AKHIL BHARATIYA MARATHA SHIKSHAN PARISHAD'S
ANANTRAO PAWAR COLLEGE OF ENGINEERING & RESEARCH
Sr. No. 103, Parvati, Pune - 411 009.
Tel.: 020-24218901/8959 Tele Fax : 020-24213929
Web.: http://www.abmspcoerpune.org Email : abmspcoe@yahoo.com ● office@abmspcoerpune.org

Approved by AICTE & Govt. of Maharashtra, Affiliated to Savitribai Phule Pune University
DTE CODE :- EN 6794, AISHE CODE :- C-41484
Savitribai Phule Pune University Identification No. PU/PN/Engg. / 441/2012

Accredited by
NAAC

ISO 9001 2015 CERTIFIED

Criterion 2

2.3.1 Student centric methods, such as experiential learning, participative learning and problem solving methodologies are used for enhancing learning experiences and teachers use ICT- enabled tools including online resources for effective teaching and learning process

Experiential Learning:

Project work

1. Mini project: Project Based Learning

Project-based learning (PBL) or project-based instruction is an instructional approach designed to give students the opportunity to develop knowledge and skills through engaging projects set around challenges and problems they may face in the real world.

Sr. No.	Particular	Page No.
1	Project Based learning Lecture Series for FE, SE, TE & BE Class	**2-6**
2	Project Based learning- Report	**7-29**
3	Project Based learnings- Topics	**38-40**

ABMSP's
Anantrao Pawar College of
Engineering & Research, Parvati,
Pune-09
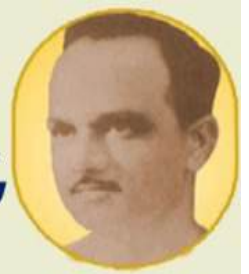
"IDEA RESONATOR-PROJECT BASED LEARNING LECTURE SERIES ACTIVITY"

IN ASSOCIATION WITH
SCIENTIFIC JUGAADFUNDA INNOVATIONS LLP
ORGANIZE UNDER
INSTITUTE INNOVATION COUNCIL, APCOER

Date : 05/05/2022 to 11/05/2022
Time : 02:00 PM – 04:00 PM
Mode of Conduction : Offline
Venue: Mechanical Seminar Hall,
Room No. 128, APCOER.

INSTITUTION'S
INNOVATION
COUNCIL
(Ministry of HRD Initiative)

Session	Date	Class
Session 1	05/05/2022	TE
	06/05/2022	FE
	07/05/2022	SE
Session 2	09/05/2022	TE
	10/05/2022	SE
	11/05/2022	FE

Mr. Manish Patil
Founder-Director
Scientific Jugaadfunda
Innovations LLP.

Dr. K. H. Munde
IIC, President
APCOER

Dr. Sunil B. Thakare
Principal,
APCOER

Mrs. Pramila Gaikwad
General Secretary,
ABMSP

Name of Event: One Day Expert Session On "Idea Resonator Project Based Learning Lecture"

Date of Event: 05th May 2022

Time of event: 11.00 A.M. to 1.00 P.M.

Venue: Mechanical Seminar Hall

Name of Event Coordinators: Dr. K. H. Munde, Prof. N. A. Jadhav

Name of resource Person/ Speaker: Mr.Mangesh Patil, Director – Scientific JUGAD FUNDA

Target Audience with count:

Sr. No.	Department	No. of Participants Third Year Students
1	Civil Engineering	25
2	Computer Engineering	40
3	E&TC Engineering	15
4	Information Technology	25
5	Mechanical Engineering	30
	TOTAL	135

Brief Description of Event:

This event is organized in association with Industry Institute Interaction Cell (IIC) & Internal Quality Assurance Cell (IQAC) of ABMSP'S Anantrao Pawar College of Engineering & Research, Pune with the aim of participants should understand the motivation towards innovative creation.

Prof. N. A. Jadhav started with the welcome speech for the chief guest and all the participants. Dr. K. H. Munde gives the introduction of the chief guest to all the participants. Chief guest Prof Mr.Mangesh Patil facilitated on behalf of APCOER, Pune in presence of participants.

EVENT REPORT

Dr. K. H. Munde requested to resource person Mr.Mangesh Patil to start with the session. Mr.Mangesh Patil delivers a exlleclent session on development of your inner qualities. Students have to focus on their inner abilities and capabilities to find out correct problem statement. This imagination power may leads to address the local & global development based on Bloom's taxonomy.

Moreover, they inspired students to boost in positive emotions and a reduction in negative emotions which helps bringing about greater overall happiness.

After the expert session vote of thanks delivered by Dr. K. H. Munde.

Academic outcomes:

The talk will help students-

1. To understand the process of innovation, problem solving.

2. To understand the need of technology development related to industry.

3. To inspire students to evaluate their abilities and capabilities.

Event Schedule:

Sr. No.	Activity	Day & Date	Time
1.	Welcome of the guest and participants	05th May 2022	11.00A.M. - 11.10 A.M.
2.	Introduction of Speaker person and felicitation of guest.	05th May 2022	11.10 A.M. - 11.20 P.M.
3.	Resource person session on "Idea Resonator Project Based Learning Lecture"	05th May 2022	11.20 A.M. - 12.55 P.M
4.	Vote of Thanks	05th May 2022	12.55 P.M – 1.00 P.M.

	Akhil Bharatiya Maratha Shikshan Parishad's **Anantrao Pawar College of Engineering & Research**	
	Record No.: ACA/D/021 **Revision: 00**	**DoI: 21/01/2019**
	EVENT REPORT	

Photographs:

	Akhil Bharatiya Maratha Shikshan Parishad's **Anantrao Pawar College of Engineering & Research**	
	Record No.: ACA/D/021 **Revision: 00**	**DoI: 21/01/2019**
	EVENT REPORT	

.

