

“Automation of Feedback System”

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ABSTRACT -In real world scenarios, most application rely on capture accurate and informative data. In order to increase the efficiency of feedback evaluation we propose an automated feedback system to evaluate all the feedbacks which is collected from students. This paper represents an Optical Character Recognition (OCR) and Optical Mark Recognition (OMR) techniques. This system evaluate feedback with minimum human intervention. The system automatically marks the feedback and recorded question wise score. Once the marking of feedback is completed the system displays the overall feedback through statistical plots. According to this plot the result will be generated in text form. The application of recognition has been developed by using the software language, Python and the image processing library, OpenCV.

Keywords – Optical character Recognition (OCR), Optical Mark Recognition (OMR), feedback, python tesseract

I. INTRODUCTION

For survey purpose, paper based questionnaire is still considered a reliable and effective method for record opinion (feedback). The analysis of these questionnaires to draw pattern to receive feedback is process by any human. OCR describes a system that performs the mechanical and electronic conversion of image. They are capable of converting typed and handwritten text into machine encoded text. The source of the document which contain OCR (character) and OMR (human marked data) include scanned document or image. OMR is the process of capturing the human marked data from the document.

The Automation Feedback system which is designed for particular need of college in which aims to rate and analyse the faculty performance and it will reduce the strenuous work.

In this system college provide the feedback form to student then the student fill it as per their need and then submit the form to the faculty, but it

is difficult for the faculty to evaluate feedback manually. To overcome this problem we are using scanned OMR sheet which contain character and human marked data. The student name and faculty name on the top and on remaining part contain human marked data. Here we are using python programming language. By using pytesseract library is used for OCR detection of student, faculty name. We have used opencv for OMR detection. So it will be very helpful for faculty to evaluate all the particular student feedback as per student name.

II. PROBLEM STATEMENT

This work focus on the automation feedback system which will be in place at education organisations for better teaching and learning process with corrective measures to bring the quality in education system.

The existing system retrieving student feedback involves physically reaching out to the students. This project is based on OMR sheet converted into scanned image as we have this project for our college system. In our system students are given the feedback for the faculty as per student need. But it is difficult for the faculty to evaluate all the feedback this usually requires a lot of time.

III. EXISTING SYSTEM & ANALYSIS OF THE ISSUES

Existing system the feedback is done by manual process. In the existing system student can give feedback about the lectures by using paper and pen. After giving feedback by every student papers are collected by the teacher and calculate the overall grade for each lecturer. After that those all grade report is viewed by the principal which is given by the teacher or head of department. Hence estimating the performance of lecturers and giving counselling to college staff. So, the existing system is carries more time to do a piece of work for this reason. The system feedback is implemented.

ANALYSIS OF ISSUES IN EXISTING SYSTEM

- Manual Evaluation
- Loss of Data

Manual Evaluation

College provide feedback form to student then student fill it as per need and submit to the faculty and the faculty will evaluate all the feedback form manually. It is difficult for evaluate all the feedback manually. In manual process the calculation might goes wrong.

Loss of data

In this system multiple students are having multiple feedback when it is done manually so sometimes because of shuffling the data might be loss. There might be loss of data when evaluating the particular feedback form.

IV. PROPOSED SOLUTION

Due In this system college provide feedback form (i.e. one question paper and OMR sheet) to the student then student fill this OMR sheet using human mark data as per student need and then submit it to the faculty. So the faculty should scan that sheet and save that jpeg image and that image is passed to pytesseract which is OCR application for python. It will read and recognize the text from the image including jpeg, png. In our project which is used for recognize the name of student and name of faculty then we apply CV2 to that jpeg image.

