

Contact Less hand sign based Elevator control using Machine Learning

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ABSTRACT

Today's all world the corona viruses are widely spreaded all country everyone has taken care from corona viruses, the problem is that existing elevator are touch based to up and down and corona spreaded widely in these environment also so modern day world, time has become a precious resource. Therefore, different strategies and techniques are constantly being employed in all fields of life to save every bit of time. So we design contactless elevator using the hand sign detection. In this project, we used Machine Learning Methodology to design new Technology. In this system user can show the hand in front of camera, system detect the user hand and recognition of particular hand sign, once process done then CNN algorithm classify the sign to control the elevator.

Keywords: Hand Sign Detection, Elevator, Machine Learning, CNN, Image Processing.

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I. INTRODUCTION

The implemented system is a touch less interface to manage the control display inside an elevator. The only input of the interface is the movement of the users hand to select the desired floor. Thus, the control of the elevator is based on gesture recognition. In such an environment, the interface needs to be compliant with the following requirements:

Users with no distinction of age, education level, habits, and experiences need to be able to control the elevator without a specific and deep training; The selection of the floor has to be based only on the users hand movements, without any physical interface such as a button. Even buttons to turn on the recognition are excluded since the entire interaction has to be touchless; As in ordinary elevators, users can select more floors, and the number of false positive should be null.

Motivation

No need to touch the button. Contact less elevator system Design user friendly environment for control the elevator. Minimize the Covid 19 Like Pandemics.

Problem Definition

Challenges in this project to implement the contact less or touch less elevator. Existing system also proper working without any problems. Therefore, our aim is to design user-friendly environment.

II. LITERATURE SURVEY

[1] Xibo Wang and Hongshuai Ge and Wenbo Zhang and Yingzhen Li in this paper, carried out an investigation that titled Design of Elevator Running Parameters Remote Monitoring System Based on Internet of Things for a Chinese company, in which they design a system of monitoring of the elevators , First the communication component is installed in the electronic circuit of the

elevator and connects to the network using GPRS technology, because the network does not support as much traffic the transport protocol used is UDP, reliable delivery and error correction Assign to the application layer, it is also proposed a thread method that handles multiple queues because not only will it be an elevator that sends information, but it will be a group of several.

[2] Tundong Liu, Xiaosheng Liao and Jianping Zeng in, made a design that entitled: Design of Intelligent Elevator Remote Monitoring System Based on Ethernet, in the article describe the functionality of a sensor connected to the elevator, consists of three circuits and one of They provide the connection to the network via Ethernet, then design the device driver, then develop the socket and database to use. Finally they make a simulation with a graphical interface to show how it would operate in monitoring device and how, through the interface, to control the elevator.

[3] Hamza Ijaz Abbasi, Abdul Jabbar Siddiqui, in these implemented a Smart Elevator System based on Wireless Multi-hop AdHoc Sensor Networks, a system is proposed for intelligent elevator delivery in order to optimize time and energy in the Normal operation of the elevator, gives guidelines to simulate by means of an application in Java the operation of the elevator and the operation of the system, also shows us the information that should have information packets and gives a starting point for the choice of transport protocol.

[4] Andrés Enrique, Rosso Mateus and José Jairo, Soriano Méndez, in these paper made the development of a building simulator with variable parameters, using java and several free libraries in such a way that data can be obtained to simulate, A posteriori idea is to implement it in groups of elevators for buildings in such a way that efficient management of time and energy is done; Gives a framework for the development of simulations and approaches the implementation of a simulated system so that it can be taken as the starting point in the simulation of the elevator.

[5] Dr. Shaik Abdul Nabi, Dayakar Gurra and Mohd. Anwar Ali, the propose an educational system using cloud hybrid computing so that from the mobile phones can be accessed, they propose to provide the three types of service that are: software As service, infrastructure as service and platform as service. Although the current project does not seek to make an educational platform, however if it provides information on how to structure the application in the cloud.

III. ARCHITECTURE

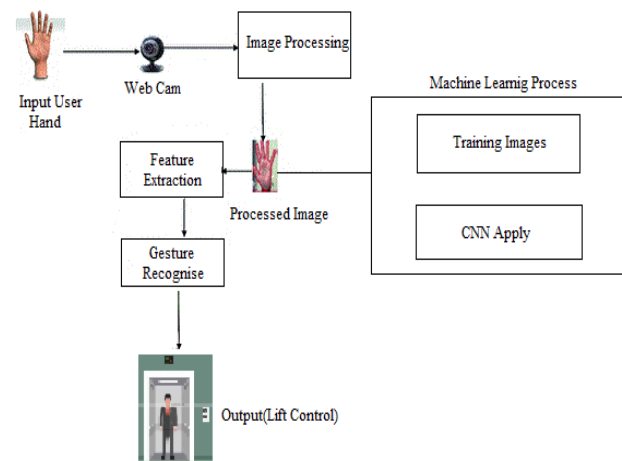


Fig 1. System architecture

Today's all over the world the corona disease is widely spread in all countries. Everyone has taken care of the corona disease, the problem is that existing elevators are touch-based to go up and down and corona is spread widely in this environment also. So in the modern day world, time has become a precious resource. Therefore, different strategies and techniques are constantly being employed in all fields of life to save every bit of time. So we design a contactless elevator using hand sign detection. In this project, we used Machine Learning Methodology to design new Technology. In this system, the user can show the hand in front of the camera, the system detects the user's hand and recognizes the particular hand sign. Once the process is done, the CNN algorithm classifies the sign to control the elevator.

IV. CONCLUSION

The scope of the project is to enhance the recognition capability for various lighting conditions and achieve more accuracy. Implementing and identifying the more number of gestures. This system is a contactless elevator using hand sign-based control.

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