

Project Proposal

Android Audio Processing

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1 Objective:

This research project focuses on measuring and reducing the audio playback latency problems observed in devices with the Android operating system. It involves building a front end (on Android) for signal processing and machine learning tools.

2 Rationale:

The primary motivation behind the proposed research proposal is to study, analyze and propose a solution to the problem associated with audio signals in systems with the Android operating system. Audio Latency observed in any device reduces the interactivity of the application with the users and leads to a bad user experience.

3 Approach:

I plan on approaching this project in the following mentioned ways:

- Building a front-end for testing the audio latency observed in an android device.
- A study on the past research and work to reduce the audio latency observed in an Android Operating System.
- Observing and analyzing the best approaches available today of minimizing the audio latency.

4 Timeline:

Tentative Timeline is as follows:

- Week 1: Building the front-end of the application and studying related research works.
- Week 2, 3 & 4: Measuring and Minimizing the Audio Latency observed in the Android Operating System.
- Week 5 & 6: Attempting to maintain the minimized Audio Latency i.e. to stabilize Audio Latency.
- Week 7 & 8: Designing and Developing the User Interface to present data, graph, etc. on audio latency observed.

5 Reference Research Paper:

Solution for Sound Playback Delay on Android Devices