



Shri Gajanan Maharaj Shikshan Prasarak Mandal's,

Sharadchandra Pawar College of Engineering

Dumbarwadi (Otur), Tal: Junnar, Dist: Pune -412409

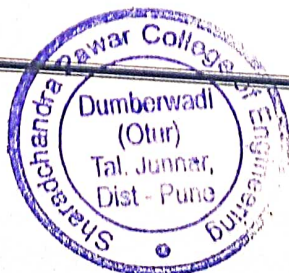
Best Practices-I

Title of Practice: Green campus Initiative and Pollution free campus

A Green Campus is a campus where environmentally friendly practices and education work together to promote sustainable and eco-friendly practices. The green campus concept allows an institution to take the lead in reinventing its environmental culture and forging new paradigms by developing sustainable solutions to the world's environmental, social, and economic requirements. Greening the campus entails removing unnecessary inefficiencies and using conventional sources of energy for its daily power needs, as well as proper disposal management, the purchasing of environmentally friendly products, and an effective recycling programme. The Institute must devise time-bound strategies for implementing green campus activities. These techniques must be implemented into institutional planning and budgeting processes in order to create a clean and green campus.

The Institution is committed to managing its campus in accordance with responsibilities towards promoting sustainable environment. These responsibilities can be demonstrated within the following areas:

- Rain water Harvesting
- Use of LED
- Restricted entry of vehicles
- Restricted Parking
- Pedestrian friendly Road
- Plastic free campus
- Green Environment and Clean Campus
- Solid Waste Management
- Clean and Green Campus Policy



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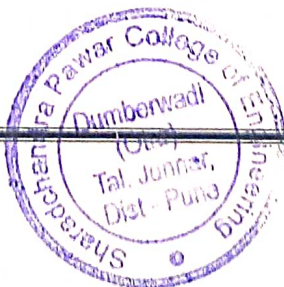
- E -Waste Management
- Liquid Waste Management
- Maintenance of Water Bodies
- Landscaping with Trees and Plants
- Energy Use and Conservation
- Ban on Single-use Plastics on the Campus
- Display Boards on College Campus
- Tree plantation drive
- Participation in Swach Bharat Abhiyan

A Green Campus is a place where environmental-friendly practices and education combine to promote sustainable and eco-friendly practices in the campus. The green campus concept offers an institution the opportunity to take the lead in redefining its environmental culture and developing new paradigms by creating sustainable solutions to environmental, social and economic needs of the mankind. In SPCOE, we practice and maintain the following criteria to make it a pollution free, energy saving green campus.

1) Rain water Harvesting

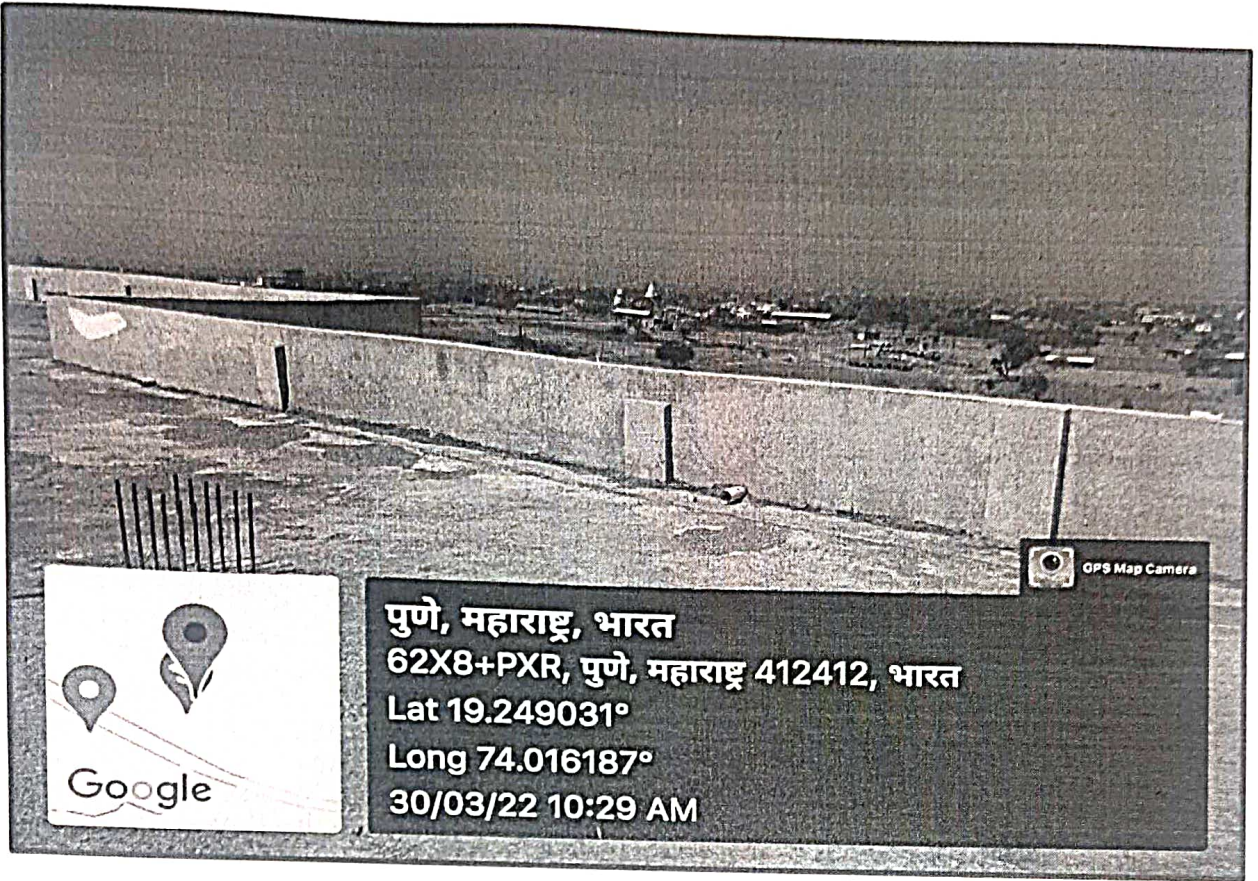
Water scarcity is a major issue all throughout the world, affecting both urban and rural communities.

Overexploitation of groundwater and surface water resources has resulted in deterioration of water quality as a result of urbanisation, industrial development, and increased agricultural area and production. Due to imbalanced rainfall, conventional water sources such as wells, rivers, and reservoirs, among others, are insufficient to meet water demand. While the rainwater collection system searches for a new water supply. In SPCOE campus a rain water harvesting system is made. The runoff from the terrace of the college building is channelized into a tank located near the backside, which facilitates groundwater recharge.

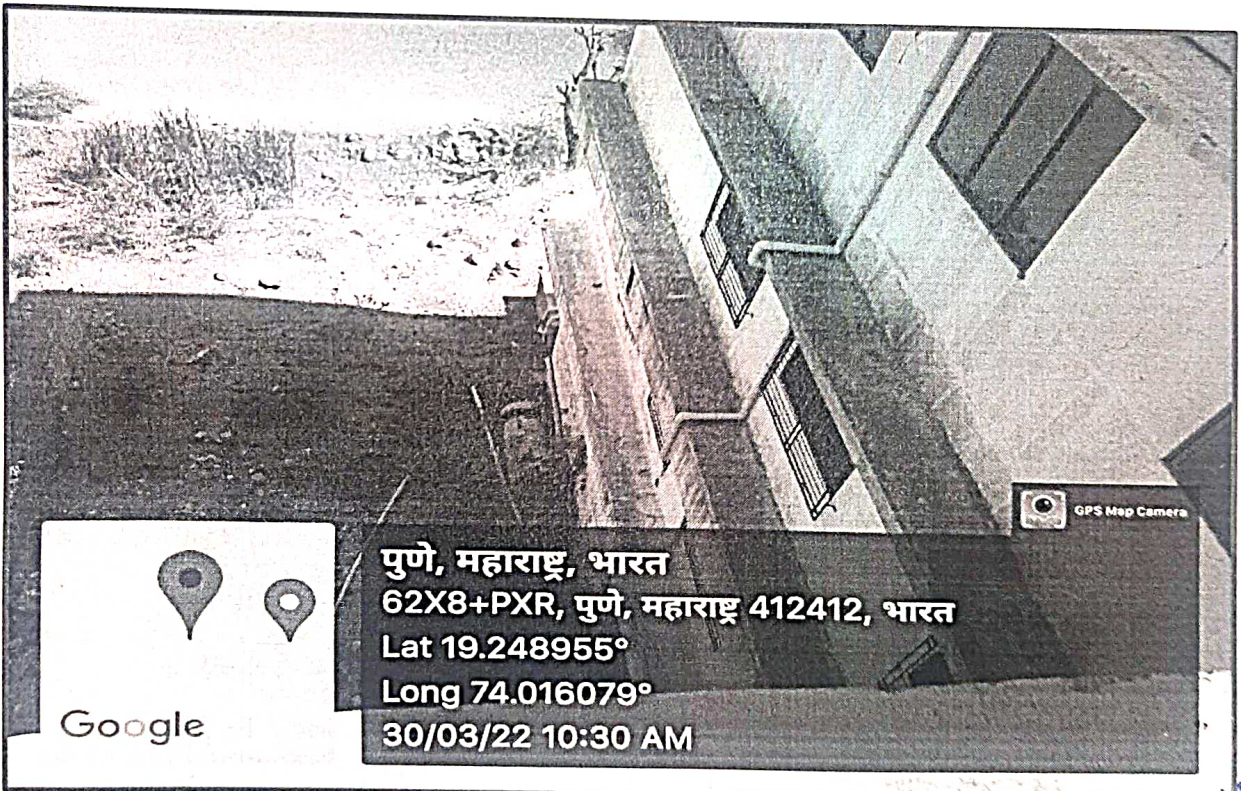


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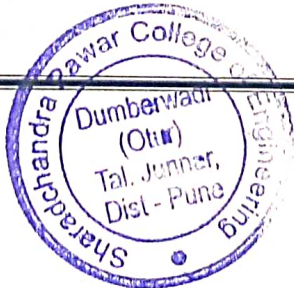
Sharada Kumara Pawar College of Engineering
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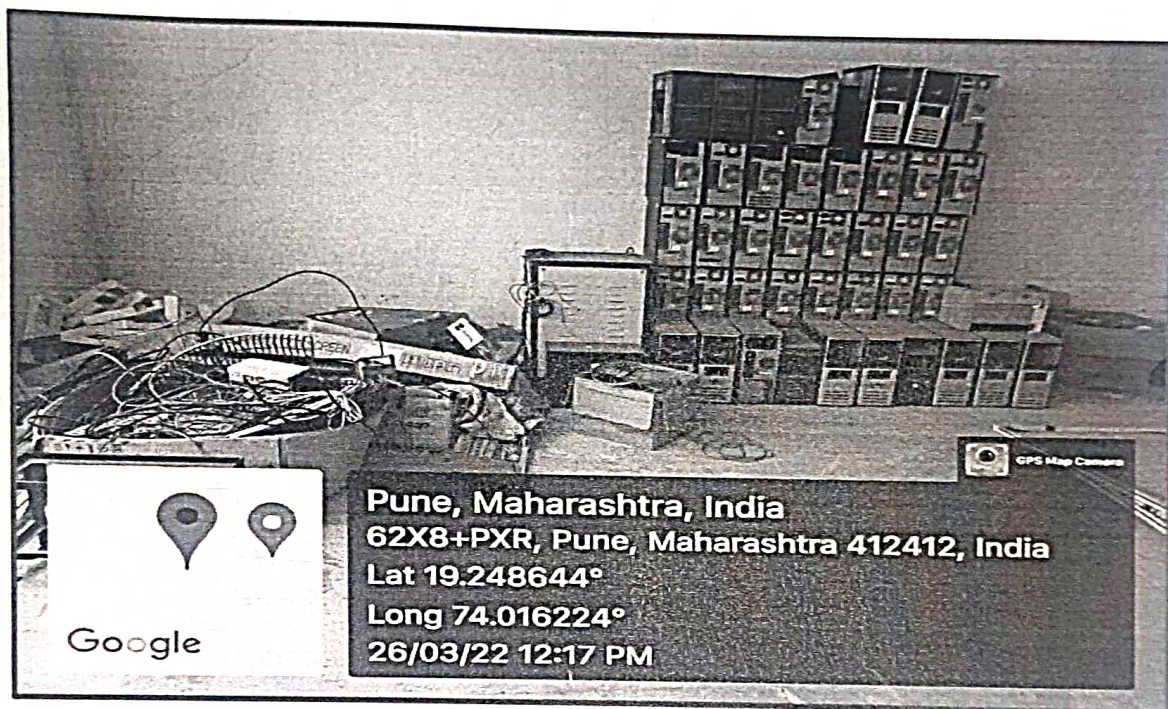
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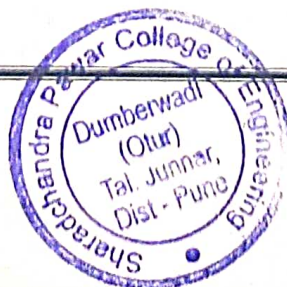
2) E-Waste Management

The electronic waste should be stored separately and responsibly in order to prevent it from leaching hazardous chemicals into the environment. It is important to make sure that the waste is not simply thrown away, as this can have detrimental effects on the environment and even human health. Instead, the waste should be safely and securely handed to a retailer or recycling centre for proper disposal. These centres are equipped to handle the disposal of electronic waste in a safe and responsible manner. Furthermore, these centers are also capable of recycling.

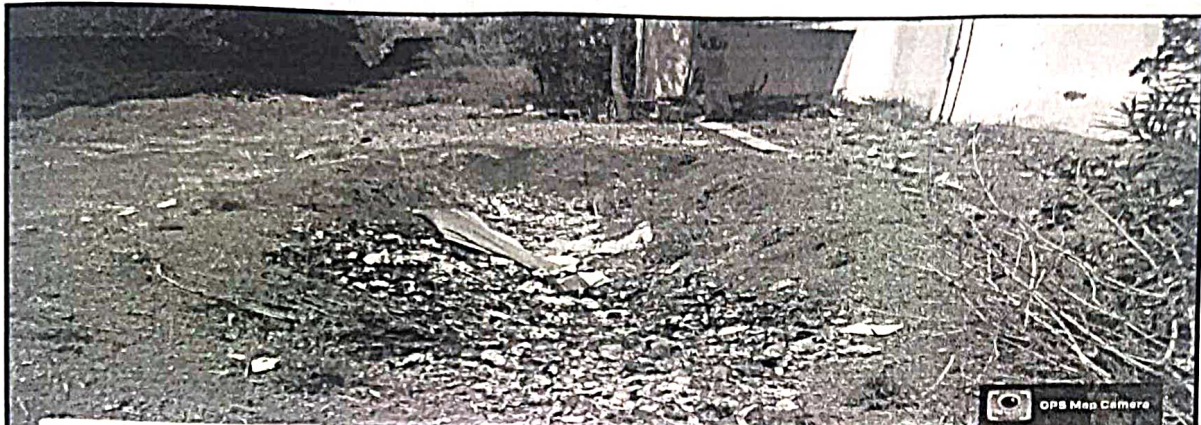


3) Solid Waste Management

In order to ensure an effective and efficient waste management system, our institute, hostel, and canteen have implemented a segregation process for solid waste. The organic waste is collected and processed separately from the inorganic waste. The biodegradable waste is put into a pit to decompose and is later utilized as a natural fertilizer. The non-biodegradable waste is then sorted and collected by the grampanchayat authorities. This waste is then used for recycling.



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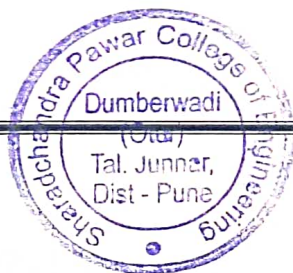
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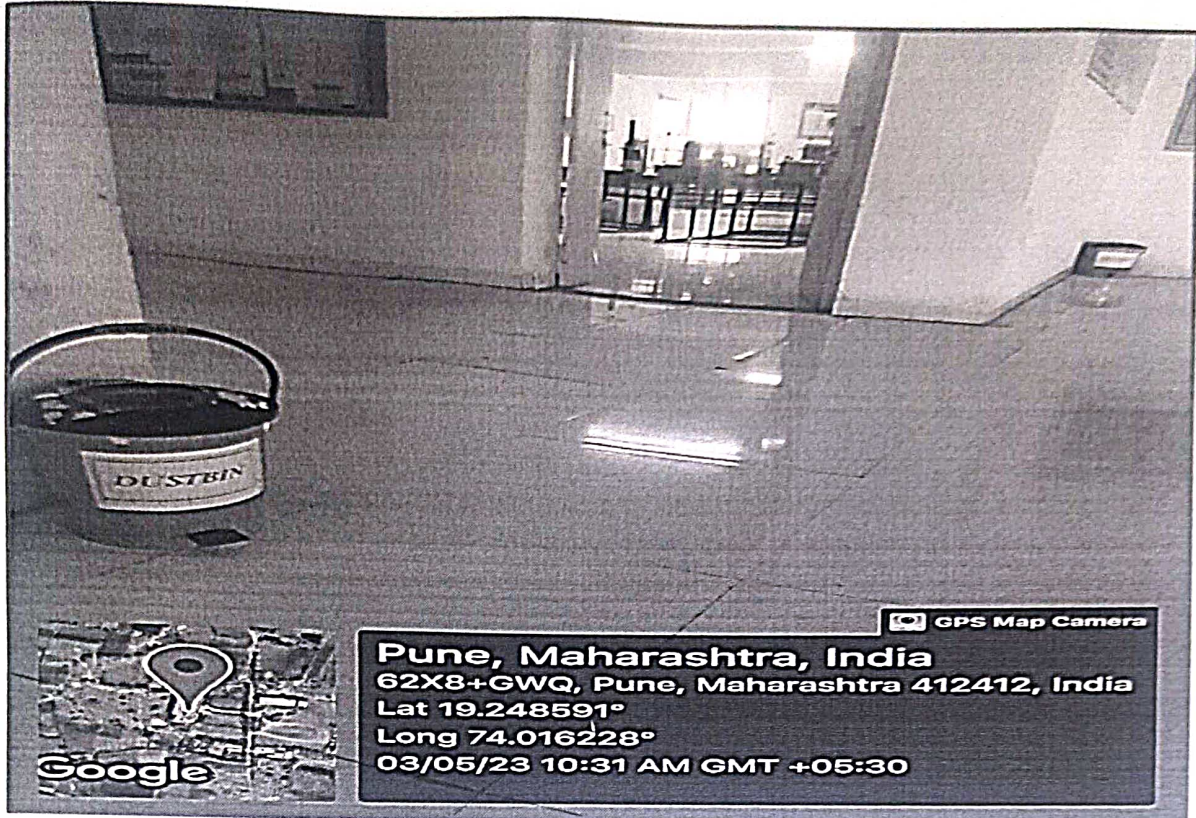
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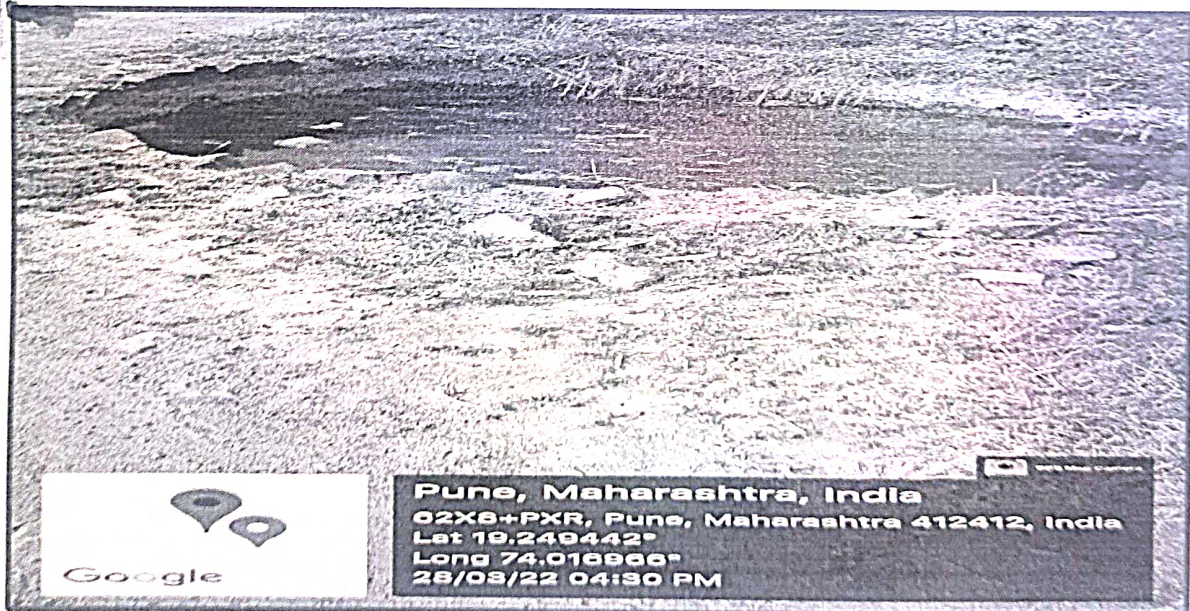
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4) Liquid Waste Management

Waste-water is collected in to ponds and used for gardening, watering trees.

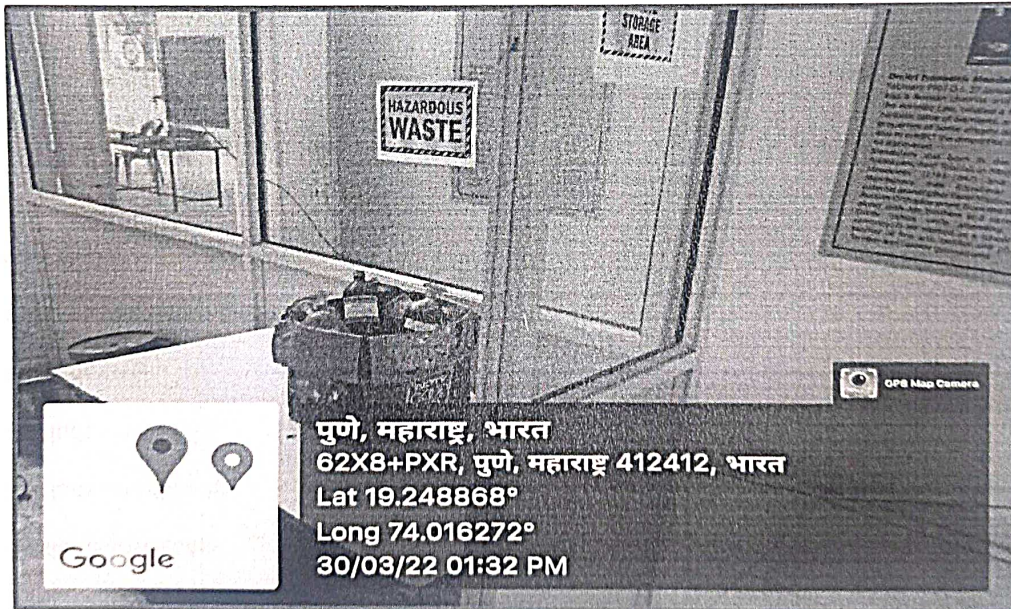
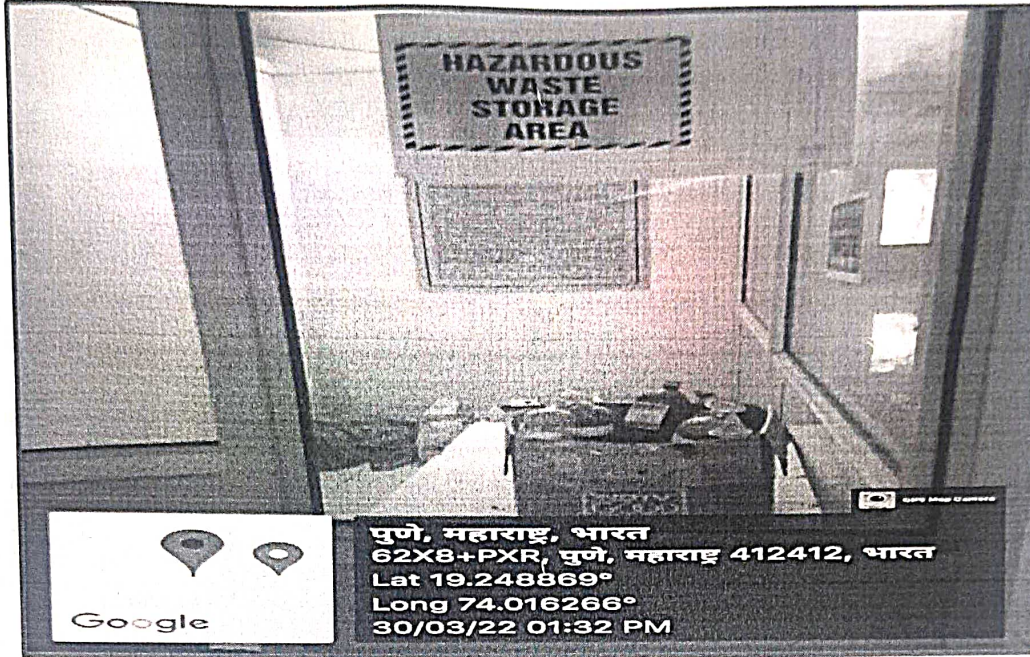


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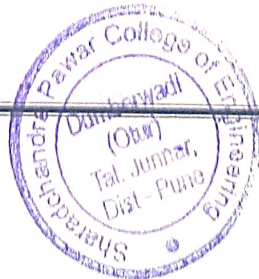
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5) Hazardous waste Management:

The hazardous chemicals from the chemistry lab must be collected and disposed of in a predefined safe location in order to ensure that no harm comes to those who may come into contact with them.



