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The system counts the number of students in classrooms today are generally obtained manually. However, the human factor that has a vision that is less alert can lead to errors in calculations. Currently, the development of digital image processing used for various purposes based on the sense of vision which means that if a case can be recognized by naked eye by the eye then the digital image processing can also be identified. Thus, digital image processing can be used to calculate the number of students.

In this thesis aims to design a system that can calculate the number of students from the image. The results of the calculation system which will be used to compare the actual number of students on attendance Presence list. Thus expected to help lecturers at the course.

From the results of performance testing system, it is known that the performance of the system reaches the highest accuracy when the process of feature extraction using a correlation threshold parameter threshold ratio above 0.1 and below 2 with classification parameters are set in k-NN is the value of $k = 1$. System accuracy is 82.855% obtained for classrooms containing students using batik, 87.361% for classrooms containing students wearing uniforms, and 100% for the empty classroom.

Key words: Digital image, computing systems, digital image processing.