# 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**
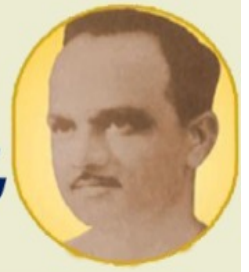
## "IDEA RESONATOR-PROJECT BASED LEARNING LECTURE SERIES ACTIVITY"

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**<br>**Anantrao Pawar College of Engineering & Research** | |  |
|---|---|---|---|
| | **Record No.: ACA/D/021**<br>**Revision: 00** | **DoI: 21/01/2019** | |
| | **EVENT REPORT** | | |

**Photographs:**

.

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)*

| | Akhil Bharatiya Maratha Shikshan Parishad's<br>Anantrao Pawar College of Engineering & Research | |
|---|---|---|
| | Record No.: ADM/D/013A<br>Revision: 00 | DoI: 21/01/2019 |
| | Certificate | |

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<br>Department             Principal

# Group Information:

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

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

**Name of Faculty/Mentor:** Prof. Sampada. S. Ahirrao.

**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 | Guruj | St |
| 3 | Component required . | Completed | Vishal | St |
| 4 | System block diagram . | Completed | Shree | St |
| 5 | Arduino sketch | Completed | Samrudhi | S |
| 6 | Discussion . | Completed | Anukta | St |
| 7 | Result & conclusion. | Completed . | Shree | S |
| 8 | Future scope & limitation. | Completed . | Any | St . |

Shinao

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 manner operating nature. There can be many possibities from more desirable placement to automatic opening closing on programmed times.

**Area & Scope:** future SCOPE (15)

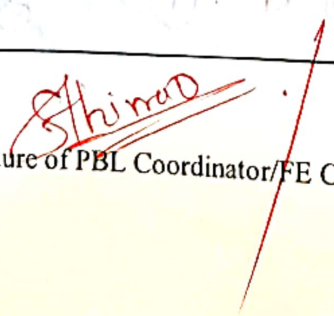There is a future scope in this design. A few can be men

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.

Signature of PBL Coordinator/FE Coordinator

**Initial Survey for Finalization of Title** (Literature Survey):

An automated window system including an energy 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



Smartphom

Signal to Node MCU

Node MCU

Motor Driver

Motors

Opening and closing motion of the window
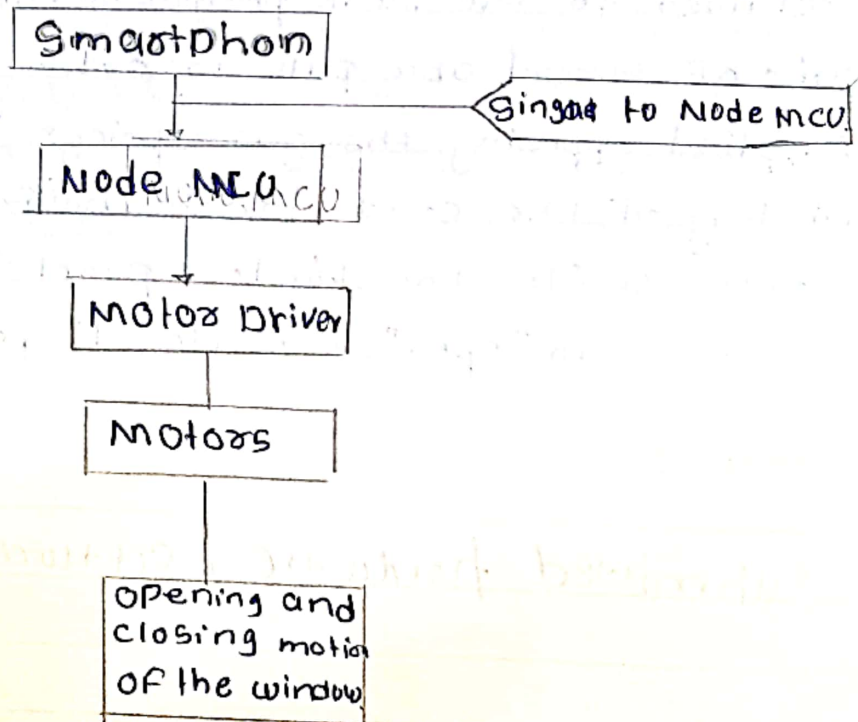
# First Review Report

## 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

| | **Akhil Bharatiya Maratha Shikshan Parishad's** | | |
|---|---|---|---|
| | **Anantrao Pawar College of Engineering & Research** | | |
| | **Record No.:** ACA/D/003A | **DoI:** 21/01/2019 | |
| | **Revision: 00** | | |