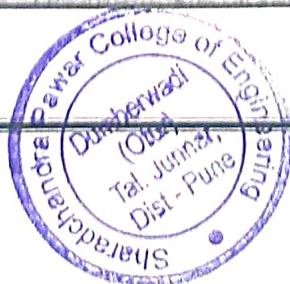
6) Restricted entry of vehicles



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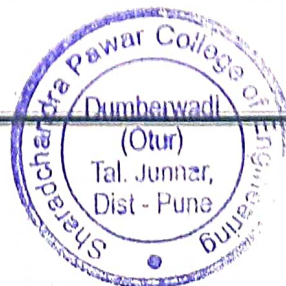
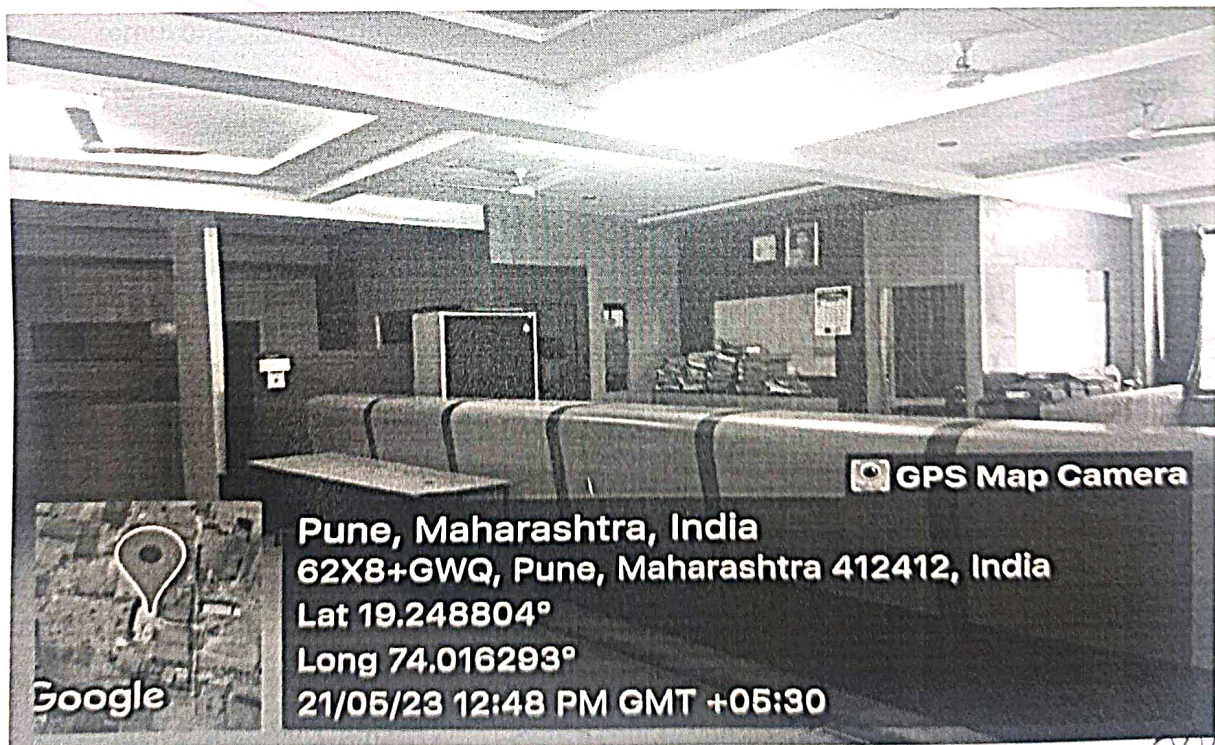
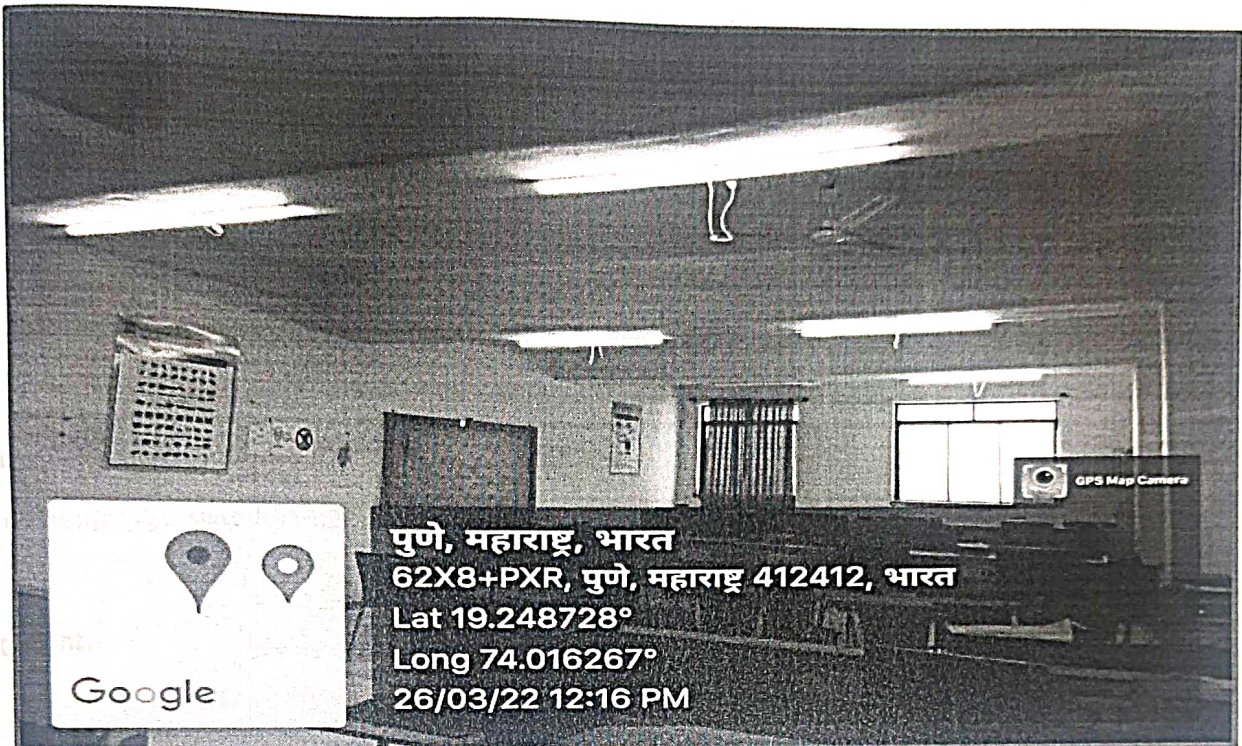
7) Bicycles/ Battery-powered Vehicles-



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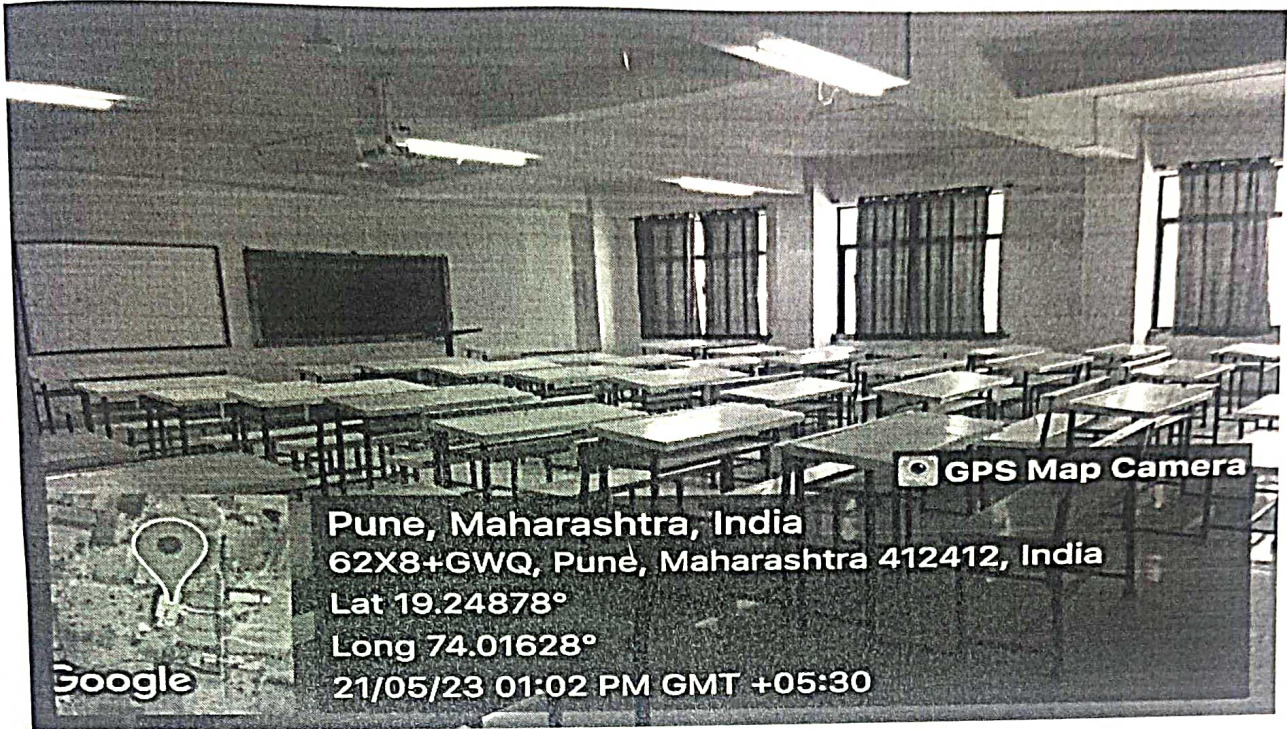
8) Use of LED

LED bulbs are installed in the college buildings and the campus to save electricity.



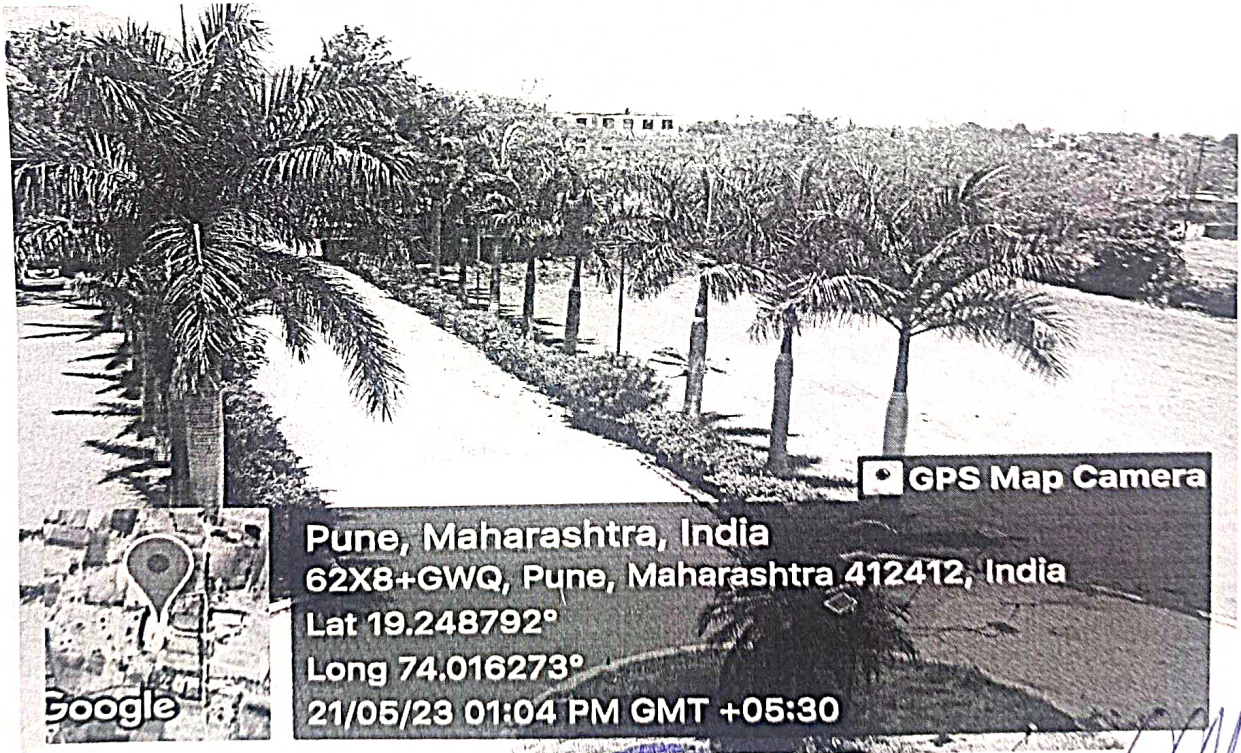
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9) Pedestrian friendly pathways

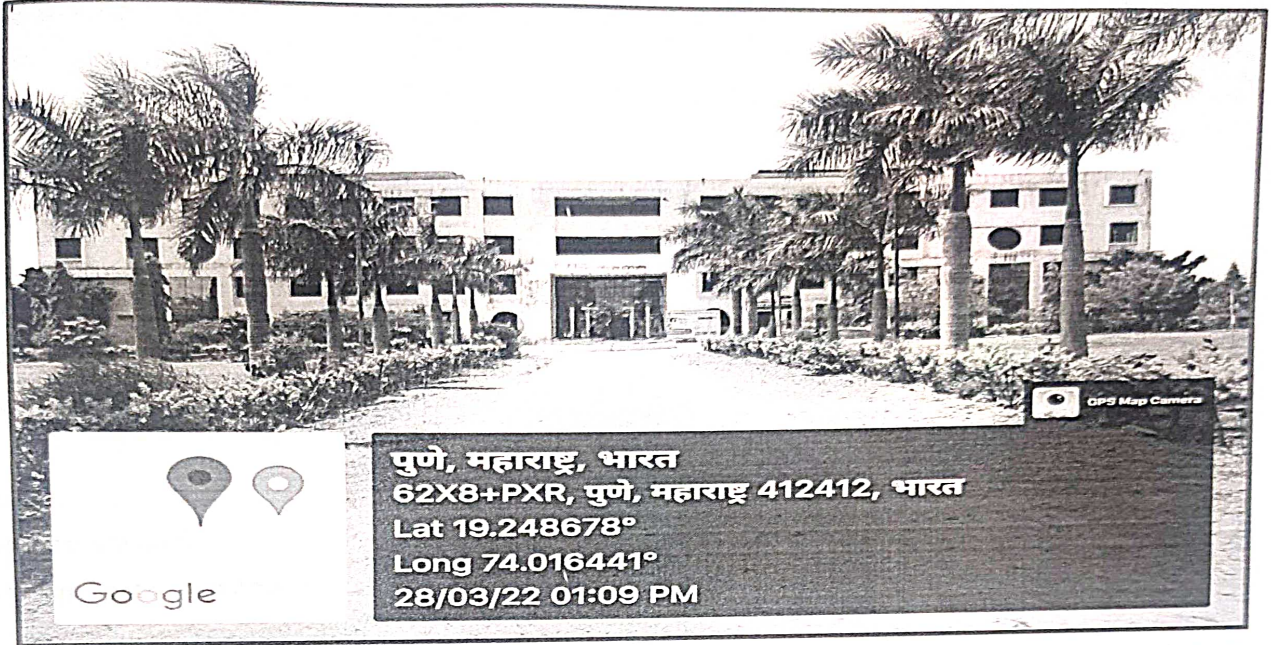


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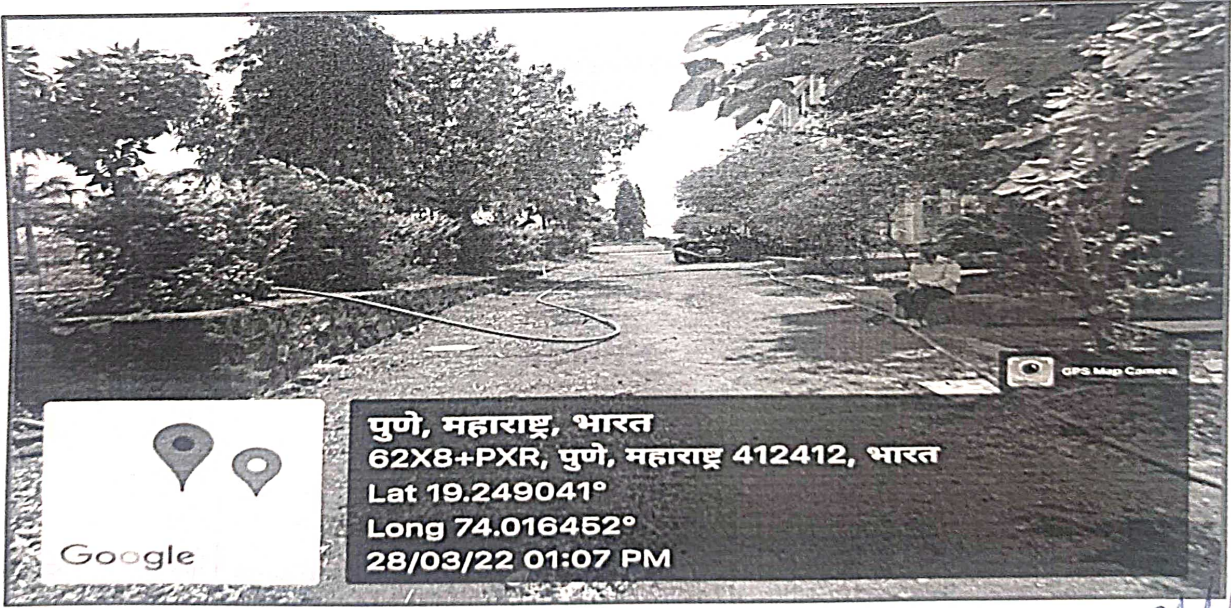


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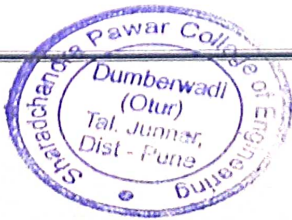
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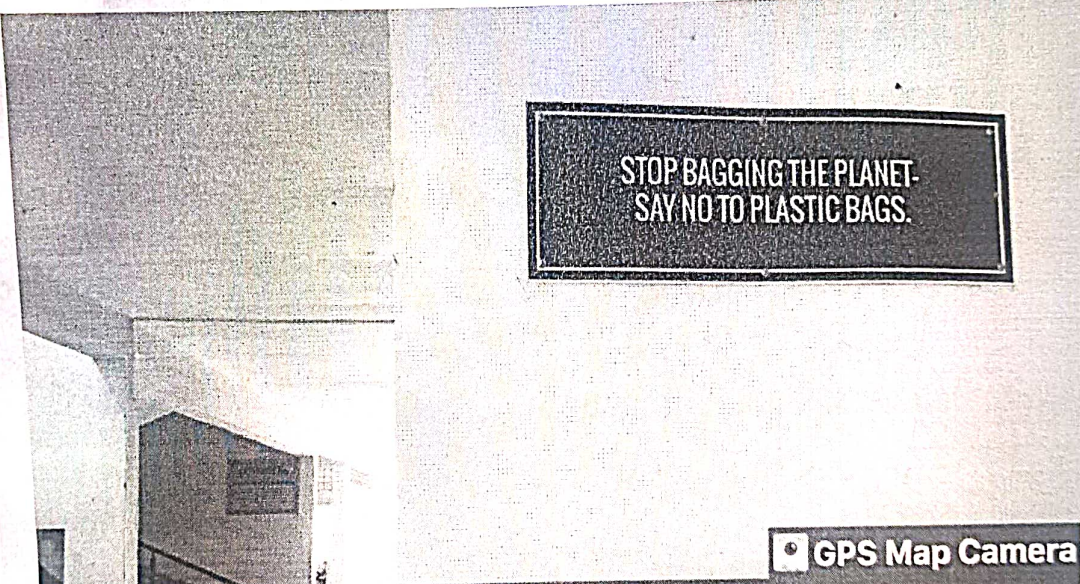
10) Ban of use of plastic



say NO to plastic!

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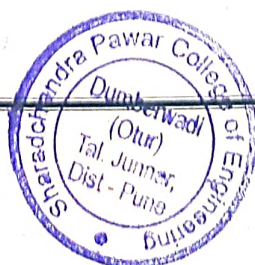


**STOP BAGGING THE PLANET.
SAY NO TO PLASTIC BAGS.**

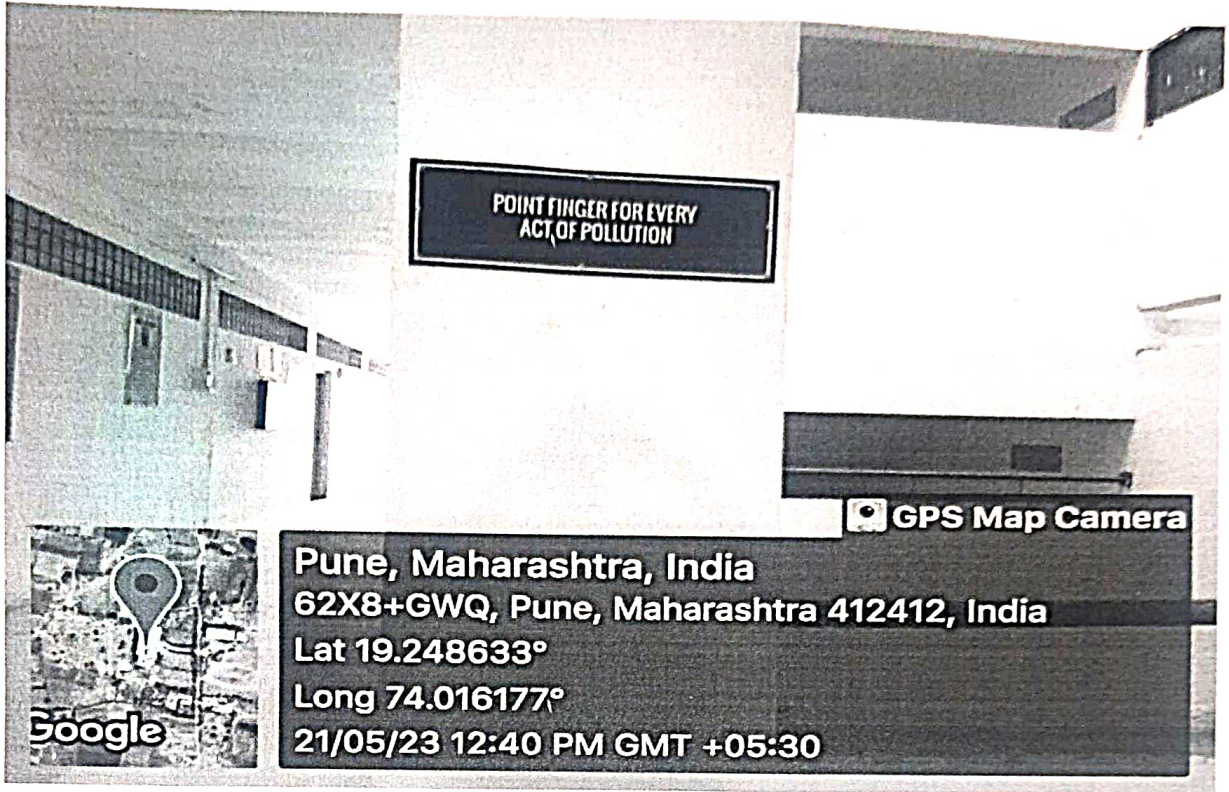
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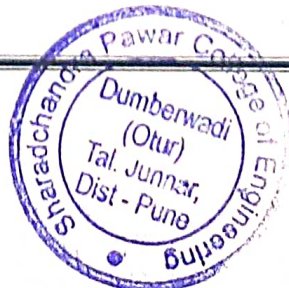
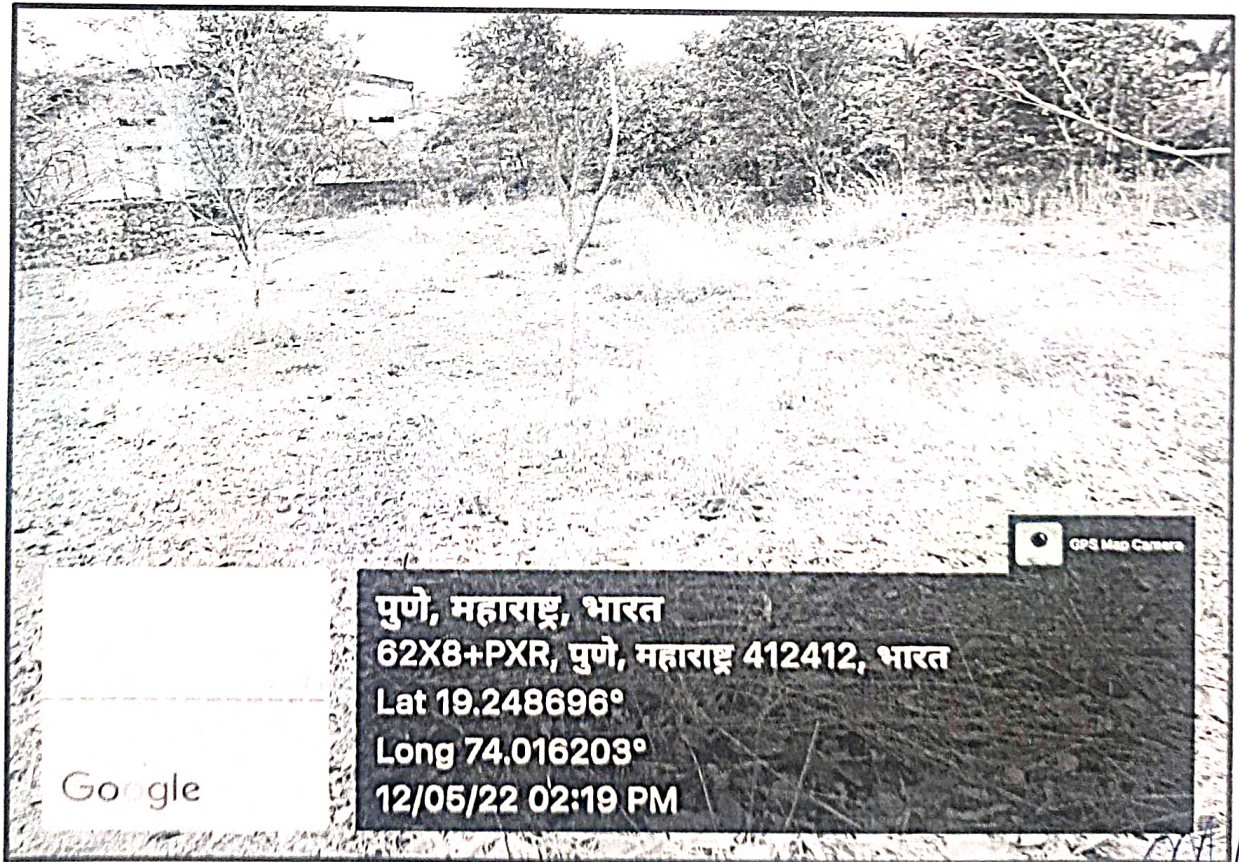
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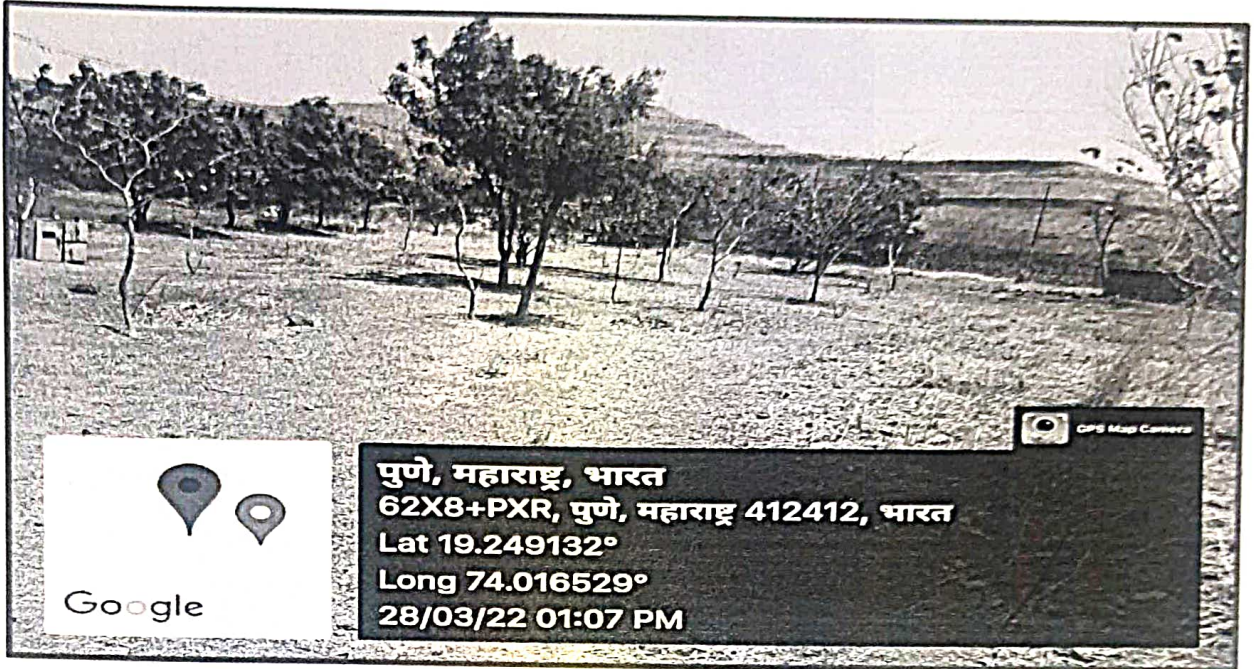


