

”Techno-Social Excellence”

# Marathwada Mitra Mandal’s Institute of Technology

S.N. 35, Vadgaon Shinde Road, Lohgaon, Pune - 411047

Accredited with “A” grade by NAAC

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## Criterion 2

### 2.3. Teaching- Learning Process

**2.3.1 Student centric methods, such as experiential learning, participative learning and problem solving methodologies are used for enhancing learning experiences using ICT tools**

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**Ref.No.TSCPL/2021-2022/HRD/INT3139**

**Date: 24<sup>th</sup> September, 2021**

TO WHOMSOEVER IT MAY CONCERN

We would like to inform you that Mr. **Shelke Shubham Balasaheb** has successfully completed his internship with our company, he has been working on the project title “**Chat App**” from 21-06-2021 to 20-09-2021 as “Software Developer-Intern”.

We have found him to be a self-starter who is motivated, duty-bound and hardworking. He has worked sincerely on his assignments and his performance is at par excellence.

We wish him all the best for his future endeavors.

Sincerely,



**Manager**

Human Resources Department

**TechCiti Software Consulting Private Limited**



# Internship Letter

## **ELEATION'S ANSYS**

BASIC TO PROFESSIONAL TRAINING PROGRAM

This is to Certify that

**AJAY THANESHWAR SHARMA**

has Successfully Completed **ELEATION'S CAE Internship Program.**

During this Internship **AJAY THANESHWAR SHARMA** has performed Geometry editing, Meshing & Analysis as per the problem statement shared by **ELEATION.**

**AJAY THANESHWAR SHARMA** has also submitted a Powerpoint presentation explaining the work done during the CAE internship of 1 month.

Signed by

A handwritten signature in black ink, appearing to read 'Ajay Thaneshwar Sharma'.



Internship Certificate No. **ESA\_AN\_IL\_1661**

Date **12th Apr 2021**

Date: 04/08/2021

Dear Mr. Aniket Lakhpat Agarwal,

**TO WHOMSOEVER IT MAY CONCERN**

This is to certify that **Mr. Aniket Lakhpat Agarwal** has done his internship as **Design Intern** at Mechathon Engineering Private Limited from **31<sup>st</sup> May-2021** to **30<sup>th</sup> July-2021**.

He worked on a project titled "**DESIGN OPTIMIZATION OF MULTI-PLUNGER POSITIVE DISPLACEMENT PUMPS**". As part of the project, he supported as an Intern for our Design and Development Team.

During his internship he has demonstrated his skills with self-motivation to learn the new skills. His performance exceeded our expectations and he completed the project on time. We wish all the best for his upcoming career.

Certificate ID: MEI2021AADL

For Mechathon Engineering Pvt. Ltd.,

*eSign*

Signed by: Vigneshwaran  
Srinivasan  
Reason: Internship Completion  
Location: Chennai, India  
Date: 04-Aug-2021 (03:49 PM)

**Vigneshwaran Srinivasan**  
Managing Director



# Virtual Summer Internships at Smart Factory IISc

## Certificate for Knowledge Internship



Department of Heavy Industry,  
Government of India

This certificate is awarded to Miss/Mr. **Ganesh Jambhale**..... from **Marathwada Mitra Mandal's Institute of Technology** for successfully completing a 7 weeks Online Knowledge Internship from 14<sup>th</sup> June to 1<sup>st</sup> August at the Centre for Product Design and Manufacturing, Indian Institute of Science, Bangalore. Miss/ Mr **Ganesh Jambhale**..... attended the research seminars organized as part of a competitive Knowledge Internship Programme offered under the Smart Manufacturing and Industry 4.0 Initiative at the Indian Institute of Science, and submitted a report summarising the research delineated in these seminars.

Many congratulations to Miss/Mr **Ganesh Jambhale**..... , who was among the 70 candidates (less than 3%) who could complete this knowledge-intensive internship programme among the 146 who were chosen from 3006 applications.

Prof. Amaresh Chakrabarti  
Chairman, CPDM



The Internship was conducted at the Smart Factory, IISc under SAMARTH Udyog, Bharat 4.0 program of Department of heavy industries, Government of India.

Date : 9<sup>th</sup> October, 2021

Ref. No.: HIL/2021/34

## Internship Certificate

This is to certify that **Mr. Pratik Somnath Gaikwad**, from **Marathwada Mitra Mandal's Institute of Technology, Lohgaon Pune**, has successfully completed a **one-month online internship on Finite Element Analysis (ANSYS 2021)** with us from **22<sup>nd</sup> July 2021 to 20<sup>th</sup> August 2021**.

During his internship, he worked on static analysis, thermal analysis, nonlinear analysis, fatigue analysis and composite analysis projects using ANSYS as an FEA tool

During the period of his internship program with us, he was found punctual, hard-working, and inquisitive.

We wish him a very successful career ahead.



Signature

**Nathaji Shelke**

Founder and Director



**Ref.No.TSCPL/2021-2022/HRD/INT3138**

**Date: 24<sup>th</sup> September, 2021**

TO WHOMSOEVER IT MAY CONCERN

We would like to inform you that Mr. **Abhishek Bhaskar Salve** has successfully completed his internship with our company, he has been working on the project title “**Chat App**” from 21-06-2021 to 20-09-2021 as “Software Developer-Intern”.

We have found him to be a self-starter who is motivated, duty-bound and hardworking. He has worked sincerely on his assignments and his performance is at par excellence.

We wish him all the best for his future endeavors.

Sincerely,



**Manager**

Human Resources Department

**TechCiti Software Consulting Private Limited**

## Certificate of Internship

### TO WHOM IT MAY CONCERN

This is to certify that **Mr. HEMANT CHANDRAKANT SHARMA** has completed internship programme on “**UI/UX Designer**” from 25.07.2021 to 24.08.2021.

He took keen interest in the work assigned and successfully completed it. During the period of internship we found him to be punctual, hardworking and inquisitive.

We wish him luck and success in all his future endeavours.



**Y Vishnuvardhan**

Chief Director



hr@exposysdata.com  
www.exposysdata.com



# CERTIFICATE OF COURSE COMPLETION

---

THIS CERTIFICATE IS PROUDLY PRESENTED TO

*Saurabh Satish Konpratiwar*

---

Has successfully completed course on Machine Learning  
from the period of 1/6/2021 to 31/7/2021.

During his/her training we found the student was dedicated and hard working.

13-08-2021

---

DATE



*P. Naveen*

---

ACADEMIC HEAD

# CERTIFICATE

OF INTERNSHIP

This certificate is proudly presented to

Aditya Sonawane

has successfully completed Artificial Intelligence live projects from MVARO in association with Verzeo from 01-05-2021 to 30-06-2021.

During this internship, the student was found to be keen and enthusiastic Candidate.

05-08-2021

Date



Academic Head



"Techno - Social Excellence"  
**Marathwada Mitramandal's  
Institute of Technology (MMIT)**



Accredited with "A" Grade by NAAC  
Survey No. 35, Vadgaon Shinde Road, Lohgaon, Pune - 411 047  
Approved by AICTE, New Delhi, Recognised by DTE, M.S.Mumbai, Affiliated to Savitribai Phule Pune University  
Email : principal@mmit.edu.in Website : www.mmit.edu.in  
Tel No. : +91 7447786623 / +91 7447786624

DTE Institute Code : 6203

## DEPARTMENT OF CIVIL ENGINEERING

### Industrial Visit at

**Strong Tech Pvt. Ltd**

**Visit Date: 20-September-2020**

**Between 11:00 am to 3:30 pm**



*Prof. P.B. Kokate*

**Faculty co-coordinator**

**Prof. P.B. Kokate**

*Prof. Leena A. Deshmukh*

**HoD**

**Prof. Leena A. Deshmukh**

## Content

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## ACKNOWLEDGEMENT

- ✚ The students of 3 rd Semester Civil engineering Department were really thankful to our principle Dr. R.V. Bhortakke sir and head of department of Prof. L.A. Deshmukh mam respectively for supports an educational visit at Strong Tech.
- ✚ We are also very thankful to Mr. Rajaram Pujari owner Strong Tech Pvt. Ltd. Have given permission for a visit.
- ✚ We are also very thankful to Mr. Vipul Sir for giving us an informative guidance and gave practice based approach learning to students and shared their knowledge with students.





## **General Information**

STRONG TECH ENGINEERING SERVICES AND RESEARCH (I) PVT. LTD. It is an independent and reputed construction and mechanical materials testing laboratory that has been providing outstanding services to its client since 2013. The laboratory is accredited by the National Accreditation Board for Testing and Calibration Laboratories (NABL) based on ISO / IEC 17025:2017.

Strong Tech have fully calibrated equipment with latest up gradations and well qualified trained personal for conducting test as per the standard requirements. The team of Strong Tech is always ready to offers the best technical support in construction and mechanical material tests. As a team specialists in Construction and Mechanical material tests, Concrete Technology, Non-Destructive Testing (NDT), Geotechnical Investigation, All types of field testing, Structural Audit, Quality Control Consulting Services, with academic excellence experienced & professional expertise.

Strong Tech team strive to enhance the image and professional stature of firms testing and extracts its best support to testing, inspection, consulting, contract research and training through client education and to address issues of concern in the field of Construction and Mechanical material testing, Mix Designs, Geotechnical Investigation, Structural Audit, Consulting Services, Non-Destructive Testing (NDT) and all types of field tests.



## Purpose of Visit

Technical exposure of Concrete Technology, Material testing and other Engineering aspects of Concrete Technology Subject. Students have learnt various NDT testing, Material used in making of concrete, Test conducted over Concrete Blocks, Curing process for Concrete Blocks etc. With this kind of industrial visit, we gained more knowledge on Concrete Technology application aside from the theoretical aspect learned from the classrooms and laboratory





## What We Learnt .....

First a technical Explanation by Mr. Vipul sir . First, he explained us regarding the Concrete testing equipment, Testing Unit of Concrete, Compressive Strength of Concrete, and Curing Tank for Curing of Concrete, Transit Mixer, Material used in Concrete, Design parameters, etc. He also shared some Knowledge about their Experience regarding to Concrete Mix.

They also prepared the dry mix mixing of cement, sand and aggregate. After that by adding the water the concrete is prepared. The green concrete test like slump is also done.

The concrete is filling in the transporting truck and transported to the construction site. Students show the laboratory which is situated at the plant. Laboratory assistance show us the test conducting on materials as well as on concrete. They perform the compression test of concrete also. Student also show the software use for the running plant, and also give the report of bath mixing of concrete for that day, Which is enclosed in the report.



Concrete Cube & Core Test



Concrete Test



All Types of Cement, Fly Ash, GGBS Test





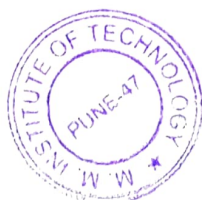
## Conclusion

From this visit, students got information and practical knowledge about various types of testing of concrete, Steel, etc. They learnt about new technology about different admixture, on site testing of concrete. About 14 students were benefited from this visit as they got chance to discuss with authorities working at plant. Thus, this site visit was very delightful and we had a great knowledgeable experience. We were really satisfied and had a great time.




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 Lohgaon, Pune -47  
**Department of Computer Engineering**  
**TE SEMINARS (2020-21)**

Roll No.	Name of Student	Seminar Topic
TEA01	BAMNE ANKITA TRYAMBAK	AI and Virtual World
TEA02	BHANGALE PRAJWAL SANJAY	Design 3D password with session based tech for login security
TEA03	BIRADAR RUSHIKESH MADHAV	Artificial Intelligence and Internet of Things for Robotic Disaster Response
TEA04	CHAVAN SHRIYOG NARAYAN	Brain Computer Interaction
TEA05	CHINCHANE VISHAKHA ASHOK	Face Recognition
TEA06	CHOUDHARI SHRUTIKA SURESH	Review and Performance Analysis on Wireless Smart Home and Home Automation using IoT
TEA07	DESAI MRUNALI MANIKRAO	Security Issues In 5G Device To Device Communication
TEA08	DUKARE SHUBHAM VINAY	Darknet Security: A Categorization of attacks and TOR
TEA09	GARDE SOURABH VISHNU	Security Camera & Door Lock Security
TEA10	GIRAMKAR ATUL M	Gas Leakage Detection With Buzzer
TEA11	ITHAPE ANKIT JITENDRA	Toward designing Li-Fi based Hierarchical Iot Architecture
TEA12	JADHAV YASH TANAJI	Predicting stock Market trends using ML & DL
TEA13	JAIN ARCHIT KUMAR	security threats in cloud computing
TEA14	JAIN CHAWADE ISHWARI RAJESH	AI in Cyber Attack
TEA15	KAMALAPURKAR VAIBHAVI ANAND	Design and Implementation of Cloud based Home Automation
TEA16	KAMAT SHWETA DATTA	Voice based Assistance
TEA17	KANASE VAIDEHI AJITKUMAR	Computer Network information security system based on big data
TEA18	KHANDVE VAISHNAVI RAMESH	Utilizing Block Chain Technology in Various Application Areas of Machine Learning
TEA19	KHOPADE ATHARVA DIPAK	Chat Box with Sentiment Analysis
TEA20	KOTHAWALE POOJA RANJIT	Talking Business Card Using Augmented Reality
TEA21	KUNTAWAR RUBAL MILIND	Web Mining
TEA22	LIPARE PRATHAMESH JAYANT	A task offloading approach for fog computing and cloud computing
TEA23	MULAY ABHISHEK RAJESH	Behavior model of constrction for client side communication
TEA24	PANGARE SHRUTI TULSHIDAS	Big Data Analytics for Healthcare Recommendations System
TEA25	PATIL NEHA DEEPAK	Acquiring Business Intelligence through data science : A practical approach
TEA26	PATIL RISHIKESH SANJAY	Web Profiler
TEA27	SAKHARE PIYUSH SANJAY	Blockchain technology and cryptocurrency
TEA28	SHINDE AMEYA MAHESH	Wearable Internet of Medical Things
TEA29	SONAWANE ADITYA RAVINDRA	RFID in tody's intelligent hospital enhancing patient care and optimizing hospital operations
TEA30	SUTAR ROHIT VISHNU	A Longitudinal Study On Web-Site Password Management (in) Security: Evidence and Remedies
TEA31	SUTHAR AARYAN PRITESHKUMAR	Artificial Intelligence Security Threat, Crime and Forensics: Taxonomy and Open issues
TEA32	MALOJI HEMANT RAJEBHOSALE	Use of ubiquitous computing in heathcare facility framework
TEA33	THAKRE UMESH DIPAK	Blockchain Technology: Applications, Benefits and Challenges
TEA34	THORAT MITALI DILIP	AUGMENTED REALITY IN EDUCATION
TEA35	TORMAL ABHISHEK BHIMASHANKAR	Security Challenges in Mobile Communication Networks
TEA36	VAIDYA RUPALI SURESH	Human Robot Interaction
TEA37	WADKE RUTIKA RAHUL	WRN Based Agricultural Bird Pest Control with Buzzer and a Mesh Network




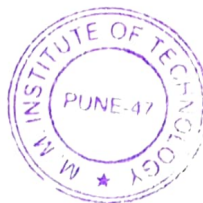
Roll No.	Name of Student	Seminar Topic
TEA38	WAKCHAURE SHUBHAM NANASAHEB	IoT Security in Wireless Devices
TEA39	BIDAVE RUSHIKESH RAVINDRA	Sketching an AI Marketplace: Tech, Economic and Regulatory Aspects
TEA40	HAWARE PRANAV RAHUL	Intelligent Road Management System for Daily Transit
TEA41	PARDESHI PRANALI PRAMOD	Smart Parking System Using IOT
TEA42	MANSURI SHOYEB ROSHANALI	"Internet of thing application to fight against covid-19 Pandemic"
TEA43	HRUSHIKESH GOSAVI	Machine Learning approach for Statistical design
TEA44	GAIKWAD JANKI RAMESH	SKINPUT TECHNOLOGY
TEA45	SHELAR ABHISHEK DHANRAJ	"Surveillance camera control System"
TEA46	LOKHANDE NIKITA NARSINGH	Design Ethics in AI
TEA47	BHANGALE DIKSHA KRUSHNA	IOT based underground cable fault detector
TEA48	PATIL KIRTI DHONDU	Blue Eyes Technology
TEA49	SHINDE AKASH SUKHADEV	Topic not decided
TEA50	SHIRSALE MEGHNA PRAKASH	Person Detection for Social Distancing and safety violation alert based on segmented ROI
TEA51	VAISHNAVI RAJESH WANKAR	Silent Sound Technology
TEA52	RASAL NIRAJ PRAKASH	Virtual Reality Applications in STEM education.
TEA53	DESHPANDE MADHURA LAXMIKANT	Text Recognition
TEA54	CHAVAN VIJAY PARSHURAM	No Datacenter-Solution to Cloud Computing
TEA55	SHELKE SHUBHAM BALASAHEB	Vehicle tracking with alcohol detection and seat belt control system
TEA56	SHINDE ONKAR PRAKASH	3 D Password technology
TEA57	PANCHAL SUDHA MANOHAR	Issues based on Cyber Crime and Security
TEA58	SALVE ABHISHEK BHASKAR	Students Data Management System
TEA59	GAWAI RUTIK BALU	cloud computing and hybrid cloud
TEA60	RATHOD RUSHIKESH HIRAMAN	Neuromorphic Computing
TEA61	SHAIKH SAHIL SAJJAD	MIMO based 5G system
TEA62	CHAVAN RUTIKA UMESH	Cloud based Firewall
TEA63	BANDRE VISHAL DADASAHEB	Learning Roi Transformer for Oriented Object Detection in Aerial Images
TEA64	DHOBALE MEENINATH NAVANATH	Identification of Wild Species in Texas from Camera-trap Images using Deep Neural Network for Conservation Monitoring
TEA65	MAHADIK SWARANJALI ARVIND	Preventive techniques of phishing attacks in network
TEA66	PATIL MRUNAL SUDHIR	Evolution of Dark Web Threat Analysis and Detection: A Systematic Approach
TEA67	PATIL UTKARSH DADASAHEB	Chatbot Technology"
TEA68	THAKARE MAYURI ANAND	Cyber Security for Our Digital Life
TEA69	RAJ ASHWANI KUAMR	Big data in transportation modelling and planning
TEA70	PUNDKAR MANALI	Keylogger detection using virtualization
TEA71	ADITYA LONDHE	Future Education Trend Learned from the Covid-19

  
M.S. Jagtap

  
T.S. Bhojve

Coordinator

  
HOP (M. N. B. M. Y.)





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**INSTITUTE OF TECHNOLOGY (MMIT)**  
**Lohgaon, Pune-47**  
Accredited ‘A’ Grade by NAAC

“Towards Ubiquitous Computing Technology”  
**Department of Computer Engineering**

**TE COMP DIV :-A**

**Academic Year (2020-21) SEM:-II**

**Mini Project Name**

**“Used Car Price Prediction”**

**Student details**

<b>SEAT NO</b>	<b>ROLL NO</b>	<b>NAME</b>	<b>MOBILE NO</b>
<b>T190594280</b>	TEA59	Saket Milind Kharche	9503027747
<b>T190594241</b>	TEA31	Yash Tanaji Dharane	9067115748
<b>T190594248</b>	TEA37	Prathamesh Vinod Gaikwad	7499553745
<b>T190594252</b>	TEA39	Karan Ramdas Gite	7756969005

**A MINI PROJECT REPORT**

**ON**

**“USED CAR PRICE PREDICTION”**

SUBMITTED TOWARDS THE  
PARTIAL FULFILLMENT OF THE REQUIREMENTS OF  
**BACHELOR OF ENGINEERING (TE Computer Engineering)**

**BY**

Stud. Name: Saket Kharche

Exam No: T190594228

Stud. Name: Yash Dharane

Exam No: T190594262

Stud. Name: Prathamesh Gaikwad

Exam No: T190594263

Stud. Name: Karan Gite

Exam No: T190594288

**Under The Guidance of**  
Prof. Devyani.J.Bonde



**“येथे बहुतांचे हित”**  
**MMIT**

**“Towards Ubiquitous Computing Technology”**  
**DEPARTMENT OF COMPUTER ENGINEERING**  
Marathwada Mitra Mandal's  
Institute of Technology (MMIT)  
Lohgaon, Pune- 411 047  
(2021-22)



“येथे बहुतांचे हित”  
**MMIT**

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Marathwada Mitra Mandal’s  
Institute of Technology (MMIT)  
Lohgaon, Pune- 411 047  
Accredited ‘A’ Grade by NAAC

“Towards Ubiquitous Computing Technology”

## CERTIFICATE

This is to certify that the Project Entitled  
**“USED CAR PRICE PREDICTION”**

Submitted by

Stud Name: Saket Kharche  
Stud Name: Yash Dharane  
Stud Name: Prathamesh Gaikwad  
Stud Name: Karan Gite

Exam No: T190594280  
Exam No: T190594241  
Exam No: T190594248  
Exam No: T190594252

is a bonafide work carried out by students under the supervision of Prof. Devyani J. Bonde and it is submitted towards the partial fulfilment of the requirement of Bachelor of Engineering (TE Computer Engineering) Seminar.

Prof. Devyani.J.Bonde  
Internal Guide  
Dept. of Computer Engg.

Prof. Subhash G. Rathod  
H.O.D  
Dept. of Computer Engg

:

## **Abstract:**

The prediction of used car prices plays a vital role in the automotive industry, as it provides valuable insights for buyers, sellers, and dealers. This project focuses on building a predictive model for estimating the prices of used cars based on various features such as the car's make, model, year, mileage, engine capacity, power, fuel type, transmission type, owner type, and location.

The dataset used for this project consists of a wide range of used cars with their respective features and prices. Data pre-processing techniques are applied to handle missing values, convert categorical variables into numerical representations, and standardize the data for modelling purposes.

Two different models are utilized in this project: Linear Regression and Random Forest Regression. The Linear Regression model assumes a linear relationship between the features and the target variable, while the Random Forest Regression model leverages an ensemble of decision trees to capture complex patterns in the data.

The performance of both models is evaluated using the R-squared score, which measures the proportion of variance in the target variable that can be explained by the features. Additionally, the models' predictions are compared to the actual prices using scatter plots and histograms to visualize the accuracy and distribution of the predicted prices.

The project also explores additional data analysis techniques, such as generating box plots to identify outliers and exploring the correlation between features using heat maps. Furthermore, the project provides insights into the distribution of car prices based on manufacturers, fuel types, and other factors.



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## INTRODUCTION

The price of a car depends on a lot of factors like the goodwill of the brand of the car, features of the car, horsepower and the mileage it gives and many more. Car price prediction is one of the major research areas in machine learning. So if you want to learn how to train a car price prediction model then this article is for you. In this article, I will take you through how to train a car price prediction model with machine learning using Python.

In this fast-moving generation, the present study proposes the newer concept of predicting the prices of certain items. With an idea and motivation to help everyone we came up with a solution to get an appropriate estimate of one's car using Machine Learning Techniques which will save a lot of time and money. A car price prediction has been a high interest research area, as it requires noticeable effort and knowledge of the field expert. Considerable number of distinct attributes is examined for the reliable and accurate prediction. The production of cars has been steadily increasing in the past decade, with over 70 million passenger cars being produced in the year 2016. This has given rise to the used car market, which on its own has become a booming industry. The recent advent of online portals has facilitated the need for both the customer and the seller to be better informed about the trends and patterns that determine the value of a used car in the market. To build a model for predicting the price of used cars in, we applied one of the machine learning techniques i.e., Linear Regression. Using linear regression, there are multiple independent variables, but one and only one dependent variable whose actual and predicted values are compared to find precision of results. Our paper proposes a system where price is dependent variable which is predicted, and this price is derived from factors like kilometres driven, car purchase year, Car Company, car model, and the fuel type.

Determining whether the listed price of a used car is a challenging task, due to the many factors that drive a used vehicle's price on the market. The focus of this project is developing machine learning models that can accurately predict the price of a used car based on its features, in order to make informed purchases. We implement and evaluate various learning methods on a dataset consisting of the sale prices of different makes and models across cities in the United States. Our results show that Random Forest model and K-Means clustering with linear regression yield the best results, but are compute heavy. Conventional linear regression also yielded satisfactory results,

Keywords: Car Price Prediction, Linear Regression, Machine Learning, dependent Variable etc.

## OBJECTIVES

The automotive industry is one of the most competitive and dynamic sectors, with countless car models and various factors influencing their prices. Predicting the price of a car accurately is crucial for both buyers and sellers to make informed decisions. In recent years, machine learning techniques have emerged as powerful tools for analyzing large datasets and making accurate predictions. In this project, we aim to develop a car price prediction system using machine learning algorithms.

1. **Accurate Price Estimation:** The primary goal is to build a model that can accurately estimate the price of a car by considering features such as make, model, year of manufacture, mileage, engine specifications, fuel type, transmission, and other relevant factors. The model should minimize prediction errors and provide reliable price predictions.
2. **Assist Buyers:** The project aims to help potential car buyers by providing them with an estimation of the fair value of a car they are interested in purchasing. This information enables buyers to make informed decisions and negotiate better deals.
3. **Support Sellers:** The developed model will also assist car dealerships and sellers in determining appropriate pricing strategies. By predicting accurate prices, sellers can set competitive and realistic prices for their vehicles, attracting potential buyers and maximizing their sales revenue.
4. **Dataset Analysis:** Another objective is to perform exploratory data analysis (EDA) on the car dataset to gain insights into the relationships between various features and the target variable (car price). EDA helps in understanding the data, identifying patterns, detecting outliers, and uncovering any correlations that can enhance the prediction model's performance.
5. **Model Evaluation and Selection:** The project aims to evaluate and compare multiple machine learning algorithms such as linear regression, decision trees, random forests, gradient boosting, and others. The objective is to identify the best-performing algorithm that can provide accurate predictions for car prices.
6. **Hyper parameter Optimization:** To further improve the model's performance, the project aims to fine-tune the selected machine learning algorithm by optimizing its hyper parameters. Techniques like cross-validation and grid search can be employed to find the best combination of hyper parameters that yield the highest prediction accuracy.
7. **Showcase Machine Learning Potential:** Lastly, the project aims to demonstrate the potential of machine learning techniques in the automotive industry. By successfully predicting car prices, it showcases the ability of machine learning models to analyze complex datasets and provide valuable insights for decision-making processes.

## **PROBLEM DEFINITION**

The problem statement for the car price prediction project is as follows:  
Given a dataset containing various features of cars, such as make, model, year of manufacture, mileage, engine specifications, fuel type, transmission, and more, the goal is to develop a machine learning model that can accurately predict the price of a car. The objective is to create a system that assists potential car buyers in estimating the fair value of a car they are interested in, as well as helps car dealerships and sellers determine appropriate pricing strategies.

## LITERATURE SURVEY

sr.no	Paper title	Abstarct	conclusion
1.	"Predicting Used Car Prices Using Machine Learning Techniques" R. Prasad and S. Sivakumari	The results indicate that the random forest algorithm outperforms the other methods in terms of accuracy and robustness. The study demonstrates that machine learning techniques can effectively predict used car prices, providing valuable insights for the automotive industry and potential buyers.	This paper explores the use of various machine learning algorithms, including decision trees, random forests, support vector regression, and neural networks, for predicting used car prices.
2.	"Car Price Prediction Using Deep Learning" A. K. Tripathy	The experimental results demonstrate that CNNs show promising performance in car price prediction tasks. The model effectively captures complex patterns and features in the input data, leading to accurate price predictions	This study focuses on using deep learning techniques, specifically convolutional neural networks (CNNs), for car price prediction.
3.	"Car Price Prediction Using Ensemble Learning" S. B. Ingle and S. D. Choudhary	The ensemble learning model yields superior performance compared to individual regression algorithms. The combination of diverse models enhances prediction accuracy and reduces the risk of overfitting	The paper presents an ensemble learning approach for car price prediction, combining multiple regression algorithms such as linear regression, decision trees, and random forests.
4.	"Predicting Car Price Using Genetic Programming" P. K. Singh and R. P. K. Srivastava	The results indicate that genetic programming can successfully generate mathematical expressions that predict car prices with reasonable accuracy	This paper introduces the application of genetic programming (GP) for car price prediction.
5.	"Car Price Prediction Based on Machine Learning Algorithms	combination of machine learning algorithms and	This research work investigates the combination

	and Principal Component Analysis" C. Li and Y. Yang	principal component analysis (PCA) for car price prediction. The study explores the effectiveness of PCA in reducing the dimensionality of the input features and its impact on the predictive performance of machine learning models.	of machine learning algorithms and principal component analysis (PCA) for car price prediction.
6.	"Car Price Prediction using Hybrid Machine Learning Techniques" S. Thirumalaisamyet	A hybrid approach is developed by training and combining the predictions of different models to achieve a more robust and reliable prediction system.	This research work explores the use of hybrid machine learning techniques, combining multiple algorithms like linear regression, decision trees, and support vector regression, for car price prediction.

## REQUIREMENT SPECIFICATION (HARDWARE/SOFTWARE)

### Hardware Requirements:

- 1) Computer System: A desktop or laptop computer capable of running the required software.
- 2) Processor: A multi-core processor with a minimum clock speed of 2.0 GHz or higher to handle computational tasks efficiently.
- 3) Memory (RAM): A minimum of 8 GB RAM is recommended to accommodate the data processing and training of machine learning models.
- 4) Storage: Sufficient storage space to store the dataset, software, and any additional resources required for the project.
- 5) Graphics Processing Unit (GPU): While not mandatory, a GPU with CUDA support can significantly accelerate the training process for certain machine learning algorithms.

### Software Requirements:

- 1) Operating System: A compatible operating system such as Windows, macOS, or Linux.
- 2) Python: Install the latest version of Python, along with the necessary packages and libraries for machine learning, such as NumPy, Pandas, Scikit-learn, TensorFlow, or PyTorch.
- 3) Integrated Development Environment (IDE): Choose a preferred IDE for Python programming, such as PyCharm, Jupyter Notebook, or Visual Studio Code, to facilitate code development and debugging.
- 4) Data Visualization Tools: Matplotlib and Seaborn are popular libraries for visualizing data and creating plots and graphs.
- 5) Database Management System (optional): If working with a large dataset, a database management system like MySQL or PostgreSQL may be used to efficiently handle data storage and retrieval.
- 6) Version Control: Utilize a version control system such as Git to manage code revisions and collaborate with team members, if applicable.
  
- 7) Documentation: Software tools like Microsoft Word or LaTeX can be used for documenting the project, including requirements, methodologies, results, and conclusions.

### Dataset Requirements:

Car Dataset: Acquire a comprehensive and well-curated dataset containing information on car features (make, model, year, mileage, engine specifications, fuel type, transmission, etc.) and corresponding prices. This dataset will serve as the basis for training and evaluating the machine learning models.

Other Requirements:

- 1) **Internet Connectivity:** A stable internet connection is required for accessing online resources, downloading libraries, and potential model deployment.
- 2) **Documentation and Reporting:** Prepare templates or tools for documenting and reporting the project, including project plans, progress reports, and final documentation.



## IMPLEMENTATION

```
#Importing Lib

import datetime

import numpy as np
import pandas as pd

import matplotlib.pyplot as plt
import seaborn as sns
%matplotlib inline

from sklearn.model_selection import train_test_split
from sklearn.linear_model import LinearRegression
from sklearn.ensemble import RandomForestRegressor
from sklearn import preprocessing
from sklearn.preprocessing import StandardScaler,LabelEncoder
le = preprocessing.LabelEncoder()
from sklearn.metrics import r2_score
import warnings

# Suppress all warnings
warnings.filterwarnings("ignore")

# Or suppress specific warnings by category
warnings.filterwarnings("ignore", category=DeprecationWarning)

#Load Dataset
dataset = pd.read_csv("data/dataset.csv")
dataset.head(5)
#Creating index
dataset.index
#Display Columns
dataset.columns
#Display Shape of dataset
dataset.shape
#Description of dataset
dataset.describe(include='all')
#Sorting dataset
dataset.sort_index(axis=1,ascending=False)
#used to check for missing values
```

```

dataset.isnull()
#calculate the total number of missing values
dataset.isnull().sum()
#sort by year
dataset.sort_values(by="Year")
#generates a boxplot of the "Year"
import matplotlib.pyplot as plt

col = ["Location", "Year", "Kilometers_Driven", "Price"]
dataset.boxplot(column="Year")

plt.title("Boxplot of Year")
plt.ylabel("Year")
plt.show()

# boxplot will show the distribution of 'Price' across different 'Location' values
plt.figure(figsize=(25,10))
sns.boxplot(x='Location',y='Price',data=dataset, showmeans=True)
plt.figure(figsize=(25, 10))
sns.boxplot(x='Location', y='Price', data=dataset[:10], showmeans=True)
plt.show()

#distribution of prices for each unique car name
plt.figure(figsize=(25,10))
sns.boxplot(x='Name',y='Price',data=dataset, showmeans=True)
plt.figure(figsize=(20,10))
sns.boxplot(x='Name',y='Price',data=dataset, showmeans=True)
plt.xticks(rotation=45, ha='right')
plt.show()

plt.figure(figsize=(20,10))
sns.boxplot(x='Name',y='Price',data=dataset[:10], showmeans=True)
plt.xticks(rotation=45, ha='right')
plt.show()

# insights into the distribution of car names
dataset['Name'].value_counts()
dataset['Fuel_Type'].value_counts()
plt.figure(figsize=(25,10))
sns.boxplot(x='Fuel_Type',y='Price',data=dataset, showmeans=True)
limited_fuel_types = ['Petrol', 'Diesel'] # Specify the fuel types you want to include

plt.figure(figsize=(25,10))

```

```
sns.boxplot(x='Fuel_Type', y='Price',
data=dataset[dataset['Fuel_Type'].isin(limited_fuel_types)], showmeans=True)
plt.title("Boxplot of Price by Fuel Type")
plt.xlabel("Fuel Type")
plt.ylabel("Price")
plt.show()
```

```
limit = 10
plt.figure(figsize=(25,10))
sns.boxplot(x='Name', y='Price', data=dataset[:limit], showmeans=True)
plt.xticks(rotation=45, ha='right')
plt.title("Boxplot of Price by Name (Limited Entries)")
plt.xlabel("Name")
plt.ylabel("Price")
plt.show()
```

```
#splitting the dataset into training and testing sets
X_train, X_test, y_train, y_test = train_test_split(dataset.iloc[:, :-1],
dataset.iloc[:, -1],
test_size = 0.3,
random_state = 42)

X_train.info()
#remove the index colum
X_train = X_train.iloc[:, 1:]
X_test = X_test.iloc[:, 1:]
X_train["Name"].value_counts()
#splits the values in the Name column by space and expands them into separate
columns.
make_train = X_train["Name"].str.split(" ", expand = True)

make_test = X_test["Name"].str.split(" ", expand = True)
#Create a Colum name Manufacture in dataste
X_train["Manufacturer"] = make_train[0]
X_test["Manufacturer"] = make_test[0]
# countplot showing the number of cars for each manufacturer
plt.figure(figsize = (12, 8))
plot = sns.countplot(x = 'Manufacturer', data = X_train)
plt.xticks(rotation = 90)
for p in plot.patches:
    plot.annotate(p.get_height(),
(p.get_x() + p.get_width() / 2.0,
p.get_height()),
ha = 'center',
```

```

        va = 'center',
        xytext = (0, 5),
        textcoords = 'offset points')

plt.title("Count of cars based on manufacturers")
plt.xlabel("Manufacturer")
plt.ylabel("Count of cars")
#remove colum from train
X_train.drop("Name", axis = 1, inplace = True)
X_test.drop("Name", axis = 1, inplace = True)
X_train.drop("Location", axis = 1, inplace = True)
X_test.drop("Location", axis = 1, inplace = True)
#Calculating Age of Car using Year colum
curr_time = datetime.datetime.now()
X_train['Year'] = X_train['Year'].apply(lambda x : curr_time.year - x)
X_test['Year'] = X_test['Year'].apply(lambda x : curr_time.year - x)
#retrive data
X_train["Kilometers_Driven"]
#split the "Mileage" column values into separate components and convert the
numeric part to the appropriate data type.
mileage_train = X_train["Mileage"].str.split(" ", expand = True)
mileage_test = X_test["Mileage"].str.split(" ", expand = True)

X_train["Mileage"] = pd.to_numeric(mileage_train[0], errors = 'coerce')
X_test["Mileage"] = pd.to_numeric(mileage_test[0], errors = 'coerce')

print(sum(X_train["Mileage"].isnull()))
print(sum(X_test["Mileage"].isnull()))
X_train["Mileage"].fillna(X_train["Mileage"].astype("float64").mean(), inplace =
True)
X_test["Mileage"].fillna(X_train["Mileage"].astype("float64").mean(), inplace =
True)
cc_train = X_train["Engine"].str.split(" ", expand = True)
cc_test = X_test["Engine"].str.split(" ", expand = True)
X_train["Engine"] = pd.to_numeric(cc_train[0], errors = 'coerce')
X_test["Engine"] = pd.to_numeric(cc_test[0], errors = 'coerce')

bhp_train = X_train["Power"].str.split(" ", expand = True)
bhp_test = X_test["Power"].str.split(" ", expand = True)
X_train["Power"] = pd.to_numeric(bhp_train[0], errors = 'coerce')
X_test["Power"] = pd.to_numeric(bhp_test[0], errors = 'coerce')
X_train["Engine"].fillna(X_train["Engine"].astype("float64").mean(), inplace =
True)

```

```

X_test["Engine"].fillna(X_train["Engine"].astype("float64").mean(), inplace = True)

X_train["Power"].fillna(X_train["Power"].astype("float64").mean(), inplace = True)
X_test["Power"].fillna(X_train["Power"].astype("float64").mean(), inplace = True)

X_train["Seats"].fillna(X_train["Seats"].astype("float64").mean(), inplace = True)
X_test["Seats"].fillna(X_train["Seats"].astype("float64").mean(), inplace = True)
X_train.drop(["New_Price"], axis = 1, inplace = True)
X_test.drop(["New_Price"], axis = 1, inplace = True)
#convert into binary format
X_train = pd.get_dummies(X_train,
                        columns = ["Manufacturer", "Fuel_Type", "Transmission",
"Owner_Type"],
                        drop_first = True)
X_test = pd.get_dummies(X_test,
                        columns = ["Manufacturer", "Fuel_Type", "Transmission",
"Owner_Type"],
                        drop_first = True)
#insure colum integratty
missing_cols = set(X_train.columns) - set(X_test.columns)
for col in missing_cols:
    X_test[col] = 0
X_test = X_test[X_train.columns]
#standalization
standardScaler = StandardScaler()
standardScaler.fit(X_train)
X_train = standardScaler.transform(X_train)
X_test = standardScaler.transform(X_test)
#Linear Regression by r square score
linearRegression = LinearRegression()
linearRegression.fit(X_train, y_train)
y_pred = linearRegression.predict(X_test)
r2_score(y_test, y_pred)
from sklearn.linear_model import LinearRegression
from sklearn.metrics import r2_score

linearRegression = LinearRegression()
linearRegression.fit(X_train, y_train)
y_pred = linearRegression.predict(X_test)

r2_score_percentage = r2_score(y_test, y_pred) * 100
print("R-squared score: {:.2f}%".format(r2_score_percentage))

```

```

#Random Forest
rf = RandomForestRegressor(n_estimators = 100)
rf.fit(X_train, y_train)
y_pred = rf.predict(X_test)
r2_score(y_test, y_pred)
from sklearn.ensemble import RandomForestRegressor
from sklearn.metrics import r2_score

rf = RandomForestRegressor(n_estimators=100)
rf.fit(X_train, y_train)
y_pred = rf.predict(X_test)
r2_percent = r2_score(y_test, y_pred) * 100
print("R-squared score:", r2_percent, "%")

# Predict the price using the linear regression model
y_pred_linear = linearRegression.predict(X_test)

# Predict the price using the random forest regression model
y_pred_rf = rf.predict(X_test)

# Create a DataFrame to compare the actual and predicted prices
predictions = pd.DataFrame({'Actual Price': y_test, 'Linear Regression Predicted Price': y_pred_linear, 'Random Forest Predicted Price': y_pred_rf})

predictions.to_csv('data/predictions.csv', index=False)

import matplotlib.pyplot as plt

# Linear Regression
plt.figure(figsize=(10, 6))
plt.scatter(y_test, y_pred_linear, color='blue', label='Actual vs. Predicted (Linear Regression)')
plt.plot(y_test, y_test, color='red', label='Ideal')
plt.xlabel('Actual Price')
plt.ylabel('Predicted Price')
plt.title('Linear Regression: Actual vs. Predicted Price')
plt.legend()
plt.show()

# Random Forest
plt.figure(figsize=(10, 6))
plt.scatter(y_test, y_pred_rf, color='green', label='Actual vs. Predicted (Random Forest)')

