

## QR Code Based Effective Employee Maintenance System

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**Abstract** -The rapid growth of android applications is created a great impact on our lives. The aim of this "QR (Quick Response) code based effective employee maintenance system" is to automate the employee monitoring process in company. This application improves the organizational growth of the company. In this system there are two parts, in first part, employee scan his QR based identity card and sever system enables some services like car parking slot allocation, canteen services, etc. In second part, employee scan his same unique QR code based identity card then attendance of employee will be marked in administrator database and start his personal computer with help of wake on LAN (WOL) protocol. Employee profile can be maintained in mobile android application. The aim of this system is to save time and work in better manner. It help employee to concentrate only on their duties. Also, it helps company or organization to grow their business.

**Key Words:** QR (Quick Response), WOL (Wake On LAN), LAN (Local Area Network).

### 1. INTRODUCTION

As we know in this modern world, time is very important for the growth of the organization. In this system by using unique QR code based identity card, authorization as well as authentication will be done.

Now days most of the people have android smart-phone so we developed one android application and with the help of this application employee scan use services like car parking, marking attendance and canteen schedule.

On the basis of QR code based identity card employees personal computer will be started using wake on LAN (Local Area Network) protocol. This will help employees to save the time to start computer.

### 1.1 LITERATURE REVIEW

There are many existing systems available in market for authentication. In some organization biometric devices are used, since biometric is concern with the measurement of unique human physiological or behavioral characteristics. The technology had been used to verify the identity of user [1].

Another option is a facial recognition technique. Use of facial recognition technology is to monitor authenticated user or employee. A neural network-based algorithm was implemented to carry out face detection and Eigen face method to perform facial recognition. The experimental result demonstrates the feasibility of user verification for high-level security information system. It is complicated process as well as very expensive [2].

As one more technique is available, manual registration of each and every employee. It is very time consuming as well as hectic task to manage all this things. So to overcome this problem we proposed a system which totally works on QR code based identity card [3].

personal computer will be started with the help of Wake on LAN (WOL) [6].

### 1.2 EXISTING SYSTEM

In many institutions and organization the attendance is important. The previous approach in which manually taking attendance and maintain its records was very inconvenient task [4]. Another Approach is Biometric device, using biometric device like fingerprint scanner, in which fingerprint is capture by user interface, which is likely to be an optical, solid state or an ultrasound sensor. Generally, there are two approaches for fingerprint verification system among them first one is minutiae based technique, in which minutiae has represented by ending or termination. Another is imaging based method or matching pattern, which take account of global feature of any fingerprint image. This method is more useful than the first one because it solved some intractable problem of method one [5]. Considering these issues in mind we developed QR Code Based Effective Employee Maintenance System which automates the whole process of taking attendance.

### 2. PROPOSED SYSTEM

#### 2.1 Outline:

i. QR code based effective employee maintenance system contains two scanners which are scanning the employee QR code identity card. In this system employee have only one QR code based identity card which scans by both scanners. After scanning, the first scanner enables the two services such as car parking and canteen menu display. In the car parking activity sending notification of empty slot to the employee. In the canteen menu activity employee can able to see today's menu list.

ii. After scanning the QR code based identity card with second scanner employee attendance will be updated in database, display name of employee who are currently absent in the absent employee list and employee's

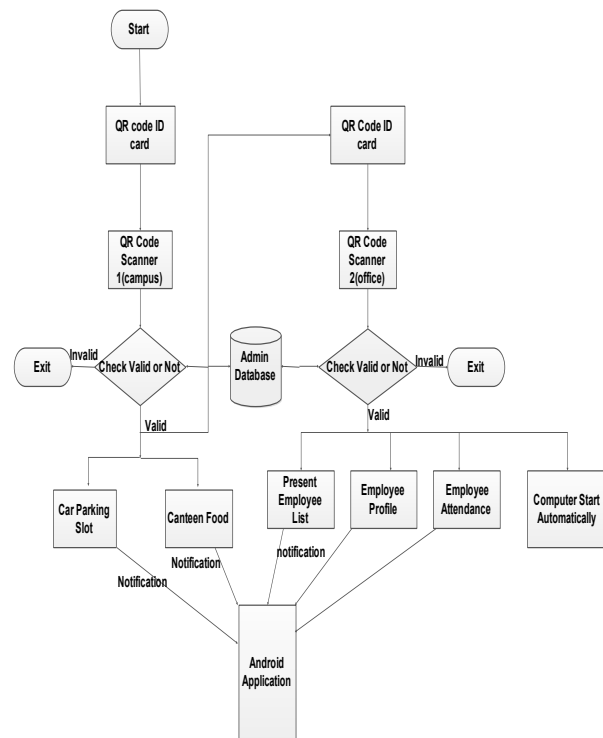


Fig -1: Architecture of QR Code Based Effective Employee Maintenance system.

### 3. METHODOLOGY

#### 3.1. The Magic Packets:

WOL has enabled computers essentially wait for a “magic packet” to arrive that includes the NIC’s MAC address in it. These magic packet are sent out by professional software made for any platform, but can also be sent by routers and internet-based websites [7]. The typical ports used for WOL magic packets are UDP 7 and 9. Because computers have actively listening for a packet,

some power is feeding your network card which will result in your laptop's battery draining faster.

### 3.2. The Wake on LAN (WOL):

Wake-on-LAN is an industry standard protocol for waking computers up from a very low power mode remotely. The definition of low power mode has changed a bit over time, but we can take it to mean while the computer has "off" and has access to a power source. The protocol also allows for a supplementary Wake-on-Wireless-LAN ability as well. WOL has depends on two things: motherboard and network card. Motherboard must be hooked up to an ATX-compatible power supply it has most computers in the past decade. Ethernet or wireless card must also support this functionality [8].

### 3.3. QR Code Based Parameters:

Various parameters of QR Code are as follows: Received data parameters, size parameters, char set-source parameters, char set-target parameters, bgcolor parameters, color parameters, margin parameters, zone parameters, format parameters. In data parameters minimal char count, maximal char count, best practice and the size parameters contain the format of QR code, maximal and minimal size of QR code [9].

## 4. IMPLEMENTATION DETAILS

### Module:

#### 4.1: Develop android application:

- Develop an android application for the Admin and User panel.
- In admin panel will maintain employee attendance.
- Application provides various services to the employee such as car parking slot allocation, canteen menu, and absent list of employee.

#### 4. 2: Scanning the QR code:

- Same QR code will be going to scan two times.
- After scanning the QR code first time employee will get services like car parking slot number and canteen menu.
- After scanning the QR code second time employee will get services like absent list of employee and attendance.

#### 4.3: Sending notification:

- In this system, notifications are sent to valid employee.
- In first part it will send notification of empty slot for car parking.

#### 4.3: Start employee computer:

- WOL enabled computers essentially wait for a magic packet to arrive includes the NIC's MAC address in it.
- Wake-on-LAN is an industry standard protocol for waked computers up from a very low power mode remotely.

## 4. CONCLUSIONS

In this system, we are implementing the new generation employee monitoring system to meet the organization requirements. Proposed system will help to reduce time required to search parking slots. Using this system, employee can concentrate on his work. With the help of QR code, authentication can be done. In future, we will implement of module where admin can see ongoing user activities on client machine.

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