11) Landscaping with trees and plants

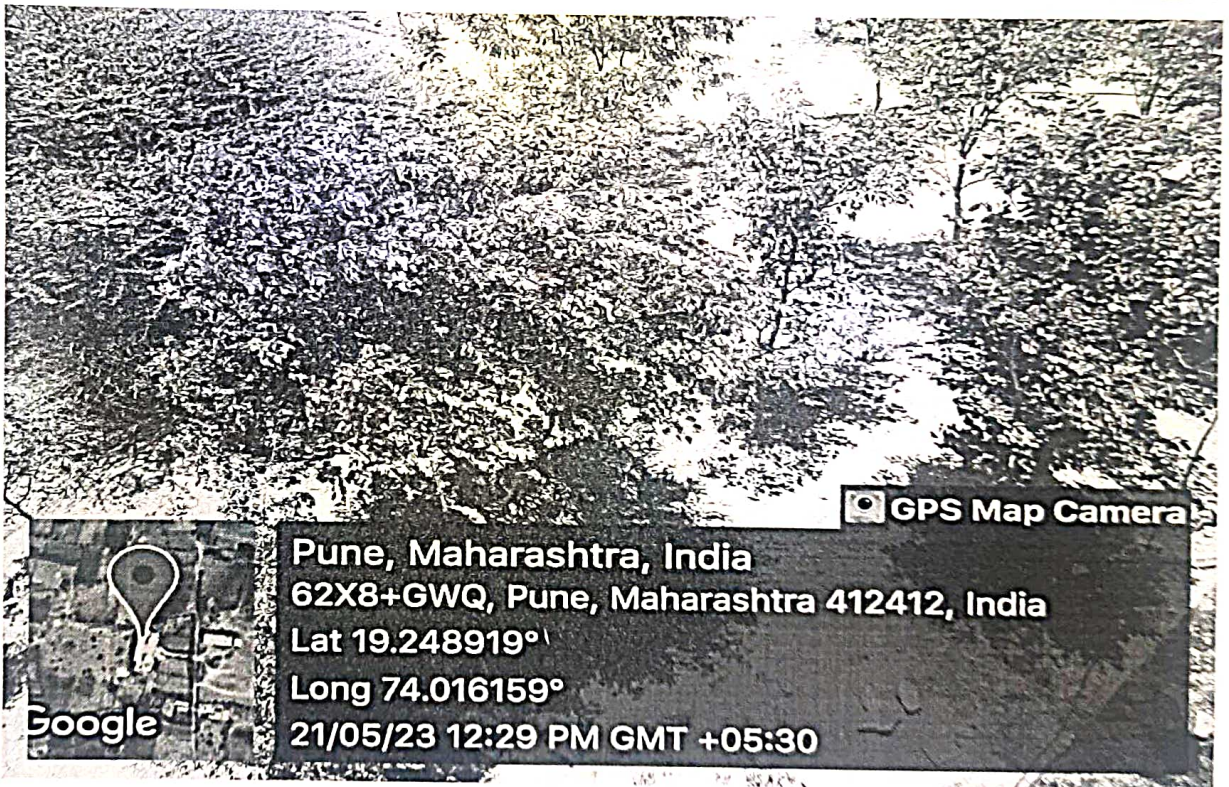


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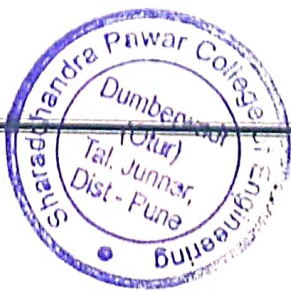
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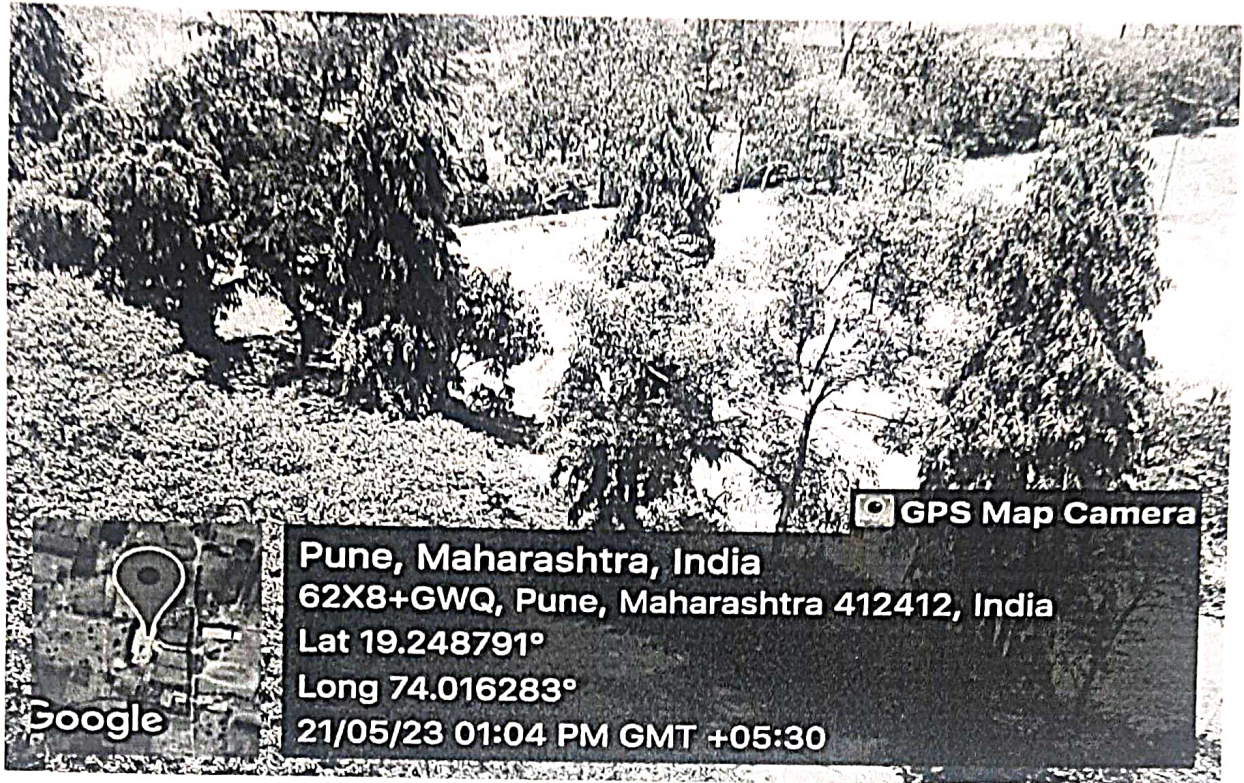
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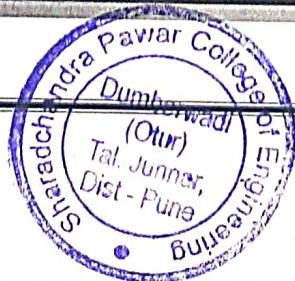
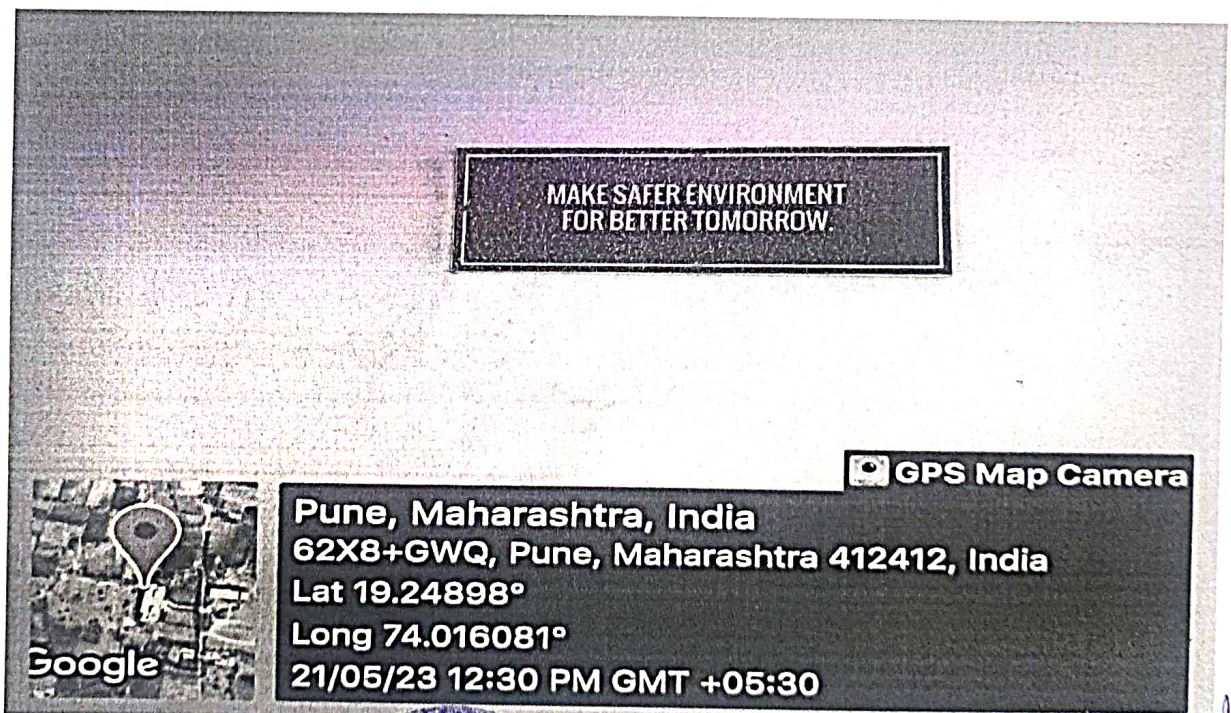
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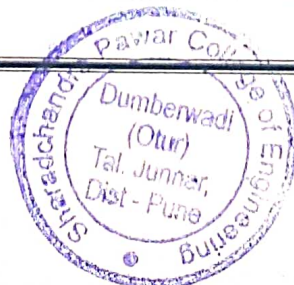
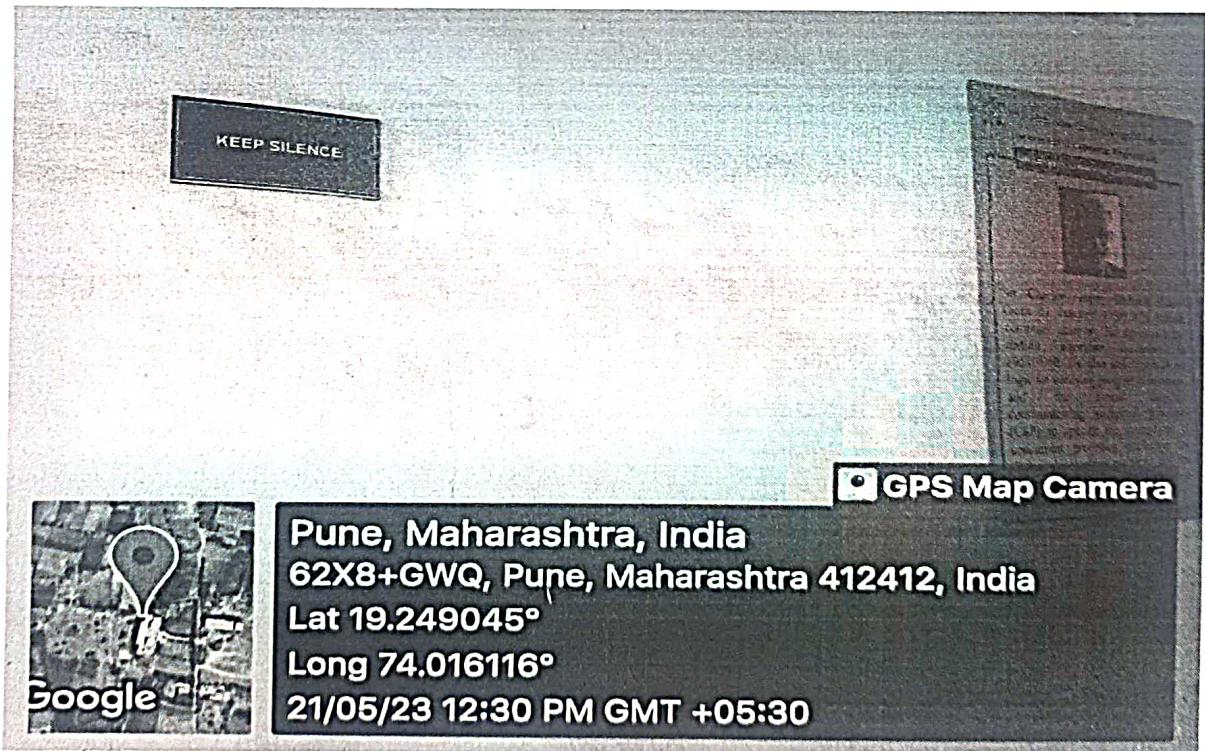
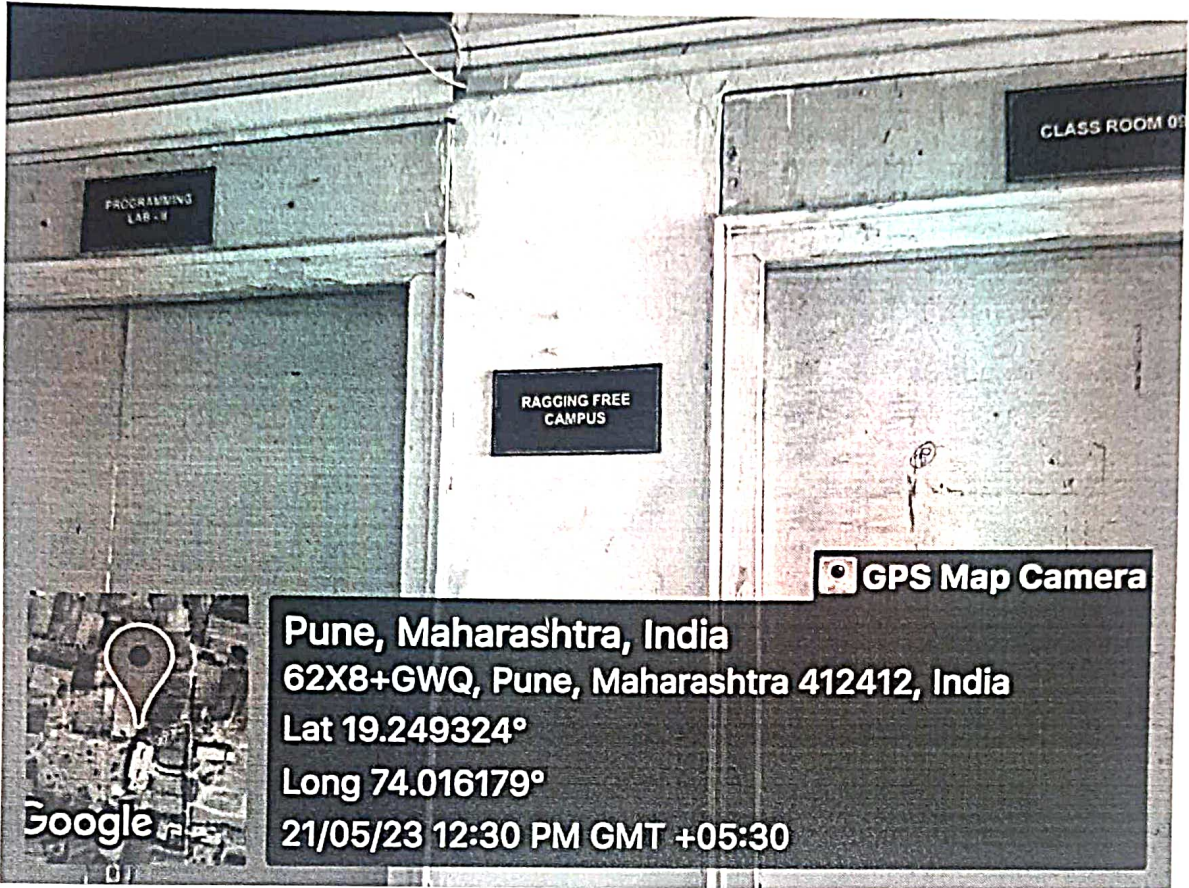


12) Display Boards on College Campus

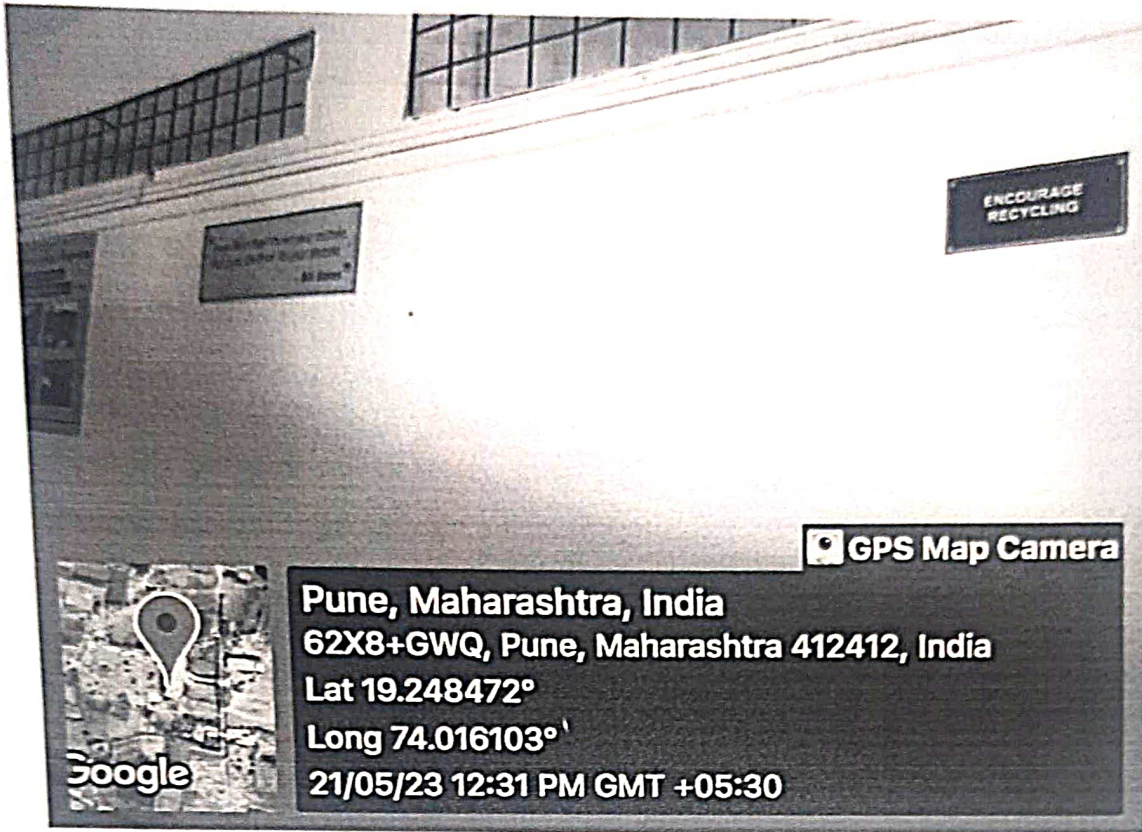
Signboards/posters are displayed on the college campus to encourage ideas of plastic-free campuses, noise pollution, and environmental awareness.



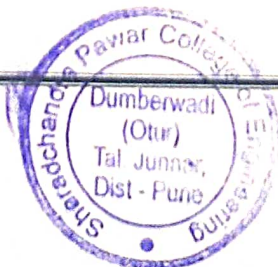
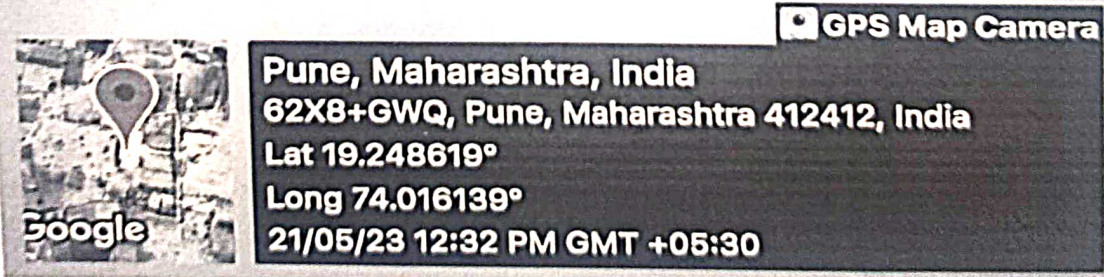
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GLOBAL WARMING IS CLEAR
WARMING TO US,
STOP POLLUTING THE EARTH.



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**DESTROY GLOBAL WARMING
BEFORE IT DESTROYS YOU.**

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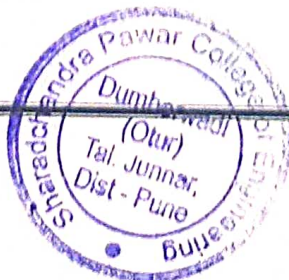
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SAVE TREES, THEY WILL SAVE YOU.

