MONITORINGSTAFFPRESENCETHROUGHQRCODESCANNING

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ABSTRACT

The proposed project is a system that keeps a track of employees' attendance using QR codes. This is an interesting concept set forth to automate the traditional attendance system of taking signaturebyusingauthenticationtechnique.Thetraditionalsystemrequiresaregistermaintained for manually signing the attendance by the employees which is time consuming. Hence this proposed project eliminates the need of maintaining attendance sheet. The proposed system uses QR code for authenticating employees with a unique QR code that represents their unique id. Every employee is provided with a card that contains the QR code. They just have to scan their cards using QR code reader and the system notes down their attendance as per date and time. Systemthenstoresalltheemployees' attendance records andgenerates abriefreportsforadmin. Andthisapplicationallowstheadmintosearchaboutaparticularemployeeattendancedetailsin table. Such kind of application is very useful in organizations or corporations for taking daily attendance.
Index:biometricattendance,qrattendance,qrreader,employee

INTRODUCTION

Regularattendanceinallorganizations,whethereducationaloratthecorporatelevel,isnecessary to improve the efficiency of the organization, and in light of the conditions that the world is sufferingfromduetocovid-19,inadditiontothetraditionalmeansusedbyinstitutionsatpresent, suchasfingerprintdevicesandpaper,whichwerecausingcongestionwhencompletingattendance processes[1-3].Thisprocesstakesalongtime,especiallywhenthenumbersarelarge,andinlight of the current circumstances and with the spread of covid-19 and the need to achieve social distancing, it was necessary to have an easy solution that ensures the 2 accuracy and speed ofthe processesofattendanceanddepartureofemployeeswhilemaintainingtheirsafetyandsavingtime and effort to complete this process [4-6]. That is why we thought of developing an easy-to-use application to record attendance and leave processes for all students and employees. This paper proposed attendance management system is an easy-to-use smart system based on (face recognition- fingerprint - QR code) to record the attendance and departure of all students and employees.Inadditiontointegratinganandroiddevicewithdatabasestostoreattendanceresults, moreover, analyzing attendance on a weekly and monthly basis and the main objective of the automated attendance system is calculating the traditional method for recording attendance and providing an efficient and secure method for tracking attendance in organizations. Both the employee and the student will get a free mobile application that they use to take attendance and leave. The main objective of the automated attendance system is to computerize the traditional way of recording attendance and provide an efficient and automated way to track attendance in organizations.

LITERATURESURVEY

Social media plays a very important role in the lives of users [7], and with the development of technologies for smart and sophisticated devices that are used daily, such as smartphones [8-9], which

securethe Internet, theuserhas becomeopen all thetimeon the Internet. Forthis, we find thattherapidresponsecodetechnologyisoneofthosetechnologiesthatallowtheusertoquickly accessForitsservices,whichrequireverylittlestoragememoryonsmartphones,thisiswhyithas become more popular with various companies, and examples of quick response codes are: QR CodeisanabbreviationoftheEnglishwordQuickResponsecode,whichmeansaquickresponse code, it is a two-dimensional code designed first by Denso [10-11], a subsidiary of Toyota, to facilitate tracking cars during the manufacturing cycle, then spreading in all areas due to the advantages itprovidesandthevolumeofdatathat itcanbestoredTheQR codeconsistsofblack units arranged in a specific shape on a white square background, scanning them reveals the data that they symbolize.

As previouslymentioned,theQRcodecanbeemployedinalmostallfields[14],andthus wefinditpre sentin theautomotiveindustry,commercialtrackingofgoods,transportationtickets, and product price definition, and it is also used extensively by companies as a practical and fast waytoaccesstheirwebsites,Throughthemobiletagfeature,itsufficestoindicatethatthemonth ofJune2011witnessedtheuseof14millionrapidresponsecodesintheUnitedStatesofAmerica alone[15], sothatwerealizetheimportanceofthisnewtechnologyandtheextentofitspenetration in our daily life.

Version 40 of the QR code can store 7089 numbers or 4296 between numbers and letters [16],whichinpracticemeanstheabilitytocontainrelativelylargedatainasmallareaofnomore than a few square centimeters, and it is the feature that enables saving in paper and ink, which makes QR technology Codeis environmentally friendly. On the otherhand, QR codetechnology provides instant access to links, without having to rewrite them on the mobile browser [17-20]. Thispromisingtechnologycanalsobeusedinencryptingpersonalinformation,andconvertingit intocodesoncardsthatcanbereadusingamobilephonecamera,inadditiontothis,theQRcode is characterized by the ability to be read using a mobile phone that contains a camera and an application that allows reading this type of code, They are widespread tools in our time, which promises a prosperous future for this technology TherearemanycreativeideasinwhichQRCodecanbeemployedasin2017:Agroupof studentsusingQRCodetechnologyimprovesofficeservices(fieldstudyattheFacultyofScience and Technology Library at Mohammed Khudair. Biskra) was aimed at facilitating access to the content of the sources with the possibility of loading the summary or bibliographic data for each container at the Faculty of Science and Technology Library.

