

Electrical Arc Speaker: Executive Project Summary

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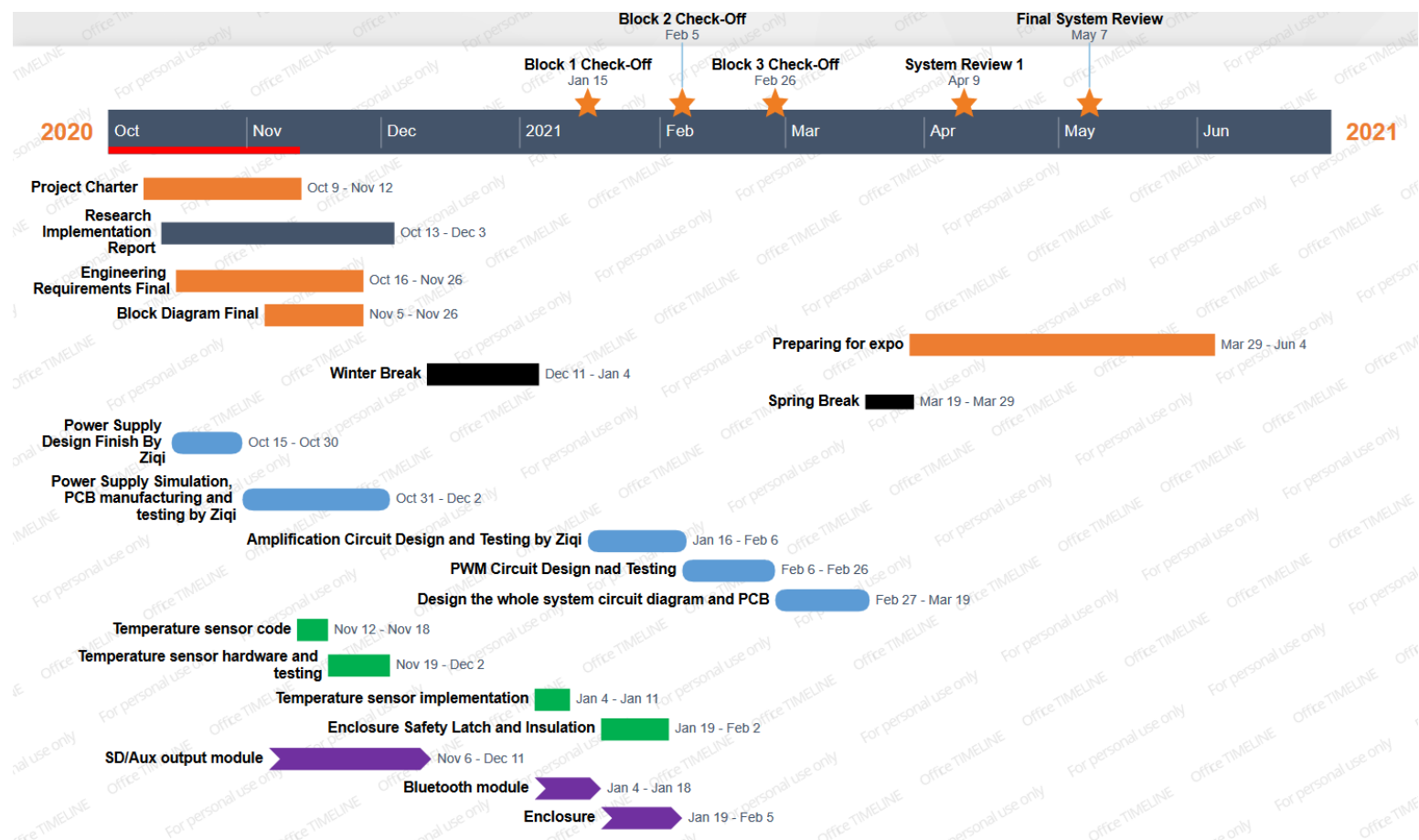
The purpose of this project is to create an electrical arc speaker capable of playing the Oregon State Beaver Fight Song when a button is pressed. Ideally, the project will sit in the Kelley Engineering Center main office as a point of interest to people entering. Because it will be in a public location, the internals of the speaker will be visible from the outside, so that people will be able to see the arcing electricity that plays the music. This project is a creative project, the purpose is to make a unique loudspeaker that is different from the mainstream in the market.

The project will be worked on through three terms by Aaron Bicks, Annie Leong, and Ziqi Cui. In the Fall term, the team will be focusing on planning and designing. Team will communicate with our project partner to verify the requirements and make sure we understand what the partner is looking for. In the Winter term, the team will focus on building the project. Team will be verifying that blocks work and later integrate all the systems to produce the final product. In the Spring term, team will be fine-tuning the final product while also preparing for the engineering expo held by the College of Engineering.

The development process begins with researching information and team discussion about what specifications we are going to implement for the plasma speaker and agreeing on various details and possible challenges. Team will create a top-level block diagram for the system and assign three blocks to each person as separate tasks. The management process includes weekly video meetings and regular discussion to ensure that each team member is keeping up with their assigned tasks. The main stages include:

1. Circuit diagram design completion and successful simulation.
2. PCB design completion and testing.
3. Successful assembling and testing.
4. Enclosure design and full assembly.

The electrical arc loudspeakers have unique advantages over traditional loudspeakers, including better sound quality and attractive arc design. The team believes that the speaker has good investment prospects, and it also has a very wide range of ways to expand. After three semesters' cooperation, the project was finally concluded successfully. Some of the key takeaways include remote teamwork, inter-team communication, and careful time planning and scheduling.



Project Timeline