```

```

plt.plot(y_test, y_test, color='red', label='Ideal')
plt.xlabel('Actual Price')
plt.ylabel('Predicted Price')
plt.title('Random Forest: Actual vs. Predicted Price')
plt.legend()
plt.show()

print(predictions.head())
df = pd.read_csv("data/dataset.csv")

print(df.columns)
import pandas as pd
from sklearn.linear_model import LinearRegression
from sklearn.preprocessing import LabelEncoder
from sklearn.impute import SimpleImputer

# Step 1: Load the dataset
df = pd.read_csv('data/dataset.csv')

# Step 2: Prepare the feature and target variables
categorical_cols = ['Name', 'Location', 'Fuel_Type', 'Transmission', 'Owner_Type',
'New_Price']
numerical_cols = ['Year', 'Kilometers_Driven', 'Mileage', 'Engine', 'Power', 'Seats']

le = LabelEncoder()
df['Mileage'] = le.fit_transform(df['Mileage'].astype(str))
df['Engine'] = le.fit_transform(df['Engine'].astype(str))
df['Power'] = le.fit_transform(df['Power'].astype(str))
df.fillna(df.mean(), inplace=True)

X = pd.concat([pd.get_dummies(df[categorical_cols]), df[numerical_cols]], axis=1)
y = df['Price']

# Step 3: Create an instance of the linear regression model
model = LinearRegression()

# Step 4: Fit the model to the data
model.fit(X, y)

# Step 5: Generate predictions
y_pred = model.predict(X)

# Step 6: Add predictions to the original dataset

```

```

df['Prediction'] = y_pred

# Step 7: Write the updated dataset to a new CSV file
df.to_csv('data/dataset_with_predictions.csv', index=False)

import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
import seaborn as sns
import nltk
from nltk.corpus import stopwords
from collections import Counter

df = pd.read_csv('data/dataset.csv')
df = df.dropna()
df = df.drop_duplicates()
results = df.groupby('Name').agg({'Price': 'mean'})
print(results)
mean = np.mean(df['Price'])
median = np.median(df['Price'])
std_dev = np.std(df['Price'])
variance = np.var(df['Price'])

sns.histplot(df['Price'])
plt.show()

#for plot 1
sns.jointplot(x = df['Mileage'],y=df['Price'],kind = 'scatter')

plt.figure(figsize=(12, 8))
limited_df = df.sample(n=20) # Subsetting 100 random entries from the dataframe
sns.violinplot(x='Name', y='Price', data=limited_df)
plt.xticks(rotation=45)
plt.title("Violin Plot of Price by Name")
plt.xlabel("Name")
plt.ylabel("Price")
plt.show()

df.corr()
corr =df.corr()
sns.heatmap (corr)
corr =df.corr()

```



```
sns.heatmap (corr,annot=True)
df = pd.read_csv('data\dataset.csv')
sns.histplot(df['Price'], kde=False,bins=10)
# Confusion Matrix
from sklearn.metrics import confusion_matrix

# Assuming you have the predicted prices and actual prices
y_pred_linear = linearRegression.predict(X_test)
y_pred_rf = rf.predict(X_test)

# Convert the predicted prices to binary labels
y_pred_linear_labels = np.where(y_pred_linear > 0, 1, 0)
y_pred_rf_labels = np.where(y_pred_rf > 0, 1, 0)

# Convert the actual prices to binary labels
y_test_labels = np.where(y_test > 0, 1, 0)

# Create confusion matrices
cm_linear = confusion_matrix(y_test_labels, y_pred_linear_labels)
cm_rf = confusion_matrix(y_test_labels, y_pred_rf_labels)

print("Confusion Matrix - Linear Regression:")
print(cm_linear)

print("\nConfusion Matrix - Random Forest Regression:")
print(cm_rf)
```

## **SNAPSHOTS OF TECHNOLOGY WITH TEST CASES**

## Used vehicle Price Prediction

May 17, 2023

```
[51]: #Importing Lib

import datetime

import numpy as np
import pandas as pd

import matplotlib.pyplot as plt
import seaborn as sns
%matplotlib inline

from sklearn.model_selection import train_test_split
from sklearn.linear_model import LinearRegression
from sklearn.ensemble import RandomForestRegressor
from sklearn import preprocessing
from sklearn.preprocessing import StandardScaler,LabelEncoder
le = preprocessing.LabelEncoder()
from sklearn.metrics import r2_score
import warnings

# Suppress all warnings
warnings.filterwarnings("ignore")

# Or suppress specific warnings by category
warnings.filterwarnings("ignore", category=DeprecationWarning)
```

```
[52]: #Load Dataset
dataset = pd.read_csv("data/dataset.csv")
dataset.head(5)
```

```
[52]:
```

Unnamed: 0	Name	Location	Year	\
0	Maruti Wagon R LXI CNG	Mumbai	2010	
1	Hyundai Creta 1.6 CRDi SX Option	Pune	2015	
2	Honda Jazz V	Chennai	2011	
3	Maruti Ertiga VDI	Chennai	2012	
4	Audi A4 New 2.0 TDI Multitronic	Coimbatore	2013	

```

Kilometers_Driven Fuel_Type Transmission Owner_Type Mileage Engine \

```

1

```

0          72000      CNG      Manual      First 26.6 km/kg  998 CC
1          41000      Diesel    Manual      First 19.67 kmpl 1582 CC
2          46000      Petrol    Manual      First 18.2 kmpl 1199 CC
3          87000      Diesel    Manual      First 20.77 kmpl 1248 CC
4          40670      Diesel    Automatic  Second 15.2 kmpl 1968 CC
    
```

```

      Power  Seats  New_Price  Price
0  58.16 bhp   5.0         NaN   1.75
1 126.2 bhp   5.0         NaN  12.50
2  88.7 bhp   5.0    8.61 Lakh  4.50
3  88.76 bhp  7.0         NaN   6.00
4 140.8 bhp   5.0         NaN  17.74
    
```

```
[53]: #Creating index
dataset.index
```

```
[53]: RangeIndex(start=0, stop=6019, step=1)
```

```
[54]: #Display Columns
dataset.columns
```

```
[54]: Index(['Unnamed: 0', 'Name', 'Location', 'Year', 'Kilometers_Driven',
          'Fuel_Type', 'Transmission', 'Owner_Type', 'Mileage', 'Engine', 'Power',
          'Seats', 'New_Price', 'Price'],
          dtype='object')
```

```
[55]: #Display Shape of dataset
dataset.shape
```

```
[55]: (6019, 14)
```

```
[56]: #Description of dataset
dataset.describe(include='all')
```

```
[56]:
```

	Unnamed: 0	Name	Location	Year	\
count	6019.000000	6019	6019	6019.000000	\
unique	NaN	1876	11	NaN	
top	NaN	Mahindra XUV500 W8 2WD	Mumbai	NaN	
freq	NaN	49	790	NaN	
mean	3009.000000	NaN	NaN	2013.358199	
std	1737.679967	NaN	NaN	3.269742	
min	0.000000	NaN	NaN	1998.000000	
25%	1504.500000	NaN	NaN	2011.000000	
50%	3009.000000	NaN	NaN	2014.000000	
75%	4513.500000	NaN	NaN	2016.000000	
max	6018.000000	NaN	NaN	2019.000000	

```

      Kilometers_Driven  Fuel_Type  Transmission  Owner_Type  Mileage \
    
```

```

count      6.019000e+03    6019    6019    6019    6017
unique      NaN           5         2         4       442
top         NaN         Diesel    Manual    First  18.9 kmpl
freq        NaN           3205    4299    4929    172
mean        5.873838e+04    NaN     NaN     NaN     NaN
std         9.126884e+04    NaN     NaN     NaN     NaN
min         1.710000e+02    NaN     NaN     NaN     NaN
25%         3.400000e+04    NaN     NaN     NaN     NaN
50%         5.300000e+04    NaN     NaN     NaN     NaN
75%         7.300000e+04    NaN     NaN     NaN     NaN
max         6.500000e+06    NaN     NaN     NaN     NaN
    
```

```

           Engine  Power      Seats  New_Price      Price
count      5983    5983  5977.000000      824  6019.000000
unique      146     372         NaN      540         NaN
top      1197 CC  74 bhp         NaN  95.13 Lakh         NaN
freq        606     235         NaN         6         NaN
mean        NaN     NaN     5.278735     NaN     9.479468
std         NaN     NaN     0.808840     NaN     11.187917
min         NaN     NaN     0.000000     NaN     0.440000
25%         NaN     NaN     5.000000     NaN     3.500000
50%         NaN     NaN     5.000000     NaN     5.640000
75%         NaN     NaN     5.000000     NaN     9.950000
max         NaN     NaN    10.000000     NaN    160.000000
    
```

```
[57]: #Sorting dataset
```

```
[58]: dataset.sort_index(axis=1,ascending=False)
```

```

[58]:      Year  Unnamed: 0  Transmission  Seats  Price      Power  Owner_Type \
0      2010           0      Manual     5.0   1.75  58.16 bhp   First
1      2015           1      Manual     5.0  12.50  126.2 bhp   First
2      2011           2      Manual     5.0   4.50   88.7 bhp   First
3      2012           3      Manual     7.0   6.00   88.76 bhp  First
4      2013           4  Automatic     5.0  17.74  140.8 bhp  Second
...
6014   2014           6014     Manual     5.0   4.75    74 bhp   First
6015   2015           6015     Manual     5.0   4.00    71 bhp   First
6016   2012           6016     Manual     8.0   2.90   112 bhp  Second
6017   2013           6017     Manual     5.0   2.65   67.1 bhp   First
6018   2011           6018     Manual     5.0   2.50   57.6 bhp   First
    
```

```

           New_Price      Name      Mileage      Location \
0           NaN      Maruti Wagon R LXI CNG  26.6 km/kg      Mumbai
1           NaN  Hyundai Creta 1.6 CRDi SX Option  19.67 kmpl      Pune
2      8.61 Lakh           Honda Jazz V      18.2 kmpl      Chennai
3           NaN           Maruti Ertiga VDI  20.77 kmpl      Chennai
    
```

```

4          NaN  Audi A4 New 2.0 TDI Multitronic  15.2 kmpl  Coimbatore
...
6014  7.88 Lakh          Maruti Swift VDI  28.4 kmpl  Delhi
6015          NaN  Hyundai Xcent 1.1 CRDi S  24.4 kmpl  Jaipur
6016          NaN  Mahindra Xylo D4 BSIV  14.0 kmpl  Jaipur
6017          NaN  Maruti Wagon R VXI  18.9 kmpl  Kolkata
6018          NaN  Chevrolet Beat Diesel  25.44 kmpl  Hyderabad
    
```

```

      Kilometers_Driven Fuel_Type  Engine
0                72000      CNG    998 CC
1                41000    Diesel  1582 CC
2                46000    Petrol  1199 CC
3                87000    Diesel  1248 CC
4                40670    Diesel  1968 CC
...
6014             27365    Diesel  1248 CC
6015            100000    Diesel  1120 CC
6016             55000    Diesel  2498 CC
6017             46000    Petrol   998 CC
6018             47000    Diesel   936 CC
    
```

[6019 rows x 14 columns]

```
[59]: #used to check for missing values
dataset.isnull()
```

```
[59]: Unnamed: 0  Name  Location  Year  Kilometers_Driven  Fuel_Type  \
0          False  False   False  False          False    False
1          False  False   False  False          False    False
2          False  False   False  False          False    False
3          False  False   False  False          False    False
4          False  False   False  False          False    False
...
6014       False  False   False  False          False    False
6015       False  False   False  False          False    False
6016       False  False   False  False          False    False
6017       False  False   False  False          False    False
6018       False  False   False  False          False    False
    
```

```

      Transmission  Owner_Type  Mileage  Engine  Power  Seats  New_Price  \
0          False      False   False  False  False  False    True
1          False      False   False  False  False  False    True
2          False      False   False  False  False  False    False
3          False      False   False  False  False  False    True
4          False      False   False  False  False  False    True
...
6014       False      False   False  False  False  False    False
    
```

```

6015      False      False      False      False      False      False      True
6016      False      False      False      False      False      False      True
6017      False      False      False      False      False      False      True
6018      False      False      False      False      False      False      True

```

```

      Price
0      False
1      False
2      False
3      False
4      False
...
6014     False
6015     False
6016     False
6017     False
6018     False

```

[6019 rows x 14 columns]

```
[60]: #calculate the total number of missing values
dataset.isnull().sum()
```

```

[60]: Unnamed: 0      0
      Name           0
      Location       0
      Year           0
      Kilometers_Driven 0
      Fuel_Type      0
      Transmission   0
      Owner_Type     0
      Mileage        2
      Engine         36
      Power          36
      Seats          42
      New_Price      5195
      Price          0
      dtype: int64

```

```
[61]: #sort by year
dataset.sort_values(by="Year")
```

```

[61]:      Unnamed: 0      Name      Location \
3749      3749      Mercedes-Benz E-Class 250 D W 210      Mumbai
3138      3138                        Maruti Zen LXI      Jaipur
5716      5716                        Maruti Zen LX      Jaipur
4709      4709                        Maruti 1000 AC      Hyderabad

```

```

1224      1224      Maruti Zen VX      Jaipur
...
3116      3116      Hyundai i20 1.4 Sportz  Coimbatore
4328      4328      Maruti Swift DDiS VDI  Coimbatore
1018      1018      Maruti Swift Dzire VDI Optional  Kochi
434       434       Renault Captur 1.5 Diesel RXL  Coimbatore
512       512       Hyundai Creta 1.6 SX Plus Dual Tone Petrol  Kochi

```

```

      Year  Kilometers_Driven  Fuel_Type  Transmission  Owner_Type  Mileage \
3749 1998           55300      Diesel      Automatic      First    10.0 kmpl
3138 1998           95150      Petrol      Manual        Third    17.3 kmpl
5716 1998           95150      Petrol      Manual        Third    17.3 kmpl
4709 1998          104000      Petrol      Manual        Second   15.0 kmpl
1224 1999           70000      Petrol      Manual        Second   17.3 kmpl
...
3116 2019           32251      Diesel      Manual        First    22.54 kmpl
4328 2019           41075      Diesel      Manual        First    28.4 kmpl
1018 2019           18592      Diesel      Manual        First    26.59 kmpl
434  2019           24950      Diesel      Manual        First    20.37 kmpl
512  2019            8587      Petrol      Manual        First    15.29 kmpl

```

```

      Engine      Power  Seats  New_Price  Price
3749 1796 CC    157.7 bhp   5.0     NaN    3.90
3138  993 CC     60 bhp    5.0     NaN    0.45
5716  993 CC     60 bhp    5.0     NaN    0.53
4709  970 CC    null bhp   5.0     NaN    0.85
1224  993 CC     60 bhp   5.0     NaN    0.77
...
3116 1396 CC    88.73 bhp  5.0     NaN    8.61
4328 1248 CC     74 bhp   5.0     NaN    8.40
1018 1248 CC     74 bhp   5.0     NaN    8.51
434  1461 CC   108.45 bhp  5.0     NaN   13.37
512  1591 CC   121.3 bhp  5.0     NaN   13.56

```

[6019 rows x 14 columns]

```

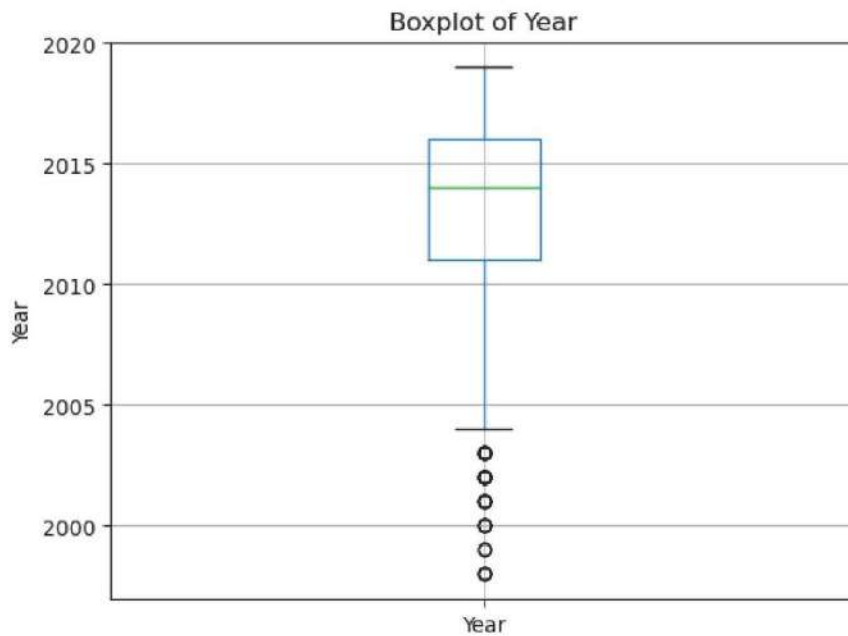
[62]: #generates a boxplot of the "Year"
import matplotlib.pyplot as plt

col = ["Location", "Year", "Kilometers_Driven", "Price"]
dataset.boxplot(column="Year")

plt.title("Boxplot of Year")
plt.ylabel("Year")
plt.show()

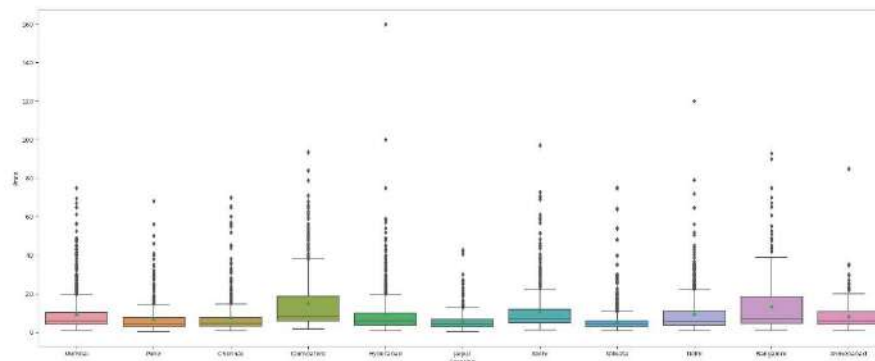
```



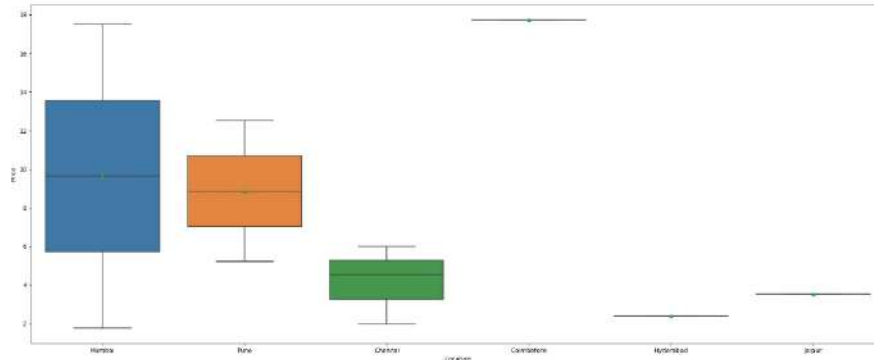


```
[63]: # boxplot will show the distribution of 'Price' across different 'Location'
      ↪ values
      plt.figure(figsize=(25,10))
      sns.boxplot(x='Location',y='Price',data=dataset, showmeans=True)
```

[63]: <Axes: xlabel='Location', ylabel='Price'>

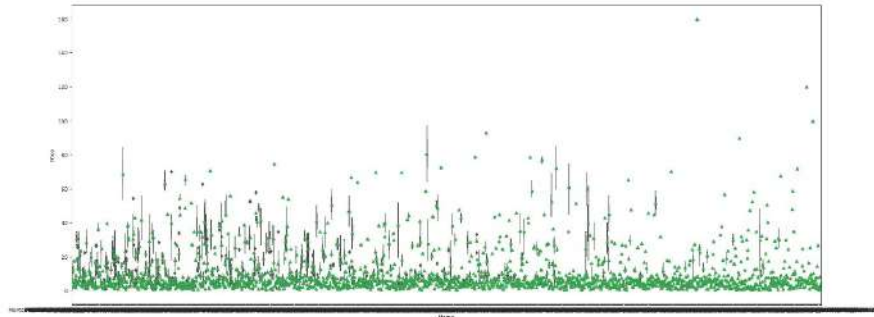


```
[64]: plt.figure(figsize=(25, 10))
sns.boxplot(x='Location', y='Price', data=dataset[:10], showmeans=True)
plt.show()
```

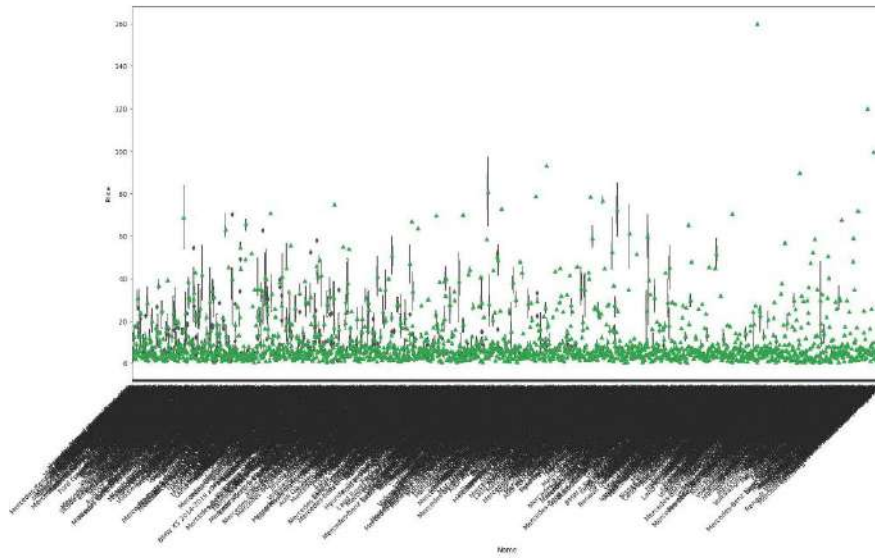


```
[65]: #distribution of prices for each unique car name
plt.figure(figsize=(25,10))
sns.boxplot(x='Name',y='Price',data=dataset, showmeans=True)
```

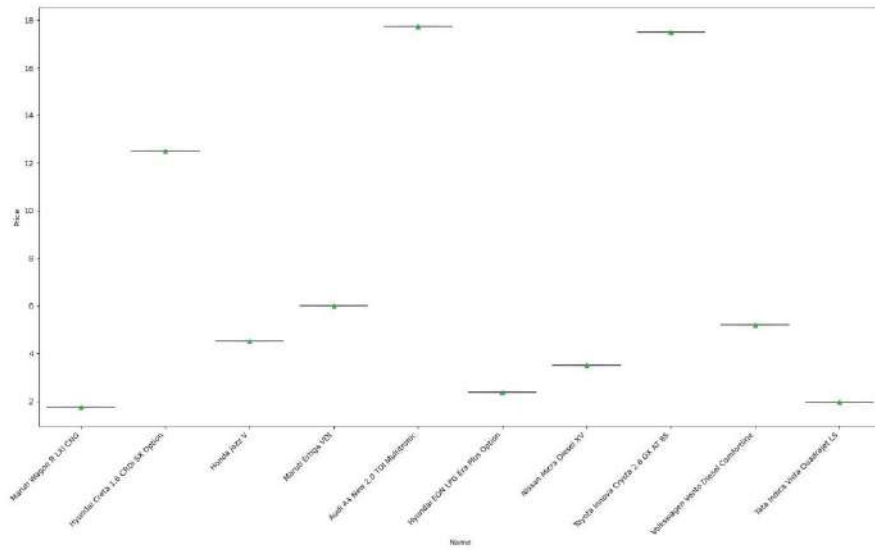
```
[65]: <Axes: xlabel='Name', ylabel='Price'>
```



```
[66]: plt.figure(figsize=(20,10))
sns.boxplot(x='Name',y='Price',data=dataset, showmeans=True)
plt.xticks(rotation=45, ha='right')
plt.show()
```



```
[67]: plt.figure(figsize=(20,10))
sns.boxplot(x='Name',y='Price',data=dataset[:10], showmeans=True)
plt.xticks(rotation=45, ha='right')
plt.show()
```



```
[68]: # insights into the distribution of car names
dataset['Name'].value_counts()
```

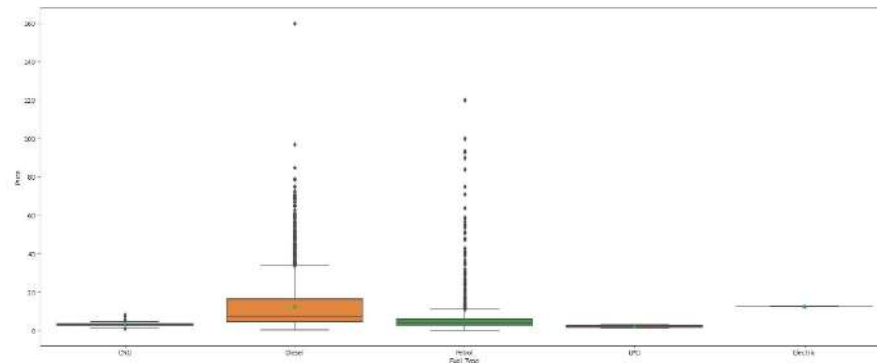
```
[68]: Mahindra XUV500 W8 2WD          49
      Maruti Swift VDI                45
      Honda City 1.5 S MT            34
      Maruti Swift Dzire VDI         34
      Maruti Swift VDI BSIV          31
      ..
      Ford Fiesta Titanium 1.5 TDCi  1
      Mahindra Scorpio S10 AT 4WD     1
      Hyundai i20 1.2 Era              1
      Toyota Camry W4 (AT)            1
      Mahindra Xylo D4 BSIV           1
      Name: Name, Length: 1876, dtype: int64
```

```
[69]: dataset['Fuel_Type'].value_counts()
```

```
[69]: Diesel      3205
      Petrol      2746
      CNG         56
      LPG         10
      Electric     2
      Name: Fuel_Type, dtype: int64
```

```
[70]: plt.figure(figsize=(25,10))
      sns.boxplot(x='Fuel_Type',y='Price',data=dataset, showmeans=True)
```

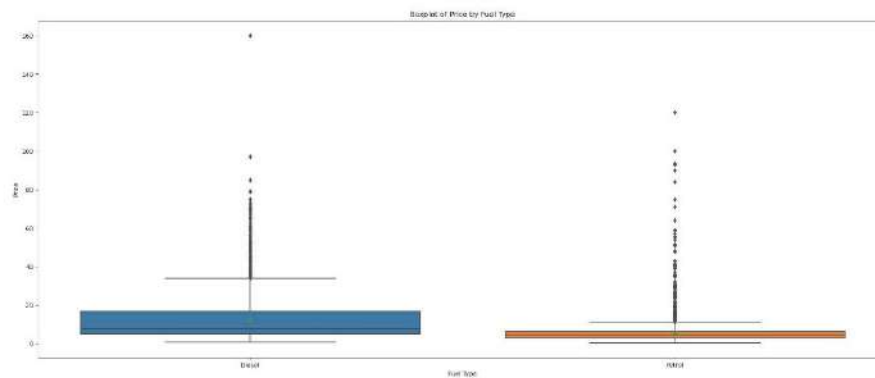
```
[70]: <Axes: xlabel='Fuel_Type', ylabel='Price'>
```



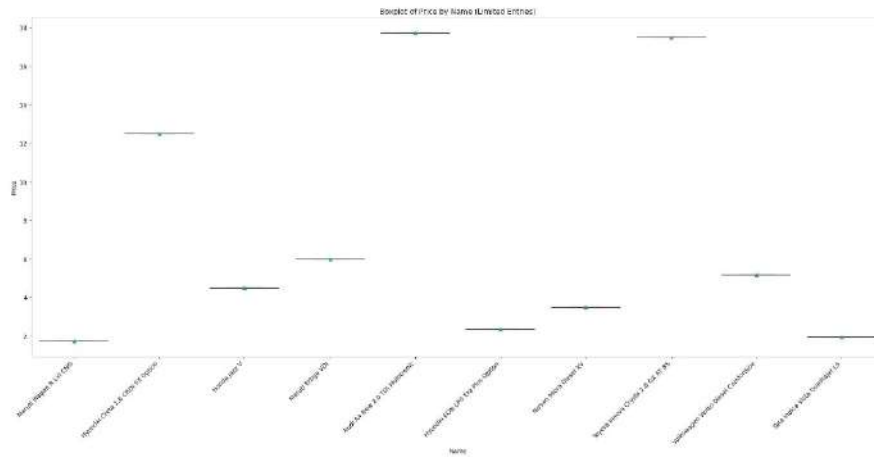
10

```
[71]: limited_fuel_types = ['Petrol', 'Diesel'] # Specify the fuel types you want to
      ~include

      plt.figure(figsize=(25,10))
      sns.boxplot(x='Fuel_Type', y='Price', data=dataset[dataset['Fuel_Type'].
        ~isin(limited_fuel_types)], showmeans=True)
      plt.title("Boxplot of Price by Fuel Type")
      plt.xlabel("Fuel Type")
      plt.ylabel("Price")
      plt.show()
```



```
[72]: limit = 10
      plt.figure(figsize=(25,10))
      sns.boxplot(x='Name', y='Price', data=dataset[:limit], showmeans=True)
      plt.xticks(rotation=45, ha='right')
      plt.title("Boxplot of Price by Name (Limited Entries)")
      plt.xlabel("Name")
      plt.ylabel("Price")
      plt.show()
```



```
[73]: #splitting the dataset into training and testing sets
X_train, X_test, y_train, y_test = train_test_split(dataset.iloc[:, :-1],
                                                    dataset.iloc[:, -1],
                                                    test_size = 0.3,
                                                    random_state = 42)
```

```
[74]: X_train.info()
```

```
<class 'pandas.core.frame.DataFrame'>
Int64Index: 4213 entries, 4201 to 860
Data columns (total 13 columns):
#   Column                Non-Null Count  Dtype
---  ---
0   Unnamed: 0            4213 non-null   int64
1   Name                  4213 non-null   object
2   Location              4213 non-null   object
3   Year                  4213 non-null   int64
4   Kilometers_Driven    4213 non-null   int64
5   Fuel_Type            4213 non-null   object
6   Transmission         4213 non-null   object
7   Owner_Type           4213 non-null   object
8   Mileage               4212 non-null   object
9   Engine               4189 non-null   object
10  Power                4189 non-null   object
11  Seats                4185 non-null   float64
12  New_Price            580 non-null    object
dtypes: float64(1), int64(3), object(9)
memory usage: 460.8+ KB
```

```
[75]: #remove the index colum
X_train = X_train.iloc[:, 1:]
X_test = X_test.iloc[:, 1:]

[76]: X_train["Name"].value_counts()

[76]: Mahindra XUV500 W8 2WD          35
      Maruti Swift VDI                31
      Maruti Ritz VDi                 26
      Hyundai i10 Sportz             25
      Maruti Swift Dzire VDI         24
      ..
      Skoda Laura L and K AT         1
      Honda Amaze S Diesel            1
      Nissan Micra XE                 1
      Renault KWID Climber 1.0 MT     1
      Ford Endeavour 2.2 Titanium AT 4X2 1
      Name: Name, Length: 1592, dtype: int64

[77]: #splits the values in the Name column by space and expands them into separate_
      _columns.
make_train = X_train["Name"].str.split(" ", expand = True)

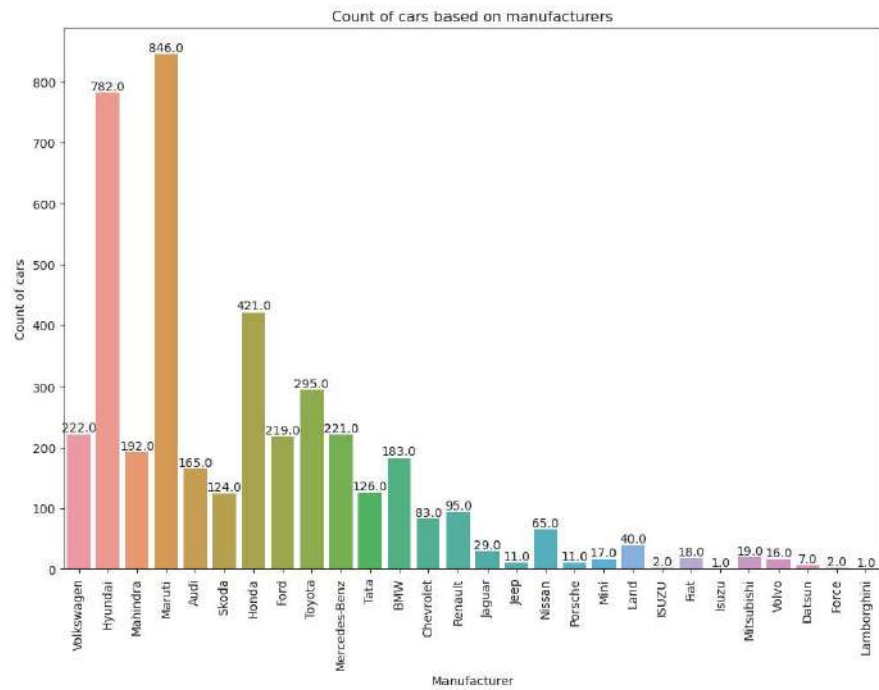
make_test = X_test["Name"].str.split(" ", expand = True)

[78]: #Create a Colum name Manufacture in dataste
X_train["Manufacturer"] = make_train[0]
X_test["Manufacturer"] = make_test[0]

[79]: # countplot showing the number of cars for each manufacturer
plt.figure(figsize = (12, 8))
plot = sns.countplot(x = 'Manufacturer', data = X_train)
plt.xticks(rotation = 90)
for p in plot.patches:
    plot.annotate(p.get_height(),
                  (p.get_x() + p.get_width() / 2.0,
                   p.get_height()),
                  ha = 'center',
                  va = 'center',
                  xytext = (0, 5),
                  textcoords = 'offset points')

plt.title("Count of cars based on manufacturers")
plt.xlabel("Manufacturer")
plt.ylabel("Count of cars")

[79]: Text(0, 0.5, 'Count of cars')
```



```
[80]: #remove column from train
X_train.drop("Name", axis = 1, inplace = True)
X_test.drop("Name", axis = 1, inplace = True)
```

```
[81]: X_train.drop("Location", axis = 1, inplace = True)
X_test.drop("Location", axis = 1, inplace = True)
```

```
[82]: #Calculating Age of Car using Year column
curr_time = datetime.datetime.now()
X_train['Year'] = X_train['Year'].apply(lambda x : curr_time.year - x)
X_test['Year'] = X_test['Year'].apply(lambda x : curr_time.year - x)
```

```
[83]: #retrive data
X_train["Kilometers_Driven"]
```

```
[83]: 4201      77000
      4383      19947
      1779      70963
      4020     115195
```



```

3248    58752
      ..
3772    27000
5191     9000
5226   140000
5390    76414
860     98000
Name: Kilometers_Driven, Length: 4213, dtype: int64

```

```

[84]: #split the "Mileage" column values into separate components and convert the
      ↪ numeric part to the appropriate data type.
mileage_train = X_train["Mileage"].str.split(" ", expand = True)
mileage_test = X_test["Mileage"].str.split(" ", expand = True)

X_train["Mileage"] = pd.to_numeric(mileage_train[0], errors = 'coerce')
X_test["Mileage"] = pd.to_numeric(mileage_test[0], errors = 'coerce')

[85]: print(sum(X_train["Mileage"].isnull()))
      print(sum(X_test["Mileage"].isnull()))

1
1

[86]: X_train["Mileage"].fillna(X_train["Mileage"].astype("float64").mean(), inplace =
      ↪ True)
X_test["Mileage"].fillna(X_train["Mileage"].astype("float64").mean(), inplace =
      ↪ True)

[87]: cc_train = X_train["Engine"].str.split(" ", expand = True)
      cc_test = X_test["Engine"].str.split(" ", expand = True)
      X_train["Engine"] = pd.to_numeric(cc_train[0], errors = 'coerce')
      X_test["Engine"] = pd.to_numeric(cc_test[0], errors = 'coerce')

      bhp_train = X_train["Power"].str.split(" ", expand = True)
      bhp_test = X_test["Power"].str.split(" ", expand = True)
      X_train["Power"] = pd.to_numeric(bhp_train[0], errors = 'coerce')
      X_test["Power"] = pd.to_numeric(bhp_test[0], errors = 'coerce')

[88]: X_train["Engine"].fillna(X_train["Engine"].astype("float64").mean(), inplace =
      ↪ True)
      X_test["Engine"].fillna(X_train["Engine"].astype("float64").mean(), inplace =
      ↪ True)

      X_train["Power"].fillna(X_train["Power"].astype("float64").mean(), inplace =
      ↪ True)
      X_test["Power"].fillna(X_train["Power"].astype("float64").mean(), inplace =
      ↪ True)

```

15

```
X_train["Seats"].fillna(X_train["Seats"].astype("float64").mean(), inplace = True)
X_test["Seats"].fillna(X_train["Seats"].astype("float64").mean(), inplace = True)
```

```
[89]: X_train.drop(["New_Price"], axis = 1, inplace = True)
X_test.drop(["New_Price"], axis = 1, inplace = True)
```

```
[90]: #convert into binary format
X_train = pd.get_dummies(X_train,
                        columns = ["Manufacturer", "Fuel_Type",
                                   "Transmission", "Owner_Type"],
                        drop_first = True)
```

```
[91]: X_test = pd.get_dummies(X_test,
                        columns = ["Manufacturer", "Fuel_Type",
                                   "Transmission", "Owner_Type"],
                        drop_first = True)
```

```
[92]: #insure colum integratty
missing_cols = set(X_train.columns) - set(X_test.columns)
for col in missing_cols:
    X_test[col] = 0
X_test = X_test[X_train.columns]
```

```
[93]: #standalization
standardScaler = StandardScaler()
standardScaler.fit(X_train)
X_train = standardScaler.transform(X_train)
X_test = standardScaler.transform(X_test)
```

```
[94]: #Linear Regression by r square score
linearRegression = LinearRegression()
linearRegression.fit(X_train, y_train)
y_pred = linearRegression.predict(X_test)
r2_score(y_test, y_pred)
```

```
[94]: 0.7008908549416726
```

```
[95]: from sklearn.linear_model import LinearRegression
from sklearn.metrics import r2_score

linearRegression = LinearRegression()
linearRegression.fit(X_train, y_train)
y_pred = linearRegression.predict(X_test)
```

```
r2_score_percentage = r2_score(y_test, y_pred) * 100
print("R-squared score: {:.2f}%".format(r2_score_percentage))
```

R-squared score: 70.09%

```
[96]: #Random Forest
rf = RandomForestRegressor(n_estimators = 100)
rf.fit(X_train, y_train)
y_pred = rf.predict(X_test)
r2_score(y_test, y_pred)
```

[96]: 0.8849197058552497

```
[97]: from sklearn.ensemble import RandomForestRegressor
from sklearn.metrics import r2_score

rf = RandomForestRegressor(n_estimators=100)
rf.fit(X_train, y_train)
y_pred = rf.predict(X_test)
r2_percent = r2_score(y_test, y_pred) * 100
print("R-squared score:", r2_percent, "%")
```

R-squared score: 88.78513414864128 %

```
[98]: # Predict the price using the linear regression model
y_pred_linear = linearRegression.predict(X_test)

# Predict the price using the random forest regression model
y_pred_rf = rf.predict(X_test)
```

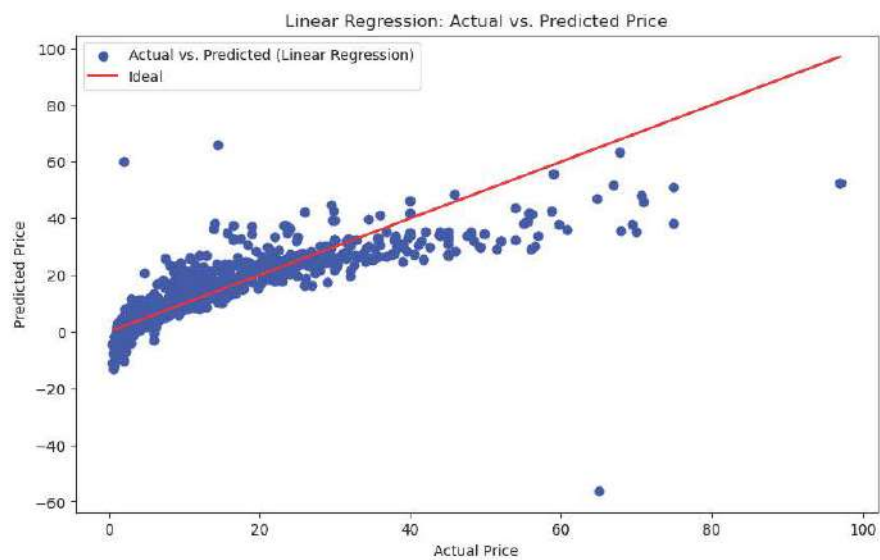
```
[99]: # Create a DataFrame to compare the actual and predicted prices
predictions = pd.DataFrame({'Actual Price': y_test, 'Linear Regression',
    ->'Predicted Price': y_pred_linear, 'Random Forest Predicted Price': y_pred_rf})
```

