

# Journal 9

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## 1 Progress Log

Rewrote the entire application from the ground up with a greater understanding of the standard conventions and interactions of BLE and BLEGatt connections.

Created DeviceScanActivity as the main application activity. It contains a menu object which holds the start/stop scan buttons as well as a visual indicator of the progress of a scan. DeviceScanActivity automatically runs a local BLE scan after checking for and enabling the proper permissions (such as Bluetooth privileges and fine/course location). Any found devices are added to the device list adapter which is notified and displayed to the menu interface.

Ensured that null devices are not added to the device list adapter.

Created a DeviceControlActivity that is invoked by selecting a device from the list of discovered devices. It will be started with an Intent containing the name and mac address of the device.

The DeviceControlActivity will automatically attempt to connect to the device forming a client-server connection with the BLE device as the server.

The DeviceControlActivity interface displays all of the BLE devices characteristics (the data values it can return to the user) in a table-style format.

## 2 Next Steps

Retrieve the data from the sensors and convert the information to a CSV file format.

Give the user the option to send the data to a registered email account. Once this component is implemented we are ready to begin training the neural network our team has developed.

## 3 Reflection

This is the biggest leap in progress I've made thus far in this project. Many, many hours were spent outside of school in the past weeks rewriting the entire project in a more manageable, concise, and debuggable manner. On top of that, with the help of many sources from the internet that greatly exceeded the

(lack of) usefulness of the deprecated Android official documentation, I finally managed to connect the client mobile device to a BLE server device over a BLEGatt connection, something I've been struggling to accomplish for months.