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Project idea: Joystick controlled Bluetooth Mouse

For our project idea we will be using multiple arduinos to create a computer mouse which can be controlled via Bluetooth. Instead of a traditional laser mouse or a scroll-ball mouse, this mouse will be controlled via joysticks. This will allow the user to be able to have the benefits of having a wireless mouse controller for their computer and not need a mousepad, or having to even mouse the physical mouse, just control the joystick. In cases where the user has a computer with a broken or very lousy mouse pad, or just serve as a cheaper alternative this mouse will come in handy.

To complete this project, we will be using three Arduinos. Each of the arduinos will be connected to each other. One will handle the bluetooth connectivity to the computer, one will handle the two push buttons, and the last Arduino will handle the processing of the two joysticks to control the cursor and scroll. There will also be an LED implemented on one of the Arduinos to indicate the user if the mouse is connected to a computer or not. This mouse will be battery powered.

Parts needed:
- Arduinos (3)
- 2 Push buttons
- Bluetooth sensor
- LED
- Joystick (2)

Schedule for project completion:

Task to complete	Description of task	Due Date
Initial Page write up	1-2 pages describing and detailing how we plan to complete this project. Includes schedule, parts needed, along with internet resources we will consult	Friday October 12th @ 11:59 pm
Gather materials/begin working stage	We will get all the materials needed for this project while also starting out on the	

	project, even if it's just a tiny bit of progress completed at the time.	
Halfway progress page write up	4 page paper detailing our progress on the project	Friday, November 9th @ 11:59 pm
Final Report	A complete report, likely spanning 20-30 pages, of a full detailed description of how the project was completed. Will add photos to enhance description. Paper will show how we tackled the problem of making the project, going through what worked for us and what did not.	Friday November 30th @ 11:59 pm
Submission of video of project	A 5 minute video explaining the project and how it is supposed to work. We will go over important topics of the project as well as demonstrate how the project works/how it is supposed to work	Sunday, December 2nd @ 11:59 pm
Project Checkout	Get the project checked out and graded. Will present the project in person during office hours	Friday, December 7th

Internet Resources we will use:
- Using the arduino Mouse library to control a cursor on the screen
  - https://www.arduino.cc/reference/en/language/functions/usb/mouse/
- Analog Joystick library for arduino
  - https://www.brainy-bits.com/arduino-joystick-tutorial/
- Bluetooth connectivity
  - https://www.teachmemicro.com/arduino-bluetooth/