

# 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.

To answer this form, please use the following sources:

(a) Your team's responses to Application6a in this week's class. The responses were sent to the email address of the team member who submitted that form. If you cannot find them, please email Rea and he'll send them to you.

(b) The feedback you received in this week's class from Drs. Melenbrink and Lavi about your responses to the Application5 assignment.

(c) The student presentation about the different heating methods, [here](#).

(d) 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. \*

A

B

C

D

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



**System\***  
Technological  
Engineered



**Architecture**  
Structure  
Behavior



**Function**  
The system of interest's  
interactions with boundary  
systems\*\*:  
Input systems  
Output systems  
Control systems (optional)



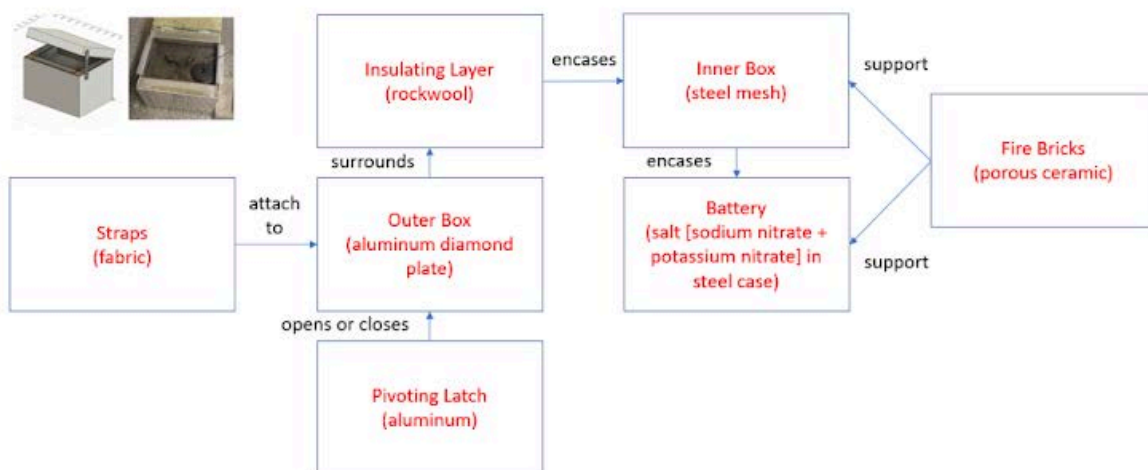
**Outcome**  
Problem  
Stakeholders  
Benefits  
Detriments

\* *System of interest*

\*\* *Boundary systems do not have to be technological.*



## Battery Box: Architecture (p. 60-64)



## 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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