Project Report

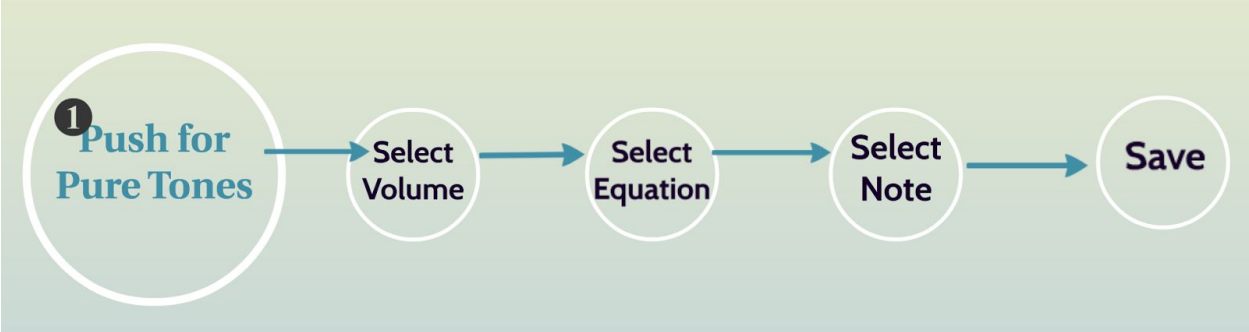
Team: Input Name

Members: Priscilla Chan, Yan Chen, Yuqing (Hailey) Huang

To begin using our program, there are two options:

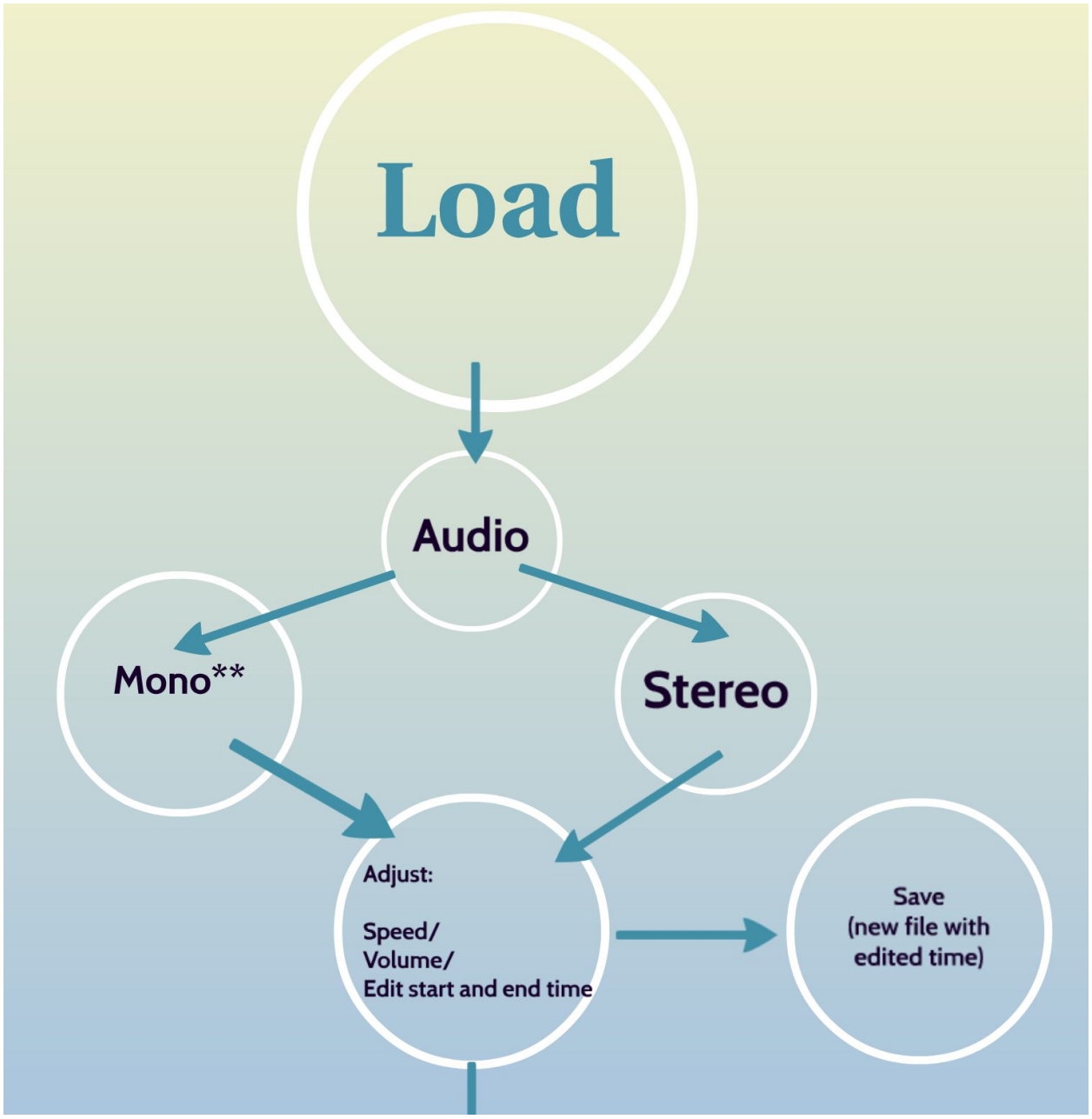
1. Click on Push for Pure Tones (Instructions under A)
2. Click on Load under the audio button of your choice (Instructions under B)