Advantages of Proposed System:

- Reduces a lot of time and effort
- Reduces paper work
- Friendly security

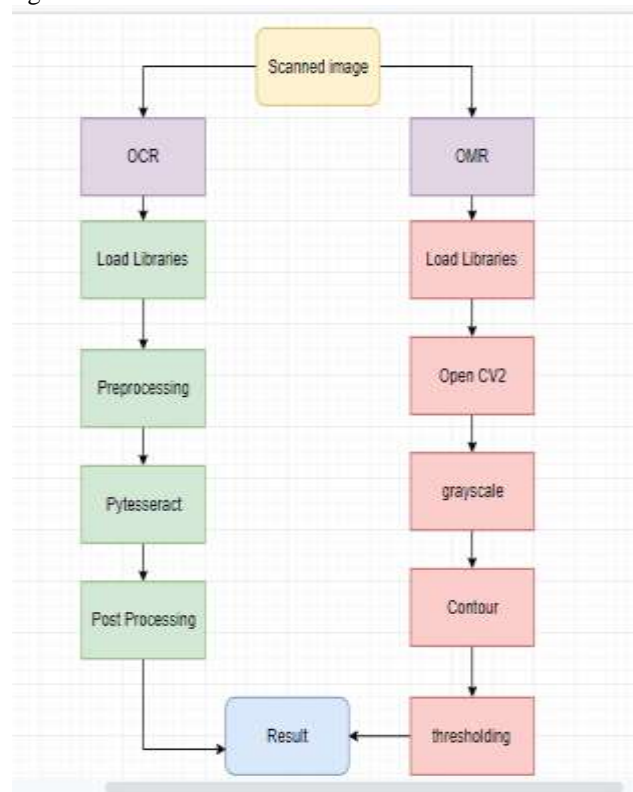


Fig.1 System Architecture Diagram

Load Libraries: It is open source library for computer vision. In our project we are used python programming language so we need to load libraries like pytesseract and open cv2.

Gray scale: convert an original image into gray it is related to every pixel ie 0 and 255.

Canny Edge Detection: It is to detect the edges of an image, it accepts grayscale image as input.

Contour: It is tool which is used for analysing shape and object for detection and recognition.

Thresholding: It is process of assigning pixel value to threshold value and then each pixel value is compared to threshold value, if pixel value is small then set as 0 otherwise set maximum value (255).

Pre-processing: In this first stage deals with the

color image into grayscale image and then changing grayscale image into binary image that contain any black and white colour and grayscale image that contain pixel with value 0 and 255.

Actually it is process of converting the colored image into grayscale image and is relating to every pixel i.e. 0 and 1.

Post processing: In the post processing segmentation of each line is performed after each line segmented into words and then each words segmented into character.

After applying this we get graph which is made by using image and according to this graph we will get result in text form.

V. RESULTS

1. Quality of teaching
2. class control and command on student
3. Behaviour of the teacher in class
4. Is teacher punctual
5. Is teacher Honest
6. The teacher discuss topic in detail
7. The teacher communicates clearly
8. clarity and understandability of teacher explanation
9. speed of presentation
10. overall teaching effectiveness of the teacher