Ifweshedlightontheeconomic,social,oreducational(academic)fieldingeneral,wewill realize the extent of its need to introduce modern technology in the conduct of services [21-22]. And we will find that in light of the conditions that the world suffers from due to Covid-19, we urgently need to apply this technology in companies and educational institutions to achieve divergence.Socialandprivacyofworkingpeopleandpreventingcontactbetweenstudents,sowe workedtodesignasystemthatdealswiththeproblemofattendanceregistrationanddeparturefor studentsandemployeesindifferentinstitutionsthroughtheirsmartphones.Thus,wewillworkto achieveleadershipinthefieldofinstitutionaltechnologicaldevelopmentinEgyptandtheMiddle East.

EXISTINGSYSTEM

The existing system for monitoring staff presence through QR code scanning typically involves the use of dedicated QR code generator tools or software to create unique QR codes for each sessionorevent.StaffmembersareprovidedwiththeseQRcodesviaemail,messagingplatforms, or printed materials. When staff members arrive at the designated location, they use their smartphones or QR code scanning devices to scan the QR code, which then registers their attendance in the system. Attendance data is stored in a centralized database for record-keeping and analysis, and supervisors or administrators may access this data through a dashboard or reporting interface for monitoring and

management purposes.

In existing system, wehaveseen overtheyearsthat theprocess ofmanual attendancehas beencarriedoutacrossalmostalleducationalinstitutions.Theprocessisnotonlytimeconsuming but also sometimes inefficient resulting in the false marking of attendance. Today, we need not maintain pen and paper based attendance registers.

LIMITATIONOFSYSTEM

More man power. Time consuming. Consumes large volume of paper work. Needs manual calculations. No direct role for the higher officials. Damage of machines due to lack of attention.

PROPOSEDSYSTEM

The proposed system for monitoring staff presence through QR code scanning aims to enhance efficiency, accuracy, and convenience in attendance tracking. The system will feature a user- friendly interface for generating unique QR codes daily, ensuring seamless registration of staff attendance. Staff members will receive these QR codes via email, messaging platforms, or a dedicated app, enabling them to scan and record their attendance using their smartphones or QR code scanning devices. The system will securely store attendance data in a centralized database, accessible to supervisors or administrators for real-time monitoring and analysis.

Additionally, the proposed system may include features such as automated notifications for staff reminders and customizable reporting functionalities to streamline attendance management processes. Overall, the proposed system seeks to optimize staff attendance tracking while providing valuable insights for workforce management and decision-making.

BENEFITSOFSYSTEM

Employees will be more regular as the system notes down the time along with the attendance. Since now no attendance sheet signature is required, so no other person can make anattendance on behalf of others as QR Code are unique for every employee. No need to maintain attendance sheetastheattendanceareelectronicallystoredindatabase.Thesystemhelpstheadmintoeasily find out latecomers. Admin can easily get attendance history of a particular employee. It saves time, cost, efforts and organization resources.

IMPLEMENTATION
ADMIN

In this application admin is the main module, here admin can login with the specified username and password after successful login he can add employees, can view employees, can generate QRCode to each Employee for their regular attendance, view all verification requests which are sent by the user and verify those request and view all employees attendance and logout

EMPLOYEE

Here employee is a module, if employee wants to get his/her QRCode they must be verify their mobilenumberbytheadmin,forthatneedtosendverificationrequesttotheadminafterverified by the admin employee can login into home page to get QRCode.

