

Desgin Studio 4
DSGN-3521-2
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Grouop 4
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Redesign of Popcorn Popper



In 1893, Charles Cretors designed an automated roasting machine, it became the first automated machine that could pop popcorn uniformly in its own seasonings.



In 1978, Presto introduced the Popcorn Pumper, a popper for consumer use in the home, which used hot air blown up through the kernels. By cooking without oil, it reduced the calories and fat in the finished product. It was also faster and easier than pan fry popping.



Product research

History of Popcorn Maker



Product research

Commercial popcorn machines are commonly found in movie theaters and carnivals, producing popcorn in a pan of hot oil, which has approximately 45% of its calories derived from fat.

Hot air popcorn poppers appeared for home use in the late 1970s, which produce popcorn with only 5% of its calories derived from fat. Pre-packaged microwave popcorn, companies adding diacetyl, PFOA, and trans-fats into the packages

Popcorn Market & Trends

User's learning costs (competitors)

Microwave	Easy
Popcorn popper	↓
Stove	
Oven/Toster	Hard

Popcorn Health level (competitors)

Popcorn popper	High
Microwave	↓
Stove	
Oven/Toster	Low

Target User



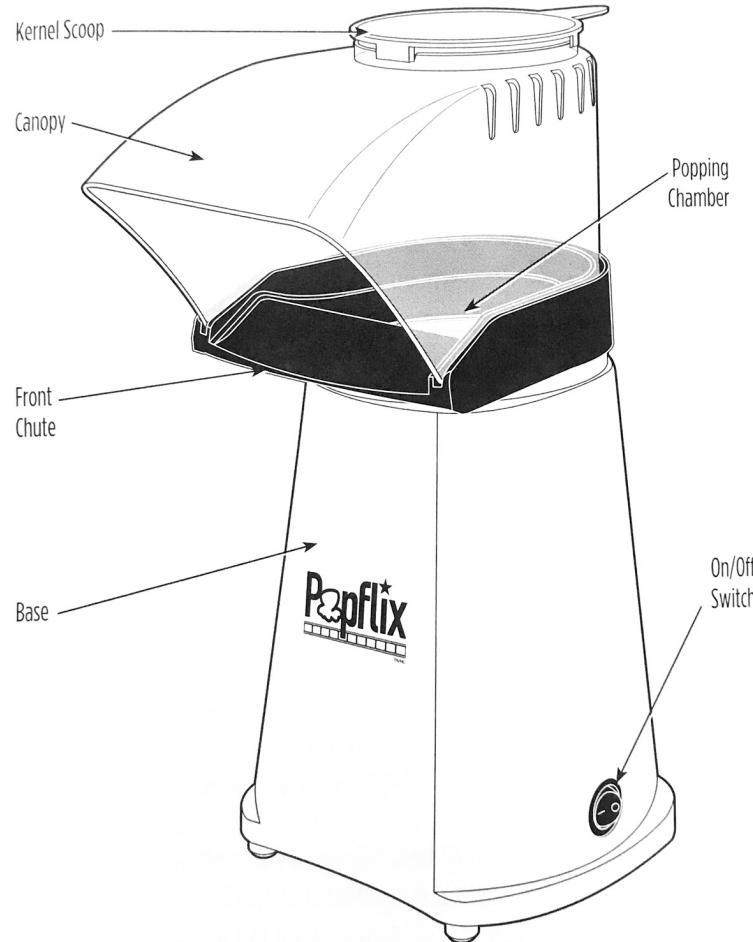
Product research

Key words

Families
Party
For Kids
Watching Movies

Kids
Relaxing
Movies
Happiness
Reunion
Make Memories





Components



**Product
research**



Key point:

Canopy overheat (Safety problem)

No flavour adding function

Hard to clean the popping chamber

No interaction (instruction for user;
sound alarm)

Extreme usage

Dangerous hot air flow at front chute

Survey data:

Interview 6 people, 2 group members

83% was spill out kernels during the process
add to the popping chamber.

100% was slightly burn their hands by Canopy
- line drawing here.

