# Contactless Attendance System using Smart Phone and Raspberry Pi QR-AES256

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*Abstract--* **To store information with efficiency, a QR code employs standardized cryptography modes (numeric or byte/binary); extensions may be used. Fast the fast the short Response system gained quality outside of the automotive trade thanks to its quick readability and bigger storage capability in comparison to straightforward UPC barcodes. The goal of this analysis is to make a group action system victimisation QR codes. The QR code is generated victimisation the QR Code Generator application and browse by the corporate victimisation the QR Code Reader. Fingerprint and login also are accustomed validate itinerant house owners in order that phones can't be utilized by different staff. The information is transferred to the corporate via the local storage and downloaded as a document file for his future reference.**

*Keywords- QR Code; Android Application; Fingerprint; Local Storage.*

## I.    INTRODUCTION

At first, maximum of institutions applied a word and pen signature method. Following the blast of PC innovations, we persisted on in the direction of the Standardized identity Scanner, ID card Technique, etc. Then, at the same time as growing advancements, we ought to make use of a RFID (Radio Frequency Identification) method. From that factor forward, experiencing the identical thing, absolutely everyone hates the biometric method and favors the contactless strategy. For example, credit score simplest installments (UPI, etc. Experiencing the identical thing, the affiliation is irritating emigrate the contactless Participation Framework.

Subsequently, we are able to reflect on consideration on converting from a traditional participation framework to a contactless participation framework. We can advocate to locate barriers, for example, location barriers like scope and longitude and planning (stay location), timing, commercial enterprise call and id, biometric distinguishing proof (specific finger impression), and others. The utility offers the ones statistics as a paired encoded QR code. The place of work aspect QR code scanner framework tests the ones figures and offers the end result, which can be then sorted into the close by stockpiling via Raspberry Pi. The proposed framework makes use of the Raspberry Pi module and GSM module sends the message to the consultant for the participation status. The end result can be proven as an internet utility or internet site page, in addition to in graphical and be triumphant statistics sheet designs. Therefore, the employer makes use of the statistics. At the factor whilst the information match, the man or Woman is marked as present.  Here we can developed the Android Application and Raspberry Pi based kit to improve the contactless attendance system.

## II.    PROPOSED SYSTEM OF CONTACTLESS SYSTEM

We can suggest observing boundaries like location boundaries like extent and longitude and mapping (live location) like a Google map technology or other mapping technologies, timing of the employee, Employee name and Employee id, biometric identification (fingerprints) digital format and this is just the beginning these operations are perform in Android Application.

The proposed framework involves Raspberry Pi, Camera Module and GSM module for information movement request.   The Generated by Android Application, then Camera Module is process the QR code and transmits the data to the Raspberry Pi. The Raspberry Pi will cross check the data, whether the Employee Name and Id, and also stores the local storage.

The results will be displayed in the web application or website or excel sheet or in a graphic design and success of the dashboard.
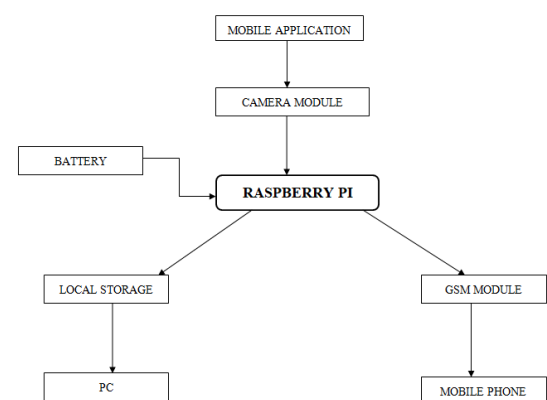


FIGURE 1. BLOCK DIAGRAM OF PROPOSED SYSTEM

**Special Issue - 2022**

**International Journal of Engineering Research & Technology (IJERT)**
**ISSN: 2278-0181**
**CCICS - 2022 Conference Proceedings**

### III. GSM MODULE



FIGURE 2. GSM MODULE

GSM(Global System for Mobile Communication) Module area unit one in all the unremarkably used communication modules in embedded systems. A GSM Module is employed to alter communication between a microcontroller (or a microprocessor) and also the GSM Network. Here, GSM stands for international System for Mobile Communication. A GSM includes of a GSM Module along side another elements like communication interface (like Serial Communication – RS-232), power offer and a few indicators. With the assistance of this communication interface, we will connect the GSM Module on the GSM electronic equipment with AN external laptop (or a microcontroller).GSM Modules permit microcontrollers to own a wireless communication with alternative devices and instruments.

### IV. RASPBERRY PI



FIGURE 3. RASPBERRY PI

Raspberry pi may also the small solo or single panel laptop. In this integrating accessorial such as Qwerty board or row of keys, touchpad and so on, show the Raspberry pi, it can will additionally performs a small size pc. Raspberry pi is most preferred uses for the agreeing Image processing or Video Processing, AI Software, Universal Daemonization and so on. Raspberry Pi is dilatory than portable computers or computer or desktop, it might give total the Leaving out options as well as talents, now an occasional exhausting or power usage. We should use coyoto state card (Minimum eight Giga Byte preferred)to keep a UNIX. Raspberry pi is above, for the reason that the approves to the System-On-Chip(SOC) of the kit. Therefore, General Purpose of Input/ Output(GPIO), then join components such as the Liquid Emitting Diode(LED) generator or device, sensing element, and so on. It features a Broadcom processor based primarily on ARM System-on-chip (SoCs) combined with an on-chip GPU (graphics technology unit). CPU Raspberry Pi speeds range from 700 megahertz per second to at least 1.2 GHz. Also, it's built-in SDRAM from 256MB to at least one GB. Raspberry Pi allows common on chip SPI, I2C, I2S and UART modules.

### V. CAMERA MODULE



FIGURE 3. CAMERA MODULE

The Pi Camera Module can be a digital camera used to take high-definition photos and videos. Raspberry Pi board has CSI (Camera Serial Interface), we will connect Pi Camera module directly. This Pi camera module can connect to the 15-pin ribbon cable of the Raspberry Pi's CSI port.

Here we have used digital camera Pi v1.3. Its rectangular alternatives are below size,

5 MP resolution.

HD recording - 1080p@30fps, 720p@60fps, 960p@

5fps is then enabled.

The CSI interface is enabled.

However, it will take a wide (still) image with a resolution of 2592x19 pixels.

### VI. BATTERY

Twelve-volt batteries are typically found in RV, boat, and automotive systems. A battery, from a technical standpoint, uses one or more cells to allow a chemical reaction to occur, resulting in the flow of electrons in a circuit. Batteries do not generate their own energy or electricity.

### VII. RESULT AND CONCLUSION

In this paper, a new method approach for enhancement of QR based Attendance System using Raspberry Pi. The proposed system demonstrates that the Android Application has a high level of accuracy. This research described a system that is developed by Android Application. Further developments can be made by reducing the time delay in Processing the attendances and attaching other datas to the Android and Hardware kit wise to minimize Errors.

**Special Issue - 2022**

**International Journal of Engineering Research & Technology (IJERT)**
**ISSN: 2278-0181**
**CCICS - 2022 Conference Proceedings**

## VIII. ACKNOWLEDGEMENT

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