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DON'T BE GREEDY,
IT'S TIME TO BE GREENY

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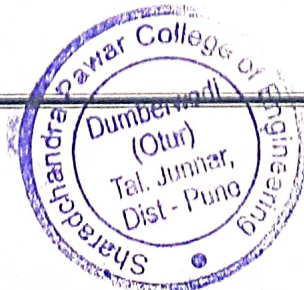


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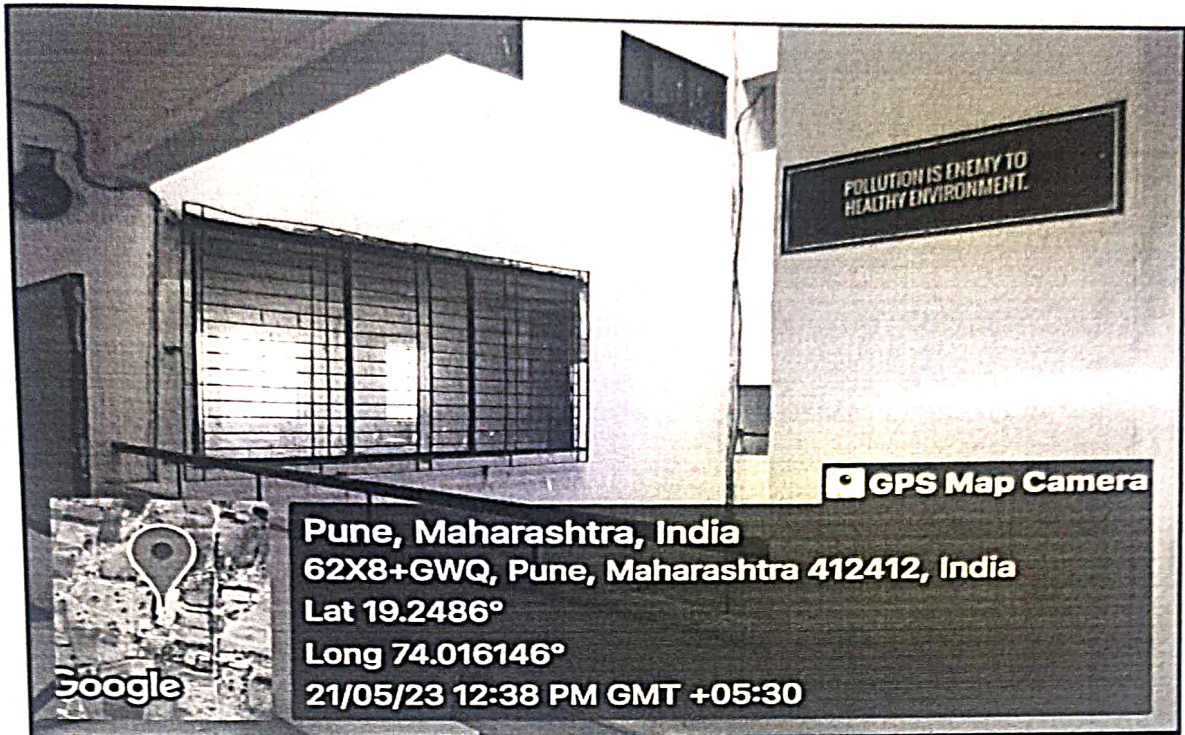
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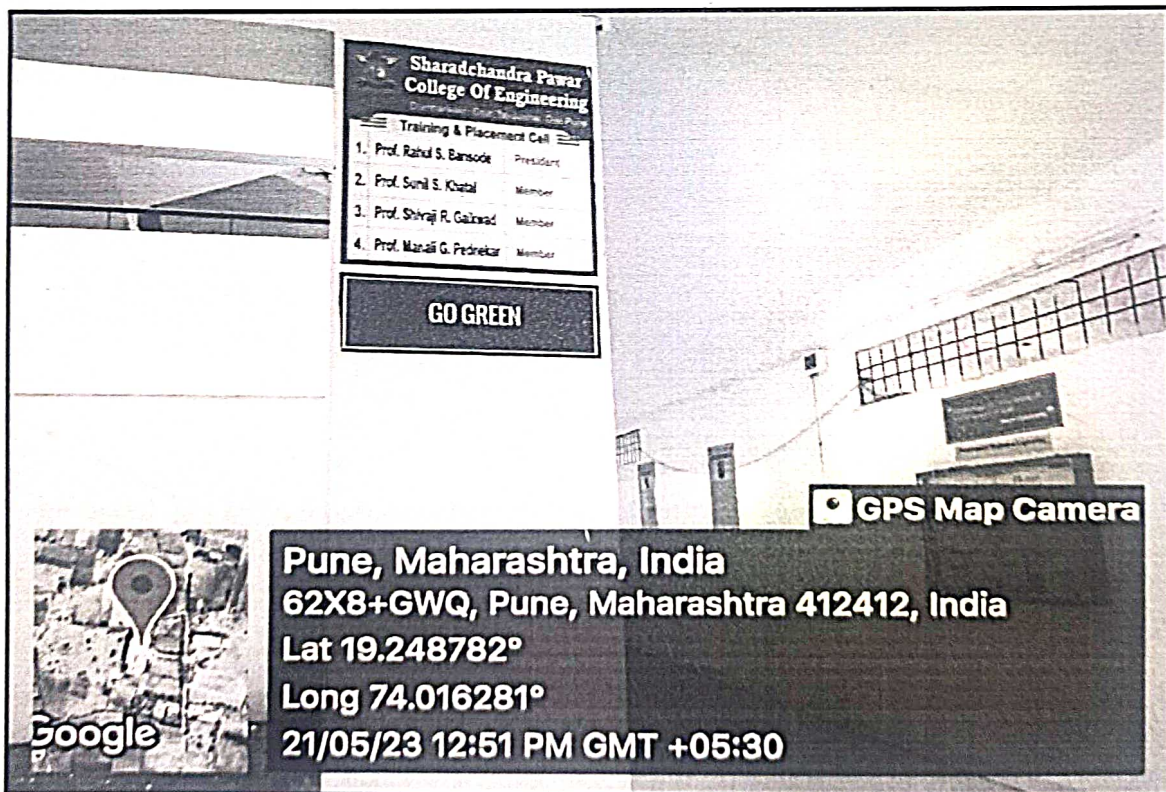


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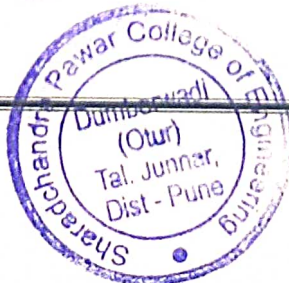
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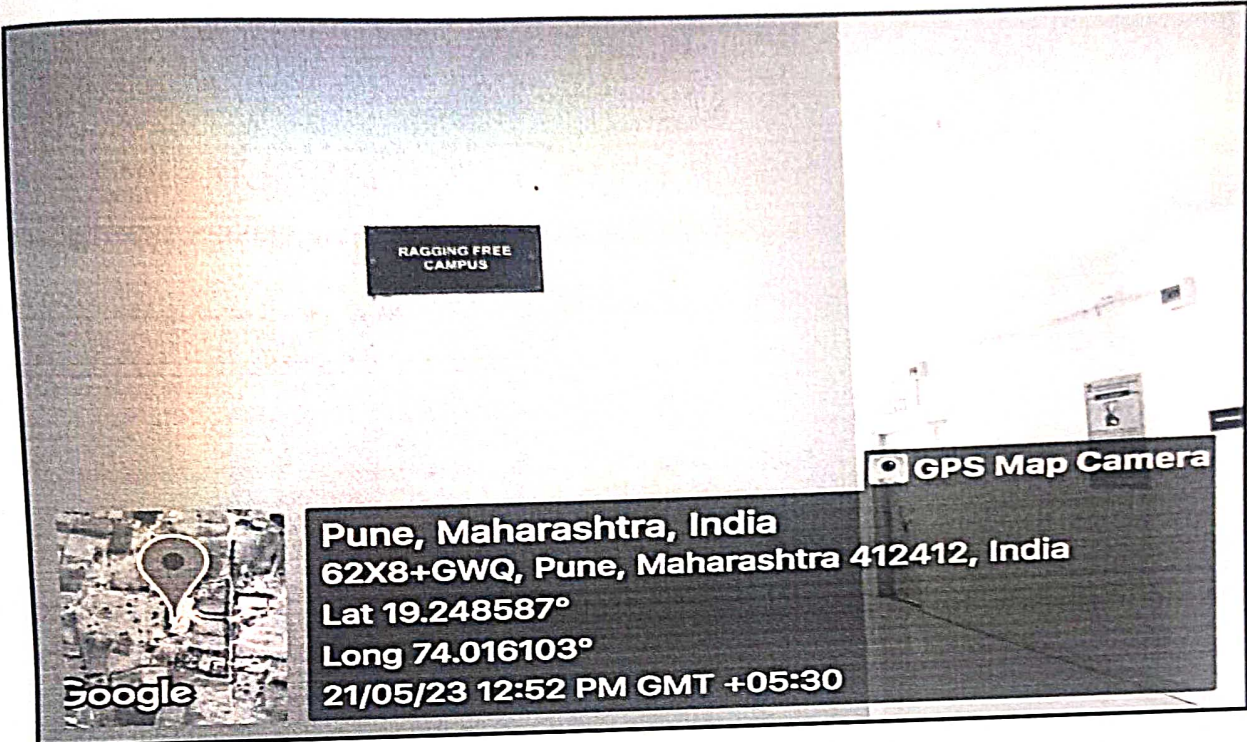
Training & Placement Cell

1. Prof. Rajul S. Bansode	President
2. Prof. Sunil S. Khatib	Member
3. Prof. Shiraj R. Gaikwad	Member
4. Prof. Manali G. Pedrekar	Member

GO GREEN

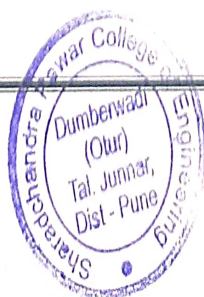
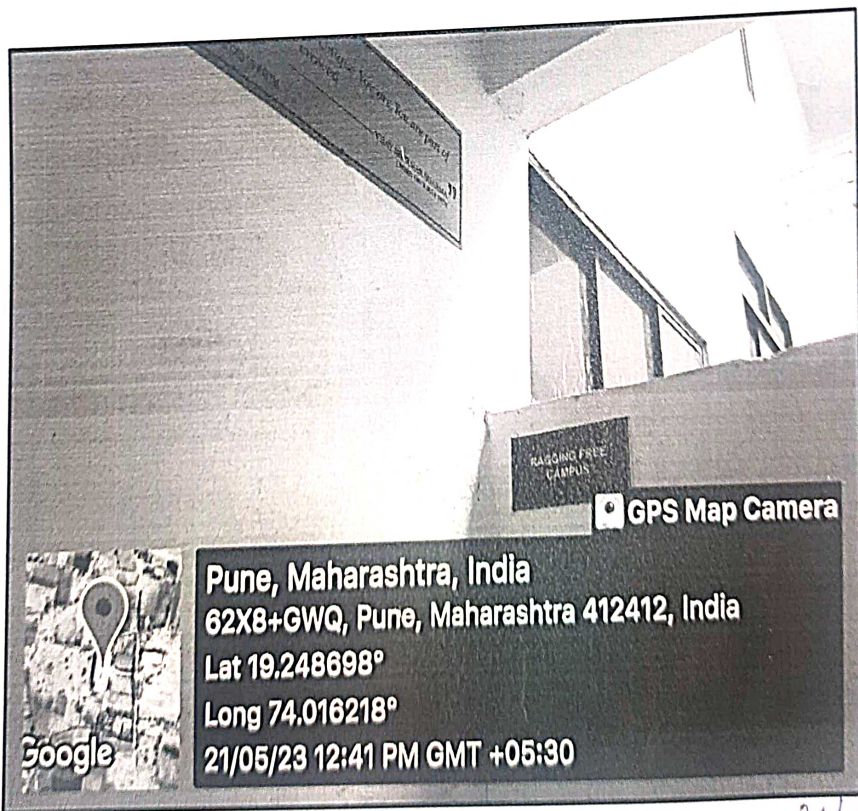
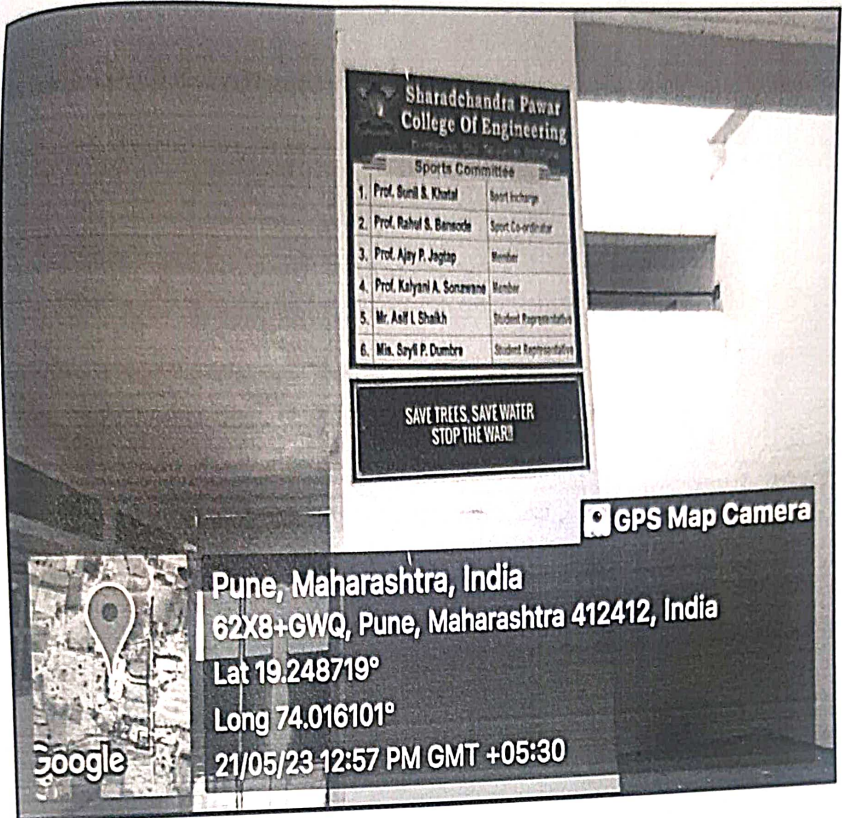


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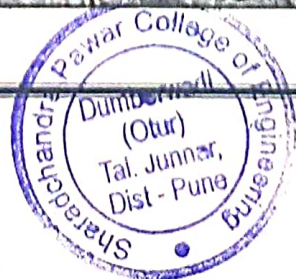
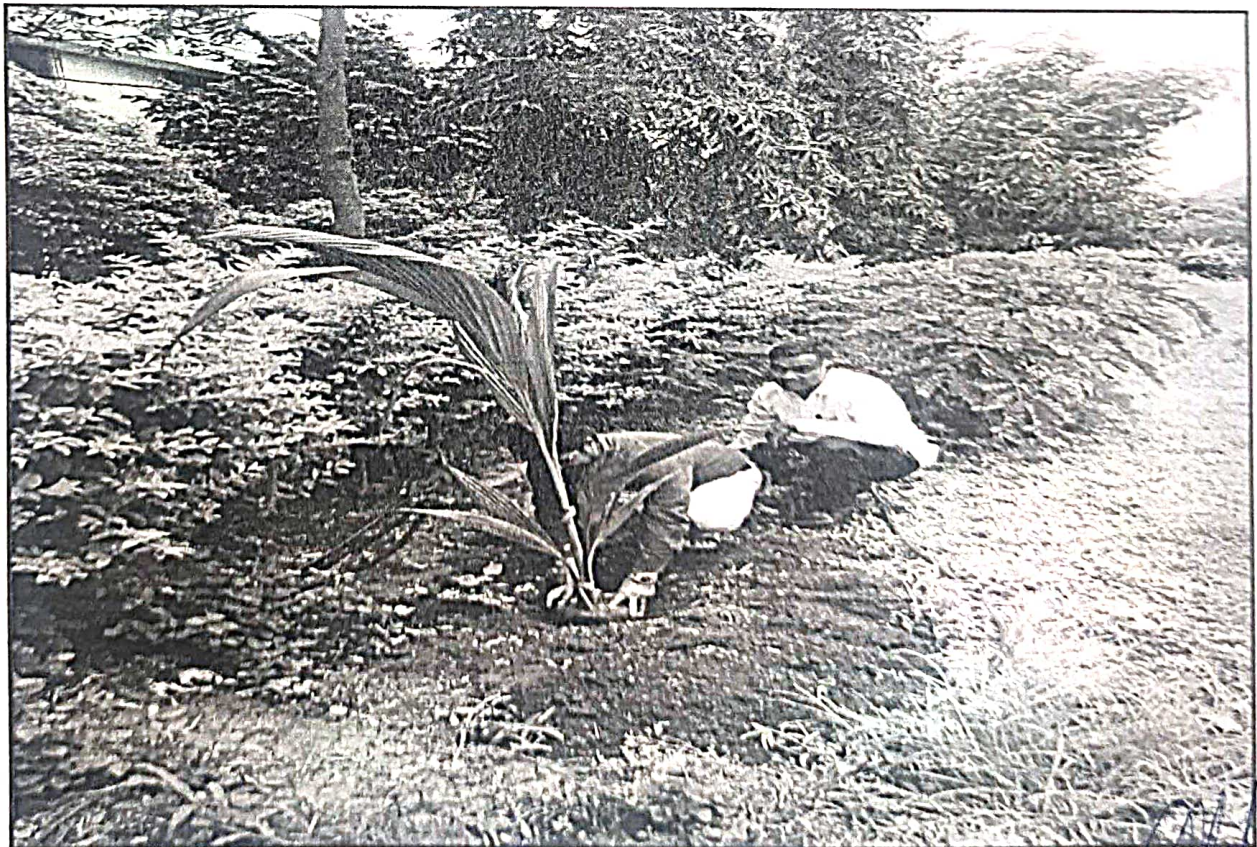
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GPS Map Camera

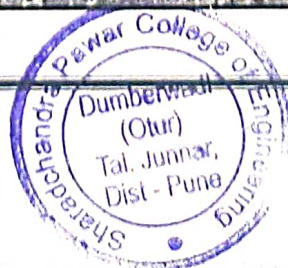
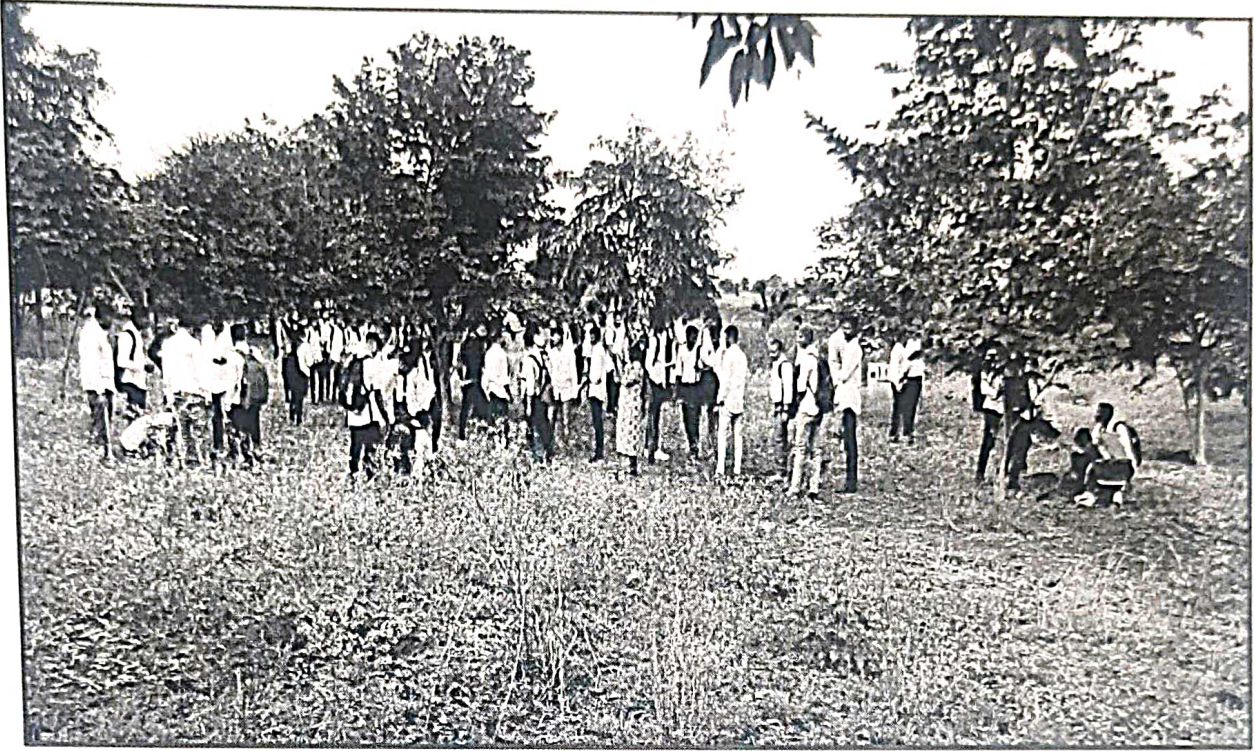


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13) Tree plantation drive



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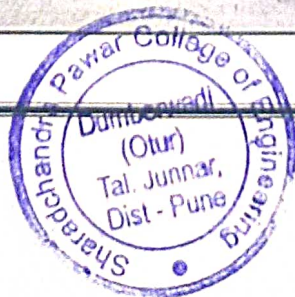


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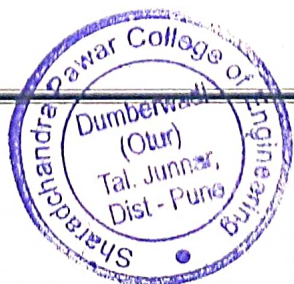
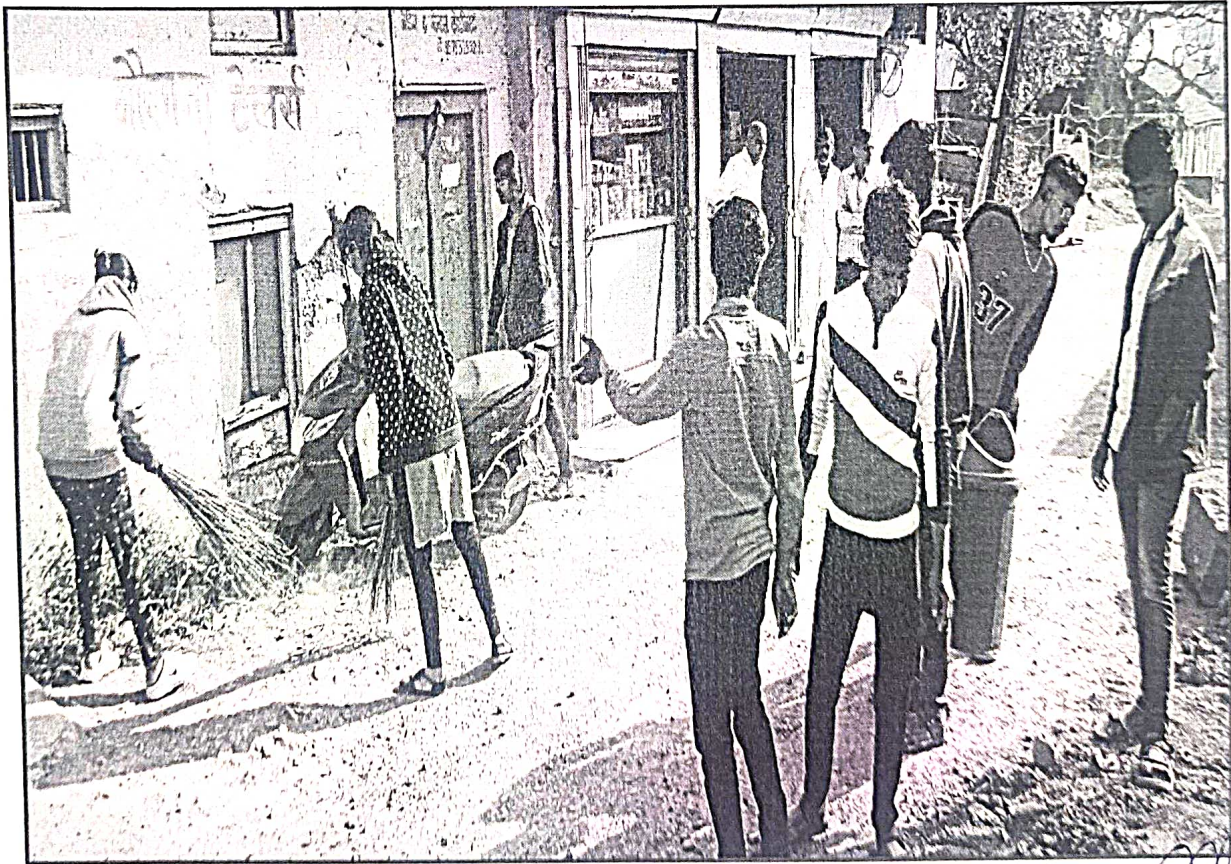
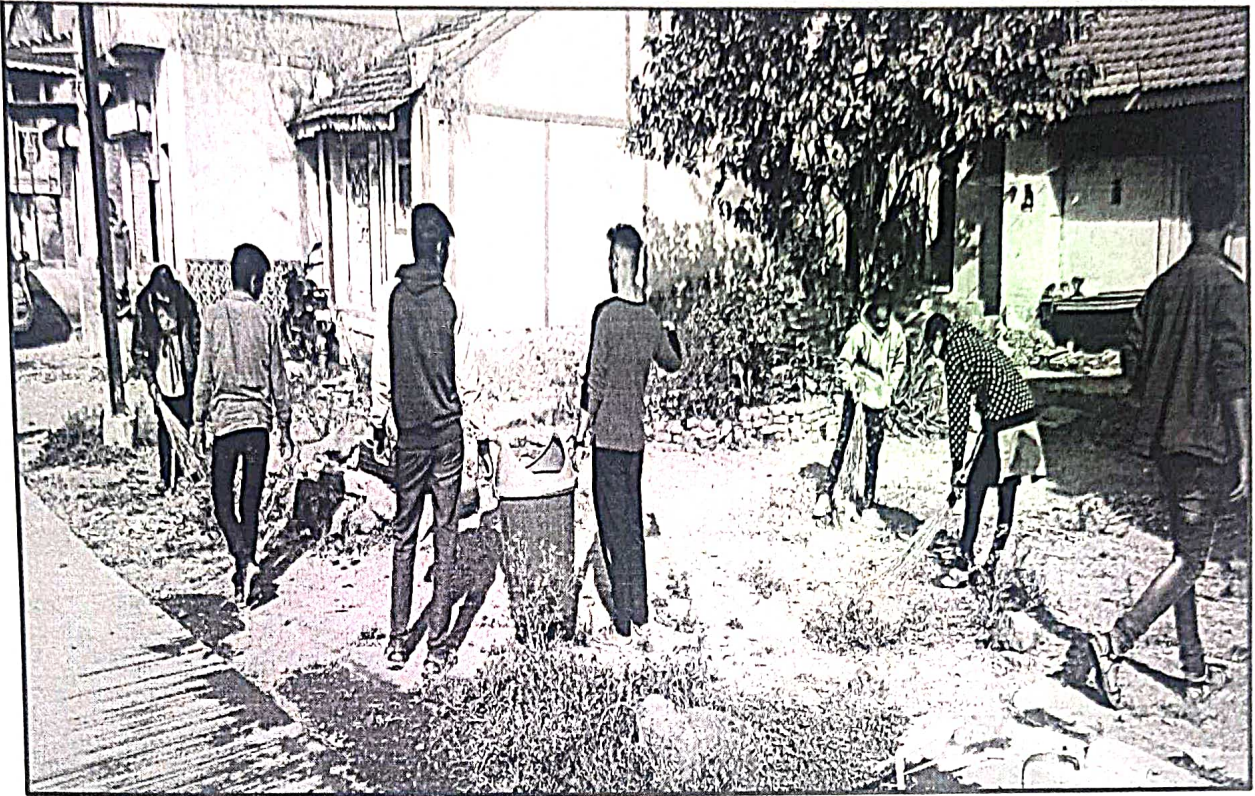


14) Participation in Swachh Bharat Abhiyan

Students play a vital role in spreading awareness and actively participating in the Swachh Bharat Abhiyan to create a cleaner and healthier India. The student of SPCOE cleaned the area of Otur and Khamundi village.

