

DESIGN AND PRODUCTION OF FINGERPRINT PORTABLE ATTENDANCE SYSTEM

Student Number: 1721022
ANUGRAH TRI NOVIANDI

ABSTRACT

Attendance is the process of identifying and recording student attendance at each scheduled class time. In general, the attendance process is done manually as well as the student attendance reporting process (student attendance recap) is done manually by administrative staff. This manual system is vulnerable on fraud and also human error. To overcome these problems, it is necessary to design an attendance system based on electronics and capable of processing data quickly, effortless, and paperless. The attendance system was designed in a portable form, easy to carry to lecture classes and minimized cheating.

The system was designed using a Fingerprint Sensor that is connected to the *Raspberry Pi* microcontroller as a file server. The fingerprint sensor will detect fingerprints from students who have been stored in the internal storage sensor. Then, the data was sent to the *Raspberry Pi* to process data, store data, and share attendance data to the admin computer. Attendance data contained data needed in reporting student attendance.

The results of completed fingerprint detection data retrieval show that the accuracy of the detection has accuracy index ranging from 100 to 400 where the dominant failure factor is caused by the shape and thickness of the less clear fingerprint ridge. The attendance system equipped with register function, deleting fingerprint function, and attendance recording. Register function is to enroll the fingerprint of student, deleting fingerprint function is to remove the student data, and attendance recording function is to record the student attendance where will be confirmed by the lecturer.

Keywords: *Attendance, Fingerprint Sensor, Raspberry Pi, File Server*