THE PROF. ISRAEL CEDERBAUM
HIGH SPEED DIGITAL SYSTEMS LABORATORY
HS DSL
המעבדה למערכות ספרתיות מהירות
ע"ש פרופ' ישראל צדרבאום

Department of Electrical Engineering
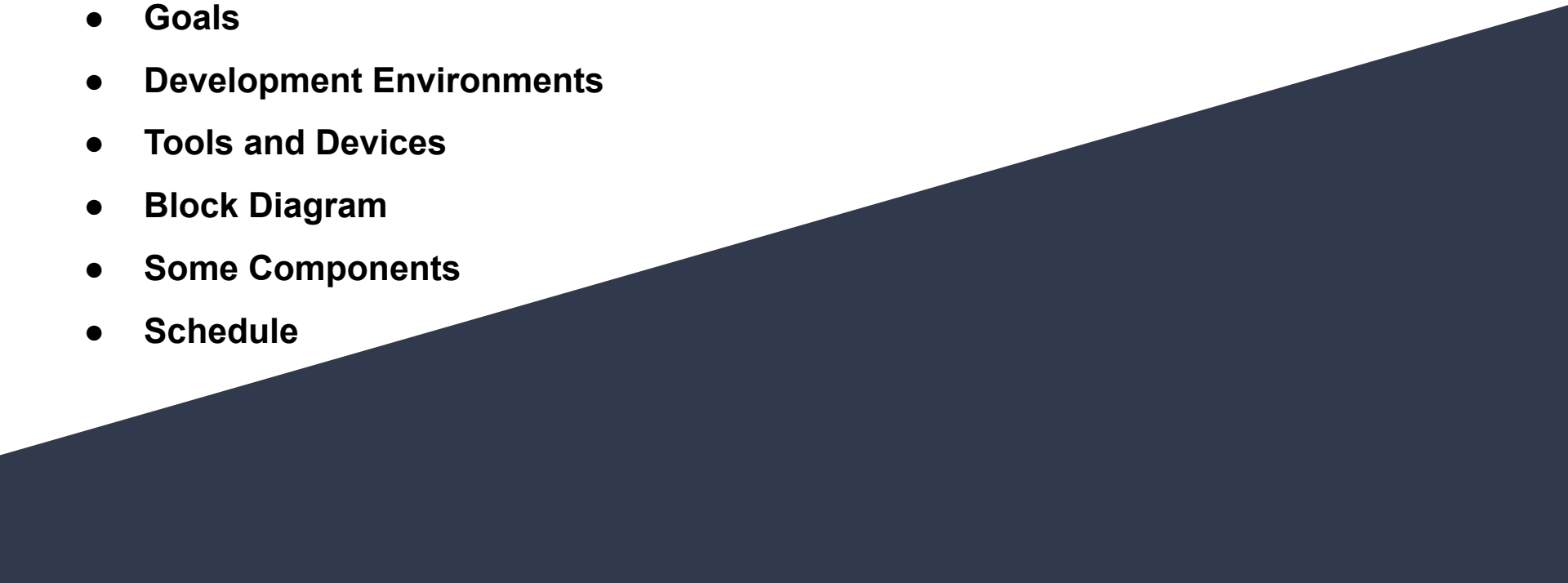Electronics
Computers
Communications

Remote Dog Chip Reader

Students: Mahmoud Sheikh Khalil
Jamal Tannous

Supervisor: Boaz Mizrachi

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Background

Most interfaces that deal with pet chip readers are hard to operate.

They are relatively expensive.

In order to get sufficient information about the pet, the user must search for this info. manually.

Motivation

- **Design an interface that is not complicated.**

- **Use a small and cheap chip reader which is compact and battery powered.**

- **Display the info. to the user using an App or a Website.**

Goals

- **Use a portable chip reader (5X5), which is battery powered and cheap.**

- **Broadcast the chip information to an Arduino card, which is connected to an antenna.**

- **Send the information, using LoRa to the user, who wants to see the displayed info.**
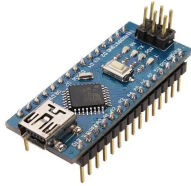
Development Environment

