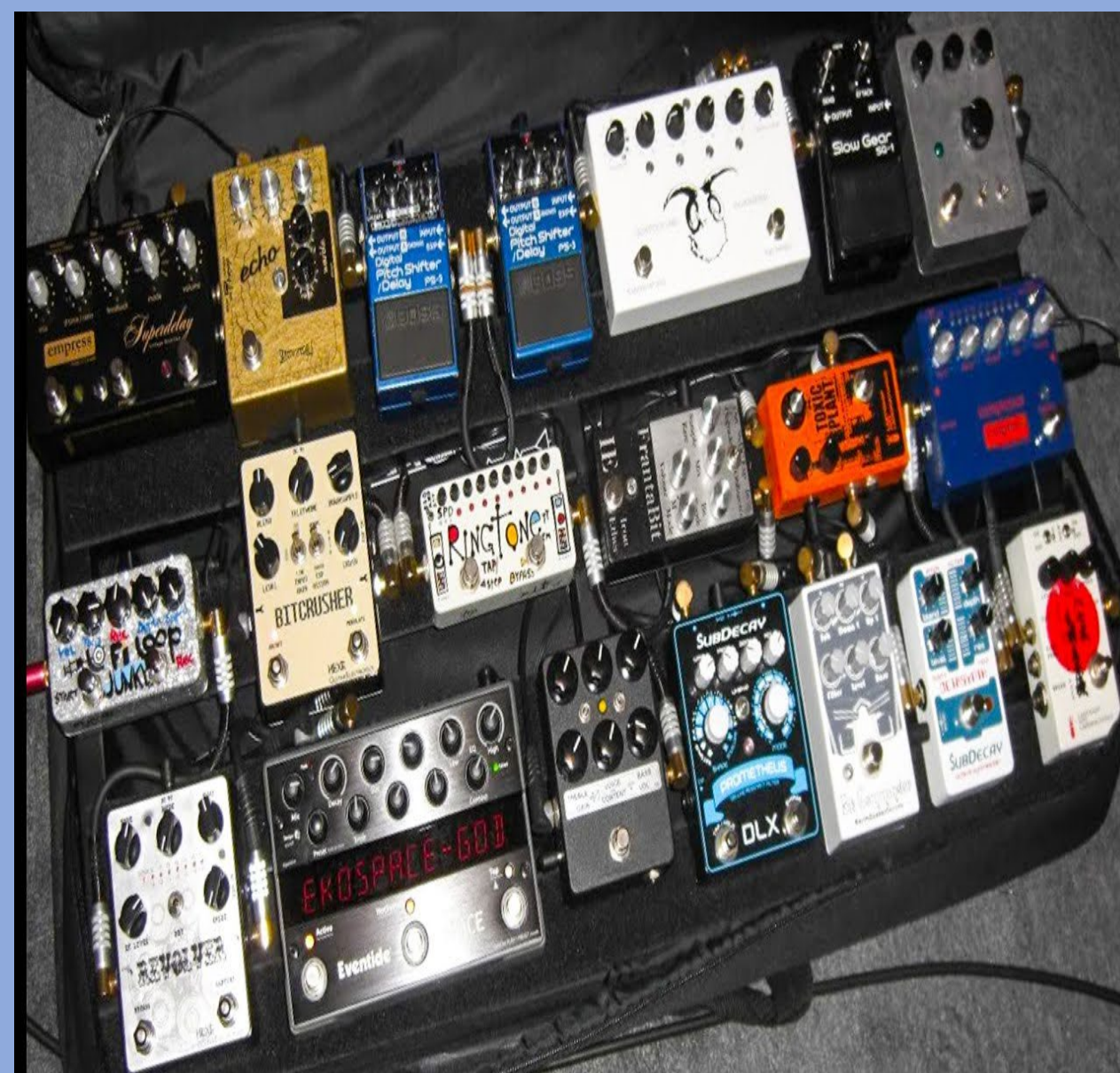


Abstract

Team Atomic Harmonics is designing an internet-connected guitar pedal that allows multiple people to compose and manipulate the sounds of a guitar.

Need for Product

Beginner musicians looking to enter the electric guitar world often immediately face a hindrance, the high costs of effect pedals. Also, there are no pedals that allow for internet connectivity. In an era of social media and connectivity, this is an important capability.