50% burning the popcorn .

50% leave kernels not popped inside chamber.



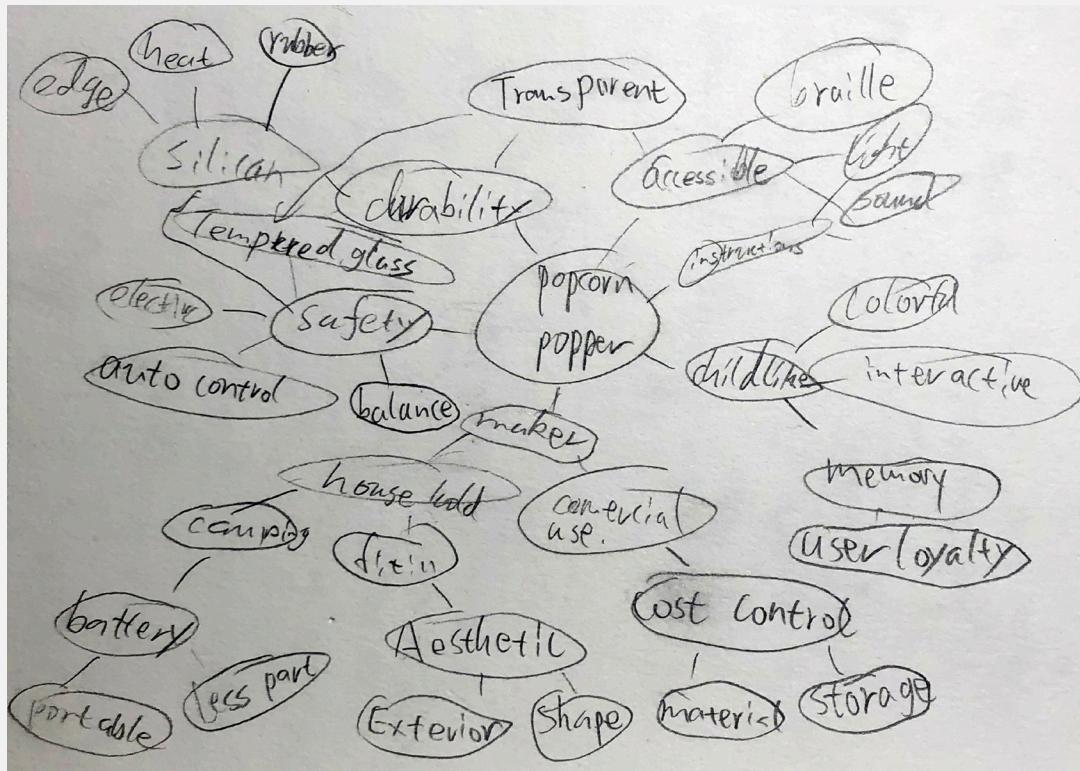
Design Conceptualization

Main Issue



Design Conceptualization

Brainstorm



Key words:
Accessibility
Durability
Safety
Responsibility
Childlike
Practical
Memorable

