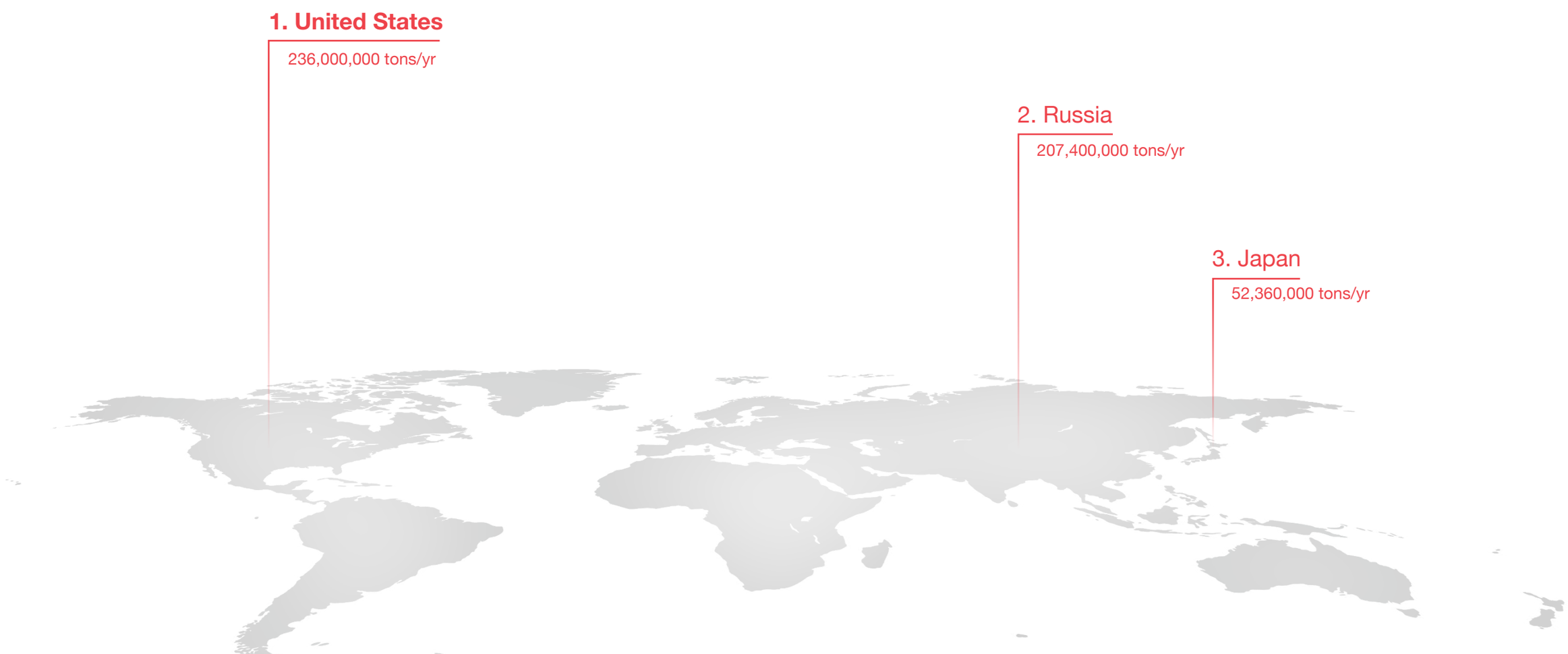
HUB: All Your Kitchen Appliances in One Device

Rotimi Solola: Senior Thesis 2015

We throw tons of products away each year



I set out to create a product platform that demonstrates Product Longevity by empowering consumers to take an active role in prolonging the life of products.

To Design for Longevity, Products should be:

Environmentally Responsible :

Making products consumer serviceable gives people the ability to service their products when they stop working over a period of time.

Economically Profitable :

Allowing for Part-share modularity creates an ecosystem that means consumers can buy only 1 base unit (HUB) but attach an expanding amount of sub units to leverage the same internal components.

Consumer Desirable :

Creating a high-end and desirable product that appeals to target consumers. In this case the target consumer is one who has a small space living situation

Target Consumer

Independent :

Men & women that live either alone or with a significant other or roommate

Small Space Living :

Because these individuals are independent, they don’t require a lot of living space.

City Dweller :

Mid—High Income individuals with a desire to live inner city where prices are high, & space is limited.

