ABSTRACT

This research is the development of an IoT-based smart home monitoring activities of the elderly with BOT communication media using telegrams. The development was carried out by researchers using a system without direct contact with the elderly's body. Parameters for the classification of elderly activities used are indoor conditions. The control center is a NodeMCU ESP32 CAM and a PIR sensor as a motion detector in the elderly room.

Data security and privacy is a major concern in the development of this system. All data is encrypted and only accessed by authorized parties. Seniors and their families have full control over the data collected and how it is used. In this research, it will be tested using 2 parameters, namely photos using flash and photos without using flash.

After the experiment was carried out, the result was that this system had succeeded in sending notifications and taking photos using the camera which were then sent to users via the Telegram application. Users can also control system commands sent from the Telegram application. The time needed to be connected is around 182 ms to 220 ms, and the distance that can be traveled is up to 5 meters to 30 meters. The number of matches obtained by this researcher is 35. This system has also sent the results of the movement of the elderly with the fastest delay time when photos use flash with a duration of 1236480 Microseconds and photos without flash get the fastest delay with a duration of 4897261 Microseconds. The tests carried out are in accordance with the function.

Keyword : Lansia,ESP32 CAM, Internet of Things (IoT)