Employee need to take a picture of QRcode and run QRCodeScan.java file manually to scan QRCode for register attendance. And also employee can view his attendance at last he/her can logout.
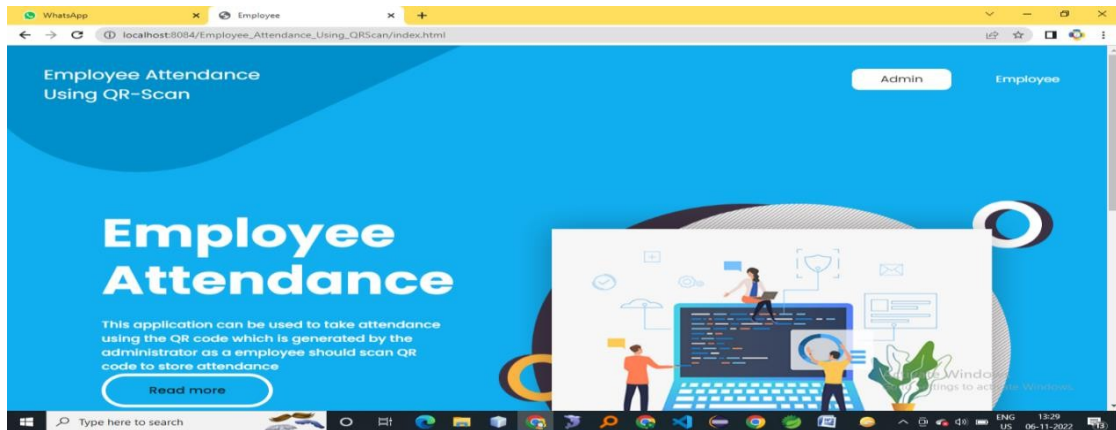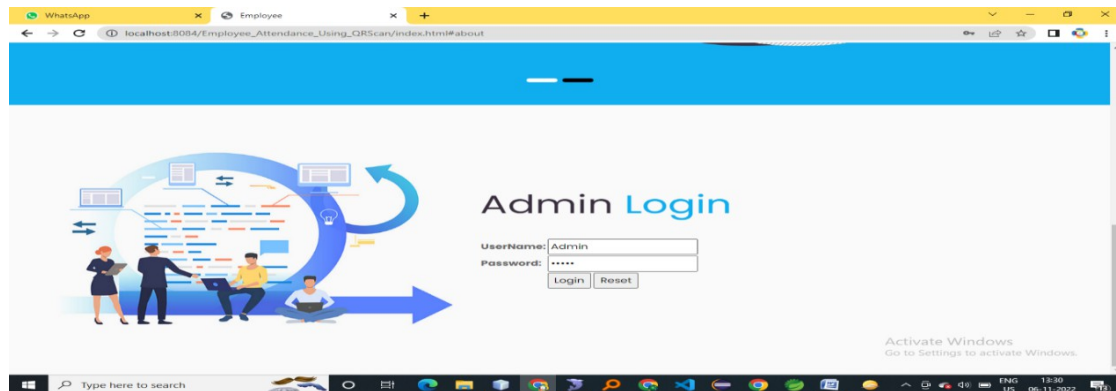
EXPECTEDRESULTS

