Report programming assignment #3

Spring 2018

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May 9, 2018

This is my report of the last programming assignement. **Arduino Starter Kit :** 14 **Student ID:** 20186024

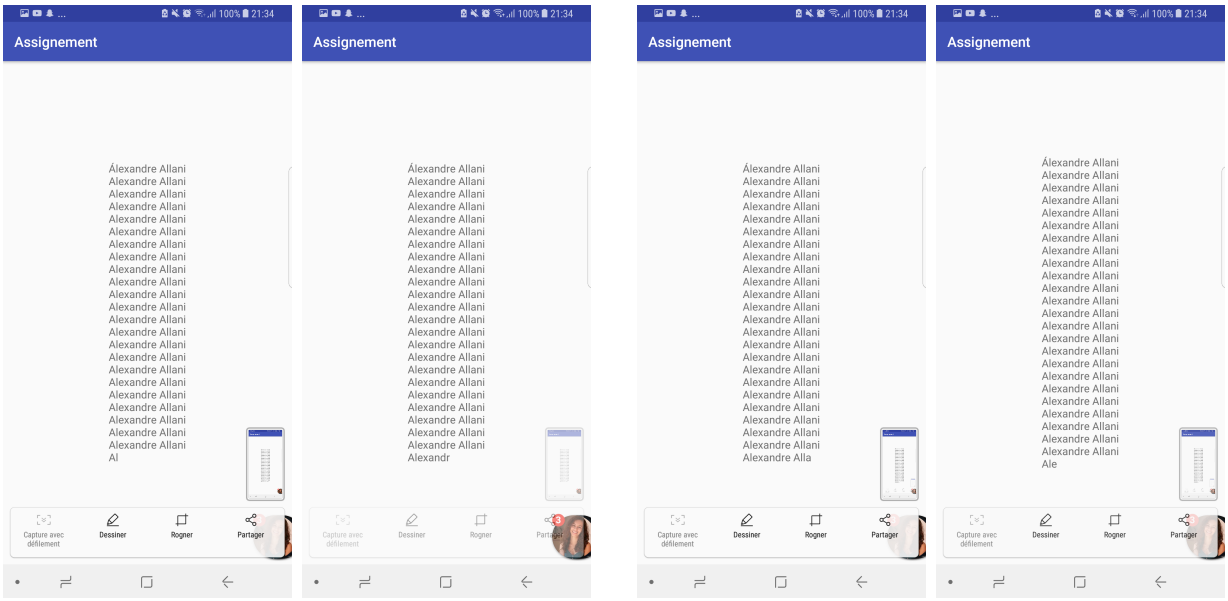
How to run my code: First off, the ardunio file should be put in a folder which name is the same as the arduino file. Then install the application. It should ask the permission to use the microphone. Afterwards, each "second" (actually it's more each 2-3 seconds) a toast message should appear saying "Reset". This mean that the smartphone didn't receive anything from the range of frequency : [19Khz-21Khz].
Since we did not care about the synchronisation, you can upload the arduino code on the card directly, and then power the card after a toast reset message. My name should be displayed on the screen.
If this doesn't work, this means that the sound started while the task was reseting. Another possibility is that there was some noises (for instance blowing just a bit on the microhpone is making some errors).

Specification:
The duration of the tone in the arduino part is 25 ms, but I added a delay so that a tone last 40 ms (25ms of signal 15 ms of silence). We can lower to 30 ms, it still works. However under, I have some issue to decode.

Most difficult part: With the Android Assignement, the AsyncTask was not difficult to apply. However, what I found really difficult was the fact that the buzzer is not really reliable. When debugging my code I found out that if my microphone and the buzzer weren't really close I could have random mistakes.

Photos

Here is a link of a video showing that it works: https://www.youtube.com/watch?v=jxrloK1t3zE



Difficulty vote

- hw1, Android Assignment : 4. The most difficult since I didn't know how Android worked before. However it's a very good initiation.
- hw2, Arduino Assignement : 1. I've had already done some arduino project. But I also think it's a good way to start arduino.
- hw3, Arduino + Android : 3. It was difficult to make the buzzer work overall