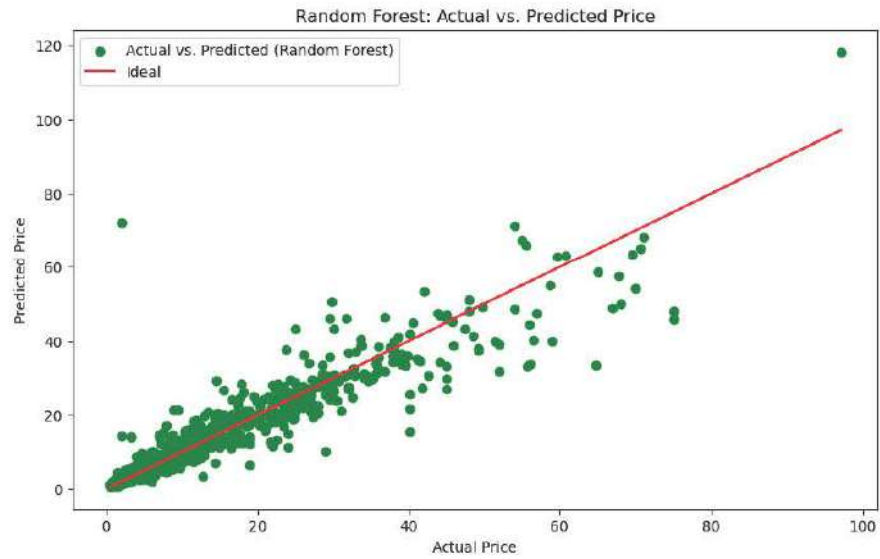
```
[100]: predictions.to_csv('data/predictions.csv', index=False)
```

```
[101]: import matplotlib.pyplot as plt

# Linear Regression
plt.figure(figsize=(10, 6))
plt.scatter(y_test, y_pred_linear, color='blue', label='Actual vs. Predicted',
    ->('Linear Regression'))
plt.plot(y_test, y_test, color='red', label='Ideal')
plt.xlabel('Actual Price')
plt.ylabel('Predicted Price')
plt.title('Linear Regression: Actual vs. Predicted Price')
plt.legend()
plt.show()
```

```
# Random Forest
plt.figure(figsize=(10, 6))
plt.scatter(y_test, y_pred_rf, color='green', label='Actual vs. Predicted Price (Random Forest)')
plt.plot(y_test, y_test, color='red', label='Ideal')
plt.xlabel('Actual Price')
plt.ylabel('Predicted Price')
plt.title('Random Forest: Actual vs. Predicted Price')
plt.legend()
plt.show()
```





```
[102]: print(predictions.head())
```

	Actual Price	Linear Regression	Predicted Price \
	2868	5.75	4.363241
	5924	10.08	11.481612
	3764	7.85	9.748524
	4144	2.40	5.007481
	2780	1.60	4.502399

	Random Forest	Predicted Price
	2868	4.1723
	5924	12.8293
	3764	8.5235
	4144	2.4140
	2780	3.1272

```
[103]: df = pd.read_csv("data/dataset.csv")
```

```
[104]: print(df.columns)
```

```
Index(['Unnamed: 0', 'Name', 'Location', 'Year', 'Kilometers_Driven',
       'Fuel_Type', 'Transmission', 'Owner_Type', 'Mileage', 'Engine', 'Power',
       'Seats', 'New_Price', 'Price'],
      dtype='object')
```

```
[105]: import pandas as pd
from sklearn.linear_model import LinearRegression
from sklearn.preprocessing import LabelEncoder
from sklearn.impute import SimpleImputer

# Step 1: Load the dataset
df = pd.read_csv('data/dataset.csv')

# Step 2: Prepare the feature and target variables
categorical_cols = ['Name', 'Location', 'Fuel_Type', 'Transmission',
                    'Owner_Type', 'New_Price']
numerical_cols = ['Year', 'Kilometers_Driven', 'Mileage', 'Engine', 'Power',
                  'Seats']

le = LabelEncoder()
df['Mileage'] = le.fit_transform(df['Mileage'].astype(str))
df['Engine'] = le.fit_transform(df['Engine'].astype(str))
df['Power'] = le.fit_transform(df['Power'].astype(str))
df.fillna(df.mean(), inplace=True)

X = pd.concat([pd.get_dummies(df[categorical_cols]), df[numerical_cols]],
              axis=1)
y = df['Price']

# Step 3: Create an instance of the linear regression model
model = LinearRegression()

# Step 4: Fit the model to the data
model.fit(X, y)

# Step 5: Generate predictions
y_pred = model.predict(X)

# Step 6: Add predictions to the original dataset
df['Prediction'] = y_pred

# Step 7: Write the updated dataset to a new CSV file
df.to_csv('data/dataset_with_predictions.csv', index=False)
```

```
[106]: import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
import seaborn as sns
import nltk
from nltk.corpus import stopwords
from collections import Counter
```

```
[ ]: 
```

```
[107]: df = pd.read_csv('data/dataset.csv')
df = df.dropna()
df = df.drop_duplicates()
```

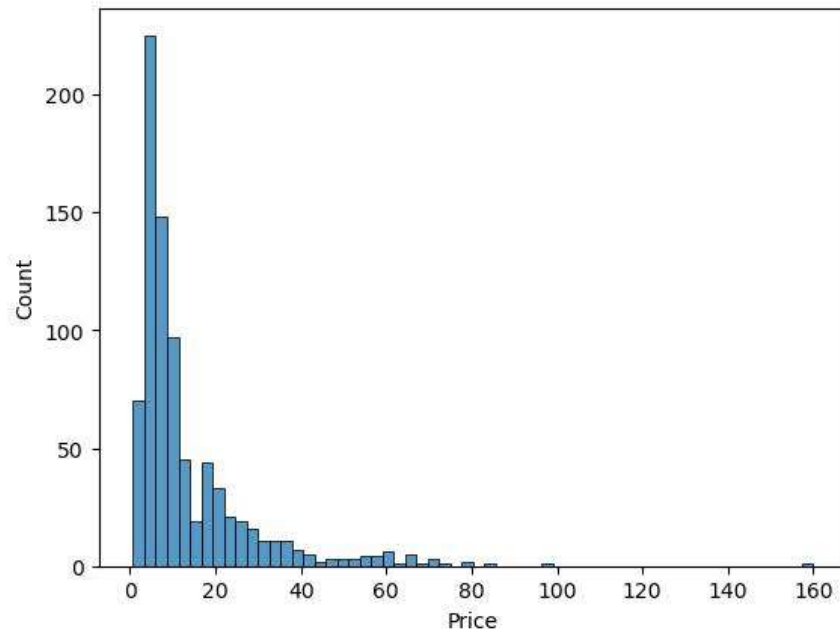
```
[108]: results = df.groupby('Name').agg({'Price': 'mean'})
print(results)
```

Name	Price
Audi A3 35 TDI Premium Plus	18.900000
Audi A4 30 TFSI Premium Plus	21.730000
Audi A4 35 TDI Premium Plus	20.850000
Audi A4 35 TDI Technology	34.000000
Audi A6 35 TDI Matrix	31.085000
...	...
Volkswagen Vento 1.5 TDI Trendline	3.250000
Volkswagen Vento 1.6 Comfortline	5.455000
Volkswagen Vento 1.6 Highline	5.976667
Volvo S60 D4 Momentum	23.250000
Volvo V40 D3 R Design	24.000000

```
[321 rows x 1 columns]
```

```
[109]: mean = np.mean(df['Price'])
median = np.median(df['Price'])
std_dev = np.std(df['Price'])
variance = np.var(df['Price'])
```

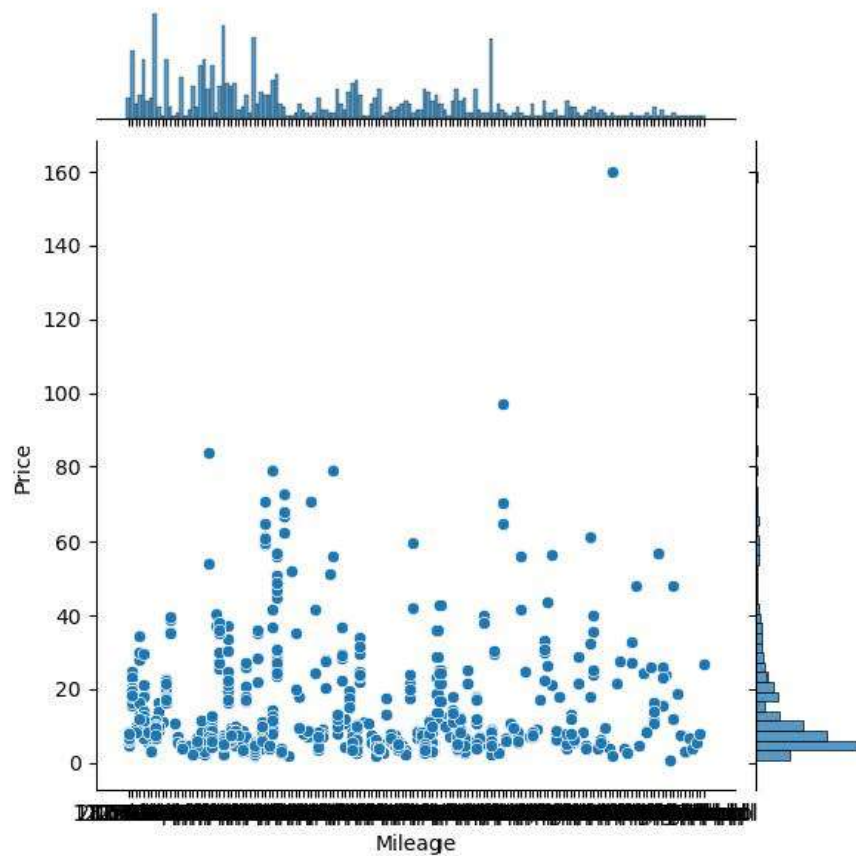
```
[110]: sns.histplot(df['Price'])
plt.show()
```



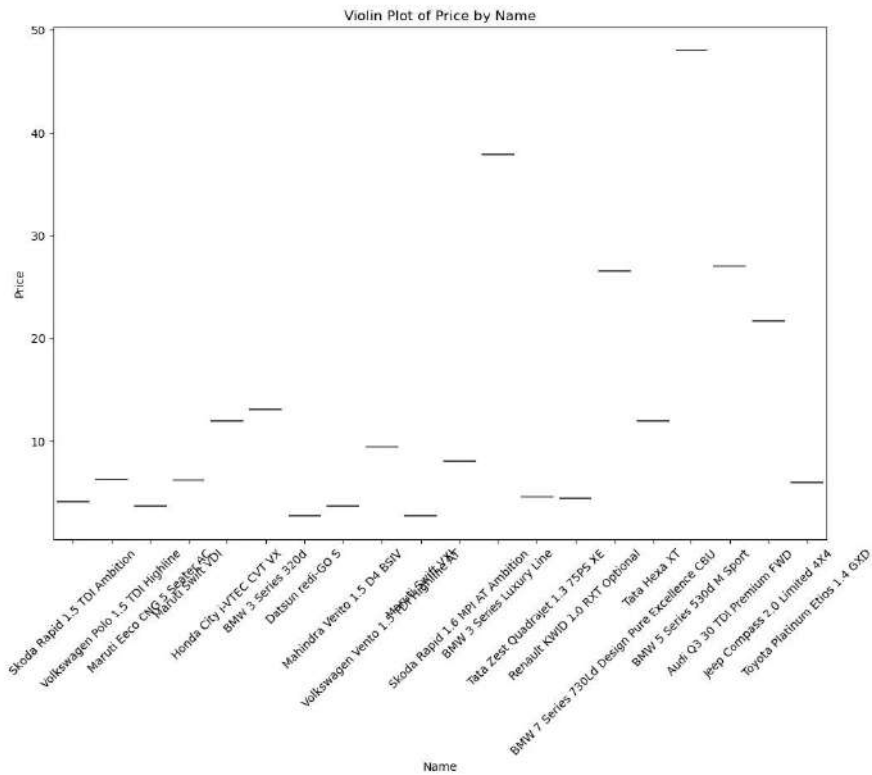
```
[111]: #for plot 1
sns.jointplot(x = df['Mileage'],y=df['Price'],kind = 'scatter')
```

```
[111]: <seaborn.axisgrid.JointGrid at 0x21713b821d0>
```





```
[112]: plt.figure(figsize=(12, 8))
limited_df = df.sample(n=20) # Subsetting 100 random entries from the dataframe
sns.violinplot(x='Name', y='Price', data=limited_df)
plt.xticks(rotation=45)
plt.title("Violin Plot of Price by Name")
plt.xlabel("Name")
plt.ylabel("Price")
plt.show()
```



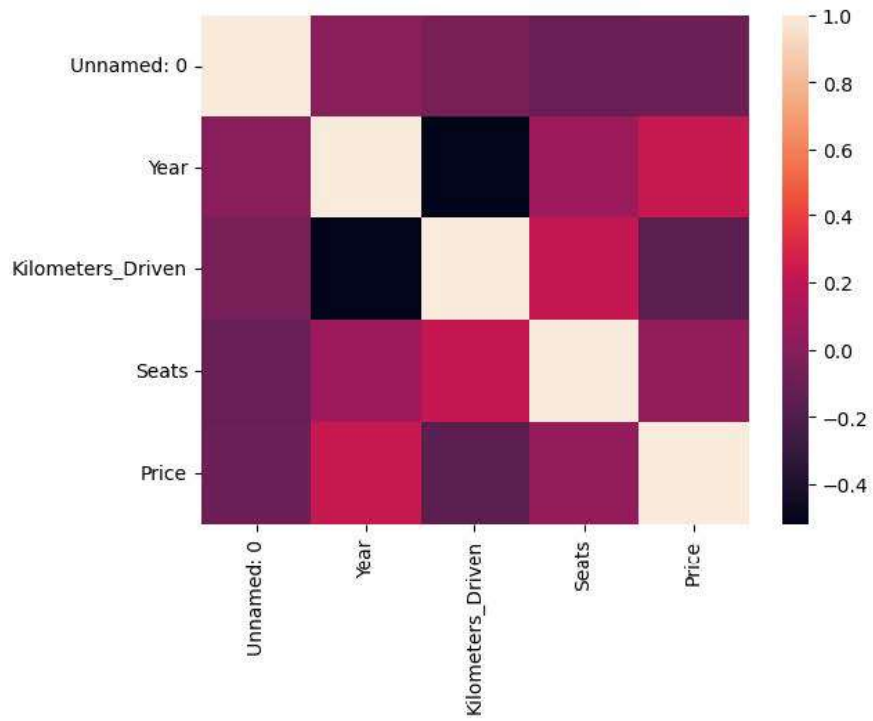
```
[113]: df.corr()
```

```
[113]:
```

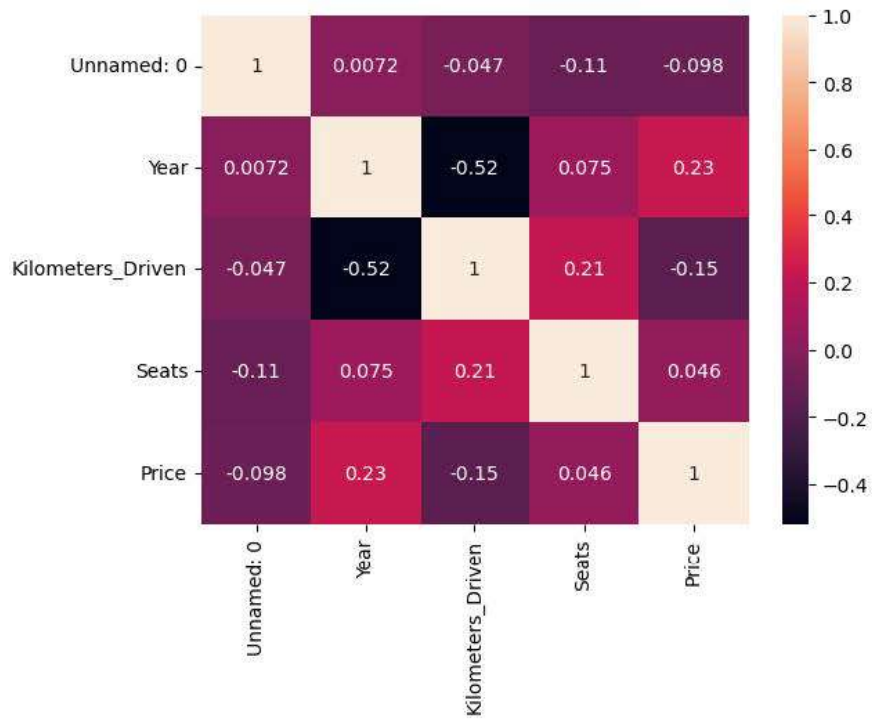
	Unnamed: 0	Year	Kilometers_Driven	Seats	Price
Unnamed: 0	1.000000	0.007175	-0.047169	-0.113226	-0.097758
Year	0.007175	1.000000	-0.520334	0.074964	0.227202
Kilometers_Driven	-0.047169	-0.520334	1.000000	0.212490	-0.154463
Seats	-0.113226	0.074964	0.212490	1.000000	0.046168
Price	-0.097758	0.227202	-0.154463	0.046168	1.000000

```
[114]: corr =df.corr()
sns.heatmap (corr)
```

```
[114]: <Axes: >
```

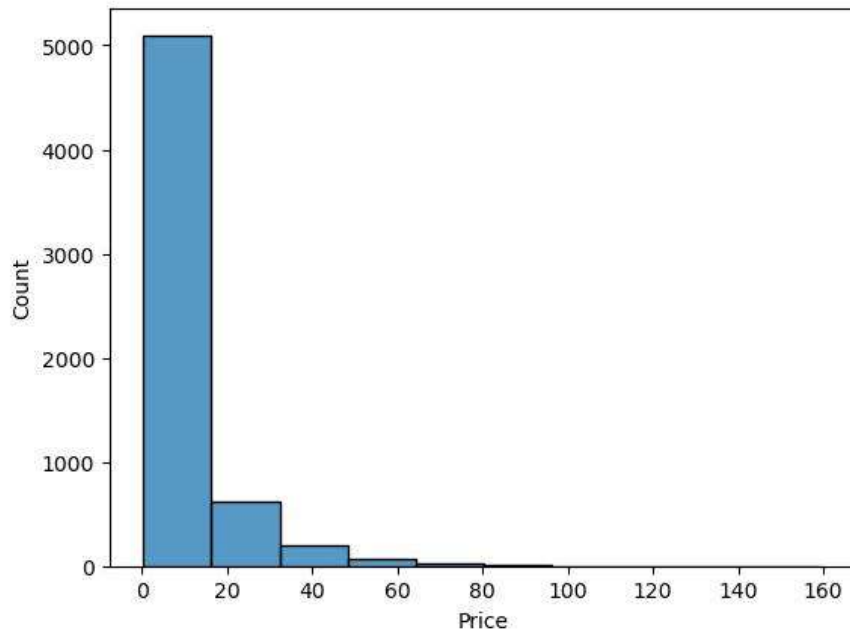


```
[115]: corr =df.corr()  
sns.heatmap (corr ,annot=True)  
[115]: <Axes: >
```



```
[116]: df = pd.read_csv('data\dataset.csv')
sns.histplot(df['Price'], kde=False, bins=10)

[116]: <Axes: xlabel='Price', ylabel='Count'>
```



```
[117]: # Confusion Matrix
from sklearn.metrics import confusion_matrix

# Assuming you have the predicted prices and actual prices
y_pred_linear = linearRegression.predict(X_test)
y_pred_rf = rf.predict(X_test)

# Convert the predicted prices to binary labels
y_pred_linear_labels = np.where(y_pred_linear > 0, 1, 0)
y_pred_rf_labels = np.where(y_pred_rf > 0, 1, 0)

# Convert the actual prices to binary labels
y_test_labels = np.where(y_test > 0, 1, 0)

# Create confusion matrices
cm_linear = confusion_matrix(y_test_labels, y_pred_linear_labels)
cm_rf = confusion_matrix(y_test_labels, y_pred_rf_labels)

print("Confusion Matrix - Linear Regression:")
print(cm_linear)
```

```
print("\nConfusion Matrix - Random Forest Regression:")  
print(cm_rf)
```

Confusion Matrix - Linear Regression:

```
[[ 0  0]  
 [161 1645]]
```

Confusion Matrix - Random Forest Regression:

```
[[1806]]
```

[ ]:

## CONCLUSION

The car price prediction project utilizes machine learning techniques, such as linear regression, decision trees, random forests, support vector regression, and neural networks, to accurately estimate the price of a car based on its features. By emphasizing data pre-processing, feature selection, model evaluation, and hyper parameter optimization, the project ensures high-quality training data and optimal model performance. The project offers benefits to both buyers and sellers in the automotive market, allowing buyers to make informed decisions and sellers to implement effective pricing strategies for maximum sales revenue.

# PROJECT REPORT ON

## “Bluetooth Chat Application Using Android Studio”

SUBMITTED TOWARDS THE  
PARTIAL FULFILLMENT OF THE REQUIREMENTS OF  
**BACHELOR OF ENGINEERING (TE Computer Engineering)**

**BY**

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Roll No:TEA18

**Under The Guidance of**  
Prof. Swapnil S. Chaudhari



“येथे बहुतांचे हित”

**MMIT**

“Towards Ubiquitous Computing Technology”  
**DEPARTMENT OF COMPUTER ENGINEERING**

Marathwada Mitra Mandal's  
Institute of Technology (MMIT)  
Lohgaon, Pune- 411 047  
(2020-21)





“येथे बहुतांचे हित”  
**MMIT**

“Techno-Social Excellence”  
Marathwada Mitra Mandal’s  
Institute of Technology (MMIT)  
Lohgaon, Pune- 411 047

“Towards Ubiquitous Computing Technology”  
**DEPARTMENT OF COMPUTER ENGINEERING**

## **CERTIFICATE**

This is to certify that the Project Entitled  
**“Bluetooth Chat Application Using Android Studio”**

Submitted by

Mayuri A.Thakare  
Sudha M.Panchal  
Vaishnavi.R.Khandave

Roll No: TEA68  
Roll No: TEA57  
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is a bonafide work carried out by students under the supervision of Prof. S. S. Chaudhari and it is submitted towards the partial fulfilment of the requirement of Bachelor of Engineering (TE Computer Engineering) Mini Project.

Prof. S. S. Chaudhari  
Internal Guide  
Dept. of Computer Engg.

Prof. Subhash G. Rathod  
H.O.D  
Dept. of Computer Engg.

## **ABSTRACT**

Bluetooth Chat Application using android studio is designed and implemented to chat person to person who are within Bluetooth range. The application does not require any Internet connection, the application works just with Bluetooth connectivity, users can send free message to their friends sitting over classroom, school playgrounds and festivals, when nearby, without a cellular connection or Wi-Fi. Moreover, the application is very easy to use. Bluetooth messaging is also great for making new friends in a library or chatting up someone in crowded places, because one can hook up with anyone who has a Bluetooth-enabled phone. In this project, we implemented an application on android operating system. The app is designed to be an easy-to-use Application with main goal of helping users to chat in crowded places without internet connection. On function of app are combined to provide the best Bluetooth chatting platform which will suit everyone.

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## INTRODUCTION

Nowadays, mobile phones are used everywhere and every time in our daily life ranging from communication, entertainment to health and wellness applications. Today we know very well that the use and the demand of Mobile Application Development are increasing and it inspires us to create user friendly and effective applications. There are various innovative programs designed that allow the companies to obtain new levels of achievements. Application users can get all types of information about the atmosphere, travels, tourism, and fresh hot news in their hand held mobile by smart mobile application. Android is an open source platform and provides all information and services to all without any license fees. It has the capacity of getting compatible with almost all browsers hence you can make it compatible. Quite a good number of platforms are available and are working for providing mobile solutions. Mobile applications are growing rapidly for both business owners trying to produce income, and companies utilizing apps for an interactive marketing device. The mobile applications have grown to be a much greater chance to generate income. The probabilities are limitless with mobile application development and they are the advantages. The mobile application development implies the development of apps which work as additional features in a mobile handheld device. These apps can be downloaded by the end user and can be used in different mobile platforms which are available in the market. These applications can also be found pre-installed in different devices too.

The Bluetooth Chat Application is a two way sending and receiving text chat from any device that is that is phone, tablets, computers by android operating system with Bluetooth transceivers capabilities. These devices are largely used in open and closed spaces; and everywhere as streets, squares, hotels and other places. The Bluetooth Chat Messenger does not require a GSM or Wi-Fi connection, all it needs is two Bluetooth compatible Android devices in range of about 50 feet of each other. The main aim of purpose application is to make it easy, user-friendly and automatic. The application creates a server then waits for another client to connect to it. It has a friendly graphical user interface (GUI) using well-proportioned and harmonious color within its interface. It is easy to use. It can also, besides exchanging text messages, send smiley and exchange files and allows more than two users to chat among each other.

### LITERATURE SURVEY

1) The purpose of this project is to learn the most important attributes to chat with nearby people in crowded places. The main objective of this application is to give an idea about how to allow 2-way text chat over bluetooth in android. The objectives of the paper are to deliver an Android application that should be easy to use, enjoyable and could be applied to learning purposes. The bluetooth chat application should allow a user to fill in his/her profile including his location using Google's maps API and save that user's profile. The application should allow a user to search for other available blue chat users; whether they chat before (prepared) or not. The application should allow users to chat with each other if they are in range of the user's device's Bluetooth adapter. The users should be able to share their profiles among each other. The application should allow the users to share and send files among each other.

2) Bluetooth Messenger: an Android Messenger app based on Bluetooth Connectivity The project discussed here is an Android messenger application which connects using Bluetooth. The main concepts discussed here are : I) Bluetooth connection between two or more android smart phones, whereby users can chat with each other ii) Bluetooth connection between a server and an android smart phone ,whereby the user can update and synchronise his/her chat records with the server from time to time. iii) Data structures used in storing and updating the data (messages) against respective usernames. iv) State machines and finite expressions used to achieve robustness, thereby delivering error free messages. This whole project has been designed using python programming language. This app doesn't require an internet connection rather uses the in-built Bluetooth facility in a phone. Hence it comes in handy for chargefree short distance communication between individuals within a certain range (30 or 150 ft, depending on the hardware).

### **OBJECTIVES OF SYSTEM**

The application creates a server then waits for another client to connect to it (i.e. Server situation); or ask another device to chat with it (i.e. Client situation). It has a friendly graphical user interface (GUI) using well-proportioned and harmonious color within its interface. It is easy to use. It can also, besides exchanging text messages, send smileys and exchange files and allow more than two users to chat among each other. It can save the chat devices names in order to save time searching for them. It can save chat's conversations history in database to make users able to browse through their past conversations. It also offers a social users' profiles option; it enables users to fill in their profile with their personal information and offer them to enable or disable exchanging this information with other users as a way of implementing and adding a "social" networking experience touch. The objectives of the application is to deliver an Android application that should be easy to use, enjoyable and could be applied to learning purposes. The bluetooth chat application should allow a user to fill in his/her profile including his location using Google's maps API and save that user's profile.

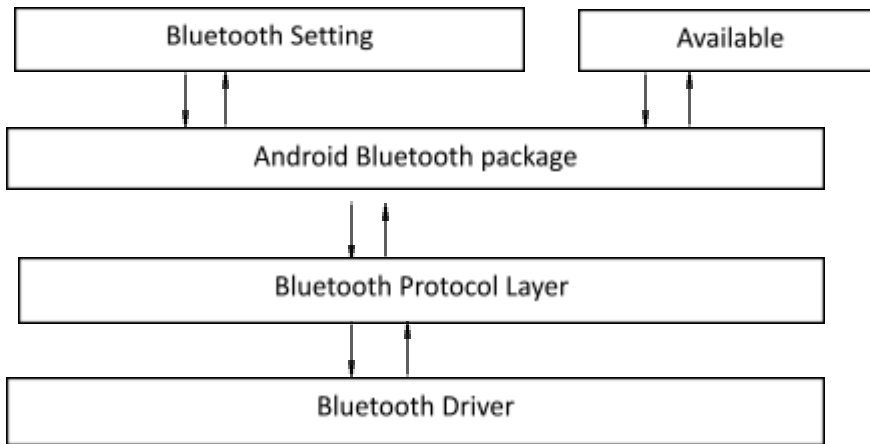
The application should allow a user to search for other available blue chat users; whether they chat before (prepared) or not. The application should allow users to chat with each other if they are in range of the user's device's Bluetooth adaptor. The users should be able to share their profiles among each other. The application should allow the users to share and send files among each other. The Bluetooth Chat Application should allow the user to fill his/her location and google map activity. The application should allow to be able to search other Bluetooth users.

### **PROBLEM STATEMENT**

To develop a Bluetooth chat app for daily use purpose. It will help user to chat with other user without cellular connection or wifi. The main purpose of this project is to deliver a useful Bluetooth chatting application that targets the wide spread Android operating system powered devices. The most important feature to be fulfilled is that application should share or exchange text messages among the Bluetooth application users and to present or offer this feature in an entertaining way to pull android's users likeness to the application through using the profile feature for every user showing his/her personal information



## SYSTEM ARCHITECTURE



First Bluetooth turn on and scans for device is visible to nearby devices while paired. Then Bluetooth chat in two android device text based message are transfer data, file and document etc.bluetooth chat app are used different user and easy to share information via Bluetooth. Associate means device is paired and available devices is show. Bluetooth setting is display all nearby device and limited of history, delete history and set sound or vibrate, notification are available. The application can only accessed with mobile user within range.

## IMPLEMENTATION

### 1. Requesting Bluetooth permissions

In order to use Bluetooth service, please add BLUETOOTH permission to your *AndroidManifest.xml*. Moreover, because we need to discover available devices nearby later, BLUETOOTH\_ADMIN permission should be required, too:

```
<uses-permission android:name="android.permission.BLUETOOTH_ADMIN"/>
<uses-permission android:name="android.permission.BLUETOOTH_ADMIN"/>
```

### 2. Checking if device supports Bluetooth

Now to check whether Bluetooth is supported on device or not, we use object of BluetoothAdapter class. If getDefaultAdapter() return null, your device not supports Bluetooth. This is the "check code":

```
BluetoothAdapter bluetoothAdapter = BluetoothAdapter.getDefaultAdapter();
if (bluetoothAdapter == null) {
    Toast.makeText(this, "Bluetooth is not available!",
        Toast.LENGTH_SHORT).show();
    finish(); //automatic close app if Bluetooth service is not available!
}
```

### 3. Check if Bluetooth is Enabled

The 2nd important works is check if your device is enabled Bluetooth. If not, request to turn it on:

```
if (!bluetoothAdapter.isEnabled()) { Intent enableIntent = new
Intent(BluetoothAdapter.ACTION_REQUEST_ENABLE);

startActivityForResult(enableIntent, REQUEST_ENABLE_BLUETOOTH);
}
```

You should put this code in `onStart()` to ensure that your app always check the connection when it launched! The "enabling request" dialog may be like this:

### 4. Discovering Bluetooth devices:

In android, available devices is not discoverable by default. To scanning them, use `startDiscovery()` method of `BluetoothAdapter` class. The activity which starts scanning must register a `BroadCastReceiver` with `BluetoothDevice.ACTION_FOUND` action. After completing discovery, system will broadcast `BluetoothDevice.ACTION_FOUND` Intent. This Intent contains extra fields `EXTRA_DEVICE` and `EXTRA_CLASS`, representing a `BluetoothDevice` and a `BluetoothClass`, respectively. In this application, I will add detected devices to an `ArrayAdapter` and show by `ListView`:

```
if (bluetoothAdapter.isDiscovering()) {
    bluetoothAdapter.cancelDiscovery();
}
bluetoothAdapter.startDiscovery();

// Register for broadcasts when a device is discovered
IntentFilter filter = new IntentFilter(BluetoothDevice.ACTION_FOUND);
registerReceiver(discoveryFinishReceiver, filter);

// Register for broadcasts when discovery has finished
filter = new
IntentFilter(BluetoothAdapter.ACTION_DISCOVERY_FINISHED);
registerReceiver(discoveryFinishReceiver, filter);
```

# Bluetooth Chat Application

---

The BroadcastReceiver variable seem like this:

```
private final BroadcastReceiver discoveryFinishReceiver = new BroadcastReceiver() {
    @Override
    public void onReceive(Context context, Intent intent) {
        String action = intent.getAction();

        if (BluetoothDevice.ACTION_FOUND.equals(action)) {
            BluetoothDevice device =
intent.getParcelableExtra(BluetoothDevice.EXTRA_DEVICE);
            if (device.getBondState() != BluetoothDevice.BOND_BONDED) {
                discoveredDevicesAdapter.add(device.getName() + "\n" + device.getAddress());
            }
        } else if (BluetoothAdapter.ACTION_DISCOVERY_FINISHED.equals(action)) {
            if (discoveredDevicesAdapter.getCount() == 0) {
                discoveredDevicesAdapter.add(getString(R.string.none_found));
            }
        }
    }
};
```

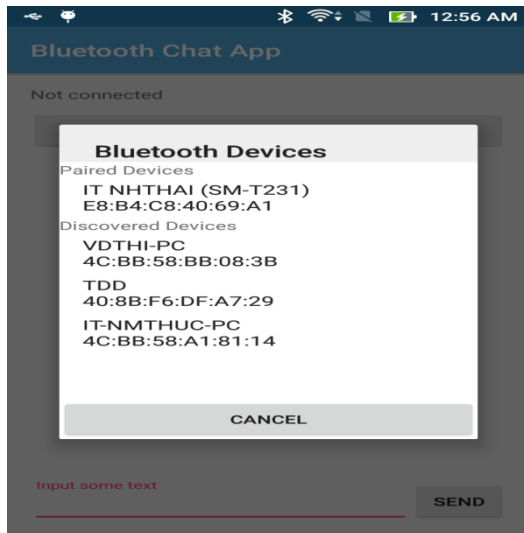
## 5. Listing paired devices:

Moreover, your devices can be connected to some other devices before, so you can listing them by call `getBondedDevices()`:

```
bluetoothAdapter = BluetoothAdapter.getDefaultAdapter();
Set<BluetoothDevice> pairedDevices = bluetoothAdapter.getBondedDevices();

// If there are paired devices, add each one to the ArrayAdapter
if (pairedDevices.size() > 0) {
    for (BluetoothDevice device : pairedDevices) {
        pairedDevicesAdapter.add(device.getName() + "\n" + device.getAddress());
    }
} else {
    pairedDevicesAdapter.add(getString(R.string.none_paired));
}
```

In this application, I show a Dialog which contains 2 ListViews of paired devices and discovered devices and this result look like this:



## 6. Connecting to a device:

To connect two devices, we must implement server side and client side mechanism. One device shall open the server socket and another should initiate the connection (the remain device is a client device).

With connection as server:

Initializing an instance of `BluetoothServerSocket` by calling the `listenUsingRfcommWithServiceRecord()` method.

- Listening for connection requests by calling `accept()`
- Release server socket by calling `close()`

```
private class AcceptThread extends Thread {
    private final BluetoothServerSocket serverSocket;

    public AcceptThread() {
        BluetoothServerSocket tmp = null;
        try {
            tmp = bluetoothAdapter.listenUsingInsecureRfcommWithServiceRecord(APP_NAME,
MY_UUID);
        } catch (IOException ex) {
            ex.printStackTrace();
        }
        serverSocket = tmp;
    }

    public void run() {
        setName("AcceptThread");
    }
}
```

## Bluetooth Chat Application

---

```
BluetoothSocket socket;
while (state != STATE_CONNECTED) {
    try {
        socket = serverSocket.accept();
    } catch (IOException e) {
        break;
    }
}

// If a connection was accepted
if (socket != null) {
    synchronized (ChatController.this) {
        switch (state) {
            case STATE_LISTEN:
            case STATE_CONNECTING:
                // start the connected thread.
                connected(socket, socket.getRemoteDevice());
                break;
            case STATE_NONE:
            case STATE_CONNECTED:
                // Either not ready or already connected. Terminate
                // new socket.
                try {
                    socket.close();
                } catch (IOException e) {
                }
                break;
        }
    }
}
}
```

## 7. Read and write data (text messages)

After establishing connection successfully, we'll do the most important work of a chat application: send/receive text messages. Now, each device has a connected BluetoothSocket, both of them can read and write data to the streams using `read(byte[])` and `write(byte[])`:

```
private class ReadWriteThread extends Thread {
    private final BluetoothSocket bluetoothSocket;
```

## Bluetooth Chat Application

---

```
private final InputStream inputStream;
private final OutputStream outputStream;

public ReadWriteThread(BluetoothSocket socket) {
    this.bluetoothSocket = socket;
    InputStream tmpIn = null;
    OutputStream tmpOut = null;

    try {
        tmpIn = socket.getInputStream();
        tmpOut = socket.getOutputStream();
    } catch (IOException e) {
    }
    inputStream = tmpIn;
    outputStream = tmpOut;
}

public void run() {
    byte[] buffer = new byte[1024];
    int bytes;

    // Keep listening to the InputStream
    while (true) {
        try {
            // Read from the InputStream
            bytes = inputStream.read(buffer);
            // Send the obtained bytes to the UI Activity
            handler.obtainMessage(MainActivity.MESSAGE_READ, bytes, -1,
                buffer).sendToTarget();
        } catch (IOException e) {
            connectionLost();
            // Start the service over to restart listening mode
            ChatController.this.start();
            break;
        }
    }
}

// write to OutputStream

public void write(byte[] buffer)

try {

    outputStream.write(buffer);

    handler.obtainMessage(MainActivity.MESSAGE_WRITE, -1, -1,
        buffer).sendToTarget();

    } catch (IOException e) {

    }

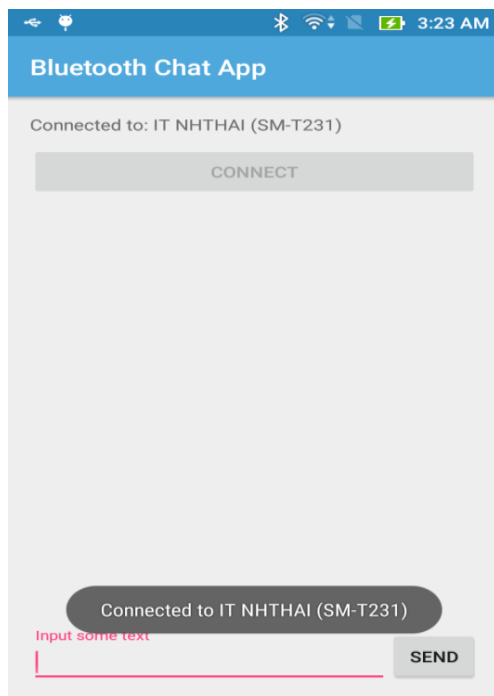
}
```

# Bluetooth Chat Application

---

```
public void cancel() {  
    try {  
        bluetoothSocket.close();  
    } catch (IOException e) {  
        e.printStackTrace();  
    }  
}  
}  
}
```

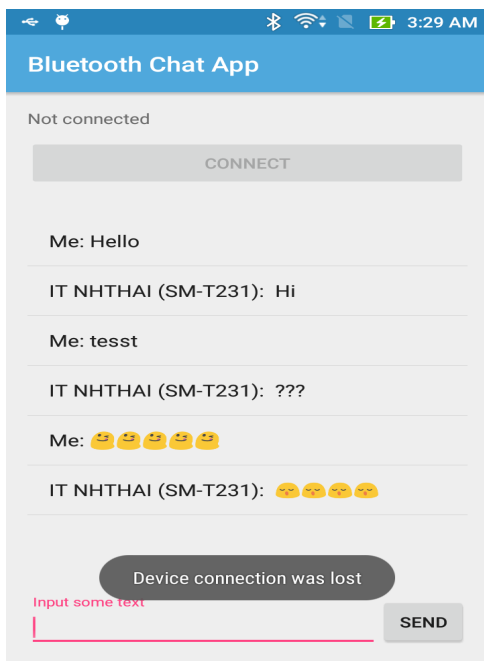
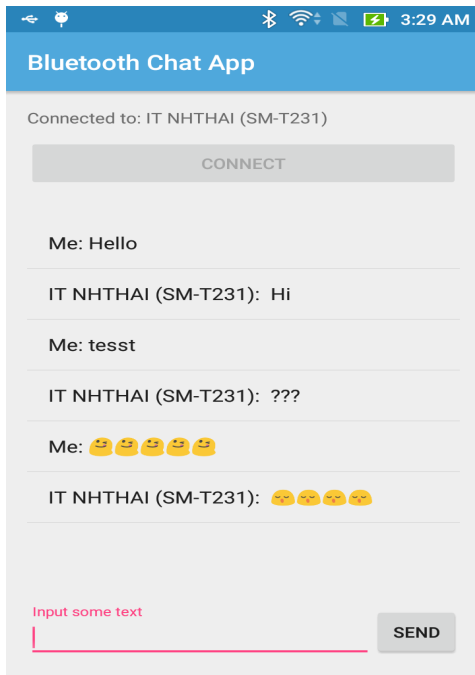
## Application output:





# Bluetooth Chat Application

---



### ALGORITHM USED

- i. It first checks whether the Bluetooth of the devices is in ON/OFF mode.
- ii. If the Bluetooth of the devices is in OFF mode then it makes the request to enable the Bluetooth.
- iii. Perform scanning of the devices which are in their range.
- iv. Display the list of all the devices in the range.
- v. Select the device with which one wants to do the chat. vi. If the device connects then set up the chat.

