Project Work Progress Report No 2

Date: 02/10/2019 Team #: 33

Project Title: Anti-theft Package Security Home System (APSHS)

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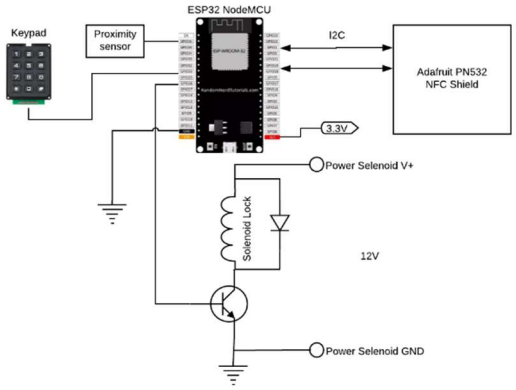
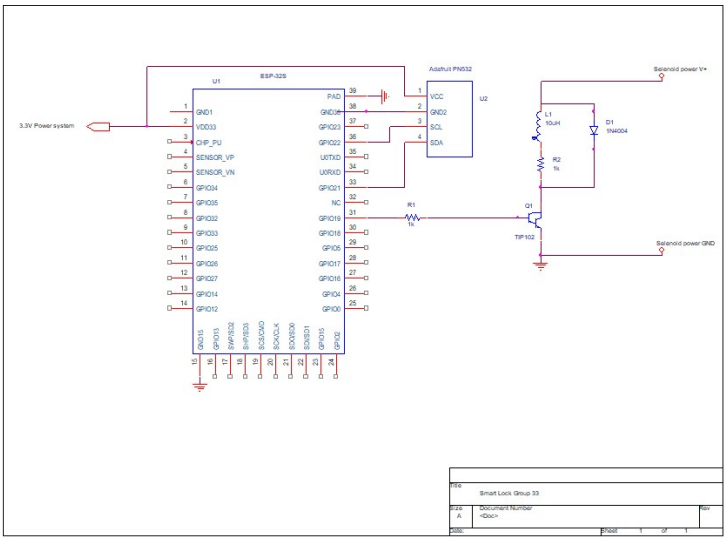
1. Project progress since last report:

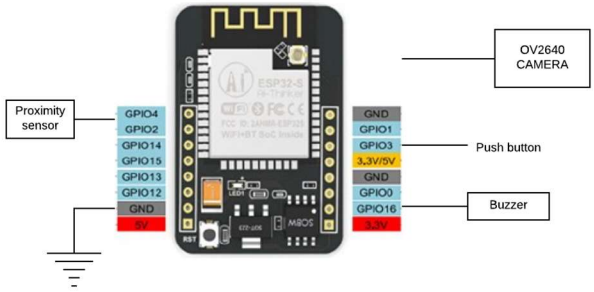
We are currently working with the ESP32-WROOM-32D MCU and the PN532 NFC shield. We are learning how to program them since the ESP32-WROOM-32D arrived on 02/07/2019. We are using these two components to implement the Smart Lock module. This week we are going to keep testing communication between these two components as well as the implementation of a simple LAN network.



Schematic and with the specific pins to accomplish the communication between modules have been finalized.



We are also still designing the extra module added to the project so the project will become more interesting. This module is the Smart Doorbell. Research is being done on how to implement the face recognition algorithm. A proximity sensor has to be implemented to enhance low power consumption by decreasing the time the camera will be on.



Emergency power system has not been designed yet but the hardware group will be designing it during this week.

2. Milestones achieved:

- Stablished communication between Adafruit PN532 and ESP32-WROOM-32D using I2C communication protocol 02/10/2019 – Gregory Escobar
- Login screen finalized using Android Studio App 02/08/219 – Geomar Reyes
- ESP32-WROOM-32D was successfully added to a Local Area network (LAN) 02/10/2019 – Stephen Benavides.
- Power supply AC-DC 3.3V power system for Smart Lock module design finalized 02/10/2019 – Shawn Carnevale.

3. Problems and roadblocks, if any:

Face recognition algorithms are very complex. Implementation and designing can be a time-consuming process.

ESP32-CAM MCU used to implement the Smart Doorbell Module got backorder which decreases the time to test face recognition.

4. Is project on schedule? YES__X___ NO____

5. Next steps: (elaborate specifically on any problems listed in 3 and if the answer in 4. Is NO) (You may use more pages, if needed)

Even though face recognition is a very complex algorithm to implement, there are many resources online that can help us achieve the purpose of our project. There are many libraries on Python that make the implementation of Face recognition much easier. There are many people that have also implemented face recognition with the same module we have ordered and succeed on the process. We are working using these resources and the code can be tested on the MCU we currently have because it is similar to the module that got backordered.