Criterion A: Planning

The Scenario

Last year in HL Physics I noticed that when trying to gather data about a swinging pendulum. We had some limitations in terms of what data we were able to collect, and the accuracy of the device used. At the end of last year I started a project to create a device that would solve these problems. This failed because of my time commitment to it. I thought, since I was still passionate about it, I would bring the project back to life and try to create a deliverable product.

I talked to the physics teacher at my school. Through a brief interview (greater detail can be found in the appendix) I found the teacher wants to have an improved way of observing the characteristics of a swinging pendulum. Right now, the teacher uses a 'break the beam' sensor that determines the amount of time the pendulum takes to complete a cycle. The device used is not always very accurate, and gives a limited amount of information.

The Rationale for Solution

This product will measure the orbital period of a pendulum, log them and perform additional calculations for you based upon the data. //Again, consult with the client to get the *specific* wants and requirements for this device//. //Talk about why I chose to use an Arduino and why I am going to be using C/C++ (C/C++ is the language used by the Arduino: https://www.arduino.cc/en/Main/FAQ)//

Success Criteria

- // Get these from the client and the interview with the client //