### Requesting Device (Client)

1. Launches Bluetooth Messenger.
2. Inputs its name.
3. Chooses to be connected to a Device.
4. Chooses not to be in Listen Mode.
5. selects the device it wants to chat with from 'List of nearby bluetooth device'.
6. Sends its own identity from udetails.txt on server phone's request.
7. Receives server's identity.
8. Inputs and exchanges Messages.
9. All messages exchanged gets stored in 'chat.txt'.

### **Requested Device (Server)**

1. Launches Bluetooth Messenger.
2. Inputs its name.
3. Chooses to be connected to a Device.
4. Chooses to be in Listen Mode and waits.
5. When a client tries to connect it asks for identity.
6. Receives client identity and saves it.
7. Sends its identity to client.

## **REQUIREMENT SPECIFICATION (Hardware/Software)**

### **HARDWARE REQUIREMENTS (Minimum Requirement)**

**Minimum RAM :- 3GB**

**Hard Disk :- 100 GB**

**Processor :- Intel i3 or above**

### **SOFTWARE REQUIREMENTS (Minimum Requirement)**

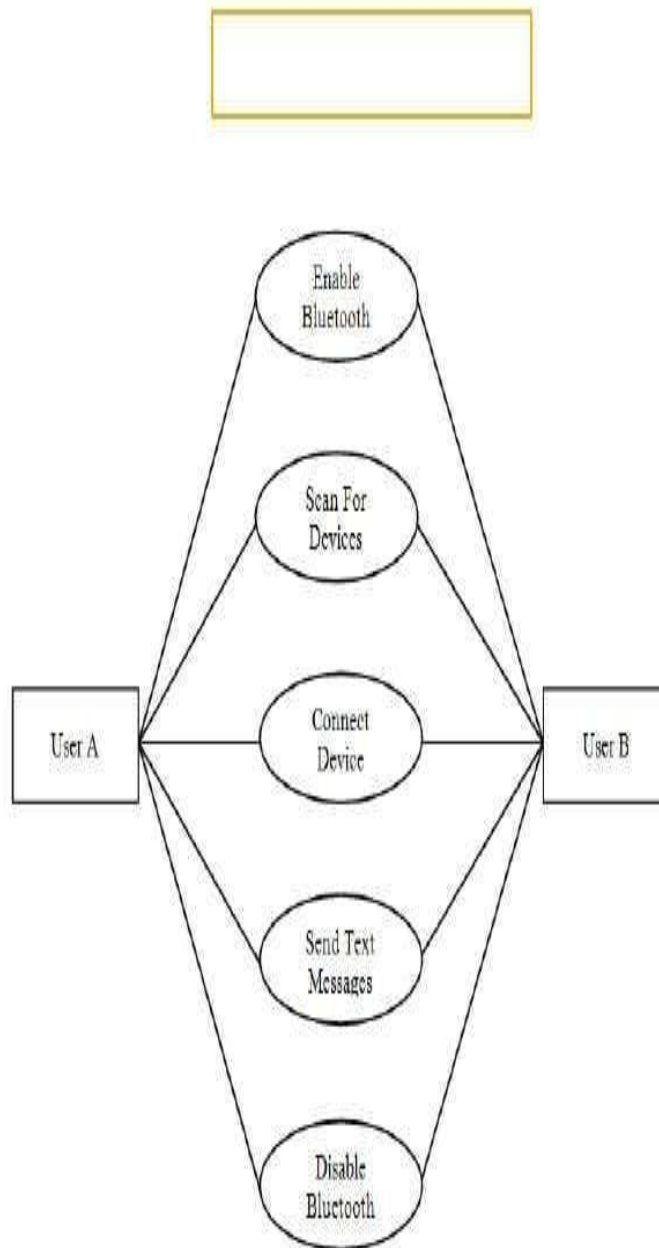
**Operating system : Windows 7**

**Software : Android Studio**

**Front-End Languages : JAVA**

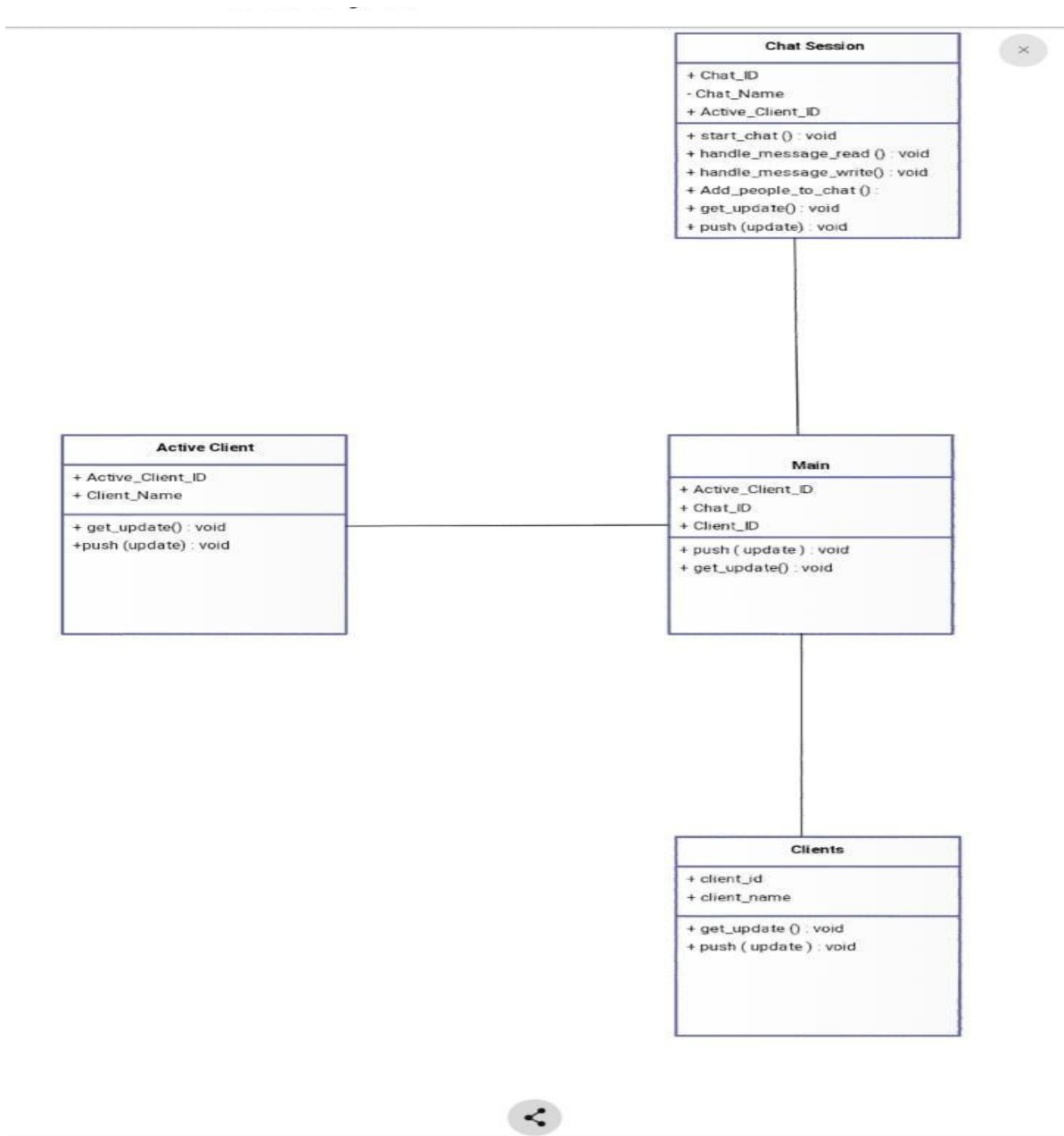
**Back-End : SQLITE**

## DATA FLOW DIAGRAM

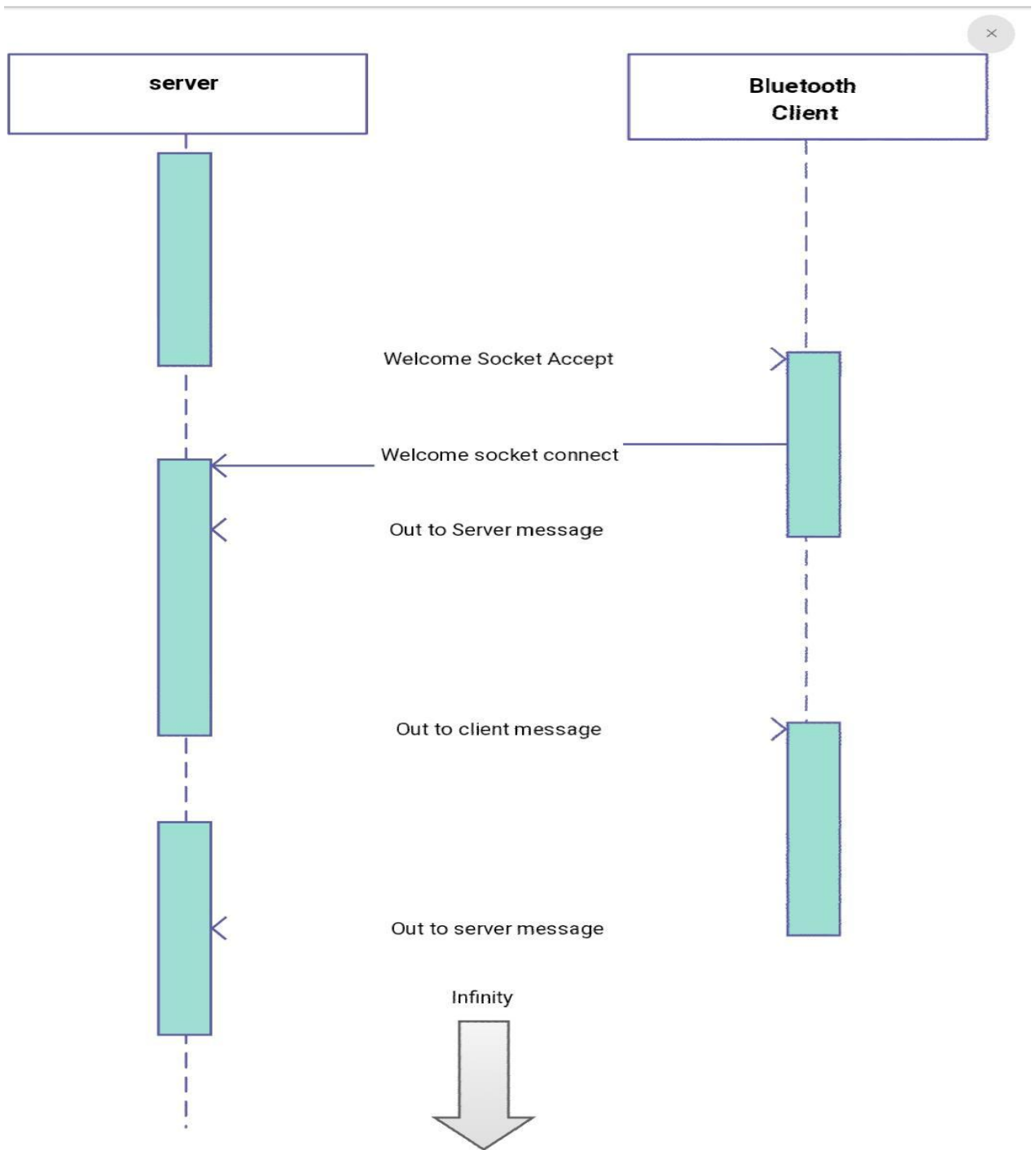


## UML DIAGRAM-CLASS,SEQUENCE,ACTIVITY

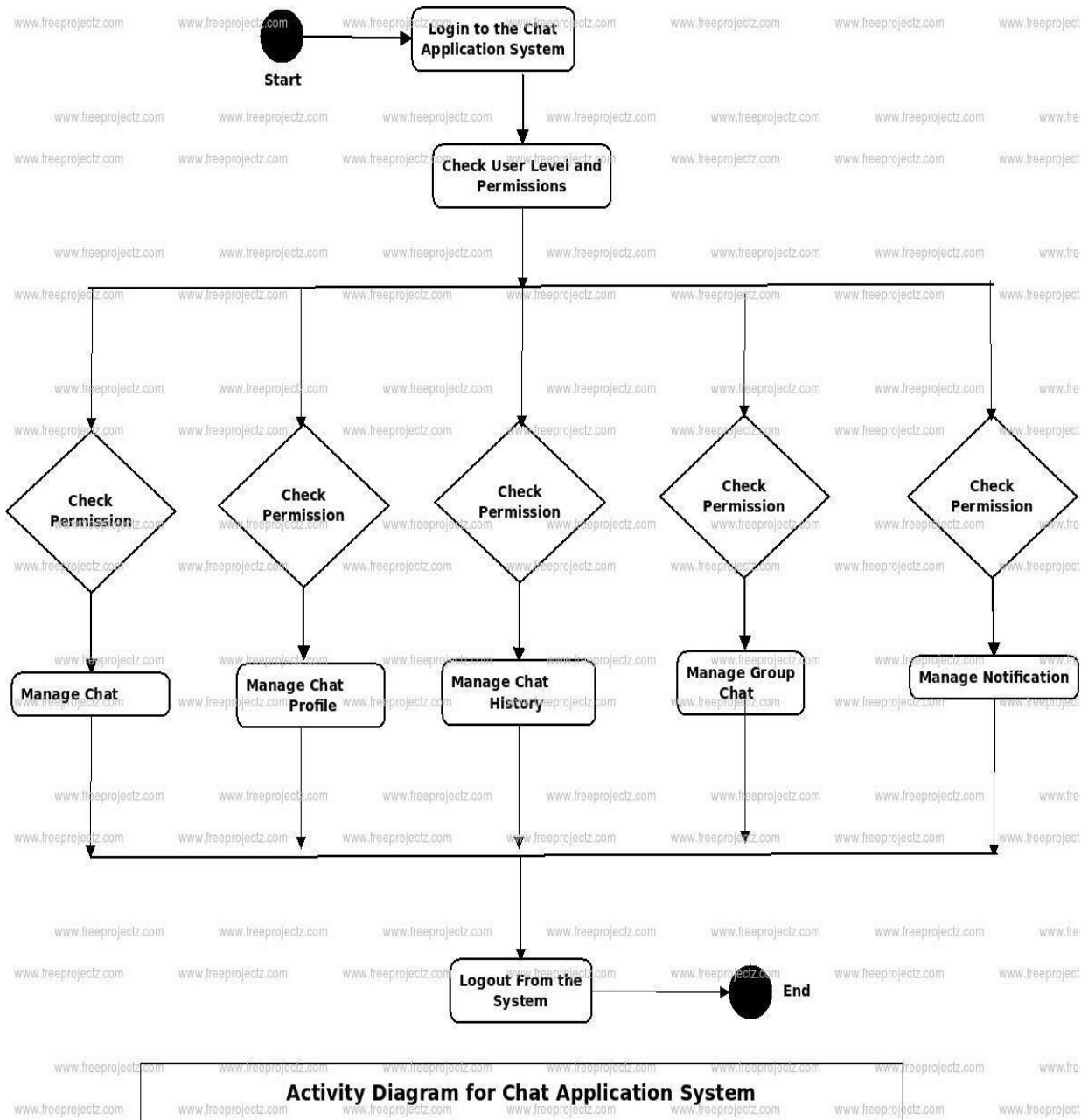
### 1) Class Diagram:



## Sequence Diagram:



## 3)Activity Diagram:



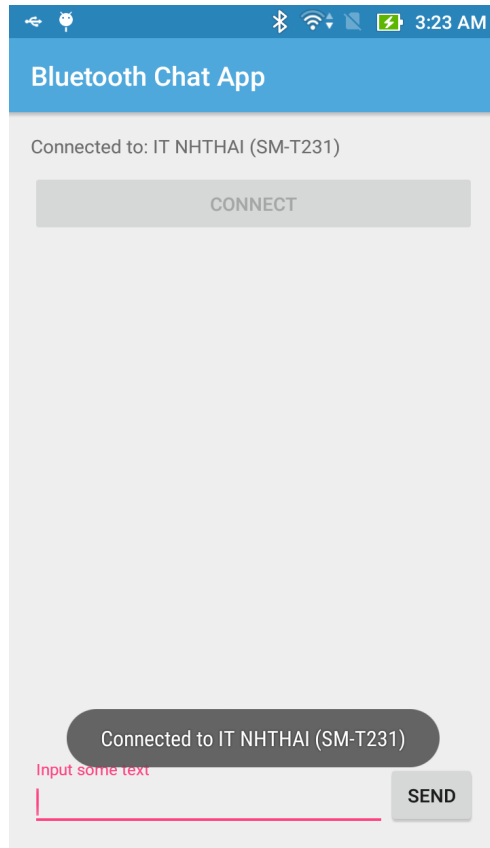


### SOFTWARE TESTING

1. Verify there are minimum two Users should be available for the chat.
2. Verify there are minimum two devices (Desktop, Laptop, Phones etc) should be available.
3. Verify that Chat application has been installed in two devices at least.
4. Verify that Chat application should be launch or evoke.
5. Verify that any Medium like Internet, Wifi, Bluetooth, Public Switched Telephone Network, W-Lan Network, Lan Network etc. should be available for the Chat functionality.

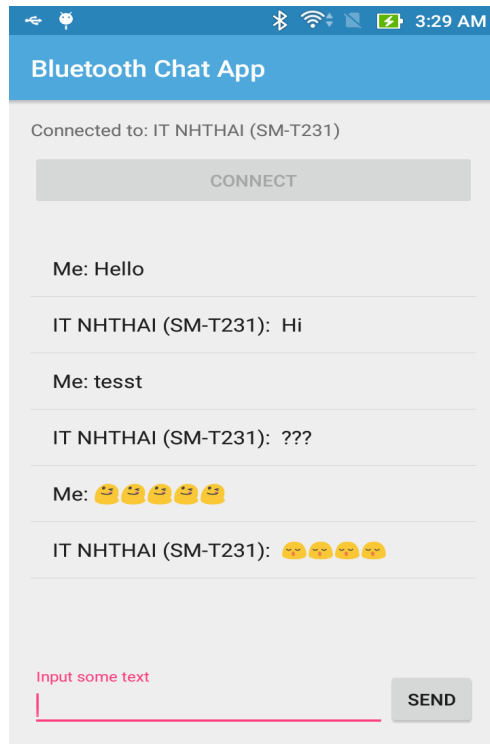
Test Case	Functionality	Status
Fill in profile	Adds a social touch to the application.	yes
Save profile	Save the user's profile to be then exchanged with other users	yes
Scan for users	Determines there are Bluetooth chat application available for chatting	yes
Accept Chatting Request	Accept incoming chat request and start text messaging.	yes
Exchange text messages	Send and exchange text messages among application's users Yes Send and exchange text messages among application's users Yes Send and exchange text messages among application users	yes
Exchange files	Send and exchange files among application users	yes

## SNAPSHOT OF PROJECT



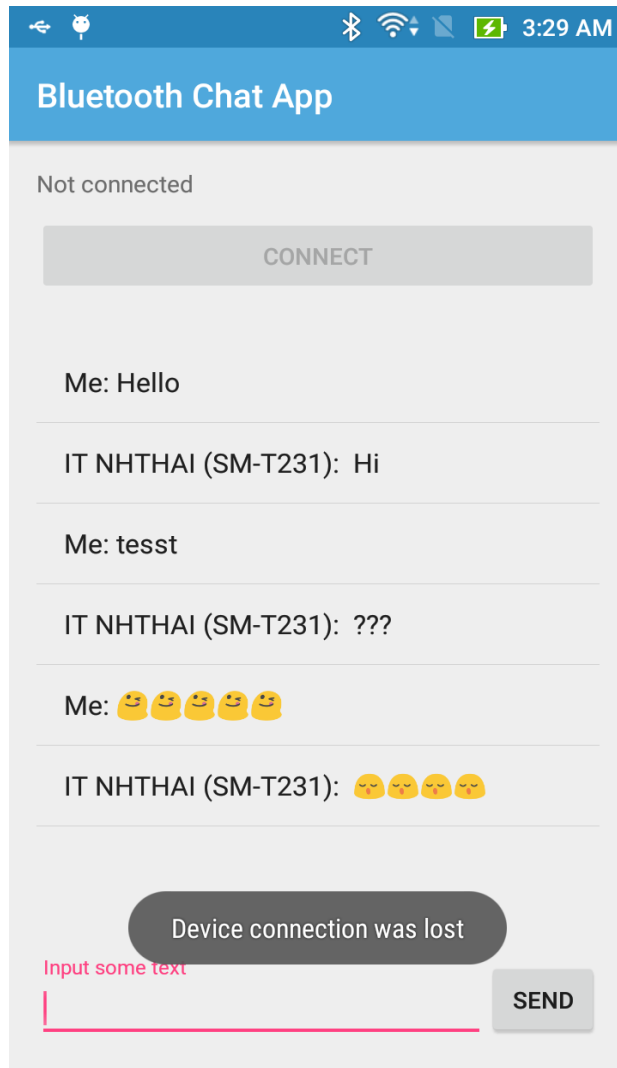
# Bluetooth Chat Application

---



# Bluetooth Chat Application

---



### **RESULT**

Hence, after going through the design and architecture of android as well as Bluetooth we can conclude that the implementation of Bluetooth chat application can be done easily which can be prove to be very useful to the android users. Bluetooth device is on and scan for device. List of device is available, select any one device Paired with discoverable device and connection is secured. Start chatting and share file, picture and document

### **FUTURE SCOPE**

1. Enhancing security by encryption.
2. Improving the range of Bluetooth.
3. Improving the speed of communication.
4. Extending the Frequency Band.
5. Implemented could be enhanced to handle multiple Devices connected at the same period.
6. Also other communication applications like Audio, video calls and signal could be built on the top of this application to experience mobile communication in any situation.
7. Also the GSM service provider based identity of Bluetooth device (i.e. Device name) could be replaced with other customized identity in conjunction with other device specific identity

### CONCLUSION

In our project Bluetooth chatting is an innovative approach to the mobile world. This application use of Bluetooth terms of chatting. Means persons can chat via Bluetooth Process for Offline. Starts the application and search the Bluetooth device, then devices is works to response the other Bluetooth device. Bluetooth can offer fast and secure access to wireless connectivity all over the world. Bluetooth chat are transmitting message from one mobile to another mobile phone. The main objective of the android app using Message transfer via Bluetooth. Hence, after going through the design and architecture of android as well as Bluetooth we can conclude that the implementation of Bluetooth chat application can be done easily which can be prove to be very useful to the android users.

### REFERENCES

- [1]. Bluetooth Chat Application: BluezAishwarya S Bote, Nitish Ghare, Pravin Kumar Rahurkar, Mandar Latkar
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## Bluetooth Chat Application

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**A PROJECT REPORT ON**

**“E-Commerce(Estore)App”**

SUBMITTED TOWARDS THE  
PARTIAL FULFILLMENT OF THE REQUIREMENTS OF  
**BACHELOR OF ENGINEERING (TE Computer Engineering)**

**BY**

Maloji Raje Bhosale  
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PRN No: 71916941M  
PRN No: 71916939K

**Under The Guidance of**  
Prof. Swapnil S. Chaudhari



**“येथे बहुतांचे हित”**  
**MMIT**

**“Towards Ubiquitous Computing Technology”**  
**DEPARTMENT OF COMPUTER ENGINEERING**  
Marathwada Mitra Mandal's  
Institute of Technology (MMIT)  
Lohgaon, Pune- 411 047  
(2020-21)



“येथे बहुतांचे हित”  
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Institute of Technology (MMIT)  
Lohgaon, Pune- 411 047

“Towards Ubiquitous Computing Technology”  
**DEPARTMENT OF COMPUTER ENGINEERING**

## **CERTIFICATE**

This is to certify that the Project Entitled  
**“E-Commerce(Estore)App”**

Submitted by  
**BY**

Maloji Raje Bhosale  
Shriyog Chavan  
Rubal Kuntawar  
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is a bonafide work carried out by students under the supervision of Prof. S. S. Chaudhari and it is submitted towards the partial fulfilment of the requirement of Bachelor of Engineering (TE Computer Engineering) Mini Project.

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## **Abstract**

**“E-Commerce(Estore App)”** is designed and implemented to help people with their shopping of electronic goods (Smartphones, Laptops, TV). Here users have to create their account. Nowadays there are lots of problems when it comes to buying these resources from different shop owners. One of them is faulty goods but this app helps you in buying these electronic goods from trusted

shop owners. The people will be provided goods with reasonable prices. People can buy different types of goods like Refrigerator, Different models of cellphones, Tv, Laptops, etc. It also provides people with coupons. The app is designed to be easy to use with a main goal of helping users to buy different materials. Here users will be given an option “Deals of Day” where they will be provided with different kinds of offers. People can also check the reviews before buying it. Users will also be given different kinds of rewards like 20% cashback. All functions are combined to provide users with

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## 1. INTRODUCTION

- In day to day life we need to buy lots of goods or products from shops. It may be electronics items like smartphones or household items like refrigerator, etc. Nowadays it is really hard to get some time to go out and get them by ourselves due to busy life style or lots of work. In order to solve this B2C (Business to consumer) E commerce app is started . Using this app we can buy goods or products just by visiting the website and ordering the item by making online payments.

This existing system of buying goods has several disadvantages. It requires lots of time to travel to the particular shop to buy the goods. Since everyone is leading busy life nowadays time means a lot to everyone. Also there are expenses for travelling from house to shop. More over the shop where we would like to buy some thing may not be open 24\*7\*365 . Hence we have to adjust our time with shopkeeper's time or vendors time.

In order to overcome this we have E commerce solution i.e one place where we can get all required goods/products online. The proposed system helps in building a apk to buy goods. Purchasing of goods online user can choose different products based on categories, online payments, delivery services and hence covering the disadvantages of the existing system and making buying easier and helping the users to reach wider market. The main motive of the application is to replace the old methods of buying goods. As of 2017 the android has 2 billion users and it said to increase up to 4 billion by 2021.

- To design this project, smartphone with android system are chosen.
- The Application is compatible with android version starting from



## E-Commerce (Estore) App

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- Estore app deals with the buying of different kind of products for user. Our Estore app allows user to shop online to collect items in a virtual shopping cart over multiple products without losing the items ordered by them. Our cart keeps the track of what the user has ordered with a UID(User ID).
- It allows the user to put different products which he/she wish to buy in Wishlist , which he/she can buy whenever they want. It also gives users different kind of coupons like 20% cashback for product prizes ranging from 500-3000 or discount of 20% for product prizes between 500-3000.

### 2. LITRATURE SURVEY

The Current Literature on consumer online purchasing decisions has mainly concentrated on identifying the factors which affect the willingness of consumer to engage in Internet shopping. In the domain of consumer behavior research, there are general models of buying behavior that depict the process which consumers use in making a purchase decision. These behavior are very important to marketers as they have the ability to explain and predict consumers purchase behavior.

The classic consumer purchasing theory can be characterized as a continuum extending from routine problem solving behaviors through to limited problem solving behaviors and then towards extensive problem-solving behaviors {Schiffman et al,2001}.

The traditional framework for analysis of the buyer decisions process is a five step model . Given the model, the consumer progress firstly from a state of felt derivation to the search for information on problem solutions.

Development of Android Based Mobile app Prestashop eCommerce Shopping Cart(ALC) , In this paper the basic problem of online shopping faced by people is defined. Based on this review a new way of method is proposed and used by different online shopping apps{Swapnil. S. Jagtap,2012}.

n.d.Mastering Firebase for Android Development : Build real-time, scalable and cloud-enabled android apps with firebase. s.I.:s.n In this paper the knowledge and information regarding real time android apps using firebase is given{ S,A .K , May 2017}.

Consumer decision making models within discipline of consumer science: a critical approach, In this paper the consumer behaviour :the style and process

of consuming and processing ,collecting and disposing of consumer product and services including the resultant change of feelings moods and attitudes towards the product and services are explained{ Alet C Erasmus, Elizabeth Boshoff and CG Rousseau,2001}.

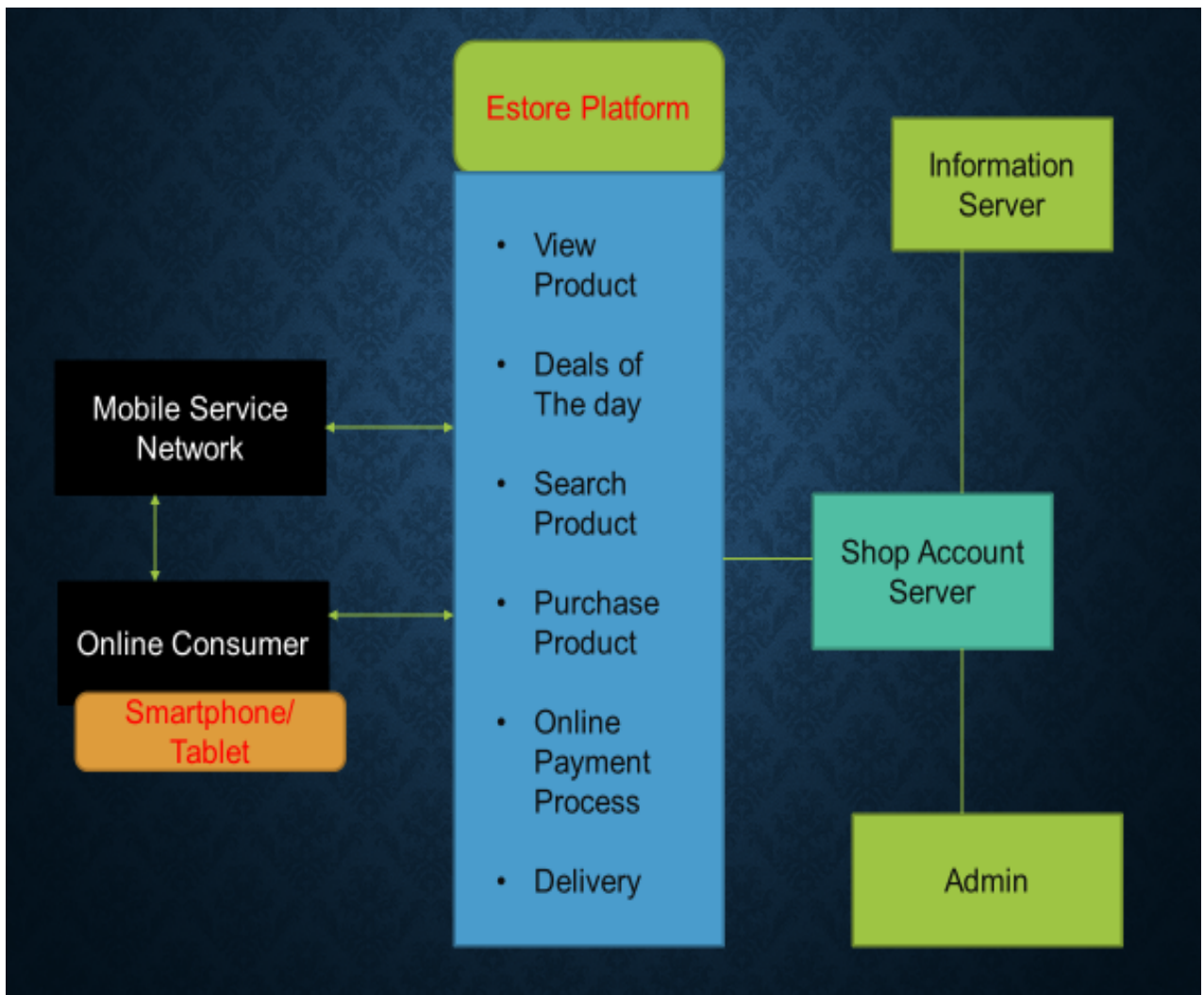
### 3. OBJECTIVES OF SYSTEM

- The project objective is to deliver the online shopping application into android platform.
- This project is an attempt to provide the advantages of online shopping to customers of real shop.
- It helps buying the products in the shop anywhere through internet by using an android device.
- The purpose of this project is to give user comfort at their own home , without having to step out of the door .
- We tend to give high quality products at a lower price.
- We cannot go to every shop for best products but this app does it for you by selecting the best sellers with good quality products

### **4. PROBLEM STATEMENT**

To develop a E commerce app for buying electronics products. The project provides the software for ONLINE SHOPPING. The purpose of this project is to provide an easy shopping facility online. It facilitates the user to buy their desired products at cheap prize compared to other shops.

## 5. SYSTEM ARCHITECTURE



**Fig. System Architecture**

### 6. IMPLEMENTATION

There will be a login option at the starting of app.

Login

- Username :-Kimi
- Password :-kimi

**Java files present**

**ui folder**

- CartAdapter.java
- CartItemModel.java
- CategoryActivity.java
- CategoryAdapter.java
- CategoryModel.java
- DeliveryActivity.java
- GridProductLayoutAdapter.java
- HomeFragment.java
- HomePageAdapter.java
- HomePageModel.java
- HorizontalProductScrollAdapter.java
- HorizontalProductScrollModel.java
- MainActivity.java
- MainActivity2.java
- MyAccountFragment.java
- MyOrderAdapter.java

- MyCartFragment.java
- MyRewardFragment.java
- ProductImageAdapter.java

### Layout folder (XML files)

- cart\_activtity.xml
- activity\_register.xml
- activity\_main2.xml
- app\_bar\_main.xml
- cart\_item\_layout.xml
- category\_item.xml
- fragment\_home.xml
- content\_main.xml
- fragment\_my\_cart.xml
- fragment\_my\_reward.xml
- fragment\_gallery.xml
- fragment\_my\_account.xml
- fragment\_reset\_password.xml
- my\_addresses\_layout.xml
- my\_order\_item\_layout.xml
- nav\_header\_main.xml
- order\_detail\_layout.xml

### Build.grandle file

```
apply plugin: 'com.android.application'
```

```
android {
```

```
compileSdkVersion
```

## E-Commerce (Estore) App

---

```
defaultConfig {  
  
    applicationId "com.example.estimateapp"  
  
    minSdkVersion 21  
  
    targetSdkVersion 30  
  
}  
  
buildTypes {  
  
    release {  
  
        minifyEnabled false  
  
        proguardFiles  
            getDefaultProguardFile('proguard-android.txt'),  
            'proguard-rules.txt'  
  
    }  
  
}  
  
dependencies {  
  
    implementation  
        platform('com.google.firebase:firebase-bom:26.0.0')  
    implementation  
        'com.google.firebase:firebase-analytics'  
    implementation 'com.google.firebase:firebase-auth'  
    implementation  
        'com.google.firebase:firebase-firestore'  
    implementation 'de.hdodenhof:circleimageview:3.1.0'  
}
```



