Testing for stability

Test Case #	Scenario	Steps	Expected Output	Actual Output	Pass/Fail
1	**Test audio file loading**	1. Open visualizer 2. Load an audio file 3. Start playback	The audio file loads and plays smoothly without lag or delays	Audio files load and play smoothly without issues.	Pass
2	**FFT response to music**	1. Play an audio file 2. Observe visualizer's response to music frequency changes	Visualizer responds dynamically to audio frequencies, with clear visual changes	Visualizations (e.g., Circular Bars, Dancing Squares) adjust dynamically to music frequencies.	Pass
3	**Switch between audio tracks**	1. Play an audio file 2. Pause the current track 3. Select another track and play	The new track starts playing without issues; visualizer updates accordingly	Switching between tracks works smoothly; visualizer responds to new track data without delay.	Pass
4	**Circular Bars stability with loud volume**	1. Load a high-volume audio file 2. Observe behavior of Circular Bars visualization	Circular Bars remain stable and display appropriate visual response without glitching	Circular Bars remain stable and adjust visually to high-volume audio without issues.	Pass
5	**Dancing Squares with rapid music**	1. Load a fast-paced music track 2. Observe the Dancing Squares' response	Dancing Squares respond rapidly without delays, maintaining smooth animation	Dancing Squares animate smoothly and respond to fast-paced music without lag.	Pass
6	**Playlist feature functionality**	1. Create a playlist of 3 audio files 2. Switch between files	Tracks switch seamlessly; no crashes or delays when switching tracks	Playlist functionality works; tracks switch seamlessly, and visualizer	Pass

		during playback		responds to each track.	
7	**Orbital Ring behavior with bass-heavy song**	1. Play a song with deep bass 2. Observe Orbital Ring visualization	Orbital Ring responds to low frequencies accurately without distortion	Orbital Ring reacts accurately to bass-heavy music, showing expected movement and size changes.	Pass
8	**Ribbon Wave responsiveness**	1. Load a track with a range of frequencies 2. Observe behavior of the Ribbon Wave animation	Ribbon Wave moves fluidly in sync with the audio, reacting appropriately to different frequencies	Ribbon Wave displays fluid motion and responds accurately to various frequencies in the audio track.	Pass