

## **ABSTRACT**

Automatic Speech Recognition (ASR) has the ability to make computers recognize the sounds spoken by humans. Speech recognition can be applied as an interface for users to control motorcycles or other electronic devices, with this capability this system can be used for vulnerable home security systems today. The rise of crime rates and increasingly sophisticated in breaking into or damaging the conventional home security system. To overcome this, additional security is needed on the door lock system that is privacy. Therefore, the system of opening and closing the door of the house is made to protect the house from unwanted things.

This study designed a home door system based on Speech recognition. The system input is in the form of human voice which is obtained when the pronunciation of the command is open the door and close the door. Commands from speech-based human voice are processed using Arduino Uno through an Android Smartphone connected with Bluetooth HC-05 and a home door drive system using a servo motor.

The amount of data is 30 types of human voices with the command open the door and close the door, each test is carried out as many as 3 attempts. The system can identify voice commands into 2 classes namely open the door and close the door. The results of servo motor experiments when open and closed obtained an average time of 2.59 seconds and the results of voice commands obtained an accuracy of 94% with an average time of the command being 3.05 seconds

*Keywords: Speech recognition, smartphone, Bluetooth hc-05, Arduino UNO, Motor servo*