- **Arduino IDE, using it we write the code and upload it to the board.**

- **Java, using it to write an app, which acts as a user friendly interface.**

Tools and Devices

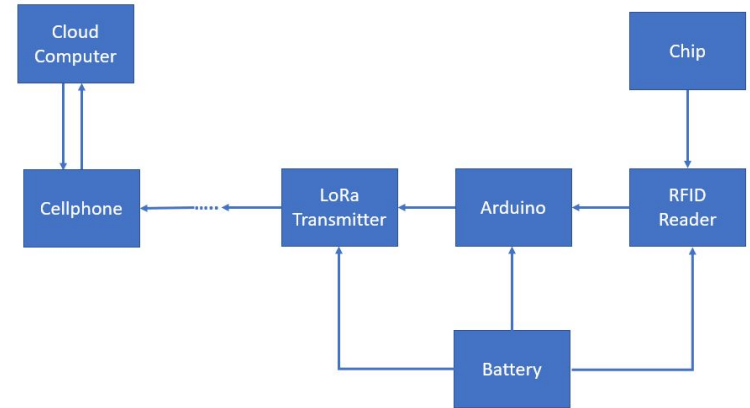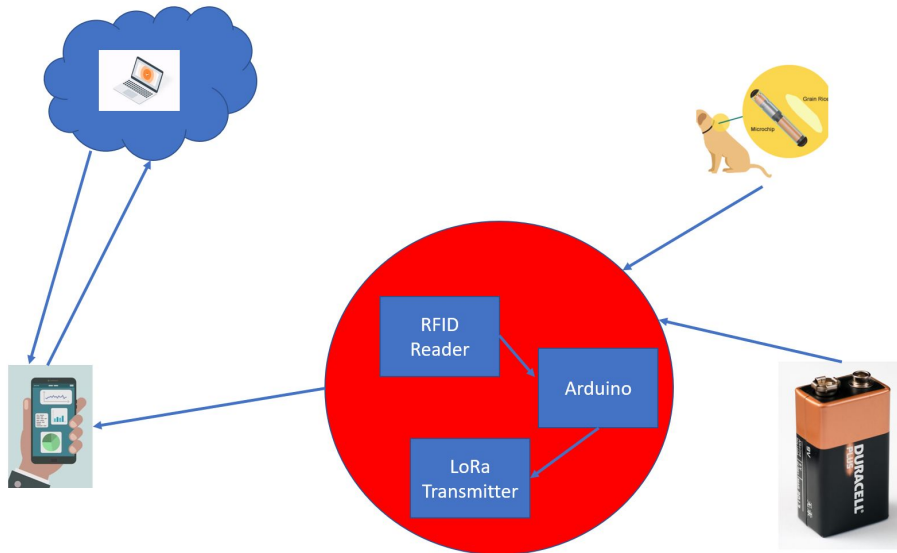- **EM4100 RFID Reader for ESP32, this device scans the microchip.**
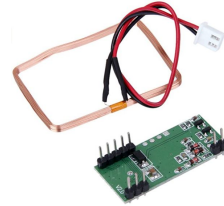
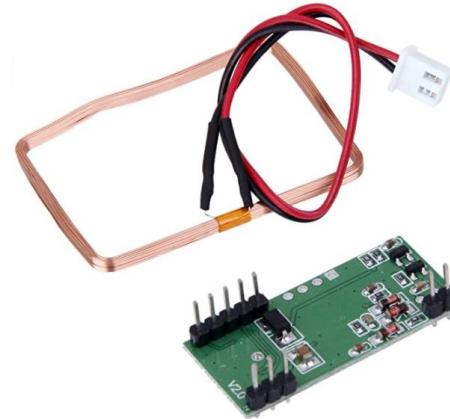- **Arduino Card.**

- **CubeCell Lora Node ASR6502 LoRa**

Block Diagram

Some Components

- **EM4100 RFID Reader for ESP32 reads the number on the microchip and sends it to the Arduino card.**

- **It is low cost.**

- **Does not consume a lot of power.**

- **Power Supply: External 5V**

- **Less than 100ms decoding time**

Some Components

- **The antenna is powered by 3.3V. It sends the chip number to the phone using its built in antenna.**

- **It is low cost.**

- **Ultra low power design, 3.5uA in deep sleep**

Schedule

Nr.	Task	Start	Finish	Duration
1	1)Characterize the project. 2)Learn about Arduino. 3)Learn about the EM4100 RFID Reader + LoRa	24.3.21	14.4.21	3 Weeks
2	1)Choose the arch. of the system. 2)Choose the hardware components.	14.4.21	4.5.21	3 Weeks
3	PDR Presentation	4.5.21	4.5.21	------
4	Design a schematic of the project.	4.5.21	11.5.21	1 Week
5	Start designing the board and integrating the hardware components+buy the components.	11.5.21	25.5.21	2 Weeks
6	1)Create a design of the components demands. 2)Start working on the cellphone app.	25.5.21	9.6.21	2 Weeks
7	Midterm Presentation	-----	-----	-----

End of the PDR-Presentations

Hope you liked it