CommAudio Test Document

COMP4985 - FINAL PROJECT

Table of Contents

Introduction	2
Test Plan	2
Test Coverage	
Test Strategy	
Test Schedule	
Test Cases	
Index	

Introduction

This document explains the testing strategy for the CommAudio project. It covers all the main elements (coverage, strategy, methods), as well as the list of test cases that the project will be tested against.

The focus of the testing will be the core functionalities of the project via manual testing. The testing will be performed by each individual member responsible for their own sections of the project. In addition, the application as a whole will be tested after the development stage is completed.

Test Plan

This section covers the details of the testing that will be performed.

Test Coverage

The testing will cover all aspects of the application: GUI, audio streaming, voice P2P, and file transfer. The intended coverage is the core functionalities and the predominately used areas such as: communication using TCP/IP suite and media playback.

Test Strategy

All the testing will be performed manually. Due to the straightforwardness of the project, unit testing and automated testing will only be "more trouble than its worth".

Test Schedule

All testing is to be performed at the end of the development stage. However, each sections of the code are to be tested before being committed to GitHub.

Test Cases

Test ID Test Description	Prerequisite	Test Data	Test Procedure	Expected Results	Pass/Fail	
Client						
		GUI				

CG1	The application loads normally as intended.	N/A	N/A	1.	Run the executable to start the program.	The application loads properly without errors. Figure 3 Figure 9	Pass
CG2	The application looks as intended without graphical issues.	CG1	N/A	1.	Run the executable to start the program.	The application has no graphical glitches or issues.	Pass
CG3	The application window scales based on the user input.	CG1	Resize application window.		Click-and-hold bottom right corner of the window. Drag-and-release the mouse.	The application window is able to resize a needed. The elements of the window scale with the window.	Pass
CG4	Selecting on specific tab opens the desired tab.	CG1	N/A		Click any one of the tabs (Connect, Playlist, Voice, Settings). Click another tab.	The window should display the user requested tab.	Pass
CG5	The Connect tab provides proper connection functionality.	CG1	127.0.0.1 7000	 2. 3. 	Click on the 'Connect' tab. Input 'Socket'. Input 'IP Address'.	The application properly handles user input. Allows the user to adjust values as needed.	Pass
CG6	The 'Connect' button in the Connect tab performs intended action.	CG1	N/A	1.	Click on the 'Connect' tab. Click 'Connect' button.	If no data is not given, the button does nothing. Otherwise, it performs connect logic. Figure 6	Pass
CG7	The Playlist tab displays all the available songs.	CG1	N/A	1.	Click on the 'Playlist' tab.	The list widget should be populated with the available songs. Figure 8	Pass
CG8	The 'Download' button functions as described.	CG1 CG7	N/A	1.	Select the desired song. Click 'Download' button.	The application will start the logic for downloading audio (.wav) files from the server.	Pass

CG9	The "Volume" slider in Settings tab adjusts the playback volume accordingly.	CG1	N/A	1.	Click-and-drag the slider pointer.	The volume of the playback is adjusted based on the position of the pointer. Figure 5	Pass
CG10	The song title changes based on the current song being played.	CG1	N/A	1.	Play a song.	The title changes to the title of the current song being played. Figure 7	Pass
			Audio Stream	ning			
CA1	The application is able to connect to the server without errors.	CG5 CG6	127.0.0.1 7000	1. 2. 3. 4.	Input 'IP Address'.	The application connects to the server and immediately begins to stream music.	Pass
CA2	Change the streaming song to a different song.	CA1	N/A	1.	Double-click on a song in the list.	The server should stop the current stream and stream the new desired song.	Pass
CA3	The title of the song changes when a new song is being played.	CA2	N/A	1.	Select a new song to play.	The client updates the title of the song to the current song title.	Pass
CA4	The audio playback has little to no delay. Latency and jitter is to a dismissible minimum.	CA1	N/A	1.	Play a song.	The client is able to play the streamed song 'flawlessly'.	Fail
			Voice P2P)			
CV1	The client can communicate with other clients via P2P.	CG1	N/A		Select a client from the user list. Click "Chat" to start sending audio.	The user is able to select other clients and communicate between them via P2P. Figure 4	Fail
CV2	The client can receive audio data from other clients via P2P.	CG1	N/A	1.	Run the application.	The user is able to receive audio data from other clients via P2P and chat with them.	Fail

