BVRIT HYDERABAD
College of Engineering for Women
Department of Information Technology

INDUSTRY ORIENTED AUTOMATION ROBOT

Under the Guidance of

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AGENDA

- Introduction
- Existing System
- Problem Statement
- Literature Survey
- Proposed System
- Tools and Technologies
- Feasibility Study
- Societal Impact
- Project Time Line
- References

INTRODUCTION

- Industry oriented robot can be used to monitor the industry's environment using sensors and cloud to store the values detected by the sensors
- It is a self-guided autonomous robot, which can be maneuvered with the help of ultrasonic sensor
- Prevents hazardous conditions by detection abnormal gases, fire accidents etc.
- Precession control for smooth robot movement
- Movement of the robot mainly comprising of L293D a motor driver IC which drivers the motors in both the directions

EXISITING SYSTEM

- The existing system uses RF communication.
- RF based technology is used to operate the robot which requires human intervention and involves manual control.
- It works with in the range of the radio frequency and has limitation in control.
- Due to manual operation it has limited operations of control.

PROBLEM STATEMENT

Many accidents have been caused by human error in the past few years in various industrial fields. Due to this accidents there has been so much property damage and many people have lost their lives. Though it is in the nature of human beings to make an error, we can not take a risk and let these little errors take power and turn hazardous to either other living beings are the environment.

LITERATURE SURVEY

S.No	Title of the paper	Author(s) & Journal Details	Description/ Interpretation
1.	IoT Based Industrial Automation Control System Using Arduino	Veeraballi Prasanti, T. Venkataramana International Journal of Contemporary Research in Computer Science and Technology (IJCRCST) ISSN: 2395-5325 JETIR August 2021, Volume 8, Issue 8	DHT 11, Flame Sensor, Internet of Things, Arduino microcontroller

S.No	Title of the paper	Author(s) & Journal Details	Description/ Interpretation
2.	IoT Based automation system using embedded system	Apurva S Zope, Mayuri S Jambhale, Nimisha M Korde International Journal of Engineering Research & Technology (IJERT) ISSN: 2278-0181 Volume 3 (July 2020)	IoT, Sensors, embedded electronics, M2M Communications

S.No	Title of the paper	Author(s) & Journal Details	Description/ Interpretation
3.	Industrial Automation Using Various Applications for the Internet of Things	Shital P. Yende, Rahul D. Dekate, Ashish R. Polke, Shubham Khot IJARIIE-ISSN(O)-2395-4396, Vol-8 Issue-3 2019	Internet, Metering Devices, Environmental Sensor.

PROPOSED SYSTEM

- Drive less system without any manual control
- Does not using Radio frequency
- In case of any abnormalities in the sensors, buzzer trigger and this values are uploaded to the ThingSpeak cloud
- Vacuum works for collecting the dust particles

TOOLS AND TECHNOLOGIES

HARDWARE SPECIFICATIONS

- Sensors
- ESP32
- DC Motor
- Motor Driver IC

SOFTWARE SPECIFICATIONS

- Arduino IDE
- ThingSpeak

FEASIBILITY STUDY

- The robot’s mechanism makes smart use of motors to achieve vehicle movement in forward/backward as well as turning left/right simultaneously.
- The microcontroller processes the commands and then operates the motors to achieve the desired vehicle movement based on sensors.

SOCIETAL IMPACT

COVID-19 & Global Pandemic

- Without a doubt, almost every sector of modern life has been affected by the global pandemic restrictions and the rules of social distancing. Even though several countries of the world seem to return to normal life with the industrial oriented automated robot we take precaution steps with the robot for betterment of the workers and there safety.

PROJECT TIMELINE

DATE	DURATION	TASK
18/11/2022-25/11/2022	1 week	Project Requirements
26/11/2022-27/12/2022	4 weeks	Building the Model

CONCLUSION

- The purpose of the project is to design and develop Design and Development of Autonomous Robot for Industrial Application
- IOT technology is the game changer for the industry we conclude that this is the safest and easiest way to update the sensor data to cloud
- The time duration required for the proposed robot less than the manual
- In future, controlling cameras can solve the vision related trouble, where we can make a better judgment from the staring.

REFERENCES

- “A Low Cost Home Automation System Using Wi-Fi based Wireless Sensor Network Incorporating internet of Things”, by Vikram. N, Harish. K. S, Nihaal. M. S, Raksha Umesh, Shetty Aashik Ashok Kumar; in 2018 IEEE 7th International Advance Computing Conference.
- Enhance Smart Home Automation System based on Internet of Things”, by Tushar Churasia and Prashant Kumar Jain; in Proceedings of the Third International Conference on I-SMAC (IoT in Social, Mobile, Analytics and Cloud) (I-SMAC 2019) IEEE Xplore Part Number:CFP19OSVART; ISBN:978-1-7281-4365-1
- ThingSpeak Based Sensing and Monitoring System for IoT by Sharma Pasha International Journal of New Technology and Research (IJNTR) ISSN: 2454-4116, Volume-2, Issue-6, June 2020
- DC Motor Speed Control Through Arduino and L298N Motor Driver , Pirah Peerzadaa, Wasi Hyder Larika , Aiman Abbas Maharb Mehran University of Engineering and Technology Published on: 04/12/2021

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THANK YOU!!