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EEE 102 Project Proposal

Introduction:

Stargazing is a fun activity but it can be hard to know what we are looking at. In order to solve this problem a laser pointer pointing to a selected star can be used. Therefore, I have thought of a system that automatically rotates the laser pointer to the star we select.

Note: The pointer leaves a trail behind it at night so we can see where its pointing.

Methodology:

In this project, the laser pointer needs to know where the stars are in order to point to them. A spherical map of the stars will be defined as a memory file. The input from the gyroscope and an initial calibration will help the circuit understand where it is looking. Then the laser pointer will be rotated accordingly by two servo motors. The operation of the sensors and motors will be handled by the BASYS3 and the system will get the remaining necessary information such as the date, the time, and the coordinates from a Python script.

Material List:

1. BASYS 3
2. 2 Servo Motors
3. Gyroscope
4. Powerful Laser Pointer

Estimated Progress:

I plan to finish the movement of the servo motors and the gyroscope readings until the Process Demo.

Then I will implement the star map and the Python script to finalize the project for the Final Demo.