Desgin Direction:
Minimalism
Futurism
Popart

Moodboards

Design Conceptualization

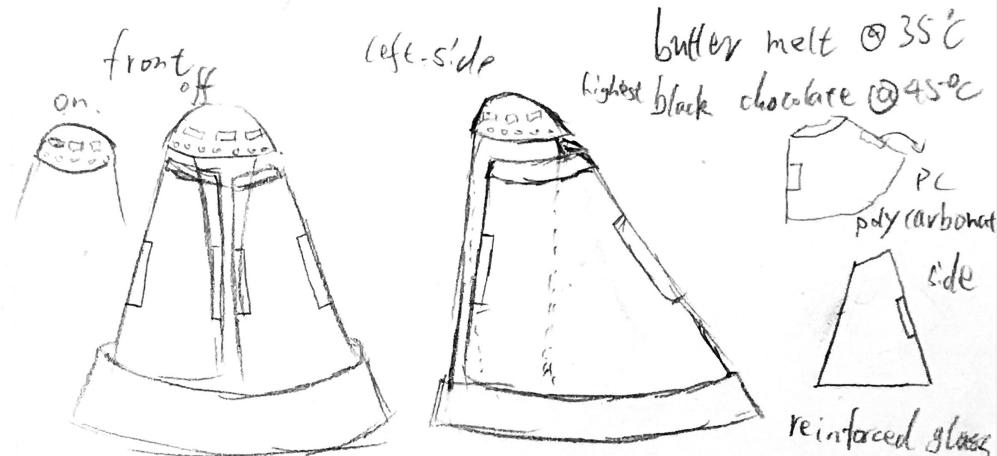


The moodboards are arranged in a grid:

- Row 1:**
 - A black square with a white abstract logo.
 - An image of a white cube with a red heart-shaped cutout.
 - A white toilet paper roll with a black spiral graphic.
 - A digital clock with a marble pattern and a digital display showing 23:15.
 - A wall sconce with a brass ring and a globe.
 - A minimalist poster for Christopher Nolan's *Interstellar*.
- Row 2:**
 - A collage of various interior and exterior scenes.
 - A Braun SK55 record player system.
 - A collage of various design elements including a yellow 'focus' graphic.
 - A collage featuring logos for Haendiges Corporation, Monocle, and Roksanda.
 - A moodboard titled "Moodborad-Mi..." from cocorrina.com.
 - A collage of various interior and exterior scenes.
- Row 3:**
 - A collage of various interior and exterior scenes.
 - A Braun SK55 record player system.
 - A collage of various design elements including a yellow 'focus' graphic.
 - A collage featuring logos for Haendiges Corporation, Monocle, and Roksanda.
 - A moodboard titled "Moodborad-Mi..." from cocorrina.com.
 - A collage of various interior and exterior scenes.

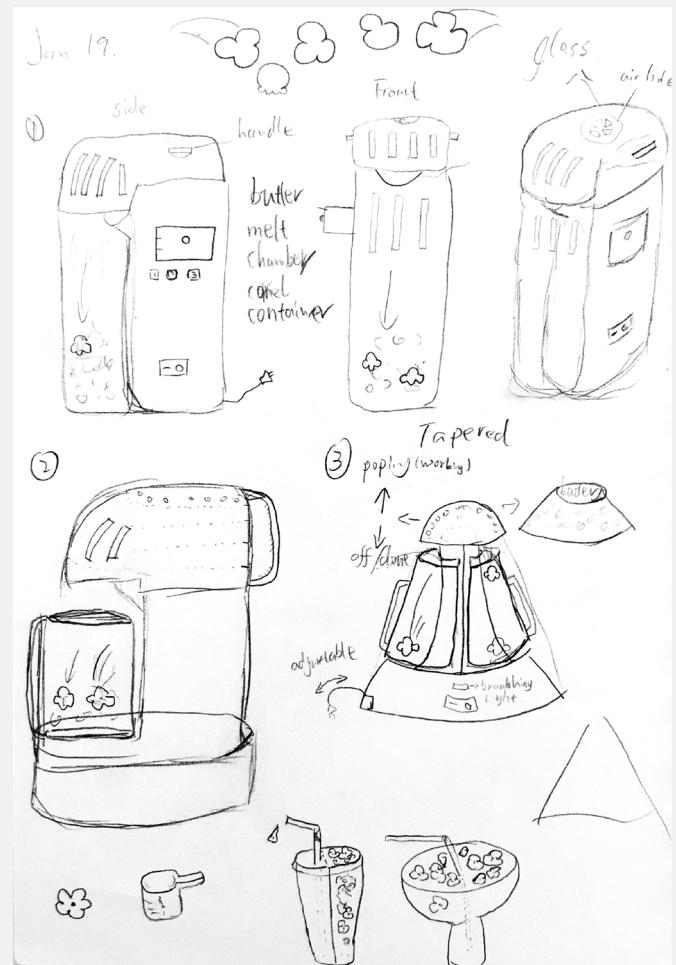
Each card includes a title, a brief description, and interaction buttons for '回复' (Reply) and '收藏' (Save).