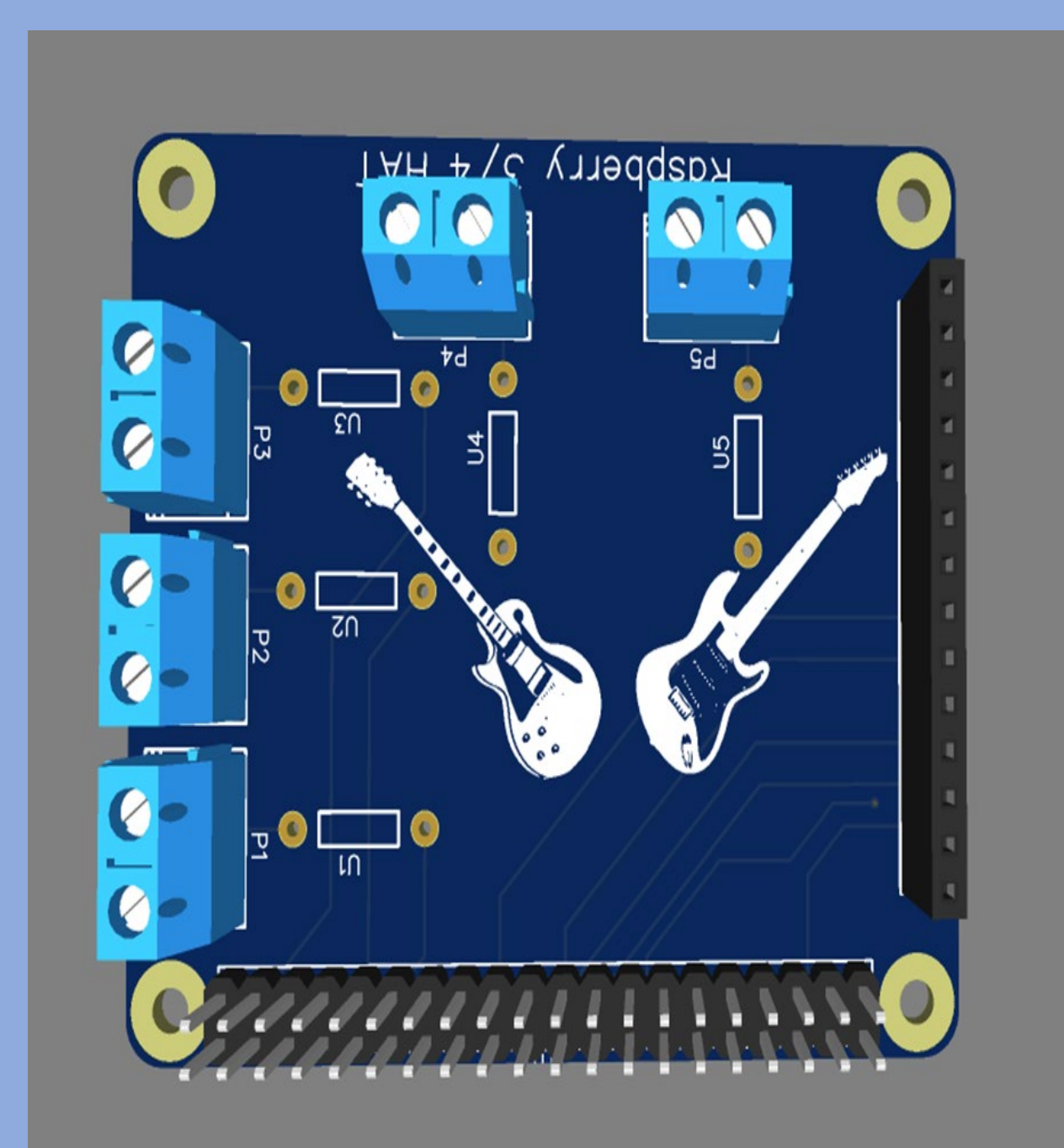
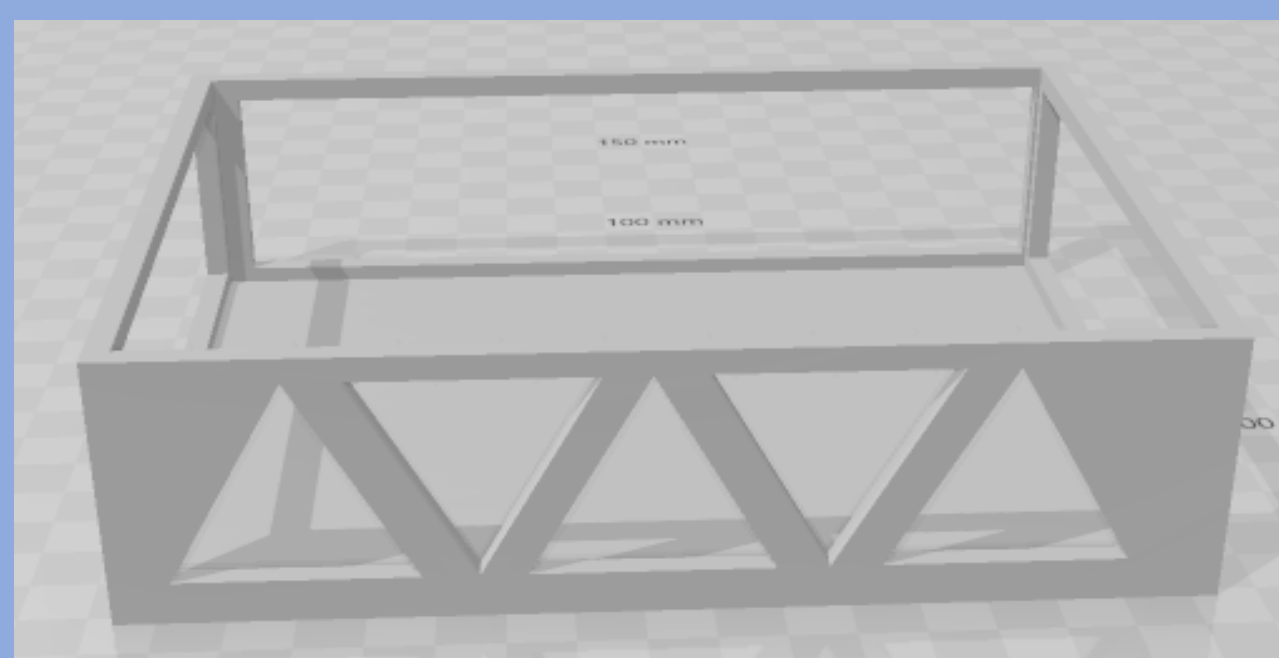
