AN EFFICIENT METHOD OF MOBILE BASED AUTOMATIC SALARY SYSTEM USING VIOLA JONES FACE RECOGNITION

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Abstract

Nowadays practice of manually maintaining the employee details and to calculate their salary has become more complex. So that we are proposing a mobile based automatic salary calculation system which can maintain the employee details and salary in the company’s private database which can be accessed only by the registered employees, since everyone is using smart phones. So with the help of mobile we can check our details in anytime and anywhere. We are going to provide security for the system by using biometric techniques. In biometric techniques especially face recognition is used. In biometric techniques fingerprint recognition, retina recognition, hand geometry recognition also available, but with the help of fingerprint someone can hack and for retina recognition, it may affect the eye sight. So, face recognition is safe and also more secure. On the basis of principles it will produce documents as an output such as bank files and income slips etc. All the data such as, employee details, income, and tax will be stockpiled in database as a past performance. This system will be very effective and efficient to use it in the industry so that it will be easier to maintain the employee details and salary calculation.

Key words: Employee salary calculation; tax calculation; biometric techniques, smart phones.

1. Introduction:

Nowadays every one using smart phones which has many high end features like camera (front and back). In early days usage of mobile phone is very less and the mobile phones were with basic characteristics. But nowadays usage of mobile has increased. Today’s, smart phones are having all the features that are present in computer. So, mobile phone also
called as handheld computer. Cell telephones have changed the way we experience our lives and to numerous, the possibility of a world without voice calling, content informing and versatile Internet access is an unsettling one. As we all know, cellular telephones didn't simply occur incidentally. They grew up, much the same as us. so nowadays without mobile phones people cannot live. Initially there was a basic black white phone without camera and internet connection. Later it was developed slowly. Smartphone have all the features with internet and camera. To maintain the employee details and salary calculation are becoming more complex for more working employees in a company. So we are proposing an automatic salary calculation system which can maintain the details of the employee. The aim of this system is to calculate the salary and maintain the details of the employee. Manual salary system to calculate salary and tax of an employee consumes more time and energy and maintenance is complex. Since there is always a risk of human manual, because the records are manually written and maintained by human. So it is better to go from manual system to automate salary calculation system. The requirement is to develop a web based application. So this system is capable of generating files, salary slips, tax slips and other particulars in retort of queries from the data stored in the database. This system will maintain some basic information about employee such as salary, working hours, salary before tax, tax percentage, overall amount of tax paid, income after tax etc. This system will generate the salary of an individual employee, bank records, tax files and employee income slipups automatically and the data can send through mail to each and every employee. All these details are stored as a record in database and security is provided with the help of biometric technology. Biometric recognition refers to the use of different physical features like fingerprint acknowledgement, face recognition, retina recognition, hand geometry recognition etc. In this system we are going to use face recognition biometric technique. By using face recognition we can provide more security to the system. Fingerprint, retina, hand geometric there are problems such that hackers can hack our fingerprint and hand print, and retina will effect our eye sight. So face recognition technique is safe and more security. Moreover, the system will be user kindly in addition to flexible enough to be improved according to the needs of the users.

2. Mobile based automatic salary

2.1 Register

The below fig. shows the employee registration form. Initially the employee has to register the details, for that first click the register. By clicking the register next it ask for employee details like name, qualification, branch, address, email etc.
After that the employee has to capture the photo and all the details are stored in database as a record. Every employee can register their details initially. Later no need to register directly user can login.

**Fig 1: Registration Process.**

2.2 **Login:** After registration employee can login their own application. At first for each worker gave username and password. As the user enters the username and password it will ask for capture photo. The capture image and the image which is already stored in the database is matched then the login is successful. If the image is not match with the stored image then it will show an error.

**Fig 2: login process.**

2.2 **Salary calculation:** After login in their own application a client can check their own particular data elements. To check the details about salary, at first client need to login. After login it demonstrates all the details of interest such as aggregate wage every month, working hours, percentage of tax and so forth. After giving an input output is provided by the system as soon as the user will click on the calculate button. After that in tax summary it will show all the tax details such that how much tax should paid and after it generate the pay slips for the remaining income and the pay slips can directly send to the user mail. Now, with the help of biometric techniques especially face recognition we can provide more security for the software. For face recognition, there are so many algorithms. We are going to use viola-Jones algorithm in this software. This system examines the attributes of a man's face pictures utilizing a computerized camcorder.

**Fig 3: Salary Process.**
3. Viola Jones face recognition

A fundamental way to deal with ongoing item location. Preparing is moderate, however recognition is quick. At the time of recognition it must concentrate on positive images not negative images. Positive images mean only the facial qualities not the picture backgrounds. In identifying also it identifies parts only. First it identify only our eyes, next nose, next cheeks and mouth like that. Identify the face by part by part. The Viola-Jones Object Detection Framework is a non specific system for item recognition, which is especially fruitful for face identification. The main characteristics of viola jones algorithm are, it has high detection rate. It is sensitive to light. This algorithm typically gives multiple detections.

Algorithm

Begin

do

register user system then

capture image

for each user

if (image in database &&

details==capture image)

then user login

else user cannot login

end

4. Conclusion:

The main objective of the system is it will generate the pay slips automatically to the user mail. All the details should be stored in the database as a track record. So this will reduce the human power. Criteria set for objectives are to create documents, convey on time, execution also, effectiveness issues of the system. The significant objective we have accomplished is to create the bank records/receipts for the salary and all the details will save money with pay data so that the banks can exchange the pay rates of the workers into their records. Thus for each and every individual employee has their own details in their mobile and with more security. Thus with the help of this system we can able to check our salary any time anywhere with more security. This will reduce the manual power also.
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