Jam2 Concept → User engagement



- ① temperature sensor → heating chamber
- ② additional heater under two containers. (like coffee maker keep cup warm)

Ideation stage 1



**Design
Conceptualization**





Design Conceptualization

Key Feature:

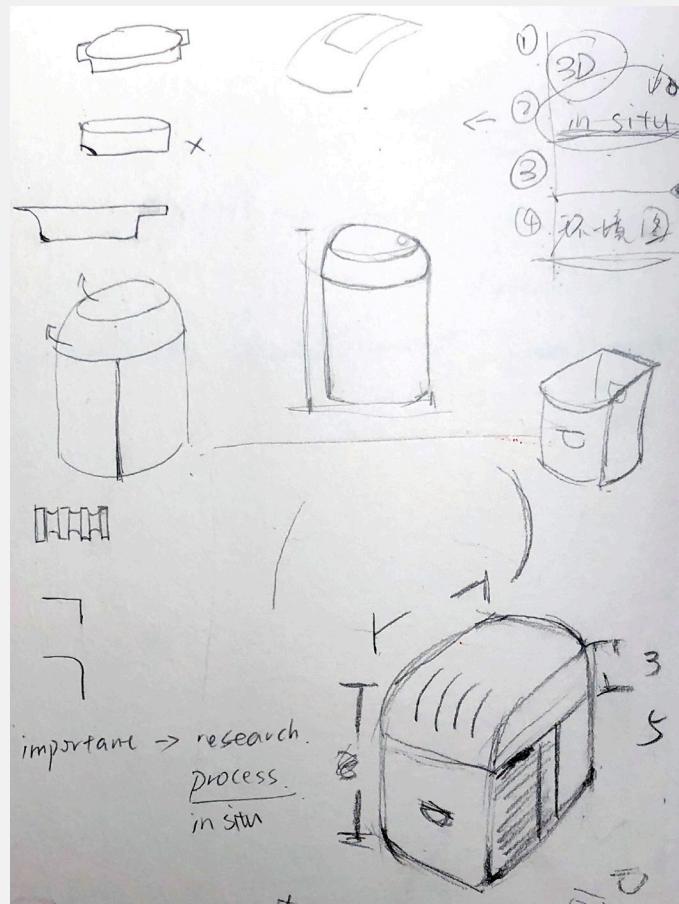
- 2 popcorn container
- 2 kernel container
- 2 flavour heating pad
- 1 press down switch & measure scoop in one component
- Mistake-proofing container removal method