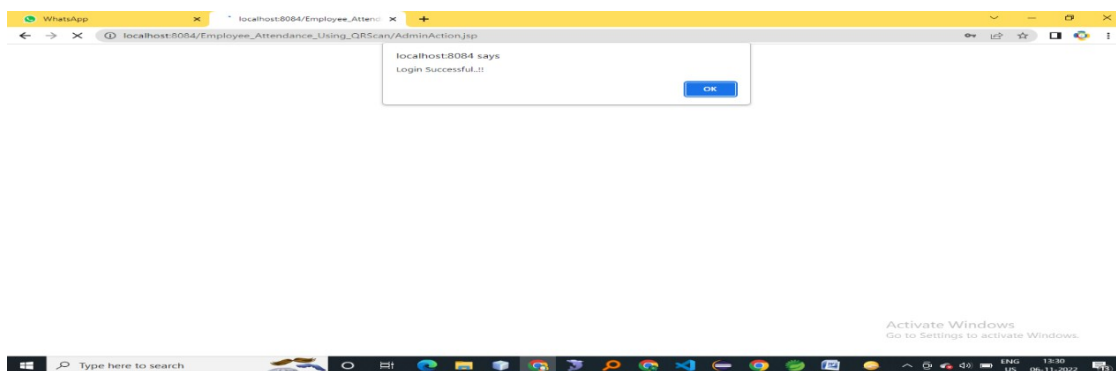**Fig6.1Index page**

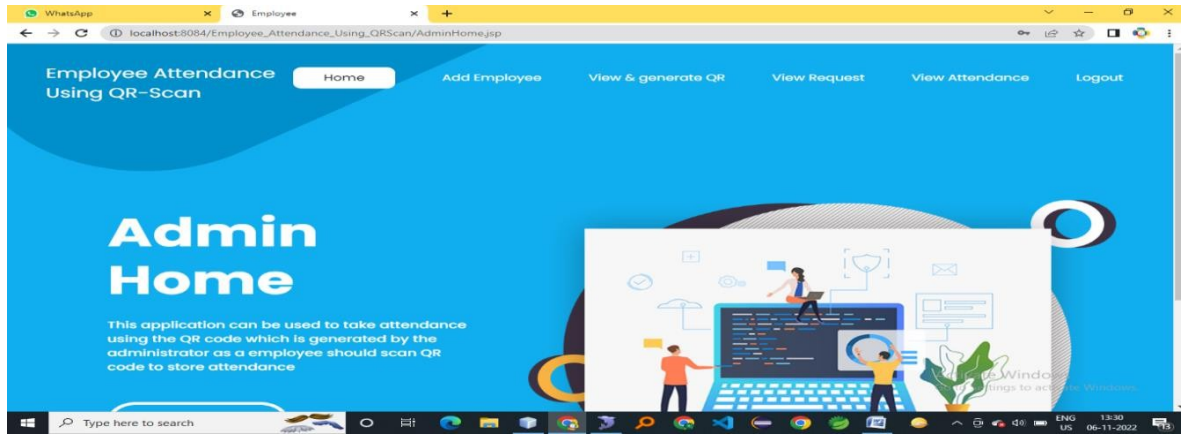**Fig6.2AdminloginPage**
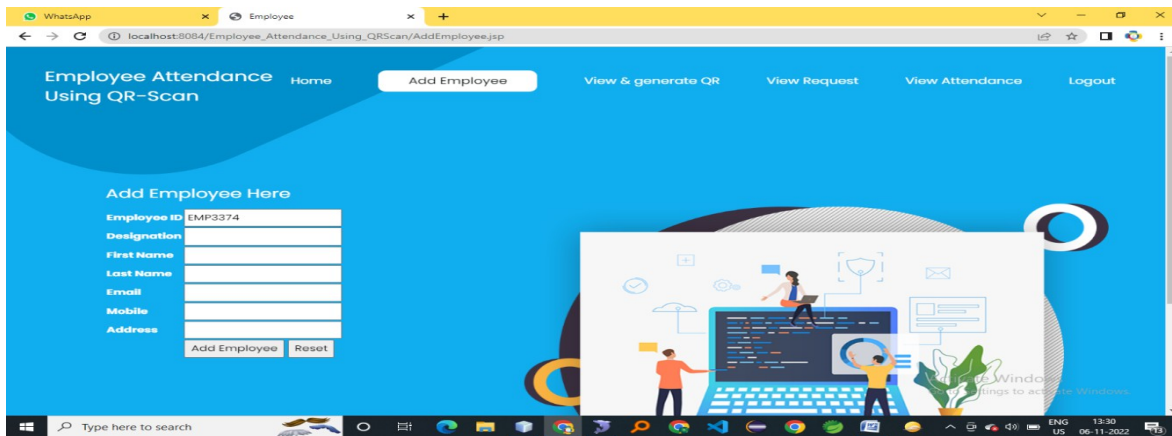