Akhil Bharatiya Maratha Shikshan Parishad's
Anantrao Pawar College of Engineering & Research

First Year Engineering Department

PROJECT BASED LEARNING (PBL)

WORK BOOK

ACADEMIC YEAR: 20 21 / 20 22 Semester: II

Division: D   Batch: FE   Group: 2 .

Project Title: Design a Wi-Fi controlled Window

Area of Project: Design Development / Research .

First Year Engineering Department

ANANTRAO PAWAR COLLEGE OF ENGINEERING

S.No.103, Parvati, Pune – 411009

(For Private Circulation Only)

Academic Year   20 2 1 - 20 2 2

Certificate

This is to certify that

Mr. / Miss. Samruddhi Shinde

Class F.E. Roll No. 288 Exam Seat No. A91100187

has completed all the Practical Work / Term Work satisfactorily for the

subject Computer. engineering the Department of as

prescribed by the Savitribai Phule Pune University.

Date :- 1 / 7 / 22

Place :- Pune

Subject Incharge

**Head of
Department**

Principal

Group Information:

Division: D. **Batch:** FF. **Group:** 2.

Roll No.	PRN No.	Name of Student	Mobile No.
288	72220223H	Samruddhi Santosh Shinde	8767865931
271	72220087M	Sujata Satish Dhene	7083326453
306	72220253k	Anushka Rajendra Waghchaure	8459755996
299	72220242D	Rutuja Rajesh Thigale	7038119289
266	72220075H	Srushti Hanumant Chavan	8180974038
284		Bhaktis Bharat Shinde	8767928180
272	72220248C	Vishal Tatoba Handifod	9021836157
284		Bhakti Bhorat Shinde	8767928180

Name of Faculty/Mentor: Prof. Sampada. S. Ahirao.

E-mail: Sampada.ahirrao@abmspcoerpune.org

Mobile No.: 7058813889.

Rules & Regulations:

1. Handle the workbook very carefully.
2. All students must enter the correct information in the work book.
3. All entries in the PBL work book must be verified by the Supervisor/Mentor.
4. Activities planned should be completed as per the instructions and schedule given by Supervisor/Mentor.
5. Assessment of TW for Project Based Learning (PBL) is out of 25 Marks which are based on attendance, regularity of completion of activities on given time and students involvement.
6. Assessment of PR for PBL is out of 50 Marks which are based on idea inception, outcomes of PBL, problem solving skills, solution provided, final product, documentation, demonstration, contest participation, and awareness.
7. Students need to submit final report of 5 to 10 pages in the prescribed format given at the end of this workbook.

Course Objectives:

1. To emphasizes learning activities that are long-term, interdisciplinary and student-centric.
2. To inculcate independent learning by problem solving with social context.
3. To engages students in rich and authentic learning experiences.
4. To provide every student the opportunity to get involved either individually or as a group so as to develop team skills and learn professionalism.

Course Outcomes:

CO1: Project based learning will increase their capacity and learning through shared cognition.

CO2: Students able to draw on lessons from several disciplines and apply them in practical way.

CO3: Learning by doing approach in PBL will promote long-term retention of material and replicable skill, as well as improve teachers' and students' attitudes towards
learning.

Weekly Planning Sheet

Week No.	Activity Planned	Activities Completed	Signature of Students	Signature of Faculty/Mentor
1	Literature survey	Completed	*Shree*	*St*
2	Project Title finalization	Completed	*Omie*	*St*
3	Component required	Completed	*Vishal*	*St*
4	System block diagram	Completed	*Shave*	*St*
5	Arduino sketch	Completed	*Samrudhi*	*St*
6	Discussion	Completed	*Anushka*	*St*
7	Result & conclusion	Completed	*Shree*	*St*
8	Future scope & limitation	Completed	*Om*	*St*

Shinde

Signature of PBL Coordinator/FE Coordinator

Abstract: page II .

Windows are a very important part of our modern World. They are the quickest way to glance to the outer world from our homes or offices. They are one of the best ways of providing ventilation since old times. there are windows used but the placement always had limitation due to their man operating nature. There can be many possibities f from more desirable placement to automatic openin closing on programmed times.

Area & Scope: future scope (15) .

There is a future scope in this design. A few can be me
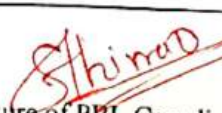
A. The speed of the system can be improved by use of s other mechanisms.

B. Design can be improved for implementing it into to existing struc mo

c. Different types of motors can be tested for improving the speed & eff

Final Title of Project:

Design a Wi-Fi controlled Window.

An automated Window system including an energy $2-3$ accumulation means. & a Window opening/closing mechanism associated with the energy accumulation means where in the energy accumulation means releases at least a portion of the energy stored therein upon demand to the Window opening/closing mechanism to open &/or close the Window.

An automated Window system & method for a building utilizes a pair of gas springs to bias a window panel outward from a corresponding frame. A force opposing the gas springs is supplied by a motor driven spindle selectively winding & unwinding a cord coupled to the Window panel sash adjacent the jamb portion of the frame and Window. The cord is slidably retained to the jamb portion of the Window through a pair of thread able pulls in order to equalize the forces supplied opposing the gas springs in the event of uneven Winding of the cord due to buffeting or other forces while the Window panel is being moved between an "open" to a "closed" position thereof.

Required H/W & S/W:

Submitted hardware / software .

References: (Website/Books/Papers): = Last page .

1) Edwin John Alexander, "AUTOMATED WINDOW SYSTEM WITH AN OVERCENTERDRIVE MECHANISM", United States Patent, 29 oct 2013, Patent No: US 8,567,124 B2

2) William T. Beierwaltes, kevin L. Miller, "AUTOMATED WINDOW SYSTEM METHOD FOR A BUILDING", United States Patent 24 sept 1996, Po Number: 5,558,409

3) Raj kumar Mistri, "Wi-Fi control Robot using Node mcu", International journal of Engineering development and research, Volume 6, Issue 2, 2018.

