

Employee Monitoring Using Image Processing

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ABSTRACT

These days employees well-being is the most growingly pertinent and mandatory consideration in the modern workplace of any organization. Until recently, emotions were considered a forbidden topic in the working place. They were no person's concern, and they had no place in business. They were not allowed to discuss it and those issues must always be left at home. Today, research on how emotions affect inventiveness, production, and profession success has put a jaunt on the subject.

They are realizing that how well they elicit and sustain positive emotional states in their employees plays a major role in their organization's victory or defeat. This is because emotions directly influence the five major sources of competitive advantage in today's marketplace: Intellectual Capital, Customer Service, Organizational Reactivity, Production, Employee appeal and retentivity. By becoming more knowledgeable about how emotions affect the primary sources of competitive advantage, organizations can help their management team recognize the critical connection of employee's emotions and then try to make it right before it affects the productivity. In this paper, the proposed approach to the problem of employee's emotions are resolved by detecting their emotions using C#. At the time of entering into the organization, face of the employees are captured to analyze their emotions and stored in the database.

I. INTRODUCTION

Existing Labor contract management system requires manual integration of data and management of different-different processes. Company requires different systems for Human Resource Information management, Project management and client & Product management. Since searching and tracking of information of employees become complex and time consuming.

In this system there will be two roles that is Admin and Employee. Company HR will be Admin of Network. In admin role Company HR can add an employee. He /She can calculate salary of employees and can set performance star for employees. In Employee side: A camera can detect if employee is present or not in front of computer and time is stored in database for which employee was absent. A Camera can detect employee eye if he closes his eyes then time is stored in database for which eye was closed to calculate drowsiness time.

II. LITERATURE SURVEY

The old method for monitor employee is manual work. But this method takes a lot of time and there are chances that the attendance is not marked properly. The second method is finger print recognition. But for some people it is intrusive, because it is still related to criminal identification. Another disadvantage of finger print recognition is that it can make mistakes with the dryness or dirt of the fingers

skin. The method for taking attendance is iris recognition. The disadvantage of this method is that it is also intrusive and a lot of memory is required for data storage. There are various methods for facial recognition like Eigen face method. Various extensions have been made to the Eigen face method such Eigen features. This method combines facial metrics (measuring distance between facial features) with the Eigen face representation. Another method similar to the Eigen face technique is 'fisher faces' which uses linear discriminant analysis. This method for facial recognition is less sensitive to variation in lighting and pose of the face

than using Eigen faces. Fisher face utilizes labelled data to retain more of the class specific information during the dimension reduction stage. A further alternative to Eigen faces and fisher faces is the active appearance mode. This approach use an Active Shape Model to describe the outline of a face. By collecting many face outlines, Principal Component Analysis can be used to form a basis set of models which, encapsulate the variation of different faces.

In proposed method for monitoring of employee image processing technique is used in which eye movements were captured and analyzed. From this analysis database gets update and attendance will mark of particular employee. Using image processing drowsiness time of employee will be detected and according to that time of employee will stored in database.

III.OBJECTIVE

- System consists of Two Users 1. Admin 2. Employee. Provide facilities to admin like Approve or Disapprove login request.
- To provide access to user for leave request. Admin responsible for approve or disapprove leave request.
- To set and calculate performance of employee and according to that set performer star of employee. Admin is able to calculate salary of employee according to database.
- Image processing is used to detect eye movements, according to that if eyes are closed then camera detects and drowsiness time calculate.
- To generate report of employee. Employee presence/absence in front of computer will affect salary of employee.

IV.PURPOSE AND SCOPE OF DOCUMENT

The purpose of this SRS document is to provide a detailed overview of our software product “An EMPLOYEE MONITORING USING IMAGE PROCESSING”, its parameters and goals. This document describes the project's target audience and its user interface, hardware and software requirements. It defines how our client, team and audience see the product and its functionality. The main purpose is to develop the proposed system to analyze employee’s actual working using image processing technique. This system is performing face recognition, Eye detection and image processing algorithms for analyzing. Web camera is used for capturing employees face expressions for analyzing eye movement. The scope of this project includes project developer assisted by project guide. The scope thus far has been the completion of the basic interfaces that will be used to build the system. The images which are grabbed from the video in the project must have in proper desired format. The major scope of this project is as follows

- There are many existing system for attendance and monitoring of the employee but they only gives presence report of the person.
- Available system gives attendance report but not gives actual working hours of employee, Proposed system detect users Drowsiness time And depends on that time salary will be calculate.
- System is use full for report generation, for employee leave request.
- Admin can set performance star for employees.
- Employee presence/absence in front of computer will affect salary of employee.

V. MATHEMATICAL EQUATIONS

System Specification

$$S = S; s; X ; Y ; T ; fmain; DD; NDD; riend; memoryshared; CPUcount$$

S (system)

s (initial state at time T) X (input to system)

Y (output of system)

T (No. of steps to be performed) fmain(main algorithm)

DD (deterministic data) NDD (non-deterministic data) riend

Memory shared CPUcount

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Equations

Subordinate functions: Identify the processes as P S= I, O, P....

$$P= FED, SC \text{ Where,}$$

FED is Face and Eye Detection from Image. SC is Salary Calculation.

$$FED= VS, MAX, O \text{ Where}$$

VS = Video Stream as input for Employee Detection. MAX = 1, 2, 3, , n

O is output of Detection. SC= WT, AS

Where,

WT is input which is Wasted Time of employee. AS is Actual Salary of employee.

VI.APPLICATIONS AND ADVANTAGES

Applications

- Tech support companies
- Talathi government offices
- To calculate precise salary
- Technical sectors

Advantages

- No extra hardware requirements.
- Secure and reliable to use.
- Avoid manual work for attendance of employee.

VII. CONCLUSION

This method is secure enough, reliable and available for use. No need for specialized hardware for installing the

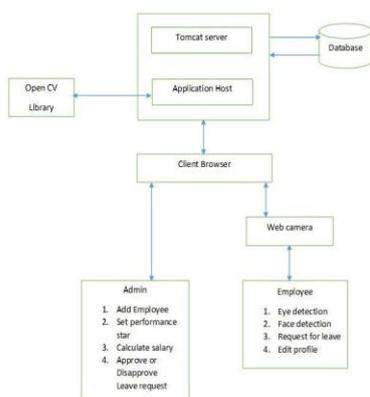


Fig: Architecture Diagram

system in the company. It can be constructed using a web camera and computer.

VIII. REFERENCES

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