

Team:

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Project 2 – Responsibilities

All	Zybook Reading Cp 6.2
	General Meeting I
Agnes(Yuexin Li)	Chopping
	Basic Tone Generation
Noah(Fangzhou Yu)	Sample Reversal
	Delay
	Speed Up
Kolin(Runlin Guo)	Tone Control
	Voice Removal
All	Zybook Reading Cp 15
	General Meeting II
	Basic Audio Input
	GUI Design
	Loop Recording
	Enhancement
	General Meeting III
	Final Report
	Record Video for Demonstration

Tasks Breakdown

- Chopping
 - Function Chop
 - Chop the length of a given sample
 - Input: sample, startTime, endTime
 - Output: outSample
 - Hints: edit the length of the 2D array
 - Difficulties: convert between numbers of sampling points and time(in seconds)
- Basic Tone Generation
 - Function GenBasicTone
 - Generate a sample that corresponds to a specific tone
 - Input: toneStr(a string or character specified the tone)
 - Output: tone
 - Hints: look up the frequency of each tone
 - Difficulties: use mathematical function to generate the tone
- Sample Reversal
 - Function Reverse
 - Reverse the given sample
 - Input: sample
 - Output: outSample

- Hints: flipud
 - Difficulties: 2D array manipulation
- Delay
 - Function Delay
 - Delay the given sample for given seconds
 - Input: sample, delaySec
 - Output: outSample
 - Hints: Add 'blank space' in front of a sample
 - Difficulties:
 - What is 'blank space'?
 - convert between numbers of sampling points and time(in seconds)
- Speed Up
 - Function SpeedUp
 - Speed up the given sample by the given factor
 - Input: sample, factor
 - Output: outSample
 - Hints: use frequency
 - Difficulties:
 - Not only speed up, but also slow down
 - Manipulate the frequency
- Tone Control
 - Function ToneControl
 - Make specific pitches or "frequencies" in an audio signal softer or louder.
 - Input: sample, freq, factor
 - Output: outSample
 - Hints: 'extract' the specific frequency and multiply it by the factor
 - Difficulties:
 - How to extract?
- Voice Removal
 - Function VoiceRemove
 - Eliminate the human voice in a given sample
 - Input: sample
 - Output: outSample
 - Hints: find the frequency of human voice and use ToneControl function
 - Difficulties:
 - How to find the frequency of human voice?
- Basic Audio Input
 - Specific functions are still unknown
 - Hints: use audioread function
- GUI Design

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- Specific functions are still unknown
 - Loop Recording
 - Function Record
 - Record the sample buttons pressed by user
 - Input: BPM, TimeSig, numBars
 - Output: outSample
 - Difficulties:
 - How to ‘record’ the sample buttons?
 - How to change the BPM?
 - Manipulate the frequency