Fig6.3LoginStatus
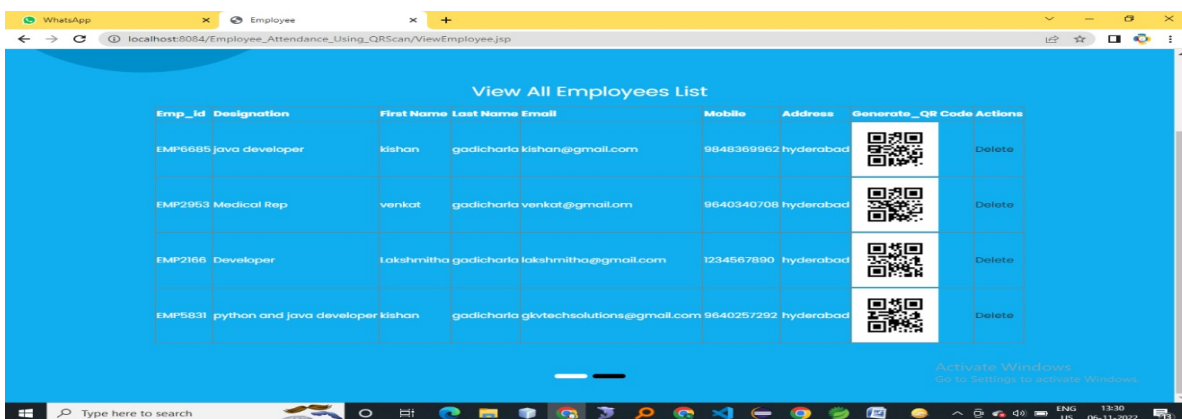
Fig6.4AdminHomepage

Fig6.5AddEmployee

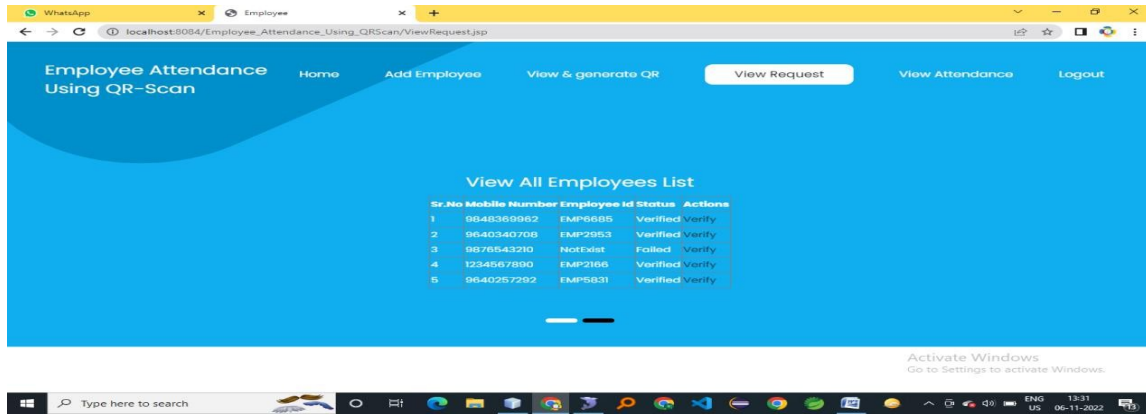
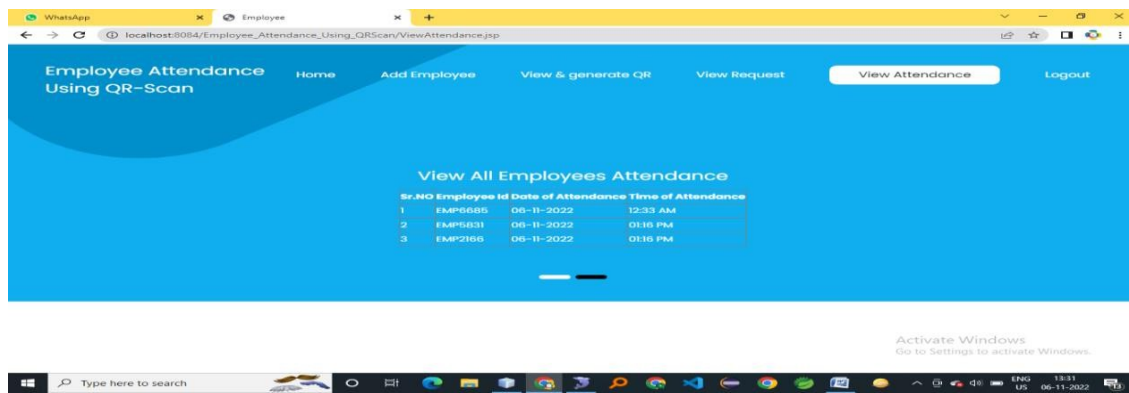**Fig6.6View Employees**