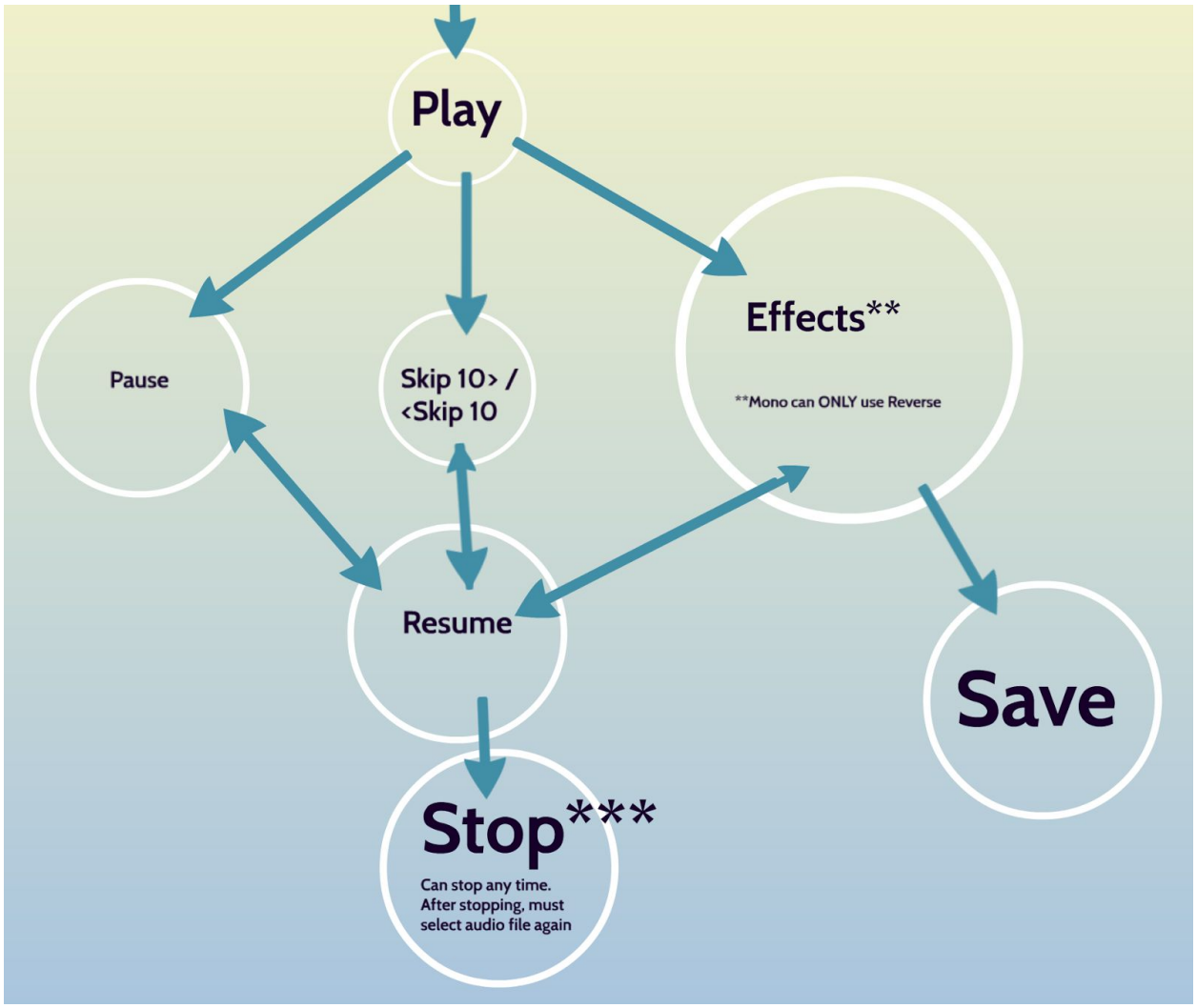
Section A) If you clicked on “Push for Pure Tones”



1) Select the volume by moving the slider.
2) Select the mathematical equation you want to apply to the frequency under the section headed by “make a selection”. There are three choices:
    a) Sine
    b) Square
    c) Sawtooth
3) Press on the note you want to play on the keyboard.
4) You can save the last note you played by clicking on “save.” A message box will pop up and ask you to input a name for the new file you just saved. You can also select the type of file you want to download it as, such as .mp4, .wav, .au, etc. (You can play it at another time using another audio program such as QuickTime Player or itunes.)