### 7. ALGORITHM USED

**Step 1:** Sign up using Email ID, Full Name, Password, Confirm Password.

**Step 2:** Login Using Email ID and Password.

**Step 3:** View Deals of the day and different product.

**Step 4:** Search product which user want to buy using search bar.

**Step 5:** Select the product you want to buy.

**Step 6:** Add the product to the cart.

**Step 7:** Put your Address Details

**Step 8:** Payment(Cash on delivery or online payment)

## **8. REQUIREMENT SPECIFICATION**

### **HARDWARE REQUIREMENTS (Minimum Requirement)**

**Minimum RAM :-** 3GB

**Hard Disk :-** 100 GB

**Processor :-** Intel i3 or above

### **SOFTWARE REQUIREMENTS (Minimum Requirement)**

**Operating system :** Windows 7

**Software :** Android Studio

**Front-End Languages :** JAVA , XML

**Back-End :** SQLITE

### 9. DATA FLOW DIAGRAM

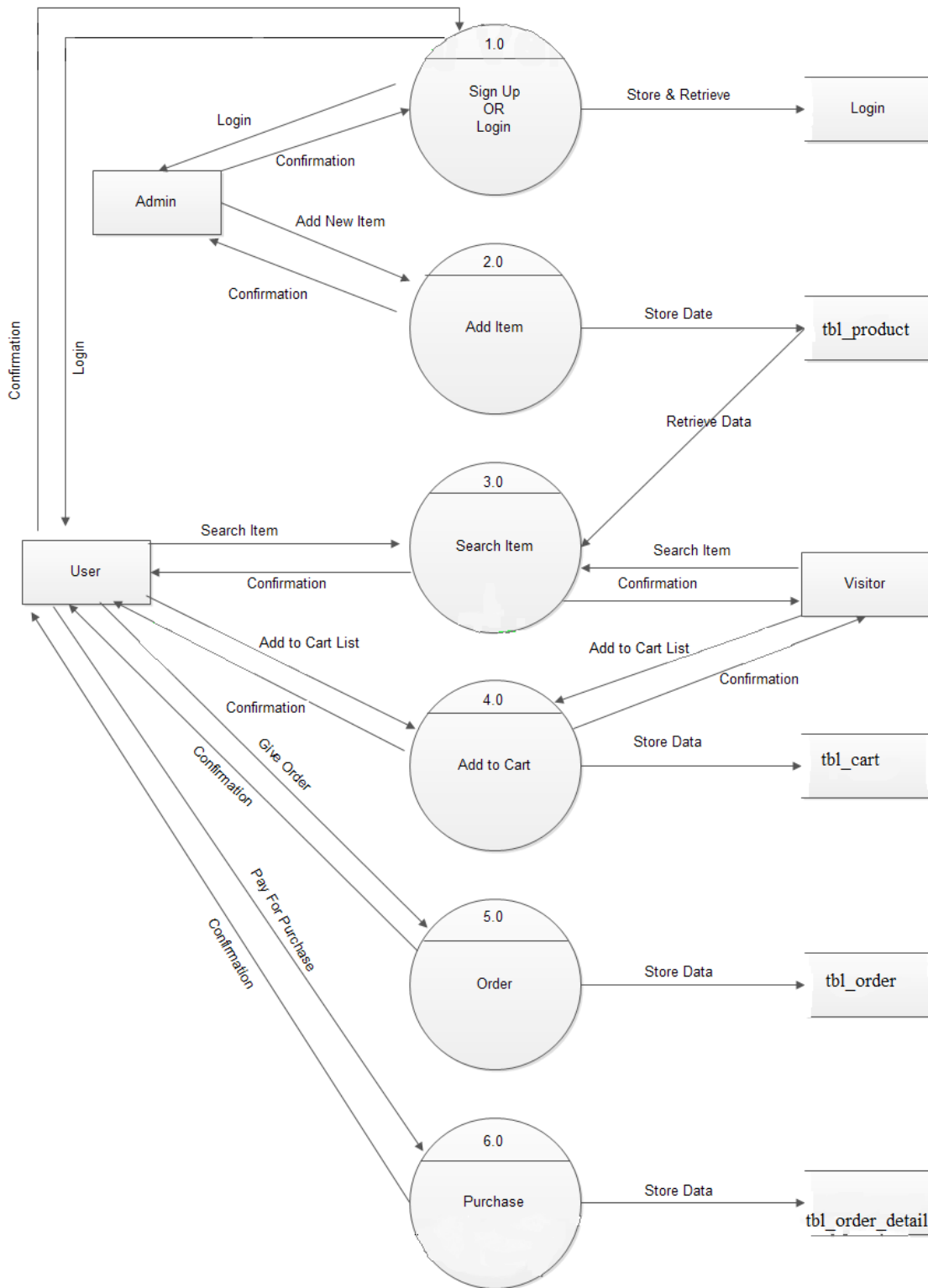


Fig. DFD

## 10. UML DIAGRAM

- Use case diagram

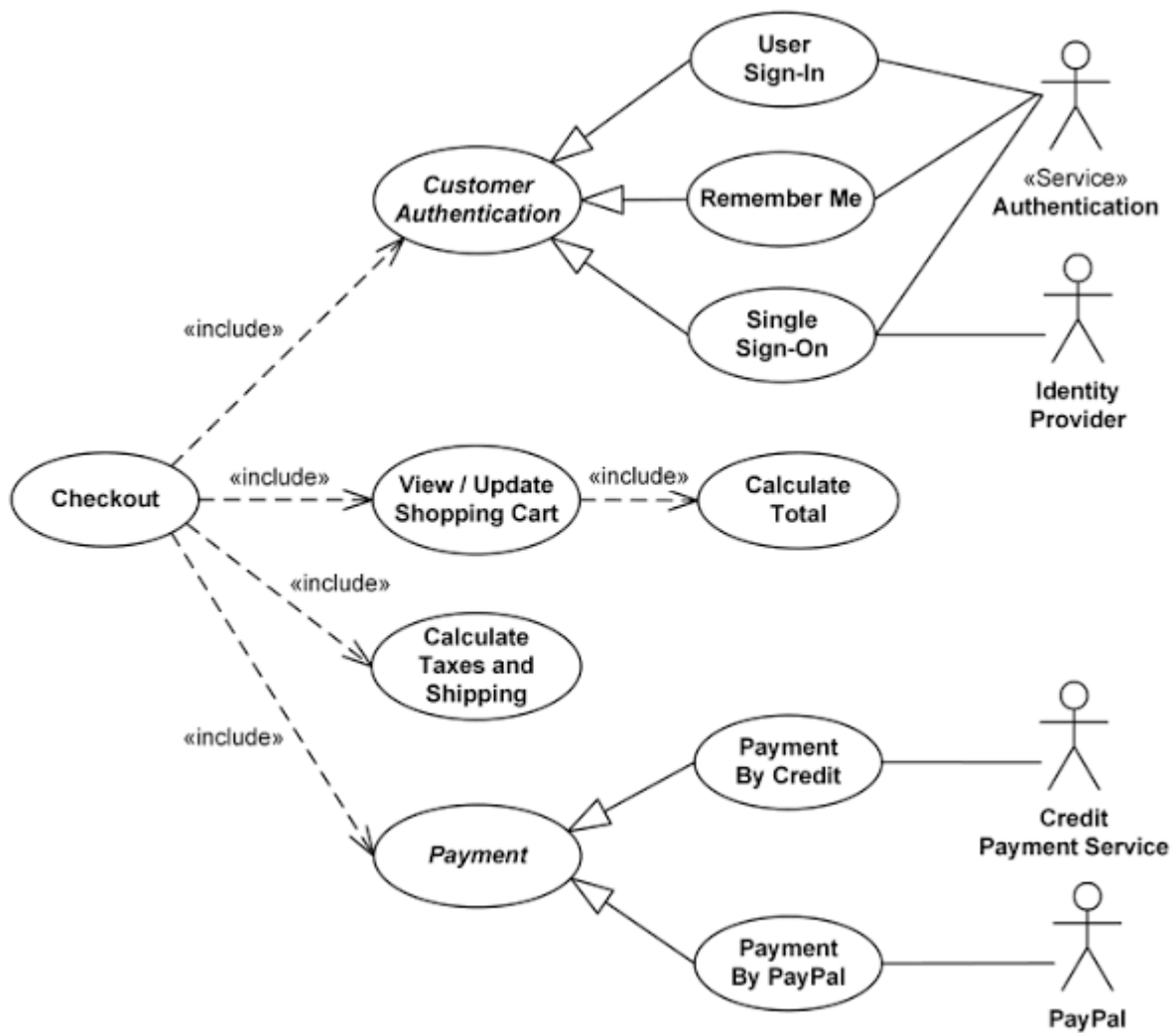
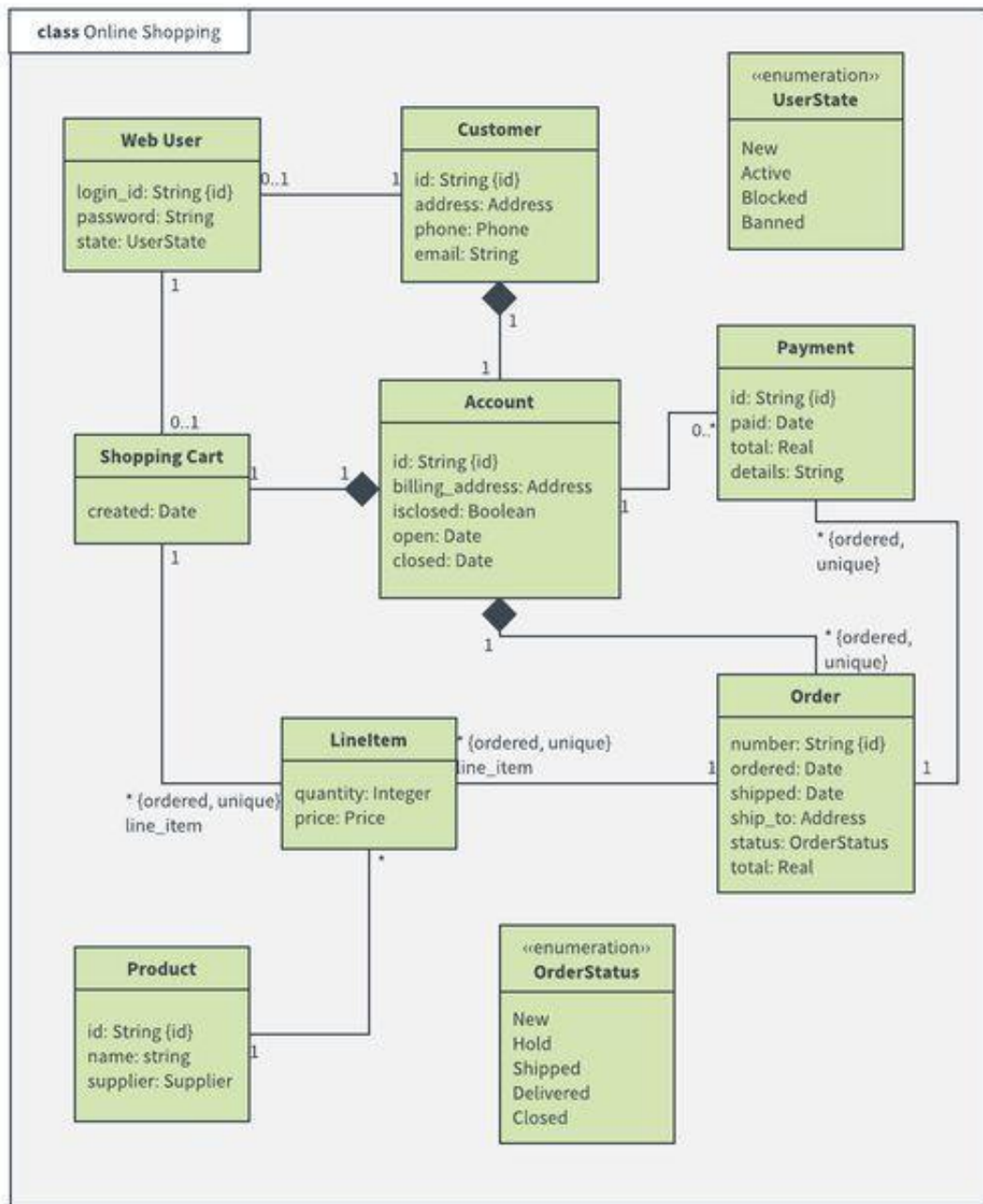
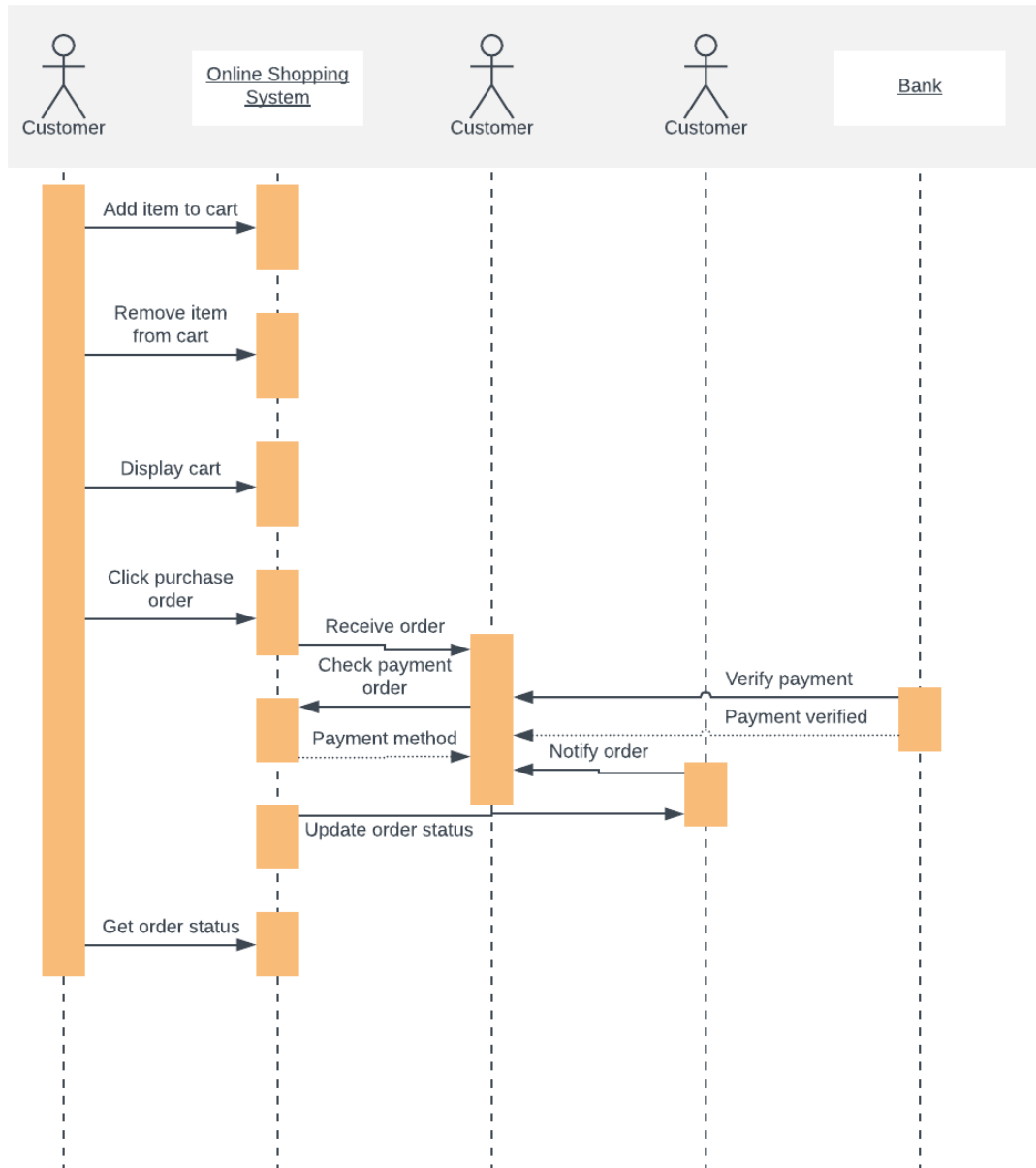


Fig. use case diagram

- Class diagram



- **Sequence Diagram**

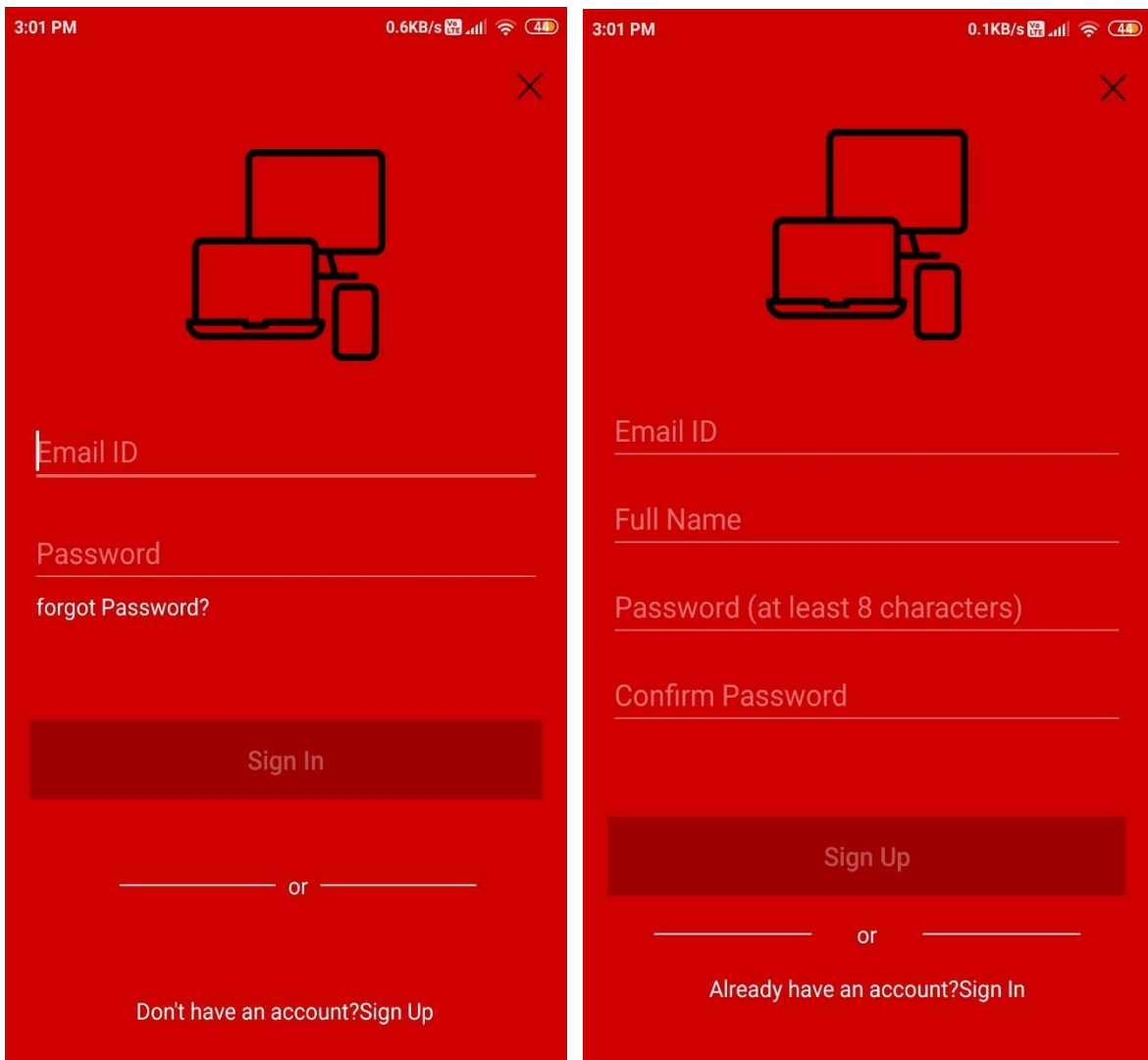


**Fig. Sequence Diagram**

## 11. SOFTWARE TESTING

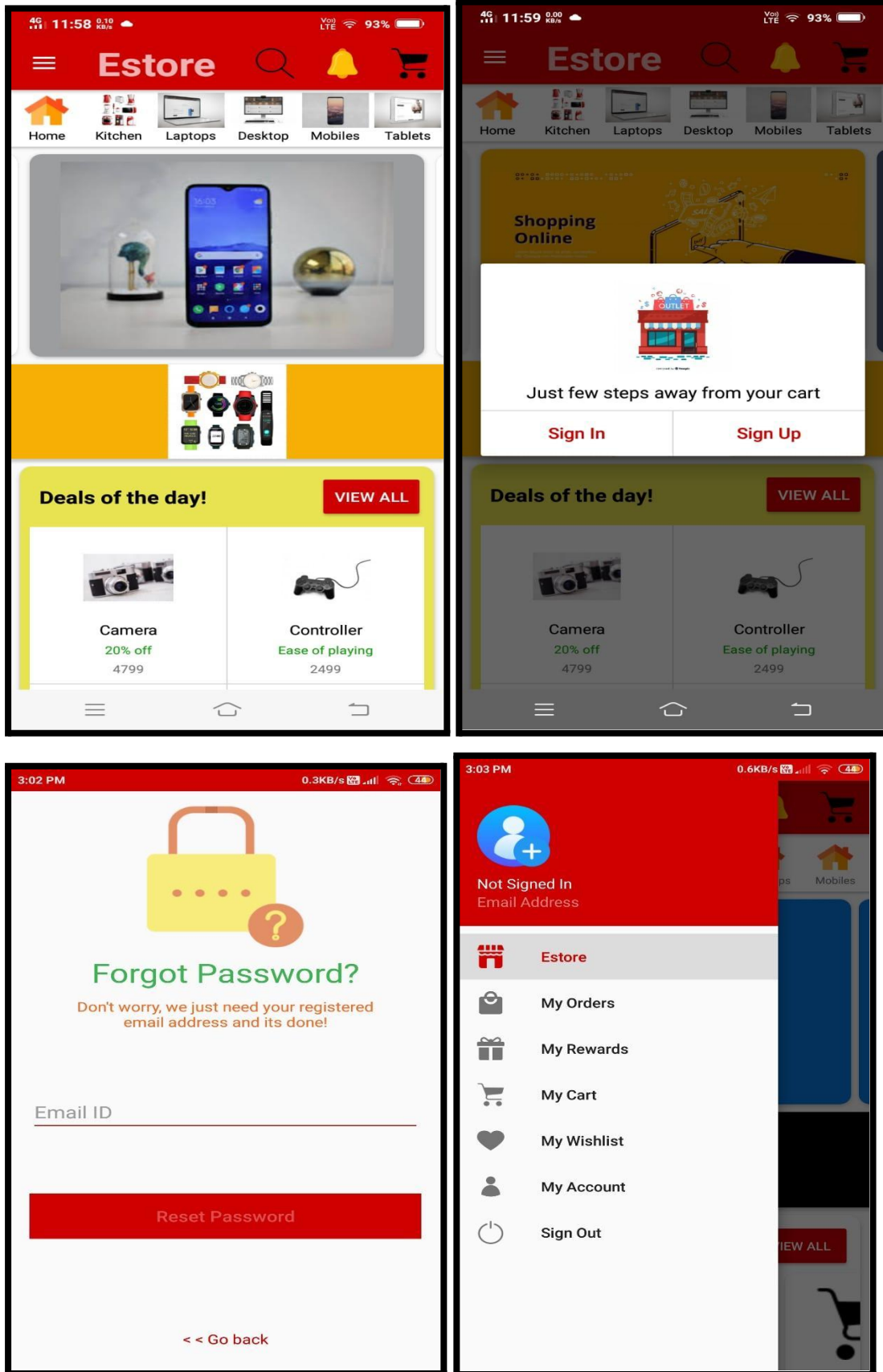
<b>Sr.no</b>	<b>Test case</b>	<b>input</b>	<b>excepted result</b>	<b>Observed output</b>
<b>1</b>	Giving the wrong Email ID and password	Email ID And password	Estore app will be opened	Invalid ID/Password
<b>2</b>	Forgotten Password	Email ID	Email will be sent to registered email-id	Email was sent.
<b>3</b>	Click On Sign Out	-	Sign out successfully.	Sign out

## 12. SNAPSHOT

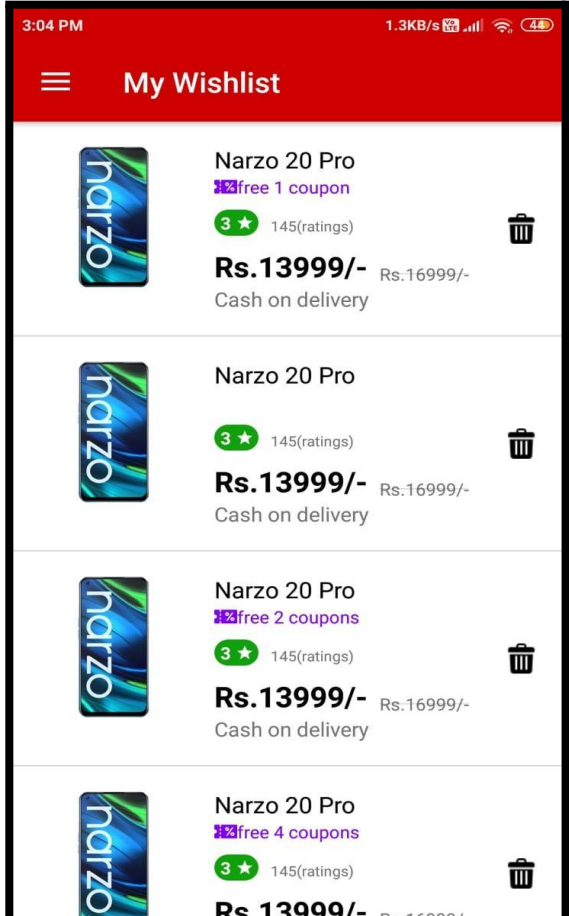
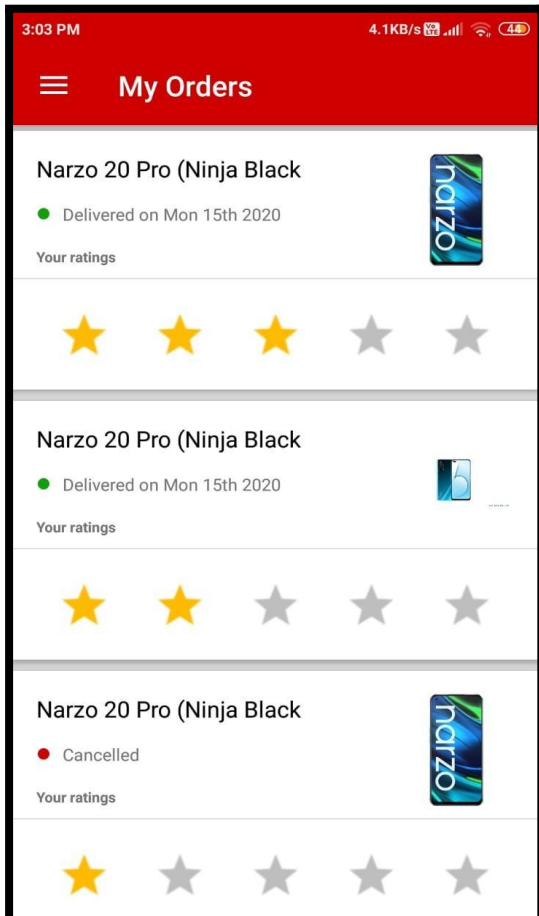
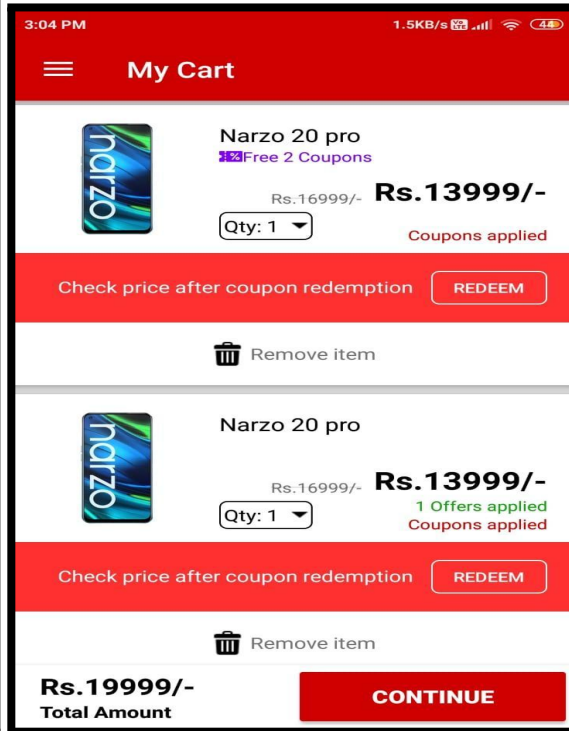




# E-Commerce (Estore) App

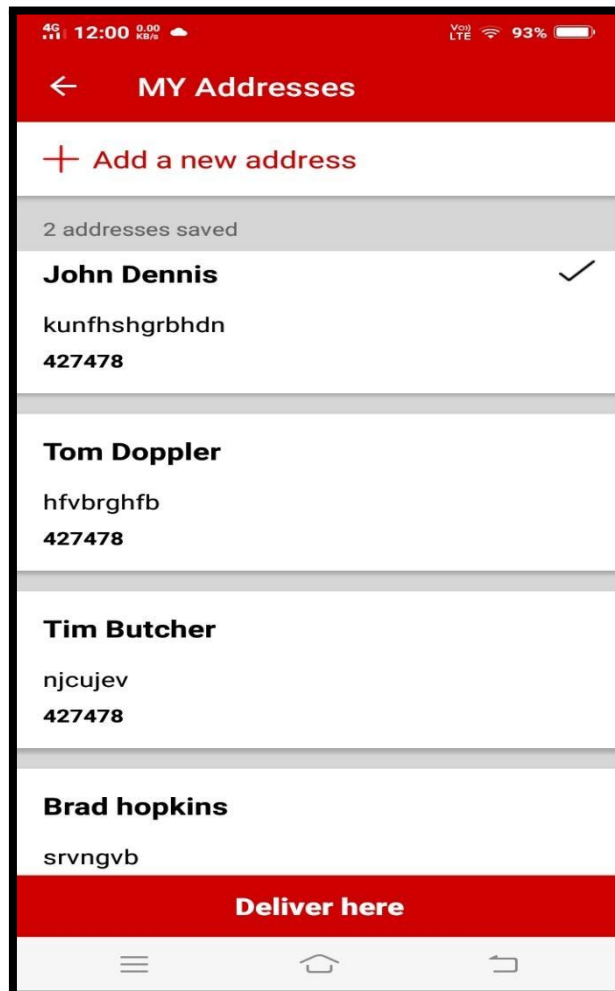


# E-Commerce (Estore) App



# E-Commerce (Estore) App

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### 13. RESULT

We have successfully developed E-commerce project(Estore app) and developed database and have also provided user with review that are useful while buying products.

### 14. FUTURE SCOPE

“E-Commerce Project(Estore app)” is designed and implemented to help people with their shopping of electronic goods (Smartphones, Laptops, TV). Here users have to create their account. Nowadays there are lots of problems when it comes to buying these resources from different shop owners. One of them is faulty goods but this app helps you in buying these electronic goods from trusted shop owners. The people will be provided goods with reasonable prices. People can buy different types of goods like Refrigerator, Different models of cell phones, Tv, Laptops, etc. It also provides people with coupons. The app is designed to be easy to use with a main goal of helping users to buy different materials. Here users will be given an option “Deals of Day” where they will be provided with different kinds of offers. People can also check the reviews before buying it. Users will also be given different kinds of rewards like 20% cashback. All functions are combined to provide users with

- The scope of the project is very vast as it targets a large number of people residing over the world. Anyone having access to the internet can shop for their desired products.
- As mentioned above, although our system has been completed but it is not perfect, we had planned to make some enhancements in the future.
- We think that our system still has potential to grow. Besides we will include more functions and introduce more widgets to the system like Call Support Centre. We also plan to enhance the interface so it looks more attractive and interactive.

### **15. CONCLUSION**

Our proposed application is mainly for users who don't have time to go to the stores by themselves because of their busy schedules. It provides users different products from different shops within a minute . The users can add products to the cart which they want to buy. It also provides with rating system for products which you can see while buying any products helping them in determining the quality of product on the basis of reviews provided by the users. It also provides them with home delivery services.

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**"Techno-Social Excellence"**  
**Marathwada Mitra Mandal's Institute of Technology**  
 Lohgaon, Pune -47  
**Department of Computer Engineering**  
**BE PROJECTS (2020-21)**

Group No.	Name of Student	Project Topic
1	BAGAL PRATIKSHA ANAND	Smart Helmate for Detection of unsafe events in mining industry based on IOTSystem
	GUJAR RUSHIKESH KAILAS	
	HANNURE AISHWARYA MARUTI	
	DIGAMBAR WAGHULDE	
2	BIRAJDAR DATTATRAYA PARMESHWAR	Intelligent Health Assistant using CNN
	GHUGARKAR PRACHI VIJAY	
	HULAWALE KAJOL ANIL	
	GADEKAR KETAKI MACHINDRA	
3	GHORPADE PRATIKSHA DHANAJI	Brain Tumor Classification
	JAGTAP ANKITA ARUN	
	GHANWAT MANJUSHA HANUMANT	
	SHREEYA SUNIL DESHMUKH	
4	KANCHAN DNYANESHWAR ZUNJRUK	Intelligent Travel Chatbot for predictive recommendation using deep learning
	JALLAPELLI VIRAJ	
	DEOCHAKE SAMIKSHA SUHAS	
	HARDIK KULSHRESHTHA	
5	DESHMUKH AKANKSHA BHUPENDRA	Synergy between colleges of Engineering
	JADHAV VISHAKHA BALASAHEB	
	JADHAV SHUBHAM	
	JADHAV ANIKET SHIVAJIRAO	
6	APURVA SONWANE	Face Mask Detection
	AKSHAY SURYAWANSHI	
	RUBEN VARGESE	
	PATIL PRITESH SUNIL	
7	BIRADAR MADHAV KERBA	IOT Gas Pipe Leakage Detection Insect Robot
	DUDHATE LAXMAN RAMRAO	
	GAIKWAD KESHAV SUNIL	
	INGLE VIJAY RAVINDRA	
8	DHAMDHARE YASH ABHAY	Automated attendance system
	JOSHI MANDAR MAHESH	
	DORGE ONKAR BALKRISHNA	
	AYUSH KUMAR	
9	ALI SHAHRUKH MUJAWAR	Virtual fitting room
	ASHWINI YADAV	
	KHAIRE SIDDHI RAJESH	
	MRUNAL SUL	
10	PATIL GIRIRAJ RAVIKIRAN	The Artistic Style Algorithm Using Convolutional Neural Networks
	SHEKH SAHIL NASIR	
	PATIL SURAJ VASANT	
	LABADE PRATIK BHAUSAHEB	

<b>Group. No.</b>	<b>Name of Student</b>	<b>Project Topic</b>
11	KULKARNI SARTHAK SANJAY	Covid Care Security System
	MUKIM CHINMAY LAXMIKANT	
	KADAM VIRAJ SHRIKANT	
	DIXIT SANCHIT MAHENDRA	
12	SHREYAS MAHALE	Eye Tracking mouse
	SHEDGE ANUP SURESH	
	SINGH ROHIT YOGENDRA	
	KARAN SAMPAT ROKADE	
13	PRATIKSHA LOHAR	Waste Management System based on IOT
	NIKITA ARSULE	
	PRAJAKTA WALUNJ	
	YENGANDUL SHITAL MUKUND	
14	GAIKWAD PRASAD RAJESH	Plant leaf disease detection using image processing and Machine Learning
	VITHOBA SURESH BHARSAKLE	
	GAURAV NANDLAL DHONDAGE	
	PRATHAMESH MADAN BHOSALE	
15	MULLA SAHIL JAKIRHUSEN	AR based shopping application
	JADHAV POOJA SOPAN	
	HIBARE HARISH SUNIL	
	SHUBHAM KHARADE	
16	LOKHANDE PRACHI MAYANAND	Plant Kingdom:plants and it's medicinal properties
	SHRIRAMWAR PRIYANKA SHANKARRAO	
	KUMBHAR SHUBHAM M.	
	CHAVAN AISHWARYA SUJIT	
17	SHAIKH UMAR FARUK ABDUL WAHID	Farm-Cart
	DONGARE VAIBHAV CHANDRAKANT	
	SAWANT ROSHAN YASHWANT	
	KAKADE HARSHAL GANPAT	
18	MORE RUTUJA SAHEBRAO	Centralized system for Covid 19 Pandemic
	PARADE PRAJAKTA DATTATRAYA	
	SHINDE SHIVANI SURESH	
	PRIYANKA LONE	
19	GADEKAR PRABHULING KALAPPA	Seed Certification Using Blockchain Technology
	GATE SACHIN SUNIL	
	CHOPDE ROHAN DATTATRAY	
	LAKHMALE SHUBHAM	
20	ZUNZURWAD DEVKI MADHAVRAO	Smart baby cradle
	JAGTAP SONAL SANTOSH	
	PATEL JAY DILIP	
	SARWADE HARSHAD DEVANAND	
21	BHOJANE RUTVIK SANJAYRAO	Corruption Reduction Using BlockChain
	DAVALE BALAJI RAJENDRA	
	GONDKAR MAHESH RAJENDRA	
	CHOURE VAIBHAV KIRAN	

<b>Group. No.</b>	<b>Name of Student</b>	<b>Project Topic</b>
22	PAWAR SHUBHAM BALAJI	E Fees
	DORGE TEJAS JITENDRA	
	MIRGE SHUBHAM JAYAJI	
	PAWAR PRADIP VINAYAK	
23	Nirmale Dnyaneshwar Ramchandra	Foodie
	GAWADE KOMAL SURYAKANT	
	BIRADAR VIJAY ANTESHWAR	
	JADHAV SHIVAM PRAVIN	
24	BHUJBAL SUMIT	Human Face emotions detection using Machine Learning
	CHANDHARE AKSHAY BALASAHEB	
	GAIKWAD KAJAL RAJU	
	PRATIK JADHAV	
25	PAWAR SHUBHAM SAHEBRAO	Chat-boat for Institute
	MATHWALE SANTOSH RAMRAO	
	MAGAR NARAYAN	
	SHELAKH VISHAL PRAKASH	
26	PATIL ROSHAN ANAND	Detecting and Characterizing Extremist Reviewer Groups in Online Movie Reviews
	DOIPHODE PRATIKSHA	
	ROHAN GAIKAWAD	
	JAYBHAY ASHWINI	
27	VIJAY WAGHMARE	Detection and Prevention of Database
	BASAVRAJ FATATE	
	SAURABH GIRE	
	VISHAKHA WANKHEDE	
28	SIDDHART SETH	Theft Detection using Raspberry Pi
	AKASH SAWSAKKE	
	AMAR SURYAWANSHI	
	TEJAS KULKARNI	
29	ANPAT AKASH DAYANAND	Automated tour planning system
	BHOSALE PREM SURYAKANT	
	LAGAD SUJIT SANTOSH	
	KONPRATIWAR SAURABH SATISH	

Santosh Noronha  
Chemical Engineering :  
Healthcare, Educational Tech :  
Indian Institute of Technology Bombay, Powai, Mumbai, 400 076, India.

[noronha@iitb.ac.in](mailto:noronha@iitb.ac.in)  
(22)25767238 / 25764246  
(22)25764227

NCID - 90

13th January 2020

Ref No: VL/MP2/NC90/20

To,  
Dr. Rupesh V. Bhortake  
Marathwada Mitra Mandals Institute of Technology  
Sr.No. 35, Plot No. 5/6, Lohgaon, Pune - 411047,  
Pune - 411047, Maharashtra

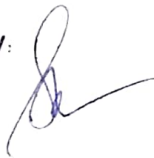
Dear Sir / Madam,

With reference to your Expression of Interest for Virtual Labs Nodal Centre (VLNC), it gives me immense pleasure to designate your college as a Nodal Centre for Virtual labs. As recommended by you, **Prof. Sonali S Muley** has been nominated as the Nodal Coordinator and **Prof. Yamini P. Warke** has been nominated as the Nodal Technical Coordinator from your college. This approval is valid up to 31st Dec 2020 and is subject to the Terms and Conditions attached and any subsequent directives as issued by MHRD.

Kindly acknowledge receipt of this letter and acceptance of the Terms and Conditions.

We thank you again for your interest in the Virtual Labs project and appreciate your endeavour in the service of the student community. Wishing you all the best!

Sincerely,



Prof. Santosh Noronha

## Virtual Labs Workshop Report

**Nodal Center ID:** 90  
**Name of VLNC:** Marathwada Mitra Mandals Institute of Technology  
**Region:** Pune  
**Workshop Date:** 2020-11-11  
**Workshop Type:** Workshop

---

**Department:** Computer Engineering  
**Users:** 2  
**Usage:** 2

**Department:** Mechanical Engineering  
**Users:** 28  
**Usage:** 50

### Cumulative Usage Calculation

**Total Users:** 30  
**Total Usage:** 52

---

**Nodal Coordinator:** Prof. Sonali S Muley  
**System Support:** S S Muley  
**Coordinating Team:** Anjali Joshi

  
**Nodal Coordinator Signature**



Keep the HARD COPY with you in a Virtual Labs file for the record.

  
**Head of Institute / Principal**  
Signature & Stamp  
**Principal**  
Marathwada Mitra Mandals  
INSTITUTE OF TECHNOLOGY,  
Lohegaon, Pune-47



Nodal Center- Marathwada Mitra Mandals Institute of Technology

Region- Pune

Date- 11-11-2020

NCID- 90

SNo.	Roll No.	Name	Department
1	18FME015	Akshay Shinde	Mechanical Engineering
2	19FME001	Amit Jadhva	Mechanical Engineering
3	1	ANJALI JOSHI	Mechanical Engineering
4	A128	Atharv Etane	Mechanical Engineering
5	213	BHAGESH CHINCHOLI	Mechanical Engineering
6	A118	Abhishek Chikate	Mechanical Engineering
7	216	chinmay dhande	Mechanical Engineering
8	F19E36	CHAITANYA MANE	Mechanical Engineering
9	19FME018	Chaitanya Kurkure	Mechanical Engineering
10	170303	supriya Ekshinge	Computer Engineering
11	B227	manali patil	Mechanical Engineering
12	sma137	ganesh jambhale	Mechanical Engineering
13	19FME006	Kadam Akash	Mechanical Engineering
14	FEB217	Kajal Singh	Mechanical Engineering
15	18FME033	Kishor Gawali	Mechanical Engineering
16	19FME007	Kundan Ghugul	Mechanical Engineering
17	241	Mohammed Saif Shaikh	Mechanical Engineering
18	190328	Nikita Jadhav	Computer Engineering
19	238	Pawan Bhagat	Mechanical Engineering
20	SMA130	Pratik Poul	Mechanical Engineering
21	B247	Rohit Badke	Mechanical Engineering
22	B242	SAGAR MATKAR	Mechanical Engineering
23	F19A51	sandip patil	Mechanical Engineering
24	19FME024	Shivshankar Kure	Mechanical Engineering
25	216	SHREYAS EKBOTE	Mechanical Engineering
26	TMB203	Siddhesh Jadhav	Mechanical Engineering
27	SMA146	SOHAN JADHAV	Mechanical Engineering
28	261	Toheed Shaikh	Mechanical Engineering
29	227 B	Hankare Varshiket	Mechanical Engineering
30	SMA132	VAIBHAV LANDE	Mechanical Engineering

Nodal  Coordinator Signature

1. **SCAN and Upload the duly signed original SOFT COPY of this Monthly Report.**
2. **Keep the HARD COPY with you in a Virtual Labs file for the record.**



## Virtual Labs Workshop Report

**Nodal Center ID:** 90  
**Name of VLNC:** Marathwada Mitra Mandals Institute of Technology  
**Region:** Pune  
**Workshop Date:** 2020-11-12  
**Workshop Type:** Workshop

---

**Department:** Computer Engineering  
**Users:** 2  
**Usage:** 2

**Department:** Mechanical Engineering  
**Users:** 28  
**Usage:** 56

### Cumulative Usage Calculation


**Total Users:** 30  
**Total Usage:** 58

---

**Nodal Coordinator:** Prof. Sonali S Muley  
**System Support:** Sonali Muley  
**Coordinating Team:** N. Dhamane

  
**Nodal Coordinator Signature**



  
**Head of Institute / Principal  
Signature & Stamp**

**Principal**  
Marathwada Mitra Mandals  
INSTITUTE OF TECHNOLOGY,  
Lohegaon, Pune-47

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**Nodal Center-** Marathwada Mitra Mandals Institute of Technology

**Region-** Pune

**Date-** 12-11-2020

**NCID- 90**

SNo.	Roll No.	Name	Department
1	130	Aishwarya Gavane	Mechanical Engineering
2	18FME015	Akshay Shinde	Mechanical Engineering
3	SMB226	Akshay Dighe	Mechanical Engineering
4	19FME001	Amit Jadhva	Mechanical Engineering
	sma141	aniket sarode	Mechanical Engineering
6	18FM005	ANIKET SAUNDANE	Mechanical Engineering
7	A128	Atharv Etane	Mechanical Engineering
8	261	Yusuf Ansari	Mechanical Engineering
9	213	BHAGESH CHINCHOLI	Mechanical Engineering
10	A118	Abhishek Chikate	Mechanical Engineering
11	19FME018	Chaitanya Kurkure	Mechanical Engineering
12	18FME047	Dhiraj Pandey	Mechanical Engineering
13	170303	supriya Ekshinge	Computer Engineering
14	17FME060	Govinda Dudhgonde	Mechanical Engineering
15	19FME006	Kadam Akash	Mechanical Engineering
16	FE133	KIRAN KUMAR	Mechanical Engineering
17	19FME007	Kundan Ghugul	Mechanical Engineering
18	25	mukund patle	Mechanical Engineering
19	190328	Nikita Jadhav	Computer Engineering
20	SMA130	Pratik Poul	Mechanical Engineering
21	SMA0131	SMA0131 Suryawanshi	Mechanical Engineering
22	2	Rahul Korhale	Mechanical Engineering
23	B247	Rohit Badke	Mechanical Engineering
24	B242	SAGAR MATKAR	Mechanical Engineering
25	19FME024	Shivshankar Kure	Mechanical Engineering
26	208	Shubhada Ghule	Mechanical Engineering
27	SMB212	shubham bhardwaj	Mechanical Engineering
28	125	Swapnil Chandole	Mechanical Engineering
29	227	Hankare Varshiket	Mechanical Engineering
30	102	vishakha bhalerao	Mechanical Engineering

  
Nodal Coordinator Signature

1. **SCAN and Upload the duly signed original SOFT COPY of this Monthly Report.**
2. **Keep the HARD COPY with you in a Virtual Labs file for the record.**

## Virtual Labs Workshop Report

**Nodal Center ID:** 90  
**Name of VLNC:** Marathwada Mitra Mandals Institute of Technology  
**Region:** Pune  
**Workshop Date:** 2020-11-26  
**Workshop Type:** Workshop

---

**Department:** Computer Engineering  
**Users:** 19  
**Usage:** 74

**Department:** Mechanical Engineering  
**Users:** 1  
**Usage:** 1

### Cumulative Usage Calculation


**Total Users:** 20  
**Total Usage:** 75

---

**Nodal Coordinator:** Prof. Sonali S Muley  
**System Support:** S. S. Muley  
**Coordinating Team:** S T Shinde

  
**Nodal Coordinator Signature**



  
**Head of Institute / Principal**  
Signature & Stamp

  
**Principal**  
Marathwada Mitra Mandals Institute of Technology  
Pune-47

Keep the HARD COPY with you in a Virtual Labs file for the record.