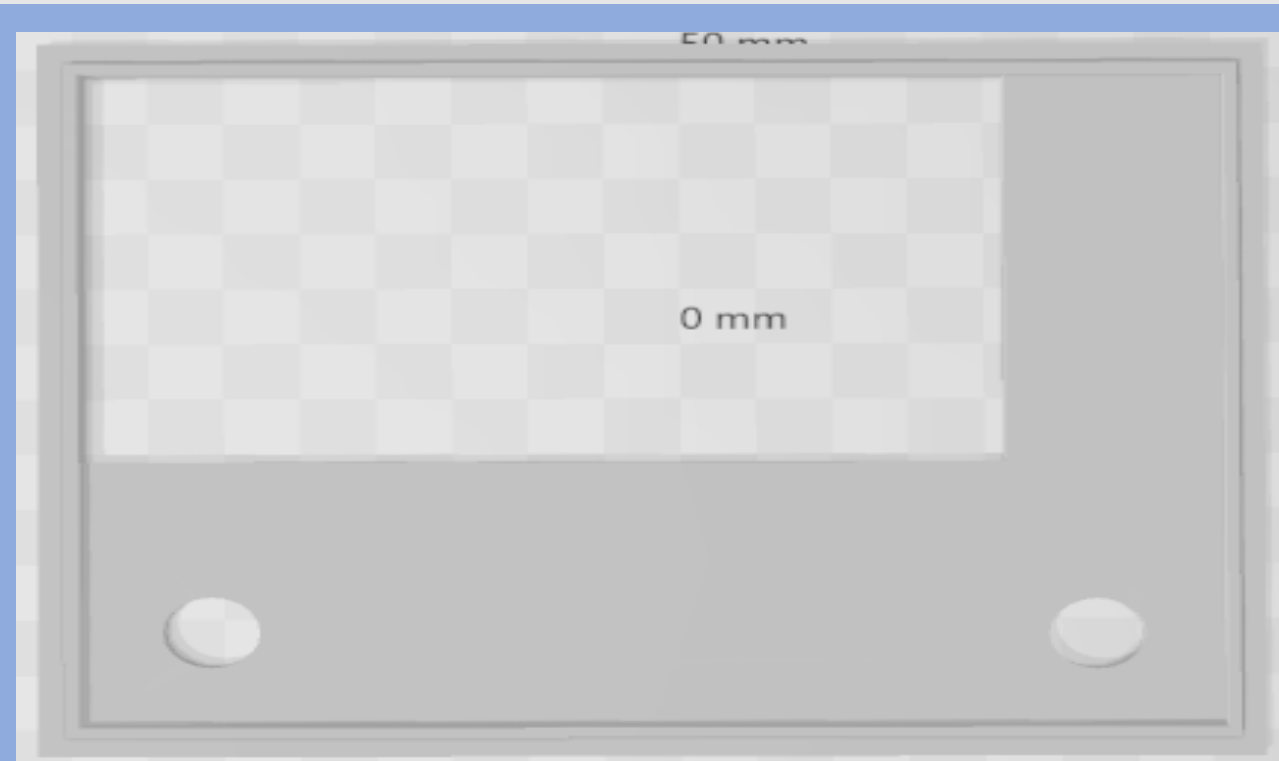


