Progress Report 1

Arihant Tiwari, 05 June 2021

Introduction

As an intern under Dr. Mitradip Bhattacharjee at IISER Bhopal, I am selected for an internship in the field of "Development and analysis of Optical Sensors." I was assigned my first task was to work with an Arduino and an infrared LED, and a Sensor. This triplet of devices was to be used to connect the IR LED and the detector to the Arduino and get the reflection data of the Infrared LED as detected by the sensor on the Arduino Interface.

For this project, I needed the above-specified devices, which at the time of writing this report are under transit and on the way to my location. Once I get access to the machines, I would finally start working on the given task. To ensure that I do the assignment correctly and efficiently, I have read about the Infrared LED and Detector working mechanisms. I have also made my computational device, i.e., laptop (in my case), fully prepared to work with the devices by downloading and installing all the required software support systems.

As the devices are yet to arrive, I was assigned a second task on 4th June 2021, that is, to develop an Android application that is capable of detecting and determining the color of any location in an image.

I suggested using Android Studio, the officially recognized (by Google) platform for developing an android application. Other than the android studio, I was also recommended to use MIT App Inventor, which I could use for the same purpose.

Since I am new to the field of application development, I am currently looking at online tutorials and sources to learn more about the process behind the development of these applications. I am taking help OCW available free of cost on the website of MIT Education and some youtube channels that teach to develop such applications. Considering that I am devoting nearly all the time available to me in a typical day to learn more about these and getting to try my hands on this, I believe that I will be able to come up with a proper application by the end of this upcoming week, that is Sunday, 13th June 2021.

Challenges

As the devices are yet to arrive and I have not started working on them, there are no challenges at present. The application development task is still under the learning spectrum; hence the primary challenge is to learn it efficiently and to be able to bring the learnings to ground zero.

Future Work

The plan for my upcoming week is

- To learn android application development via tutorials and online courses.
- To try to develop a proper and functional application capable of detecting and describing the color of a location in an image.
- Start working on getting the reflection data of the IR LED and the detector in the Arduino interface if the devices arrive.