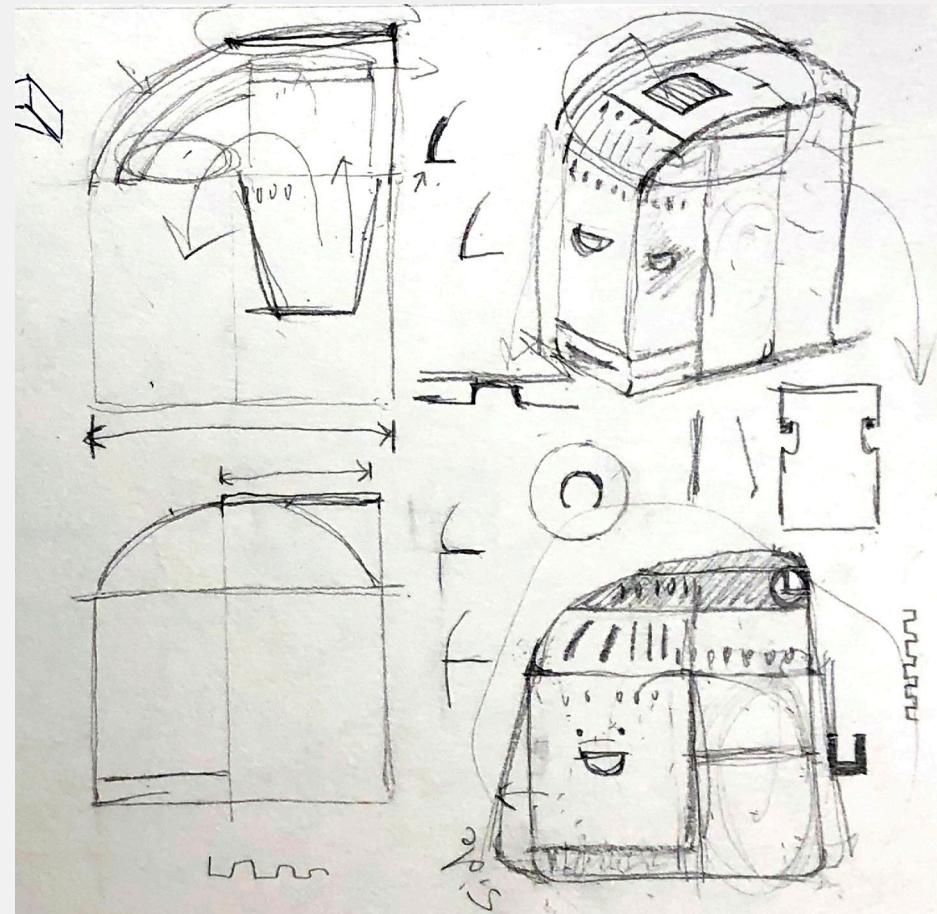
Mock-up stage 1



Design Conceptualization