Figure/Circuit Diagram/Block Diagram/Flow Chart: P.N.7 .

System block diagm
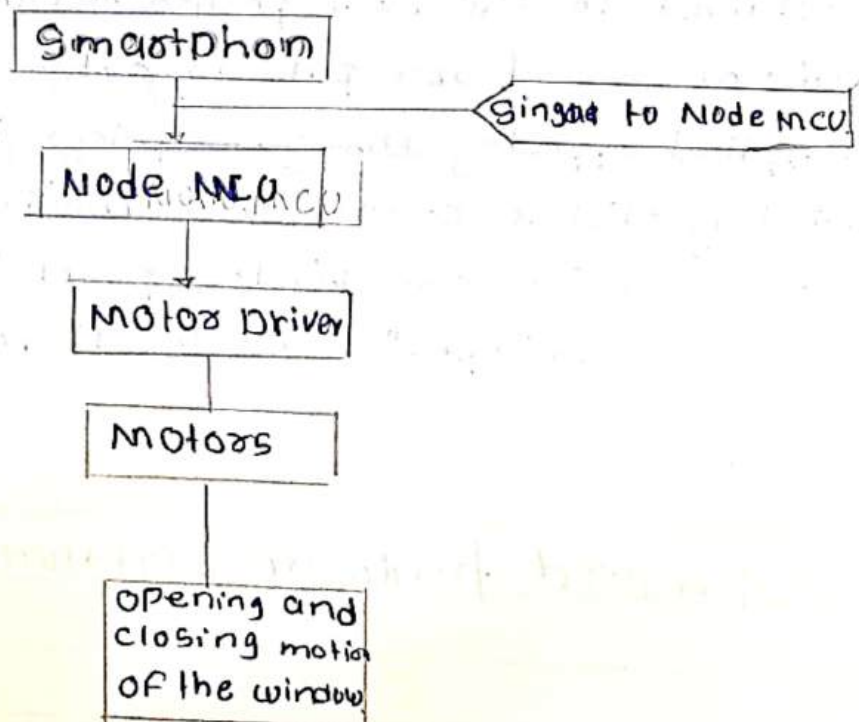
First Review Report

TITLE OF THE PROJECT

Design of Wi-Fi Controlled window.

Date: 30/4/22

Details of work completed: Completed (, good).
[group and topic finalization, review, initial processing etc]

Review 2/ Final Project Report

Date:

Details of work completed:

Report should contain:

Front Page:

Title: Capital, 18 Times New Roman

Abstract: 12, Times New Roman, Justified, 1.5 Spacing

Introduction: 12, Times New Roman, Justified, 1.5 Spacing

Figure/Circuit Diagram/Flow Chart/Photographs/Block Diagram (Whichever is applicable) 12, Times New Roman, Justified, 1.5 Spacing

Work Carried Out: (In the form of Procedure/Survey/Explanation/Case Study/Site visit report if any) 12, Times New Roman, Justified, 1.5 Spacing

Conclusion: 12, Times New Roman, Justified, 1.5 Spacing

References: 12, Times New Roman, Justified, 1.5 Spacing

Seminar and Project Approval sheet

Department: First Year Engineering

Year: FE

Group No.: 2

Academic Year: 2021-2022

Project: Design of wi-fi Controlled window

Div: D

Roll No.	Student Name	Sign.	Guide Name	Sign.
271	Dhere Sujata	Dhere	Sampada Ahirrao	Ahirrao
266	Srushit Chavan	Chavan		
299	Rutuja Thigale	Rutuja		
288	Soamruddi shinde	sm		
306	Anushka waghchaure	Aus		
272	Vishal Handifod.	Qus		

Project Sponsored:	Project Sponsored By:	————

Topic Name: DESIGN A WI-FI CONTROLLED WINDOW

Description in Brief (Abstract): Windows are a very important part of our modern world. They are the quickest way to glance to the outer world from our homes or offices. They are one of the best ways of providing ventilation. Since old times, there are windows used but their placement always had limitions due to their manual operating nature. Also due to the modern automated world needs we all want the control of our needed things in our hand, in other words.

References (Books/Papers):

Edwin John Alexander, "AUTOMATED WINDOWSYSTEM WITH AN OVERCENTER DRIVE MECHANISM", United States Patent, 29 oct. 2013, Patent No: US 8,567,124 B2

> William T. Beierwaltes, Kevin L. Miller, "AUTOMATED WINDOW SYSTEM AND METHOD FOR A BUILDING", United States Patent, 24 Sept. 1996 Patent Number: 5,559,409

> Raj kumar Mistri, "Wifi control Robot using Node Mcu", International Journal of Engineering development & research

Approval Remark (By Guide): _Approval for further Study & writing mote/_

Date: 1/7/2022

Prof. Rajesh Kharat
Project Coordinator

Dr.Prof. B.S. Selukar
Head of the Department

A Project Report on

DESIGN A WI-FI CONTROLLED WINDOW

By

Samruddhi shinde -288

Rutuja Thigale -299

Srushti Chavan -266

Sujata Dhere -271

Anushka Waghchaure -306

Vishal Handifod -272

Under the Guidance of

Prof. Sampada Ahirrao

DEPARMENT OF COMPUTER ENGINEERING

Aanatrao Pawar College Of Enginnering And Research

Pune-09

[2021-22]
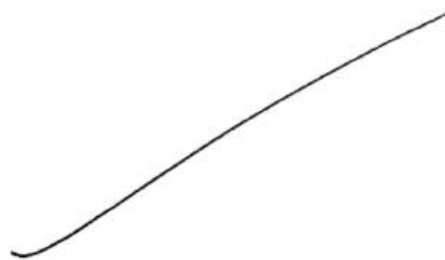
Acknowledgement

A few words of gratitude written on sheet of paper can never completely describe our feeling of indebtedness to the people involved in the successful completion of our project.

