

PROJECT 1

Electric Food Steamer

Godrej & Boyce Pvt. Ltd., Mumbai

Godrej Appliance

Project Guide : Nishant Bhaskar & Tawfik Manham

May - June 2016

DEVANSHI SAKSENA

156130019

MDes | 2015-2017

INDUSTRIAL DESIGN

IDC, School of Design, IIT Bombay

IDC
School of Design



ACKNOWLEDGEMENT

Summer Internship is the one chance that we get after a year of learning the foundation courses to go and try our hand in the real world. I am grateful that I could use that time to try and create a product which is unique in terms of its function.

I would really like to thank the entire team of Innovation Design Centre, Godrej Appliance, Godrej & Boyce Pvt. Ltd., for the support that they extended during this period. We were a small team which almost felt like family by the end of that month.

A huge thanks to Mr Nishant Bhaskar and Mr Tawfik Manham for being a part of that great team and helping me during this period.

Working with a design company was challenging. It's a great opportunity to work with a really passionate set of individuals with strong convictions and a really positive outlook towards life.

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INTRODUCTION

Food steamers have been used for centuries. The ancient Chinese used pottery steamers to cook food, which dated back 5000 BC. Earthen, Bamboo and Stainless Steel materials were mostly used for food steaming.

In India, steamers are mostly used in North Eastern and Southern part. Earlier, people used to steam rice, fish, momos, and vegetables. With the recent changing lifestyle and health, more and more people from other parts of India are tending to electric food steamers. People are using different techniques including in food steaming.

Food steamers are so advanced that there have been hardly any changes in term of form and functions.

PROJECT DETAILS

Project : Project 1 - Summer Internship

Project Name : Electric Food Steamer

Company Name : Godrej & Boyce Pvt. Ltd., Mumbai, Maharashtra

Department : Innovation Design Centre, Godrej Appliance

Project Guide : Nishant Bhaskar & Tawfik Manham

Product Designer

Innovation Design Centre

Godrej Appliance

Godrej & Boyce Pvt. Ltd.

Mumbai, Maharashtra

Project Designer : Devanshi Saksena

156130019

Industrial Designer

IDC, School of Design, IIT Bombay

Mumbai, Maharashtra

Project Location : Mumbai, Maharashtra

Internship Duration : 2 May 2016 to 2 June 2016

ABOUT GODREJ & BOYCE



The Godrej Group is an Indian conglomerate headquartered in Mumbai, Maharashtra, India, managed and largely owned by the Godrej family. It was founded by Ardeshir Godrej and Pirojsha Burjorji Godrej in 1897, and operates in sectors as diverse as real estate, consumer products, industrial engineering, appliances, furniture, security and agricultural products.

THE PROJECT BRIEF

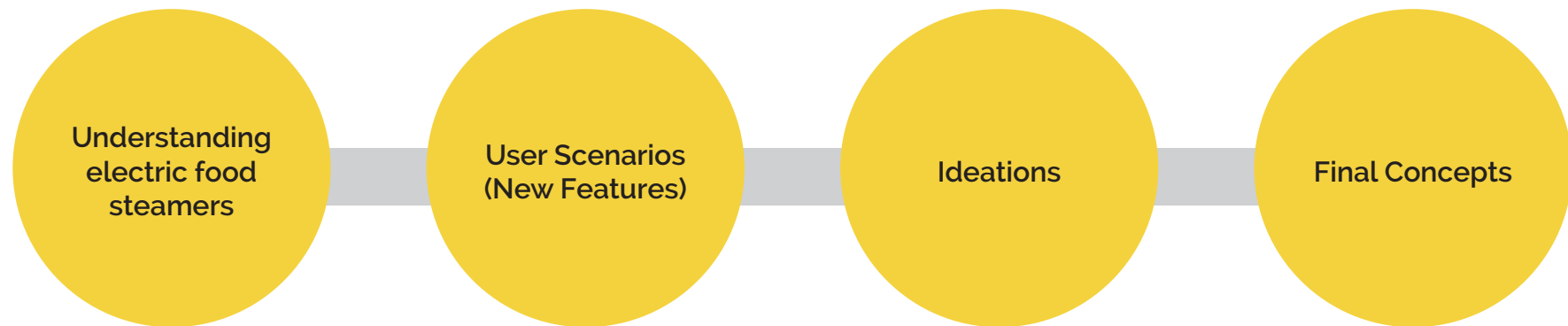
Godrej Appliances doesn't have any electric steamers in their market. Since, it is a low completion product, the main brief was to explore new form and function of electric food steamer.

To design the electric steamer,

- it should be standing out
- it should be a unique product
- the form should be the most important to enter the market
- one should know on how to celebrate steam cooking process

THE DESIGN PROCESS

Godrej doesn't have any electric food steamers in their market, so the main brief was to design a unique electric food steamer for this company.



WHAT IS A FOOD STEAMER?



A food steamer is a small kitchen appliance used to cook or prepare various foods with steam heat by means of holding the food in a sealed vessel that limits the escape of air or liquids below a preset pressure.

This manner of cooking is called steaming.

Most food steam cookers also feature a juice catchment which allows all nutrients to be consumed. When other cooking techniques are used (e.g., frying with butter or oil), these nutrients are generally lost, as most are discarded after cooking.

Due to their health aspect (cooking without any oil), food steamers are used extensively in health oriented diets.

Food steamers release less heat to the kitchen environment, therefore helping keep the kitchen cool during hot summers.

TYPES OF FOOD STEAMER



Bamboo Steamer



Metal Steamer



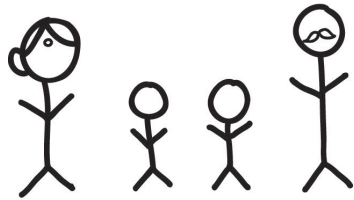
Microwave Steamer



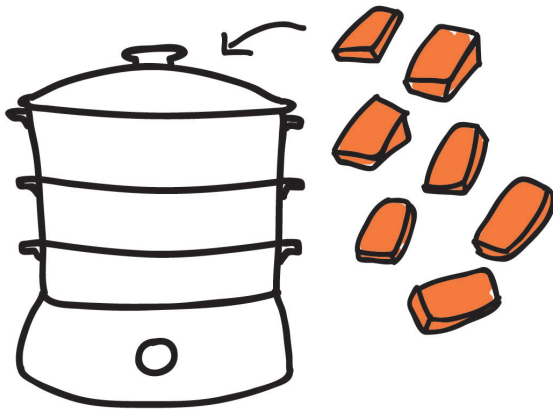
Electric Steamer

WHY DO WE USE ELECTRIC FOOD STEAMER?

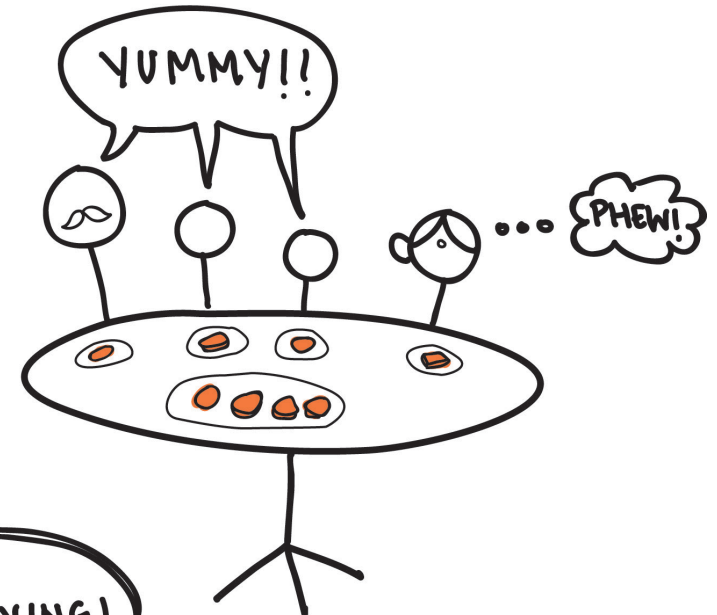
More Food
-
Time Saving



ONE PIECE
=
15-20 MINS



MORE THAN 1 PIECE OF FISH
=
5-10 MINS

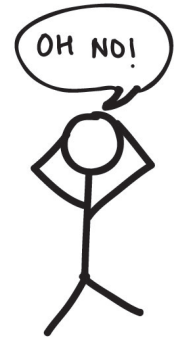


TIME
SAVING!

No more
Overcooked/
Undercooked
food



BUT HE FORGETS...

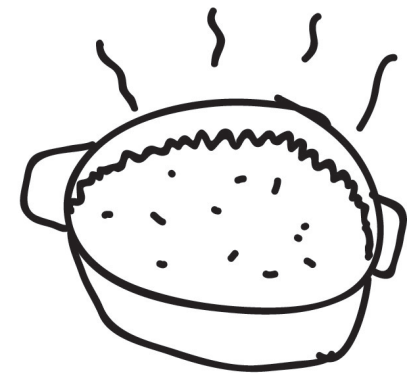


SET TIMER
AUTO SHUT OFF
KEEP WARM

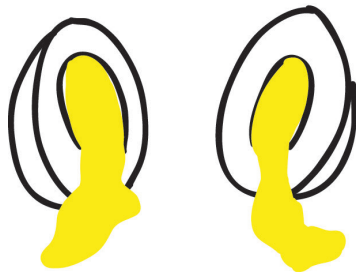
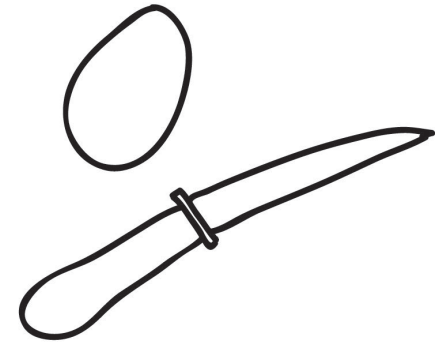
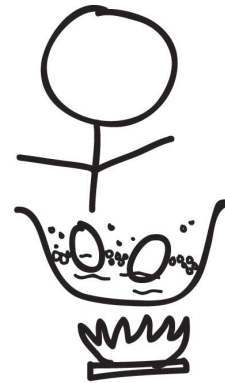
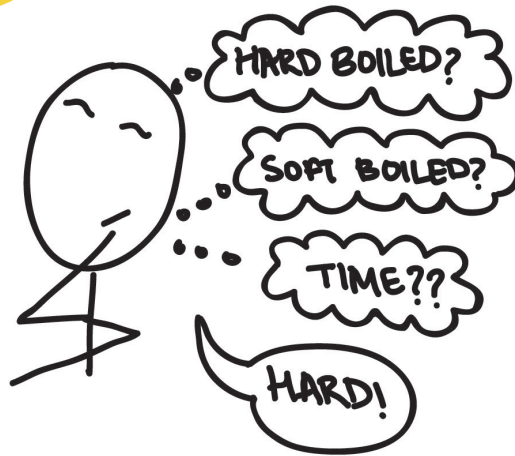


WARM

NO MORE
BURNT
RICE



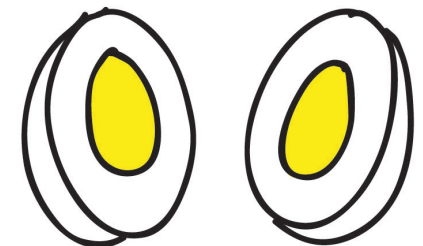
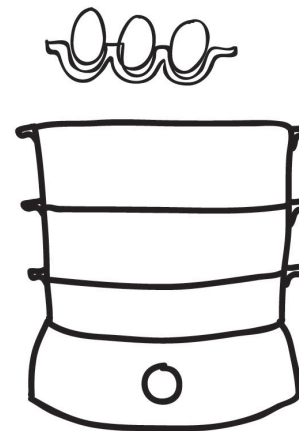
Automatic
cook settings



NO! NOT THE
SOFT BOILED EGGS!!