						Figure 4			
File Transfer									
CF1	The client is able to request a song from the server for download.	CA1	N/A	1. 2.	Select a desired song. Click 'Download' button.	The client will request a file for download from the server.	Fail		
CF2	The request file is downloaded without corruption or other issues.	CF1	N/A	1.	Run the downloaded file via an existing .wav file player.	The downloaded file should be exactly like the original.	Fail		
CF3	The requested file is the correct file that was requested.	CF1	N/A	1.	Run the downloaded file via an existing .wav file player.	The downloaded file should be the file that the client requested.	Pass		
			Server	-					
			GUI						
SG1	The application loads normally as intended.	N/A	N/A	2.	Run the executable to start the program.	The application loads properly without errors. Figure 3 Figure 9	Pass		
SG2	The application looks as intended without graphical issues.	CG1	N/A	1.	Run the executable to start the program.	The application has no graphical glitches or issues.	Pass		
SG3	The application window scales based on the user input.	CG1	Resize application window.		Click-and-hold bottom right corner of the window. Drag-and-release the mouse.	The application window is able to resize a needed. The elements of the window scale with the window.	Pass		
SG4	Selecting on specific tab opens the desired tab.	CG1	N/A		Click any one of the tabs (Connect, Playlist, Voice, Settings). Click another tab.	The window should display the user requested tab.	Pass		

SG5	The Connect tab provides proper connection functionality.	SG1	127.0.0.1 7000	 Click on the 'Connect' tab. Input 'Socket'. Input 'IP Address'. The application properly hand input. Allows to adjust valuated.	the user the user ues as				
SG6	The 'Connect' button in the Connect tab performs intended action.	SG1	N/A	 Click on the 'Connect' tab. Click 'Connect' button. If no data is r the button do nothing. Other performs con Figure 6 	pes erwise, it				
SG7	The Playlist tab displays all the available songs.	CG1	N/A	1. Click on the 'Playlist' tab. The list widge be populated available song Figure 8	with the				
			Audio Strean	ing					
SA1	The application is able to start listening for clients.	SG1	127.0.0.1 7000	 Click on the 'Connect' tab. Input 'Socket'. Input 'IP Address'. Click 'Connect' button. 	clients to				
SA2	The application handles new song requests.	SA1	N/A	1. The client requests a new song. The server store current song playing (trans the new, request) the new, requests.	and begins smitting)				
SA3	The title of the song changes when a new song is being played.	SA2	N/A	1. The client requests a new song. The server up title of the so current song clients are no Figure 7	ong to the title. All Pass otified.				
SA4	The audio playback has little to no delay. Latency and jitter is to a dismissible minimum.	SA1	N/A	1. Play a song. The server is play the streatification of the server.					
	File Transfer								

SF1	The server is able to handle song requests from the client for download.	SA1	N/A	1.	The client requests a song for download.	The server will handle the request for a file for download to the client.	Fail
SF2	The requested file is sent without corruption or other issues.	SF1	N/A	1.	Run the downloaded file via an existing .wav file player on the client side.	The downloaded file should be exactly like the original.	Fail
SF3	The requested file is the correct file that was requested.	CF1	N/A	1.	Run the downloaded file via an existing .wav file player on the client side.	The downloaded file should be the file that the client requested.	Fail

Index

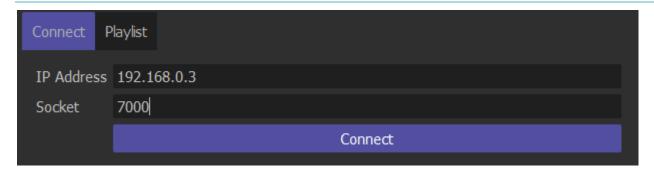


Figure 1

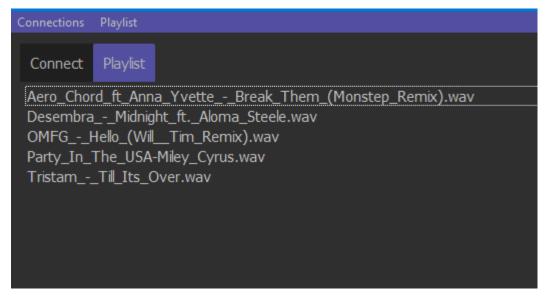


Figure 2

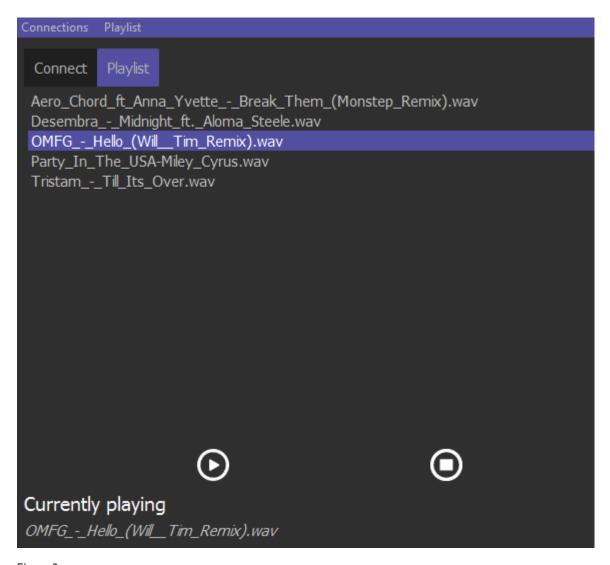


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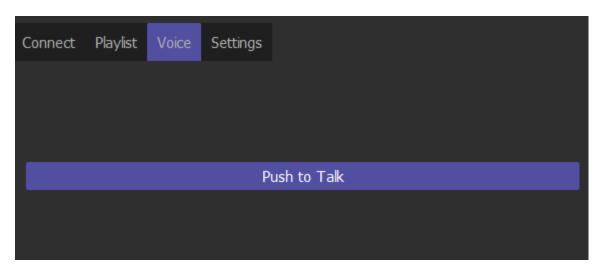