## Seminar and Project Approval sheet

Department: First Year Engineering

Year: FE

Group No.: 2

Academic Year: 2021-2022

Project: Design of wi-fi

Div: D    Controlled window

| Roll No. | Student Name | Sign. | Guide Name | Sign. |
|---|---|---|---|---|
| 271 | Dhere Sujata | dhere | Sampada Ahirrao | Ahirrao |
| 266 | Srushit chavan | shavan | | |
| 299 | Rutuja Thigale | Rutuj | | |
| 288 | Samruddi shinde | sm | | |
| 306 | Anushka waghchaure | Au | | |
| 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 OVERCENTERDRIVE 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 model_

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 alwa 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.
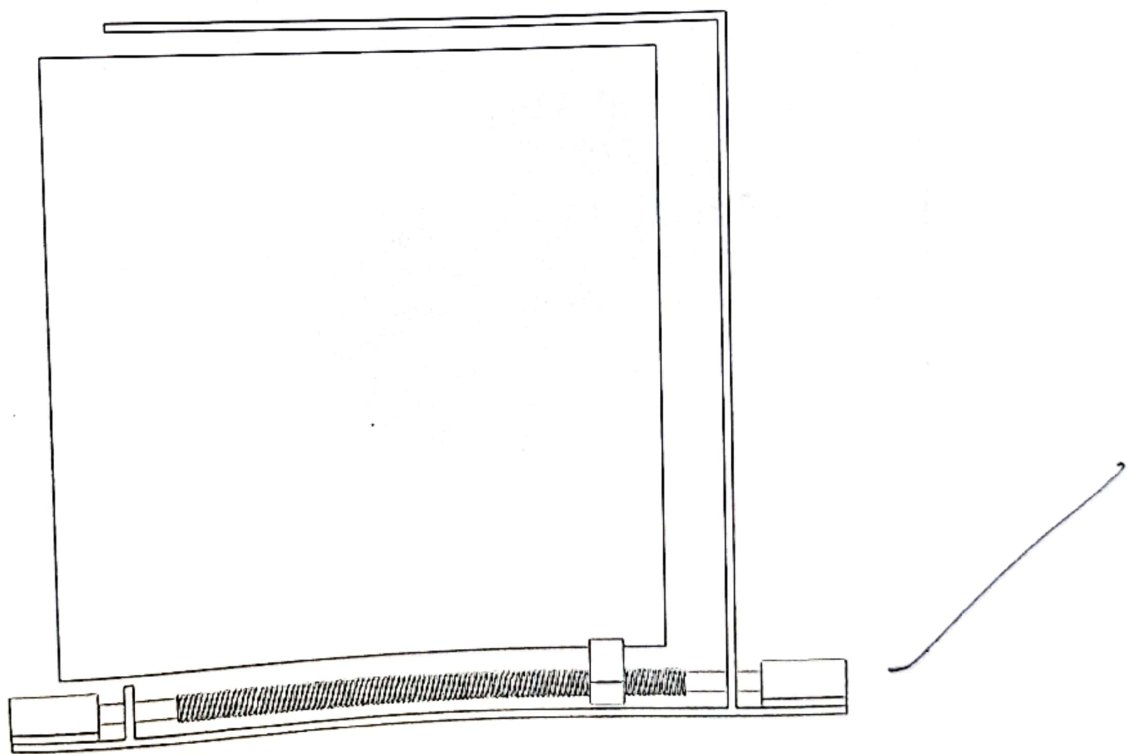
Fig. 1.1. Basic Design of The Automated Window

