

1. Two desired needs
 - a. Reliability in a classroom setting: The design had to function consistently despite repeated use and varied handling.
 - b. Portability and ease of setup: The system needed to be small enough to hold and simple to set up in outreach environments like classrooms or science fairs.
2. List the major Constraints on your design/project
 - a. Safety/Regulatory Affairs: The device had to be battery powered and encased to protect the wires.
 - b. Risks: Damage to the design from repeated or improper use and misinterpretation of the educational components.
 - c. Manufacturability: Designed with widely available, low-cost materials.
 - d. Marketability: It is a both a functional, low-cost ECG and is paired with completed educational materials.
3. List the major Engineering Standards on your design/project
 - a. Affecting components: Following medical electrical equipment safety, ensuring that students/users are not exposed to leakage current and the device is electrically isolated.
 - b. Constraining performance: Signal filtering so outputs are interpretable.
4. Explain Ethical, Environmental, or Societal concerns for practical applications of your project.
 - a. Ensuring accurate representation of scientific concepts so students are not confused.
 - b. Addressing inequities in STEM access by making the kit affordable and distributable to a wide range of communities.
5. Describe Active Teamwork and Leadership in your design group
 - a. Broke down the overall project into the sub-projects of hardware setup, software setup, filtering, enclosure, and a student outreach portion.
 - b. The team worked collaboratively between the sub-projects but leadership was often shifted depending of task expertise.
 - c. Collaborative feedback was openly given and accepted.
6. What were the most significant motivating factors
 - a. Learning circuit design principles and translating them into teachable content for a younger audience.
 - b. Troubleshooting circuit concerns and an educational demonstration.
 - c. Balancing simplicity and accuracy.
7. What are your most innovative and/or entrepreneurial ideas for this project
 - a. Developing a scalable educational kit that could be distributed to schools or STEM programs.