

ABSTRACT

Many current TV shows that educating, especially for children who watch. However, events that should be watched with a companion, especially parents for children who are still minors may be an example of a less well in life, increase in criminality, especially in the field of amorality and violence is the result obtained. In this final project created a system, where the TV will turn on when it detects the presence of the parents who accompany their children. This tool detects the presence of the parents using a camera that contains a database of facial images of the parents, with a face recognition method.

The system used in this tool consists of three parts, Raspberry Pi, a camera, and a relay. Information obtained from the camera on the testing program processed by Raspberry Pi, a small-sized computer, and likened to a database that is the result of a process of learning programs. The result of image processing will be input to the relay, but when parents leave the room, then the camera will detect the absence of the object, so that the camera sends the information to the Raspberry Pi, the information input into the relay so that the relay turns off the TV. The performance of the device is measured by looking at the accuracy of detection equipment to the object, the accuracy of detection of facial attributes, the effect of light on the performance of the tool, the tool response time and performance tool for young children. Each test performed 30 times.

The results obtained from the testing tool is in response to the second notice objects that have previously been conducted learning process and entered into the database, the tool can detect objects well with accuracy of 93% and 87%. Against facial attributes such as goggles, tools can still work well premises accuracy by 80%. At a place that has a light intensity of 1721 lux tools can work well with an accuracy of 87%, but in a place B that has an intensity of 54 lux tools can not work properly, and only has an accuracy rate of 16%, then the light intensity factor greatly affect the performance of the tool. Response time 49 seconds learning process, the testing process acquired time by 45 seconds. Results of experiments on small children 3 years old PFA obtained by 17%, and children 9 years old PFA obtained by 6%. This shows that the tools can work well

Keywords: face recognition, Raspberry Pi, relay.

