



# JANUARY 2020



## VISUALIZER FUNCTIONALITY FINALIZED

The base visualizer was initially test-coded in a completely separate application. At this point, the algorithms and logic concerning the base visualizer were implemented into the current running build of the mobile application. This required some re-structuring of the visualizer code to maintain the functionality of the current working components.

## FINAL PROTOTYPE PRINTED

Prototype 11 consists of the final printed version of the physical device. It is an iteration of prototype 10 which accounts for the component changes and the need for a larger back (second back expansion, as the first was not quite enough space for said components). Prototype 11 also consists of the PLA prints of the back and vibro clip component protectors.

### Prototype 11

- Printer: Ultimaker
- Materials: Flexible TPU 95 (Thermoplastic polyurethane) and water dissolvable PVA with solid black PLA back and vibro covers.
- Purpose: Iteration on Prototype 10, accounting for component changes (require larger amount of room in the back of the neckband) and the need to have the model in pieces for insertion of parts.

## BLUETOOTH PROGRESS

During this time, we learned that the chip we were using was, in fact, a Bluetooth Low Energy (BLE) chip. This meant it could only send data (which was all we needed) and that Android had specific requirements for BLE chips to function properly. With this in mind, we started work on these changes in hopes of a more successful connection.

## APPLICATION PROGRESS

Our prior amalgamation required quite a bit of extensive reorganizing to improve code structure, make the code more efficient, and improve performance. This would later make it easier to re-implement the seekbar functionality as well as integrate Bluetooth.