Setting Up Arduino Environment

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This project will provide background of what an Arduino is. Will enumerate the necessary component and prerequisites required to complete future projects.

Background

An Arduino is a smart board, it contains many input and output peripherals. It contains a microcontroller that can be programmed using the Arduino programming language. In order to make a functional project one must understand basic electronics, so that the microcontroller can interact with components such as LED, motor, buttons and much more. The following website arduino.cc consists of documentation and will serve as a reference.

Material

We will besing duinokit, or arduino uno. The duino kit has an instruction booklet

- ☐ Computer
- ☐ Arduino Board.
- ☐ USB cable
- ☐ Internet Connection

1 Tasks

Complete the following tasks. Note that different operating systems require different steps. Make sure to reference Arduino.cc

Task 1

Install Arduino Software onto computer.

- ☐ Arduino IDE (Integrated Development Environment)
  Arduino.cc Software Section
- ☐ You may also use the online ardunio web editor.

Task 2

- ☐ Open the Arduino Software
- ☐ Get familiar with the interface. What do buttons do?

The software is divided into six major parts. Find the following.

- ☐ Menu Bar, Tool Bar, Sketch Tab
- ☐ Code Space . This is where code is written and edited.
- ☐ Status Display. This is the display console, where messages will appear. Messages may be errors or possible problems.

Task 3

Arduino board's green light flashing means everything is set up correctly.

- ☐ Connect computer to Arduino.
- ☐ Open Software.
- ☐ Find the right board. Under Tools → Board
- ☐ Find the correct port. Under Tools → Port

If Installation Fails

- ☐ Check your port. Under Tools → Port
- ☐ Check your board. Under Tools → Board
  - For duinokit this is "Ardunio Nano"
- ☐ Read the error message and refer to website arduino.cc

Task 4

To make sure Arduino is set up properly, upload some code.

- ☐ In the Arduino IDE go to File → Examples → 01. Basics → Blink
  - Here you will find pre written code, that can be uploaded to the Arduino.
- ☐ Make sure you are using the right port. Under Tools → Port
  - For windows it is labeled as COM, Find the right one by disconnecting and connecting board.
- ☐ The "upload" button uploads code to arduino.

Task 5

- ☐ Go through the code provided. 11-29-2018.ino
  - .ino is the extension for code written in Arduino IDE.
  - They are reffered to as "sketches"

Summary

The end goal is that you are able to interact with the arduino. Configuration depends on the Operating System as well as the version of the Arduino Board, older boards require installation of drivers. We will be using the Arduino Board from duinokit.com.