electronic circuitry of most appliances control the indoor temperature, operate home security systems, tell the time, and turn TV, Players on and off. In automobiles to regulate the flow of fuel, thereby increasing gas mileage, and are used in anti-theft systems. The car, which is embedded, can simulate the human driver completely and direct the vehicle on the road. Autonomous vehicle is the drastic change in technical brilliance and developments in different fields with Embedded System as pioneer.



PATIL VAISHNAVI DIPAK, TY



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## Paper Batteries

A paper battery is an energy source which is more flexible and thin. This device is a combination of carbon nanotubes with cellulose based paper. The paper battery can act in two ways. A battery as well as a super capacitor, these batteries can be used as a power source to next generation electronic devices, medical devices, pace makers, hybrid vehicles, etc. Scientists have developed batteries of size slightly larger than a postal stamp that can produce energy that is enough to illuminate a small bulb. In future we can expect a stack of paper batteries that is able to power up a car. These are non-toxic and flexible.



**SHINDE OM NITIN,  
 TY**



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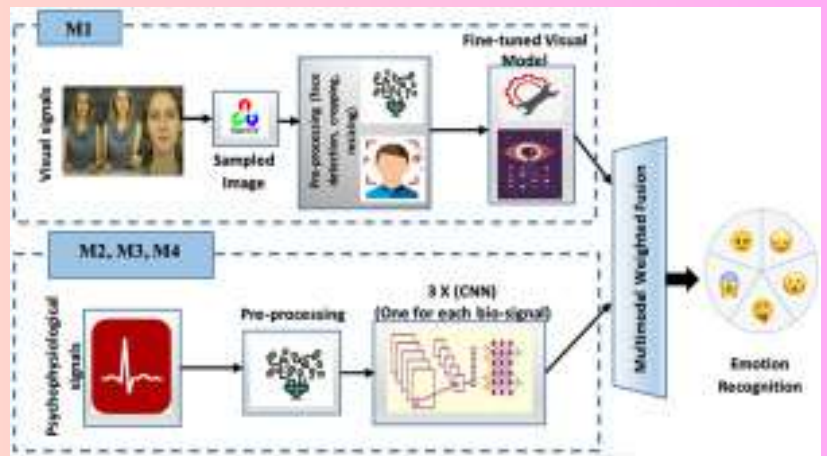
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## Multimodal emotion recognition

This paper discusses the application of feature extraction of facial expressions with combination of neural network for the recognition of different facial emotions (happy, sad, angry, fear, surprised, neutral etc..). Humans are capable of producing thousands of facial actions during communication that vary in complexity, intensity, and meaning. This paper analyses the limitations with existing system Emotion recognition using brain activity. In this paper by using an existing simulator I have achieved 97 percent accurate results and it is easy and simplest way than Emotion recognition using brain activity system. Purposed system depends upon human face as we know face also reflects the human brain activities or emotions. In this paper neural network has been used for better results. In the end of paper human multimodal recognition has been explained.

**SHINDE SRUSHTI HARISH,  
 TY**



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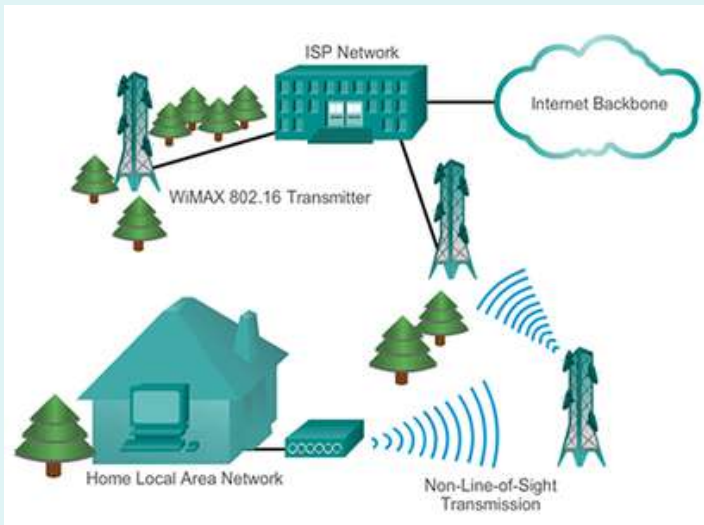


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## WI-MAX (Worldwide Inter-operability of Microwave Access) Technology

