

ABSTRACT

The implementation of the dialogue system in the vehicle is not only to facilitate user activities but to keep users focused while driving to avoid accidents. The dialogue system in this study utilizes speech recognition as input data from the user to control car vehicle equipment such as turning on the lights, turning off the air conditioner, turning on the radio, etc. This study presents the development of an Internet of Things (IoT) based dialogue system using the Finite State Machine (FSM) model algorithm to manage the dialogue system. This system is implemented on a Raspberry Pi, a small computer as the main control tool, then uses a Firebase real-time database as a data receiver and sender based on input from a dialog system. The data on the Firebase will be synchronized with the ESP32 microcontroller, which will turn on or turn off the car appliances. This research method uses a prototyping model due to experiments will often be carried out before reaching the final stage. This research succeeded in creating a prototype of a human-machine interaction dialogue system on a car by achieving an average command accuracy of 89.5% for turning on and off the electricity connected to the ESP32.

Keywords — Finite State Machine, Internet of Things, Dialogue System