Project Name: EchoCraft

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Project Vision: EchoCraft is envisioned as a unique and user-friendly audio effect plugin that brings the classic and timeless effect of echo to a modern audience. The project will focus on creating a versatile echo effect that can be used in various audio production environments, from music to podcasting. The plugin will feature adjustable parameters such as delay time, feedback, mix, and the addition of a filter in the feedback path to shape the tone of the repeats. Issues of Concern: The challenge of ensuring cross-platform compatibility. The need for a clean and intuitive user interface that caters to both beginners and professionals. Optimizing the plugin to be lightweight and CPU-efficient, ensuring it can run on systems with limited resources.

GitHub Repo URL: https://github.com/GurleenkDhaliwal/EchoCraft

Technical Details Specific Project Vision: EchoCraft will be developed as a VST (Virtual Studio Technology) plugin, using the JUCE framework, which is renowned for its extensive features and cross-platform capabilities. The core functionality will revolve around a digital delay line algorithm, capable of producing high-quality echo effects. The plugin will offer the following adjustable parameters: Delay Time: Controls the time interval between each echo.

Feedback: Determines the amount of the affected signal fed back into the delay line to create multiple echoes. Mix: Balances the wet and dry signals.

Tone Control: A low-pass filter is applied to the feedback path, giving users control over the brightness of the echo. The interface will be straightforward, with knobs for each parameter and a visual representation of the echo's decay over time. Discussion of Any Issues of Concern: One significant issue is ensuring that the plugin's DSP code is optimized to allow for multiple instances to run simultaneously without draining CPU

resources. Another concern is the UI/UX design, which must be appealing and functional across different DAWs (Digital Audio Workstations).

Development Concerns: Adequate testing across various DAWs to ensure compatibility and stability. The implementation of a bypass feature that doesn't click or pop when engaged.

Submission and Code Management Code and Repository Management: EchoCraft will be developed using Git for version control, with the repository hosted on GitHub. The completed PROPOSAL.pdf document will be placed in the top-level directory of the GitHub repository before the submission deadline. The repository will also include all source code, unit tests, and the README.md file as per the project requirements.