Sensor Music Player

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Contents

1 About

The project is committed to the GitHub, you can find here.

The main structure of the repository is *a valid Android project* with several additionals folders, like the:

- **backend** folder where the *Python* and *JavaScript* codes are stored
- **docs** folder where the documents about the project are stored

2 Node.js

In Node.js is very simple to create a small web server for REST calls.

2.1 Installation

2.2 Configuration

Used tutorial: Build Node.js RESTful APIs in 10 Minutes

2.2.1 Mongoose

2.2.2 Express

2.2.3 Nodemon

3 MongoDB

MongoDB to store signal data from the *Y axis* of the accelerometer from the Android devices.

3.1 Drop collection

Code:

```
1 show dbs
2 use <db>
3 show collections
4 db.<collection>.drop()
```

Listing 1: MongoDB shell commands to drop a collection

4 Python PyPlot

Install library from here

5 Postman

5.1 Installation

Installed according to this article: How to install Postman native app in Linux Mint 18.3

Used to test the main functionalities of the Node.js server.

5.2 Usage

To get all buffer paste this code in Postman:

```
curl -X GET http://localhost:3000/buffers
```

Listing 2: Get all buffers

The response is or an empty list, if no items in the database or a list like this:

```
[
    {
        "value": [
            5.733050346374512,
            1.704751968383789,
            -2.7134790420532227,
            -1.343064308166504,
            2.6042985916137695,
            3.92281436920166,
            2.15725040435791,
            -0.9106369018554688,
            -2.4146032333374023,
            -2.943338394165039,
            -1.5269522666931152,
            -0.8230304718017578,
        ],
        "_id": "5b82607f5601ec575d3bf0e4",
        "__v": 0
    }
]
```

Listing 3: A sub section of the signal to process