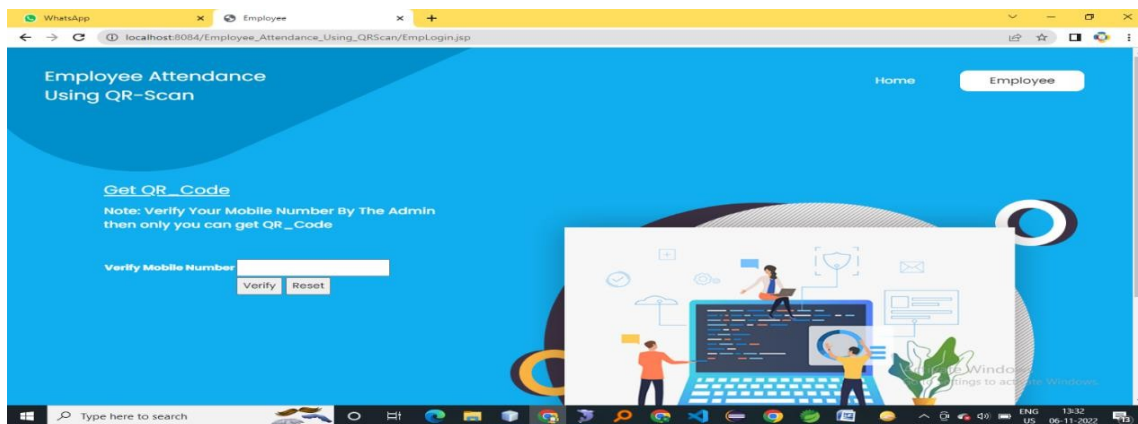**Fig6.7Verificationrequestpage**

Fig6.8Allemployees attendance
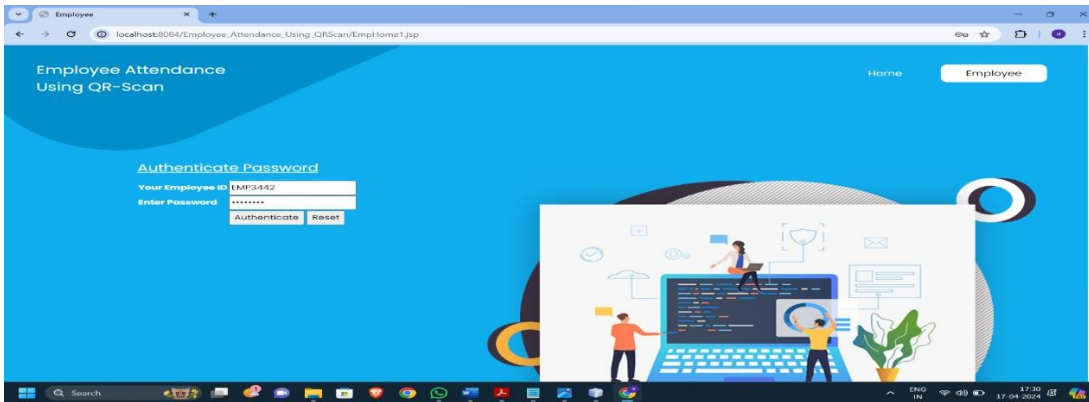

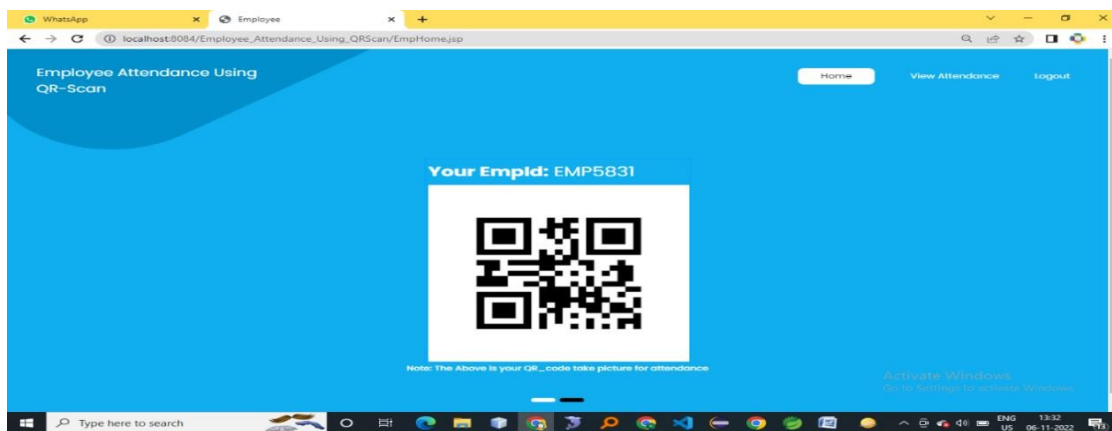**Fig6.9Employeemobileverification**