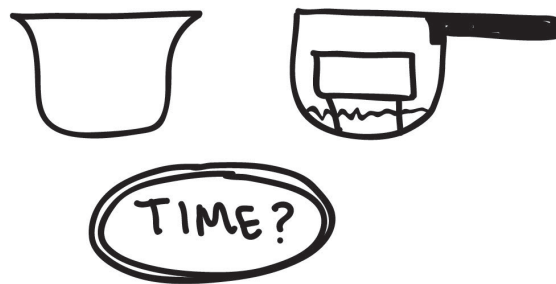
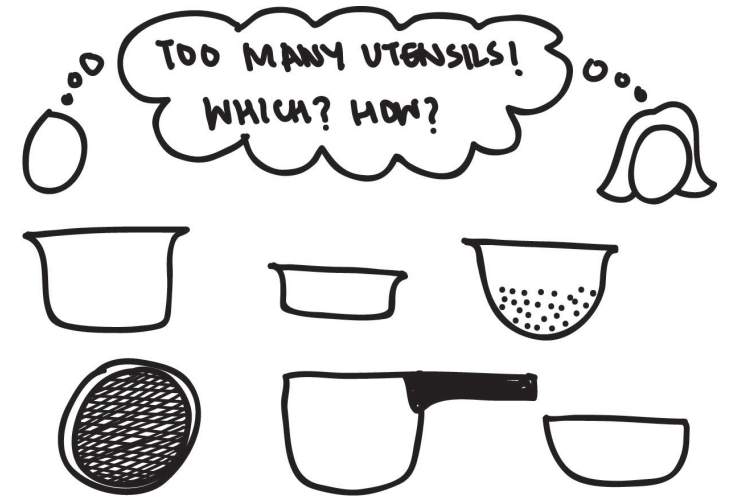
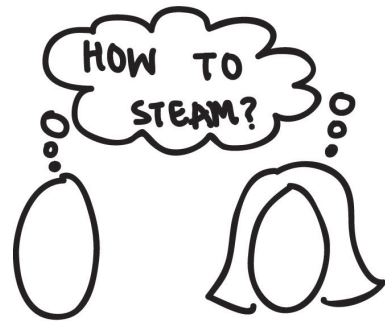


WEIGHT
+
TIME SETTING

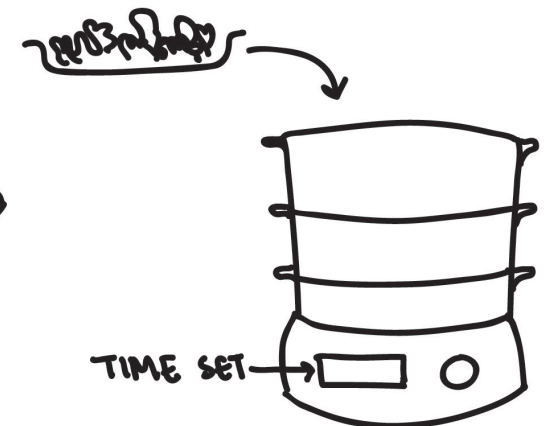


YASS!
HARD BOILED!!

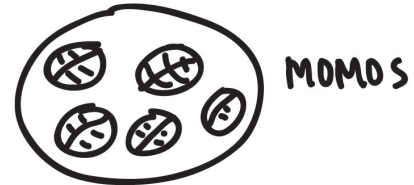
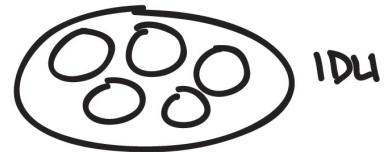
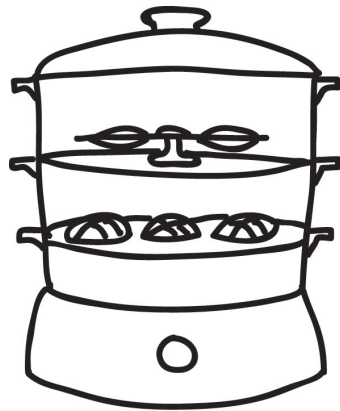
No utensils
required



UGH... NOT COOKED
PROPERLY!

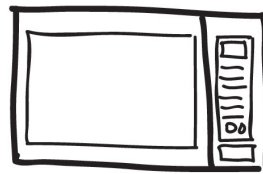


Keep Warm
setting

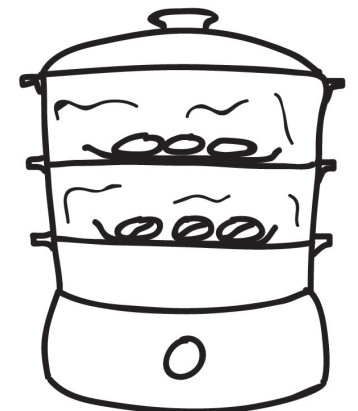


AFTER AN HOUR
OR
LEFTOVERS

HEATING IN
MICROWAVE



IDL BECOMES HARD/
MOMOS BREAKS OR
BECOME STICKY



EXISTING ELECTRIC FOOD STEAMERS IN THE MARKET



Research on existing food steamers in India was done during the design process. It was found that most of them are of similar forms with similar functions. Not much changes have been made except Morphy Richards food steamer. Most of them have simple timer knobs and less with digital interfaces. There are some problems associated with it, but not changes have been made because of less competition. The brands that have food steamers in India are Panasonic, Glen, Philips, Morphy Richards and Kenwood. The price of food steamers usually range from Rs 2,500 to Rs 5,000.



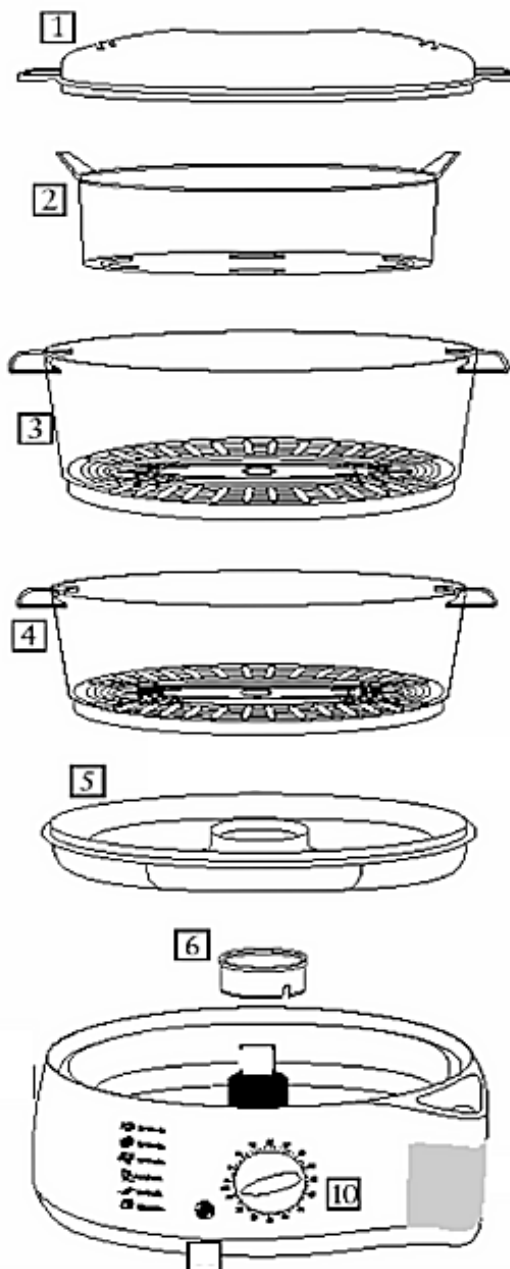
Philips - Avent



Philips HD9103

Two electric food steamers - Philips Avent and Philips HD9103 were tested during the process, to understand the steaming process and user testing.

Parts of the
electric food
steamer



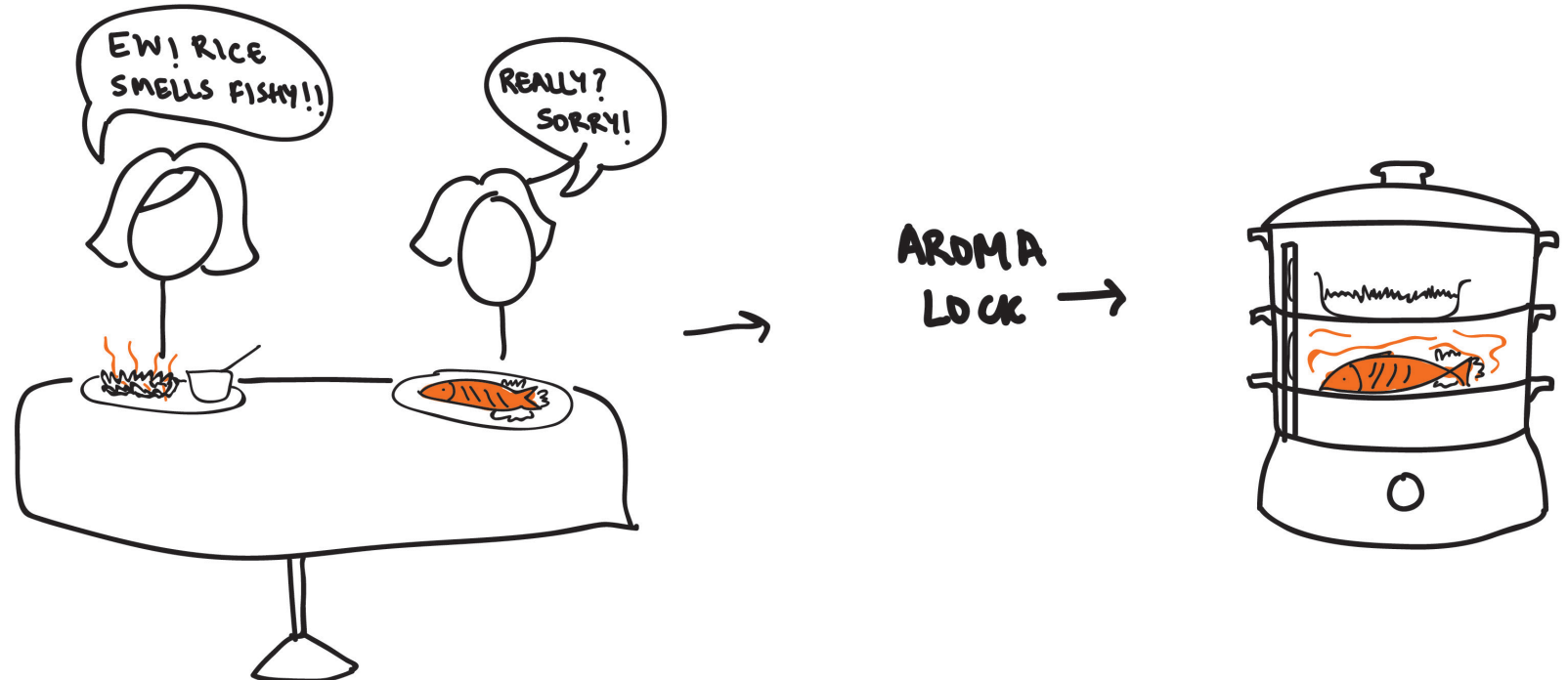
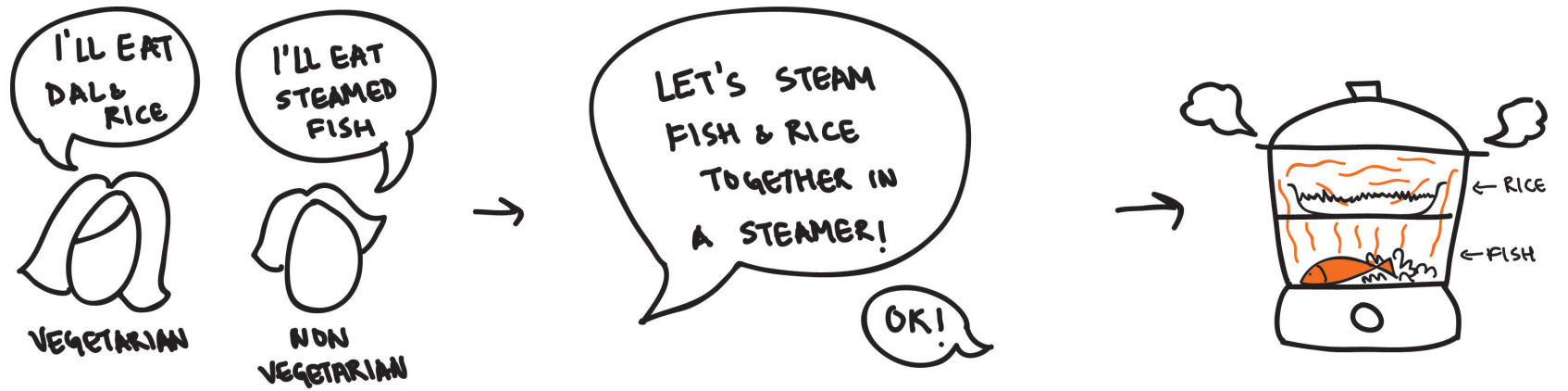
1. Lid
2. Rice Bowl
3. Upper Steaming Bowl
4. Lower Steaming Bowl
Can Be Used As Egg Tray
(Not available on Model 5709)
5. Drip Tray
6. Removable Heating
Element Sleeve
10. Timer

