

Problem Statement

Need Statement:

A product to replace plastic containers which are eco-friendly and economical to use for solid fast food

Roll Number	Name of Student	Role played
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Table 1: Questionnaire to design the problem

Questions	This question helps the designer to
1. Is the packaging biodegradable?	Identify client's objective
2. Is it safe to store food (PFAS free)?	
3. How much will it cost?	
4. Will it be global wastage standard compliant?	
5. What is the targeted industry?	
1. What materials can the product be made of?	Identify constraints
2. What will be the size of the product?	
3. What will be the weight of the product?	

4. Is the packaging sturdy enough for storing food?	
5. Can the food packaging keep the food warm?	
1. Will the packaging significantly reduce waste as compared to the current scenario?	Establish functions
2. How can the container be designed to ensure that it can be held comfortably for a long time?	
3. What kind of food is it expected to store?	

Table 2: Information obtained through basic research and Survey

Observation and from Lit.Survey	Requirements
Based on the current storage containers being used, the product should be of the same weight.	This implies that the weight of the container should not exceed 15 grams.
Based on the statistics, it should be implemented in the industries producing the most amount of easily disposable waste.	Shows that the best scenario of use of the product falls in the fast food industry.
Based on the cost of competing products in the market.	Cost of the container should lie within the range of 7 to 8 rupees.
Based on observations, the container should be a good insulator as people prefer their meals to remain at the desired hot temperature for a longer duration.	Materials used to build the packaging should be good insulators such as cardboard (based on research cardboard is a good insulator) which can keep the food warm for a longer time (10-15 minutes).

1.1 Establish client's objectives

1. Finding a way to significantly reduce plastic and other packaging waste (eliminate PFAs use).
2. Cost friendly solution which can be scaled for mass production.
3. Corporate (fast food places such as McDonalds, Starbucks, Subway etc.) social responsibility to reduce carbon footprint.

1.2 Identify constraints

1. Convincing popular brands to switch over to eco-friendlier food packaging.

2. Cost scaling initially will be difficult (around 7-8 rupees per piece, hence selling price would be approximately 10 rupees).
3. Weight should not be more than 10 to 15 grams (plastic/styrofoam packaging is extremely light weight, however, due to using bamboo reinforced cardboard in our product, weight could be a constraint).

1.3 Establish functions

1. Replace fast food packaging which uses PFAs, styrofoam and single use plastics.
2. Replace plastic containers for pastries and other similar bakery products.

Revised Problem Statement:

A food packaging product made using cardboard reinforced bamboo, lined with butter paper which is eco-friendly and economical to use for solid fast food as well as other solid foods to reduce plastic waste significantly.