Nodal Center- Marathwada Mitra Mandals Institute of Technology

Region- Pune  
Date- 26-11-2020

NCID- 90

SNo.	Roll No.	Name	Department
1	A177	Aadika Yenare	Computer Engineering
2	B202	Abhinav Mishra	Computer Engineering
3	19FCE113	Aditya More	Computer Engineering
4	B-204	Akshay Patil	Computer Engineering
5	107	Aniket Sawant	Computer Engineering
6	B230	Atharva Ingale	Computer Engineering
7	B226	Gaurav Dalvi	Computer Engineering
8	A151	Gayatri Kinge	Computer Engineering
9	B252	Jagruti Nikam	Computer Engineering
10	154	Kartik More	Computer Engineering
11	A125	Kunal Dingane	Computer Engineering
12	B248	MRUNAL YEMALE	Computer Engineering
13	19FCE062	Neha Dorage	Computer Engineering
14	B277	Onkar Yadav	Computer Engineering
15	SMB260	ROHIT PAWAR	Mechanical Engineering
16	B229	Shantanu Hule	Computer Engineering
17	205	Anuj Sharma	Computer Engineering
18	A-114	Shubham Bhole	Computer Engineering
19	A149	Aakanksha Magaonkar	Computer Engineering
20	A109	Tejas Babar	Computer Engineering

  
Nodal Coordinator Signature

1. SCAN and Upload the duly signed original SOFT COPY of this Monthly Report.
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**Details of Technical events Events(Online Webinar,Sessions,Expert/Guest Lecture/Add on course etc.**

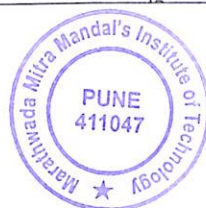
**Department: Computer Engineering**

Academic Year 2020-21

Sr.No	Month	Event Date	Event Type	Event Name	Resource Person	Coordinated By	No. of Student
1	May/June	12/05/2020	Webinar	Final Year Project Guidelines	Mr. Tushar Kute (Researcher and Trainer at MITU Skillologies, Pune)	Mr. S. A. Agrawal	35
2		20/5/2020	Webinar	Project Based Learning	Mr. Prakash Hegade ( KLE Technological University, Hubli)	Mr. S.G. Rathod Mr. S.S.Chaudhari	74
3		21/05/2020	Webinar	Recent Trends in Networking & Telecom	Mr. Abhilash Sasane (Syntel, Pune)	Mr. S.G. Rathod Mr. S.S.Chaudhari	240
4		26/05/2020	Webinar	Cloud Computing and Job Opportunities"	Mr T C Dhondiyal, Skillcertifica	Mr.U.L.Tupe Mr. S. S. Chaudhari	100
5	July	19July 2020	Webinar	Digital Transformation	Mr. Arnav Sharma	Ms. K. S. Surawase Mr. S.G. Rathod	60
6		31 July 2020	Guest Lecture	Internship	Mr. Kushal Sharma	Mrs. S. T. Shinde	43
7	August	25/8/2020	Online Webinar	Recruitment trends and Associated Skills	Mr. Rohit Ghosh	Mr. .S.G. Rathod	25
8	September	05-09-2020	Online Webinar	Engineers & Innovation	Mr. Prakash Pimpale	Mr. S.G. Rathod Mr. S.S.Chaudhari	93
9		19-09-2020	Online Webinar	Machine Learning	Dr. V. M.Thakare	Mr. S.G. Rathod Mr. S.S.Chaudhari	70
10		12/09/2020	Online Webinar	Blockchain	Er. Sonali Patve	Mr. .S.G. Rathod Ms. P.V. Deshmukh	80
11		12/09/2020	Add on course	SQL	Mr. Prashant Chaparwal	Mr. S. A. Agrawal Mr. S. G. Rathod	37
12		26/9/2020	Online Webinar	Mendeley	Dr.Prashant Dhotre	Mr.U.L.Tupe	42

23	March 2021	18/3/2021	Demo on Vmedulife Software	Introduction to Vmedulife for Staff	Mr. Abhijit Yewale	Mrs. D. J. Bonde	33
24	March 2021	26-27 March 2021	Workshop	Hands on Workshop on Machine Learning with real Time Project Development and Cloud Deployment	Mr. Yogesh Murumkar	Mrs. T. S. Bhoje	15
25	March 2021	1st March 2021	Guest Lecture	Digital Marketing	Mr. Prakash Pawar	Mrs. S. T. Shinde	91
26	March 2021	19/03/2021 to 21/03/2021	Workshop	Workshop on Python Programming	Mr. Sushant Shukla, Hrushikesh Rane, Prateek Mahajan, Varad Arthamvar	Mrs. S. T. Shinde	96
27	March 2021	19/3/2021 to 26/3/2021	Guest Lecture	Aptitude Training Lecture	Prof. Vikrant Sukhtankar,	Mrs. S. K. Patil	45
28	April 2021	18 April 2021	Workshop	Latex Workshop	Mr. Pramod Nimbhore	Senali R. Khamkar	33
29	May 2021	8th May 2021	Social Activity-Guest Lecture	"Corona Awareness: Corona Test, Vaccine & Precaution"	Dr. Ganesh Ramdasi	Mrs. T. S. Bhoje	35
30	August 2021	14 August 2021	Guest Lecture	Data Analytics & Big Data visualization	Ms. Niharika Argade Consultant Fourier Technologies Pune.	Mrs. T. S. Bhoje	25
31	3/1/2021	13 March 2021	Workshop	The Art of Living	Ms. S. Meenakshi, Senior faculty of Art of Living	Mr. Swapnil S. Chaudhari Mr. Subhash G. Rathod	81
32	October	16 Oct 2021	Workshop	Report writing in LATEX	Mrs. Swatee Nikam PhoenixZone Tech PVT LTD, Pune	Mrs. T. S. Bhoje	52
33		28/10/2021	Guest Lecture	Mulesoft Platform	Mrs. Minal Pokale Working as "Project Engineer" in Wipro pvt Lmtd., Mumbai	Mrs. Aishwarya S. Mane	25
34	November	22/11/2021	Add on Course	Deep Learning and Web Development	Department Level	Mrs. Aishwarya S. Mane Mrs. Uma Karanje Mr. Ajit Karanjakar	40
35		27/11/2021	Webinar	3D Animation Film Process	Mrs. Bhushan Fegde, Working as "Film editor and Composer" in VR Interaction Solution Pvt. Lmtd.	Mrs. Aishwarya S. Mane	35

  
Prof. P. V. Deshmukh  
Prepared By



HOD 



“Techno-Social Excellence”  
Marathwada Mitramandal’s  
INSTITUTE OF TECHNOLOGY(MMIT)  
Lohgaon, Pune-47

“Towards Ubiquitous Computing Technology”  
Department of Computer Engineering  
(Academic Year 2020-21)

**Add-On Course**

**On**

**Structured Query Language (SQL)  
TE (Computer Engineering)**

**From 12<sup>th</sup> Sept to 10<sup>th</sup> October 2020**

**Coordinator**  
Mr. S. A. Agrawal

**HOD**  
Mr. S. G. Rathod



## Add-On Course Details

**Subject:** Structured Query Language (SQL)

**Attendee:** Third Year Students (Total=37)

**Organized By:** Department of Computer Engineering, MMIT, Lohgaon-411 047

**Date:** From 12<sup>th</sup> Sept to 10<sup>th</sup> October 2020

**Mode of conduction:** Online

**Resource Persons:**

Name: Mr. Prashant Chaparwal

Experience: 6 years

Company Details: Assistant Manager ,Vodafone Shared Services , Pune

## Objectives of Course

The objective of this course is designed to give the student an introduction to the SQL database language, and to databases - their purposes and terminology.

### **Introduction:**

A database is an organized collection of data. It is the collection of schemas, tables, queries, reports, views, and other objects. The data are typically organized to model aspects of reality in a way that supports processes requiring information, such as modeling the availability of rooms in hotels in a way that supports finding a hotel with vacancies.

A database management system (DBMS) is a computer software application that interacts with the user, other applications, and the database itself to capture and analyze data. A general-purpose DBMS is designed to allow the definition, creation, querying, update, and administration of databases.

SQL is a database computer language designed for the retrieval and management of data in a relational database.

### **Session By Mr. Prashant Chaparwal**

Mr. Prashant has covered the theory as well as practical hands on SQL. He has started with the basic of SQL and conducted hands on practice and motivated the students to accept challenges in future during this course.

### Topic Covered:

Sr. No.	Topic
1	Introduction to SQL, Basic Syntax
2	DDL and DML query
3	Sub queries and Constrain(Primary key, Foreign key, Candidate key ,Super Key, Not Null, Default)
4	Introduction to hack rank site for SQL queries
5	Basic Select, Advance Select
6	Grouped Tables and Aggregate Functions
7	Basic join, Advance join
8	Alternative queries
9	Multiple Tables
12	Like Clause , Top Clause
13	Unions Clause, NULL Values
14	Alias Syntax, Indexes
15	Handling Duplicates
16	Views
17	Embedded SQL
18	Optimization and Performance Tips
19	How to Build a Resume
20	Online Exam based on MCQ

Mr. Prashant has covered almost important topics related to SQL as point of industry view also. He has also provided the additional knowledge/tips to students related How to Build a Resume. This course almost conducted for more than 40 hrs. After the course online exam was conducted based on MCQ for all registered students. The certificate is issued to those students who have scored minimum 50% marks in exam. On behalf of MMIT & Management, Mr. S. A. Agrawal gave the vote of thanks expressing the gratitude towards resource person Mr. Prashant Chaparwal for sparing his valuable time from his busy schedule.

### Course Outcomes

- Students are able to design the database structure with appropriate data tables
- Students are able to design the queries for controlling in Database.


### Enclosure

1. Online Session photos
2. Sample Certificate
3. Registered Students List

add-on course list x Meet - gaq-p... x Inbox (9,814) - su... x International Sci... x New Tab x

meet.google.com/gaq-pqrz-1tly

REC Sanjay Agrawal is presenting



Resource Person  
Mr. Prashant Chaparwal  
Assistant Manager  
Vodafone Shared Services  
Pune

## Add-On Course on "SQL"

Organized by  
Department of Computer Engineering  
MMIT, Lohgaon, Pune

Course Duration  
40 Hrs

Sudha Panchal Mrunal Desai Rubal Kuntawar prashant chaparwal

Abhishek Mulay Sanjay Agrawal Archit Jain Vishal Bandre

Meeting details x

People (38) Chat

You 12:26 PM  
S

Send a message to everyone

### Inauguration Session

Meet - new - Google Chrome


meet.google.com/gaq-pqrz-1tly?authuser=0&hl=en

REC prashant chaparwal is presenting

## What Is PL/SQL?

**PL/SQL:**

- Stands for Procedural Language extension to SQL
- Is Oracle Corporation's standard data access language for relational databases
- Seamlessly integrates procedural constructs with SQL



1-2 Copyright © 2006, Oracle. All rights reserved.

prashant chap... Sudhesh Rath... Vishal Bandre... Sudha Panchal... Rubal Kuntawar... Shrutika Chou... Meenath Dh... Rushikesh Bid...

Meeting details x

People (39) Chat

Vishakha Chinchane 12:17 PM  
Good morning sir

Rushikesh Bidave 12:18 PM  
Good Afternoon sir!!

Subhash Rathod 12:26 PM  
S

Rushikesh Bidave 12:28 PM  
Yes

Vishal Bandre 12:28 PM  
Yes sir

Rutika Wadke 12:28 PM  
Yes

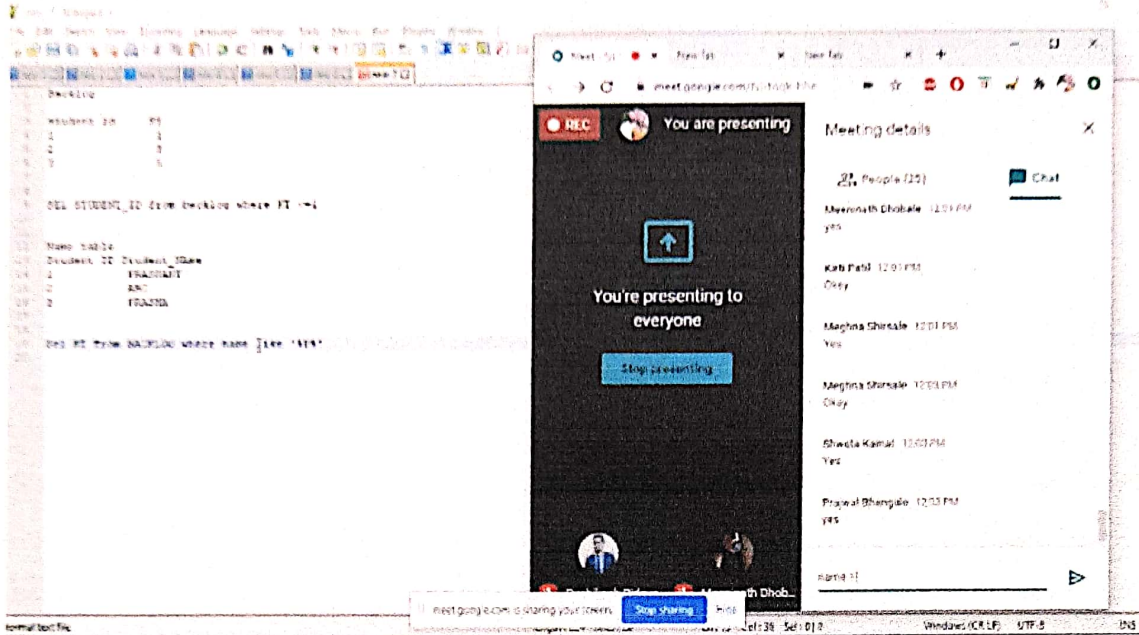
Mrunal Desai 12:28 PM  
Yes

Mrunal Patil 12:29 PM  
Yes sir

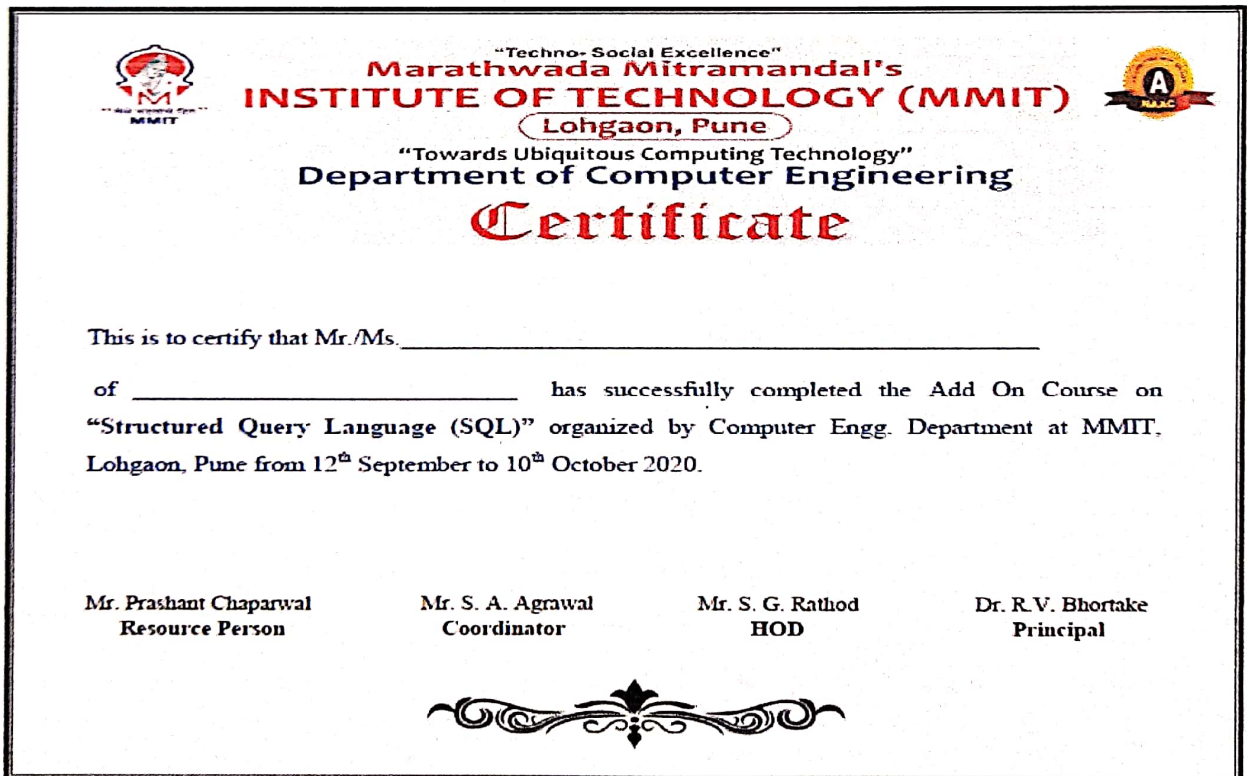
Activate Windows  
Go to Settings to activate Windows.  
Send a message to everyone

12:34 PM 9/12/2020

Session by Mr. Prashant



Session by Mr. Prashant



Sample Certificate



"Techno - Social Excellence"  
**Marathwada MitraMandal's**  
**INSTITUTE OF TECHNOLOGY (MMIT)**  
Lohgaon, Pune - 411047



"Towards Ubiquitous Computing Technology"  
**Department of Computer Engineering**

Academic Year: 2020-21

Semester: I

**Add-On Course on SQL**  
**Student Registration**

Timestamp	Email Address	Roll No.	Student Name	Contact No.
9/11/2020 19:53:36	neha.patil.2018@mmit.edu.in	25	Patil Neha Deepak	7057858881
9/11/2020 19:53:58	maloji.rajebhosale@mmit.edu.in	32	Maloji Hemant Rajebhosale	9284647934
9/11/2020 19:56:04	meeninath.dhobale@mmit.edu.in	64	Meeninath Navanath Dhobale	9325901116
9/11/2020 19:57:52	vishal.bandre@mmit.edu.in	63	Vishal Dadasaheb Bandre	9146614034
9/11/2020 19:59:17	vijay.chavan@mmit.edu.in	54	Chavan Vijay Parshuram	9689756247
9/11/2020 19:59:27	janki.gaikwad@mmit.edu.in	44	Janki Ramesh Gaikwad	8080256399
9/11/2020 19:59:39	vaidehi.kanase@mmit.edu.in	17	KANASE VAIDEHI AJITKUMAR	7038268854
9/11/2020 20:00:20	prajwal.bhangale@mmit.edu.in	2	Prajwal Sanjay Bhangale	8446111495
9/11/2020 20:01:56	rohit.sutar@mmit.edu.in	30	ROHIT VISHNU SUTAR	8177884121
9/11/2020 20:02:15	akash.shinde@mmit.edu.in	49	SHINDE AKASH SUKHADEV	9011468264
9/11/2020 20:05:12	shriyog.chavan@mmit.edu.in	04	Shriyog Narayan Chavan	9403210619
9/11/2020 20:09:06	rushikesh.bidave@mmit.edu.in	39	Rushikesh Bidave	7219544001
9/11/2020 20:15:37	meghna.shirsale@mmit.edu.in	50	Meghna Shirsale	8141096776
9/11/2020 20:20:35	shweta.kamat@mmit.edu.in	16	Kamat Shweta Datta	8007762342
9/11/2020 20:21:14	rishikesh.patil@mmit.edu.in	26	Rishikesh Patil	9765356325
9/11/2020 20:22:02	shruti.pangare@mmit.edu.in	24	Pangare Shruti Tulshidas	7888012042
9/11/2020 20:23:12	ishwari.jain@mmit.edu.in	14	Ishwari Rajesh Jain Chawade	9763088588
9/11/2020 20:25:56	rutika.wadke@mmit.edu.in	37	Rutika Rahul Wadke	9028337627
9/11/2020 20:26:58	kirti.patil@mmit.edu.in	48	Patil Kirti Dhondu	7218223451
9/11/2020 20:31:52	diksha.bhangale@mmit.edu.in	47	Diksha Bhangale	91680617095
9/11/2020 20:33:13	rupali.vaidya@mmit.edu.in	36	Rupali Suresh Vaidya	9359616163
9/11/2020 20:37:30	mrunal.patil@mmit.edu.in	66	Mrunal patil	7744939041
9/11/2020 20:38:08	rutika.chavan@mmit.edu.in	62	Rutika Chavan	7769956115
9/11/2020 20:42:55	vaibhavi.kamlapurkar@mmit.edu.in	15	Vaibhavi Anand Kamalapurkar	8459017572
9/11/2020 20:52:51	shubham.shelke@mmit.edu.in	55	Shelke Shubham Balasaheb	9168534744
9/11/2020 20:54:00	onkar.shinde@mmit.edu.in	56	Shinde Onkar Prakash	8459316298
9/11/2020 21:26:06	vishakha.chinchane@mmit.edu.in	5	VISHAKHA ASHOK CHINCHANE	9325102763
9/11/2020 21:32:34	mitali.thorat@mmit.edu.in	34	MITALI DILIP THORAT	8975353546
9/11/2020 21:46:28	ankita.bamne@mmit.edu.in	01	Ankita Tryambak Bamne	8796003475
9/11/2020 21:46:29	shrutika.choudhari@mmit.edu.in	06	Shrutika Suresh Choudhari	9370271332
9/11/2020 21:47:43	vaishnavi.khandve@mmit.edu.in	18	KHANDVE VAISHNAVI RAMESH	7620166229
9/11/2020 22:01:31	shoyeb.mansuri@mmit.edu.in	42	Shoyeb Roshanali Mansuri	8551052771
9/11/2020 22:43:50	rubal.kuntawar@mmit.edu.in	21	KUNTAWAR RUBAL MILIND	8380940520
9/12/2020 1:03:09	utkarsh.patil@mmit.edu.in	67	Utkarsh Dadasaheb Patil	9767401397
9/12/2020 9:27:21	yash.jadhav@mmit.edu.in	12	Yash Jadhav	9637975932
9/12/2020 9:39:46	sudha.panchal@mmit.edu.in	57	Sudha Manohar Panchal	9172575052
9/12/2020 9:54:29	mayuri.thakare@mmit.edu.in	68	Mayuri Thakare	7038208407



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6	Aditya More	aditya.more@mmit.edu.in	noc20-cs70	Programming, Data Structures And Algorithms Using Python
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8	Aditya More	aditya.more@mmit.edu.in	noc20-cs90	Computer Graphics
9	Aditya mane	aditya11mane@gmail.com	noc20-mg56	Organization Development and Change in 21st Century
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11	Aniket Agarwal	agarwalaniket099@gmail.com	noc20-me56	Robotics
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15	Amol Bhanage	amol.bhanage@mmit.edu.in	noc20-me91	Basics Of Finite Element Analysis-I
16	Amol Bhanage	amol.bhanage@mmit.edu.in	noc20-me95	Introduction to Composites
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219	Vishal Bandre	vishal.bandre@mmit.edu.in	noc20-cs80	Python for Data Science
220	Vishal Bandre	vishal.bandre@mmit.edu.in	noc20-cs95	Practical Machine Learning with Tensorflow
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2	Aditya Patil	adityasureshpatil1000@gmail.com	noc21-ma33	Advanced Partial Differential Equations
3	Akash Raju Rathod	akash8605rathod@gmail.com	noc21-me11	Conduction and Convection Heat Transfer
4	Akash Raju Rathod	akash8605rathod@gmail.com	noc21-me27	Mechatronics
5	Akash Raju Rathod	akash8605rathod@gmail.com	noc21-me31	Design Practice
6	Akash Raju Rathod	akash8605rathod@gmail.com	noc21-me64	Computational Fluid Dynamics and Heat Transfer
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8	Amit sanjay Jadhav	amit9518728640@gmail.com	noc21-hs05	Speaking Effectively
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Prof. Debjani Chakraborty  
Coordinator, NPTEL  
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PH. NO :9588490432

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>=60	Elite
40-59	Successfully Completed
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**PRATIK POUL**  
for successfully completing the course

## Speaking Effectively

with a consolidated score of **63** %

Online Assignments	20.54/25	Proctored Exam	42/75
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Total number of candidates certified in this course: **3145**

Prof. G P Raja Sekhar  
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Prof. Debjani Chakraborty  
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Indian Institute of Technology Kharagpur





# CORRUPTION REDUCTION USING BLOCKCHAIN

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**ABSTRACT:** The recent spread of distributed ledger technology, better known in the financial sector for its digital finance, has led to the emergence of many applications for the blockchain environment. The purpose of this study is to investigate how the blockchain can help reduce the risk of corruption in India. Two stages of book reviews have been done. The first pointed to the dangers of corruption in the Indian context and the second pointed to the effective use of blockchain symbols. Thereafter, a downgrade analysis was conducted, aimed at determining which Blockchain programs were introduced that could be used in the fight against corruption. The study identifies ways to reduce fraud and other causes of corruption to help restore public trust in state institutions in India which have been plagued by corruption scandals in recent years. In addition, the research agenda leading to anti-corruption studies has been discussed.

**KEYWORDS:** Blockchain, Hyperledger, contract.

## I. INTRODUCTION

Blockchain technology is a disruptive emerging technology that can revolutionize many aspects of our lives and many industries. It provides data security, autonomy, transparency, auditability, speed, reduced cost, and efficiency to systems. The technology emerged from Bitcoin as its first use case. Bitcoin is a peer-to-peer payment system invented using the blockchain by Satoshi Nakamoto in 2008 in his trial to solve Europe's economic crises. Bitcoin is now the most successful cryptocurrency. Besides cryptocurrencies, there are several other applications of blockchain in healthcare, banking, insurance, identity management, and so on. There are also increasing blockchain adoptions by many companies such as IBM, Oracle, and Microsoft as well as many countries such as Estonia, Georgia, Russia, UK, and Singapore. United Kingdom government office for science released a report describing the blockchain as highly disruptive and urges the UK government to invest in the technology for its immense benefits. The report testified that blockchain secures data and provides transparency and traceability which are so beneficial for public services. Blockchain removes central authorities and middle parties thus, it is very suitable for removing corruption in systems with much human interference



## II. PROBLEM STATEMENT:

Blockchain to provide the transparency and making more secure throughout the process.

Avoiding problems related to a public agents abuse of power and targeting government allocated funds blockchain technology is helpful.

## III. SYSTEM OVERVIEW

Blockchain was discovered by Satoshi Nakamoto in his paper “Bitcoin: A Peer-to-Peer Electronic Cash System” which was the foundation for the blockchain-based bitcoin cryptocurrency. Wikipedia defines blockchain as “A blockchain is a growing list of records, called blocks, which are linked using cryptography. Each block contains a cryptographic hash of the previous block, a timestamp, and transaction data”. This system is based on the concept of a decentralized ledger which is shared between all the nodes in a network. A transaction is represented as a block that has a hash value and a hash value of the previous block. Every transaction is verified by the peer network. When a transaction is carried out, the block is linked to the previous block using its hash value. This mechanism ensures that the integrity of the data is maintained. Some of the major applications of blockchain are cryptocurrencies and smart contracts. A cryptocurrency is a digital asset as a medium of exchange using cryptography to secure financial transactions, control the creation of additional units, and verify the transfer of assets. Blockchain-based smart contracts are proposed contracts that could be partially or fully executed or enforced without human interaction.

## IV. PROPOSED SYSTEM

In the context of government fund releasing, trust in an intermediary and on the transactions that are made is necessary. Therefore, we can implement the fund release system using a blockchain. Below is a basic block diagram of how the blockchain will work here. The transaction here is paying the supplier to buy raw materials for the project. The process starts with a transaction. This transaction is represented by a block. This block contains details of the transaction like the amount, the payer, the payee, and the purpose of the transaction along with a transaction ID.

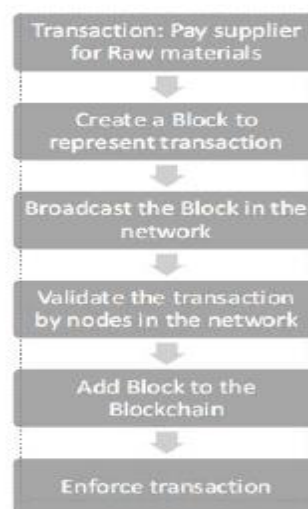


Figure proposed system



V. IMPLEMENTATION

Now a block containing the information mentioned is broadcasted into the network. The nodes (people in reality) involved in the network, validate the transaction. After this validation, the block along with a timestamp is added to the blockchain. The transaction can then be enforced. All of the transactions thus submitted will be recorded in the decentralized ledger and will be visible to everyone publicly. A prototype was implemented for this system using the Hyperledger Composer from the Linux Foundation. Hyperledger Composer set of collaboration tools for building blockchain business networks to create blockchain applications for business problems. It is a rapid prototyping tool, running on top of Hyperledger Fabric. Hyperledger Composer uses a modelling language called CTO. It has a user interface called playground which is used for creating and testing our prototype. We can define our assets, participants, transactions and access control. The logic behind transactions is written in JavaScript as a transaction processor function. The resources that must be defined are Asset, Participant and Transaction.

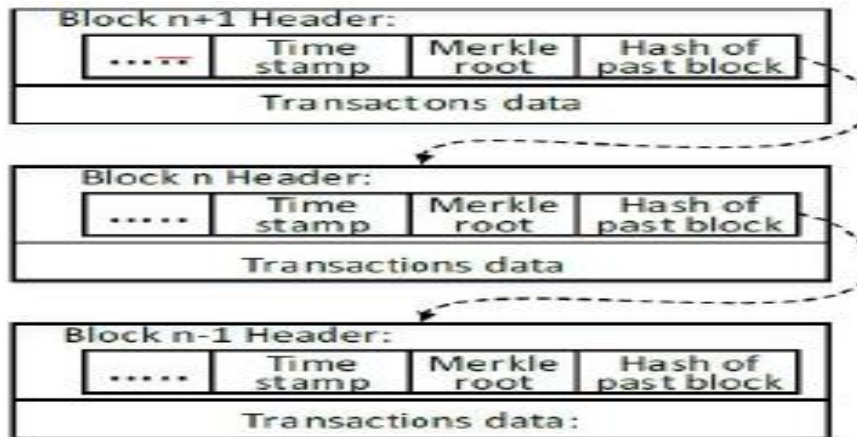


Fig Blockchain Structure

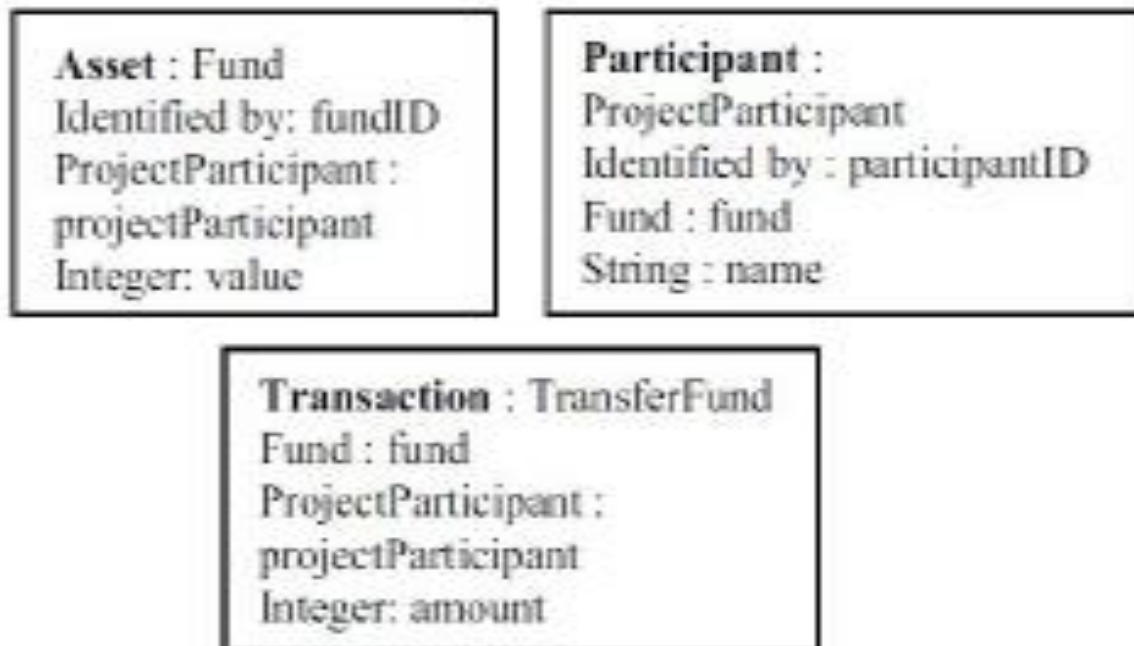


Fig Prototype Model

In this context, the asset is Fund, participants are the people involved in the project, here ProjectParticipant and transaction is paying money for different commodities required for the project, here FundTransaction. We have an initial Total Fund from which other funds are withdrawn by project participants. Each of the participant has a relationship of Fund. An asset (Fund) is created for every participant. The transaction processor function is called every time a FundTransaction is submitted. The function is passed a transaction instance which specifies the involved participant and the amount of fund to be transferred. If the transaction parameters satisfy all the constraints, the transaction is ledgered in the registry. This transaction entry also contains a transaction ID along with a timestamp when the transaction was submitted. The logic here is straightforward. Whenever a transaction is submitted, the specified amount of funds is withdrawn from the total fund. The assets registry and participants registry are updated after the submission, so that the data is consistent.

## VI. FUTURE WORK

Since this is a bare minimum prototype of a blockchain application developed using Hyperledger Composer, there is a lot of scope for further improvement in this. In this sense we can control the access to the resources by the participants. Any transaction to be submitted can be made to verify digitally. This model can be exported as a .bna (Business Network Archive) file and run on the Hyperledger Fabric on the cloud where the blockchain would be stored. Further we can generate a REST interface and a GUI for interaction. We can come up with a policy where the wallet address of the people involved in the project is made public, which will make it very easy to trace the route of the fund. This can then be put to use in a real-world situation like the government fund releasing as mentioned earlier

## VII. CONCLUSION

The Hyperledger Composer tool allows us to rapidly prototype blockchain applications by defining a business model and deploying it on the Hyperledger fabric. While we considered about building blockchain applications, we even have to consider the access and privacy challenges though. Even then, with further enhancements, this blockchain model can provide a transparency in all the government transactions. There will be no discrepancies of any kind. Because of the decentralized ledger all the transactions can be verified and cannot be altered. The money that is released can be tracked, anyone and everyone can find out how the money is being used. Such a blockchain will surely reduce the ongoing

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# Intelligent Health Assistance using CNN

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**Abstract**— Disease Prediction system is based on predictive modeling predicts the disease of the user on the basis of the symptoms that user provides as an input to the system. The system analyzes the symptoms provided by the user as input and gives the probability of the disease as an output Disease Prediction is done by implementing the CNN Classifier. CNN Classifier calculates the probability of the disease. Along with disease prediction system also calculates severity of disease and as per severity of disease suggests medicine. Suggesting diet and appropriate exercise is another merit of proposed system. Prediction of disease involves current as well as medical history of user.

**Keywords**—CNN, disease prediction, data processing, machine learning

## I. INTRODUCTION

As an important application of medical information, healthcare big data analysis has been extensively researched in the fields of intelligent consultation, disease diagnosis, intelligent question-answering doctors, and medical assistant decision support, and has made many achievements. In order to improve the comprehensiveness and pertinence of the medical examination, this paper intends to use healthcare big data analysis combined with deep learning technology to provide patients with potential diseases which is usually neglected for lacking of professional knowledge, so that patients can do targeted medical examinations to prevent health condition from getting worse. Inspired by the existing recommendation methods, this paper proposes a novel deep-learning-based hybrid recommendation algorithm, which is called medical-history-based potential disease prediction algorithm.

The system analyzes the symptoms provided by the user as input and gives the probability of the disease as an output Disease Prediction is done by implementing the Decision tree Classifier. CNN Classifier calculates the probability of the disease. Along with disease prediction system also calculates severity of disease and as per severity of disease suggests medicine. Suggesting diet and appropriate exercise is another merit of proposed system.

As an important application of medical information, healthcare big data analysis has been extensively researched in the fields of intelligent consultation, disease diagnosis, intelligent question-answering doctors, and medical assistant decision support, and has made many achievements. In order to improve the comprehensiveness and pertinence of the medical examination, this paper intends to use healthcare big data analysis combined with deep learning technology to provide patients with potential diseases which is usually neglected for lacking of professional knowledge, so that patients can do targeted medical examinations to prevent health condition from getting worse. Inspired by the existing recommendation methods, this paper proposes a novel deep-learning-based hybrid recommendation algorithm, which is

called medical-history-based potential disease prediction algorithm.

Now-a-days, people face various diseases due to the environmental condition and their living habits. So the prediction of disease at earlier stage becomes important task. But the accurate prediction on the basis of symptoms becomes too difficult for doctor. There is a need to study and make a system which will make it easy for end users to predict the chronic diseases without visiting physician or doctor for diagnosis. To detect the Various Diseases through the examining Symptoms of patient's using different techniques of Machine Learning Models.

## II. PROPOSED SYSTEM

The system analyzes the symptoms provided by the user as input and gives the probability of the disease as an output Disease Prediction is done by implementing the Decision tree Classifier. CNN Classifier calculates the probability of the disease. Along with disease prediction system also calculates severity of disease and as per severity of disease suggests medicine. Suggesting diet and appropriate exercise is another merit of proposed system.

### A. Architecture

The correct prediction of disease is the most challenging task. To overcome this problem data mining plays an important role to predict the disease. Medical science has large amount of data growth per year. Due to increase amount of data growth in medical and healthcare field the accurate analysis on medical data which has been benefits from early patient care. This system is used to predict disease according to symptoms. As shown in figure below, database containing symptoms of different diseases is fed as input to system along with current symptoms of user and medical history of patient (when patient observed same type of symptoms before). Python based system used CNN algorithm to predict disease patient is suffering from. After predicting disease system classified disease into mild, moderate and severe conditions.

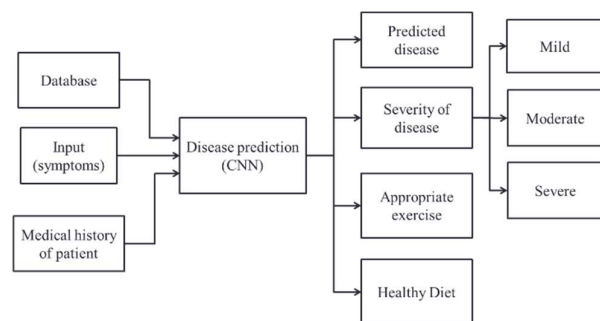


Fig 1 architecture of proposed system

If disease is mild then it suggest some medicine, in case of moderate along with medicines system suggest user to visit

doctor if symptoms doesn't fade away and when its severe case system warn user to immediately visit doctor. System also suggests diet and exercise as per the disease.