EXISTING FEATURES IN ELECTRIC FOOD STEAMERS

- Keep Warm
- Auto shut-off
- Timer
- Low water light
- Aroma infuser
- Anti Drip Lid
- Egg Rack + Container
- Visible water gauge
- Personalised memory

PROBLEMS? SOLUTIONS?

Aroma Lock



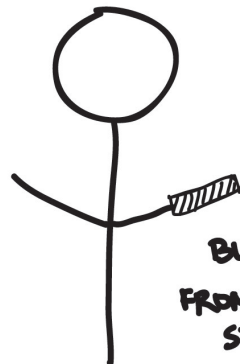
Steam cooling
indicator



STEAMING



SUDDEN
BURST
OF
HOT
STEAM
AFTER OPENING
THE LID



BURNS
FROM HOT
STEAM



LET STEAM
COOL DOWN
BEFORE BEEPING

LED INDICATOR TO SHOW
WHEN IS IT SAFE TO OPEN



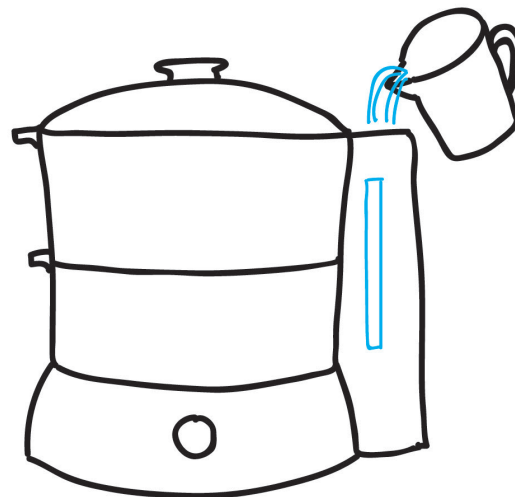
Easy
water filling



LOW WATER CAPACITY

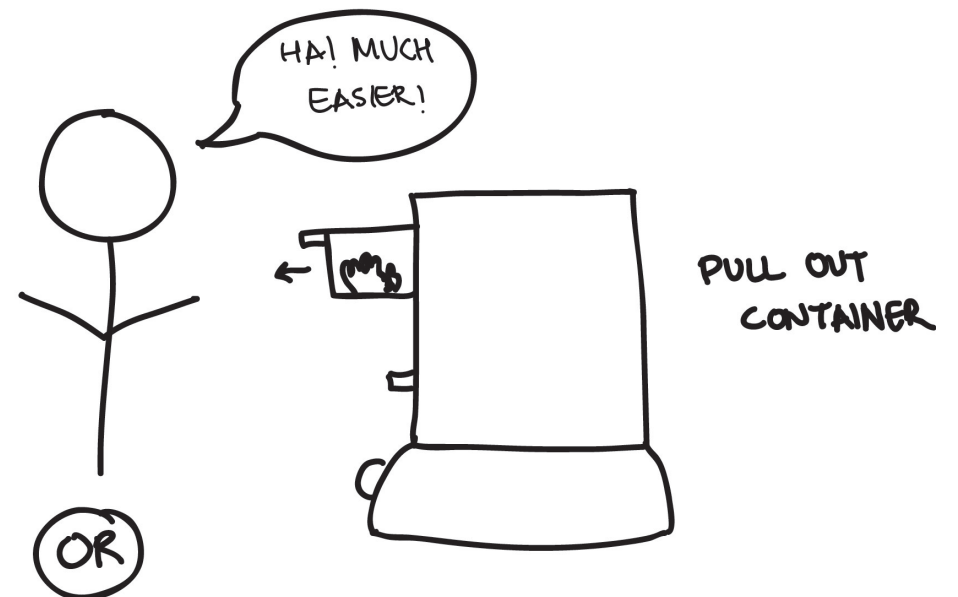
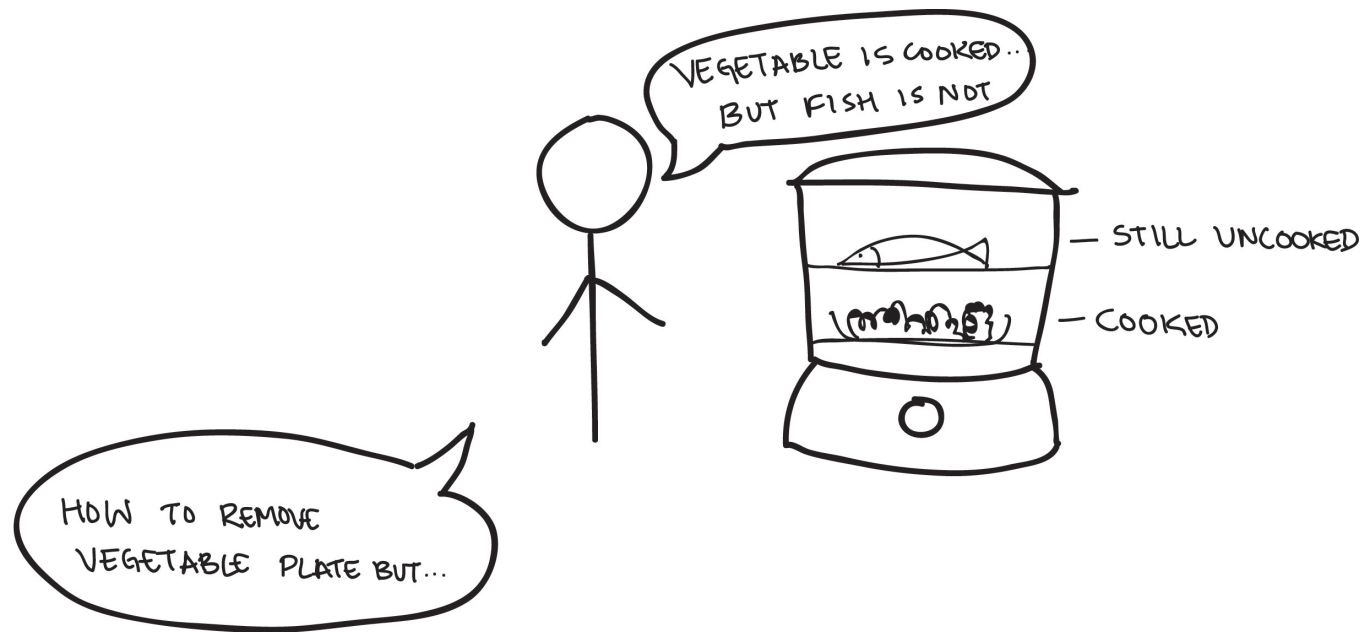