## 2. Literature Survey

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.
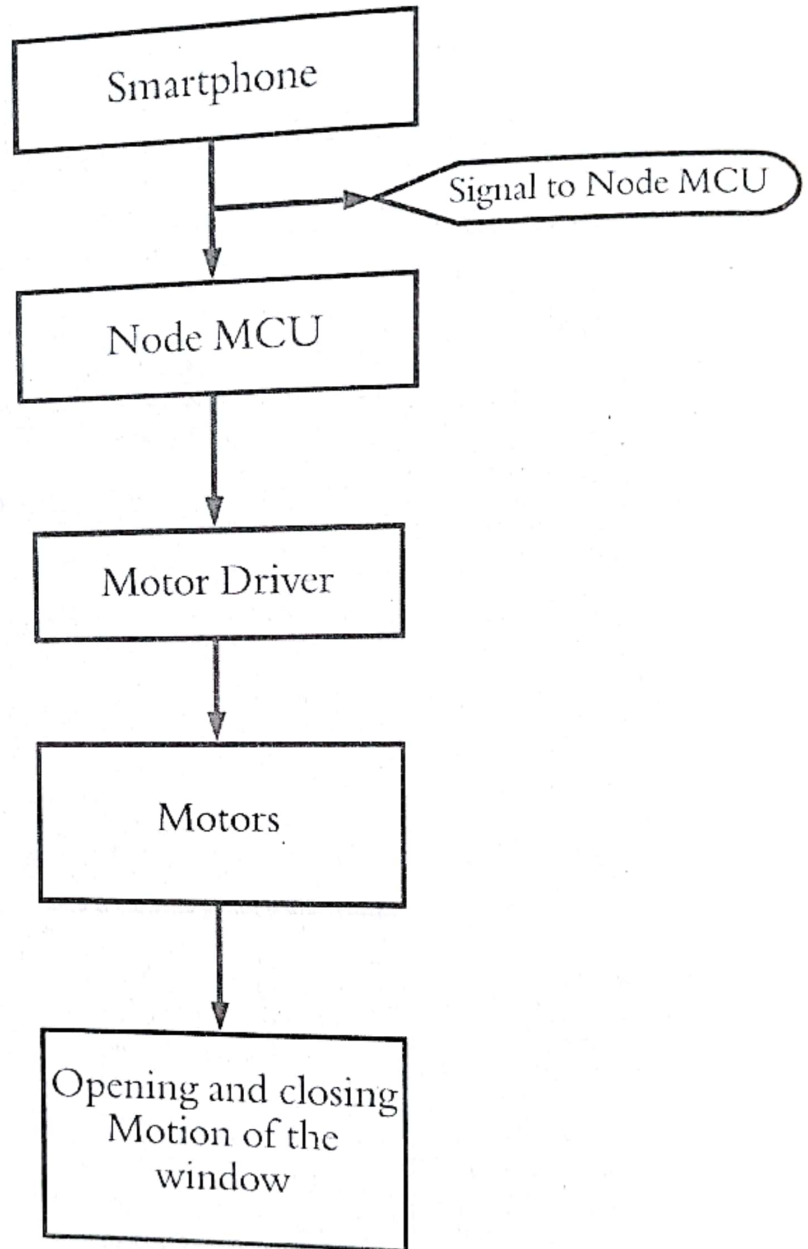
### Objectives

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

13

## 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<br>Tejas Gurav<br>Jagdish Bhamare<br>Anuj Kulkarni<br>Pranjali Ichake<br>Omkar Gat | *(signatures)* | Prof Pradnya Zoal mam | PS zoal 30/5/22 |
| 2 | A-PBL2 | Soham Akhade<br>Prathamesh Gaikwad<br>Omkar Jadhav<br>Atharva Bhadale<br>Saijyothi Bedar<br>Sharanya Adap | *(signatures)* | Jagtap sir | *(signature)* |
| 3 | A-PBL3 | Abhishek Khomane<br>Ajinkya Mehetre<br>Deepak Rajput<br>Kundalik Ghavane<br>Gaurav Nawale<br>Chaintanya Andhale | *(signatures)* | Mr. Shailesh Hajare sir | *(signature)* 30/5/2022 |

| 4 | A-PBL4 | Om Chavan | _Eshaun_ | Mr. Shailesh Hajare sir | |
| | | Abhishek Adsul | _AAdsul:_ | | |
| | | Ketan Bhogal | _Bhogleu_ | | |
| | | Vaibhav Dhotre | _Vaibhavphone_ | | |
| | | Rahul Dhope | _Rahul:_ | | _Shaury 30/5/2022_ |
| | | Atharva Date | _AADate:_ | | |
| 5 | A-PBL5 | Pranali Jadhav | _Pjadhav_ | Mr. shailesh Hajare sir. | |
| | | Vaishnavi Deshmane | | | |
| | | Ishwari Ghogare | _Isha_ | | |
| | | Daivshila Barade | _DSBarade._ | | _Shaury 30/07/2022_ |
| | | Gauri Bhagwat | _GBhagwat_ | | |
| | | Nikita Gawad | | | |
| 6 | A-PBL6 | Namrata Bandrupe | _RNamrata_ | Mrs. Yogita. kamble Ma'am | |
| | | Rani Bangar | _RaniB:_ | | |
| | | Dipashri Solankar | | | _Yamk 30/05/22_ |
| | | Aliya Maneri | _Ranci_ | | |
| | | Aksa Shaik | _Aks_ | | |
| | | Iffa Shaik | _Ghaeigh_ | | |
| 7 | A-PBL7 | Ayush Karpe | _Ayush._ | MS Pradnya Zoal Madam | |
| | | Kaif Gokak | _Kaif_ | | |
| | | Sahil Deshpande | _SAHIL_ | | _Pzoal 30/5/22_ |
| | | Nandini Bedge | _NandiniB:_ | | |
| | | Isha Dalbhanjan | | | |
| | | Samiksha ~~Garge~~ Gharge | _Samiksha_ | | |
| 8 | A-PBL8 | Harshal Jadhav | _HJ_ | Mr. D.P. kamble sir | |
| | | Satish Gaikwad | _SRe_ | | |
| | | Abhishek Garje | | | |
| | | Shubham Auti | _SHAuti_ | | _DComble_ |
| | | Omkar Borude | _OM_ | | |
| | | Deepak Rangoji | | | |
| 9 | A-PBL9 | Deepika Baikar | _Baikars_ | Mr. shailesh hajare sir. | |
| | | Megha Kasavkar | | | |
| | | Atharva Shelar | | | _Shaury 31/5/2022_ |
| | | Yash Ambar | _Yambar_ | | |
| | | Snehal Adivarikar | | | |
| | | Vinit Gowardhan | | | |