It is a matter of profound privilege and pleasure to extend our sense of respect and deepest gratitude to my project supervisor Prof. Sampada Ahirrao, Department of Computer Engineering, Anantrao pawar College of Engineering and research, Pune under whose precise guidance and gracious encouragement we had the privilege to work.

Last, but by no means the least, we owe our gratitude to all the teaching and nonteaching staff and also to our parents and friends.

ABSTRACT

Windows are a very important part of our modern world. They are the quickest way glance to the outer world from our homes or offices. They are one of the best ways providing ventilation. Since old times, there are windows used but their placement always had limitations due to their manual operating nature. Also due to the modern automate world needs we all want the control of our needed things in our hand, in other word "Controlling everything with devices like Smartphones".

Every major thing can be controlled via smartphones, from light bulbs to fans, from Air Conditioner to the Temp of Tea mug, Then why not Window. There can be many possibilities from it, from more desirable placement to automatic opening and closing on programmed times.

Table of Contents

List of Figures

[Type here]

1. Introduction

Windows play a very important role in our daily life. They are the most used source of ventilation in our homes and offices. But their manual operation brings up many limitations. Limitations related to their position and placement. In the world of automation, we have a lot of possibilities with automated windows. We can Open and close all our windows at the touch of a button in smartphone or any other device.

Earlier a major problem to this concept was the cost of implementing it, but due to globalizations the cost can be reduced by a great margin.
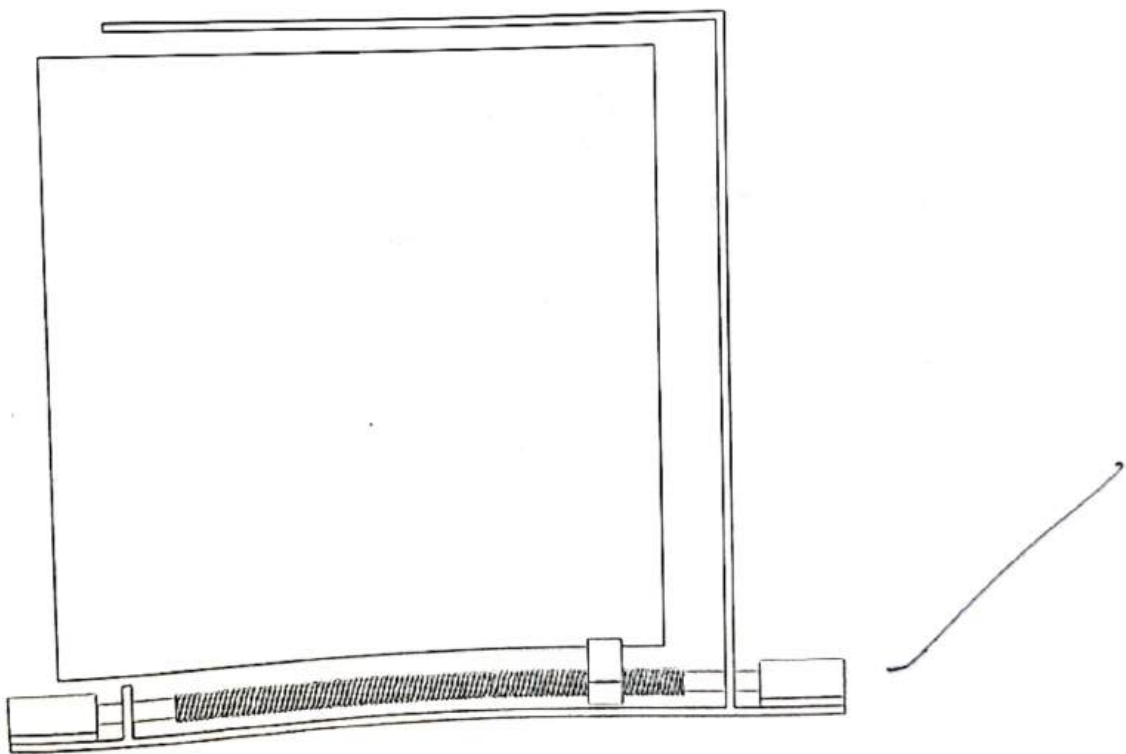
Fig. 1.1. Basic Design of The Automated Window

2. Literature Survey

1

[Type here]

The Field of robotics has been exponential growth with the amalgamation of multiple domains. The holistic approach is proving to be a boon, where communication engineering, mechanical engineering, embedded system and so many more are together creating robot with high flexibility. They use WIFI as the medium foe communication. They are achieving this operation by communicating using two computers. These computers connected to the Wi Fi pass on serial data and also communication is established between one computer located near the robot and a microcontroller present, which control its trajectory. Moreover, robot will be having its own senses to dodge obstacle, which will also give about its position. Future scope of this project is to establish the same connection but make the bot intelligent and autonomous.

3. Problem Statement

As discussed in the introduction the major limitation of a window is its manual operation. It creates limitations like:

a. Windows cannot be placed in location where human hands cannot reach easily.

b. It can be time consuming if there are multiple numbers of windows.

c. Safety of the Person can be compromised due to location of window.

And due to the overgrowth of smart home atomization WiFi connectivity and the option to control it with smart devices like smart phones and smart watches is must.

4. Aim and Objective

Aim

The aim of the project is to design an automated window which can be controlled by smartphone via WiFi connectivity. Also maintaining the cost of the implementation as low as possible without compromising on the quality.