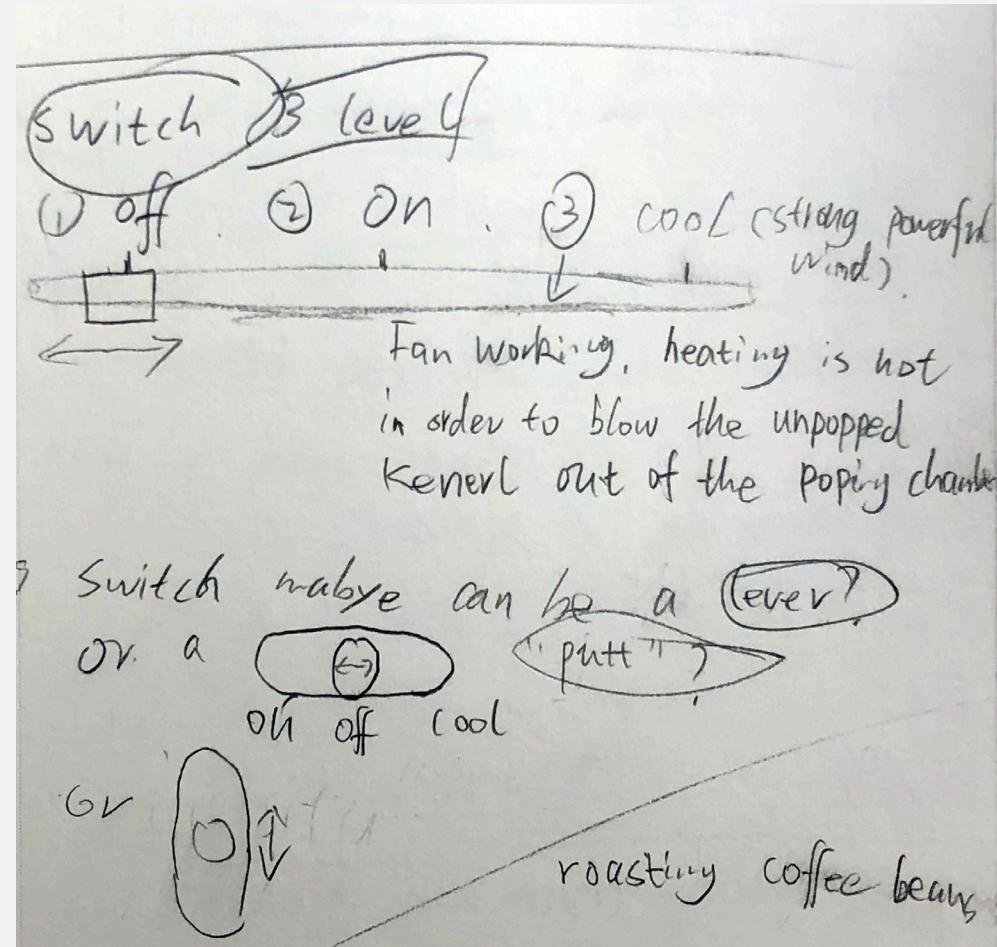
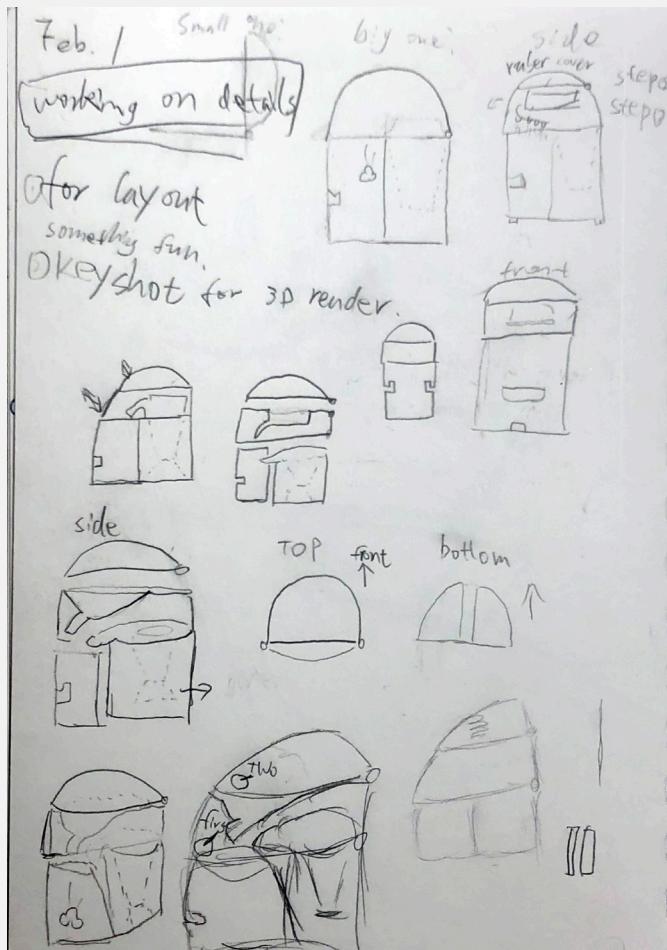
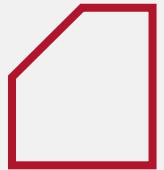


