

ABSTRACT

Telkom Institute of Technology is an institution based on technology which has become imperative for IT Telkom also provides technology-based services. A problem often encountered is registration payment using Automatic Teller Machine (ATM) which has a problem in terms of verification because of the manual processes of either the bank concerned or The Information System (SISFO) IT Telkom such as student data input processes conducted by an admin.

This final project aims to implement a verification system that can identify the character of the date of payment, student's number (NIM), and nominal payment contained in the print out of registration payment using ATM which are processed in realtime. The system is made using a webcam as a medium for acquiring the image and Matlab as a software to build an application program of the system. The feature of the image that is acquired by a webcam is extracted and then do the recognition process using threshold of correlation factor technique and is converted into text data. Then text data are updated to the database of students.

To improve the performance of the system, then the system is tested. The testing system is done by create an analysis of some parameters. First, the system is tested to type and size of Structuring Element (SE) of image dilation. Having get the optimal accuracy, the system is tested to the threshold of correlation factor of each letter and number and the computation time of the system.

Based on the result of performance testing system, it is known that the performance of the system reaches the highest accuracy when the type and size of SE that is used is rectangle/square [2 2]. When the threshold value of letters A, B,C, D, E, F, G, H, I, J, K, L, M, O, P, Q, S, U, V, X, Y, Z, and numbers have range 0.5-0.8 and the threshold value of letters N, R, and T have range 0.4-0.45, the accuracy that is obtained by the system is $\pm 94\%$ and computation time of the system is ± 6 seconds.

Keywords : verification system, print out ATM, realtime, thresholding of correlation factor