Section B) If you clicked on a load button





1) After you click on “load,”a message box will pop up. Click on the song file you want to load. After the song is loaded, the song name is displayed as a string on the push button.
2) Click on the push button with the song name that you want to play. The song name should appear on top, next to Now Playing.
3) Select “Mono” or “Stereo.”
    a) NOTE: For mono, only the “Reverse” effect will work.
4) If you don’t want to change the volume or speed and just play the original file, you may skip this step. If you do want to change them, select the volume and speed by moving the sliders under the boxes called “Speed” and “Volume.”
5) If do not want to chop the file, you may skip this step. If you do want to chop it, change the numbers in the edit box next to “Start Time” and “End Time.” Then click “Save.” A message box will pop up and ask you to input a name for the new file you just saved. You can also select the type of file you want to download it as, such as .mp4, .wav, .au,

etc. (You can play it at another time using another audio program such as QuickTime Player or itunes.)

6) Click on “Play.”
7) You now have three options - Pause, either of the Skip buttons, or Effects. After you click one of these, you have to click on “Resume” to play the audio.
    a) Pause
    b) Skip - There are 2 of these buttons: “<skip 10” and “skip 10>”. After you click on these, they will turn green. The color will revert back to the original after you click on “Resume.”
        i) “<skip 10” skips the audio back 10 seconds
        ii) “Skip 10>” skips the audio forwards 10 seconds
    c) Effects - There are 5 of these buttons: “Reverse”,”Echo”,”Remove Voice”,”Treble”,and “Bass”
8) After you hit “Resume” and the audio plays, you have the same 3 options as in step 7.
9) You can choose to save the audio file after you click effects at any time. Do this by selecting the “Save” button. A message box will pop up and ask you to input a name for the new file you just saved. You can also select the type of file you want to download it as, such as .mp4, .wav, .au, etc. (You can play it at another time using another audio program such as QuickTime Player or itunes.)
10) If you want to end the process, click on “Stop.” This unselects the audio. You must select the audio if you want to play it again, and it will play the original file. Otherwise, you have the option of loading another file.

NOTES:
You may click “Stop” at any time.
You can change the volume and speed at any time, such as in between effects. Move the slider to where you want, then you must click “Resume” for it to play again.

Appendix A

Breakdown of Tasks

Priscilla Chan	- Designing GUI - 3 by 3 load and select audio buttons - Mono and stereo options - Play button - Pause button - Resume button - Speed slider (speed up and slow down) - Save button - Debug code
Yan Chen	- Designing GUI - Reverse button - Skip forward and back buttons - Volume slider (increase and decrease volume) - Play pure tone generator - Designing the graphs* - Save button - Debug code
Yuqing Huang	- Designing GUI - Echo/Delay button - Voice removal button - Treble and Bass buttons - Start and end time options - Chop button - Save button - Debug code

*Used for help:
http://stackoverflow.com/questions/20921746/how-to-plot-a-graph-with-a-moving-line-cursor-in-sync-with-audio-file-on-matlab
This was used to help create the moving line that tracks the music as it plays.

Personal Summaries

Priscilla Chan
In this project, I had coded the three by three grid of load and input audio buttons so that users can load and select a variety of song selections straight from their computer. As I coded this, I also figured out how to have the buttons change the text and color so users can see clearly when a song is loaded and when a file is selected. Next, I coded the mono and stereo options for the audio, which converts the amplitude portion of the audio files into either one column or two, respectively. I also coded the buttons for play, pause, and resume, so the buttons can work with all nine song selections (one at a time) and the user can control how the song is played. The last code I worked on was coding the speed slider, which allows users to speed up or slow down the song that is currently playing. I also worked with my team members in designing the GUI interface and fixing any errors we had.

Yan Chen
My major contributions to this project include coding the Reverse push button, the volume slider, two skip push buttons, the graph showing the relative strengths of the amplitude, and Tone Generation. In addition to these program specific objects, I also added a place for the title of the song to show up at the top of the GUI and a place for the timer next to the graph so the user can keep track of where they are in the audio file. My graph and volume code is replicated and added into different areas of the code. I helped with designing the GUI interface and general debugging when we compiled all the code together.

Yuqing Huang
In the ENG 6 audio project, I focused mainly on the effects. I coded for echo, which is the same as delay and the delay is short enough so it sounded like echo. Also, for voice removal, I subtracted the two columns of the amplitude. For treble, it’s high pass which filtered out the high frequencies and suppressed the low frequencies. Bass is the opposite of treble which filtered out the low and suppressed the high frequencies. The start time and and end time can be inputted so a certain time can be played and the chopped audio can be saved. I helped designed the save button and the GUI, and debugging.

All team members have read the task summaries contained in this report and have been given an opportunity to comment.