TAKE OUT
STEAM PLATES
TO FILL WATER

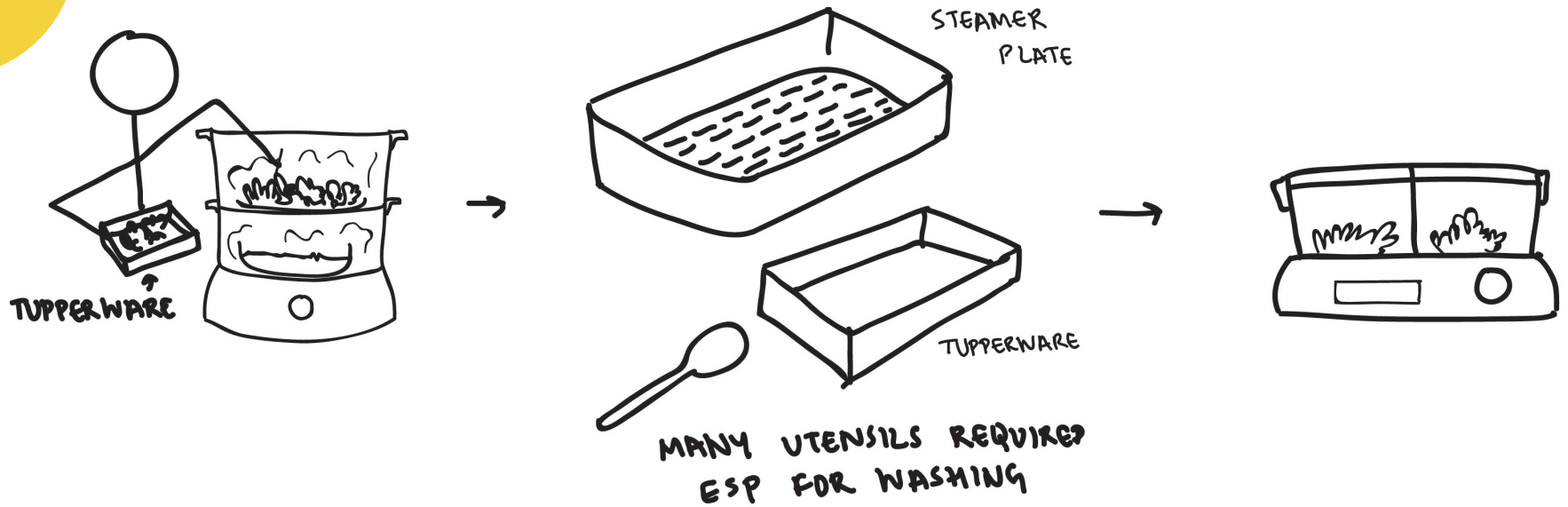


- WATER TANK ON SIDE
- NO NEED TO REMOVE PLATES WHILE ADDING WATER
- WATER GAUGE
- EASY FILLING

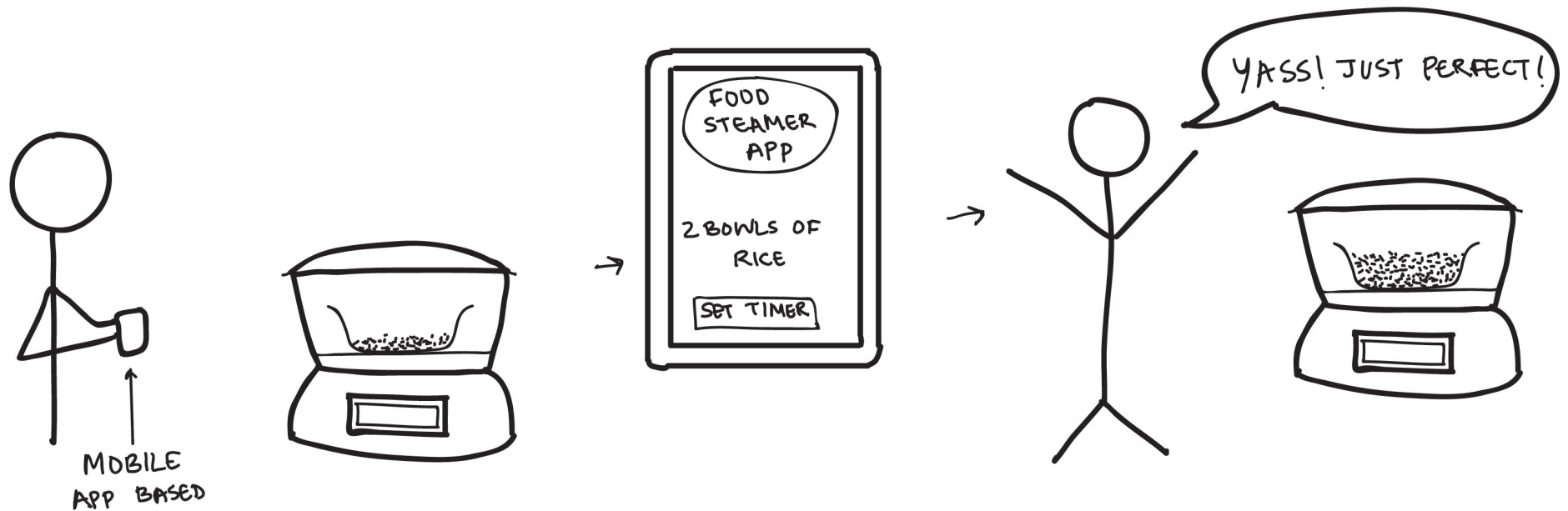
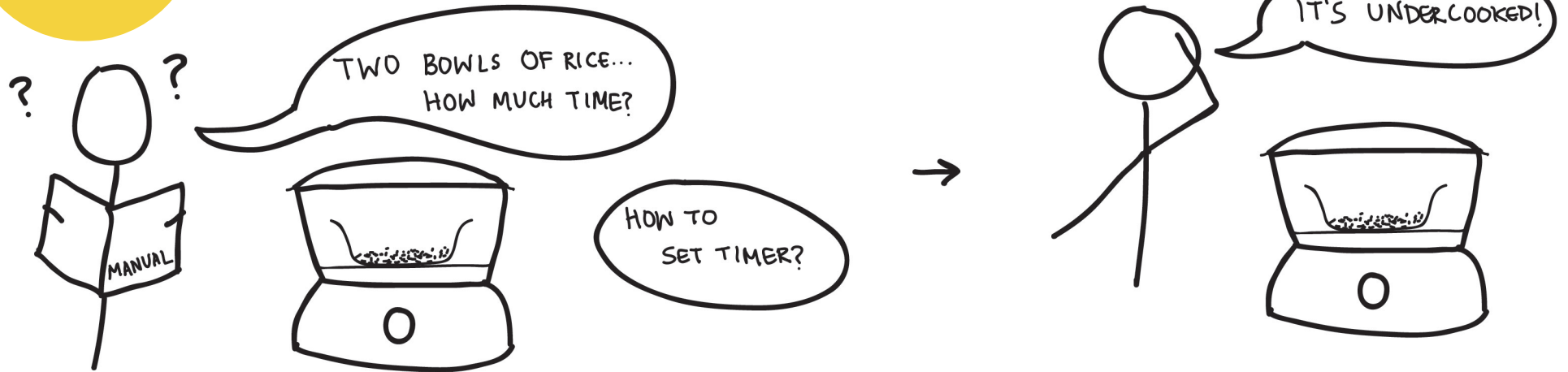
Container Arrangements



