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Preliminary Design Document

Group 24

APE Industres

**Android Studio:**

Which IDE we choose is less important than simply picking an IDE. We are choosing to use Android studio because it is the most recommended IDE and appears to the the emerging standard among professionals. Android projects are able to be imported and exported from Eclipse to Android Studio, but while developing we need to pick a standard because the build processes are different. We will be using android studio for all android development.

**Version Control:**

For our version control for the project we are using Github and the OSU drives that are provided to us students. This, as well as being on our personal hard drive, should be enough back ups to not have to worry about losing all of our data.

**Github:**

The website will use Github as the backend. Whenever someone downloads a plugin off of the website, the website will grab the data from Github and deliver it to the user. Like-wise, whenever someone uploads a plugin to the site, it commits the plugin to Github. Users also have the option to upload their plugin to Github themselves instead of going through the website.

**Php / Html / CSS:**

For the website we will be using the tried and true php / html / css approach to web development. We wanted to use django but ***someone*** doesn’t allow django on their servers.

**Bluetooth Classic (SPP profile):**

For the devices that don’t yet support Bluetooth BLE, we are using Bluetooth Classic. It is stable and should support almost any older bluetooth device. I also may end up being more reliable than Bluetooth BLE. We will use Bluetooth Classic on two of our test devices, our gamepad and keyboard. The BluetoothSocket class in the Android API will be used to implement SPP.

**Bluetooth BLE:**

The low energy variant of bluetooth is prefered because it is able to power on and off at will. However, the new tech might not be fully stabilized in the android OS. We can set up an Arduino with a bluetooth low energy shield and implement different profiles using GATT as the base profile. This will let us create several modules for the Android app that use a variety of profiles. Doing so will let us thoroughly test the framework so that all types of devices the user might want will function properly . In addition, the ECE hardware will support bluetooth low energy. The Android API has examples for how to setup BLE, find BLE devices, Connect to a GATT server, read BLE attributes, and receive GATT notifications.