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ECE 411

Homework 7

Test Plan -

Our device that we are testing is an RFID Door Lock to control an existing lock on a door. The device will use an RFID reader to detect whether a user has access to open the door or not, based on the RFID card identification. A master card will be available to add or remove access to the device to use multiple cards for access. We will be using two tests to verify our device works the proper way. We need to have users be able to use the device with ease and have a device manager be able to monitor and change the device with ease as well.

Test Case 1 -

The first test will be a black box test having a user testing whether they have access to unlock the door. A user will be given an RFID card that has access to unlock the door and another user will be given an RFID card that doesn’t have access to unlock the door. These users will have the minimum knowledge of how to access the door. They have no knowledge of the inner workings of the device but have the understanding that they will be using the RFID card to scan to see whether they have access or not to unlock the door. If the card does not have access, then the user should be able to see that access is denied on the LCD screen near the RFID reader. For the card that has access, the user will be able to see on the LCD screen near the RFID reader that they have access. Two LEDs will be notifying whether access is granted or denied. The red LED will be lit when the access is denied. The green LED will be lit when the access is granted.

Test Case 2 -

A second test will be a use test where a user can add or remove access of certain RFID cards to unlock the door. Each RFID card has a specific ID related to them and a user should be able to manage the saved IDs on the device. The user will have documentation and other information on how the device will be accessed and managed. The user will be able to see the saved cards on the device and have the ability to add or remove an RFID ID of a user. The LCD will be able to get the user through the process of adding or removing an RFID card from the device. A blue LED will be flashing when a new RFID card can be added or removed.

Results -

Test case 1

The results concluded that the system worked the way we hoped it would work. The users were able to access or not access the door.

Test Case 2

The results concluded that the system worked the way we hoped it would work. The user was able to manage cards and see RFID cards that had access.