Objectives

The major objectives of the project are:

a. Simplicity in construction.
b. Maintaining cost without compromising quality.
c. Number of components must be less for simple implementation.
d. Use of WiFi connectivity for easy operation via smartphone.

5. System Block Diagram

```
        ┌─────────────────┐
        │   Smartphone    │
        └────────┬────────┘
                 │        ┌──────────────────────┐
                 ├───────▶│  Signal to Node MCU  │
                 │        └──────────────────────┘
                 ▼
        ┌─────────────────┐
        │    Node MCU     │
        └────────┬────────┘
                 ▼
        ┌─────────────────┐
        │  Motor Driver   │
        └────────┬────────┘
                 ▼
        ┌─────────────────┐
        │     Motors      │
        └────────┬────────┘
                 ▼
        ┌─────────────────┐
        │Opening and closing│
        │   Motion of the │
        │     window      │
        └─────────────────┘
```
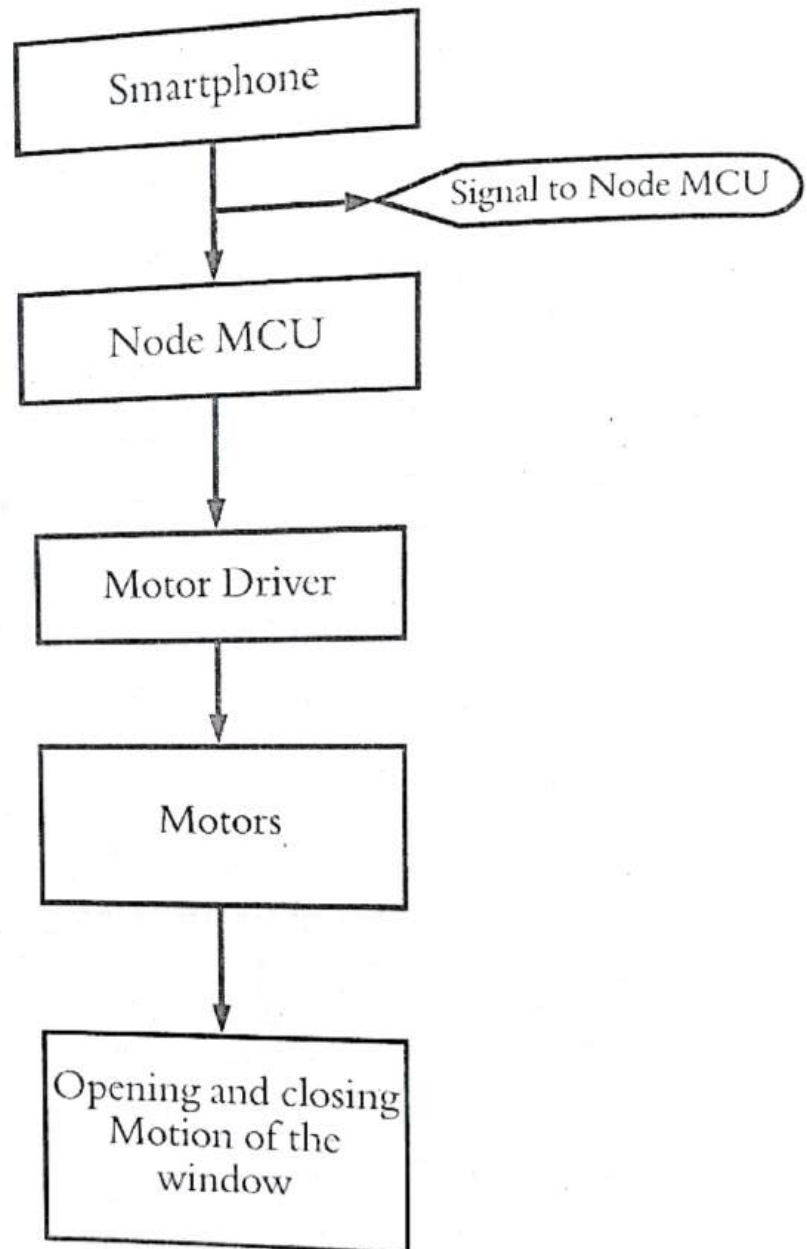
6. System Details

```
(command == "L") goLeft();     else if (command == "R")
goRight();     else if (command == "I") goAheadRight();     else if
(command == "G") goAheadLeft();     else if (command == "J")
goBackRight();     else if (command == "H") goBackLeft();
else if (command == "0") speedCar = 400;     else if (command ==
"1") speedCar = 470;     else if (command == "2") speedCar = 540;
else if (command == "3") speedCar = 610;     else if (command ==
"4") speedCar = 680;     else if (command == "5") speedCar = 750;
else if (command == "6") speedCar = 820;     else if (command ==
"7") speedCar = 890;     else if (command == "8") speedCar = 960;
else if (command == "9") speedCar = 1023;     else if (command ==
"S") stopRobot();
}
void HTTP_handleRoot(void) {

if( server.hasArg("State") ){
    Serial.println(server.arg("State"));
}
server.send ( 200, "text/html", "" );   delay(1);
}
```

8. Discussion

The major topic for discussion was regarding the method of moving the window. Before lead screw, Hydraulic and Pneumatic system were taken into consideration but were cancelled due to the following reasons:

A. The number of components required gets increase by a very high amount.

B. The Cost gets increases by very high amount.

C. Its complexity gets increased.

D. The size of the system gets big so it become difficult to hide them.

9. Result and Conclusion

12

The window can be connected to the smartphone through the app and the commands can be given by the app in smartphone. The speed of the window operation is comparatively slow compared to manual operation, but the possibilities achieved make compensate the speed barrier. The tested range of the connection through node MCU was near 30 meters and the window took 2 sec to open or close at a speed of 60 rpm.

