VISVESVARAYA TECHNOLOGICAL UNIVERSITY,

BELAGAVI – 590 018

An Assignment Report on

DOOR UNLOCK SYSTEM USING FACE RECOGNITION

Submitted as subject assignment work

MICROCONTROLLER AND EMBEDDED SYSTEM (21CS43)

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2022-23

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CERTIFICATE

This is to certify that, assignment work for the subject "Microcontroller and Embedded System(21CS43)" has been successfully completed and report submitted by **Moolya Chaitra Satish (4AL21CS077)** during the academic year 2022–2023. It is certified that all corrections/suggestions indicated presentation session have been incorporated in the report and scored 09 Marks out of 10 and deposited in the departmental library.

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DOOR UNLOCK SYSTEM USING FACE RECOGNITION

1. Introduction

Nowadays, as the technology is increasing, facilities for human beings are increasing. In day to day activities, life of people has become very easier with the incorporation of many technologies. On the other hand, it also creates security issues . The traditional door locks have a problem that almost anyone can break and enter into your house. Hence it is a great challenge to overcome these problems. In general, in order to secure home, people make use of CCTV. Images will store in the database, so that the action can be taken when any suspicious incident happens. This type of approach is a passive . But there is a need for an active approach. This type of approach is nothing but where actions can be taken immediately as soon as a security threat occurs . Hence a smart IOT based face recognition system is the idea to develop, which recognizes the face of the person near by the door and compares with the uploaded faces stored in the database . If person is detected then the door would open and welcomes them. If an unknown person enters, the owner would be alerted by message and mail with an intruder image. To develop this system, we have used Raspberry Pi, Pi camera which will be installed near the door for recognition of face of an intruder, DC motor to open the door through relay, LED's to indicate whether the door is opened or not, GSM module is used in order to send messages to the registered mobile number.

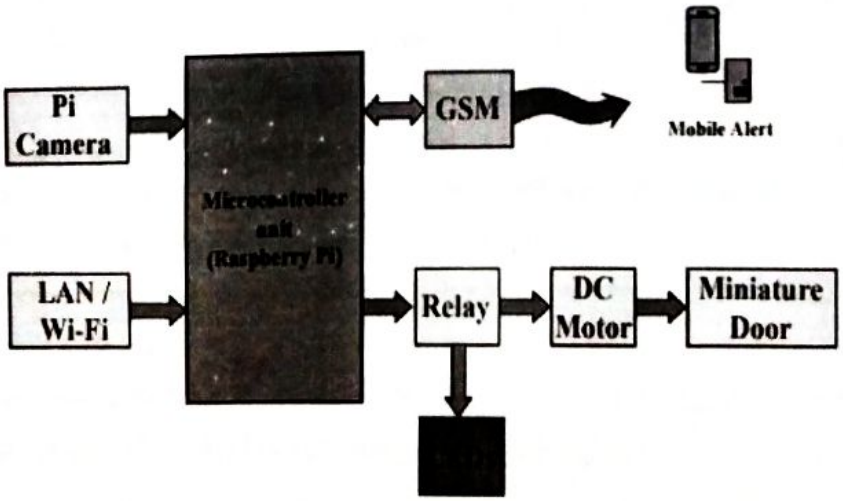

Figure 1

2. Proposed system architecture