GNG1103

Engineering Design

Deliverable F - Solar I

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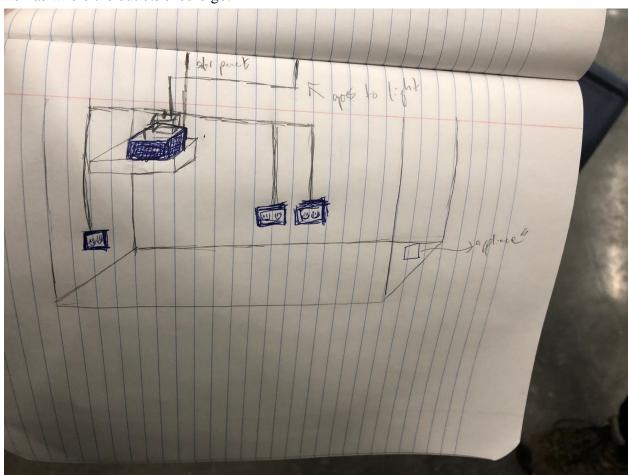
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Prototype I and Customer Feedback

Plan

In prototype 1, the goal is to determine how much wiring will be needed, determining whether our conceptual designs are still applicable, and making changes according to our new circumstances. In order to do this, we will use rope to imitate the wiring, which will inform us of how much wiring we will need. From there, we can visualize where the battery can be stored as well as where the outlets should go.



Outline prototype test plan

Since the rope will simulate wires, prototype one is created to ensure that the placement of the wires in the future will not obstruct any key appliances, will be neat and optimizes the amount of wiring used for the entire portable house, and also create a guideline to map the path of the circuits. To test, the members will analyze the circuit made of rope visually, and will modify and adjust the components according to the placement of the rope to the rest of the house. This can also pinpoint more precisely the overall price of the optimized circuit.

Create objectives

Determine how much materials are needed to carry out our desired design as well as determine total cost of the materials and balance the budget. Finalize our design of the circuit and of the layout making necessary changes when needed. Determine any possible future obstacles and begin to find solutions in order to minimize time wastage and make the project run smoothly.

Define stopping criteria

The process of adjusting the rope in the house will be stopped once it is determined that the rope does not lay in the way of other components in the house. This can be determined, if the house is not fully constructed, by contacting the other design teams. Through the vocalisation of their plans, the team can modify the placement of rope accordingly. The second criteria would be ensuring that the placement of the rope is safe, and that it is neat. Neatness implies that the team will try to limit as much tangled rope as possible, and that the amount of rope used is as little as possible.

Get feedback

As a result of our client meetings and discussions with the project manager, we were able to acquire feedback and formulate solutions based on their needs. For instance, we had initially sought out to use a multi-purpose box where we would keep our battery and power inverter. At the same time, we intended on using it as a possible nightstand or bench. However, after consulting with our project manager and client, we concluded that because of shortages in space in the shed we were to install the box containing our battery and inverter in the attic space. Conclusions were also made on the topic of whether or not we were going to permanently attach the solar to the roof panel or not.