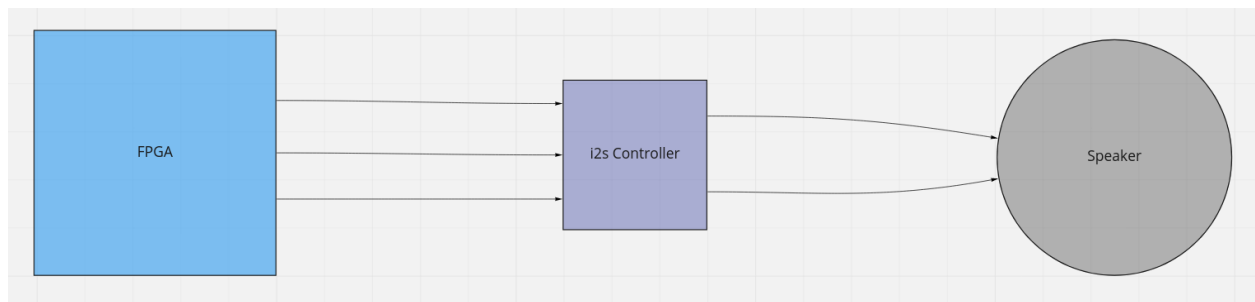


Annie and Manu CompArch F21

Project: Cri(2)sp Tunez (as played via I2S Controller)
Alternate Title: Playing Audio Files via I2S Controller

Block Diagram



Project Plan

We plan to create our I2S Controller to play a music file over a microphone. We plan to iterate on the I2C and SPI controllers we developed earlier in the semester. This would involve learning about the I2S protocol and developing a state machine to realize the protocol. Our MVP is to play a downloaded .wav file. For testing, we will play single note/sound audio files and verify the output over the I2S bus matches our expectations/the output as played on our computers. For additional difficulty we would attempt to encode the music in midi format and develop a state machine to read from this file type and play music via our I2S controller.

Bill of Materials

Item Name	Cost per 1	#	Total Price	Description
Adafruit I2S 3W Class D Amplifier Breakout - MAX98357A	5.95	2	11.9	audio signal to speaker
Thin Plastic Speaker w/Wires - 8 ohm 0.25W	1.75	4	7	smaller speakers
Speaker - 3" Diameter - 8 Ohm 1 Watt	1.95	2	3.9	bigger speakers
		Total	22.8	