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| Audio Latency |
| SE3910 – Lab 7 |
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| Administrator  [Type the date here]  [Type something like Winter 2014-2015 here]  Milwaukee School of Engineering (MSOE)  Electrical Engineering and Computer Science (EECS)  Instructor: Dr. Josiah Yoder |
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# Introduction

[In one or two sentences, in your own words, start from the broad and work toward the specific, describing what your report/project is about.]

# Timing Measurements

[Describe your timing measurements here. In the table below, put a space for any placeholder not used. Be sure to reference each figure with something like Fig. 1 somewhere in the text.]

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Sampling rate | Capture time [Units] | | Playtime [Units] | |
| user | sys | user | sys |
| 8000 | [time] | [time] | [time] | [time] |
| 11025 | [time] | [time] | [time] | [time] |
| 22500 or 22050 | [time] | [time] | [time] | [time] |
| 44100 | [time] | [time] | [time] | [time] |

Figure 1: Timing measurements for varying sampling rate, with a frame size of [frame size] [Units] . Typical real times for these tests were about [real time] [Units]

[You may optionally put some text here. Be sure to reference all figures with something like “Fig 1.” somewhere in your text. In the table, put a space for any placeholder not used.]

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Frame size | Capture time [Units] | | Playtime [Units] | |
| user | sys | user | sys |
| 16 | [time] | [time] | [time] | [time] |
| 32 | [time] | [time] | [time] | [time] |
| 64 | [time] | [time] | [time] | [time] |
| 128 | [time] | [time] | [time] | [time] |
| 256 | [time] | [time] | [time] | [time] |
| 512 | [time] | [time] | [time] | [time] |

Figure 2: Timing measurements for varying frame size, with sampling rate of [sampling rate] [Units] . Typical real times for these tests were about [real time] [Units]

[You may optionally put some text here. Be sure to reference all figures with something like “Fig 1.” somewhere in your text.]

# Latency Measurement

[Include a screenshot for one of your tests, and in this text, write the latency you found from that screenshot. Describe ALL parameters of the test – frame size, sampling rate, and any other parameters you changed from their defaults in the provided code. Also somewhere in this section, describe all your latency measurements. Be sure to reference all figures with something like “Fig. 1” somewhere in your text.]



Figure 3: Example latency measurement taken by your Beaglebone camera system

[You may optionally put some text here. If you don’t put text, put a single space to hide this placeholder text. Be sure to reference all figures with something like “Fig 1.” somewhere in your text.]

|  |  |
| --- | --- |
| Frame size | Latency [Units] |
| 32 | [time] |
| 64 | [time] |
| 128 | [time] |
| 256 | [time] |
| 512 | [time] |
| 1024 | [time] |

Figure 2: Loopback latency measurements for varying frame size, with sampling rate of [sampling rate] [Units] .

# What we learned

[What did you learn about real-time systems while working on this report? A single sentence is sufficient.]

# Comments on the Lab

[This is required. Enter anything you liked or could be improved about the lab.]