# Application: Suggest improvements to system design

This is a team assignment; every member of your team must take part in doing this assignment. Only one member of your team needs to submit this form.

Please use your team's responses to Application5, which were sent to the email address of the team member who submitted that form, and the feedback on your responses to that form sent by realavi@mit.edu.

You can view the student presentation here.

You can view the introduction to systems thinking and the SAFO framework here.

You may also use additional online sources.



\* Indicates required question

Email \*

Your email

Select your team letter. \*

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## System Architecture-Function-Outcome (SAFO) framework









Outcome

Problem

Stakeholders

Benefits

Detriments

System\* Technological Engineered

Architecture Structure Behavior

**Function** 

The system of interest's interactions with boundary systems\*\*:

Input systems

Output systems

Control systems (optional)

#### Battery Box: Architecture (p. 60-64) encases support Insulating Layer Inner Box (rockwool) (steel mesh) Fire Bricks surrounds encases (porous ceramic) attach Battery Outer Box to (salt [sodium nitrate + Straps (aluminum diamond potassium nitrate] in (fabric) support plate) steel case) opens or closes **Pivoting Latch** (aluminum)

<sup>\*</sup> System of interest \*\* Boundary systems do not have to be technological.

#### **Convection Heating Method (pp. 40-58)**

You are asked to increase the benefit of the system by changing the system architecture. What will you change?

In your response, explain how this change will affect the benefit, function (input and/or output), and architecture (structure and behavior) of the system.

Your answer

## Electric Heating Method (pp. 15-37)

You are asked to increase the benefit of the system by changing the system architecture. What will you change?

In your response, explain how this change will affect the benefit, function (input and/or output), and architecture (structure and behavior) of the system.

Your answer

### **Convection Heating Method (pp. 40-58)**

You are asked to reduce the detriment of the system by changing the system architecture. What will you change?

In your response, explain how this change will affect the detriment, function (input and/or output), and architecture (structure and behavior) of the system.

Your answer

## **Electric Heating Method (pp. 15-37)**

You are asked to reduce the detriment of the system by changing the system architecture. What will you change?

In your response, explain how this change will affect the detriment, function (input and/or output), and architecture (structure and behavior) of the system.

Your answer

If you used additional sources, please add them here.

Your answer

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