### B. CNN Algorithm

Over the last decade, tremendous progress has been made in the field of artificial neural networks. Deep-layered convolutional neural networks (CNN) have demonstrated state-of-the-art results on many machine learning problems, especially image recognition tasks.

CNN is one of artificial neural networks which have distinctive architectures as shown in Fig. 1; Input data of CNN are usually RGB images (3 channels) or gray-scale images (1 channel). Several convolutional or pooling layers (with or without activation functions) follows the input layer. For classification problems, one or more full connection (FC) layers are often employed. The final layer outputs prediction values (such as posterior probability or likelihood) for K kinds of objects where the input image should be classified in.

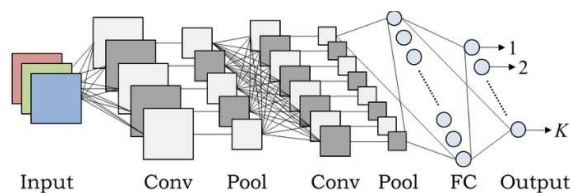


Fig 2 CNN architecture

Each layer of CNN can have a certain activation function which controls amount of output value to propagate its next layer. For intermediate layers, the rectified linear unit (ReLU)

$$f(a_i^l) = \max(0, a_i^l), \quad (1)$$

Note that all  $a_i^l \in \mathbb{R}$  is a sum of signals received by the  $i$ -th unit in the  $l$ -th intermediate layer. Meanwhile, for the last layer, the soft-max function is often used to obtain probabilistic outputs.

$$f_k(z) = \frac{\exp(z_k)}{\sum_{\kappa=1}^K \exp(z_\kappa)}, \quad (2)$$

Note that  $z$  is a  $K$  dimensional vector where  $z_k$  is a sum of signals received by the  $k$ -th unit in the last layer. Since the function is non-negative and has the unit sum property ( $\sum_{k=1}^K f_k(z) = 1$ ), the value of  $f_k$  implies a class posterior probability that an input data belongs to the  $k$ -th class. Therefore, by using the soft-max function in the output layer, CNN can act a role of probability estimators for the object classification problems. As one of the distinctive properties of CNN, they have consecutive multiple feature representations which are automatically organized in their each convolutional layer through the training using given labeled instances. In spite of this interesting situation, typical dimensionality reduction methods (such as PCA) will visualize each feature representation individually, without regarding the relationships between those consecutive features. These are the steps used to training the CNN (Convolutional Neural Network).

- Upload Dataset
- The Input layer
- Convolutional layer

- Pooling layer
- Convolutional layer and Pooling Layer
- Dense layer
- Logit Layer

CNN uses filters on the pixels of any image to learn detailed patterns compared to global patterns with a traditional neural network. To create CNN, we have to define:

- A convolutional Layer: Apply the number of filters to the feature map. After convolution, we need to use a relay activation function to add non-linearity to the network.
- Pooling Layer: The next step after the Convention is to downsampling the maximum facility. The objective is to reduce the mobility of the feature map to prevent overfitting and improve the computation speed. Max pooling is a traditional technique, which splits feature maps into subfields and only holds maximum values.
- Fully connected Layers: All neurons from the past layers are associated with the other next layers. The CNN has classified the label according to the features from convolutional layers and reduced with any pooling layer.

### CNN Layers

- **Convolutional Layer:** It applies 14 5x5 filters (extracting 5x5-pixel sub-regions),
- **Pooling Layer:** This will perform max pooling with a 2x2 filter and stride of 2 (which specifies that pooled regions do not overlap).
- **Convolutional Layer:** It applies 36 5x5 filters, with ReLU activation function
- **Pooling Layer:** Again, performs max Pooling with a 2x2 filter and stride of 2.
- **1,764 neurons**, with the dropout regularization rate of 0.4 (where the probability of 0.4 that any given element will be dropped in training)
- **Dense Layer (Logits Layer):** There are ten neurons, one for each digit target class (0-9).

### Important modules to use in creating a CNN:

- Conv2d (). Construct a two-dimensional convolutional layer with the number of filters, filter kernel size, padding, and activation function like arguments.
- max\_pooling2d (). Construct a two-dimensional pooling layer using the max-pooling algorithm.
- Dense (). Construct a dense layer with the hidden layers and units.

III. RESULT

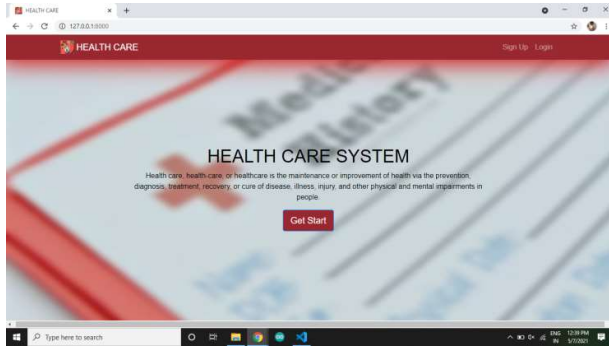


Fig.3.Home page

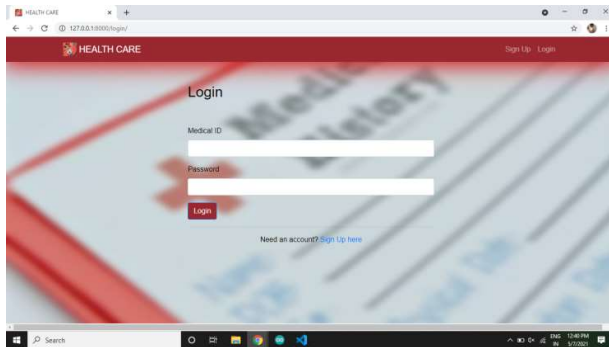


Fig.4. Login Page

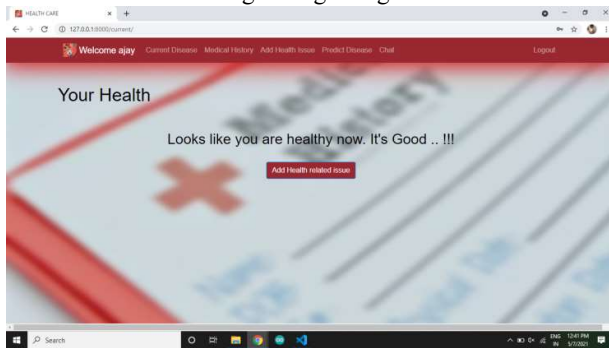


Fig.5 Results -1<sup>st</sup> time Login

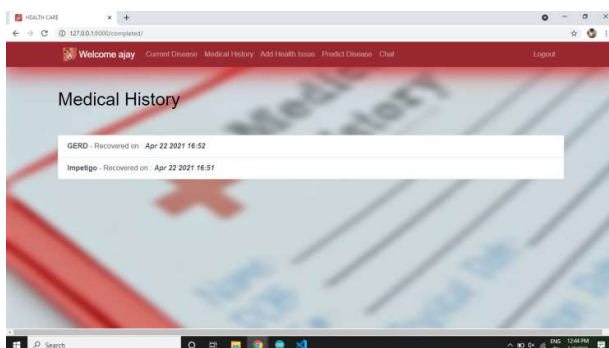


Fig.6. View Medical History

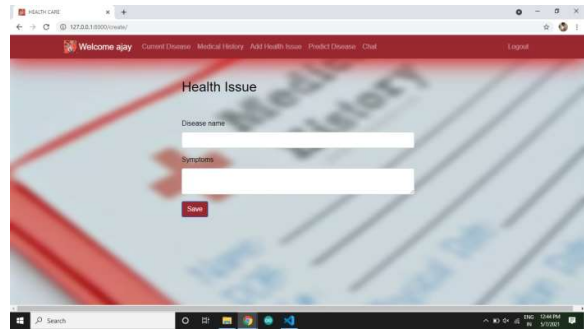


Fig.7 User Enter Symptoms

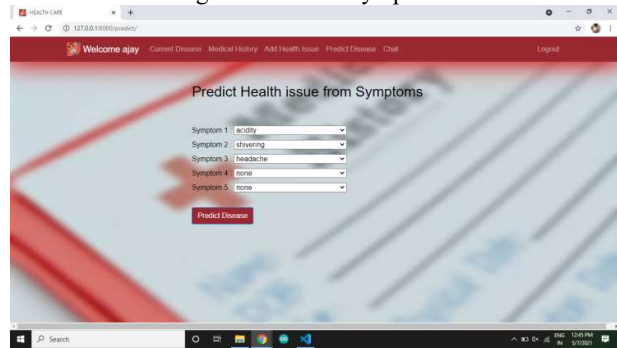


Fig.8. Predicated Results

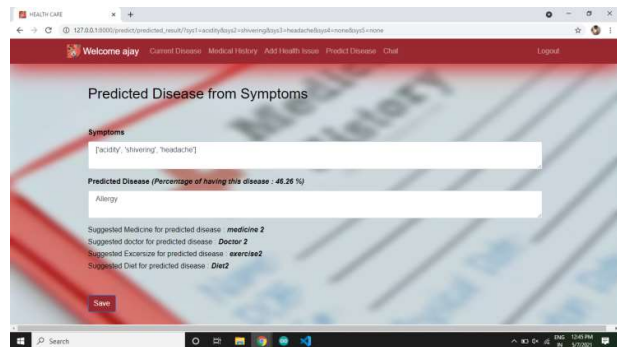


Fig. 9. Predicated Disease

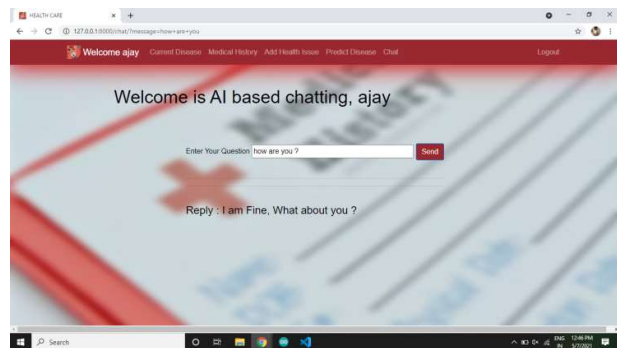


Fig.10. Chatting with Doctor

IV. CONCLUSION

We proposed general disease prediction system based on machine learning algorithm. We utilized KNN and CNN algorithms to classify patient data because today medical data growing very vastly and that needs to process existed data for predicting exact disease based on symptoms. We got accurate general disease risk prediction as output, by giving the input

as patients record which help us to understand the level of disease risk prediction. Because of this system may leads in low time consumption and minimal cost possible for disease prediction and risk prediction. We can say CNN is better than KNN in terms of accuracy and time.

Accuracy of general disease risk prediction of CNN is higher as compared to other algorithms like KNN [1], Naïve Bayes, SMO, Multi-layer perceptron [4] etc. We got accurate general disease risk prediction as output, by giving the input as patients record which help us to understand the level of disease risk prediction. When compared with above mention algorithms, CNN leads in low time consumption and minimal cost possible for disease prediction and risk prediction. If the system takes an image along with some noise it recognizes the image as a completely different image whereas the human visual system will identify it as the same image with the noise. User/patient has to separately book appointment with doctor if symptoms are beyond the scope.

The role played by system can sometimes be beyond the scope and user may require consulting a doctor for taking health related tests. In such situations, system can be helpful if it can be made to set up an appointment with an efficient doctor based on their schedule. Also it will be beneficial if the symptoms and disease identified by the system can be made into a report and automatically forwarded to an available doctor where he can further assist the user with more advices and future measures to maintain their health. A video call with a specialized doctor can also be made depending on the availability of the user rather than based on the availability of doctors.

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# Event Management Portal for Interaction between Colleges Using Node Server

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**ABSTRACT:** Interaction between colleges, Students and Teachers with each others, is the primary reason to have this portal. The platform fairly believes that in the world of social media, there should be something special for colleges and the students. No more missing of Events due to lack of Info After the deep Market Research, what I found is that there is not a single portal to serve the services like this. When everything is getting SMART, why not the College Campuses and the Environment around that. Bring all the College Community under One Roof to Minimize the Social Distance between them.

**KEYWORDS:** SQL, MongoDB, React, AWS Security, Node Js, Apache kafka, Python.

## I. INTRODUCTION

The theory of dynamical social networks (DSN) its mixture of two aforementioned lines of research and considers a social network as a dynamical system, aiming at understanding the interplay between the network's structural properties and behaviors of dynamical processes over the network. The ultimate and long-standing goal is to develop the theory of temporal social networks, where both vertices (standing for social actors) and edges (standing for social relations) can emerge and disappear. In this, project we provide a briefing of the main concepts and tools, related to the theory of DSN, focusing on its system- and control-theoretic aspects. In this changing world, the role of social media for building and maintaining networks cannot be over emphasised: millennials are the social media generation, and this is influencing most of their activities, including job searches. Acknowledging job finding strategies of millennials are changing (Smith, 2018), and that social media is being used widely in recruitment processes (El Ouiridi, Segers, El Ouiridi, & Pais, 2015), it has been argued that LinkedIn gives services as a channel for recruiting and selecting candidates (Ecleo & Galido, 2017). As universities are both observed and ranked for their rates of graduate employability (Hall, 2017), it is important to understand the role of LinkedIn in building student networks and improving employability. Noting previous research on LinkedIn in HE (McCorkle & McCorkle, 2012; Gerard, 2012; Peterson & Dover, 2014), this study moves beyond the use of LinkedIn for class assignments, to considering how well students engage with the platform after receiving their grades, to identify the efforts students put into building and maintaining their networks when their tutors are no longer watching. It motives to highlight the challenges of using LinkedIn and offer recommendations for tutors in terms of improving student engagement and employability. That is most important to note that LinkedIn is not the only means of improving employability: it is part of a holistic approach towards enhancing opportunities. Students motivated to get on LinkedIn to drive up engagement and interactions as they prepare for work. The role of tutors in using LinkedIn to enhance employability cannot be over emphasised however. The main focus is on tutors to take initiate the process and chart a pathway for students: it is however the student's responsibility to engage.



## II. RELATED WORK

Kafka saves key-value messages that come from arbitrarily many processes called producers. The data can be divided into different "partitions" within different "topics". In between a division, messages are basically ordered by their offsets (the position of a message within a partition), and indexed and stored together with a timestamp. Various processes called "consumers" can read messages from partitions. Flow of stream processing, Kafka is offering the flow of Streams API that allows writing Java applications that consume data from Kafka and write results back to Kafka. Apache Kafka works including outside stream processing systems such as Apache Apex, Apache Flink, Apache Spark, Apache Storm and Apache NiFi. Kafka runs on a cluster of one or many servers, and the partitions of all topics are distributed across the cluster nodes. Additionally, partitions are replicated to multiple brokers. This structure gives us authentication of Kafka to deliver massive streams of messages in a fault-tolerant fashion and has allowed it to replace some of the conventional messaging systems like Java MessageService (JMS), Advanced Message Queuing Protocol (AMQP), etc. Kafka offered transactional writes, which provide exactly-once stream processing using the Streams API. Kafka supports two types of topics: Regular and compacted. Normal basic topics can be configured with a retention time or a space bound. If its having their mentioned records that is older than the specified retention time or if the space bound is exceeded for a partition, Kafka is allowed to delete old data to free storage space. Obviously default, contents are configured with a retention time of 7 days, but it's also possible to store data indefinitely. For compacted topics, records its expire is not based on time-bound or space bound. Rather than, Kafka treats later messages as updates to older message with the same key and guarantees never to delete the latest message per key. people can drop messages entirely by writing a so-called tombstone message with null-value for a specific key.

## III. METHODOLOGY

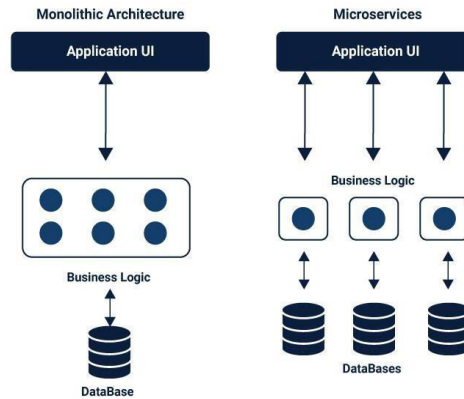
1. Microservices Architecture for Scalability
2. MongoDB for inconsistent data
3. SQL for Integrity
4. Node for better Asynchronous Performance
5. Python to handle ML and Data Science
6. React to build Cross Compatible UI
7. AWS security to Secure the platform Environment
8. Apache kafka to communicate between Microservices

## IV. PROPOSED SYSTEM

To be used more offensively, all computer software needs certain software resources to be present on a computer. These prerequisites are called as (computer) system requirements and are often used as a reference as opposed to an absolute rule. Most software explain system requirements of two sets : minimum and recommended. Without decreasing demand for higher processing power and resources. In updates versions of software, system requirements tend to increase over time. Software requirements deal with brief software resources requirements and prerequisites that need to be installed on a computer to provide optimal functioning of an application. These requirements or prerequisites are generally excluded in the software installation package and need to be installed separately before the software is installed

1. Adaptability: The compiler must be able to accept changes to the language implementation as well changes in the machine architecture.
2. Correctness: The compiler generated code should execute accurate output as that of the output of the script run using the interpreter.





## V. CONCLUSION

We have seen that how college Interaction can be a perfect platform for the college, student and teachers for interaction. We also seen that proposed platform has more and more scope in the future as it grows. We Analyzed that how platform uses ML and data Science to recommend post and reject Fake profiles. We looked at LinkedIn and get inspired from them to use similar architecture in the proposed System.

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"Techno-Social Excellence"  
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**INSTITUTE OF TECHNOLOGY(MMIT)**  
**Lohgaon, Pune-47**

**Report**  
**On**  
**Online Project Competition**  
**(Techno-Sci 2K21)**

**Held on**  
**21<sup>st</sup> June 2021**

**Mr. S. A. Agrawal**  
**Coordinator**

**Mr. E. D. Kurhe**  
**Dean, Student Affairs**

**Dr. R. V. Bhortake**  
**Principal**

## Project Competition Details

**Name of Competition:** Project Competition Techno-Sci 2K21

**Attendee:** Diploma & Engineering students

**Mode of Conduction:** Online

**Organized By:** Marathwada Mitramandal's Institute of Technology (MMIT), Lohgaon-411 047

**Date:** 21<sup>st</sup> June 2020

**Guest & Judges details:**

Mr. Akash Kharote (Sr. Technical Associate in R & D at IndiaFirst Robotics)

**Total no. of participants:** Total Teams = 113 (71 Diploma & 42 Engg.) Total Students = 340

### Objectives of project competition

The objective of this competition is to bring the students of various streams from different institutes on a common platform where they will encourage to share the knowledge and innovative ideas and to exhibits the talents and skills of the aspiring engineers both in technical.

- To stimulate students and researcher to work on exciting project
- To understand best practices and demonstration of diverse project, new innovations, etc.

**Inauguration & Welcome speech:**

The program was started online with welcome speech by Dr. U. P. Moharil (HOD, Engineering Science) has introduced about the Marathwada Mitra Mandal's trust and MMIT. In the keynote speech, our chief guest, Mr. Akash Kharote shared his views on the role of the educational institutes for the overall development of the engineering students so as to support the Industry and Corporate. He made the students aware of the importance of such technical events for aspiring engineers.

**Evaluation and Results:**

Total 113 teams (340 students) have registered for this online project competition of various streams. We have divided the participants into two different categories 1) Diploma & 2) Engineering as per their enrollment.

Online presentation of each team was conducted. The presentation includes power point presentation and demo of the system. The evaluations of online presentation and demo were done by judges in total 9 panels. The judges for the event were understood all the models and made a wise judgment and gave the students some valuable suggestions.

The response we received for the same was extremely overwhelming and it was very difficult for us to choose the winners. But competition has no value without a winner, hence after a lot of brainstorming; we have come up with 4 winners under Diploma & 3 winners under Engineering Category.

**List of winners:**

**Diploma Category**

Winner	Project Title	Team Members	College Name	Prize Money
<b>Winner</b>	The Design And Development Of Electric GO-KART	Sodagar Rizwan Patel Dhruvkesh Mayank Dhodiya Ashish Singh	Jayvantrai Harrai Desai Polytechnic, Palsana	5000/-
<b>1<sup>st</sup> Runner up</b>	Mask Detection by using Python	Vinay Ankush Aher Neha D. Mundada Vaibhav R. Bhalekar Dnyaneshwar G. Deokar	Government Polytechnic, Aurangabad	3000/-
<b>2<sup>nd</sup> Runner up</b>	Reuse of Plastic for Making tiles	Bharati Bhosale Aditya Patil Om Manker Prajakta Gophne	Y. B. Patil Polytechnic College Akurdi, Pune.	1500/-
<b>2<sup>nd</sup> Runner up</b>	Autonomous Cloud Seeding	Rohan Jitendra Vijapure Viraj Memane Shivam Chavan Soham Maranholkar	MIT school of Polytechnic Kothrud, Pune	1500/-

**Engineering Category**

Winner	Project Title	Team Members	College Name	Prize Money
<b>Winner</b>	3D Printer	Shubham Survase Prathamesh Dhage RohitKadam Pankaj Kumar	Indira College of Engineering and Management, Parandwadi	5000/-
<b>1<sup>st</sup> Runner up</b>	Versatile Airofying Tower-Prototype Model	Ashutosh Thokare Shubham Wagh Pravin Dhobale Neha Narayanpure	Sinhgad Academy of Engg., Kondhwa, Pune	3000/-
<b>2<sup>nd</sup> Runner up</b>	Semi-submersible Semi-automatic River Floating Trash Collector	Chetan. M. Wankhede Chetan. S. Morkar Avinash. D. Aher	MIT ACADEMY OF ENGG. ,Alandi , Pune	2000/-

**Valedictory Session:**

Prof. E. D. Kurhe gave the vote of thanks expressing the gratitude towards Guest for sparing their valuable time. He expressed thanks to Management for supporting and to Principal for motivating to arrange the program. Prof. S. A. Agrawal has announced and congratulate the category-wise winners.

The event ended with the student's views and experience about the event. They also extended their hearty thanks to all the faculty members, judges and organizers of the event. We have provided the online certificate to those students who have submitted the feedback of event.

**Program Outcomes**

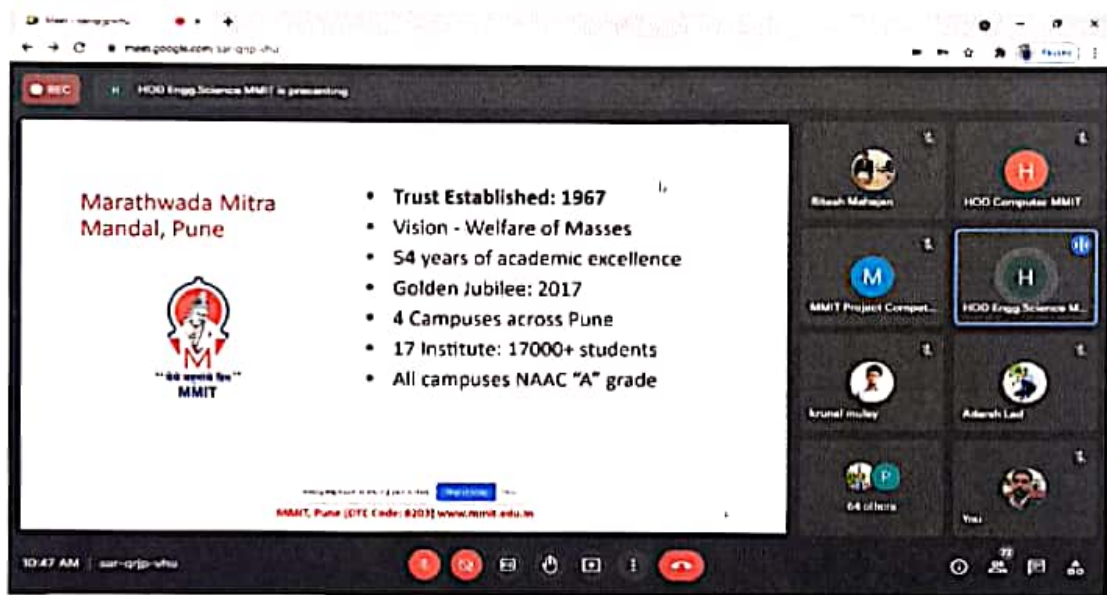
- Enriched knowledge of students through interaction with experts
- Students will be more confident, able to clearly and effectively communicate their opinions

**Enclosure**

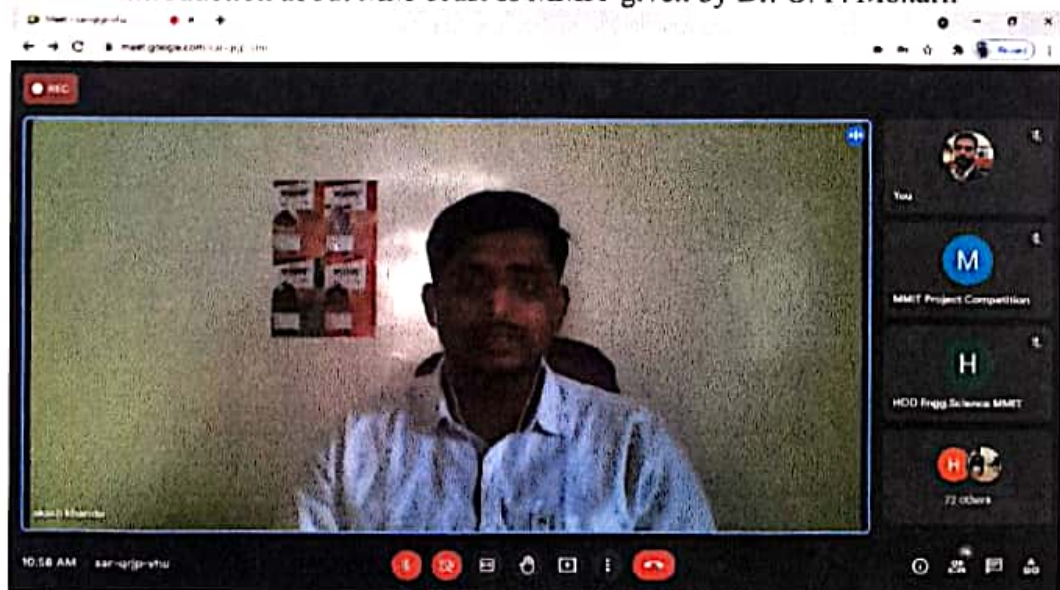
1. Event Photos (Online)
2. Competition poster
3. Competition Schedule
4. Sample Certificate
5. Participant List



Online Inauguration of Project Competition "Techno-Sci 2K21"



Introduction about MM Trust & MMIT given by Dr. U. P. Moharil



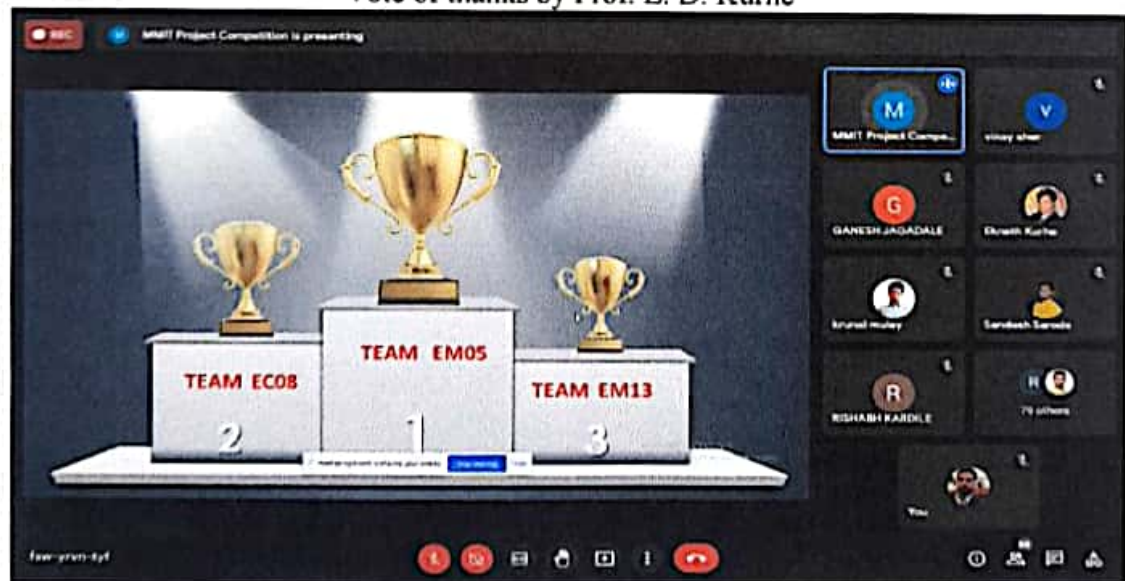
Keynote Speech by Mr. Akash Kharote (Chief Guest)



Student Presentation



Vote of thanks by Prof. E. D. Kurhe



Winners Announcement





'चेणे बहतांचे हित'

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"Techno-Social Excellence"

**Marathwada Mitramandal's  
Institute of Technology (MMIT)**  
Lohgaon, Pune-47.

Accredited with 'A' Grade by NAAC



DTE Institute Code : 6203



Third State Level

**ONLINE PROJECT  
COMPETITION**

**Techno-Sci 2K21**

Innovate | Create | Promote

Total Prize Money Worth  
**₹ 21,000**

Date :  
Monday, 21st  
June, 2021

**Project Competition Open for :  
Diploma & Engineering Students  
(Mechanical, Civil, Mechatronics)**

**Showcase Your Innovative  
Ideas & Win Prizes**

No Registration Fees  
E-Certificate will be provided  
Last Date of Registration : 18/06/2021

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Dr. R. V. Bhortake (Principal, MMIT)

**For Registration Please Contact**

Prof. A. G. Whatte : 9890332415

**Faculty Co-ordinator**

Prof. S. A. Agrawal : 9423393122

For Registration Visit : [www.mmit.edu.in](http://www.mmit.edu.in)  
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Survey No. 35, Vadgaon Shinde Road, Lohgaon, Pune - 411 047. Tel. No. : +91 7447786623 / +91 7447786624  
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Survey No. 35, Vadgaon Shirde Road, Lohgaon, Pune - 411 047  
Approved by AICTE, New Delhi, Recognised by DTE, M.B.Mumbai, Affiliated to Savitribai Phule Pune University  
Email : principal@mmit.edu.in Website : www.mmit.edu.in  
Tel No. : +91 7447760023 / +91 7447760024 **DTE Institute Code : 6203**

**Online Project Competition**

**Techno-Sci 2K21**

21<sup>st</sup> June 2021

**Schedule**

Sr. No.	Timing	Activity	Online Platform
1	10:30 am to 10:35 am	Inauguration of Techno-Sci 2K21	Google Meet
2	10:35 am to 10:45 am	Principal Speech	Google Meet
3	10:45 am to 10:55 am	Chief Guest Speech	Google Meet
4	11:00 am to 3:00 pm	Project Evaluation by Judges (Panel Wise)	Google Meet
5	03:30 pm to 03:45 pm	Valedictory Function & Winners Announcement	Google Meet

**Inauguration Link: <https://meet.google.com/sar-qrjp-vhu>**  
(Only Team Leader should join the Inauguration function)

**Presentation Link:**

**Panel wise presentation link will be provided at end of Inauguration function.**  
(At least one member from group should attend the Inauguration function)

**Valedictory Function/Winner Announcement Link: <https://meet.google.com/fsw-yrvn-tyf>**

**Feedback & Certificate Link: Link will be provided at end of Valedictory function.**

Groupwise Timing to Join the Google Meet Link of your Respective Panel

Diploma Mechanical Participants

Sr No	Group Number	Time to Join The Google Meet Link	Panel Number Allotted
1	DM01	11:00 AM	MECH01
2	DM02	11:15 AM	
3	DM03	11:30 AM	
4	DM04	11:45 AM	
5	DM05	12:00 PM	
6	DM06	12:15 PM	
7	DM07	12:30 PM	
8	DM08	12:45 PM	
9	DM09	11:00 AM	MECH02
10	DM10	11:15 AM	
11	DM11	11:30 AM	
12	DM12	11:45 AM	
13	DM13	12:00 PM	
14	DM14	12:15 PM	
15	DM15	12:30 PM	
16	DM16	12:45 PM	
17	DM17	11:00 AM	MECH03
18	DM18	11:15 AM	
19	DM19	11:30 AM	
20	DM20	11:45 AM	
21	DM21	12:00 PM	
22	DM22	12:15 PM	
23	DM23	12:30 PM	
24	DM24	12:45 PM	
25	DM25	11:00 AM	MECH04
26	DM26	11:15 AM	
27	DM27	11:30 AM	
28	DM28	11:45 AM	
29	DM29	12:00 PM	
30	DM30	12:15 PM	
31	DM31	12:30 PM	
32	DM32	12:45 PM	
33	DM33	11:00 AM	MECH05
34	DM34	11:15 AM	
35	DM35	11:30 AM	
36	DM36	11:45 AM	
37	DM37	12:00 PM	
38	DM38	12:15 PM	
39	DM39	12:30 PM	
40	DM40	12:45 PM	
41	DM41	11:00 AM	MECH06
42	DM42	11:15 AM	
43	DM43	11:30 AM	
44	DM44	11:45 AM	
45	DM45	12:00 PM	
46	DM46	12:15 PM	
47	DM47	12:30 PM	
48	DM48	12:45 PM	
49	DM49	1:00 PM	

Engineering Mechanical Participants

Sr No	Group Number	Time to Join The Google Meet Link	Panel Number Allotted
1	EM01	1:00 PM	MECH01
2	EM02	1:15 PM	
3	EM03	2:00 PM	
4	EM04	2:15 PM	
5	EM05	2:30 PM	
6	EM06	1:00 PM	MECH02
7	EM07	1:15 PM	
8	EM08	2:00 PM	
9	EM09	2:15 PM	
10	EM10	2:30 PM	
11	EM11	1:00 PM	MECH03
12	EM12	1:15 PM	
13	EM13	2:00 PM	
14	EM14	2:15 PM	
15	EM15	2:30 PM	
16	EM16	1:00 PM	MECH04
17	EM17	1:15 PM	
18	EM18	2:00 PM	
19	EM19	2:15 PM	
20	EM20	2:30 PM	
21	EM21	1:00 PM	MECH05
22	EM22	1:15 PM	
23	EM23	2:00 PM	
24	EM24	2:15 PM	
25	EM25	2:30 PM	
26	EM26	1:15 PM	MECH06
27	EM27	2:00 PM	
28	EM28	2:15 PM	
29	EM29	2:30 PM	
30	EM30	12:45 PM	
31	EM31	1:00 PM	MXT01

Diploma Mechatronics Participants

Sr No	Group Number	Time to Join The Google Meet Link	Panel Number Allotted
1	DMX01	11:00 AM	MXT01
2	DMX02	11:15 AM	
3	DMX03	11:30 AM	
4	DMX04	11:45 AM	
5	DMX05	12:00 PM	
6	DMX06	12:15 PM	
7	DMX07	12:30 PM	

Engineering Mechatronics Participants

Sr No	Group Number	Time to Join The Google Meet Link	Panel Number Allotted
1	EMX01	1:15 PM	MXT01
2	EMX02	1:30 PM	

Techno Sci 2K21

Groupwise Timing to Join the Google Meet Link of your Respective Panel

Diploma Civil Participants

Sr No	Group Number	Time to Join The Google Meet Link	Panel Number Allotted
1	DC01	11:00 AM	CIVIL01
2	DC02	11:15 AM	
3	DC03	11:30 AM	
4	DC04	11:45 AM	
5	DC05	12:00 PM	
6	DC06	12:15 PM	
7	DC07	12:30 PM	
8	DC08	11:00 AM	CIVIL02
9	DC09	11:15 AM	
10	DC10	11:30 AM	
11	DC11	11:45 AM	
12	DC12	12:00 PM	
13	DC13	12:15 PM	
14	DC14	12:30 PM	
15	DC15	12:45 PM	

Engineering Civil Participants

Sr No	Group Number	Time to Join The Google Meet Link	Panel Number Allotted
1	EC01	12:45 PM	CIVIL01
2	EC02	1:00 PM	
3	EC03	1:15 PM	
4	EC04	2:00 PM	
5	EC05	2:15 PM	
6	EC06	1:00 PM	CIVIL02
7	EC07	1:15 PM	
8	EC08	2:00 PM	
9	EC09	2:15 PM	



'येचे बहुलांचे हित'

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**TECHNO - SCI 2K21  
(Project Competition)**

*Certificate of Participation*

This is to certify that Mr. / Ms. Pankaj Kumar (Winner)  
of Indira College of Engineering and Management, Parandwadi has participated  
in Third State Level Online Project Competition "**Techno - Sci 2K21**" organised by Marathwada

Mitramandal's Institute of Technology, Lohgaon, Pune on 21<sup>st</sup> June, 2021

*Sanjay*

**Mr. S. A. Agrawal**  
Coordinator

*Dr. R. V. Bhortake*

**Mr. E. D. Kurhe**  
Dean, Student Affairs

*Dr. R. V. Bhortake*

**Dr. R. V. Bhortake**  
Principal

**Mechanical Department Participants (Diploma)**

Sr No	Group Number	Name of the Team	Name of College with address	No of Team Members	Member 1	Member 2	Member 3	Member 4
1	DM01	Techno_Swap	Kasegaon Education Society Polytechnic Lohagaon Pune	1	Swapnil Navnath Kakade	Swapnil		
2	DM02	POL PARTH RAJENDRA	GOVERNMENT POLYTECHNIC COLLEGE PUNE	1	PARTH RAJENDRA POL	POL PARTH RAJENDRA		
3	DM03	Kalwalya Markare	Government Polytechnic Pune	2	Kalwalya Markare	Aryan Bensode		
4	DM04	Pratik	Government polytechnic yavatmal	2	Don't believe in luck believe in hard work	My things my scusses		
5	DM05	KABALI works	Dy patil polytechnic Akurdi	1	Abhishek Kambali	no		
6	DM06	Vision	Cusrow wadia institute of technology, 19, bund garden road, pune-01	2	Aman Shaikh	Sanket Mardhekar		
7	DM07	PNEUMATIC	GOVERNMENT POLYTECHNIC AJRANGABAD	4	Rohan Vijay Pawar	Yogesh Surykant Bhale	PARMANAND SHIVGIR GIRI	Pravin Dnyaneshwar Sewant
8	DM08	RIT Boys	Rajarambapu Institute of Technology, Lohagaon, Pune	2	Adarsh Gangedhar Lad	Chalmneppe Basvantrao Korali		
9	DM09	Brajdar	Rajarambapu institute of technology polytechnic lohgaon pune	2	Divya Kashinath Brajdar	Dnyaneshwar kashinath Brajdar		
10	DM10	CHANAKYA	RAJARAMBAPU INSTITUTE OF TECHNOLOGY (lohagaon)	3	Pritam kumar singh	Swapnil navnath kakade	Aditya pradipshate	
11	DM11	All star	K.E.Society's Rajarambapu Institute of Technology(Polytechnic),Lohagaon	2	Sandesh sarode	Sandesh Adawale		
12	DM12	Inventos	Government Polytechnic Pune,	2	Om Ban	Sakshi Mahajan		
13	DM13	Rajive Singh	Govt polytechnic daman	1	Rajive	Rajive	Rajive	Rajive
14	DM14	Deep Skill	Government Polytechnic Daman	4	Abhishek	Nikhil	Ankit	Shivam
15	DM15	Tech Skill	Government Polytechnic Daman	4	Raman Kumar	Hrishikesh Vikhar	Vishnu Setah	Gudoo Rajbhar
16	DM16	Fantastic 4	Government Polytechnic Varkund, Nani Daman-396 210.(PH 0260-2242800)	4	Guddoo Rajbhar	Ved Prakash Singh	Joel Joseph	Rajkumar Bera