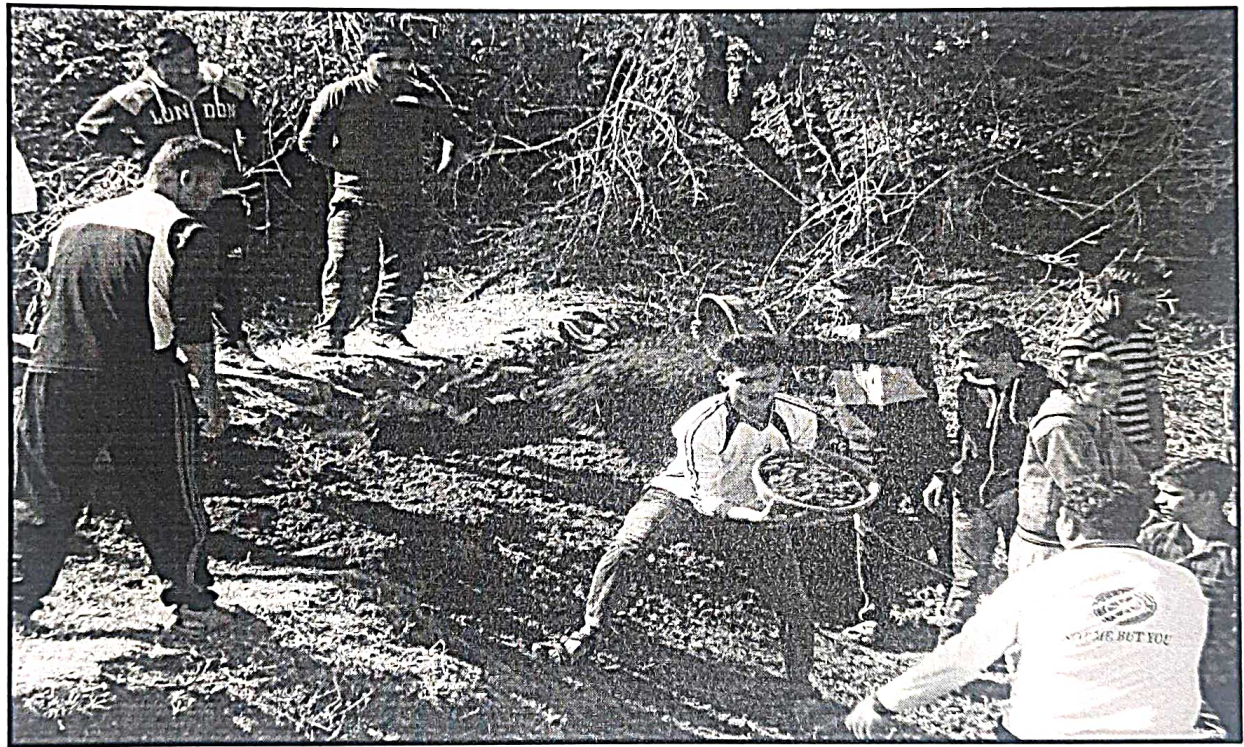
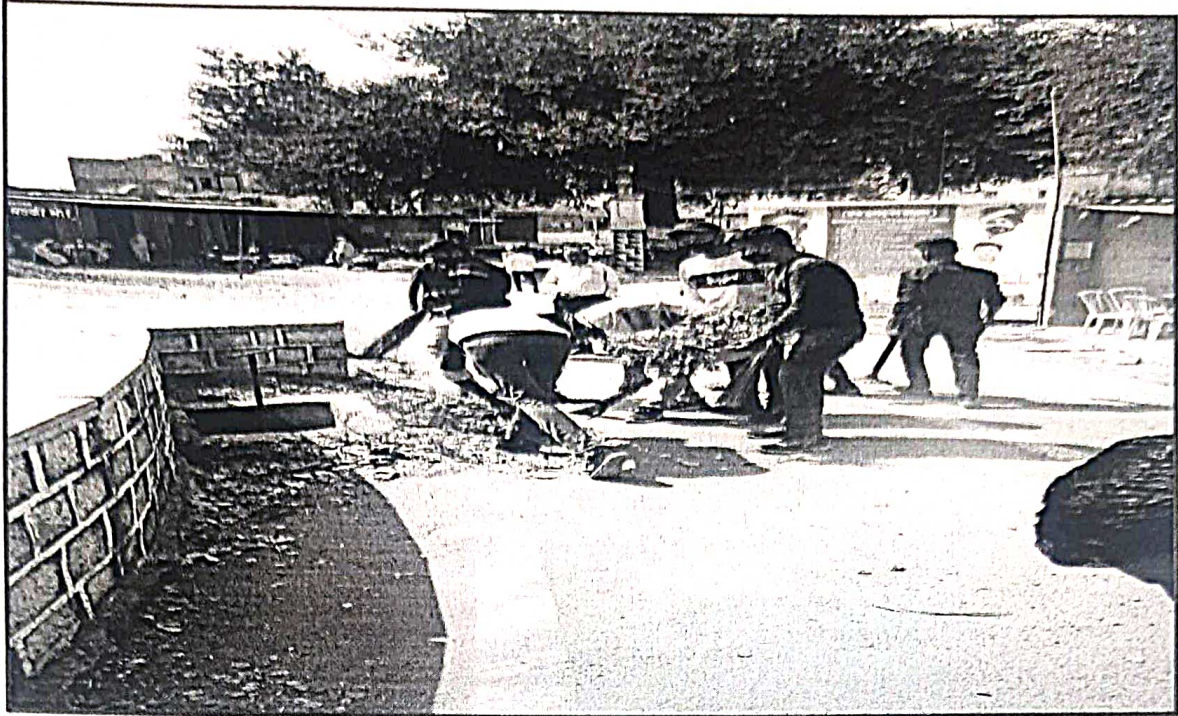


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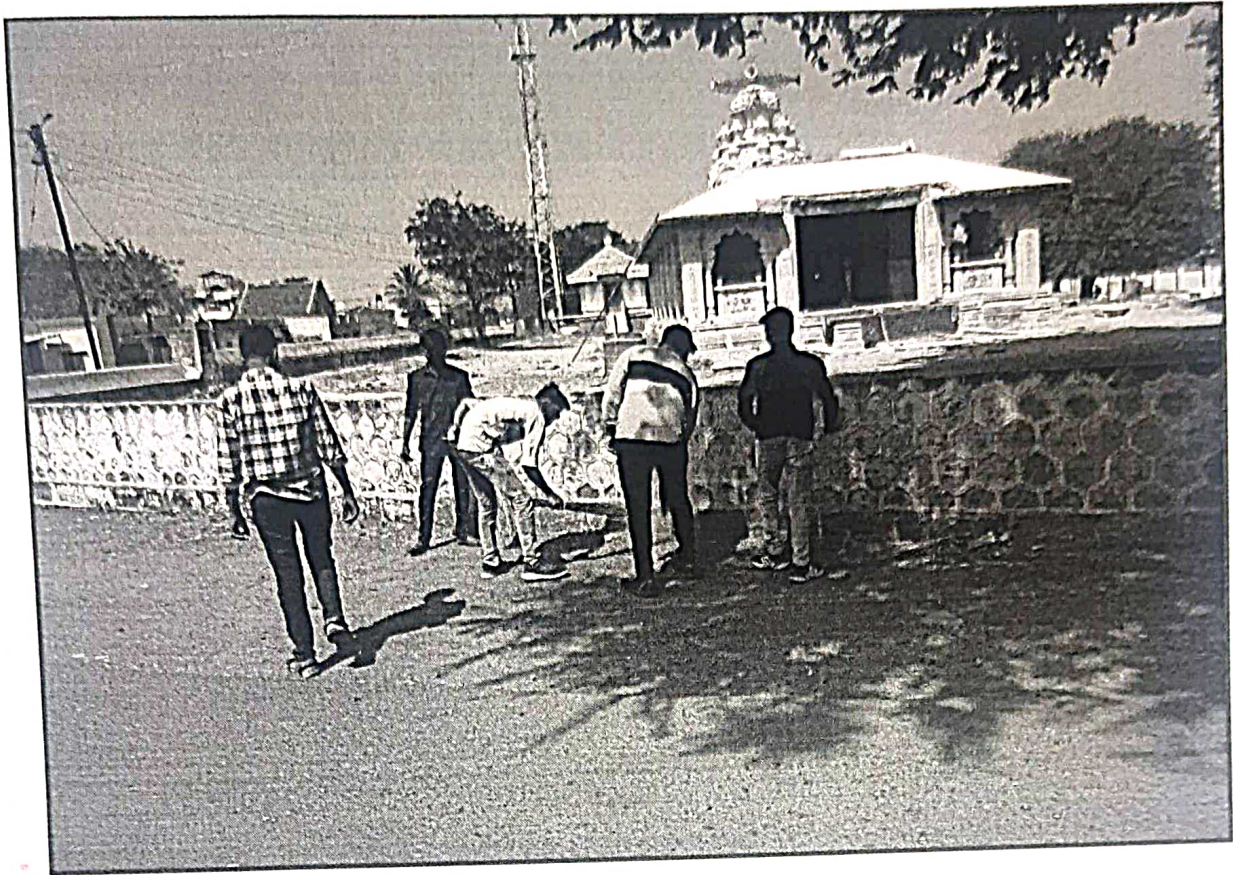


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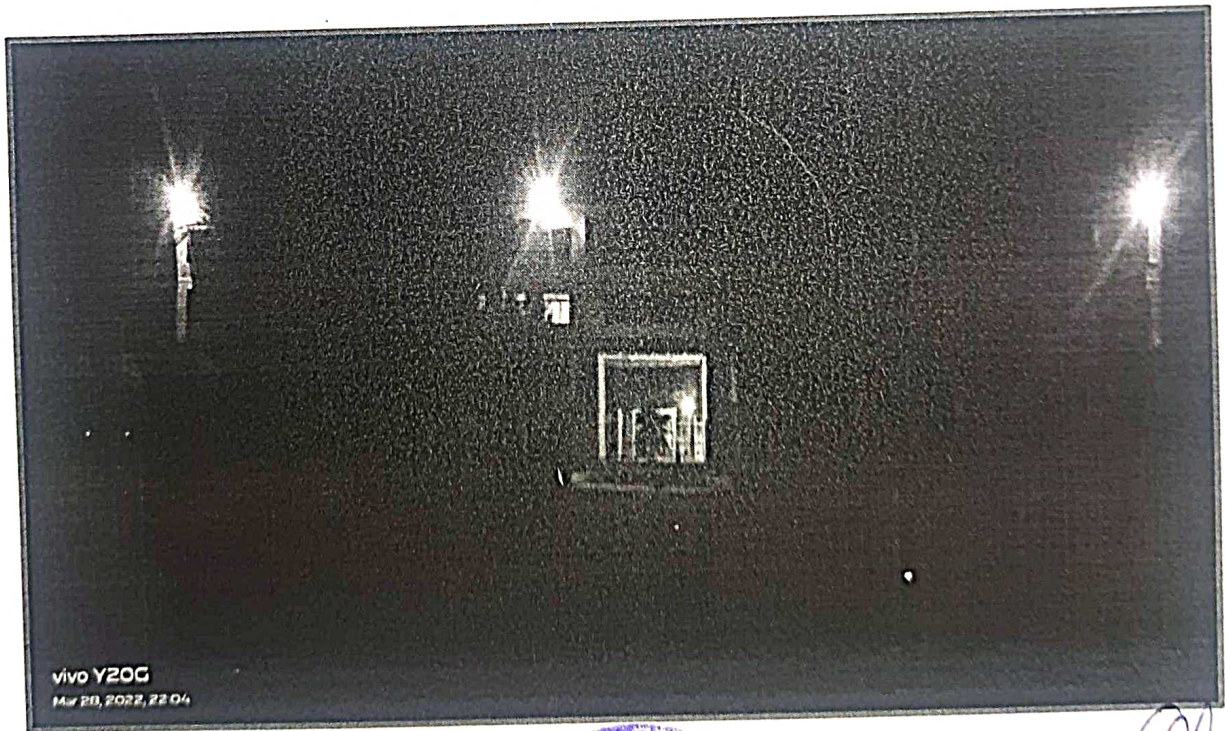
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15) Energy Use and Conservation



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SEMINAR HALL

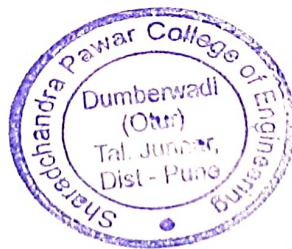
WHEN IT IS BRIGHT,
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GPS Map Camera



Google

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Shri Gajanan Maharaj Shikshan Prasarak Mandal's,

Sharadchandra Pawar College of Engineering

Dumbarwadi (Otur), Tal: Junnar, Dist: Pune -412409

Best Practices-II

Title of Practice: Research Activities for Students and Faculty

➤ Evidence of Success :

1. Student receives the best paper award of research paper.
2. More than 100 Research and review papers have been published in various reputed research journals by the faculty and students.
3. Received best paper in International Conference paper presentation at Samarth College of Engineering, Belhe by B.E student's Sonali Gagare, Ambre Hrushikesh and Shingote Nikita.
4. Received Best paper award at CPGCON by PG student Naikwadi Divya.
5. Received best researcher award by National faculty Award 2021-2022 Novel research Academy Pondicherry, India by Dr. Sunil Khatal.
6. Received best researcher award by National faculty Award 2021-2022 Novel research Academy Pondicherry, India by Dr. Monika Rokade.
7. Received best young faculty award by National faculty Award 2021-2022 Novel research Academy Pondicherry, India by Prof. Puja Gholap.
8. Received the award of Indian book of record by Dr. Monika Rokade for publishing research papers in more than 90 journals and conferences.

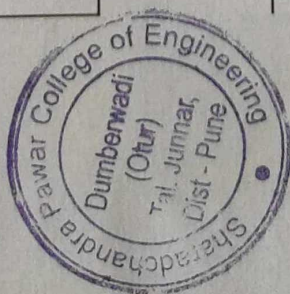


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3.3.2 Number of research papers per teachers in the Journals notified on UGC website during the year

Title of paper	Name of the author/s	Department of the	Name of journal	Year of publication	ISSN number
COMPREHENSIVE REVIEW ON SECURE INFORMATION SHARING IN CLOUD COMPUTING	Prof. Khatal S.S.	Computer	International Journal of Creative Research Thoughts (IJCRT)	2021	ISSN: 2320-2882
	Navale Adesh L.				
	Hande Bhagyashree				
	Deshmukh Sumit B.				
	Doke Onkar B.				
High Dimensional Health Care Privacy Approach Using Blockchain Technology	Prof. Sunil Khatal,	Computer	International Journal of Trend in Scientific Research and Development	2021	e-ISSN: 2456 - 6470
	Miss. Divya Naikwadi,				
	Prof. Monika Rokade				
COVID-19 Time Series Forecasting of Daily Cases, Deaths Caused and Recovered Cases Using Machine Learning	Prof. Khatal S.S.,	Computer	International Journal of Creative Research Thoughts (IJCRT)	2021	ISSN: 2320-2882
	Mr. Bhimshankar Patil,				
	Ms. Diplai Awate,				
	Mr. Abhijeet Choudhary,				
	Mr.Sourabh Pandey				
Health Care System To Identify Covid-19 From Chest X-ray Report Using Image Processing and CNN	Prof. Khatal S.S.,	Computer	International Journal of Creative Research Thoughts (IJCRT)	2021	ISSN: 2320-2882
	Mr. Hrushikesh B. Ambre,				
	Ms. Sonali B. Gagare,				
	Ms. Nikita B. Shingote,				
	Ms. Surekha H. Madhe				
Security Travelling System for Women's using Machine Learning	Prof. khatal Sunil.S	Computer	INTERNATIONAL JOURNAL OF INNOVATIVE RESEARCH IN TECHNOLOGY	2022	ISSN: 2349-6002
	Datir Komal. M				
	Jadhav Nikita.				
	Shaikh Fiza. H				
	AherRutuja. K				
Efficient Retrieval Over Documents Encrypted By Attributes in Cloud Computing	Dipak Vare	Computer	International Journal of Creative Research Thoughts (IJCRT)	2021	ISSN: 2320-2882
	Akshay Kapadi				
	Deepak Ratnaparkhi				
	Vaibhav Kale				
	Prof. Sunil S. Khatal				
A Survey on Authorized Encrypted Search for Information Retrieval of Distributed	Sagar Borude	Computer	International Journal for Scientific Research & Development	2021	ISSN (online): 2321-0
	Arvind Kedar				
	Rahul Yeloe				
	Prof. S. S. Khatal				
MOVIE RECOMMENDATION SYSTEM APPROACH	Yeole Madhavi B.	Computer	International Research Journal of Modernization in	2021	e-ISSN: 2582-5208
	Rokade Monika D.				
	Khatal Sunil S.				
Movie Recommendation System using Contentbased Filtering	Yeole Madhavi B.	Computer	www.ijariie.com	2021	ISSN(0)-2395-439
	Rokade Monika D.				
	Khatal Sunil S				
	Shekhar Gaikwad		International		



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Pneumonia Image Classification using Transfer Learning	Yogita Shinde	Computer	Journal of Advance Research, Ideas and Innovations in Technology	2021	ISSN: 2454-132X
	Arti Vadavale				
	Nilam Gaikwad				
	Sunil S. Khatal				
EMERGENCY MEDICINE TRACKING SYSTEM USING BLOCKCHAIN TECHNOLOGY WITH HEALTHCARE SUPPLY	Prof. Monika D. Rokade	Computer	International Research Journal of Modernization in Engineering Technology and	2022	e-ISSN: 2582-5208
	Miss. Divya Naikwadi				
	Dr. Sunil S. Khatal				
A Website in E-Commerce with Only an Absolute Multitude of Co Classifying Strategies	Mr. Pandurang R. Shinde	Computer	International Journal of Innovative Research in	2022	e-ISSN: 2319-8753
	Prof. Monika Rokade				p-ISSN: 2320-6710
	Prof. Sunil Khatal				
DRUG TRACEABILITY IN HEALTHCARE SUPPLY CHAIN OF MEDICAL RECORD SYSTEM USING	Miss. Divya Naikwadi	Computer	International Research Journal of Modernization in Engineering	2022	e-ISSN: 2582-5208
	Prof. Monika Rokade				
	Prof. Sunil Khatal				
Security Travelling System for Women's using Machine Learning	Prof. khatal Sunil.S	Computer	INTERNATIONAL JOURNAL OF INNOVATIVE RESEARCH IN TECHNOLOGY	2022	ISSN: 2349-6002
	Datir Komal. M				
	Jadhav Nikita.				
	Shaikh Fiza. H				
	AherRutuja. K				
Electronic Attendance Management System in the Classroom Using	Miss. Maya R. Shinde	Computer	International Journal Of Multidisciplinary	2022	ISSN: 2582-7219
	Dr. Monika Rokade				
	Dr. Sunil Khatal				
An E-Commerce Web Application Using Maven Software Libraries with a Limited Number of Co	Mr. Pandurang R. Shinde	Computer	International Journal Of Multidisciplinary Research In	2022	ISSN: 2582-7220
	Dr. Monika Rokade				
	Dr. Sunil Khatal3				
A Survey on the Role Analysis of Heart Disease Prediction System Using Internet of Things and Machine Learning	Rahul Jadhav	Computer	International Journal of Research Publication and Reviews (IJRPR)	2022	ISSN 2582-7421
	Omkar Rokade				
	Shivangi Shelke				
	Rutuja Bhor				
	Dr. Sunil Khatal				
AI Chatbot for Transpotation System	Prof. Gholap P.S	Computer	IJCRT	2022	ISSN: 2320-2882
	Mr. Lohate Prathemesh				
	Mr. Belahaware Akshay				
	Mr. Barve Omkar				
	Mr. Doke Sanket				
Water Monitoring as well as Pipe Leakage and check Moicher	Prof. Gholap P.S	Computer	IJRAMT	2022	ISSN: 2582-7839
	Mr. Mahale Amole				
	Mr. Nikam Tushar				
	Mr. Jadhav Nikita				
	Mr. Mayker Hritik				



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An Intelligent AI for Transportation System	Prof.Gholap P.S Mr.Lohate Prathemesh Mr.Belahaware Akshay Mr.Barve Omkar Mr.Doke Sanket	Computer	IJARST	2022	ISSN:2581-9429
A Machine Learning Based Crop Recommendation System: A Survey	Gholap P.S Dr. Pawan Bhaladhare	Computer	JOURNAL OF ALGEBRAIC STATISTICS	2022	ISSN: 1309-3452
Privacy-Preserving Deep Speaker Separation for Smartphone-Based Passive Speech Assessment for Parkinson Diseases	Dr. Monika Rokade Miss. Leena Patil	Computer	International Journal Of Multidisciplinary Research In Science, Engineering and Technology (IJMRSET)	2022	ISSN: 2582-7219
An Approach for Systematic Study for Detection and Classification of Parkinson Disease using Machine Learning Techniques	Dr. Monika Rokade Miss. Leena Patil	Computer	International Journal of Innovative Research in Computer and Communication Engineering	2022	e-ISSN: 2320-9801, p-ISSN: 2320-9798
Application of Deep Learning Models for Parkinson Disease Detection: An Overview	Dr. Monika Rokade Miss. Leena Patil	Computer	International Journal of Innovative Research in Science, Engineering and Technology (IJIRSET)	2022	e-ISSN: 2319-8753, p-ISSN: 2320-6710




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Developed a Secure Internet of Things System Using Web Services and Low Power Single Board Computers	Akshay D. Gupta Monika D. Rokade	Computer	IJSRD - International Journal for Scientific Research & Development	2022	(online): 2321-0
Cyber-security Risks' Impact on the Added Value of Consulting Services for IT-security Management Systems in Holding Companies	Pooja. S. Totare , Prof. M. Rokade	Computer	International Journal of Research Publication and Reviews	2022	ISSN 2582-7421
Human Cyber Physical Intelligence is a New Development Direction in Artificial Intelligence	Rahul S. Jadhav Monika D. Rokade	Computer	IJSRD - International Journal for Scientific Research & Development	2022	(online): 2321-0
IoT Edge Computing System Architecture and its Application	Nikita D. Gunjal Monika D. Rokade	Computer	IJSRD - International Journal for Scientific Research & Development	2022	ISSN (online): 2321-0613
Proposed Watermarking Based on CT Predictions Scan Images for Content Authentication once Copyright Protection	Rutuja B. Bhor Monika D. Rokade	Computer	IJSRD - International Journal for Scientific Research & Development	2022	ISSN (online): 2321-0613



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INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

COMPREHENSIVE REVIEW ON SECURE INFORMATION SHARING IN CLOUD COMPUTING

¹Prof. Khatal S.S. ²Navale Adesh L. ³Hande Bhagyashree M. ⁴Deshmukh Sumit B. ⁵Doke Onkar B.

¹HOD (Computer Department), ^{2,3,4,5}Bachelor Students

^{1,2,3,4,5}Department of Computer Engineering,

^{1,2,3,4,5}Sharadchandra Pawar College of Engineering, Dumbarwadi, Otur, Maharashtra, India

Abstract: Cloud computing is an emerging technology that uses the internet for storing and managing knowledge on remote servers, so users access knowledge via the net. This sort of system permits users to figure on the remote, customers who use Cloud computing does not own the physical structure; they take the usage from a third-party supplier on a rent. Cloud computing is therefore victorious thanks to its simplicity in its usage. they're an economical resolution for enterprises. However, cloud computing isn't trustworthy, and therefore the security of the information outsourced in cloud storage has to be warranted. one among the most popular issues is a way to make sure the integrity of the information in cloud storage. Until now, several researchers have projected immeasurable obvious knowledge possession schemes to take care of the matter of information integrity audition. but more efforts require to prevent the data vendors privacy whereas auditing the integrity of information shared during a cluster. This proposed paper gives a clear idea about the necessity of cloud computing, what are security issues in cloud computing. A Comprehensive Review on Secure Data Sharing in Cloud Environment.