10. System Limitations

The major limitations we found after the completion of project where:

    A. The speed of the design is limited.

    B. Implementing in existing structures is not quite ideal and easy.

    C. Maintenance cost will be high compared to traditional Windows.

11. Future Scope

There is a future scope in this design. A few can be mentioned as:

    A. The speed of the system can be improved by use of some other mechanisms.

    B. Design can be improved for implementing it into to existing structures more easily.

    C. Different types of motors can be tested for improving the speed and efficiency.

12. References

[1] Edwin John Alexander, "AUTOMATED WINDOWSYSTEM WITH AN
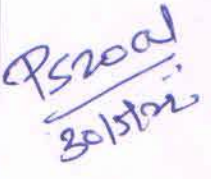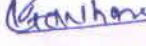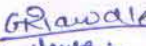
Project Guide Allocation

Department: First Year Engineering   **Year. 2021-2022**

Semester –II

Div. A- PBL

Sr. No	Group ID	Name of the Student	Signature of the Students	Allotted Guide	Signature of Guide
1	A-PBL1	Dishank Shekokare Tejas Gurav Jagdish Bhamare Anuj Kulkarni Pranjali Ichake Omkar Gat		Prof Pradnya Zoal mam	PSZoal 30/5/02
2	A-PBL2	Soham Akhade Prathamesh Gaikwad Omkar Jadhav Atharva Bhadale Saijyothi Bedar Sharanya Adap		Jagtap sir	
3	A-PBL3	Abhishek Khomane Ajinkya Mehetre Deepak Rajput Kundalik Ghavane Gaurav Nawale Chaintanya Andhale		Mr. Shailesh Hajare sir	30/5/2022

No.	Group	Members	Signature	Guide	Sign
4	A-PBL4	Om Chavan		Mr. Shailesh Hajare sir	
		Abhishek Adsul			
		Ketan Bhogal			
		Vaibhav Dhotre			Shaily 30/5/2022
		Rahul Dhope			
		Atharva Date			
5	A-PBL5	Pranali Jadhav	Jadhav	Mr. Shailesh Hajare sir.	
		Vaishnavi Deshmane			
		Ishwari Ghogare	Isha		Shaily 30/7/2022
		Daivshila Barade	DSBarade		
		Gauri Bhagwat	Bhagwat		
		Nikita Gawad			
6	A-PBL6	Namrata Bandrupe	Namrata	Mrs. Yogita Kamble Ma'am	
		Rani Bangar	RmB:		
		Dipashri Solankar			Yamk 30/05/22
		Aliya Maneri			
		Aksa Shaik			
		Iffa Shaik			
7	A-PBL7	Ayush Karpe	Ayush	MS Pradnya Zoal Madam	
		Kaif Gokak			
		Sahil Deshpande	Sahil		Pzoal 30/5/22
		Nandini Bedge	Nandini B		
		Isha Dalbhanjan			
		Samiksha Garge Gharge	Samiksha		
8	A-PBL8	Harshal Jadhav		Mr. D.P. Kamble sir	
		Satish Gaikwad			
		Abhishek Garje			Pomk
		Shubham Auti	Shauti		
		Omkar Borude	OM		
		Deepak Rangoji			
9	A-PBL9	Deepika Baikar	Baikar	Mr. Shailesh hajare Sir.	
		Megha Kasavkar			
		Atharva Shelar			Shaily 31/5/2022
		Yash Ambar			
		Snehal Adivarikar			
		Vinit Gowardhan			

Date: 30/05/22

Class Teacher _____ Kamble Y.B.

Head of the Department _____ 30/5/22
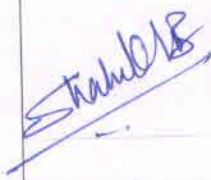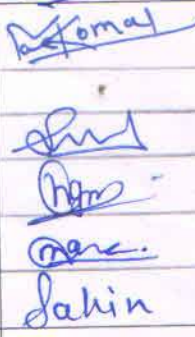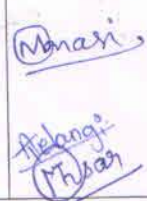
Department:FirstYearEngineering   Year. 2021-2022

Semester –II

DivB- PBL
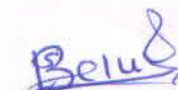
Sr.No	GroupID	NameoftheStudent	AllottedGuide	Signature of Guide	Signature of the Students'
1	B-PBL1	CHANDGUDE AVISHKAR PRAKASH CHAVAN GORKSHNATH GANESH DHAWALE MANTHAN VIJAYRAO JADHAV SAURAV VILAS JAGTAP SATYAJEET RAMESH JAMDADE VAISHNAVI SUBRAO	Prof. Dr. Rashmi Kenvat		
2	B-PBL2	JAUNJAL CHAITANYA KIRAN KABMLE APEKSHIT SATISH KADU VAISHNAVI ARUN KALE SUPRIYA BHAUSAHEB KALE SWAPNIL SHIVAJI KAMBLE PRIYANKA SATISH	Prof. Akshay Mane		
3	B-PBL3	KAMBLE VEDANT SHRIKANT KANNADIAR TILAK MURUGAN KAPADNIS PRERANA VIJAY KARANDE AKASH SURESH KHADKE PIYUSH CHANDRAKANT KHAN FARIHA BASHIR	Prof. Dr. Soojay Deshpande	Soojay	AKASH. Fariha
4	B-PBL4	KHANDEKAR AYUSHANT VINOD KHARADE MRINAL MAHESH KHOPADE SHIVAM SARJERAO KOKARE GANESH MAHADEV KOTHALE OMKAR NAGNATH KULKARNI ANUJ ANANT	Prof. Monika Jagtap	Jagtap	
5	B-PBL5	KULKARNI VARUN MANGESH LAHANE SAI SUNIL LAHANE SHASHANK VIKRAM LOKOLKAR RASIKA RAJU	Prof. Ganesh Kondhalkar		

