Abstract

The concept behind this paper is to develop a system that can check and evaluate the MCQ answers using the webcam. Till date many institution and organization held many exams where user are provided with a separate question and answer sheet, where answer are multiple choice option, each option may be a square or circle and user is supposed to either tick or fill it using pen or pencil. Such exams are JEE, CET, NEET etc. Also many financial institution and college refer such types of test since MCQ format Q&A are efficient and time saving as compared to that of lengthy papers. The renowned high level organization or institution use OMR technology for assessment of such paper, since number of student are in million and it’s not feasible to check each single paper as it is time consuming, also it requires lot of human labor another problem is that human are prone to make error for example humans may grade wrong answer as correct / correct answer as wrong, Human may be biased about particular student and may score him less mark.
Maintaining paper for longer time is troublesome since it is prone to various climate change (fire, moisture etc) also humans have to manually record all the scores in different excel sheet/file. On top of that high level organization use huge scanner which scans each paper in continuous batch precisely, where as normal school or college cannot afford such type of machine. Here the aim was to build a system such that when answer sheet is placed before webcam it will automatically get its image and all the answer will be evaluated and result will be displayed, determining score and total percentage. Since laptop is easily available to all, this make system more easy to handle and accessible to all as compared to other systems.

The problem statement is divided into 2 phases, First is how to extract image using ‘open cv’ and Second is how to apply content-filteration and image processing algorithm on it to get expected result.

References

1. Digital Image Processing (3rd Edition) - Rafael C. Gonzalez
2. Learning OpenCV-Computer Vision with the OpenCV Library- Gary Bradski, Adrian Kaehler
4. OpenCV implementation optimized for a cell broadband engine processor- Sugano, H.; Dept. of Commun. & Comput. Eng., Kyoto Univ., Kyoto; Miyamoto, R.

Index Terms

Computer Science Information Sciences

Keywords

Optical Mark Recognition