Fig 1: Questions in feedback form

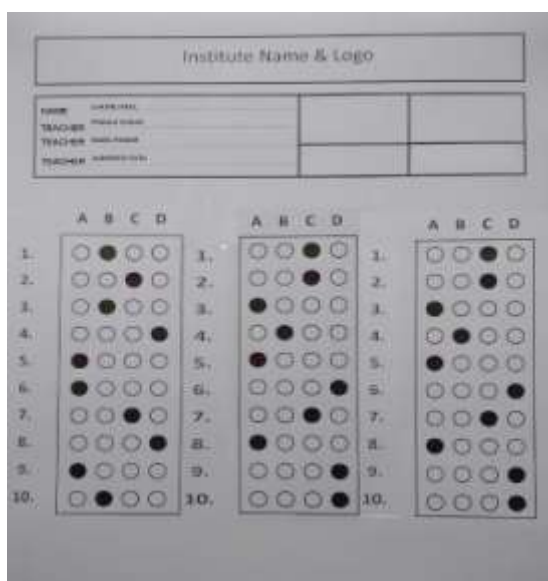


Fig 2: OMR sheet



Fig 3: Select the scanned image

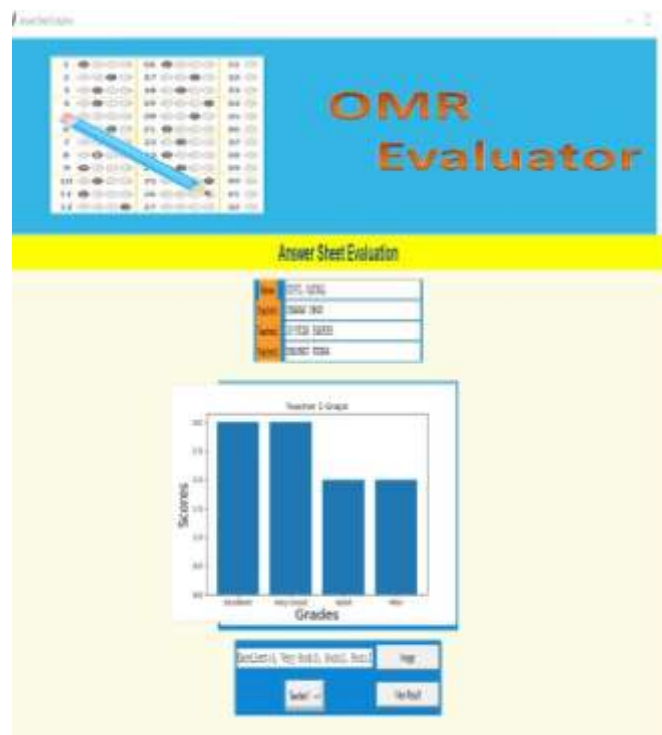


Fig 4: Output in graph and written form

VI. CONCLUSION

In Automation of Feedback system an automated method for feedback evaluation has been proposed using optical character recognition. The results are analysed for feedback forms. The statistical results for the same are obtained which includes the bar plots for user for question wise analysis. The user can interpret using these visualizations that what is the overall assessment of the forms and what are the strong or weak areas for the institute. Till date all this work is done manually and no automated process is suggested for the same. The proposed system is an attempt to make the feedback form evaluation system a smooth process with minimum human intervention.

REFERENCES

- [1]. Alvaro, A. K. S., Cruz, R. L. D. D., Fonseca, D. M. T., & Samonte, M. J. C. (2010, June). Basic handwriting instructor for kids using OCR as an Evaluator. In 2010 International Conference on Networking and Information Technology (pp. 265-268). IEEE.
- [2]. Sanguansat, P. (2015, June). Robust and low-cost Optical Mark Recognition for automated data entry. In Electrical Engineering/Electronics, Computer, Telecommunications and Information Technology (ECTI-CON), 2015
- [3]. Idé, T., & Dhurandhar, A. (2015, November). Informative prediction based on ordinal questionnaire data. In Data Mining (ICDM), 2015 IEEE International Conference on (pp. 191-200). IEEE.
- [4]. Yigzaw, K. Y., Michalas, A., & Bellika, J. G. (2016). Secure and scalable statistical computation of questionnaire data in r. IEEE Access, 4, 4635-4645.
- [6]. Ohira, Y., Ogashiwa, K., Muranaga, S., Matsumoto, T., & Naitoh, H. (2016, July). A Development of a Questionnaire System for Institutional Research. In Advanced Applied Informatics (IIAI-AAI), 2016 5th IIAI International Congress on (pp. 505-508).
- [7]. Jordan, S., & Mitchell, T. (2009). E Assessment for learning? The potential of short answer free text questions with tailored feedback. British Journal of Educational Technology, 40(2), 371-385.
- [8]. Eftimie, I. A., Bardac, M., & Rughiniş, R. (2011, June). Optimizing the workflow for automatic quiz evaluation. In Roedunet International Conference (RoEduNet), 2011 10th (pp. 1-4). IEEE.
- [9]. Ghogare, S., Mahajan, C., & Mulay, P. (2015, October). Automation related to professor evaluation. In Applied and Theoretical Computing and Communication Technology (iCATccT), 2015 International Conference on (pp. 579- 582). IEEE.