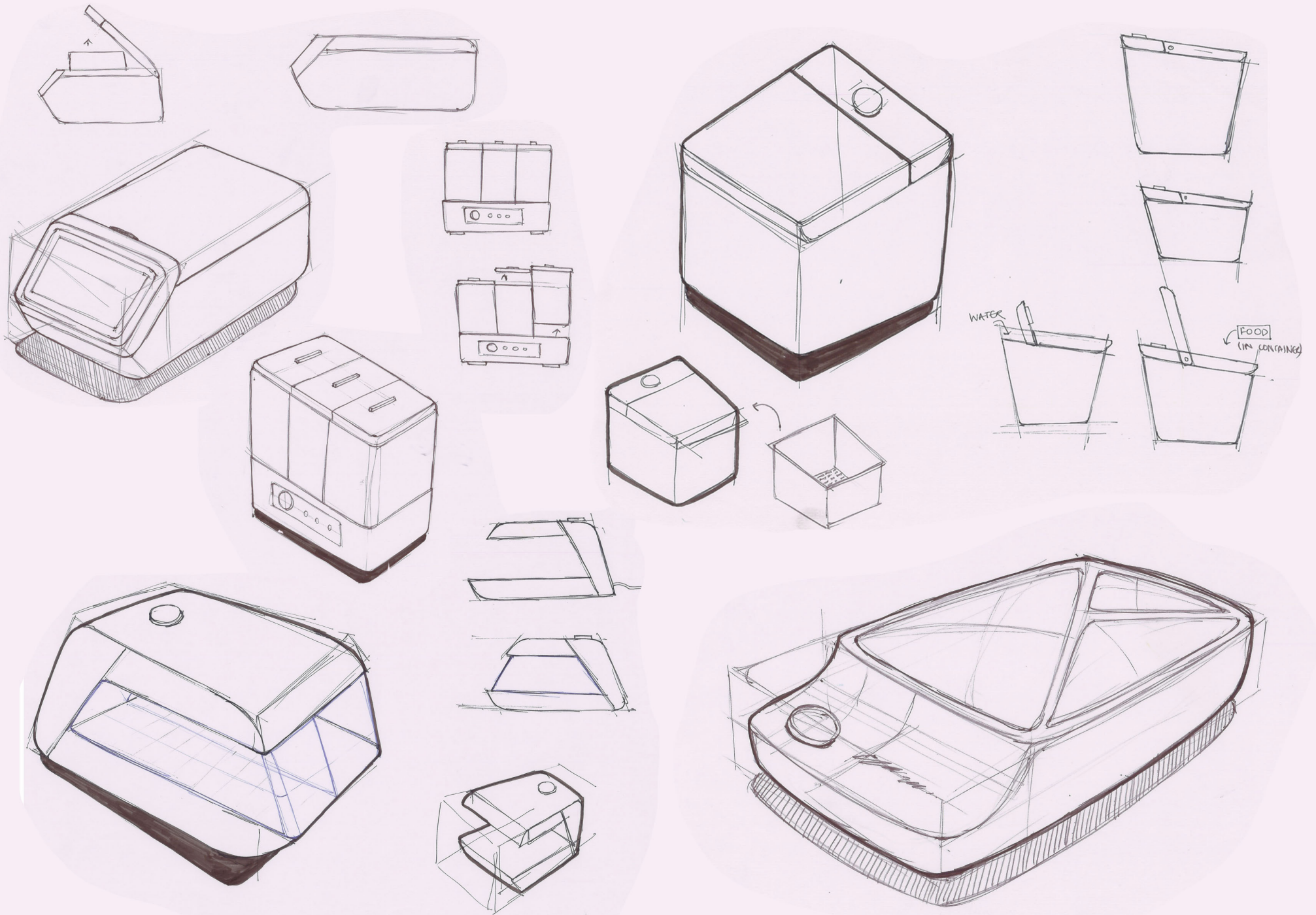
Act as a tiffin

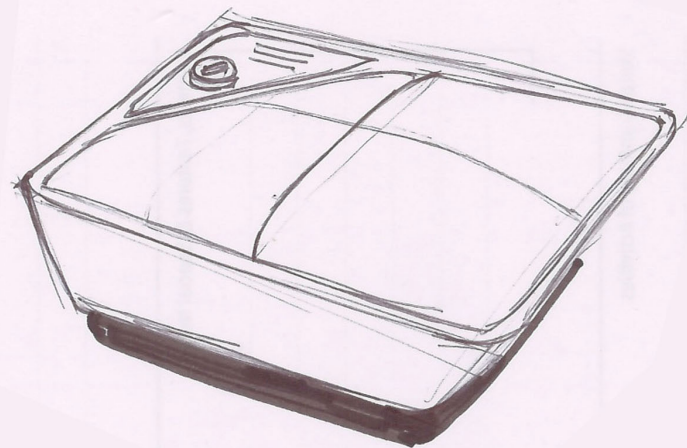
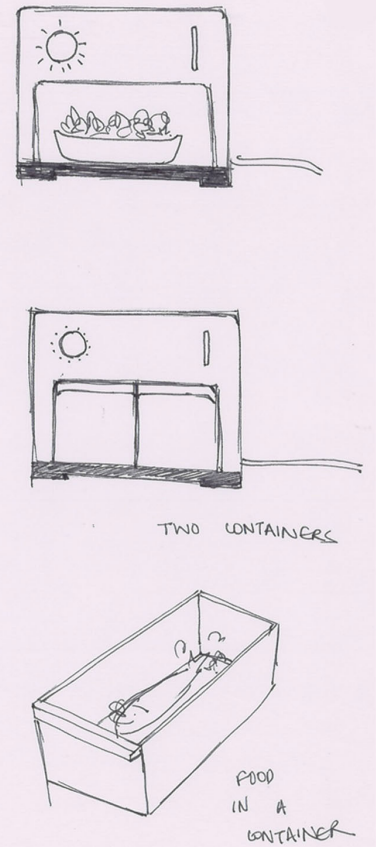
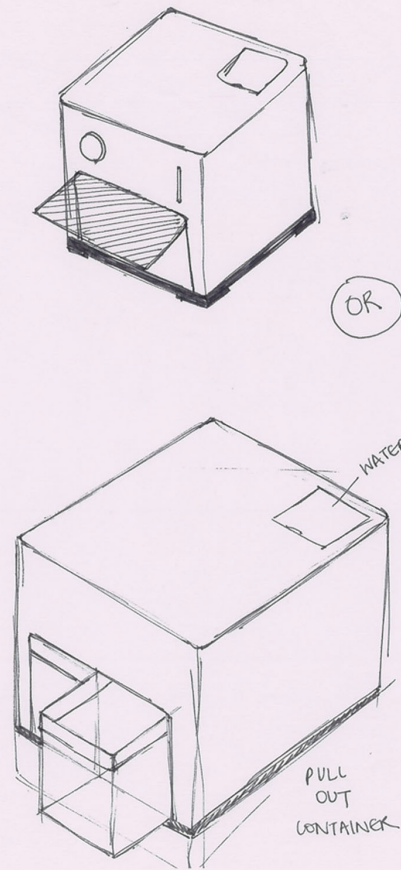
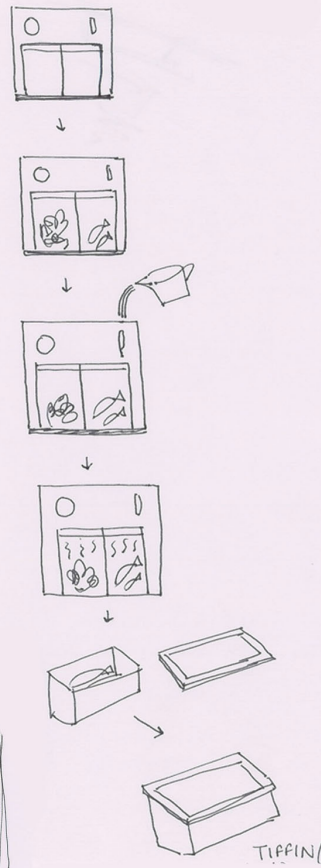
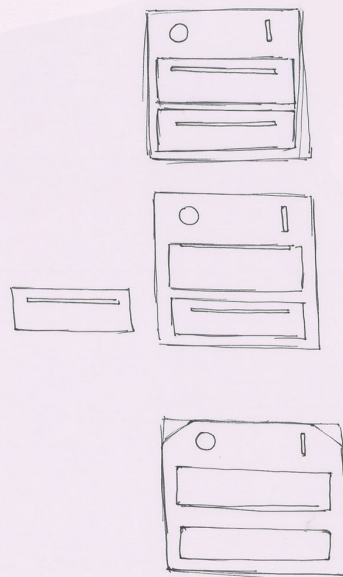
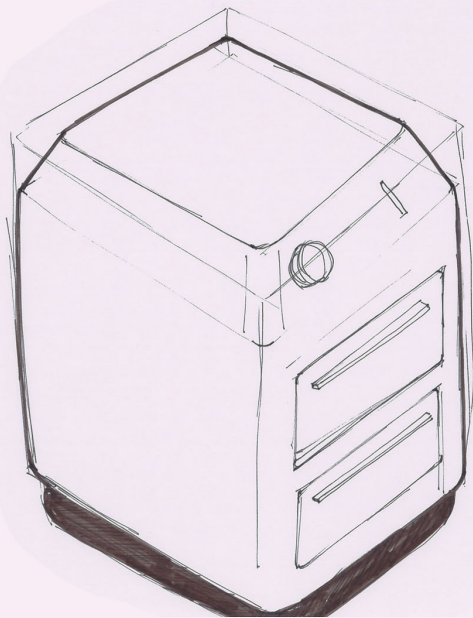
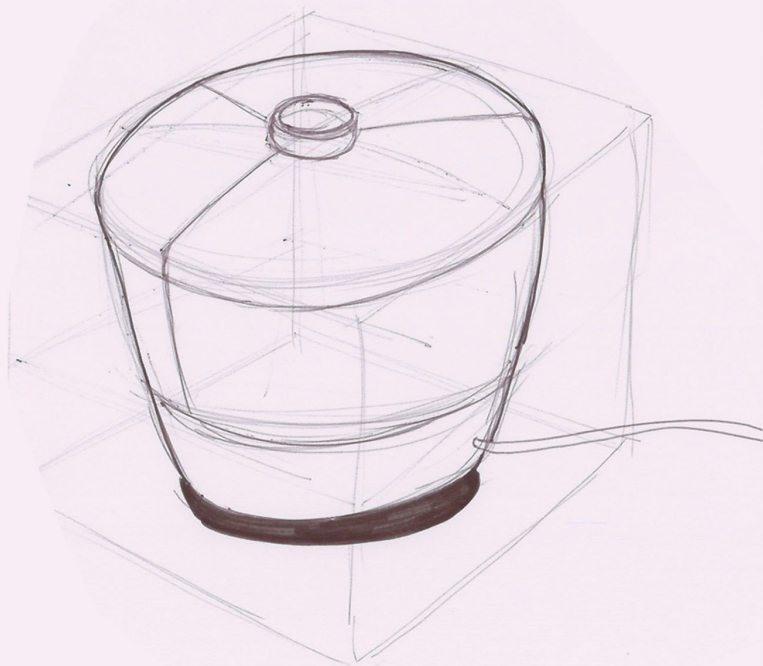


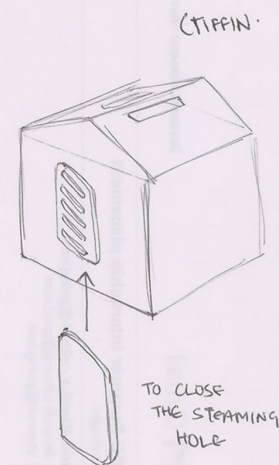
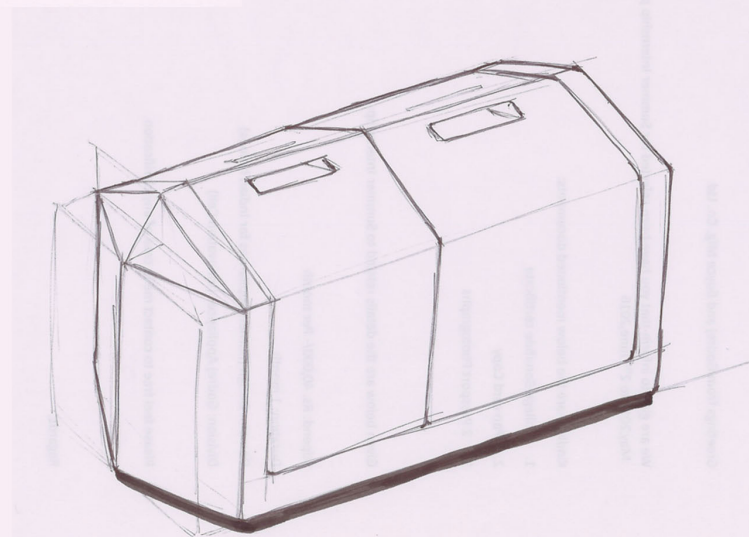
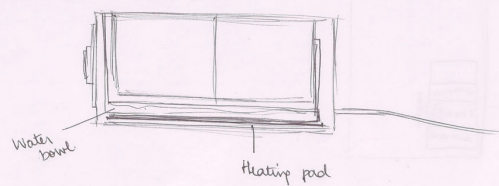
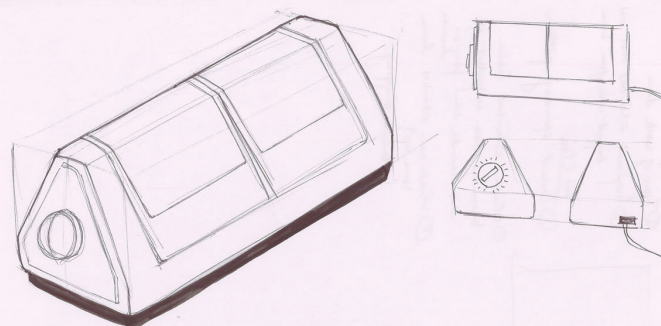
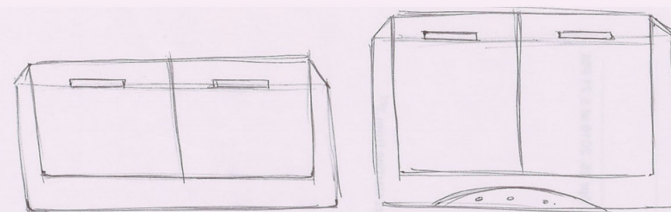
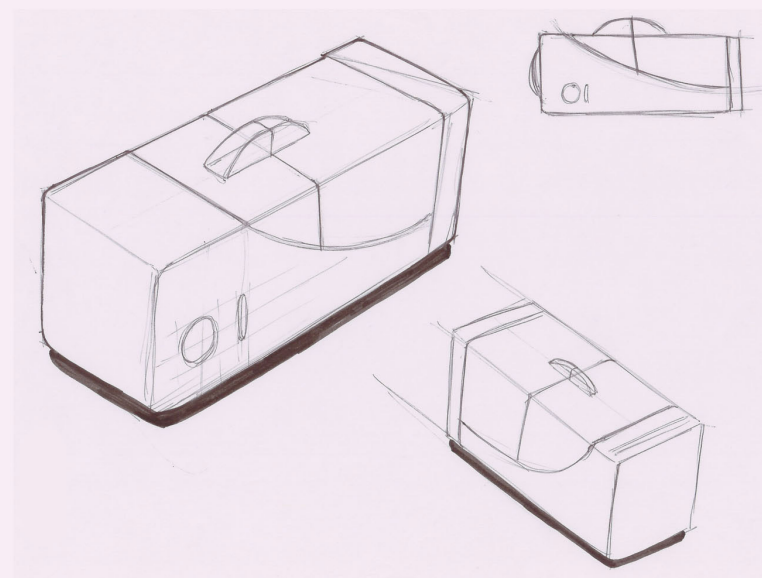
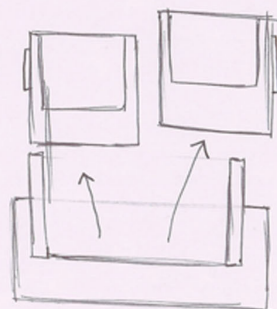
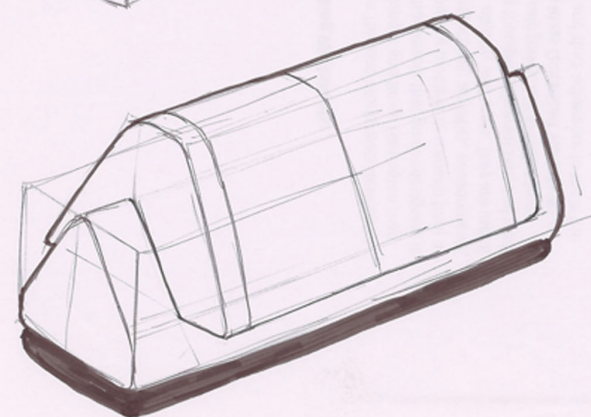
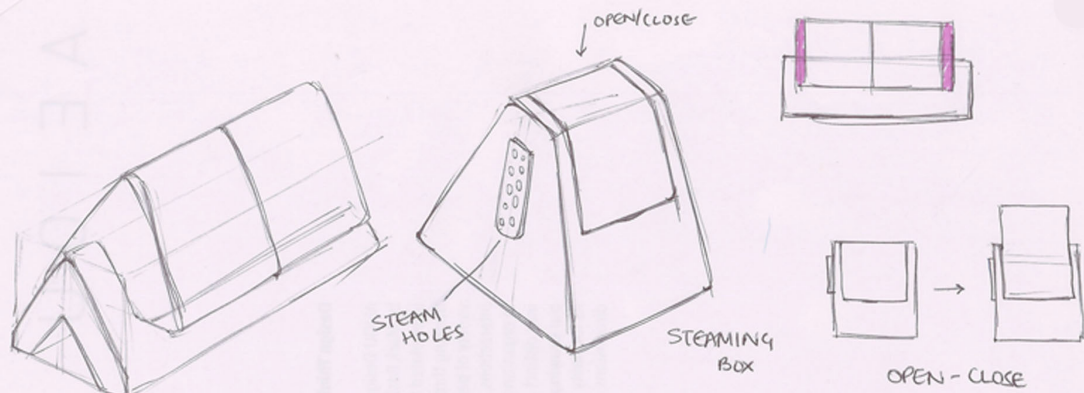
App based
electric food
steamer