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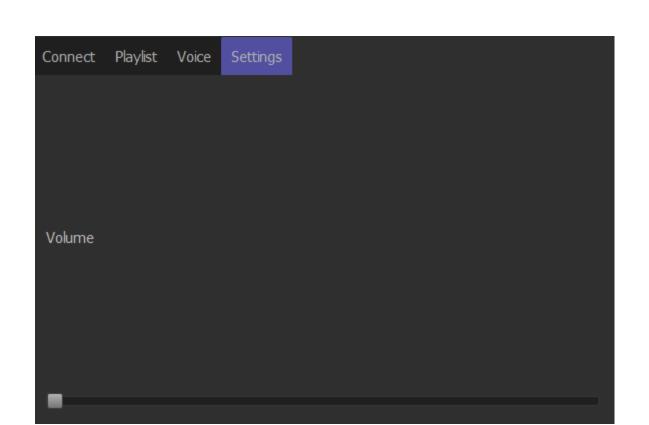


Figure 5

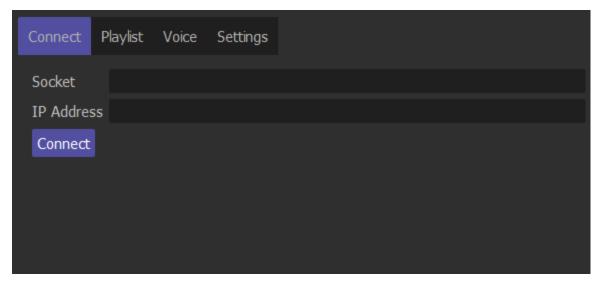


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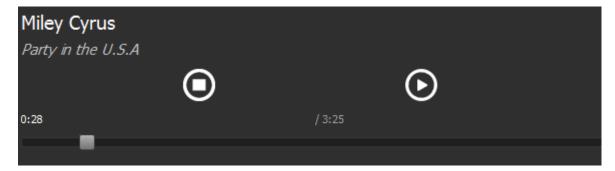
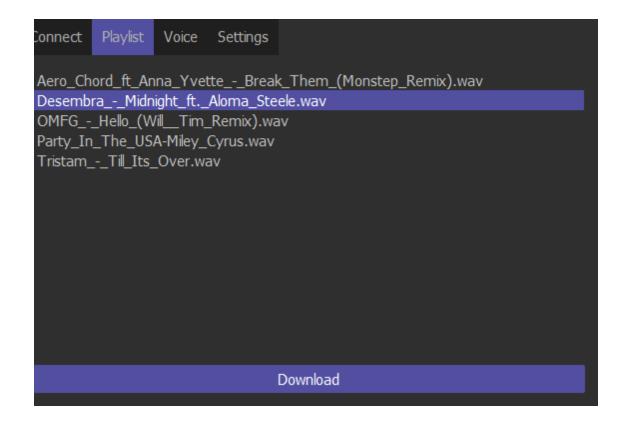


Figure 7

Figure 8



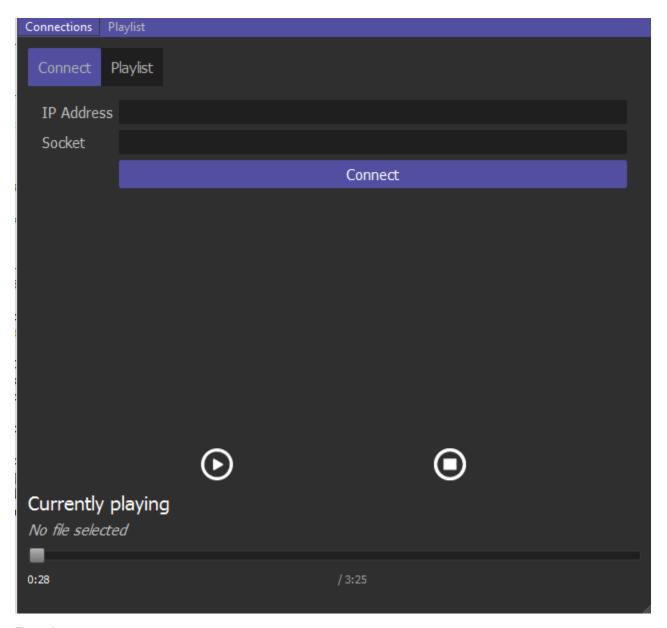


Figure 9