Design Concept

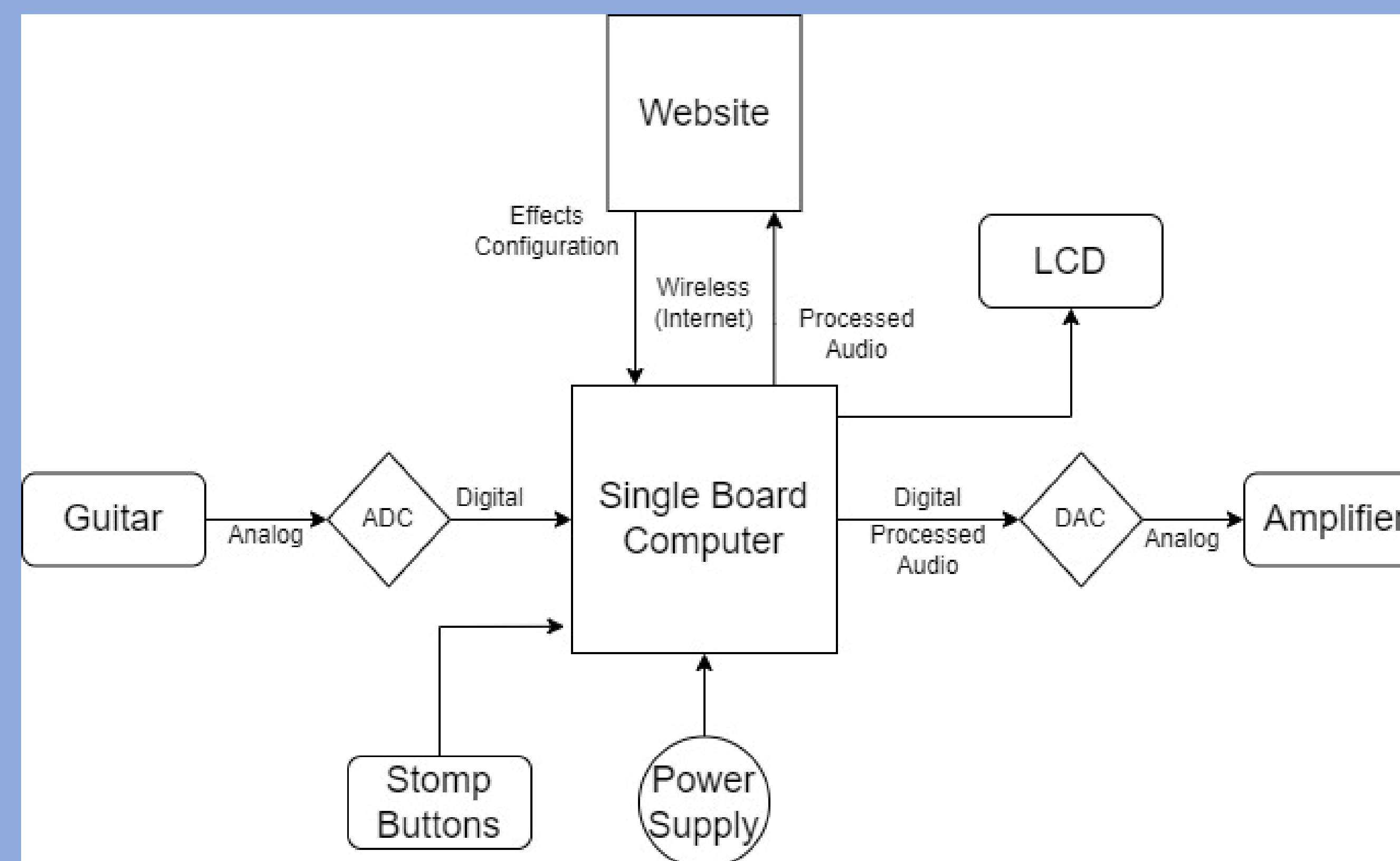
This project aims to create a multi-effects guitar pedal that is connectable to the internet.

