

ABSTRACT

The rapid development in the field of technology, currently has created many attendance systems that are difficult to cheat by detecting patterns of a person's special physical features, including face recognition, fingerprint recognition, iris recognition, and others. In this Final Project, the writer chooses a face recognition system that will be developed and implemented in the attendance system. Face recognition is considered capable of reducing fraud in the attendance system used today [2].

The method used in completing this final project uses OpenCV as a face recognition program software library, a Raspberry Pi camera as an image capturer, and an Internet of Things platform named ThingSpeak. All of these things will be linked to each other to create an attendance system with face recognition, and its performance will be measured by the Quality of Service (QoS) parameter.

The results of the feature testing using the Black Box Testing methods, the features such as registration, face recognition, and attendance checking has worked well. Average delay calculations of the registration feature when Raspberry Pi downloading a face images to the dataset folder is 25,09885 seconds. Average throughput calculations of registration feature when Raspberry Pi downloading a face images to the dataset folder is 117 B/s. The testing of reliability and availability on registration feature is 100%. The testing of reliability and availability on attendance using face recognition scored 100% with a predetermined scenario. Average delay calculations of the attendance checking when Raspberry Pi sending a signal to ThingSpeak is 0,557 seconds. Average throughput calculations of the attendance checkin when Raspberry Pi sending signal to ThingSpeak is 62,75 B/s. The testing of reliability and availability on attendance checking feature is 100%.

Keywords : Face Recognition, OpenCV, Internet of Things, ThingSpeak, Quality of Service