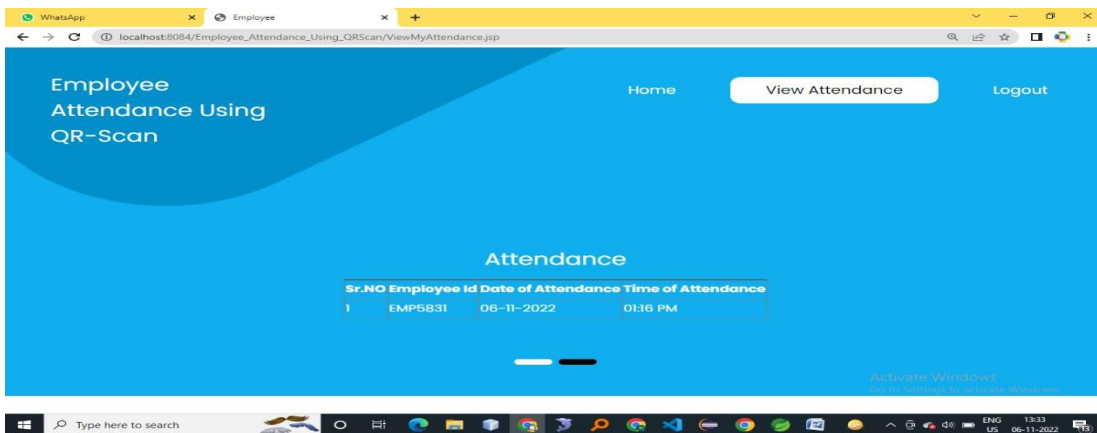**Fig6.10Employeeloginpage**

Fig6.11GeneratedQRCode
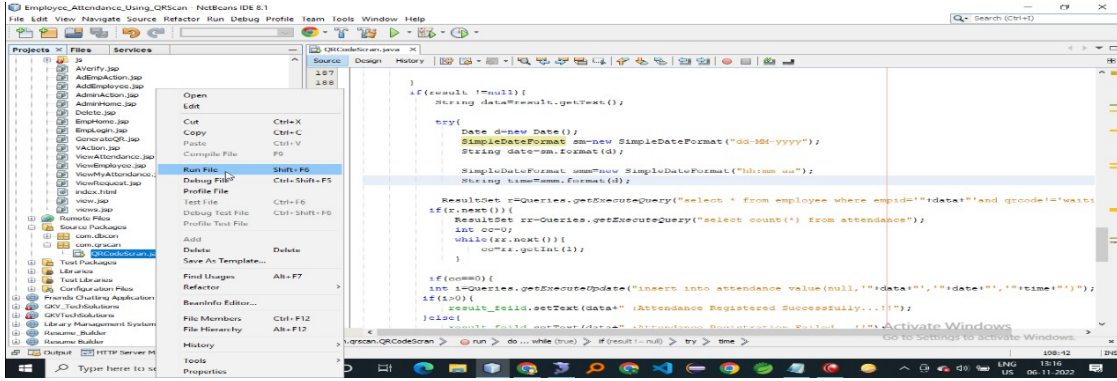

Fig6.12Viewhis/her Attendance
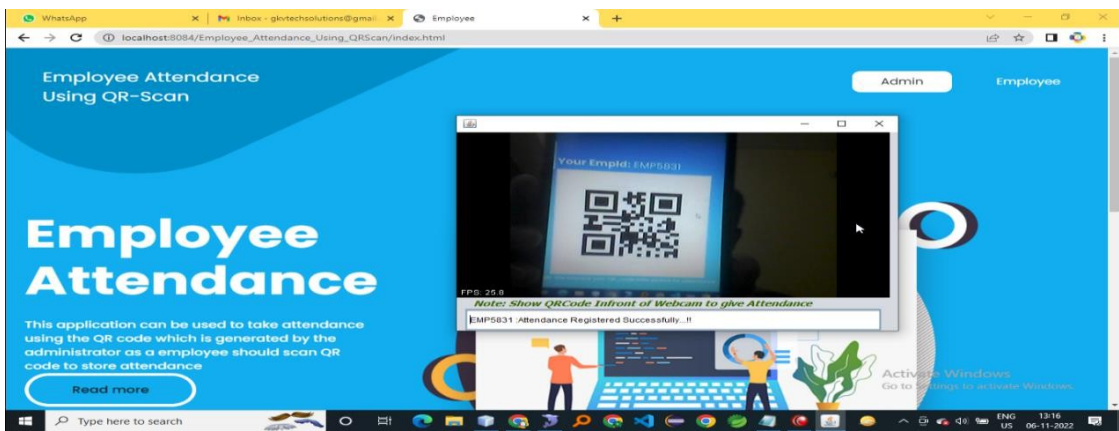
Fig6.13RunningQRcodemanually