Features:

- Multiple Audio Effects
- Internet Streaming and Configuration
- LCD display of current profile

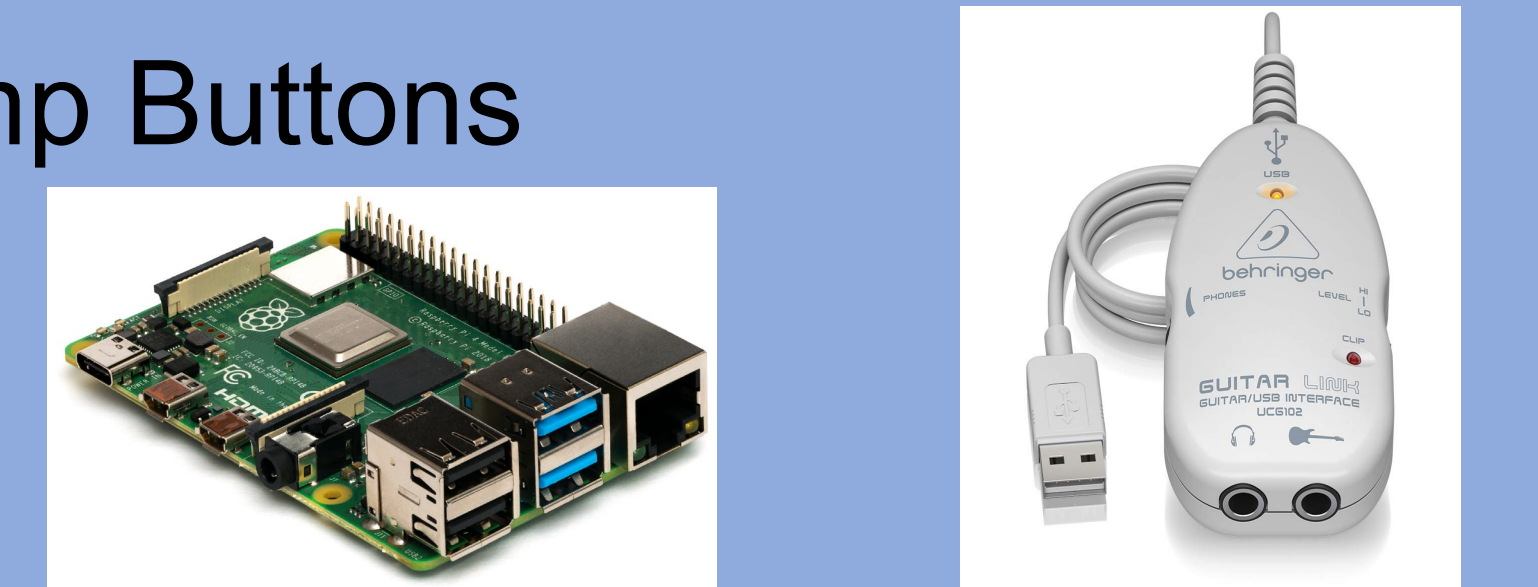


Functional Block Diagram



Components

- Raspberry pi
- PCB with Pedal Stomp Buttons
- USB Guitar Interface
- Guitar

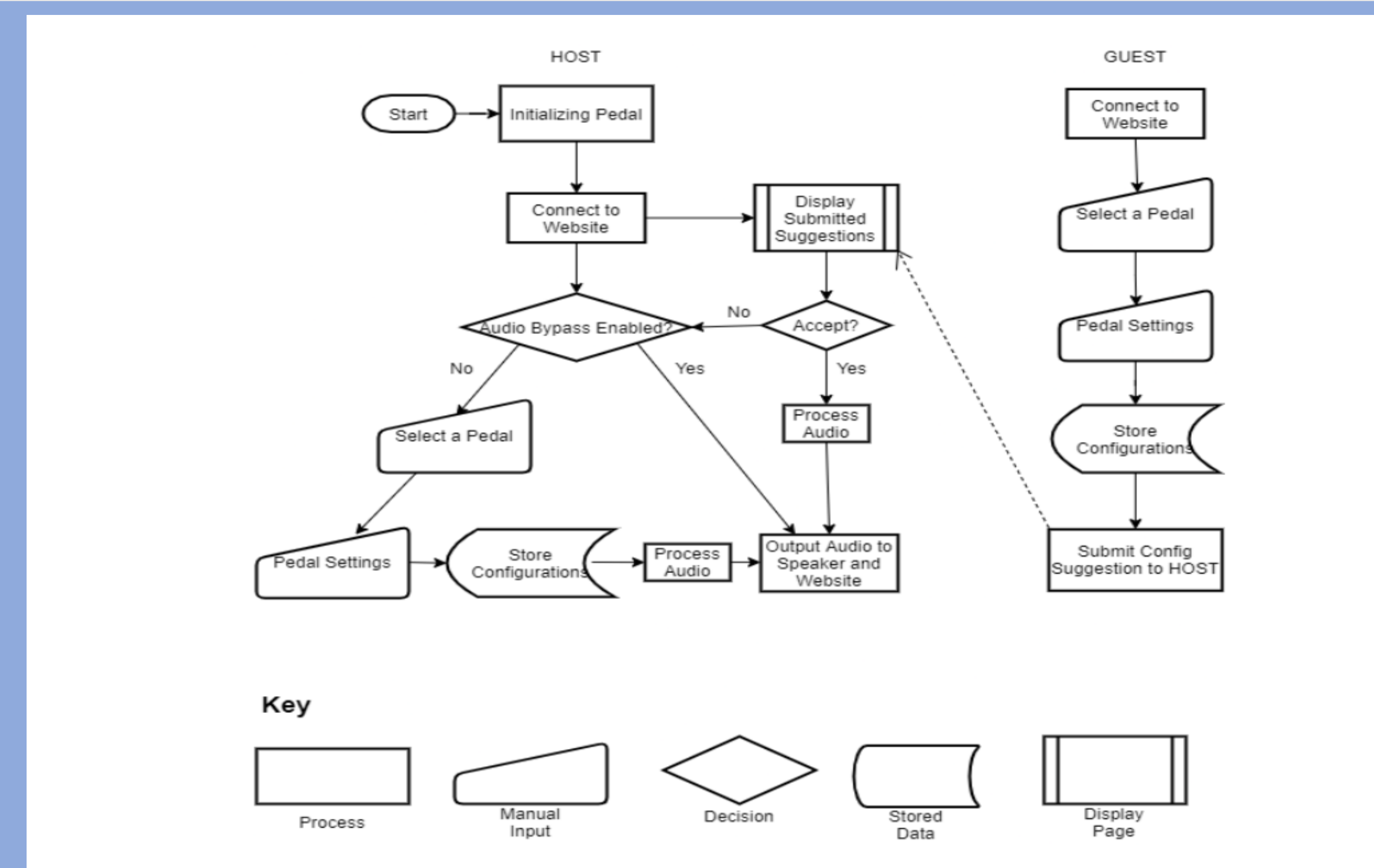


Future Work

Next Steps:

- Add more audio effects
- Create a mobile app for easier phone usage
- Cost reductions
- Server Scalability

Software Flow Diagram



Glossary

Guitar Pedal - Device that modifies incoming guitar signals.

Profile – Instance of certain effect settings.

Acknowledgments

The Atomic Harmonics team would like to give a special thanks to Dr. Paul Morton for the technical support of our project. We would also like to recognize the UTSA Makerspace, Student Success Center and UTSA ECE department faculty and staff for providing the resources, instruction and support related to this project.

Atomic Harmonics

Connecting musicians through the power of the internet!

Diagrams