17	DM17	Mechanics	Cusrow Wadia Institute of Technology pune-01	4	Denish Hussain	Sumedh Kamble	Pallavi Gaikwad	Maryam Ustad
18	DM18	M1 GROUP	JAYVANTRAI HARRAI DESAI POLYTECHNIC, PALSANA SURAT	4	Sodagar Rizwan	Patel Dhruvkesh	Mayank Dhodiya	Ashish Singh
19	DM19	Shreeva pathak	GOVERNMENT POLYTECHNIC PUNE, GANESHKHIND ROAD	1	SHREYAS ARUN PATHAK	No member	No member	No member
20	DM20	SITMECH	Sherad Institute of Technology Polytechnic, Yadav (Ichalkaranji-416115)	4	Abhishek Manohar Funde	Virendra Sanjay Abitkar	Aquib Mehboob Mundgnur	Prathamesh Uttam Jadhav
21	DM21	Mechanical Boys	K. E. Wagh Polytechnic, Nashik	1	Rajas Ashok Kumawat	Yashpel Bheusaheb Rajput		
22	DM22	Team FROST.	Cusrow Wadia Institute of Technology Pune - 01	4	Purvesh Bhuvaneshwar Patil	Yash Vikas Pansare	Aditya Raju Mange	Vivek Vijay Zope
23	DM23	Mechanical E-14 group	Government polytechnic pune	4	Namrata Hiraji Raut	Suyash Rajendra Kumar	Omprasad Ramdas Sapate	Shubham Narendra Varma
24	DM24	RPS	Cusrow Wadia Institute of Technology, pune-01	3	Shubhem Abaso Gore	Parth Sanjay Jadhav	Prasad Sunil Ratnaparkhi	
25	DM25	Abhinav Bhandare	Government Polytechnic Pune	1	Abhinav Bhandare	-	-	
26	DM26	RIT POLYTECHNIC GROUP OF MECH STUDENTS	Issagoan education society Lohegaon pune-47	4	Surya sesa	Pranav tapase	Shiveni sonawane	Shraddha shinde
27	DM27	Prathamesh Pradhan	Mhada colony pechod government polytechnic ambad.	1	Prathamesh prPradhan	Rajesh navghare		
28	DM28	Mr. GANESH ANJARAM TEKALE Ms. DHANSHREE SANJAY ADHUDE	Government polytechnic college Ambad	2	Ganesh Anjaram Tekale	Dhanshree sanjay Adhude		
29	DM29	Bagal Ashwini Chattrachar	Government polytechnic Ambad	1	Ashwini Chakradhar Bagal	0		
30	DM30	Selave Swapnil Dasa	Shivnagar Vidya prasarak Mandal's Malegaon BE baramati	3	Selave Swapnil Dasa	Rote rohit kakasa	Pomane Sachin nana	
31	DM31	Innovative ideas	Purnamal Lahoti Government Polytechnic, Latur.	4	Surwase Pavan Atharam	Shelar Ganesh Samadhan	Shere vishal Rajkumar	Waghmare Shivam Chandrakant
32	DM32	The Goppers.	Government Polytechnic Pune.	2	Shravan Anil Gogawale	Purva Shankar Chalindrawar		

33	DM33	THE GPPINS	Government polytechnic pune, Shivaji Nagar, pune	4	Lohitaksh N Pachpande	Shubham V Ingale	Geuri M Chile	Aashish K Holkar
34	DM34	Team A	AISSMS COLLAGE Polytechnic kennedy road, near RTD, Pune	3	Rohit Milind Devanpelli	Akash Hiremath	Pranav Altekar	
35	DM35	ME-6A (G.P.AURANGABAD)	Government Polytechnic, Aurangabad Station road, Usmanpura, Aurangabad, 431003	4	Vinay Ankush Aher	Neha Dipak Mundada	Valbhav Rajendra Bholekar	Dnyaneshwar Govind Deokar
36	DM36	Shahebaz Khan Ataula Khan Pathan	Government Polytechnic Limbala Hingoli	2	Shahebaz Khan Ataula Khan Pathan	Tapre Akash	Zishan Shaikh	Harshal late
37	DM37	GPPians	Government Polytechnic Pune	4	Himanshu Harip	Nikhil Chavan	Anurag Jagdale	Rohit Choulwar
38	DM38	Mechanical Group	Government Polytechnic Pune	2	Valbhav	Pranav		
39	DM39	Teamcwitans	Cusrow wadia Institute of technology 19, Bundgarden Road, Sengamvadi, Pune, Maharashtra 411001	4	Ashish Madhukar Gaikwad	Prathamesh Mahesh Joshi	Gayatri Sambhudev Jagdale	Lalita kailes Shirke
40	DM40	GPP TECHNICAL	GOVERNMENT POLYTECHNIC PUNE GANESHKHIND ROAD OPP. TO E-SQUARE THEATRE PUNE.	2	SHREYAS ARUN PATHAK	ASHWINI LAKSHMANRAO LOKARE		
41	DM41	MECH GIRLS	GOVERNMENT POLYTECHNIC COLLEGE AMBAD	2	LENDAL ASHWINI KESHAV	BAGAL ASHWINI CHAKRADHAR		
42	DM42	Mechanical engineers	Sherad Institute of Technology polytechnic yadrav, Ichalkaranji.	4	Omkar suresh chougule.	Sanmesh Sunil Shinde.	Samir Nurmahamad Momin.	Om Sunil Shinde.
43	DM43	Rit Boys	Kasegaon Education Society Polytechnic Lohegaon Pune	3	Swapnil Kakade	Pritam Kumar	Aditya Sheta	
44	DM44	Automatic wire cutting machine	Sherad institute of technology polytechnics Ichalkaranji	2	Aniketkumar Ashok Prasad	Solanki Kumar Singh		
45	DM45	E-Bikers	Sherad Institute of Technology Polytechnic, Yadrav-ichalkaranji	4	Rajwardhan Satish Patil	Atharv Prashant Kolekar	Koustubh Babubal Patil	Pavan Shilvaj Kalantre
46	DM46	Mechanical Car Jack	Cusrow Wadia	4	Shashikant Rajguru	Sunil Mahajan	Geurav Kamble	Tanmay Kurumkar
47	DM47	Tech Warriors	Government Poly Aurangabad	4	Rushikesh Kothawade	Saish Avhale	Adesh Yawale	Atharv Kulkarni
48	DM48	Solar Powered Grass Cutter	Cusrow Wadia Poly	4	Isha Sabde	Sushant Pandhara	Abhishek Gondkar	Omkar Gadkari
49	DM49	Pneumatic Paper Bowl Making machine	Jaywantrai Harrai Desai Poly, Surat	2	Jay Deepakkumar Dumasia	Kannaiyala Gajjar		



**Mechatronics Department Participants (Diploma)**

Sr No	Group Number	Name of the Team	Name of College with address	No of Team Members	Member 1	Member 2	Member 3	Member 4
1	DMEXD1	Warm greetings	MMPOLYTECHNIC college Thergan Pune 53	2	Pratiksha Balasaheb Gaikwad	Pratiksha Bhusaheb Derekar		
2	DMEXD2	Group no 28	Zeal college of engineering and research pune	1	Neha pendurang Kadam	Snehal shivaji oihal	Priyanka appa kale	
3	DMEXD3	Advanced Idea Mechanics	MIT school of polytechnic Kothrud Pune Maharashtra	4	Rohan Jitendra Vijapure	Viraj Memane	Shivam Chavan	Soham Maranholkar
4	DMEXD4	Team Electro-Grid	Sharad Institute Of Technology Polytechnic, Yadav. Ichalkaranji.	4	Tushar Pravinkumar Patil	Abhey Suresh Dhulasawant	Pratik Umesh Mohite	Ankush Anil Koli
5	DMEXD5	1. prathmesh pardeshi 2. omkar Matale 3. prathmesh shre	K. K. Wagh polytechnic	3	Prathmesh Pravin shire	OMKAR RATAN MATALE	Prathmesh Mukesh pardeshi	
6	DMEXD6	Electro-vision	Sharad institute of technology polytechnic, yadav	4	Shivraj Subhash Nerke	Aniket Anil kagwade	Pranav Annasaheb Herle	Suraj Chavegonde Patil
7	DMEXD7	Harshal Gaikwad	Government Poly Amravati	2	Harshal Gaikwad	Runal Amzara		

**Civil Department Participants (Diploma)**

Sr No	Group Number	Name of the Team	Name of College with address	No of Team Members	Member 1	Member 2	Member 3	Member 4
1	DCD1	D - Team	Government Polytechnic Pune.	2	Shivraj Ramesh Saste	Shubham sheshnarayan Atkal		
2	DCD2	RIT polytechnic	RIT polytechnic lohegaon	2	Tanmay thorse	Salma syyed		
3	DCD3	3	Ekivya Polytechnic college kothrud	3	Sanket nagnath kesara	Sachin gupta	Ashish kadari	
4	DCD4	YBPP	Y. B. Patil Polytechnic College in Akurdi Pune.	4	Bharati Bhosale	Aditya Patil	Om Manbar	Prajita Gophne
5	DCD5	Rushikesh kaisas padul	Y.B. Patil Polytechnic akurdi,pune	1	Rushikesh padul	Rushikesh siddhagavali		
6	DCD6	POPIANS	Pimpri Chinchwad Polytechnic, Akurdi, Pune	4	Neha Tayde	Pankaja Dhare	Mrunal Bhambure	Shreya Yadav
7	DCD7	Capstone project	Pimpri Chinchwad polytechnic nigdi, pune	4	Milanshu Pawar	Harshika Shinde	Sonali Raut	Ayush Randhava, Shivaji Shinde
8	DCD8	SanMan	Zeal Polytechnic Narhe	2	Sanjana Sawant	Manasi Singh		
9	DCD9	Champions..	Cusrow Wadia Institute Of Technology	2	TANISHQ MANISH AGRAWAL	MANOJ BABU PATIL		
10	DCD10	Capstone Project	Pimpri Chinchwad polytechnic (Akurdi)	4	Dnyaneshwari Balazahab Bhegade	Shravya Rajesh Bhandare	Apurva Vijay Galkwad	Rajkamal Promod Thete
11	DCD11	Team_S&A	Govt polytechnic mota faliye Varkund Nani Daman UT of DD &DMH	2	Shwet Pratap Singh	Pinjari Abulkasim Yusuf		
12	DCD12	Civil 5	Pimpri Chinchwad Polytechnic Akurdi,Pune	4	Aarti Zadbuka	Rohan Dhoka	Sakshi Pawar	Vedant Shinde and Atharva Shinde
13	DCD13	Shinde Mayur Sanjay	Pravin Patil Polytechnic Bhayandar East	1	Shinde Mayur Sanjay			
14	DCD14	PCP	Pimpri-Chinchwad Polytechnic ,Akurdi Pune -35	2	Sanmesh Potdar	Sahil Kumar		
15	DCD15	Bamboo as a Construction material	Pravin Patil Polytechnic	2	Moin Mohd Iqbal Khan	Ashish R Dillaudh		

**Mechanical Department Participants**

Sr No	Group Number	Name of the Team	Name of College with address	No of Team Members	Member 1	Member 2	Member 3	Member 4
1	EM01	A/R-MED	MMIT, lohegaon, pune	2	VAIBHAV SURESH LANDE	MANALI CHANDRAXANT PATIL		
2	EM02	TEAMINNOVATIVE	Dhole Patil College of Engineering Wagholi, Pune	4	Rushikesh Dinkar Gadekar	Prafull Rajendra Jadhav	Ravindra Shrirang Gade	Abhiraj Dhole
3	EM03	Team Autotronics	Indira College of Engineering and Management, Parandwadi, Pune 410506	4	Prajapati Anand Baban	Sangapure Aakash Mallikarjun	Sajithkrishna Subramanian	Pise Kaustubh Kohor
4	EM04	Synthetic Jet	Dr. D.Y. Patil College of Engineering	4	Zole Swapnil Dazhrath	Chipte Prathmesh Ganpat	Jogdand Ramdas Munjaji	Chaudhary Mayur Raghunath
5	EM05	Team SPARK	Indira College of engineering and management, Parandwadi	4	Shubham Survase	Prathamesh Dhage	Rohit Kadam	Pankaj Kumar
6	EM06	Prayas	Dr. D.Y. Patil College Of Engineering and Innovation,Varale.	4	Suraj Dilip Bhat	Kanchan Dnyanoba Rajmanane	Rahul Randhirsingh Gaherwar	Somnath Prakash Ghavate
7	EM07	Krushni Nirmaeti	Prevera Rural Engineering college Loni dist Ahmednagar	4	Dipek Kishan Waghmare	Shubham Rajendra yenage	Akash Raosaheb shekar	Aniket Suryabhan shinde
8	EM08	All Stars	SSBT College of Engineering and technology, Bambhori Jalgaon 425001	2	Manupratap Singh Parmar	Kunal Kolhe		
9	EM09	Soler powered hybrid vehicle	MMIT, Pune, lohegaon.	4	Mane sudarshan	Akshay Shimpi	Akshay belhekar	Akash adagale
10	EM10	Dattatraya Balu Kothavale	Marathwada Mitra Mandal's institute of technology, lohegaon, Pune.	4	Kothavale Dattatraya Balu	Harshkar Aniruddha	Rhopede omkar	Sarwade Yogesh
11	EM11	Vidula Vishnu Suryawanshi	Mmit	4	Vidula suryewanshi	Onkar patil	Nikhil Ghodake	Sham Lomate
12	EM12	Team Marvel's	Marathwada Mitra Mandal Institute of Technology, lohegaon,411047	4	Athare Sumitra Ram	Kale Devraj Bharat	Barothkar Aniket Vasantao	Bhingare Bhushan Balasaheb
13	EM13	SSP	MIT ACADEMY OF ENGINEERING ,Alandi, Pune	3	Chetan M Wankhede	Chetan.S.Morkar	Avinash.D.Aher,	
14	EM14	Der Robotar	Marathwada Mitra Mandal's Institute of Technology, Lohgaon Pune.	3	Aniket Lakhpat Agarwal	Ajay Thaneshwar Sharma	Rutujs Devanand Shinde	
15	EM15	Group 19	Marathwada Mitra Mandal's Institute Of Technology, Lohgaon Pune	4	Nilkanth Taware	Atul Sonwane	Sachin Panchal	Suraj Mukke
16	EM16	Group 22	Marathwada Mitra Mandal's Institute of Technology, Lohgaon-411047	4	Aniket Dube	Prathamesh Kide	Adesh Pardeshi	Shubham Mude

17	EM17	Automatic contactless Sanitization Unit	Mmit lohegaon	4	Sendip sulta	Sushila pillay	Ajay Yadav	Rishabh kardile
18	EM18	Group no 13	Marathwada Mitra Mandal Institute of Technology Lohgaon Pune	4	Pravin Doiphode	Vijay Pawar	Nilesh Deshmukh	Onkar Nalawade
19	EM19	Vidula Vishnu Suryawanshi	Mmit	4	Vidula suryawanshi	Nikhil Mahendra Ghodake	Onkar Patil	Shame Lomate
20	EM20	BE Mech 2015	Marathwada Mitra Mandal Institute of Technology Pune	4	Sohel Shafi Shaikh	Rutuja Mangesh Pawar	Shubham Anilkumar Shinde	Shrinidhi Sanjay Warade
21	EM21	Raw	Mmit, Lohegaon pune.	4	Prasad Tone	Chaitanya shahane	Shivram Kute	Vijay waghmare
22	EM22	Prashant Nangare	Marathwada Mitramandal's Institute of Technology (MMIT) Sr.No. 35, Plot No. 5/6, Lohgaon, Pune &C° 411047	4	Prashant Nangare	Kiran ledge	Dhiraj Goswami	sumit somwanshi
23	EM23	Manoj Pandurang Sakhare	MMIT, Lohegaon	4	Vishnu Madhukar Deshmukh	Seurav Raman Kumbhar	Manoj Pandurang Sakhare	Vishwas Vijay KASHID
24	EM24	Team Strikers	Marathwada mitra mandal institute and technology lohegaon pune	4	Bait Seurabh	Sakhare Ramesh	Mane Datta	LAMBUTE Deepak
25	EM25	Prathamesh Kide	MMIT Pune	1	Prathamesh Kide	Na	Na	Na
26	EM26	Jagdale Rohit Ganesh	Marathwada Mitra Mandal Lohegaon, Pune	4	Jagdale Rohit Ganesh	Gonjari Prasad Nitin	Ghedge Santet	Kale Anil
27	EM27	Pioneer Team	Marathwada Mitra Mandal's institute of technology Lohgaon	3	Madhav Mugale	Lakshman More	Vinay Pagar	Nihal Mujavar
28	EM28	Hrushikesh	Marathwada Mitra mandal institute of technology,Pune	4	Hrushikesh yevale	Chinmay joglekar	Padmabhushan ganacharya	Rahul Jagdale
29	EM29	Rohit Bhosale	Mmit Lohegaon, Pune, Maharashtra 411047	4	Rohit Bhosale	Rohan Bhosale	Allen douza	Prasad bhujbal
30	EM30	Suraj Badki, Balkrishna shirodkar, shreyash sapkal, sagar more	Marathwada mitra mandal institute of technology, lohegaon	4	Shreyash Sapkal	Sagar more	Balkrishna Shirodkar	Suraj Badki
31	EM31	TEAM AMIGOS	MMIT, PUNE	4	JAYESH PATIL	HARSHAL KAMBLE	NILESH BHON	KAJAL SHINDE

**Mechatronics Department Participants**

Sr No	Group Number	Name of the Team	Name of College with address	No of Team Members	Member 1	Member 2	Member 3	Member 4
1	EMKD1	Code Patrons	Marathwada Mitra Mandal's Institute of Technology, Pune	4	Mulla Sahil	Hibere Harish	Jadhav Pooja	Kharade Shubham
2	EMKD2	The Automators	MMCOE	4	Nikhil Gawate	Satyaprakash Yadev	Prathamesh Jadhav	Romit Kharate

**Civil Department Participants**

Sr No	Group Number	Name of the Team	Name of College with address	No of Team Members	Member 1	Member 2	Member 3	Member 4
1	ECD1	Automizer	Pimpri-Chinchwad college of engineering Akurdi	2	Mr. Akshay Maruti Pudke	Mr. Akash Chandrakant Govilkar		
2	ECD2	Snehal Kulkarni	Bhara vidyapeeth college of engineering Lavale	2	Snehal Kulkarni	Rupesh Rathod		
3	ECD3	DY Boys	Dr. D Y Patil College, Pimpri, Pune	2	Pavni Netaji Kolekar	Sagar Vijay Mundhokar	Pradip Nanawre	Vipul Mitkar
4	ECD4	Team Vishvaswaraya.	Amrutvahini College of engineering, Sangamner, Tal. sangamner, dist. Ahmednagar.	4	Walchaure Rushikesh M	Zolekar Amey E	Shete Nikhil B	Kudaner Changrdev S
5	ECD5	Environment	PDVVP COE A NAGAR VILAD GHAT	1	Waghmode Pallevi Bhausaheb	Rushikesh Venudas Waghmode		
6	ECD6	Use of granite fine waste in concrete	PCCOE	4	Srinath Chevan	Siddharth Kore	Akash Dange	Swapnil Londhe
7	ECD7	Krunal Muley	Amrutvahini College of engineering, Sangamner, Tal. sangamner, dist. Ahmednagar.	4	Muley Krunal	Nilesh Dattar	Chaitanya Darekar	Gaurav Darekar
8	ECD8	Team Influencers	Sinhgad AOE, Kondhwa	4	Ashutosh Thokare	Shubham Wagh	Pravin Dhobale	Nehe narayanpura
9	ECD9	3D Concrete Printer	PCCOE	2	Mrunal Shripad	Chinmay Shripad		



"Techno - Social Excellence"  
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Institute of Technology (MMIT)**



Accredited with "A" Grade by NAAC

Survey No. 35, Vadgaon Shinde Road, Lohgaon, Pune - 411 047

Approved by AICTE, New Delhi, Recognised by DTE, M.S.Mumbai, Affiliated to Savitribai Phule Pune University

Email : principal@mmit.edu.in

Website : www.mmit.edu.in

Tel No. : +91 7447786623 / +91 7447786624

DTE Institute Code : 6203

Date: 07-11-2020

## Report on Orientation Program- ISHRAE MMIT Student Chapter

Department of Mechanical Engineering of Marathwada Mitra Mandal's Institute of Technology (MMIT), Lohgaon, Pune has taken the Membership of Students Chapter of ISHAE as name of **"MMIT ISHRAE Student Chapter in month of August 2020."**

The 12 Students registered till date for this Chapter from Mechanical Engineering Department. The Orientation program is conducted on 07<sup>th</sup> Nov 2020 for Member students and others in presence of Dr. Vijay Bhatkar, Students Chair, ISHRAE Pune Chapter through online mode.

Dr. Vijay Bhatkar has given the details of chapter and the guidance to the students in this program.

### Details are given below:

Guest :- **Dr. Vijay Bhatkar**  
(Student Chair, ISHRAE Pune Chapter)  
MMCOE, Pune

Date :- 07<sup>th</sup> Nov 2020

Time :- 2.00 PM -3.00 PM

Venue :- Online Mode

Total Attendee :- 81

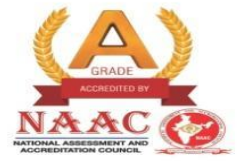
Faculty Coordinator  
Prof. S .G. Nerkar



HOD, Mech



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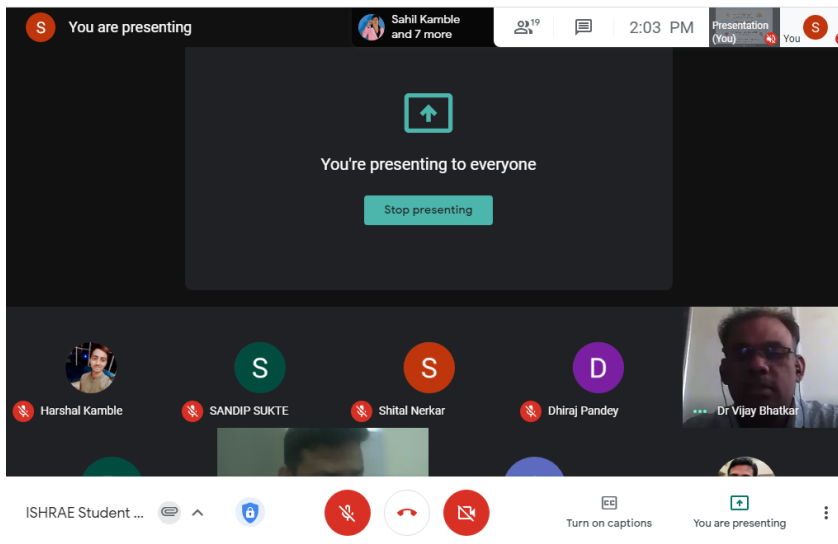
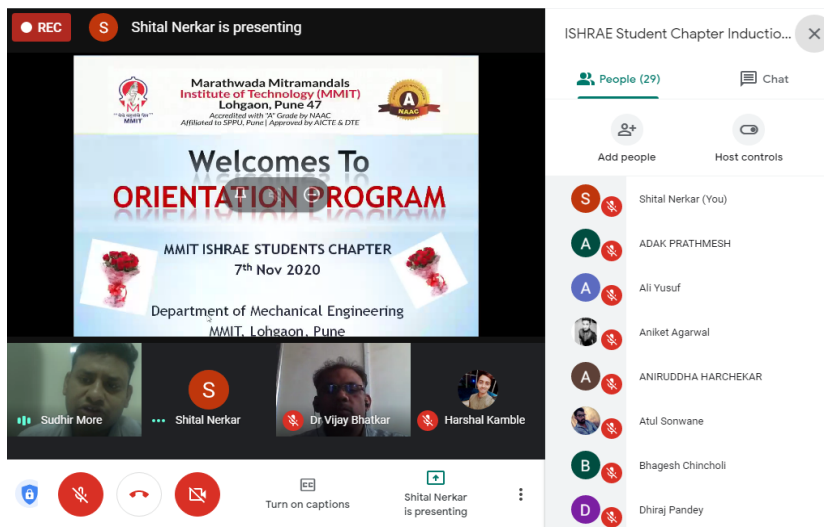
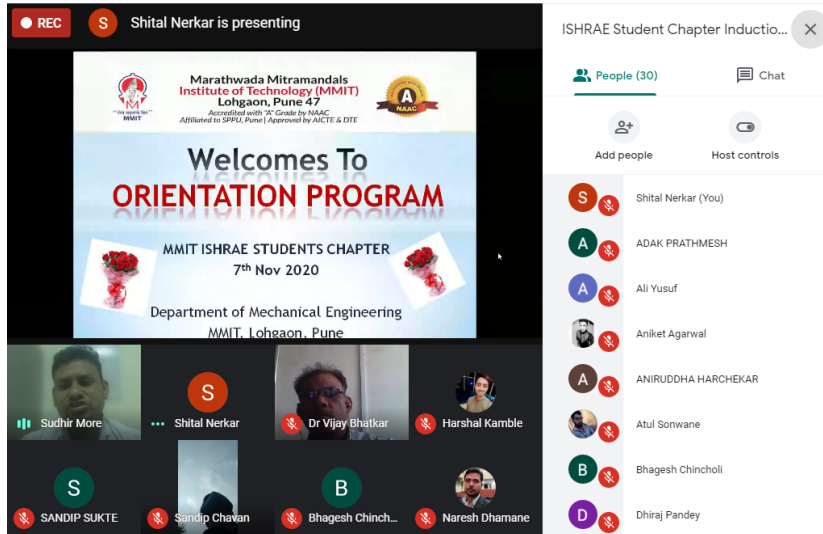
Approved by AICTE, New Delhi, Recognised by DTE, M.S.Mumbai, Affiliated to Savitribai Phule Pune University

Email : principal@mmit.edu.in Website : www.mmit.edu.in

Tel No. : +91 7447786623 / +91 7447786624

**DTE Institute Code : 6203**

## Photos





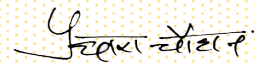
# CERTIFICATE OF PARTICIPATION IN ONLINE COURSE

iirs

यह प्रमाणित किया जाता है कि कु० वैष्णवी राजेश वनकर को यह प्रमाण पत्र “भौगोलिक सूचना प्रणाली” में ऑनलाइन पाठ्यक्रम में प्रतिभाग करने पर प्रदान किया जाता है। इस पाठ्यक्रम का आयोजन भारतीय सुदूर संवेदन संस्थान (आईआईआरएस), इसरो, देहरादून द्वारा 28 सितम्बर, 2020 से 15 अक्टूबर, 2020 ( कुल पाठ्यक्रम अवधि = 18 घंटे ) के दौरान किया गया ।

This is to certify that **MS. VAISHNAVI RAJESH WANKAR** has been awarded this certificate for participation in online course on “**Geographical Information System**” conducted by Indian Institute of Remote Sensing (IIRS), ISRO, Dehradun during **28-09-2020 to 15-10-2020 ( Total course duration = 18 hours )** .

iirs



Date: 14-12-2020  
Place: Dehradun

समन्वयक, विश्वविद्यालय/संस्थान  
Coordinator, University/Institution

निदेशक/ Director  
आई०आई०आर०एस, देहरादून/ IIRS, Dehradun





# CERTIFICATE OF COMPLETION

This is to certify that

**Vaishnavi Wankar**

has completed **Spotle AI-thon Level I - The AI Quiz**  
with rank **31** (out of **7107** participants).

Mousum Dutta

Program Director, Spotle.ai

Dr R.L. Karandikar

Director, Chennai Mathematical Institute

Dated: **2020-08-28**

Certificate ID: **0BF5FA8021854CE0**



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ITM Edutech Training Pvt. Ltd.

THIS IS TO CERTIFY THAT

***Vaishnavi Wankar***

HAS SUCCESSFULLY COMPLETED THE

***Essential 101 : Certification Program in  
AWS Cloud Computing***

FROM 14<sup>TH</sup> AUGUST 2020 TO 23<sup>RD</sup> AUGUST 2020

ORGANISED BY LETSUPGRADE



DATE OF ISSUE: 9<sup>TH</sup> SEPTEMBER 2020

CERTIFICATE NO.: LUAWS0820A1373

LetsUpgrade.in/verify



INTERNSHIPSTUDIO

# CERTIFICATE

OF TRAINING COMPLETION

THIS CERTIFICATE IS PRESENTED TO

*Vaishnavi Wankar*

---

FOR THE COMPLETION OF 4 WEEKS TRAINING ON **WEBSITE DESIGN** AT  
INTERNSHIP STUDIO. WE WISH YOU ALL THE BEST FOR YOUR FUTURE ENDEAVOURS.

**SANTOSH PRABHAKAR**  
Instructor

DATE: 02/11/2020

CERTIFICATE ID: ISTWDX3025

# CERTIFICATE

PROUDLY PRESENTED TO

*Aditya More*

---

Corporate Guru: Digital Marketing Manager | IMS  
Proschool

Jul 18, 2020

---

Date of Completion

*IMS Proschool Pvt Ltd*

---

Organizer





08/09/2020

Vaibhavi Anand Kamalapurkar

has successfully completed

**AWS Fundamentals: Going Cloud-Native**

an online non-credit course authorized by Amazon Web Services and offered through Coursera

Allen Goldberg, Morgan Willis, Blaine Sundrud  
AWS Training and Certification

COURSE  
CERTIFICATE



Verify at [coursera.org/verify/KGPP9G7KAKGS](https://coursera.org/verify/KGPP9G7KAKGS)  
Coursera has confirmed the identity of this individual and their participation in the course.

Group ID	Mentor Name	Class Roll No.	Member Name	Project Title
A1	Prof. S. K. Patil	SEA01	ABHINAV MISHRA	Used school supplies Hub Application
		SEA05	AKSHAY LAVHAJI PATIL	
		SEA09	ANUJ SHARMA	
		SEA22	DALVI GAURAV GURUNATH	
A2	Prof. D. B. Satre	SEA30	DORAGE NEHA SANJAY	Detection of fake profiles
		SEA47	JOSHI PRIYANKA YOGESH	
		SEA63	LAMKHADE RUTUJA KAILAS	
		SEA59	KHANDAGALE APURVA SHARAD	
A3	Prof. S. G. Rathod	SEA07	ANANDI DESHMUKH	digital marketing website for Farmers
		SEA08	ANIKET SURESH SAWANT	
		SEA11	BABAR TEJAS LAHU	
		SEA25	DESAI SHREYASI SHIVAJI	
A4	Prof. S. K. Patil	SEA70	MORE KARTIK ATMARAM	Size Invariant Ship detection from SAR Images
		SEA16	BHOLE SHUBHAM NARENDRA	
		SEA57	KEDAR KARCHE	
		SEA50	KANASE TANMAY HANMANT	
A5	Prof. D. J. Bonde	SEA03	AGARWAL PAYAL JITENDRA	Medicine timer
		SEA26	DHANANJAY RAMCHANDRA PHIR	
		SEA49	KAMBLE VAISHNAVI SATISH	
		SEA69	MORE ADITYA DNYANESHWAR	
A6	Prof. S. S. Muley	SEA44	JADHAV ABHIJEET EKNATH	SuperMarket Billing system
		SEA42	INGLE ABHISHEK NANDKUMAR	
		SEA12	BACHEWAR SHIVAM SUNIL	
		SEA72	MORE TEJAS PADMAKAR	
A7	Prof. S. S. Muley	SEA38	GOVELE SHARVARI RAJENDRA	Elderly care system
		SEA34	GAIKWAD GAYATRI PRADEEPKUM	
		SEA51	KANDEKAR SHUBHAM TEJMAL	
		SEA71	MORE SEJAL SANTOSH	
		SEA32	FUGATE PURUSHOTTAM DIGAMB	
A8	Prof. S. T. Shinde	SEA31	FAAIQ YAZDAN	Library Management System
		SEA68	MOHAMMED SAAD SAGEER ALAN	
		SEA06	AMAN GOPAL UMATE	
		SEA60	KHANDARE SANKET PANDIT	
A9	Prof. S. A. Agrawal	SEA14	BARASHILE ROHIT ARJUN	used Book selling and buying system
		SEA20	BOMBLE ABHIJIT TUKARAM	
		SEA02	ADITYA RAMESHWAR PACHPILLE	
		SEA35	GAIKWAD PRANAV ASHOK	
		SEA56	KAVITAKE SUJIT GANPAT	
A10	Prof. M. S. Jagtap	SEA64	Rutuja nivrutti Lokhande	Driver Drowsiness detection system
		SEA33	APARNA KAILAS GADE	
		SEA67	MANKESHWARKAR HARSHADA N	
		SEA54	KASSA NAMRATA AMAR	
		SEA17	Bhutkar Mayuri Rahul	
A11	Prof. S. S. Chaudhari	SEA10	ATHARVA KULKARNI	
		SEA46	JAMBURE SHRAVANI JITENDRA	

A11	Prof. S. S. Chaudhari	SEA48	KADAM SHRIYASH RAMESH	Medicine timer
		SEA62	KOMAL SHARMA	
A12	Prof. U. L. Tupe	SEA37	GORE SHUBHAM PARSHURAM	Elderly care system
		SEA53	KASHID DARSHAN ARUN	
		SEA23	DAREKAR SWAPNIL SATYAPRAKASH	
A13	Prof. T. S. Bhoje	SEA41	INGALE ATHARVA MADHUKAR	Android based parking system
		SEA29	DINGANE KUNAL SHRIHARI	
		SEA04	AHER MAHESH DASHARATH	
		SEA13	Bangar Akshay Ashok	
A14	Prof. P. V. Deshmukh	SEA19	Biramane Abhay Sanjay	Attendance Management System
		SEA28	Dhawale Rohan Ramesh	
A15	Prof. K. S. Surawase	SEA15	Bhogade Vaishnavi kalidas	I. Bookshop Inventory System
		SEB	Rathod Adarsh	
		SEA58	Khalkar Rushali Ramdas	
		SEA66	Magar Angad Kundalikrao	
A16	Prof. A. M. Karanjkar	SEA21	Budre Gauri Suresh	Object Detection
		SEA24	Deep Vivek Bhakre	
		SEA27	Dhanawade Ashutosh Jitendra	
		SEA36	Gawali Swapnil Anil	
A17	Prof. S. S. Borawake	SEA43	Jacob Abinesh Joseph	What Next - Career Guidance Application
		SEA45	Jadhav Aniket Subhash	
		SEA55	Katkar Saurav Sopan	
A18	Prof. M. S. Jagtap	SEA40	Shantanu Hule	Image classification
		SEA39	Harsh Khandagle	
		SEA65	Aakanksha Magaonkar	
		SEA61	Gayatri Kinge	
		SEA52	Janvi Kankhar	

Co-ordinator

HOD



Group ID	Mentor Name	Class Roll No.	Member Name	Project Title
B1	Prof. U. L. Tupe	SEB63	KULKARNI ONKAR MAHESH	Placement Application
		SEB64	UBALE TRUPTI RAHUL	
		SEB65	SHELAR PRATIKSHA DADASAHEB	
B2	Prof. P. V. Deshmukh	SEB88	ANUSHKA ASHOK DARVATKAR	E-Notice Board
		SEB82	POOJA SANDEEP GUND	
		SEB72	PRACHI SANJAY SHINDE	
B3	Prof. D. B. Satre	SEB61	SARTHAK APPASAHEB SURVE	Verify hash code for given msg using cryptography
		SEB79	NEHA DILIP LONDHE	
		SEB85	ATHARV SUDHIR KALEKAR	
		SEB91	RUCHIKA DHANANJAY BHOITE	
B4	Prof. S. S. Chaudhari	SEB41	YENARE AADIKA BHAUSAHEB	Mobile Game For Alzheimer's Disease Detection
		SEB07	NIKAM JAGRUTI DHANANJAY	
		SEB11	PATIL RADHIKA RAKESH	
		SEB33	THANKE SHITAL BHAURAO	
B5	Prof. U. L. Tupe	SEB58	RAKHI MOHAN MANAWARE	IOT Based Gas Leakage Detector System. (IOG)
		SEB59	SWAPNALI VIJAY CHOUDHAR	
		SEB84	SNEHAL SUNIL SHINDE	
B6	Prof. K. S. Surawase	SEB22	RIDHI UPINDER SHARMA	Paperless Office
		SEB27	SHIVANI PANDEY	
		SEB04	NAIK SHRUTIKA DEEPAK	
		SEB24	POORVA SHINDE	
B7	Prof. S. S. Borawake	SEB67	SHIKHARE PRATIDNYA BANSEE	Help local businesses increase environmental sustainability
		SEB90	JAGTAP POONAM VILAS	
		SEB66	INGLE MANGESH MOHAN	
		SEB74	DABARE KARAN KESHAV	
B8	Prof. S. A. Agrawal	SEB89	REDDY SHUBHAM VIVEK	ACCIDENT ALERT SYSTEM
		SEB75	LULLE JIVAN SHAMRAO	
		SEB87	SUSHANT RAJENDRA SHINDE	
		SEB83	DIKE KRUSHNA ARVIND	
B9	Prof. S. T. Shinde	SEB01	MRUNAL RAMESH YEMALE	Tour Recommendation System
		SEB34	THOKE KOMAL BHAUSAHEB	
		SEB35	PRATIKSHA THOMBARE	
		SEB06	GAYATRI MAHESH NIKAM	
B10	Prof. S. S. Muley	SEB76	MAHAJAN VAISHNAVI ASHISH	Improved data leakage detection project
		SEB77	KADAM ABHISHEK ANIL	
		SEB78	BARAWKAR SNEHAL VIJAY	
		SEB69	CHALVADI RENUKA HANUMANT	
B11	Prof. S. K. Patil	SEB21	ROHAN RAJKUMAR RAUT	Students evaluation of academic performance
		SEB12	SATYEN PATIL	
		SEB13	VARAD PATIL	
		SEB53	RANJEET GAIKWAD	
B12	Prof. D. J. Bonde	SEB31	KSHITIJ SONJE	How to prevent cheating in exams?
		SEB56	MADHUR SHINDE	
		SEB32	CHIRAG TANK	
		SEB14	SHUBHAM PAWAR	
B13	Prof. S. A. Agrawal	SEB70	AMMAR SHABBIR SAKRIWALA	Smart Road Traffic Fine
		SEB73	ISMAIL NAJIR SHAIKH	
		SEB81	SURAJ VITTHAL GAVLE	



		SEB71	SHIVAM SHRIRANG RAHINJ	Management Process System
B14	Prof. M. S. Jagtap	SEB38	VIVEK RAJU HIREKAR	Use of AI based system for providing health related information
		SEB 40	YADAV ONKAR ABASAHEB	
		SEB57	BADKE ROHIT VASANTA	
		SEB18	POTHARE KIRAN SHIVAJI	
		SEB19	MAHESH PANDURANG RAIPATWAR	
B15	Prof. S. S. Chaudhari	SEB25	SHINGATE RUTUJA ANIL	Credit card validator
		SEB37	VEDIKA BALASAHEB BIRANJE	
		SEB50	ARCHITA DERE	
		SEB48	PRASHANT DHANAWADE	
B16	Prof. T. S. Bhoje	SEB29	SISODIYA KARAN RAMESH	SuperMarket Billing system
		SEB39	VYAVAHARE PRATIK SHANKAR	
		SEB05	NARALE JAYDEEP JAGANNATH	
		SEB26	SHISODE OMKAR PRAKASH	
B17	Prof. S. G. Rathod	SEB16	SHUBHAM SAUDAGAR PHAD	Hotel inventory management system
		SEB17	SARANG GORAKH PHASLE	
		SEB20	RATHOD ADARSH NAMDEV	
		SEB23	SALUNKHE PRATIK DHANANJAY	
B18	Prof. T. S. Bhoje	SEB15	SWAPNAJA SANJAY PAWAR	Food waste management
		SEB03	SAKSHI PRAMOD MUSALE	
		SEB28	SHREYAS ZADGE	
		SEB08	KSHITIJ PATANGE	
B19	Prof. D. J. Bonde	SEB42	ANUBHAV BHAT	used Book selling and buying system
		SEB43	SHRIRAM MORKHANDIKAR	
		SEB45	SHUBHAM DATTATRAY KULKARNI	
		SEB46	YASH YOGESH DAHAT	
B20	Prof. A. M. Karanjkar	SEB10	KSHITIJ PATIL	STUDENT RESULT DISPLAYER
		SEB36	KHUSHAL VAIDYA	
		SEB09	ABHAY PATIL	
B21	Prof. K. S. Surawase	SEB86	KHOD SWATI GORAKH	Smart health consulting system
		SEB60	KHARSÁDE KOMAL BALASAHEB	
		SEB62	ANAGHA PRASHANT INGLE	
B22	Prof. S. S. Borawake	SEB47	SRUSHTI BHIMRAO RAUT	Online Exam Management and Practices
		SEB44	PRAYASI BHADKE	
		SEB68	VISHWAJEET GHANSHAM BHALERE	
		SEB30	SONAJE UDAY RAJENDRA	
B23	Prof. A. M. Karanjkar	SEB80	OMKAR SUDHIR KARANDE	QR Code based Smart Parking System
		SEB49	UMESH BHOSALE	
		SEB02	Mulla Mohammad Faiz Rajesaab	
		SEB55	SANKET SANJAY PAWAR	
B24	Prof. P. V. Deshmukh	SEB51	DURVESH DHENDE	Image classification
		SEB52	SANTOSH PATWARI	
		SEB54	SOHAM GOSAVI	

Co-ordinator

HOD

