

Nugget Prospecting Tool

Executive Summary

The original design problem for the Nugget Prospecting tool was to modify an existing Underwater metal detector and alter it so that it would only react to the presence of gold. We spent the first few weeks of Fall Term researching in order to achieve this, eventually coming to the conclusion that it would be less complicated to design our own metal detector. This was mainly due to the fact that the coils of the original metal detector were incompatible with the requirement of discriminating metals as well as the circuitry that would have to be added to achieve the discrimination. We then broke the project up into blocks giving 2 of these to each group member. As shown on the Gantt chart we aimed to have a working prototype by the end of the 2nd term. While we had most blocks functioning on their own by the end of this term, we had not yet integrated them. This brought further challenges, when the PCB had issues and blocks that it connected to had issues as well, leading up to the system verification. Lessons learned were that sometimes off the shelf solutions are necessary especially when you have a small budget and relatively small resources. Keeping a group on the same page is key in order to have group cohesion and hopefully a successful project.

