

Iterating and Improving Design Assignment Form

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Date 30 September 2020

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What is your 1st design heuristic card? How might you incorporate the idea into your current design?

SCALE UP OR DOWN (A1.58)

The initial engineering specifications stated that the robot will have 10 parts. The number of parts will be reduced, and the dimensions will be scaled down therefore, reducing both the weight and complexity of the robot as it is meant to be easily handled and assembled by Middle School students.

What is your 2nd design heuristic card? How might you incorporate the idea into your current design?

OFFER OPTIONAL COMPONENTS (A2.49)

Make an additional chassis extension that will allow the users to be able to adjust the height of the robot. If they want the robot to appear a little bit taller, the chassis extension will be incorporated.

What is your 3rd design heuristic card? How might you incorporate the idea into your current design?

USE COMMON BASE TO HOLD COMPONENTS (A2.68)

The two chassis frames will be used to hold the parts together when packed into the robot enclosure. The first chassis will be placed on the bottom of the enclosure and then all robotic parts will be loaded on top of it. The second chassis will be then placed neatly on top of the loaded parts holding them intact for transportation purposes. Therefore, when the enclosure lid is opened the first part to be seen will be the second chassis.

What is your 4th design heuristic card? How might you incorporate the idea into your current design?

MAKE PRODUCT RECYCLABLE (F1.44)

The chassis and other parts used on the robot will be made of 100% recyclable plastic material. The whole robot itself should be easy to disassemble however, making it less time consuming to arrange the recyclable parts of the robot.

What is your 5th design heuristic card? How might you incorporate the idea into your current design?

FLATTEN (F2.35)

The enclosure will be designed in a way such that it can easily fold when not housing the robotic parts. During showcasing the enclosure should be usable as a stand to hold the assembled robot. The width and length edges of the enclosure will have a rule printed such that it forms an L-square.