Date: 30/5/22

Class Teacher _Kamble_
Kamble Y.B.

_Bel 30/5/22_
Head of the Department

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<br>CHAVAN GORKSHNATH GANESH<br>DHAWALE MANTHAN VIJAYRAO<br>JADHAV SAURAV VILAS<br>JAGTAP SATYAJEET RAMESH<br>JAMDADE VAISHNAVI SUBRAO | Prof. Dr. Rashmi Kenvat | | |
| 2 | B-PBL2 | JAUNJAL CHAITANYA KIRAN<br>KABMLE APEKSHIT SATISH<br>KADU VAISHNAVI ARUN<br>KALE SUPRIYA BHAUSAHEB<br>KALE SWAPNIL SHIVAJI<br>KAMBLE PRIYANKA SATISH | Prof. Akshay Mane | | |
| 3 | B-PBL3 | KAMBLE VEDANT SHRIKANT<br>KANNADIAR TILAK MURUGAN<br>KAPADNIS PRERANA VIJAY<br>KARANDE AKASH SURESH<br>KHADKE PIYUSH CHANDRAKANT<br>KHAN FARIHA BASHIR | Prof. Dr. Soojay Deshpande | | |
| 4 | B-PBL4 | KHANDEKAR AYUSHANT VINOD<br>KHARADE MRINAL MAHESH<br>KHOPADE SHIVAM SARJERAO<br>KOKARE GANESH MAHADEV<br>KOTHALE OMKAR NAGNATH<br>KULKARNI ANUJ ANANT | Prof. Monika Jagtap | | |
| 5 | B-PBL5 | KULKARNI VARUN MANGESH<br>LAHANE SAI SUNIL<br>LAHANE SHASHANK VIKRAM<br>LOKOLKAR RASIKA RAJU | Prof. Ganesh Kondhalkar | | |

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

Date: 01/06/22

Class Teacher

Head of theDepartment

**Project Guide Allocation**

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

Date: 10/05/22

Class Teacher

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<br>A | D-PBL1 | 1. Parth tawre<br>2. Urvish shisode<br>3. Vishal handifod<br>4. Sujal yadav P<br>5. Pratham tanpure<br>6. Shantanu shinde | Prof. R. A. Nikam | | |
| 2<br>P | D-PBL2 | 1. Anushka waghchaure<br>2. Rutuja thigale A<br>3. Samruddhi shinde<br>4. Sujata dhere A<br>5. Bhakti shinde A<br>6. Srushti chavan A | Prof. S.S. Ahirrao | Ahirrao | |
| 3<br>P | D-PBL3 | 1. Om shinde<br>2. Siddhi shinde<br>3. Sanika shinde chavan<br>4. Kaustub wagh<br>5. Soham bhame<br>6. Shraddha pandit | Prof. S.S. Ahirrao | Ahirrao | |
| 4<br>P | D-PBL4 | 1. Mitali zagade<br>2. Trupti pakhale<br>3. Vedant palekar A<br>4. Kunal shinde A<br>5. Yash lad<br>6. Srushti shelar A | Prof. P.S. Zoal | Pzoal | |
| 5<br>P | D-PBL5 | 1. Saurabh waghmare<br>2. Kunal waghmare<br>3. Jay walkunde P<br>4. Trupti more<br>5. Amruta thorat<br>6. Yogesh shinde P | Prof. Dr. N.G. Savagave | NG | |

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