

## **ABSTRACT**

*Directly proportional to the rapid development of times, technology also participates in taking part in these developments, especially in the security sector. Biometric technology has recently become very popular because the identification mechanism relies on the physical characteristics of each individual so that it is expected to be identical with the owner of his identity. In some previous studies, the security of house doors has been created by only applying one- step verification, which is using voice. But the result is that there are still some detection errors for different users. The detection error rate even reached 44%. This certainly can be a gap for foreigners who want to commit a crime. Different from previous studies, this study utilizes two-steps verification, namely using voice recognition and face recognition. Verification is done through a device that has been installed in front of the door. Then the verification results are sent via bluetooth signal communication to the HC-05 bluetooth module that is connected to Arduino Uno. Then Arduino Uno sends an order to the actuator to open the door. System precision using only voice recognition, obtained system success results of 75%. But with the addition of the next stage, namely face recognition, the precision of the system increased to 100%, so users with the "false-negative" condition on voice recognition changed to "false-positive" on stage of face recognition*

*Keywords: Biometrics, Two-Steps Verication, Face Recognition, Voice Recognition, Arduino*