Keywords - Cloud computing, Dynamic group data sharing, Security, Privacy, Data Storage.

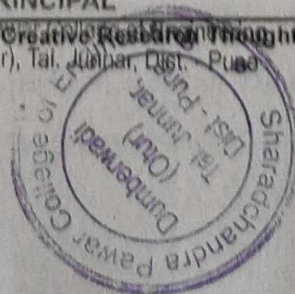
I. INTRODUCTION

Cloud computing is that the use of off-site systems to assist computers store, manage, process, and/or communicate data. These off-site systems are units hosted on the cloud (or the internet) rather than on your laptop or different native storage. they will cover something from email servers to software package programs, information storage, or maybe increasing your computer's processor power. The "cloud" may be a term that merely suggests that "the internet." Computing involves the infrastructures and systems that permit a laptop to run and build, deploy, or move with data. In cloud computing, this implies that rather than hosting infrastructure, systems, or applications on your Winchester drive or associate degree on-the-spot server, you're hosting it on virtual/online servers that connect with your laptop through secure networks. Samples of cloud computing rely upon the kind of cloud computing services being provided. Data storage has gained importance over recent years because it permits users to store their data and applications remotely rather than storing at their premises that might otherwise cost a lot of and reduce their operation performance as storage has to be maintained and managed by them. Hence, information house owners invariably look to source their information to different cloud service suppliers like Dropbox, Google Drive at cheap worth. It becomes the responsibility of those cloud service suppliers to take care of, manage and back up information for his or her customers and alter them to access information remotely from any half of the globe Hence, giving high skillfulness, flexibility and accommodates multiple users compared to ancient approaches. Despite its advantage and large size, according to a BBC report, solely 100% of the world's information is held on overcloud that might be attributed to growing issues over information storage location, vendor lock-in, and security. However, consistent with the international information Group's Enterprise Cloud Computing In the survey, 2016, organizations with over one,000 workers have allotted twenty-eighth of its total IT budget to cloud computing in 2017. Thanks to the advantages it offers over the network.

II. OVERVIEW

Cloud computing having four types: private clouds, public clouds, hybrid clouds, and multiclouds. Infrastructure-as-a-Service (IaaS), Platforms-as-a-Service (PaaS), and Software-as-a-Service (SaaS) these are the cloud computing services. Every cloud abstract, pools, and shares ascendible computing resources across a network. each cloud sort conjointly permits cloud computing, that is the act of running workloads at intervals of system. and each cloud is formed employing a distinctive mixture of technology which nearly continuously includes software package, some reasonable management platform, and application programming interfaces (APIs). Virtualization and automation packages can even be intercalary to each reasonable cloud for added capabilities or redoubled efficiencies.

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High Dimensional Health Care Privacy Approach Using Blockchain Technology with Emergency Medicine Tracking System Using Healthcare Supply Chain

Prof. Sunil Khatal¹, Miss. Divya Naikwadi², Prof. Monika Rokade³

¹Assistant Professor, ²PG Student, ³Assistant Professor,

^{1,2,3}Department Of Comp Engineering, Sharadchandra Pawar College Of Engineering, Otur, Pune, Maharashtra, India

ABSTRACT

The blockchain typically described as a decentralized system in which transactional or ancient statistics are recorded, stored, and maintained throughout a peer-to-peer community of personal computers referred to as nodes. Counterfeit drugs are one consequence of such limitations within existing supply chains, which not only has serious adverse impact on human health but also causes severe economic loss to the healthcare industry. Blockchain technology has gained tremendous attention, with an escalating hobby in a plethora of several applications like safe and relaxed healthcare records management. Similarly, blockchain is reforming the traditional healthcare practices to an extra reliable means, in phrases of powerful prognosis and treatment through safe and cosy facts sharing using SHA Hash Generation Algorithm. Within the future, blockchain will be an era that can probably assist in personalized, authentic, and at ease healthcare by means of merging the entire actual-time scientific information of a patient's fitness and offering it in an up to date cosy healthcare setup. In this paper, we evaluation each the present and modern day trends inside the subject of healthcare with the aid of imposing blockchain as a model. We also talk the packages of blockchain, at the side of the demanding situations confronted and destiny views. The proposed system executed blockchain implementation in distributed computing surroundings and it gives the automated restoration of invalid chain by using Consensus and Mining Algorithm. In this system, we present a Custom blockchain-based approach leveraging smart contracts and decentralized off-chain storage for efficient product traceability in the healthcare supply chain. The smart contract guarantees data provenance, eliminates the need for intermediaries and provides a secure, immutable history of transactions to all stakeholders. We present the system architecture and detailed algorithms that govern the working principles of our proposed solution. We perform testing and validation, and present cost and security analysis of the system to evaluate its effectiveness to enhance traceability within pharmaceutical supply chains.

KEYWORDS: Blockchain Technology, Decentralization / Decentralized System, Distributed Computing, Peer-to-Peer Network, Healthcare, Healthcare Supply Chain, etc

I. INTRODUCTION

A blockchain system considered as a virtually incorruptible cryptographic database where critical medical information could be recorded. A network of computers that is accessible to anyone running the

software maintains the system. Blockchain operates as a pseudo-anonymous system that has still privacy issues since all transactions are exposed to the public, even though it is tamper-proof in the sense of data

How to cite this paper: Prof. Sunil Khatal | Miss. Divya Naikwadi | Prof. Monika Rokade "High Dimensional Health Care Privacy Approach Using Blockchain Technology with Emergency Medicine Tracking System Using Healthcare Supply Chain" Published in International Journal of Trend in Scientific Research and Development (ijtsrd), ISSN: 2456-6470, Volume-5 | Issue-6, October 2021, pp.1188-1193, URL: www.ijtsrd.com/papers/ijtsrd47555.pdf



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COVID-19 Time Series Forecasting of Daily Cases, Deaths Caused and Recovered Cases Using Machine Learning

Prof. Khatal S.S., Mr. Bhimshankar Patil, Ms. Diplai Awate, Mr. Abhijeet Choudhary, Mr. Sourabh Pandey Department of Computer Engineering,
Sharadchandra Pawar College of Engineering, otur, Maharashtra, India

Abstract—A novel coronavirus (CoV) named '2019-nCoV' or '2019 novel coronavirus' or 'COVID-19' by the World Health Organization (WHO) is in charge of the current outbreak of pneumonia that began at the beginning of December 2019 near in Wuhan City, Hubei Province, China. COVID-19 is a pathogenic virus. From the phylogenetic analysis carried out with obtainable full genome sequences, bats occur to be the COVID-19 virus reservoir, but the intermediate host(s) has not been detected till now. Coronaviruses are a large family of viruses that are known to cause illness ranging from the common cold to more severe diseases such as Middle East Respiratory Syndrome (MERS) and Severe Acute Respiratory Syndrome (SARS). A novel coronavirus (COVID-19) was identified in 2019 in Wuhan, China. This is a new coronavirus that has not been previously identified in humans.

Keywords— Deep learning, Artificial Neural Networks, LongShort-Term Memory (LSTMs), Pandemic, COVID-19, Coronavirus.

1] INTRODUCTION

A novel coronavirus (CoV) named '2019-nCoV' or '2019 novel coronavirus' or 'COVID-19' by the World Health Organization (WHO) is in charge of the current outbreak of pneumonia that began at the beginning of December 2019 near in Wuhan City, Hubei Province, China [1-4]. COVID-19 is a pathogenic virus. From the phylogenetic analysis carried out with obtainable full genome sequences, bats occur to be the COVID-19 virus reservoir, but the intermediate host(s) has not been detected till now. Though three major areas of work already are ongoing in China to advise our awareness of the pathogenic origin of the outbreak. These include early inquiries of cases with symptoms occurring near in Wuhan during December 2019, ecological sampling from the Huanan Wholesale Seafood Market as well as other area markets, and the collection of detailed reports of the point of origin and type of wildlife species marketed on the Huanan market and the destination of those animals after the market has been closed.

COVID-19 respiratory disease caused by a novel (new) coronavirus that was first detected in China and which has now been detected in more than 150 locations internationally, including in the United States. The virus has been named "SARS-CoV-2" and the disease it causes has been named "coronavirus disease 2019" (abbreviated "COVID-19").

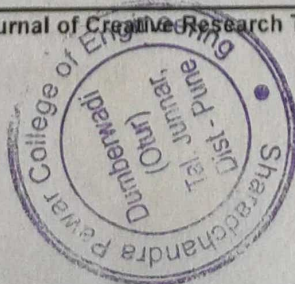
1. LITERATURE REVIEW

A. Artificial Neural Networks (ANN)

Artificial Neural Network ANN, ANN is an efficient computing system whose central theme is borrowed from the analogy of biological neural networks. ANNs are also named as "artificial neural systems," or "parallel distributed processing systems," or "connectionist systems." ANN acquires a large collection of units that are interconnected in some pattern to allow communication between the units. These units, also referred to as nodes or neurons, are simple processors which operate in parallel.

B. Recurrent Neural Networks (RNN)

A significant increase in COVID-19 cases is already happening in many places because of the fast onset of winter. Mass vaccination programs are initiated in several nations to prevent the spread of COVID-19, yet unfathomable surges in COVID-19 have significantly increased the challenges to public officials. As many parts of the world are reporting an increase in disease transmission and possible lethality, it has been reported that new and potentially more deadly strains have been found, and doubts





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Health Care System To Identify Covid-19 From Chest X-ray Report Using Image Processing and CNN

Prof. Khatal S.S., Mr. Hrshikesh B. Ambre, Ms. Sonali B. Gagare, Ms. Nikita B. Shingote, Ms. Surekha H. Madhe
Department of Computer Engineering,
Sharadchandra Pawar College of Engineering, Otur, Maharashtra, India

Abstract—Covid-19 may be a huge serious deadly virus that has been declared as a pandemic by the world health organization (WHO). The complete world is functioning with all its may to finish Covid-19 pandemic, that puts countries in serious health and economic issues, as presently as potential. The foremost necessary of these is to properly determine those that get the Covid-19. The COVID-19 virus has spreading to numerous components of countries in 2019, as well as Indonesia. This international pandemic becomes a deadly eruption since there's no Vaccination to treat or forestall transmission of the virus. Fast take a look at is chosen as a vital technique to find Covid-19 in Indonesia as a result of the worth is fairly low-cost compared to the SWAB take a look at. The rise in Covid-19 patients tends to steer to restricted capability for the Covid-19 take a look at on the market at the hospital so the most recent technology to find and overcome this pandemic issue is required. Thus, this analysis aims to look at the entire of a hundred X-Ray chest pictures of the Covid-19 patients and a hundred X-ray traditional chest pictures.

Keywords—Covid 19 Identify, Chest X-ray Report, Image Processing, CNN

I. INTRODUCTION

The first case of COVID-19 was detected within the City Wuhan province of China back in Dec 2019 and began spreading all across the planet since then. the world Health Organization or WHO has declared it a pandemic in 11th March 2020. nowadays on Oct the 12th we've 7.18 million cases and 110,135 individuals have succumbed to the deadly virus world wide. Coronavirus is a very dangerous infectious virus seen in animals and humans. The new coronavirus illness, a member of the coronavirus family, that bust go in late Dec is caused by the SAR-CoV-2 virus. This communicable disease, known as Covid19 within the literature, attacks the system directly, thus symptoms of fever, cough, and shortness of breath cause frequently determined. In advanced cases, it causes inflammation of the air sacs in the lungs such as known as respiratory disease. Rapid test, as another to identify Covid-19, is presently thought of problematic to hold out since the diagnostic system isn't out there in all places. Given the restrictions of Covid-19 testing, alternative various diagnostic measures are desperately required. Therefore, the automated detection instrument, like the appliance of X-ray scans, is required to investigate the patient's lungs and to observe whether somebody has been infected by the virus or not. the appliance of X-Ray scans is applied as another diagnostic mechanism since nearly all hospitals have associate X-ray machine. Hence, Covid-19 virus detection is conducted while not use special kit.

This study aims to look at the patterns rising from the X-ray chest pictures of the patients who are infected by the Covid-19 virus. The observation is enforced using deep learning. The deep learning algorithmic program that's selected to be applied within the present analysis is Convolution Neural Networks (CNN). aside from applying the CNN basic model, the VGG16 transfer learning model is additionally wont to compare and reveal that model has the most effective performance. Also, a pre-trained model is employed during this analysis because the dataset. After that, the pre-trained model is re-implemented on the new dataset, one in all that is VGG16 [8]. the appliance of image processing is additionally applied to enhance the image quality using contrast restricted graph effort (CLAHE). the mix of CNN and CLAHE is enforced to acknowledge objects within the kind of medical pictures and image improvement, particularly the detection of the Covid-19 virus on X-ray chest pictures. within the present analysis, the programming language along side implement CLAHE and CNN is Python in beside with the OpenCV library.

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Security Travelling System for Women's using Machine Learning

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Abstract- In today's world Victimization Sensible Phones having chop-chop and thence sensible phone may be used expeditiously for private security. A so many latest apps are developed to produce a security system to girls via their phones. As Per the reports of World Health Organization NCRB Social Government Organization thirty-fifth girls everywhere the earth quad measure facing a great deal of immoral Physical Harassment in public places like Railways, Bus-stands and pathway etc. During this Paper, we have got reviewed of assorted existing systems on women security. We have got fade a requirement of advanced girls security system to provides the safety live at public places likewise as travelling alone through public transports such as College Buses, Company Vehicles etc. In these projects we help to find safe route for women to travel.

Index-Terms: IOT, Machine learning, Women's Security, IOT based solution, Registered Contacts.

I. INTRODUCTION

Women security is biggest thing and biggest issue in overall world. women's equal participation and leadership and the empowerment of women and girls is of critical importance to reconcile, conciliating, enabling recovery and building potency. But women are not secure in any sector. They face lot of struggles in daily routing life. incursion on women has become a trend nowadays, and it's high time for women to take their security and safety in their hands. In modern days, women should have self-awareness "having the confidence in one's ability to deal with a situation without being swamp". assurance reflects confidence in the ability to exert control over one's own motivation, behavior, and social environment". Encouraging women to travel anywhere in the day or night without any worry is the main motive. The software help to find the safe route

for travelling and The idea is to predict the safe route and render the hampering measures for the women. In order to confront the asseverate crime situations and display the route with the rate of crime at the selected route. Hence, allows women to avoid exact places of special crimes.

Security Of Women In India A big deal is that though women has perform everywhere in every field but still a question arises, "IS SHE SAFE?". Latest statistics released by National Commission for Women (NCW) proved that India is risky for women and Uttar Pradesh transpire as the most insecure place for women followed by Delhi.

After more than 60 years of supremacy, this fact is humiliating for citizens. Police records show high occurrence of crimes against women in India. Most working women across India feel self-effacing about their safety, mostly during night shifts. Every day ,there is at least one or more news about shocking incidents of bedevilment or molestation against women. Various app is introduced for women's security.

These apps function by support the protection and security of women by classify things that may come in handy in an emergency situation at one place. Now there came news of Kill and Sextual Assaults of BPO women in Bangalore and Delhi. In most cases, culprits are compelled and courageous, and cases are lying in various district court. One of the main reason is the weak functioning governing. In some cases, police don't take any action if such incident happens in front of them and remains silent which is very embarrassing for our police department. In most of the cases, the criminals are cop but free on bail and no strict punishment is given to them .

II. LITERATURE SURVEY

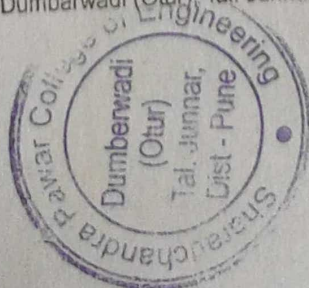
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Efficient Retrieval Over Documents Encrypted By Attributes in Cloud Computing

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Abstract— secure data storage and retrieval is the best research directions in cloud. Though lots of searchable encryption scheme have been proposed some of them support efficient retrieval over the documents. Which are encrypted based on their attributes. In this paper a hierarchical attribute based encryption scheme is designed for a data collection. A set of documents is encrypted together if they share an integrated access structure. Compared with the CP policy attribute based encryption schemes, both the cipher text storage space and time costs of encryption and decryption are saved. Then, an index structure named attribute based retrieval features tree is constructed for the document collection based on the TF-IDF model and the documents attributes. A depth first search algorithm for the attribute based retrieval features tree is designed to better the search efficiency which can be further improved by parallel computing. Except for the documents collections in our scheme can be applied to other data sets by modifying the attribute based retrieval features tree slightly. A thorough analysis and series of experiments performed to illustrate the security and efficiency of the proposed scheme.

Index Terms—Cloud, Document retrieval, file hierarchy, attribute-based encryption.

1. INTRODUCTION

Lots of people and organizations are motivated to outsource their local document management systems to the cloud which is a promising information technique to process the explosive expanding of data. Cloud computing can collect and reorganize a huge amount of IT resources and evidently, the cloud servers can provide more secure, flexible, various, economic and customized services compared with the local management systems. For all the advantages of cloud services, leaking the sensitive information, such as personal information, company financial data and government documents to the public is a big threat to the data owners. In addition to make full use of the documents on the cloud the data users has to access them flexibly and efficiently. Consequently, a big challenge of outsourcing the data to the cloud is how to protect the confidentiality of the data properly while maintaining their search ability.

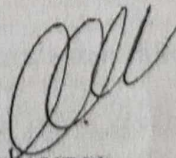
An instinctual approach is encrypt the data first and then outsourcing the encrypted data to the cloud. A large number of searchable data encryption scheme have been proposed in the literatures including single keyword Boolean search scheme single keyword ranked search schemes and multi keyword Boolean search schemes. However, all these schemes cannot support effective, flexible and efficient data search because of their simple functionalities. Privacy-preserving multi-keyword ranked document search schemes are more promising and Practical. However, all the data in these scheme are organized by a coarse grained access control mechanism that is each permitted data user can

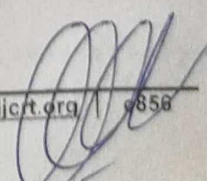
access all the encrypted data. As an Example, the whole IEEE Explore Digital Library can be accessed by all the authorized organizations (e.g. the universities, school) at present and this can't satisfy the data owners and users in the future.

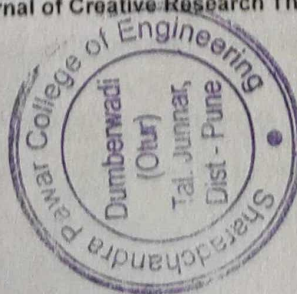
In this paper, a new circumstance is considered. A data user may be want to access part of the library (e.g. computers and data related papers etc.) and intuitively she wants to pay less money compare with the data users who want to access the whole library. In different words, in the data collection, each document can be accessed only by a set of specific data users. In this case, we need to design a fine grained access control mechanism for the data and it is more reasonable compared with the current method.

To make the data users able to access part of IEEE Explore Digital Library on demands, a possible approach is encrypting the documents through attribute-based encryption (ABE) schemes before outsourcing them to the cloud. Meanwhile, the permitted data users are assigned with a set of attributes. A data user can decrypt file if and only if her attributes match the files attributes. Recently, cipher text- policy attribute-based encryption (CP-ABE) is a hot research area and it can provide fine-grained, one to many and flexible access control. In these scheme each document is encrypted individual and their encryption efficiency can be better by employing hierarchical attribute based encryption schemes. However, these scheme can't be employed directly to solve our problem properly. First, existing schemes focus on encrypting a single access tree.

However, it is impossible that all the documents in IEEE Explore Digital Library share a single access tree and how to construct a set of optimized retrieve trees for the document collection is a big challenge. Second, in most existing schemes, when the documents are mapped to a set of shared retrieve trees, the data users need to store a huge number of secret keys which will be study in Section IV.B. Apparently, this is a heavy burden for the data users especially for an extremely large document collection and how to decrease the amount of secret keys for the data users is another challenge. Except for access control, document search efficiency is also a challenge for a large document collection. To our knowledge, most existing schemes can't support time-efficient retrieval over the documents which are organized under attribute-based access control mechanism.


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A Survey on Authorized Encrypted Search for Information Retrieval of Distributed System by Journal Purpose Application

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Abstract— Data integrity maintenance is the major objective in cloud storage. It includes auditing using TPA for unauthorized access. To implement this work for protecting the data and regeneration of data if someone mishandles it. This job will be assigned to a Proxy server. The data of the users will be stored in public and private area of the cloud. So that only public cloud data will be accessed by user and private cloud will remain more secured. Once any unauthorized modification is made, the original data in the private cloud will be retrieved by the Proxy server and will be returned to the user. Cloud storage generally provides different redundancy configuration to users in order to maintain the desired balance between performance and fault tolerance. Data availability is critical in distributed storage systems, especially when node failures are prevalent in real life. This research work explores secure data storage and sharing using proposed AES 128 encryption algorithm and Role Base Access Control (RBAC) for secure data access scheme for end user. This work also carried out backup server approach it works like proxy storage server for ad hoc data recovery for all distributed data servers. The experiment analysis has proposed in public as well as private cloud environment.

Keywords: RBAC, SHA256 encryption scheme; secure user access policy; Proxy Key Generation, Role Base Access Control (RBAC), advanced encryption standard (AES)

I. INTRODUCTION

The most straightforward method of addressing data privacy concerns is to encrypt data before uploading to the cloud. Subsequently, only the authorized client who has the key or permissions can decrypt the data. Accordingly, in an Organization system, data owners are usually required to encrypt their records. As a practical consideration, data owners also need to provide corresponding access policies to access their records and determine which keywords they can search. However, it is nontrivial to achieve the aforementioned requirements over encrypted data. A wireless network consists of spatially distributed autonomous sensors to monitor physical or logical conditions, and to cooperatively pass their data through the network to a main location. The development of wireless networks was motivated by military applications such as battlefield surveillance; today such networks are used in many industrial and consumer applications, such as industrial process monitoring and control, machine health monitoring, and so on. Special characteristics of WSNs, such as resource constraints on energy and computational power and security have been well-defined and widely studied. What has received less attention, however, is the critical privacy concern on information being collected, transmitted, and analyzed in a WSN. Such private and sensitive information

may include payload data collected by network and transmitted through another network to a centralized data processing server.

System depict the principle plan objectives of the proposed plan including key circulation, information secrecy, access control and effectiveness as takes after: Key Distribution: The prerequisite of key transportation is that clients can safely get their private keys from the gathering director with no Certificate Authorities. In other existing plans, this purpose is skillful by expecting that the communication channel is secure, on the other hand, in our plan, system can accomplish it without this solid thought. Access control: First, collect individuals can make use of the cloud asset for information stockpiling and information sharing. Second, unapproved clients can't get to the cloud asset whenever, and disavowed clients will be unfitted for utilizing the cloud asset again once they are renounced [5].

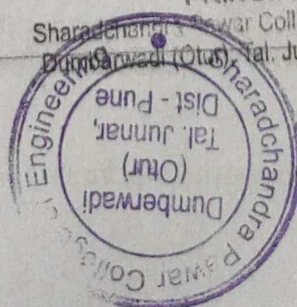
II. LITERATURE SURVEY

Wei Li, KaipingXue, YingjieXue, and Jianan Hong, "TMACS: A Robust and Verifiable Threshold Multi-Authority Access Control System in Public Cloud Storage". In this paper, from another perspective, we conduct a threshold multi-authority CP-ABE access control scheme for public cloud storage, named TMACS, in which multiple authorities jointly manage a uniform attribute set. In TMACS, taking advantage of (t, n) threshold secret sharing, the master key can be shared among multiple authorities, and a legal user can generate his/her secret key by interacting with any t authorities. Security and performance analysis results show that TMACS is not only verifiable secure when less than t authorities are compromised, but also robust when no less than t authorities are alive in the system. Furthermore, by efficiently combining the traditional multi-authority scheme with TMACS, we construct a hybrid one, which satisfies the scenario of attributes coming from different authorities as well as achieving security and system-level robustness.

Jianan Hong, KaipingXue and Wei Li, 'Comments on "DAC-MACS: Effective Data Access Control for Multi-Authority Cloud Storage Systems"/Security Analysis of Attribute Revocation in Multi-Authority Data Access Control for Cloud Storage Systems'. In the above paper, Yang et al. have proposed a multi-authority ciphertext-policy attribute-based encryption-based data access control for cloud storage, in which the authors claimed that the mechanism in dealing with attribute revocation could achieve both forward security and backward security. Unfortunately, our further analysis and investigation show that their work adopts a bidirectional re-encryption method in ciphertext updating, so security vulnerability appears. Our proposed attack method demonstrates that a revoked user can still decrypt new cipher

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MOVIE RECOMMENDATION SYSTEM APPROACH USING CLASSIFICATION TECHNIQUES

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ABSTRACT

Movie recommendation is one of the hottest topics in the domain of Recommender Systems. In order to improve user experience and reduce movie searching / exploring time, a better movie recommendation is preferred. Websites like Netflix, Amazon Prime, etc. use movie recommendation to improve their revenue or profits. Some recommender systems use collaborative filtering technique whereas some recommender systems use content filtering technique. Major factor for decision making is the ratings given by the users to the movies which they have watched. The project proposes to get the movie recommendations based on binary classification techniques. Users can get user personalized movie recommendations by using this technique. Multiple Machine Learning and/or Deep Learning algorithms have been used in order to get recommendations. A lot of analysis is done in order to see if the recommendations are appropriate or not.

Keywords: Movie Recommendation, Classification Techniques, Cold Start Problem.