Ideation stage 2



Ideation stage 2

Design Conceptualization





Mock-up stage 2 & research

Material use:

Body&Conopy:**HDPE**

Seasoning chamber: **Aluminum**

Fully recyclable

Thermal Conductivity:

Aliminum: 237 W/mK(Fast heat)

Iron: 80 W/mK

304 stainless steel: 16.2 W/mK

PC: 0.19 W/mK

HDPE: 0.5 W/mK(Less heat conduction)

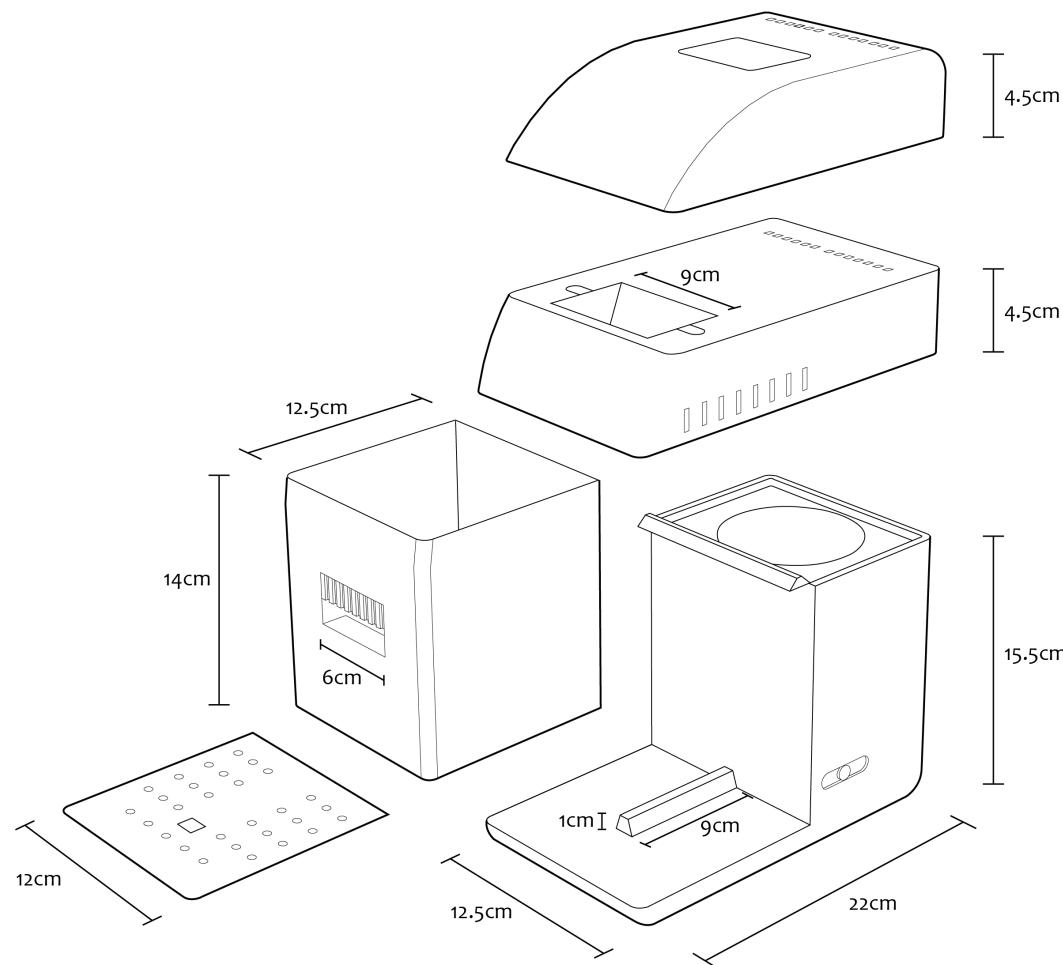
Butter melt@35°C

Black Chocolate melt@45°C

White chocolate melt@40°C

**Design
Conceptualization**





Design Execution

Orthographic view



Design Execution

3D model





**Design
Execution**

Name & logo

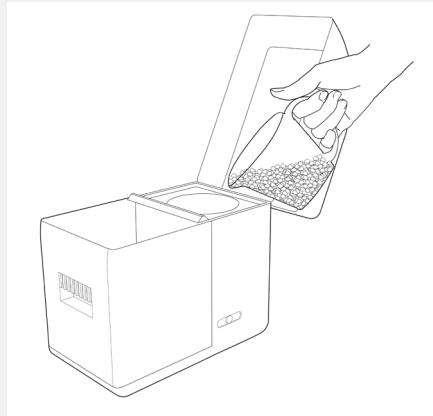


PopBrick   

Multifunctional hot-air popcorn popper

In situ

Design Execution



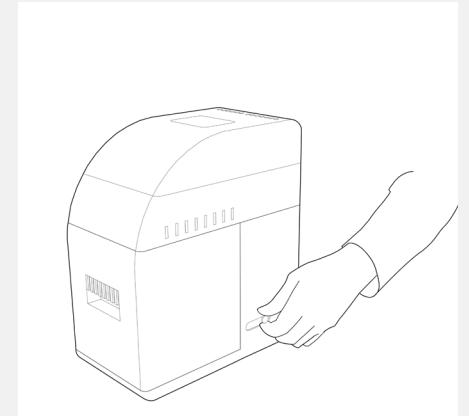
1.Adding kernel



2.Adding flavour



3.Press to pop



4.Pull to clean
& cool down