WI-MAX (Worldwide Interoperability for Microwave Access) is a family of wireless communication standards based on the IEEE 802.16 set of standards, which provide “Multiple Physical Layer”(PHY) and “Media Access Control”(MAC)options. “WI-MAX” aims to provide a metropolitan access network which will provide higher bandwidth ad larger coverage can are currently available with existing wireless technologies such as Wi-Fi ,3G,4G Etc. “WI-MAX” directly supports the technologies that make TRIPLE-PLAY service offerings possible (such as Quality of service and Multi-casting). In many cases, this has resulted in competition in markets which typically only had access through an existing incumbent DSL (or similar) operator. “WI-MAX” technology is set to allow high-speed internet access from laptops and other mobile devices over larger distances than previous technologies.



VAIBHAVI NARAYAN BHOSALE,  
TY



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## SMART DUST

The current ultramodern technologies are focusing on automation and miniaturization. Smart dust is tiny electronic devices designed to capture mountains of information about their surroundings while literally floating on air. Now-a-days sensors, computers and communication are shrinking down to ridiculously small sizes. The idea behind 'smart dust' is to pack sophisticated sensors, tiny computers and wireless communications into a cubic millimeter mote to form the basis of integrated, massively distributed sensor networks. Smart dust requires both evolutionary and revolutionary advances in miniaturization, integration & energy management. Depending on it's objective the design integrates various sensors, including light, temperature, vibration, magnetic field, acoustic & wind shear onto the mote. Conclusion: The mote's minuscule size makes energy management a key component. They will be light enough to remain suspended in air for hours. As the motes drift on wind, they can monitor the environment for light, sound, temperature, chemical composition & a wide range of other information, and beam that data back to the base station miles away.



PISAL MADHU DNYANDEV  
B.TECH



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## Voice Recognition

As soon as the idea for voice recognition was developed, attempts were made for handsfree operation of the PC. Software solutions have been developed by various companies since 1939.

AT&T's Bell Labs produced the first electronic speech synthesizer called the Voder (Dudley, Riesz and Watkins). This machine was demonstrated in the 1939 World Fairs by experts and it used a keyboard and foot pedals to play the machine and emit speech.



The first company to launch a commercial product based on voice recognition was Covox in 1982. Covox brought digital sound (via The Voice Master, Sound Master and The Speech Thing) to the Commodore 64, Atari 400/800, and finally to the IBM PC in the mid '80s. Along with this introduction of sound to computers, came Speech Recognition.

Dragon systems, which was founded in 1982 is the leader in the voice recognition market. Dragon speech recognition software makes it easy for anyone to use a computer. You talk, and it types. Use your voice to create and edit documents or emails, launch applications, open files, control your mouse, and more. Quickly and easily capture your thoughts and ideas while Dragon helps you get more done faster.

An even more userfriendly software, Siri on iPhone 4S lets the user to use their voice to send messages, schedule meetings, place phone calls, and more. Users can ask Siri to do things just by talking the way they talk. Siri understands what they say, knows what they mean, and even talks back. Siri is so easy to use and does so much.



SALUNKHE SONIYA SURESH, B.TECH



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## The Science of Happiness

As far as possible without surrender, be on good terms with all persons. Speak the truth quietly and clearly and listen to others, even the dull and ignorant; they too have their story. Avoid loud and aggressive persons, they are vexations to the spirit. If you compare yourself to others you may become vain and bitter, for always there will be greater and lesser persons than yourself. Enjoy your achievements as well as your plans. Keep interested in your career however humble; it is a real possession in the changing fortune of time. Exercise caution in your business affairs, for the world is full of trickery. But let this not blind you from what virtue there is. Many persons strive for high ideals and everywhere life is full of heroism. Be yourself, especially do not feign affection. Neither be cynical about love; for in the face of all arid-ity and disenchantment, it is as perennial as the grass.

Take kindly the counsel of the years, gracefully surrendering the things of youth. Nurture the strength of spirit of shield in sudden misfortune. But do not distress yourself with imagination. Many fears are born of fatigue and loneliness. Beyond a wholesome discipline, be gentle with yourself. You're a child of the Universe, no less than the trees and the stars; you have right to be here. And whether or not it is clear to you, no doubt the Universe is unfolding as it should be. Therefore be at peace with God, whatever you conceive him to be and whatever labours and aspirations, in the noisy confusion of life, keep peace with your soul. With all its shams, drudgery and broken dreams, it is still A BEAUTIFUL WORLD.



PRANAY BAJIRAO SUTAR  
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