

Squidbox Development Board Project Report

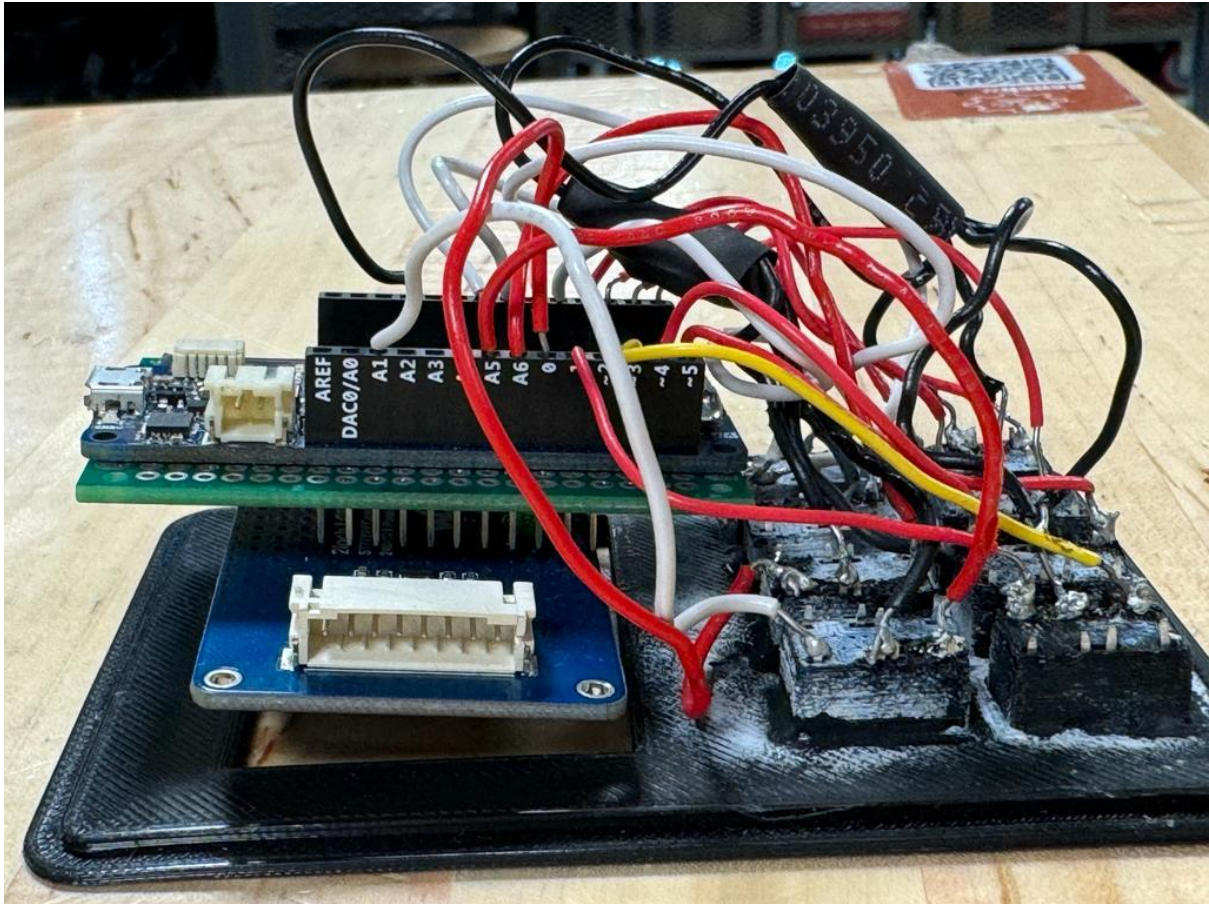
Objective:

The primary objective of our project was to establish a robust development board that can serve as a foundation for future groups. Our efforts were focused on simplifying the development process for subsequent iterations of the Squidbox by providing a user-friendly interface, essential features, and clear documentation.

Activities Undertaken:

1. Creation of Development Board and Code: Our team laid down the groundwork by creating a basic user interface code that could function on screen. This would enable other teams to pick up where we left off seamlessly.
2. Feature Enhancements: We introduced new features, including:
 - A volume slider using a linear potentiometer.
 - Interface buttons: Menu, Select, Back, Up, and Down.
3. Prototype Development: We reverse-engineered the E23 prototype, acquiring the same Arduino board and integrating the same number of buttons. Our goal was to rewire our prototype in an optimized manner. prototype seen in images below.





Resources Available:

1. Github Repository: Our team has updated the Github repository with the new code, ensuring it is accessible for future teams to leverage.
2. Prototype: Our physical prototype stands as a testament to our efforts and can serve as a benchmark for future endeavors.
3. Reference Materials: Will Merry's board was instrumental in guiding our connection of buttons and screens for our new prototype.

Insights & Recommendations:

- Current Project Standpoint: While our iteration of the Squidbox may not bring revolutionary changes, it places significant emphasis on the ease of development for upcoming teams. Our development board's creation aims to ensure continuous growth and development until the Squidbox reaches its culmination.
- Previous Iterations: The preceding iteration played a pivotal role as it dealt with the implementation of velocity-sensitive buttons that could interact with a Digital Audio

WorkStation (DAW) to produce sound. Our project is designed to complement and work in tandem with this prior version.

- Issues with Velocity Sensitive Buttons: A key challenge with the E23 version's velocity-sensitive buttons is their ambiguous functionality. They require a specific pressing technique to produce a variable output. This button-pressing action measures the velocity. Hence, an essential recommendation for future teams would be to focus on measuring this velocity through coding to ensure the correct functionality of these buttons.

Conclusion:

Our project serves as a foundation stone for the forthcoming Squidbox versions. While we've successfully laid down the basic infrastructure and provided new features, the journey ahead requires collaboration, continuous development, and problem-solving. The resources and insights shared in this report should equip the upcoming teams with a clear path forward.