		LOLAGE ROHAN TRIMBAK LOMTE AMEY SANJAY			
6	B-PBL6	MADANE ROHAN VIJAY MADOLE PRACHI NILAMKUMAR MAGAR GAYATRI BHARAT MAGATRAO VAISHNAVI VIKRAM MANDAVE SHUBHAM HANMANTRAO MANDHARE SARTHAK SHASHIKIRAN	Prof. Shahrukh Baig		
7	B-PBL7	MANE KOMAL KIRAN MANE NIKITA SANDESH MARAL SAKSHI SUHAS MEMANE HARSH GOKUL MORE OM DEEPAK MULE SACHIN SURESH	Prof. Ranjitsingh Gaikwad		
8	B-PBL7	MUTKIRI ONKAR RAMCHANDRA NALAWADE MAYUR VALLABH NAIK SANIKA PRASAD NAIK SNEHAL DNYANDEV NEHETE RUPESH PRADIP NIMBALKAR ABHISHEK SARJERAO	Prof. Navanath Sarode		
9	B-PBL7	SINGH MUKUL AKHILESH SONDKAR MANSI SHIVAJI SHELKE PALLAVI ANNASAHEB TELANGI AMISHA SUNIL THOSAR MANSI NANA	Prof. Dr. Rashmi Kenvat		

Date: 01/06/22
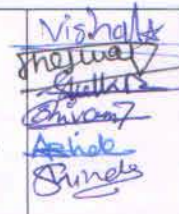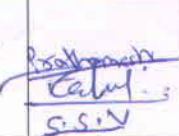
Class Teacher

Head of theDepartment
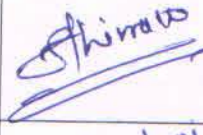
Department : First Year Engineering   Year. 2021-2022

Semester –II

Div C- PBL

Sr. No	Group ID	Name of the Student	Allotted Guide	Signature of Guide	Signature of the Students'
1	C-PBL 1	1.Baderao Prajwal 2.Bhawakar Pratik 3.Sayyad Sana 4.Dhamdhere Rahul 5.Dhanke Pranil 6.Gaikwad Rishikesh	Prof. Rajesh Kharat		
2	C-PBL 2	1.Gosavi Nupur 2.Ithape Atharva 3.Jadhav Ritika 4.Kadake Sagar 5.Karape Piyush 6.Khade Sharvil	Prof. Shweta Joshi		
3	C-PBL 3	1. Mahakale Priti 2. Nagarale Pallavi 3. Niture Shankar 4. Parvekar Rohan 5. Pashankar Aarohi 6. Pathak tanaya	Prof. Dr. Balaji Selukar		
4	C-PBL 4	1.Pathare Sakshi 2.Patil Hardik 3 .Patil Omkar 4 .Patil Tejas 5 .Pawar vaishnavi 6. Phuse Tanmay	Prof. Dr. Niteen Savagave		
5	C-PBL 5	1.Poddar Aditya 2.Rainak Devika 3.Raje Vedanti 4.Raskar Neeraj 5.Rathod Vaibhav 6.Regulwad Sakshi	Prof. Dr. Kashinath Munde		
6	C-PBL 6	1.Rithe Mrugaja 2.Rode Atharva 3.Rode Goraksha 4.Rokade Poonam 5.Sakhare Atharva 6.Salve Rajeshwar	Prof. Sampada Ahirrao		
7	C-PBL 7	1.Salve Soham 2.Sangale Prathamesh 3.Sarda Samarth 4.Sarode Sagar 5.Shaikh Arshan 6.Shamod Vaishnavi	Prof. Tejaswinee Pawar		

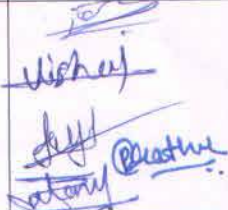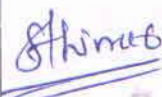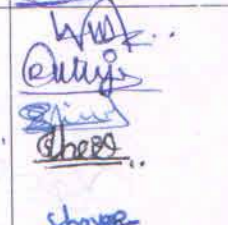| 8	C-PBL 8	1.Sharma Vishal 2.Shejwal Vedant 3.Shelke Nikita 4.Shelke Shivam 5.Shinde Anuja 6.Shinde Arpita	Prof. Navanath Sarode		
9	C-PBL 9	1.Sonawane Prashik 2.Surwase Rohini 3.Vyavahare Saskshi 4.Zad Prathamesh 5.Zende Rahul 6.Raut Kritika	Prof. Shahrukh Baig		

Date: 10/05/22

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Head of the Department
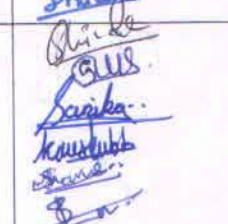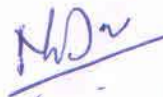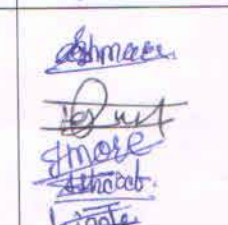
Department: First Year Engineering　　　　　**Year : 2021-2022**