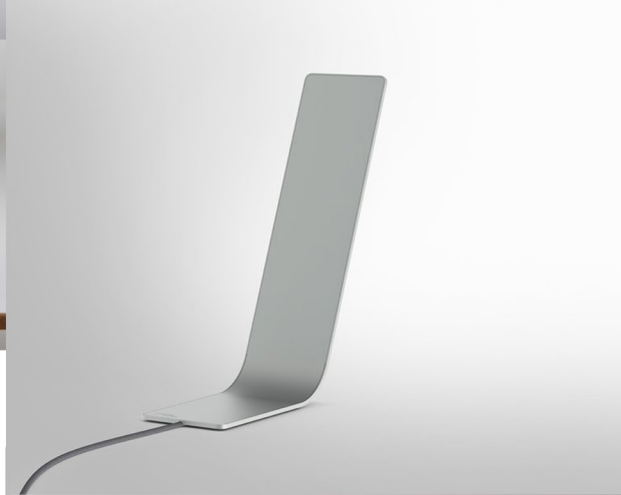


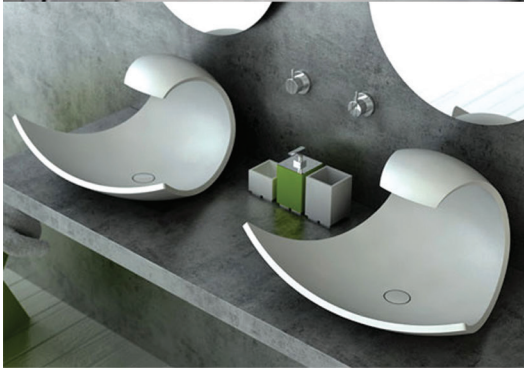
IDEATIONS



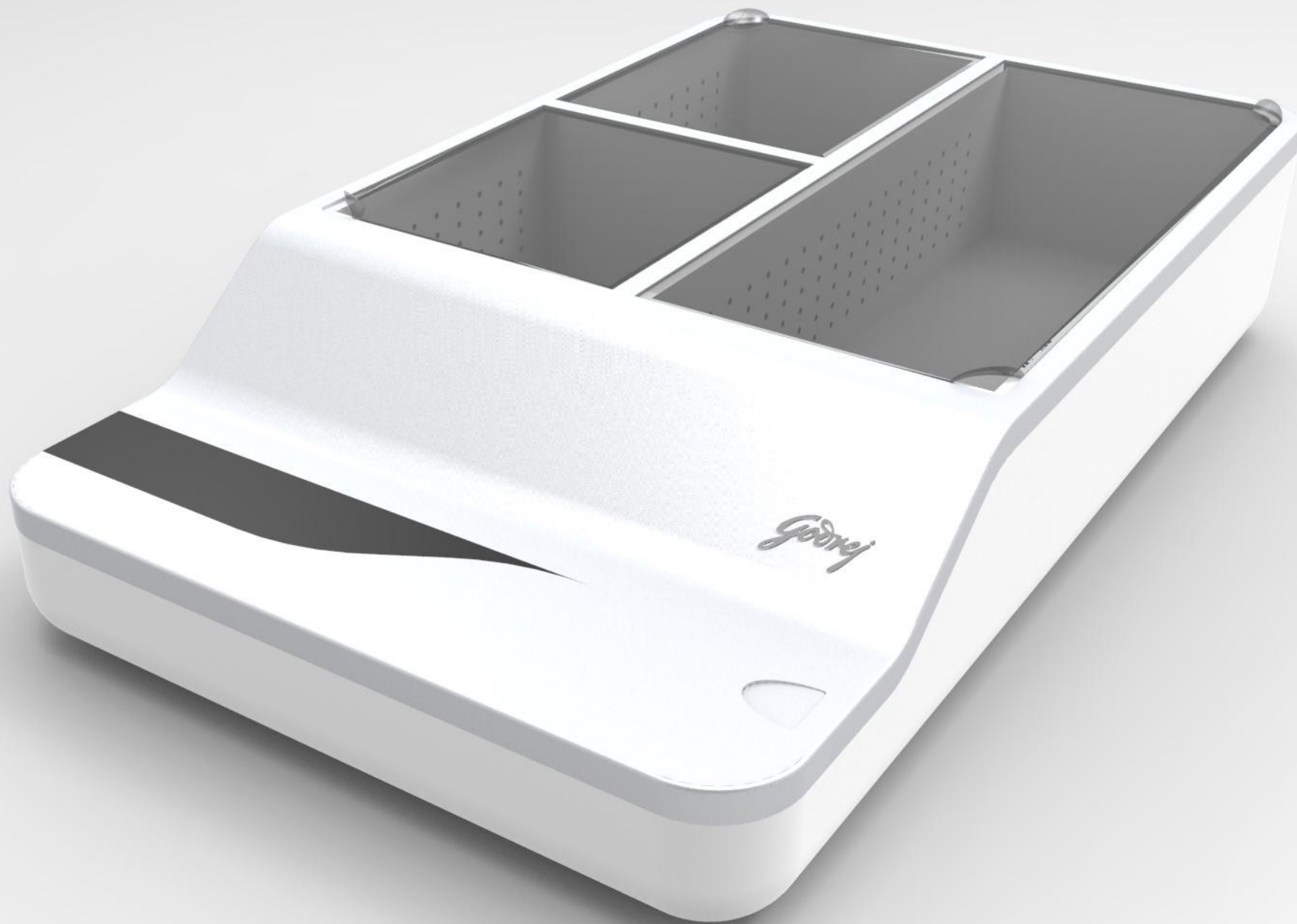








CONCEPT 1





3 Compartments

Touchscreen
App Based

- Inspired my minimalism
- Simple but different form design
- Separate compartments - separate steaming - aroma lock

