ABSTRACT

Recapitulation of student attendance in most universities in Indonesia, including IT Telkom still calculates manually. Presence sheet is signed by students in the classrom, and then administration staff will calculate student attendance by looking is there any signature signed at presence sheet or not. This manual calculation causing an ineffective utilization of time and energy to manage existing data. Finally this condition will causing an unoptimalized in presence and other process that related to it. In a line with the increasing amount of students, administration staff will require a lot of accurateness and time to summary entire student attendance. The growth of technology is expected to solve this problem.

In this final project, an application that can read presence sheet quickly and accurately has been made. Presence sheet that used in this research is redesigned in order to give enough information about presence detail, such as course and lecture's name. To make recapitulation process easier, firstly, presence sheet is transformed into digital form using scanner. After that, image processing and Hough transform is processed to differentiate between signed and unsigned column. This detection result will become input for next presence.

This presence recapitulation system is capable to do presence recapitulation untill rotation 11°, shift to left 2.5 cm, and shift to right 1.5 cm. Time that is needed by system to do pre processing is 9.03 second, while time to do presence detection for one person is 0.36 second.

Keywords: presence recapitulation, digital image processing, hough transform