Semester –II　　　　　**Div : D- PBL**

Sr.No	GroupID	Name of the Student	AllottedGuide	Signature of Guide	Signature of the Students'
1 A	D-PBL1	1. Parth tawre 2. Urvish shisode 3. Vishal handifod 4. Sujal yadav p 5. Pratham tanpure 6. Shantanu shinde	Prof. R. A. Nikam	Priv	Vishar
2 P	D-PBL2	1. Anushka waghchaure 2. Rutuja thigale A 3. Samruddhi shinde 4. Sujata dhere A 5. Bhakti shinde A 6. Srushti chavan A	Prof. S.S. Ahirao	Ahirao	
3 P	D-PBL3	1. Om shinde 2. Siddhi shinde 3. Sanika shinde 4. Kaustub wagh 5. Soham bhame 6. Shraddha pandit	Prof. S.S. Ahirao	Ahirao	
4 P	D-PBL4	1. Mitali zagade 2. Trupti pakhale 3. Vedant palekar A 4. Kunal shinde A 5. Yash lad 6. Srushti shelar A	Prof. P.S. Zoal	Pzoal	Mitali
5 P	D-PBL5	1. Saurabh waghmare 2. Kunal waghmare 3. Jay walkunde P 4. Trupti more 5. Amruta thorat 6. Yogesh shinde P	Prof. Dr. N. G. Savagave	NDr	

6	P	D-PBL6	1. Anagha shirke 2. Shruti chaughule 3. Swarali armarkar 4. Anushka unhalkar 5. Shruti wagh 6. Shriman vyas	Prof. Dr. G.S. Kamble	*(signature)*	*(signatures)*
7	P	D-PBL7	1. Vedant chinta P 2. Siddhant P waykaskar 3. Devaynshu thigare 4. Hasnain khureshi 5. Meghraj shewale P 6. Varad dahale P	Prof. R.A. Nikam	*(signature)*	*(signatures)*
8	P	D-PBL8	1. Harish jadhav A 2. Swapnil jadhav 3. Siddesh dhande 4. Siddesh yewale A 5. Shreeyash suryawanshi 6. Kartik shinde	Prof. Pradnya S. Zoal	*(signature)*	*(signatures)*
9		D-PBL9	1. Krushna adane 2. Shruti deshmukh 3. Soham Suryawanshi 4. Prithviraj thaigare Thakur 5. Tejashri waghmode 6. Sahil salve	Prof. Harsha Abhichandani	Abhichandani	*(signatures)*

Date: 02/06/22

(signature)

Class Teacher

(Prof. P.S. Zoal)

(signature)

Head of theDepartment

Department: Mechanical Engineering   **Academic Year :** 2020- 2021   **Year: SE**

Gr . No.	Roll No	Name	Topic
1	SE20-6201	ABNAVEPRADUMNAYV	Drone technology in Agriculture
	SE20-6202	BIBAVE MITHILESH SHIVAJI	
	SE20-6203	BORALE GANESH RAMESH	
	SE20-6204	KOSANDAR PRANA Y RAJU	
2	SE20-6205	MANE SIDHARTH	IOT In healthcare
	SE20-6206	NAGALKAR AKASH	
	SE20-6207	SANKE RISHABH	
	SE20-6208	SOMESH BHALERAO	
3	SE20-6209	ZUHEB LIYAKAT RAWOOT	Auto Nozzle Cleaner
	SE20-6210	AMIT ANWAR SOTA	
	SE20-6211	AWASARM. AL RUTESH SUDHIR	
	SE20-6212	ASHWINI MACHHINDRA KUMTHEKAR	
4	SE20-6213	AREKAR ROHIT HANUMANT	Solar Power Ocean Cleaning Machine
	SE20-6214	BAGWAN AHMED JAVED	
	SE20-6215	BHOSALE KARTIK SUDESH	
	SE20-6216	CHAVAN AKASH SANTOSH	
5	SE20-6217	DAHALE HARSHAL BABULAL	Industry 4.0 In Mechanical Engineering
	SE20-6218	DESHMUKH ATHARVA NAGESH	
	SE20-6219	DHUMAL ATHARVA	
	SE20-6220	GOVINDA DATTATRAYA KHARAT	

PBL GROUP LIST

Gr.No	Roll No	Name	
6	SE20-6221	GUPTA ABHISHEK SHIVSHANKAR	3D Printing Technology
	SE20-6222	HALINGALE KARAN MAHA VIR	
	SE20-6223	JAMADAR MAHIBOOB BASHASAB	
	SE20-6224	JOSHI HERAMB VIDY ADHAR	
7	SE20-6225	KANADE ABHIJIT KESHA V	Future of Electric Vehicle in India
	SE20-6226	KARNE ASHISH VINOD	
	SE20-6227	KATE VIRAJ VINA YAK	
	SE20-6228	KHEDEKAR DARSHAK RAMDAS	
8	SE20-6229	KOLI MAHENDRA HANUMANTA	Renewable Energy Sources
	SE20-6230	KOLI SHUBHAM DILIP	
	SE20-6231	KURKULE GANESH RAJKUMAR	
	SE20-6232	KUMBHAR PRASAD SANJA Y	
9	SE20-6233	LAVANDE AKASH SATISH	IOT Based Smart Polyhouse
	SE206234	MOHITE GAURAV RAJENDRA	
	SE20-6235	MOHAMMED MANZOOR UL AMAN MOHAMMED MUSTAFA AHM	
	SE20-6236	MUJA WAR OWAIS SALIM	
10	SE20-6237	PAWAR RAHUL RAJU	Automatic Sprinkler Trolley
	SEZ0-6238	PAWARRUTIK TANAJI.	
	SEZ0-6239	PATIL SAYYAM ANILKUMAR	
	SE20-6240	PHAND BHUSHAN BALASAHEB	
11	SE20-6241	SAWANT RUTUJA SHARAT	Solid waste Management
	SE20-6242	SATYAM SHRIKANT MEMANE	
	SE20-6243	SHASHANK KARNIK HEMANT	
	SE20-6244	SINGH AMRUT AJIT	

Gr.No	Roll No	Name	Topic
12	SE20-6245	SONA WANE DANIEL MADHUKAR	Automatic Stamping Machine
	SE20-6246	VENKATESH KANNAN ANDICHAMY	
	SE20-6247	VISHAL DANGE	
	SE20-6248	ZORE PRATHAMESH SUNIL	