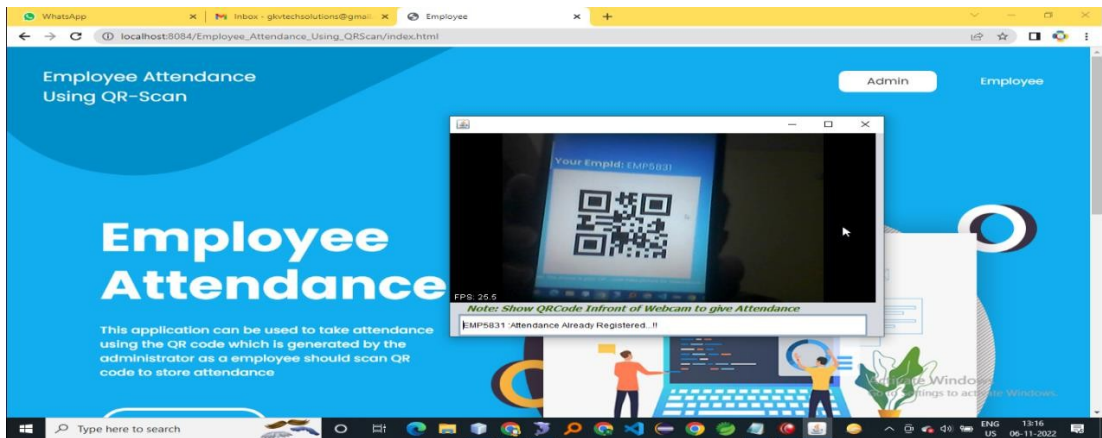**Fig6.14EmployeeAttendanceRegistered**
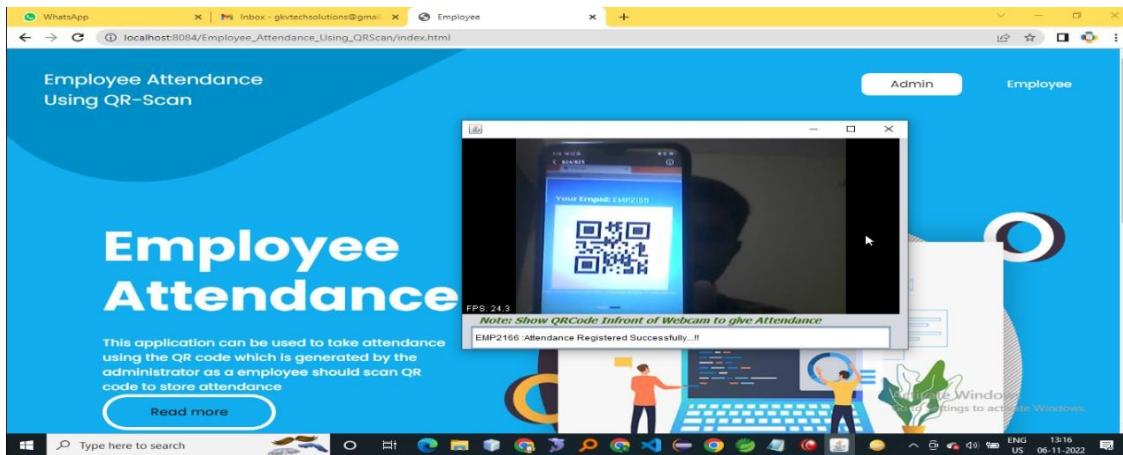

Fig6.15Attendancealreadyregistered

Fig6.16Anotheremployeeattendanceregistered

CONCLUSIONANDFUTURESCOPE

Given current global conditions and COVID-19, introducing a new system to reduce time and effortinattendanceandleaveoperationsinthecountry,aswellastoachievesocialdistancingand privacyforworkingpeople.Furthermore,inourdailylives,theattendanceandmonitoringsystem is critical. An easy-to-use and smart system based on (Face recognition - Fingerprint - QR code) hasbeendevelopedtotrackleaveattendanceprocessesforallstudentsand employees,aswellas integrating an Android device with databases to store attendance results, as well as attendance analysisonaweeklyandmonthlybasis.ThemaingoaloftheAutomatedAttendanceSystemisto computerize the traditional way of recording attendance and provide an efficient and secure way ofrecordingattendance.Amongotherscancodetechnologies,theQRcodebasedsmartattendance system is the most accurate.

The future scope for monitoring staff presence through QR code scanning is promising, withseveralpotentialavenuesforadvancementandimprovement.Oneareaoffocusisenhancing theuserexperiencebydevelopinguser-friendlymobileapplicationsorwebinterfacesforQRcode scanning, making the process more seamless and intuitive for staff members. Additionally, there ispotentialforintegratingQRcodescanningwithothertechnologiessuch asbiometricsorRFID for enhanced security and authentication. Furthermore, leveraging data analytics and machine learning algorithms can provide valuable insights into staff attendance patterns and trends, enabling organizations to optimize workforce management and resource allocation. With advancements in technology and the increasing adoption of digital solutions, the future of staff presencemonitoringthroughQRcodescanningholdsopportunitiesforinnovationandefficiency improvements in various organizational settings.

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