

For the interface programming, the Arduino IDE program was used to communicate with the arduino system and subsequently, the instrument (Figure 2,3,4). The set up of the program proved to be the most intricate process we encountered. The Instructable page provided a .ino file with a working program, however, the digital display did not seem to sync up within the program's set up. To troubleshoot this, we used a test program that searched for the I2C port connection and gave feedback on the connection status (Figure 5&6). Through this we found the correct communication pins and proceeded with the given .ino file. Libraries needed were also provided on the Instructables page[1].

The second half of the program is for the communication aspect between the sensor and display. A `void` loop was used as the basis of the Arduino's instructions. A `void` loop in the Arduino IDE instructs the system and its attached instruments to continue operating for as long as the loop is of the type, "void" is so unimportant in this context that your writing losses authority when you mention it. See for one example the Wikipedia article as the Maker Board is active. Within this loop, our incoming lux value from the BH1750 is that explains what the type "void" means: https://en.wikipedia.org/wiki/Void_type accepted at a 'float' in order to display a couple decimal places of precision that the sensor can give us. This is important since leaving this out would under-utilize our purchased equipment. You have not defined what a "Maker Board" is. The phrase also does not appear anywhere in your reference--the Instructables page. We acknowledged that in circumstances where the two decimal precision isn't valuable to the user, a cheaper sensor could be purchased and the 'float' left out in order to keep a program cleaner and thinner. This thinning would then allow our system to run faster with less CPU usage. Had we been building a protective device for someone's eyes that needed to read the lux value of the user's room and polarize a set of lenses in response to higher values, a three to four millisecond delay could not be as acceptable. However, with our set up and program being very rudimentary, we decided to keep the feature and show as much precision as we were allowed.