Water Tank

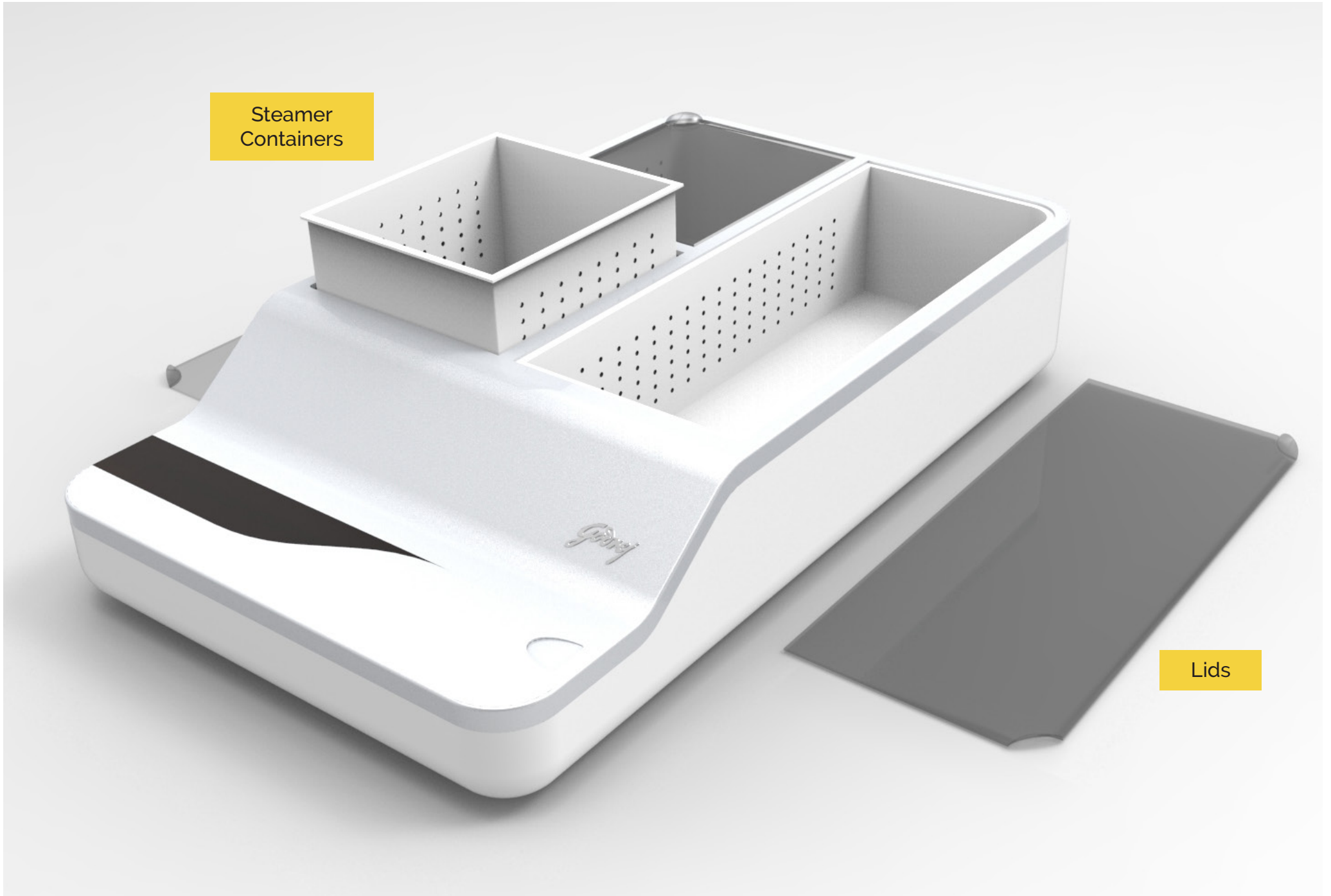


WATER TANK



WATER TANK

Slide to open and fill water
inside the tank



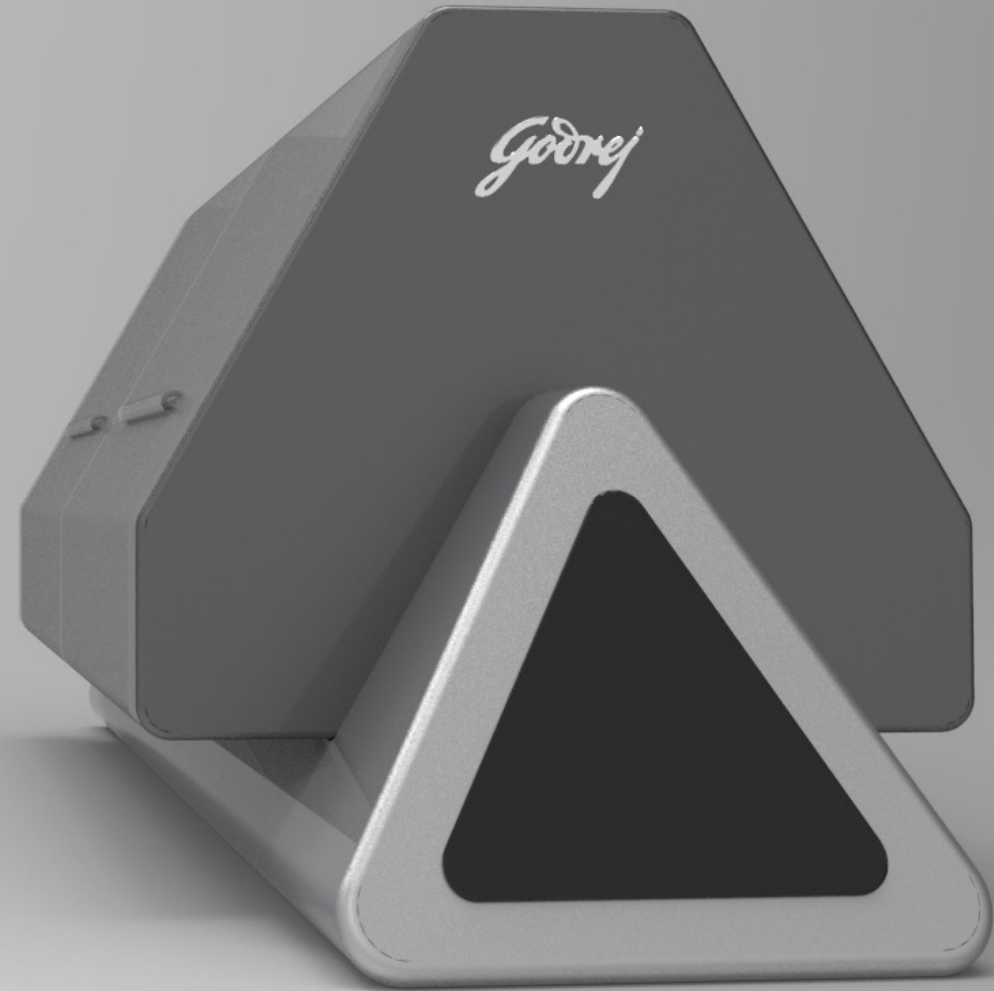
Steamer
Containers

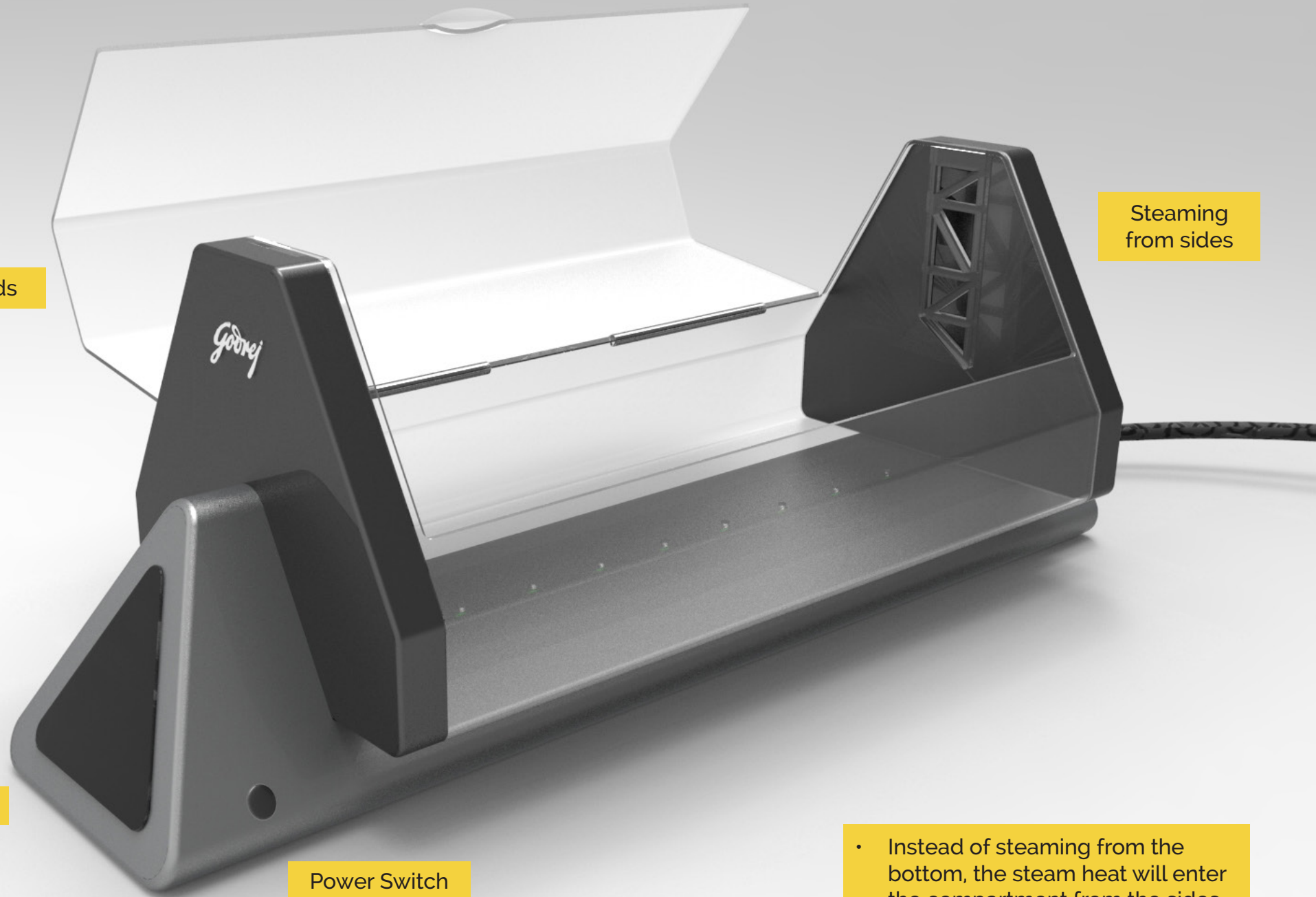
Lids

CONCEPT 2



- Futuristic and innovative form design
- Targetting a single person or a small family
- Space saving form design for a small kitchen or small apartment
- 1 or 2 food types for steaming at once