I. INTRODUCTION

Due to abundance of information collected till 21st century and the increasing rate of information flowing over the internet, there is a lot of confusion related to what to consume and what not to consume. Even on YouTube, when you want to watch a video of a particular concept, generally, there are a lot of videos available out there for you. Now, since the results are ranked appropriately, there may not be much issue but what if the results were not ranked appropriately? Well, in that case, we would probably spend a lot of time to find the best possible video which suits us and satisfies our need. This recommendation results are when you search something on a website. Next time, when you visit a particular website, without even searching, sometimes the system is able to show you recommendations which you might like. Isn't this an interesting feature? So, basically, the job of a recommender system is to suggest the most relevant items to the user. Recommendation systems are used in YouTube for video recommendation, Amazon and Flipkart for product recommendation, Netflix and Amazon Prime for movie recommendation, and so on. Whatever you do on such websites, there is a system which see your behavior and then ultimately suggest things / items with which you are highly likely to engage. This research paper deals with movie recommendations and logic behind movie recommendation system, traditional movie recommendation systems, issues related to traditional movie recommendation systems, and a proposed solution for Artificial Intelligence based personalized movie recommendation system. A lot of famous movie recommendation related datasets are already available on Kaggle and other websites. Some of the famous datasets include Movielens dataset, TMDb Movie Dataset, and the dataset by Netflix itself. Websites like Netflix, Amazon Prime, etc. use movie recommendation to increase their revenue or profits by ultimately improving the user experience. In fact, there was a competition conducted by Netflix in the year 2009 with a prize money of nearly 1 million dollars (\$1M) for making at least 10% improvement in the existing system.

As dealt earlier, we have a lot of data available at our exposure and we need to filter the data in order to consume it because generally we are not interested in each and everything available to us. In order to filter the data, we need some filtering techniques. There are different types of filtering techniques or movie recommendation algorithms over which a recommendation system can be based upon.

Major filtering techniques or movie recommendation algorithms are as follows:

1. Content Based Filtering
2. Collaborative Filtering



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Movie Recommendation System using Content-based Filtering

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ABSTRACT

There is already enough content available on the movie recommendation system. Showing the movie recommendations is essential so that the user need not waste a lot of time searching for the content which he/she might like. Thus, movie recommendation system plays a vital role to get user personalized movie recommendations. After searching a lot on the internet and referring to a lot of research papers, we got to know that the recommendations made using Content-based Filtering are using a single text to vector conversion technique and a single technique to find the similarity between the vectors. In this research work, we have used multiple text to vector conversion techniques and manipulated the results of the multiple algorithms to get the final recommendation list. You can think of it as a hybrid approach using the Content-based Filtering technique only.

Keyword: - Movie Recommendations, Content-based Filtering, Text to vector, Vector similarity, Hybrid approach

1. INTRODUCTION

Due to abundance of information collected till 21st century and the increasing rate of information flowing over the internet, there is a lot of confusion related to what to consume and what not to consume. Even on YouTube, when you want to watch a video of a particular concept, generally, there are a lot of videos available out there for you. Now, since the results are ranked appropriately, there may not be much issue but what if the results were not ranked appropriately? Well, in that case, we would probably spend a lot of time to find the best possible video which suits us and satisfies our need. This recommendation results are when you search something on a website. Next time, when you visit a particular website, without even searching, sometimes the system is able to show you recommendations which you might like. Isn't this an interesting feature? So, basically, the job of a recommender system is to suggest the most relevant items to the user. Recommendation systems are used in YouTube for video recommendation, Amazon and Flipkart for product recommendation, Netflix and Amazon Prime for movie recommendation, and so on. Whatever you do on such websites, there is a system which see your behavior and then ultimately suggest things / items with which you are highly likely to engage. This research paper deals with movie recommendations and logic behind movie recommendation system, traditional movie recommendation systems, issues related to traditional movie recommendation systems, and a proposed solution for Artificial Intelligence based personalized movie recommendation system. A lot of famous movie recommendation related datasets are already available on Kaggle and other websites. Some of the famous datasets include Movielens dataset, TMDb Movie Dataset, and the dataset by Netflix itself. Websites like Netflix, Amazon Prime, etc. use movie recommendation to increase their revenue or profits by ultimately improving the user experience. In fact, there was a competition conducted by Netflix in the year 2009 with a prize money of nearly 1 million dollars (\$1M) for making at least 10% improvement in the existing system.

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Viral vs. Bacterial Pneumonia Image Classification using Transfer Learning

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ABSTRACT

The Purpose of this Project is to Develop a Project to Detect Covid-19 Viral and Bacterial Pneumonia using Transfer Learning from medical images. Covid 19 2nd wave is spreading Rapidly and more deadly than the first wave we need effective and accurate models to Detect Covid-19 using AI and the challenges are quite big we don't have that big dataset so instead of building model from scratch we used prebuilt CNN Model and Transfer Learning for accurate prediction on test Dataset. This one is just Binary Classification model which uses images Bacterial and viral pneumonia images for the training

Keywords— Tensorflow, Keras, Deep Learning, Transfer Learning, covid-19

1. INTRODUCTION

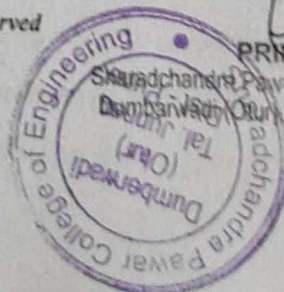
A number of mysterious cases of viral pneumonia were detected in December 2019 China's city Wuhan, which then spread to the rest of the countries across globe. some cases were reported in the countries like Germany, France and Italy Then it started spreading across the globe. As of 1 June 2021, 30.7L people died of COVID-19, while 17.3CR cases in 210 countries were reported the significant spread of the pandemic around the all countries has meant that the number of Medical Devices available for doctors and health workers fighting the disease is not sufficient. the time required for Covid-19 diagnosis and the costs of the laboratory kits used for diagnosis, artificial intelligence research and applications have been initiated to support doctors and Health workers who trying to treat patients . COVID 19 tests are expected to be used in clinical settings but now in this worst scenario for COVID-19 test results takes more than 48 hours and not all countries will get access to those Rapid test kits that give results rapidly and Accurate. AI techniques have produced stable and accurate results in the applications that use image classification. Deep Learning algorithm CNN which takes its name from the number of its hidden layers now gained a special place in the field of AI by providing successful results for both image-based classification applications and regression problems in past 8-10 years. So, we decided to build a images classification model using transfer learning to detect whether its bacterial or viral pneumonia Transfer learning can be useful in those applications of CNN where the dataset is not large. Transfer learning utilizes trained models from large datasets such as ImageNet which can be used for another application with a comparatively smaller dataset.

2. METHODOLOGY

2.1 Dataset

The dataset obtained from Kaggle repository and GitHub which contains Chest X-Ray scans of covid and Bacterial pneumonia. we used This collected dataset is not meant to claim the diagnostic and testing ability of our Deep Learning model but to research about various ways of efficiently detecting Covid-19 infections using images classification techniques. The collected dataset consists of 5000 total chest X-ray images. This data set is divided into training and testing set of covid and bacterial pneumonia. In this training set 2300 are covid, and 3600 is pneumonia so just to make our model balanced we made it 2300 for covid and 2300 pneumonia. <https://github.com/ieee8023/covid-chestxray-dataset>

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EMERGENCY MEDICINE TRACKING SYSTEM USING BLOCKCHAIN TECHNOLOGY WITH HEALTHCARE SUPPLY CHAIN

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ABSTRACT

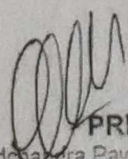
The blockchain is a decentralised system in which transactional or historical statistics are recorded, kept, and maintained by a peer-to-peer network of personal computers known as nodes. Counterfeit pharmaceuticals are one result of such constraints in existing supply chains, which not only have a negative impact on human health but also cost the healthcare business a lot of money. Blockchain technology is gaining a lot of traction, with a growing interest in a variety of applications like secure and easy healthcare data administration. Similarly, blockchain is transforming traditional healthcare methods into a more dependable way of powerful prognosis and treatment by allowing for secure and private data sharing via the SHA Hash Generation Algorithm. In the future, blockchain will most likely aid in tailored, authentic, and comfortable healthcare by combining all real-time scientific information on a patient's health and presenting it in a modern, comfortable healthcare setting. In this study, we use blockchain as a model to evaluate both current and emerging trends in the field of healthcare. We also discuss the blockchain packages, as well as the challenges faced and future perspectives. The proposed technology implemented blockchain in a distributed computing environment and provides automated chain repair utilising Consensus and Mining Algorithms. We describe a custom blockchain-based strategy for effective product tracing in the healthcare supply chain using smart contracts and decentralised off-chain storage in this system. The smart contract ensures data provenance, eliminates the need for middlemen, and provides all parties with a safe, immutable transaction history. We offer the system architecture as well as the detailed algorithms that regulate our proposed solution's functioning principles. We conduct testing and validation, as well as a cost and security study of the system, to determine its efficacy in improving traceability throughout pharmaceutical supply chains.

Keywords: Blockchain Technology, Decentralization / Decentralized System, Distributed Computing, Peer-To-Peer Network, Healthcare, Healthcare Supply Chain, Etc.

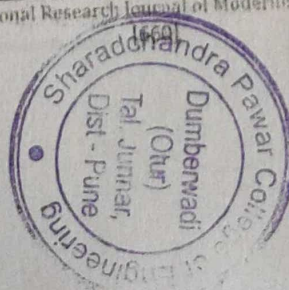
I. INTRODUCTION

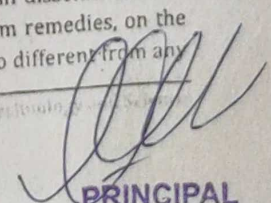
A blockchain system is a practically incorruptible cryptographic database that can be used to store crucial medical data. A network of computers that is accessible to anyone using the software maintains the system. Even if it is tamper-proof in terms of data integrity, blockchain functions as a pseudo-anonymous system with privacy issues because all transactions are visible to the public. It was necessary to properly construct the access control of heterogeneous patients' healthcare records across numerous health facilities and gadgets. Blockchain was not created with the intention of being used as a large-scale storage system. In the case of healthcare, a decentralised storage solution would significantly supplement blockchain's shortcomings.

In comparison to centralised systems, the blockchain network is more resilient since it is a decentralised system with no single point of failure. However, because all Bitcoin transactions are public and accessible to anybody, analytics tools that identify network users based on transaction history already exist. Similarity or closeness among themes within a huge volume of data can be found using popularity analytics. Because information must be propagated over the network to synchronise the ledger replicas, Bitcoin transactions are delayed as information passes between multiple nodes in the Bitcoin network. The sluggish dissemination of information introduces a security flaw that could be exploited by hostile attacks. Long-term remedies, on the other hand, are still required. When it comes to malicious assaults, the Bitcoin network is no different from any


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A Website in E-Commerce with Only an Absolute Multitude of Co Classifying Strategies Using Maven Project Library Techniques

Mr. Pandurang R. Shinde¹, Prof. Monika Rokade², Prof. Sunil Khatal³

ME Student, Department of Computer Engineering, Sharadchandra Pawar College of Engineering, Otur, India¹

Assistant Professor, Department of Computer Engineering, Sharadchandra Pawar College of Engineering, Otur, India^{2,3}

ABSTRACT: We introduce Onto Maven, a knowledge management system that uses the Maven-based development method and extends its ideas to manage knowledge objects stored in distributed Onto Maven repositories. According to recent studies, the Maven ecosystem contains over 2 million library assets, which include source code, byte code, and documentation. Several websites offer configurable ecosystem views to help developers cope with this data. Views that group related libraries into categories, or views that display all libraries that have been labelled with tags that match coarse-grained library features, for example. The MVN Repo overlay website offers both category-based and tag-based displays. A lot of libraries, unfortunately, have not been classified or have missing tags. Initial attempts to automate Maven library categorization. Both Agile and DevOps have the potential to increase the capabilities of the IT industry to satisfy business objectives. Agile is evolutionary, allowing teams to properly prioritise work and features while also producing a prototype that increases the visibility of the software development process.

KEYWORDS: Classification, Labeling Libraries, and the Software Ecosystem Agile; E-Commerce; Devops

I. INTRODUCTIONS

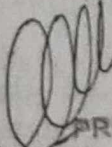
A software ecosystem [1] is a collection of software products that are developed in the same environment. Maven1, NPM2, and CTAN3 are just a few examples of co-evolving software libraries that are intended to be reused. The Maven ecosystem [2], which is built for JVM-based libraries, has around 2 million software packages. It can be tough to find an appropriate library for reuse in such a vast environment.

The java e-commerce shop project is a web application. A Java-based web commerce project that includes source code and a report. JSP, servlet, MySQL, eclipse built on Maven, and MVC architecture are used in this e-commerce project. Let's have a look at the comprehensive description of a Java E-commerce project.

E-Commerce is a browser application that runs on the Tomcat server on localhost. It has all of the features of a web application for online shopping. Where a user can browse and purchase the desired product. Users can search for or filter products based on their needs. The administrator plays a crucial function in the application. Admins can add new goods to the database and keep track of all transactions and products. The major goal of the java e-commerce project is to provide an internet platform for people to sell their products.

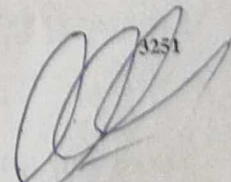
II. LITERATUREREVIEW

A descriptive literature review on society and e-commerce website design is presented in this study. In the future, cultural aspects and e-commerce website design will be critical for successful worldwide e-commerce sites. E-commerce will be critical to business future success. Local firms must focus on building culturally appropriate e-commerce websites in order to compete in the global e-commerce sector. To the best of my knowledge, little research has been done on the relationship between tourism and e-commerce web designing. Melissa N Stolar, Margaret Lech, Shannon J Stolar, Nicholas B Allen approach [2] for the detection is very interesting and quite different from others.


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DRUG TRACEABILITY IN HEALTHCARE SUPPLY CHAIN OF MEDICAL RECORD SYSTEM USING BLOCKCHAIN TECHNOLOGY

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ABSTRACT

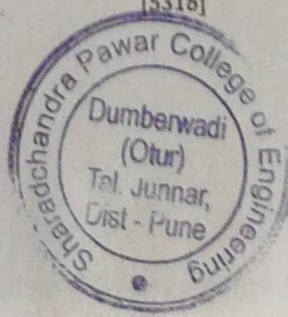
The blockchain is a decentralised system in which transactional or historical statistics are recorded, kept, and maintained by a peer-to-peer network of personal computers known as nodes. Counterfeit pharmaceuticals are one result of such constraints in existing supply chains, which not only have a negative impact on human health but also cost the healthcare business a lot of money. Blockchain technology is gaining a lot of traction, with a growing interest in a variety of applications like secure and easy healthcare data administration. Similarly, blockchain is transforming traditional healthcare methods into a more dependable way of powerful prognosis and treatment by allowing for secure and private data sharing via the SHA Hash Generation Algorithm. In the future, blockchain will most likely aid in tailored, authentic, and comfortable healthcare by combining all real-time scientific information on a patient's health and presenting it in a modern, comfortable healthcare setting. In this study, we use blockchain as a model to evaluate both current and emerging trends in the field of healthcare. We also discuss the blockchain packages, as well as the challenges faced and future perspectives. The proposed technology implemented blockchain in a distributed computing environment and provides automated chain repair utilizing Consensus and Mining Algorithms. We describe a custom blockchain-based strategy for effective product tracing in the healthcare supply chain using smart contracts and decentralised off-chain storage in this system. The smart contract ensures data provenance, eliminates the need for middlemen, and provides all parties with a safe, immutable transaction history. We offer the system architecture as well as the detailed algorithms that regulate our proposed solution's functioning principles. We conduct testing and validation, as well as a cost and security study of the system, to determine its efficacy in improving traceability throughout pharmaceutical supply chains.

Keywords: Distributed System, User Data Privacy, SHA-256 Algorithm, Hashing Functions, Consensus Algorithm, Custom Blockchain, Peer-To-Peer Network, Healthcare, Healthcare Supply Chain, Etc.

1. INTRODUCTION

A blockchain system is a practically incorruptible cryptographic database that can be used to store crucial medical data. A network of computers that is accessible to anyone using the software maintains the system. Even if it is tamper-proof in terms of data integrity, blockchain functions as a pseudo-anonymous system with privacy issues because all transactions are visible to the public. It was necessary to properly construct the access control of heterogeneous patients' healthcare records across numerous health facilities and gadgets. Blockchain was not created with the intention of being used as a large-scale storage system. In the case of healthcare, a decentralised storage solution would significantly supplement blockchain's shortcomings.

In comparison to centralised systems, the blockchain network is more resilient since it is a decentralised system with no single point of failure. However, because all Bitcoin transactions are public and accessible to anybody, analytics tools that identify network users based on transaction history already exist. Similarity or closeness among themes within a huge volume of data can be found using popularity analytics. Because information must be propagated over the network to synchronise the ledger replicas, Bitcoin transactions are delayed as information passes between multiple nodes in the Bitcoin network. The sluggish dissemination of information introduces a security flaw that could be exploited by hostile attacks. Long-term remedies, on the other hand, are still required. When it comes to malicious assaults, the Bitcoin network is no different from any other network. The eclipsing attack, which employs information propagation expertise, is one of the most significant ways of assault against Bitcoin network topology. Malicious attackers can use the Bitcoin peer-to-


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Security Travelling System for Women's using Machine Learning

Prof. khatal Sunil.S¹, Dahir Komal. M², Jadhav Nikita.², Shaikh Fiza. H³ AherRutuja. K³
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Abstract- In today's world Victimization Sensible Phones having chop-chop and thence sensible phone may be used expeditiously for private security. A so many latest apps are developed to produce a security system to girls via their phones. As Per the reports of World Health Organization NCRB Social Government Organization thirty-fifth girls everywhere the earth quad measure facing a great deal of immoral Physical Harassment in public places like Railways, Bus-stands and pathway etc. During this Paper, we have got reviewed of assorted existing systems on women security. We have got fade a requirement of advanced girls security system to provides the safety live at public places likewise as travelling alone through public transports such as College Buses, Company Vehicles etc. In these projects we help to find safe route for women to travel.

Index-Terms: IOT, Machine learning, Women's Security, IOT based solution, Registered Contacts.

I. INTRODUCTION

Women security is biggest thing and biggest issue in overall world. women's equal participation and leadership and the empowerment of women and girls is of critical importance to reconcile, conciliating, enabling recovery and building potency. But women are not secure in any sector. They face lot of struggles in daily routing life. incursion on women has become a trend nowadays, and it's high time for women to take their security and safety in their hands. In modern days, women should have self-awareness "having the confidence in one's ability to deal with a situation without being swamp". assurance reflects confidence in the ability to exert control over one's own motivation, behavior, and social environment". Encouraging women to travel anywhere in the day or night without any worry is the main motive. The software help to find the safe route

for travelling and The idea is to predict the safe route and render the hampering measures for the women. In order to confront the asseverate crime situations and display the route with the rate of crime at the selected route. Hence, allows women to avoid exact places of special crimes.

Security Of Women In India A big deal is that though women has perform everywhere in every field but still a question arises, "IS SHE SAFE". Latest statistics released by National Commission for Women (NCW) proved that India is risky for women and Uttar Pradesh transpire as the most insecure place for women followed by Delhi.

After more than 60 years of supremacy, this fact is humiliating for citizens. Police records show high occurrence of crimes against women in India. Most working women across India feel self-effacing about their safety, mostly during night shifts. Every day ,there is at least one or more news about shocking incidents of bedevilment or molestation against women. Various app is introduced for women's security.

These apps function by support the protection and security of women by classify things that may come in handy in an emergency situation at one place. Now there came news of Kill and Sextual Assaults of BPO women in Bangalore and Delhi. In most cases, culprits are compelled and courageous, and cases are lying in various district court. One of the main reason is the weak functioning goverming. In some cases, police don't take any action if such incident happens in front of them and remains silent which is very embarrassing for our police department. In most of the cases, the criminals are cop but free on bail and no strict punishment is given to them .

II. LITERATURE SURVEY

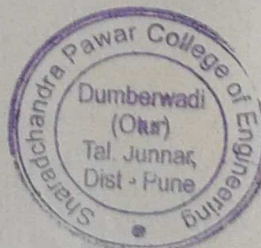
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Electronic Attendance Management System in the Classroom Using "Face Recognition" Technology

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PG Student, Sharadchandra Pawar College of Engineering, Otur, Pune, India¹

Assistant Professor, Sharadchandra Pawar College of Engineering, Otur, Pune, India^{2,3}

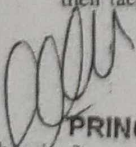
ABSTRACT: In our digital age, face recognition systems are used in almost every business. Face recognition is one of the most extensively used biometrics. It can be used for a variety of purposes, including security, authentication, and identity. It is widely used due to its non-invasive and contactless technique, despite its low accuracy when compared to iris and fingerprint identification. Face recognition systems can also be used in schools, colleges, and businesses to track attendance. Because the current manual approach is time consuming and difficult to maintain, this system aims to deliver a facial recognition-based class attendance system. There's also the option of having a proxy attend. As a result, there is a growing demand for this system. The four steps of this system are database construction, face detection, face recognition, and attendance updating. The database is created using images of the students in class. To detect and recognise faces, the Haar-Cascade classifier and the Local Binary Pattern Histogram method are utilised. Faces are discovered and recognised from the live streaming feed from the classroom. Attendance will be mailed to the appropriate faculty at the end of the session.

KEYWORDS: - Face recognition, NFC, camera, Infrared, face, and face dataset, attendance management system.

I. INTRODUCTION

The old system of attendance marking is a time-consuming task at many institutions and universities. Professors' effort is also increased because they must physically call students' names to register attendance, which can take up to 5 minutes per session. This is going to take some time. There is a chance that a proxy will be present. As a result, numerous institutes began employing radio frequency identification (RFID) [3], iris recognition [4], fingerprint recognition, and other technologies for verifying attendance. These solutions, on the other hand, are queue-based, which might take a long time and be inconvenient. Face recognition has established itself as a valuable biometric feature that is both easy to learn and non-intrusive. Diverse facial expressions have little effect on face recognition algorithms.

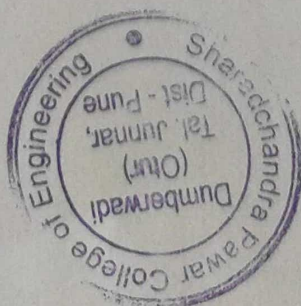
Face recognition systems are divided into two categories: verification and identification. Face verification is a 1:1 problem in which a query face image is compared to a template face image, whereas face verification is a 1:1 matching technique that compares a face image to a template face image [1]. The purpose of this system is to develop a face recognition-based attendance system. A person's face will be analyzed for attendance purposes. These days, face recognition is becoming increasingly prevalent and frequently used. In this paper, we propose a system that recognizes students' faces from live classroom video and stamps attendance if the detected face is found in the database. Diverse facial expressions have little effect on face recognition algorithms. Face recognition systems are divided into two categories: verification and identification. Face verification is a 1:N problem in which a query face image is compared to a template face image, whereas face verification is a 1:1 matching technique that compares a face image to a template face image [1]. This new system will save time when compared to current procedures. The attendance management system can be more effective in terms of managing college student attendance and guaranteeing that college students attend class sessions with facial recognition capabilities that can detect and identify someone based on their face [12].

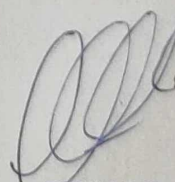

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An E-Commerce Web Application Using Maven Software Libraries with a Limited Number of Co Labeling Strategies and Version Control DevOps Tools GitHub and Git

Mr.Pandurang R.Shinde¹, Dr.Monika Rokade², Dr. Sunil Khatal³

PG Student, Sharadchandra Pawar College of Engineering, Otur, Pune, India¹

Assistance Professor, Sharadchandra Pawar College of Engineering, Otur, Pune, India^{2,3}

ABSTRACT: According to recent research, the Maven ecosystem contains over 2 million library assets, which include source code, byte code, and documentation. Several websites offer configurable views of the ecosystem to help developers deal with this information. Views that categorize related libraries, for example, or views that display all libraries tagged with tags matching coarse-grained library features. The MVN Repository overlay website offers both category-based and tag-based views. Unfortunately, some libraries have not been categorized or have tags that are missing. Some preliminary Maven library classification efforts. Agile and DevOps have the potential to increase the ability of the IT industry to satisfy business objectives. Agile is evolutionary, allowing teams to properly prioritize work and features while also creating a prototype that increases the visibility of the software development process.

KEYWORDS:- Classification, Labeling Libraries, and the software ecosystem Agile; E-Commerce; DevOps Version control tools Git and GitHub.

INTRODUCTION

A software ecosystem is made up of software products that coexist and evolve in the same environment. Maven1, NPM2, and CTAN3 are just a few examples of co-evolving software libraries intended for reuse. The Maven ecosystem, which is built for JVM-based libraries, has around 2 million software packages. It can be challenging to discover an appropriate library for reuse in such a vast environment. To aid Maven ecosystem users, indexing solutions such as Sonatype and MVNRepository have been developed. You can search for libraries in Sonatype by GroupID, ArtifactID, or Version. You may also search for books on MVNRepository using library categories and tags. Collections groups together similar libraries from the same domain. In contrast, the coarse-grained tags on MVNRepository are intended to correspond with the coarse-grained tags.

as well as maybe one-of-a-kind library features The Apache library Commons-CLI5 has been tagged with command-line, CLI, and parser. The library contains reusable code for reading command-line parameters. Unfortunately, not all of the MVNRepository-indexed libraries have been properly categorized and tagged. This is often the case for libraries that have just been added to the ecosystem or for underutilized libraries. This problem could be handled by utilizing an automated method to suggest domain categories or feature tags for a software library, making ecosystem search more convenient.

