ABSTRACT

The ENS FIT Laboratory stands for Laboratory Embedded and Network System, Faculty of Applied Sciences, this laboratory is located on the 1st floor of the Faculty of Applied Sciences to be precise in the G3 room. currently the door in the Embedded Network System (ENS) research laboratory can be opened using a key that has been made, and this key is held by the laboratory Coordinator. Therefore, a door security System was created using biometric verification to prevent theft, loss of valuables in the laboratory, limiting who can access the laboratory. This System provides room security by providing a door access System using face verification and security code using numpad matrix and face verification applications on the Raspberry Pi microcontroller on the door and recording who has accessed the door. The way this System works is that the user conducts a portrait session to store his image data in the Raspberry Pi database then for door access the user enters the passcode then faces the face to the camera and the system will verify the face and will open the doorlock if the face matches the database, then the System will record the laboratory door access history data. If the face does not match the database then the doorlock will not be opened. The result of this final project is that the System is able to secure the door of the FIT Embedded Network System (ENS) laboratory by using biometric verification, namely face recognition and can open the door after entering the security code using the keypad followed by the face verification process with 7 seconds for the door to close again then record record the history of accessing the door.

keywords: Verification, Face, Database, Keypad, History