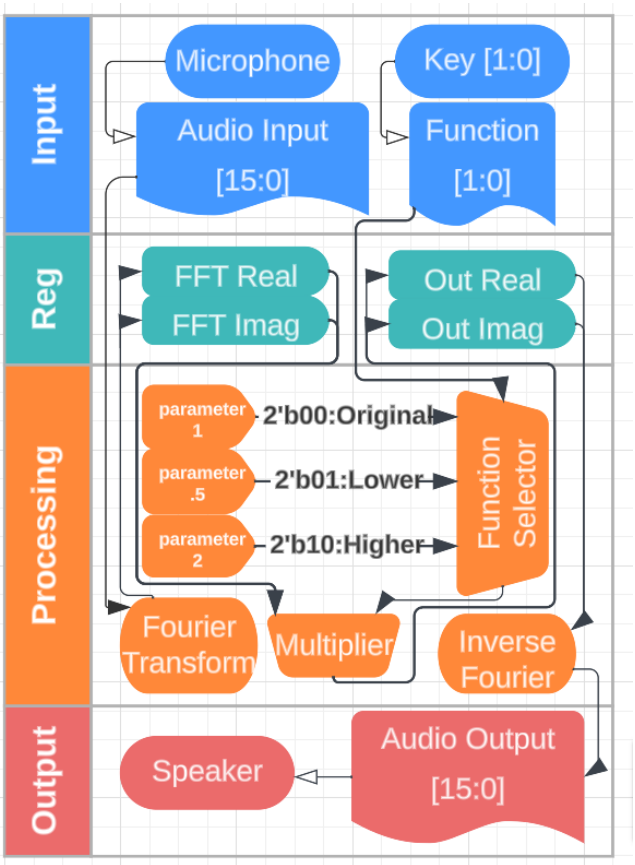
ECE241 Final Project Proposal - Pitch Shifter

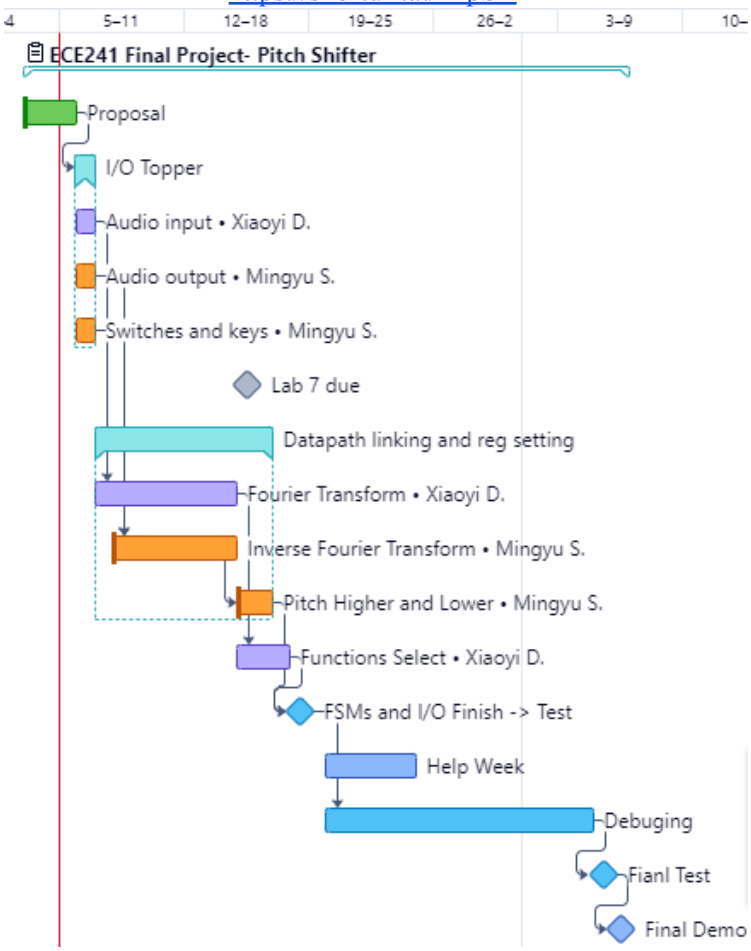
1.0 Project Description:

In this project, we decided to create a pitch shifter that raises or lowers the pitch of an audio by manipulating the rate at which the signal is outputted.

2.0 Block Diagram:
https://shorturl.at/uGHXY



3.0 Progress Plan and Milestones:
https://shorturl.at/knpST



4.0 Division of Tasks and Points Cost:

1. Finite State Machines:
   - Small FSM
     - Function Select (0.25 points) - Xiaoyi Dong
2. Datapath:
   - More complex datapaths
     - Fourier Transform (0.25 points) - Xiaoyi Dong
     - Inverse Fourier Transform (0.25 points) - Mingyu Sun
     - Pitch Higher and Lower (0 points) - Mingyu Sun
3. Memory:
   - Simple inferred memories or registered states (0 points) - Xiaoyi Dong
4. Inputs:
   - Audio input(0.5 points) - Xiaoyi Dong
   - Switches and keys(0.25 points) - Mingyu Sun
5. Outputs:
   - Audio output(0.5 points) - Mingyu Sun

Xiaoyi Dong & Mingyu Sun