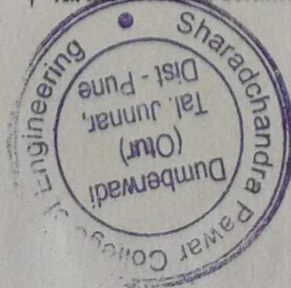
A web application is used in the java e-commerce shop project. A web commerce project based on Java that contains source code and a report. This e-commerce project makes use of JSP, servlet, MySQL, eclipse built on Maven, and MVC design. Let's have a look at an in-depth description of a Java E-commerce project.

E-Commerce is a browser application that runs on localhost on the Tomcat server. It includes all of the characteristics of an online shopping web application. Where a user can browse and buy a product. Users can search for and filter products to meet their specific requirements. The administrator is really important in the program. Admins can create new products and maintain track of all transactions and products in the database. The primary purpose of the java e-commerce project is to provide an internet platform for people to sell their goods.

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A Survey on the Role Analysis of Heart Disease Prediction System Using Internet of Things and Machine Learning

Rahul Jadhav¹, Omkar Rokade², Shivangi Shelke³, Rutuja Bhor⁴, Dr. Sunil Khatal⁵

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Student Computer, Sharadchandra Pawar College of Engineering, Otur, India²

Student Computer, Sharadchandra Pawar College of Engineering, Otur, India³

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Dr. Prof., Computer, Sharadchandra Pawar College of Engineering, Otur, India⁵

ABSTRACT—

Prediction of heart disease is very essential in today's environment; various researches have already made prediction of heart disease from large data set. The IoT environment basically generates data from various sensors and predicts the possibility of disease accordingly. Different synthetic datasets contain different body parameters that are extracted by specific sensor values, with a machine learning algorithm playing a major role. In this research, we propose heart disease prediction with a combination of IoT and machine learning approach, the IoT environment introduced real-time data extraction from Body Sensor Network (BSN) with medium sensing system and adequate data storage on cloud server. This audit data took into account synthetic information that is basically used to predict the possibility of heart disease. In this research, we illustrate various machine learning algorithms as well as some deep learning algorithms to achieve drastic disease prediction supervision. Experimental analysis shows the effectiveness of the proposed deep learning classification algorithms compared to classical machine learning algorithms.

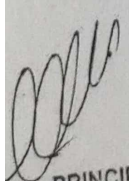
Index Term: Disease prediction system, IoT, machine Learning, Supervised learning, NLP, Heart Disease.

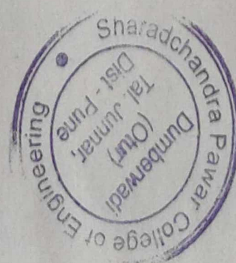
I. INTRODUCTION

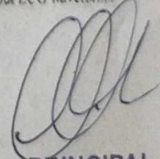
During recent years, there has been a rapid development of healthcare services to provide wireless communication media between doctor and patient through wearable technology, which means "telemedicine". Recently, diabetes is the leading cause of death for all people. In 2000, 171 million people were predicted, which may increase to 642 million worldwide by 2040. This increase in stature should be paid attention to this disease. Many healthcare institutions around the world spend billions of dollars on diabetes healthcare. Patients with diabetes are divided into four types such as type 1 diabetes, prediabetics, type 2 diabetes and gestational diabetes. Type 1 appeared due to lack of insulin in young and adults, Prediabetic is the stage before type 2 and gestational diabetes that occurs in women during pregnancy. Diagnosing levels in all these patients can be done using various blood sugar tests. A1C means higher glucose levels are tested to detect Type 1 and pre-diabetes diagnosis, Fasting glucose test is done to diagnose type 1 diabetes, prediabetes and type 2. OTG- Oral glucose test is done to diagnose prediabetes, type 2 and gestational disease. High glucose levels can affect human health and lead to serious conditions such as vision loss, kidney neuropathy, liver problems, heart problems and leg problems. Diabetic retinopathy is required for diagnosis due to high sugar levels, which can further cause vision loss and night blindness.

In addition, the list of diseases directly related to the heart is endless, according to the International Society of Cardiology, there are more than 15 types of diseases directly related to the heart. These diseases can be traced directly and require a minimum of historical data. But diseases like diabetes, cancer, tuberculosis etc. are said to be indirectly related to heart diseases. These diseases require careful historical observation and observational analysis of ECG waveforms. The following steps are usually performed to perform this task:

- Pre-processing of ECG data, where the data is de-noised. ECGs are generally susceptible to power line noise and harmonic noise, so processing raw ECGs may not yield good results. Therefore, denoising algorithms are applied to the raw ECG to obtain a clean ECG waveform.
- Disease-based feature extraction that evaluates features from ECG waveforms. These features are generally extracted based on the disease to be evaluated. For example, diabetes-related features may consist of peak ratings, while cancer-related features may consist of the mean intensity of the ECG waveform. Although no standard is yet defined for any kind of disease, but feature extraction is done with respect to the kind of disease under study.
- Feature selection to reduce redundant features, where algorithms like feature variation detection are used to reduce repetitive features from the training set. This step is necessary to optimize the accuracy of the system and limit any undesirable features of the input ECG waveforms.


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Empowers And Elevates Farmers And Protect Important Natural Assets In Agriculture Sector Using AI And IoT

Dr. Suryakant Patil, Rohini Jadhav, Dr. Preeti Patil

Abstract: This paper aims to improve the overall performance of the agricultural sector. Currently, the agriculture sector in India is facing a lot of issues due to the lack of proper implementation of automated systems. However, in this paper, we are aiming to advance the overall agriculture sector with the help of Artificial Intelligence and the Internet of Things. In this paper, we emphasized on various problems faced by farmers and automate it by taking into the weather conditions. When it comes to automation, AI and IoT top the list. In technical evolution Internet of Things is the mother of automation. IoT helps us in many areas where automation is required and agriculture is one of the most important sectors in India. With the help of automation in the agriculture sector, we can advance and automate various things.

Index Terms: Automation, Sensor

I. INTRODUCTION

This paper solely focuses on making the agricultural sector automated with the help of AI & IoT. Through analyzing the different conditions like soil moisture, climate & water availability, we are trying to make agriculture effective and productive. This paper not only empowers and elevates farmers but also helps protect important natural assets. There is no certainty in the agriculture sector and there is no assurance that crops will be safe and farmers will benefit from it. Instead of farming as the primary occupation, many farmers grow alongside other occupations. The period these farmers are able to dedicate to these crops is very low in their busy schedules. This initiative is partly inspired by an automation system for these farmers that aim to solve all the above problems, saving time, power, money and workforce. The essential goal of this paper is to help farmers to automate the farming process with the help of AI and IoT.

II. METHODOLOGICAL APPROACHES

This paper involves the introduction of crops that are best suited for production in a specific agricultural area after understanding the geo location weather and climatic conditions. The above assessment includes various artificial intelligence techniques. The plan also provides for an integrated water management system [7] after constant monitoring of the soil condition throughout the production. Including soil, parameters like temperature and humidity. All these sensor values are collected and transferred to a Raspberry Pi, which has an Apache web server, using Arduino's UNO or custom MEGA. Raspberry Pi also has a friendship repository and a list of containers. The ZigBee module provided communication between the array sensors and the database. The farmer could access the network at any time, minimizing resources and time everywhere. A multi-hop network has been introduced to expand the range of contacts. For their neighboring sensor arrays, information from the sensor arrays is sent to their neighbors. So after a few jumps, the data comes to the customer at the end. A series of sequential sensor arrays were mainly intended to increase the total volume and insure that information is distributed smoothly from all storage sets. As a function of the sensor array is the transfer of its own information and the transmission of data received from neighbors, confusion, and interleaving of data is

possible. TDMA [10] is nevertheless used to eliminate this confusion.

III. DESIGN AND ARCHITECTURE

Figure 1 shows clearly the design and architecture of this paper's overall structure. The data flow in the model is thus mirrored.

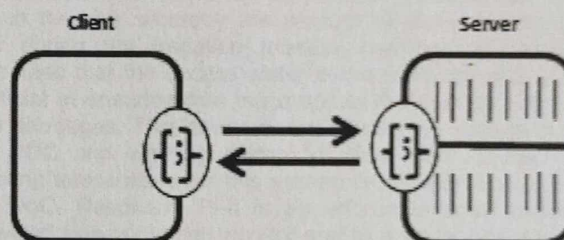


Fig.1. Design and architecture

As mentioned in the example showcasing in the picture, the values of the sensors are obtained from the soil and sent via the ZigBee module either to the database or to the next consecutive array of sensors. Such sensors include a sensor for humidity, a sensor for soil moisture, and a detector for water depth. To allow multi-hop communication, such data is obtained and transmitted to the following sensor arrays. The Raspberry Pi sits in the Apache web server repository and functions with it.

IV. TECHNICAL SPECIFICATIONS

A. Hardware Specifications

The DHT22 is a cheap electronic machine that is fitted with a thermistor for measuring ambient air and a moisture meter able to determine humidity. The capacitive moisture detector monitors relative humidity by placing a thin strip of metal oxide between the two electrodes. Based on the relatively low temperature the energy in metal oxides differs. This capacitive moisture meter has a total moisture content between 0 and 100%. The relative humidity is considered the water balance in the atmosphere to the maximum pressure at the air



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temperature. Active input voltages differ from 3 and 5 V with a peak permitted current of 2.5 mA. Ideal for the temperature measurement of -40°C to 150°C with a precision of 0.5 and 0.5°C and moisture level of 0-100% with a specificity of 2-5%. Sensor for Soil Moisture—It measures the pH of the ground. The soil water content can be measured by measuring the dielectric constant of the soil, based on the water content. This is perfect for studying the surface. This unit consists of two samples, which are used to determine the volumetric water content. These two samples cause the soil to flow. The humidity level is calculated based on the resistance value. That is, if the soil has more water content, then it is said that there will be more energy because there will be less resistance. Therefore, the humidity level is lower. Electricity in desert soils will be relatively poor as there will be little heat. So resilience is a help to be high and therefore the humidity is low. Usually, these moisture levels are expressed as a percentage, ie measuring values from 0-1023 to 0-100, which are used for further processing. Nevertheless, we've expressed that quality in our plan between 0-1023 and 100-0. So close to null values mean quite low humidity and the soil is dry and near-1023 values indicate that the humidity level is very strong and the soil is quite saturated.

Item	Min	Max	Unit
Voltage	3.3	5	V
Current	0	35	mA
output Voltage	0	4.5	/
output Value	300	700	/

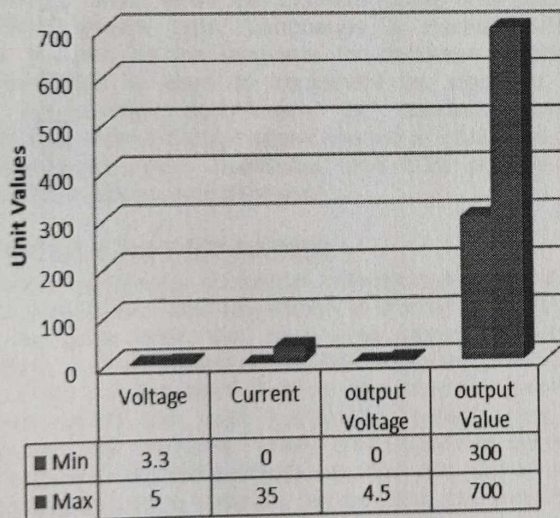


Fig.2 Soil Moisture Sensor Samples

ZigBee-Raspberry Pi is therefore put at the center of the field, as it is an IEEE 802.15.4-based specification for a range of high-level communication protocols for developing private areas with lightweight, power-less wireless radio networks such as home automation, medical device data collection, and other low-performance communications criteria. ZigBee is an open standard for low power systems that are high in data.

ZigBee has been developed for command and sensor networks under IEEE 802.15.4 Wireless Standard for wireless Personal Area Networks (WPANs). The ZigBee WPANs work at 2.4 GHz, 900 MHz and 868 MHz rates. There are several reasons to use the ZigBee protocol with other WSN protocols[1][2]. ZigBee is uniform on every ground. All communication between the sensor arrays or between the database and the sensor array is accomplished using ZigBee wirelessly. The delivery of all data is the duty of ZIGBEE. Arduino UNO-It is an Atmega328P microchip microcontroller unit. It is fitted with a 5v working voltage and can range in voltage from 7V to 20V. For the 3,3V connections, the DC voltage is 50Ma, for the I / O port the DC voltage is 20mA. It has a 32 KB flash memory, which requires 0.5 KB for the boot loader. The Arduino UNO has 2kB of static RAM (SRAM), which is a random access memory (RAM) for which bits of information is stored in its storage as energy is supplied. The speed of the United Nations is 16 MHz for this mission; UNO gathers information from different sensors in the sensor array (used for soil condition). Such material is also widely distributed to the UN and transmitted through mobile ZigBee contact. Detector for Water Level Depth-The depth of the water level in the soil is measured by this tool. It is crucial to find out the depth of water level prior irrigation process and thus this detector is beneficial during the irrigation process. This meter can conveniently be used to measure the water level in the soil, whereby the amount of water delivered to fields during the irrigation process can be calculated. It guarantees that the excess water is not sufficient and is also beneficial in ensuring that the crops in the field do not have water shortages. This device has a functioning voltage of 3 V to 5 VDC and working current of less than 20 mA. The operating temperature for this system is between about 10oC and 30oC. Raspberry Pi-It is an affordable small machine connected to a computer monitor and to a visual board with a common mouse and keyboard. The energy consumption is also relatively low from 0.5 watts to 1 watt. The new Out Of Box technology (NOOBS) helps the consumer to choose a default OS. Raspbian is Raspberry Pi's best standard operating system. In this operation, Raspberry Pi is used specifically for two purposes. Additionally, the friend's server and storage. On this Pi[11] the Apache web server operates with the SQL database. As Figure 4 shows. The Raspberry Pi can be used for internal communications in various electronic manufacturing companies—from audio producers and parent detectors to weather stations and indoor bird cages. We want to see how children around the world use the Raspberry Pi to grasp the function and the programming of machines.

B. Software Specifications

Apache Web Server -Apache Software Foundation develops and actively supports, open-source web server software. It works on 67% of the web servers in the country. It's easy, safe and trustworthy. It can be specifically customized to the needs of many different environments by plugins and modules. In this plan, this repository is expected to record the information obtained and perform the necessary tasks after data interpretation and storage. The server is responsible for monitoring the health of the plant and also taking control of the automatic water irrigation system. The database in this paper is based on the Raspberry Pi[11]. Arduino-It is an open-source platform based on hardware and software that is simple to use. It is designed for anyone making interactive papers. The



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Arduino senses the atmosphere and adjusts through gathering input from sensors and monitors the behavior by different actions and drives. Arduino will compile the appropriate UN keys and upload them. A number of microprocessors and controllers are used by Arduino system designs. The boards are fitted with electronic or analog I / O pins that can be paired with different boards for extension, dashboards and other circuits. Many models of the boards include serial network interfaces, including Universal Serial Bus (USB), and are also used to access PC software. It is possible to code microcontrollers using the programming languages C and C++. The Arduino software offers an IDE focused on the Processing language framework in addition to using conventional programmer tool chains. Raspbian OS-It is the Debian-based computer operating system for Raspberry Pi. There are several variants of Raspbian available including Raspbian Extend and Raspbian Jessie. While Raspbian is not meant to operate the Pi as a desktop computer, it provides users with an LXDE desktop environment. The Pi doesn't have much power and storage, but it has enough resources to run LXDE and a range of apps like the basic Epiphany web browser and much more. SQL Database-In a Relational Database Management System (RDBMS), it is a domain-specific language used in programming and built for data management. To efficiently add, check, update or erase database information, SQL programming can be used. In reality, it can do many things like managing and preserving servers, but not limited to them. SQL is important to safely store information showing the soil conditions (sensor values from the sensors) of the farmland for analysis and further storage. Microsoft SQL Server is available in a number of models, allowing different workloads and specifications. A data center edition is targeted for higher consumer engagement and scalability rates, while the Express model is a scaled-down, free software type. Languages & Packages-PHP language is used as the language for database scripting. Python language is used to implement an algorithm for weather forecasting. Scikit-Learn [9], pandas, numpy, matplotlib are some of the packages needed to implement the same. Combined, Html, JavaScript, and CSS provide an interactive Interface to users/farmers.

V. MODULES FOR PAPER

Data Processing-Variou numerical methodologies are used, including classification and regression. It module encourages farmers to grow with the best crop alongside future development. Details of where the plant is to be grown are taken and fed into the already developed machine learning class with which the best sustainable growth crop is anticipated in that farmland. These criteria include climate, average temperature, total humidity, etc. The data set is used for forecasting to train a classifier system. It is observed that the ID3 Decision Tree Classifier[9] provides a decent percentage of accuracy (around 94%) as it classifies based on the range of values that each attribute can drop (homogeneity) and that is what we hopefully need here because each crop does not have a specified temperature, humidity or moisture content quality, but instead each crop can have a range of values for each a. Plant attributes are taken along with plant name and production per unit area is estimated with the aid of regression. Such characteristics include growth location, growing season, rising length, and much more. When calculating performance per unit area, aggregate field area

information could be used to calculate the total possible output. Map diagram shows different production amounts from specific farmlands per unit area. Each nation plots the same crop-wise. Production is measured per unit area along the Y-axis. Upon planting in different areas in a particular state in real-time, production per unit area quality is calculated. Data points of the X-axis are obtained. Such maps are plotted for all Indian states including the Uttar Pradesh. Data Collection-In any automation paper, data collection plays an important role because each automation requires training and training is done with the data. The data shown in the above figure is the values from different sensors that are used to calculate the parameter of the soil. These sensors were combined into one array to build a sensor array connected to Arduino's UNO board. Many of these sensor arrays are located equidistantly with the field center server in a matrix setup as shown in Fig.4. The sensor values obtained from the above sensors were extracted from Arduino UNO. Therefore UNO integrates these values in a unit block and makes them available for database transmission. The precise floor during the data collection is clearly shown by these sensor data. Data is aggregated using ZigBee for multi-hop connectivity to UNO in neighboring sensor arrays. Agricultural area of the sensor array For Raspberry Pi in the middle of the panel, the sensor arrays are placed in a matrix-like setup. Data Interpretation -The server continues processing the incoming data once the information is processed at the top of the database. Database analyzes and tracks the data received for abnormalities on a continuous basis. The server also ensures that the soil conditions for the plant are as desirable as they are necessary. Transmission of the data- In any paper transmission of data is the crucial part and thus in this paper, we have developed a system to transfer the data between the sensor arrays and the Raspberry Pi. In contrast to the SQL database, Raspberry Pi runs the Apache application server in data storage. The Pi is at the center of the field in order to reduce costs and risks of propagation. Therefore, the node in the middle of the field reduces the number of hops necessary to reach the database by growing the necessary power for all sensor arrays values. That's an important advantage with the server and the storage in the center of the field. The length from a sensor array to the database is not less than the scope of the ZigBee network, and therefore the concept of a Multi-Hop Connection extends the communication range. The shortest route between a sensor array and the network through which data needs to be conveyed can be checked using Dijkstra's Shortest Route Algorithm. The data is transmitted, once the distance is calculated, via the nodes defined by the route. Each sensor set or node in that determined route is allowed to receive and send to the path successor node. The data can, therefore, be transferred from one end to the next without any issues. Confusion and information alteration can occur due to data packet intervention, as the sensor arrays conduct all roles, i.e. the data collected and the transfer of their data. This ambiguity was removed using the Time Division Multiple Access (TDMA) concept[10]. A specific time slot is allocated for each transmission of end-to-end information from each sensor array to the database. The migration route nodes are allowed only for a certain period of time. It avoids software modification and preserves data integrity in every sensory set while having a designated data transfer timeslot. Execution of Task-Variou functions is implemented by the database depending on the soil conditions. One of the main tasks of the database is to



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track the irrigation process while analyzing data. The database can calculate and name the amount of water needed for irrigation after an examination of the daily water requirement of the plant and the water supply in the field. The registry is also used to control the automated irrigation system of the ON and OFF valves for the irrigation of the fields. During the information analyzes, the irrigation cycle is calculated by the quantity of water to support the day. The server must also advise and notify the farmer when any perceived information goes beyond the necessary conditions.

VI. RESULTS

Sensor data is obtained during the time period and the values for the sensors are reflected over time. The graph of sensor values and time is shown in figure 3 and 4 respectively. For a while, measurements are interpreted and evaluated from the detectors to evaluate how the environments in the earth shift over that period of time. Figure 4 demonstrates the same thing. The values of the sensors used for one include atmospheric temperature and soil moisture and humidity. The amount of water is supplied to the soil between the measured time and the rapid increase in the soil moisture resistance at the site. Even after the water was added to the soil, the air

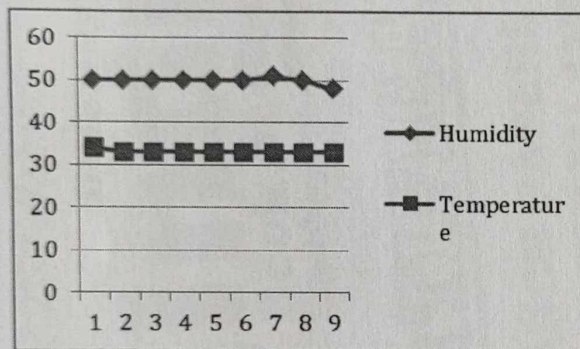


Fig.4 Visual Representation of Sensor Sample Data

VII. CONCLUSION

The paper aims to increase efficiency and accuracy in the agricultural sector through the transformation of the whole agriculture process through the internet of things and machine learning. It also seeks to avoid over-use of critical resources which might soon disappear. The entire requirement of the farmer is mentioned in this paper. This program focuses entirely on the agricultural sector and for the betterment of farmers. This allows farmers with the whole cycle of cultivation from beginning to end. It saves peasants from their suffering, and in the end this provides a great deal of production and takes care of these plants. It also accounts for plant health and nutrition. Addressing these issues is not just a benefit for this program, but also something necessary to improve each country's well-being. That program not only saves you money and energy, it also saves you time and work. Since this paper has so many benefits, it would be that farmer's dream to adapt it to their region. As this plan is cost-effective and viable, many farmers in India would certainly be commercially successful. Go with Agricultural Automation..!! Make farming easy and advanced.!!

temperature did not change significantly. Soil moisture also remains constant, despite many years of changes.

Humidity	Temperature
50	34
50	33
50	33
50	33
50	33
50	33
50	33
51	33
50	33
48	33

Fig.3. Visualization of sensor Sample data

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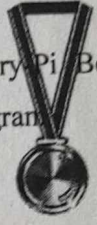
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Objective:

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- 2.To Understanding GPIO and its use in program
- 3.To understand board circuit with basic peripherals LEDS

Theory:

Connectivity and configuration



Raspberry-Pi RPi Remote Connection

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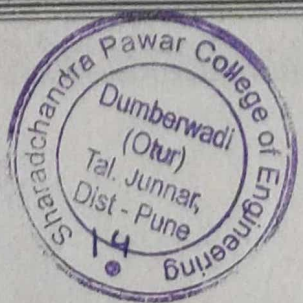


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Micro USB 5V 700mA

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
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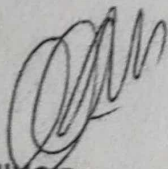
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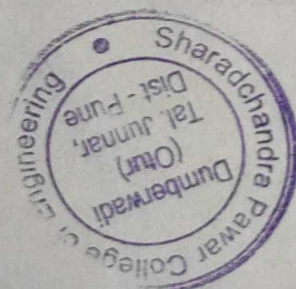
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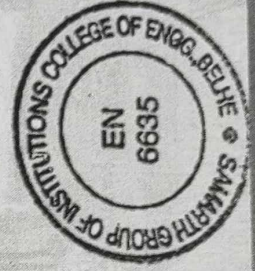
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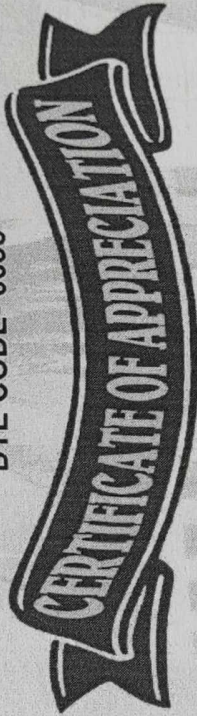


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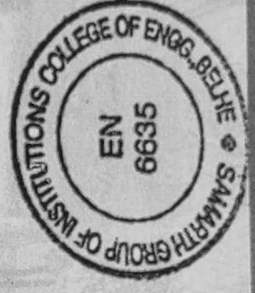


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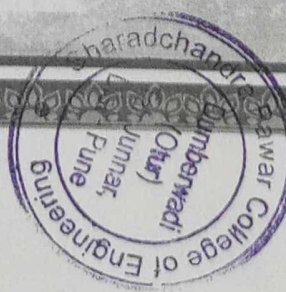
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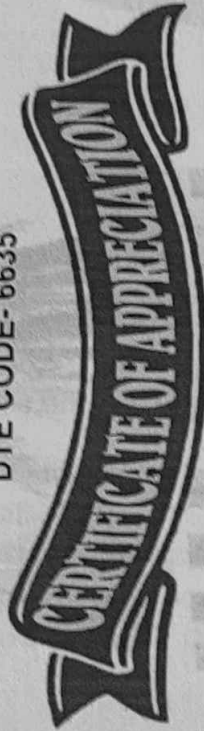
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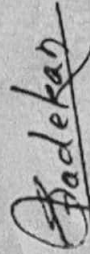


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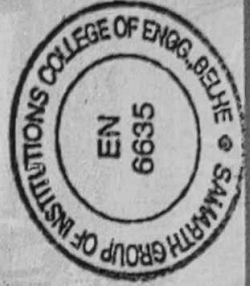
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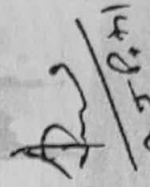


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