Open the lids

Steaming
from sides

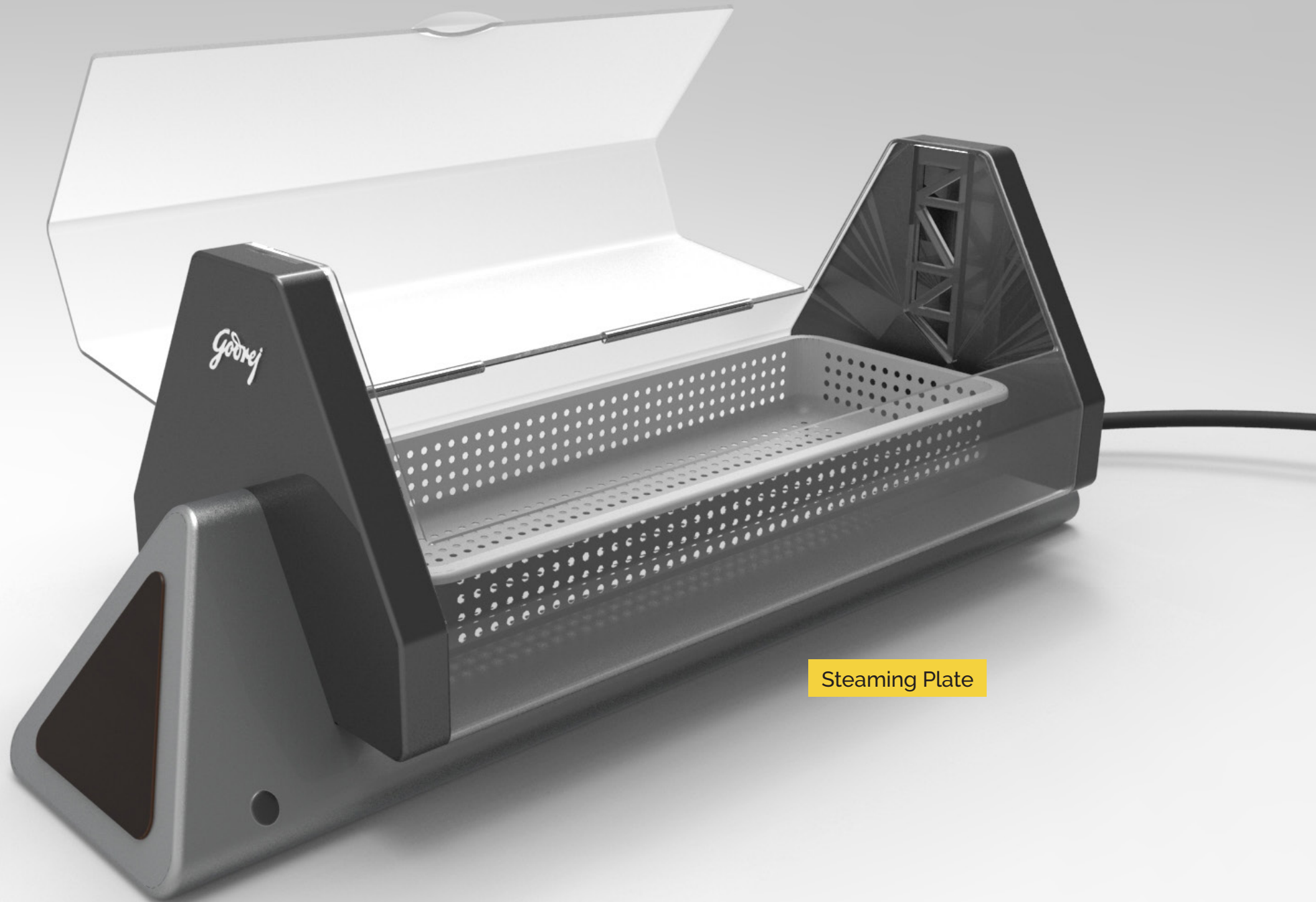
Touchscreen

Power Switch

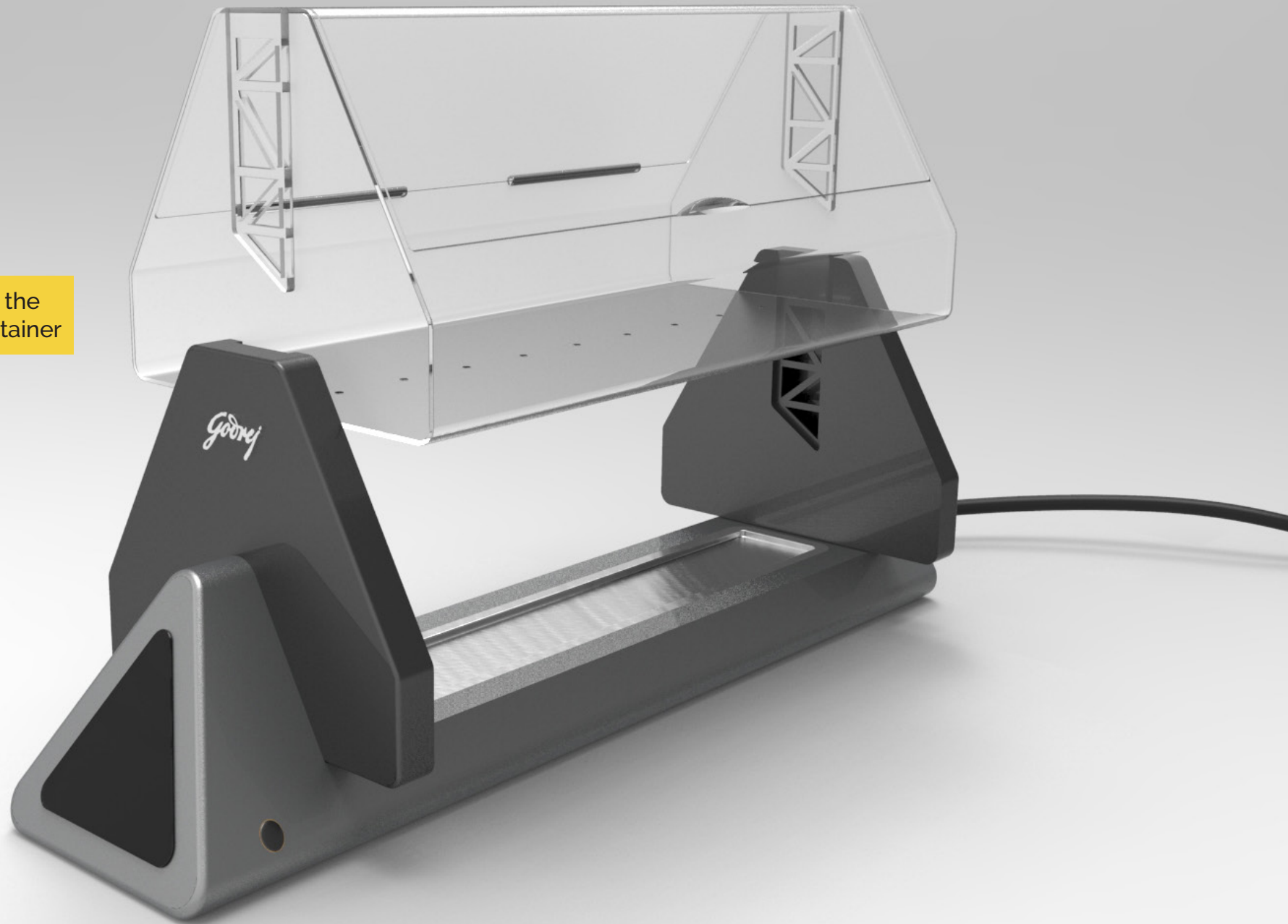
- Instead of steaming from the bottom, the steam heat will enter the compartment from the sides
- Touchscreen - app based has been used in this new concept

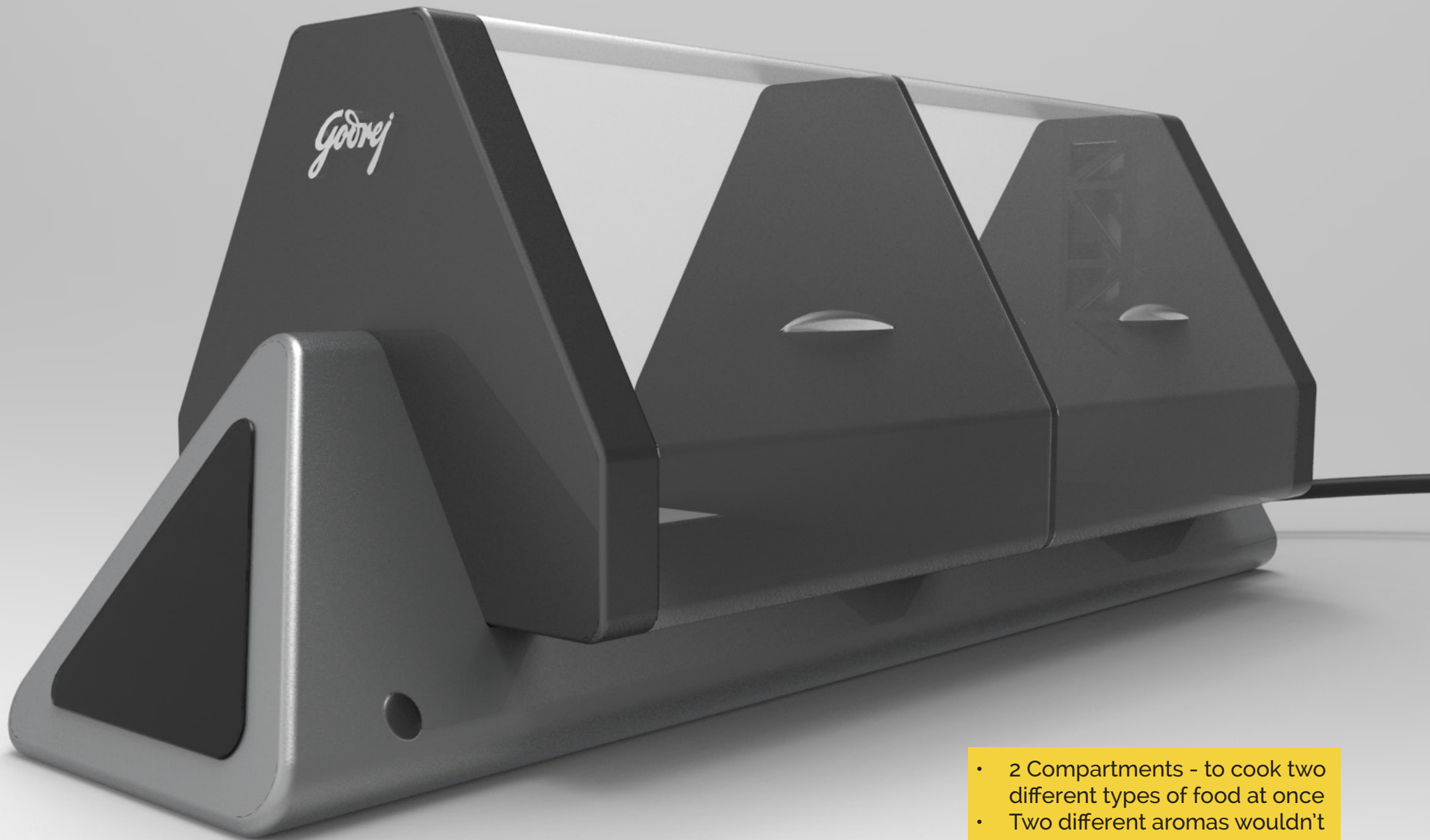


Drip Tray



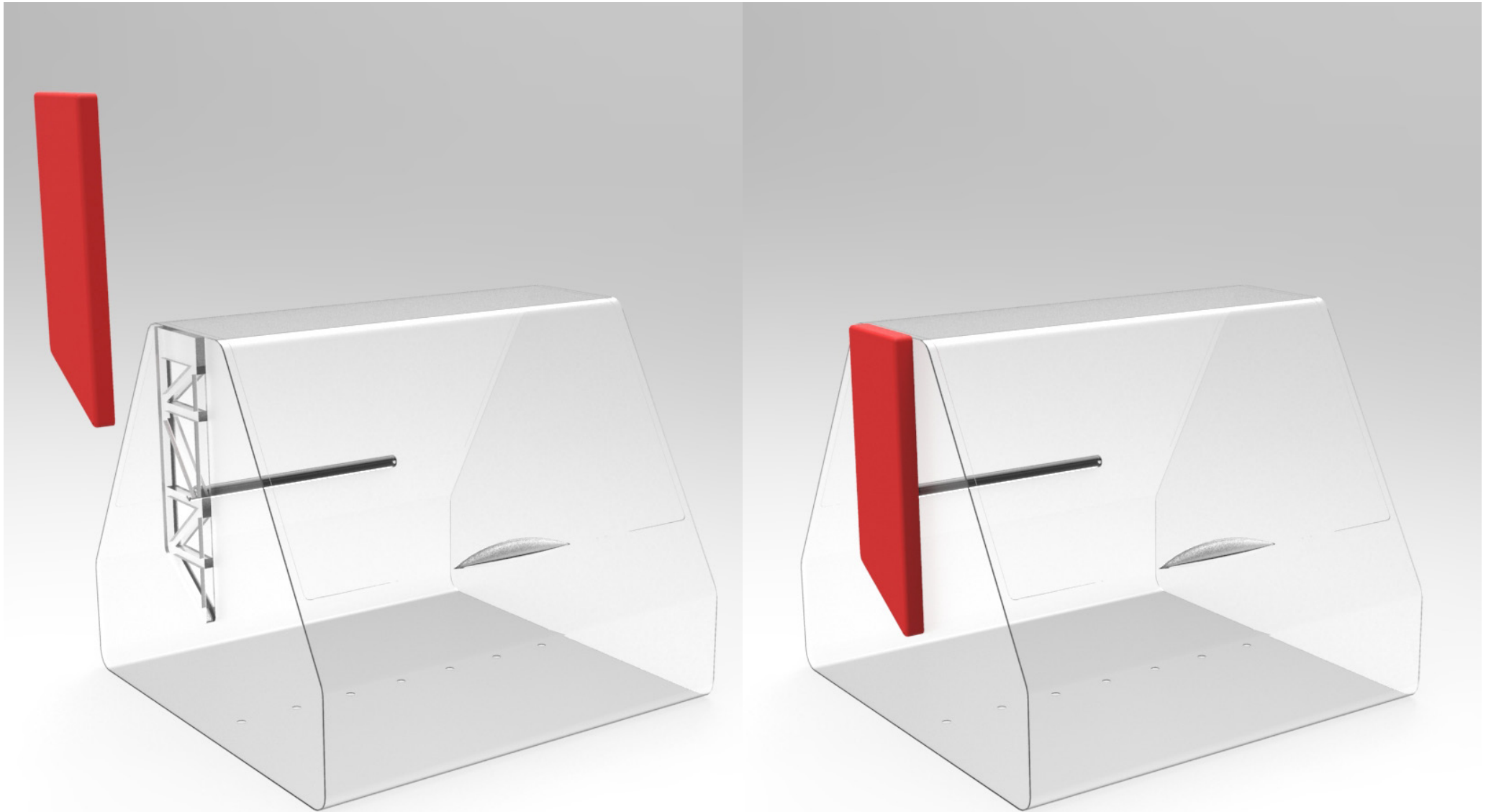
Taking out the
steamer container





- 2 Compartments - to cook two different types of food at once
- Two different aromas wouldn't mix together because of separate steaming holes





Act as a tiffin



Mobile App Based - Interface Design

FIN.