Design

Timeless :

A product designed for longevity has to last for generations, so the design should as well.

Efficient :

The form should respect the function.

Approachable :

The complexity of product repair can be very intimidating to consumers. So the form of this product should be inviting.

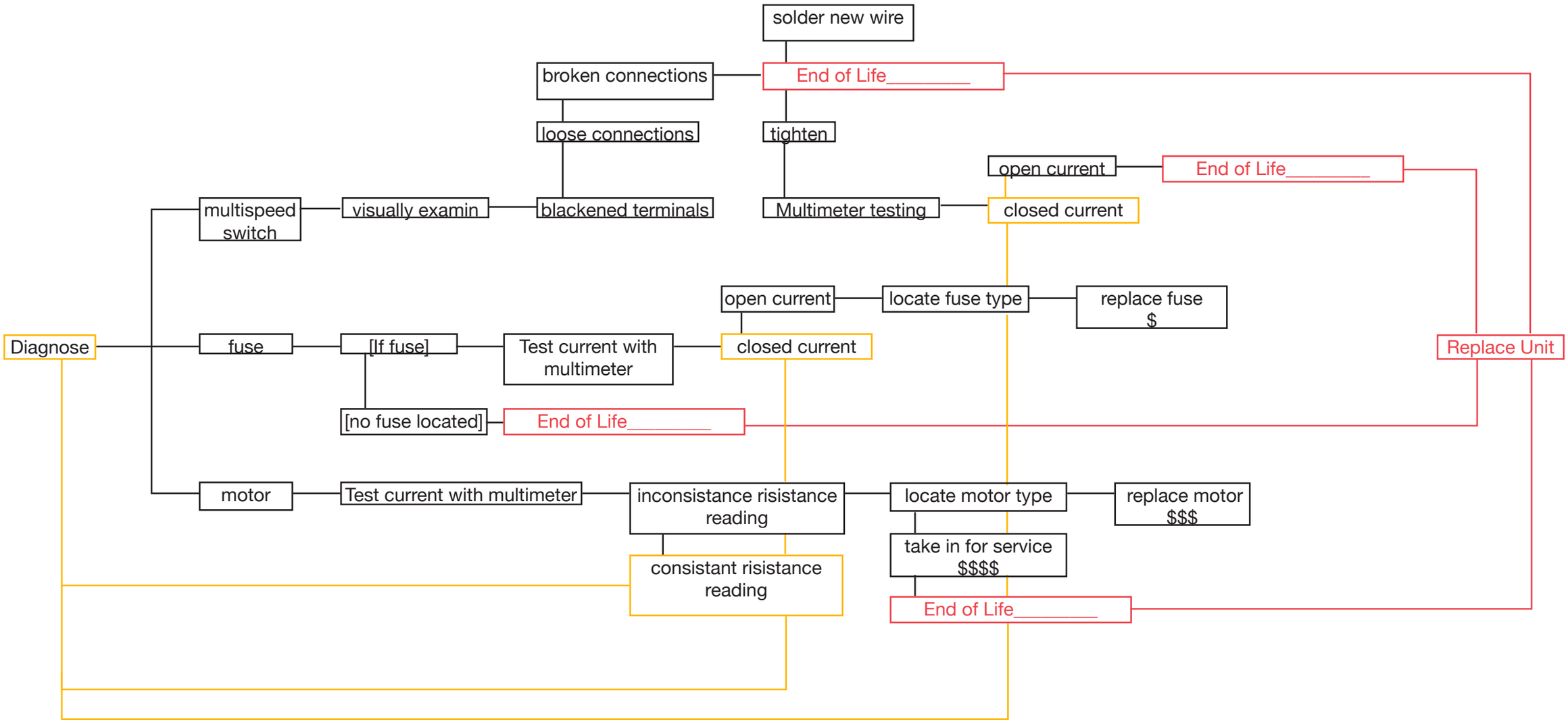
Now the fun starts:

In order to design a system that allows consumers to better understand how to repair their products, I first needed to understand the current process for fixing a product is. I started with a fairly simple device (blender) and through research, product analysis, and reverse engineering, I mapped out the process one would take to diagnose and fix a blender (Figure A).

Based on what I learned, I was able to re-map the process to create a more user-friendly approach to diagnosing and fixing a blender. This approach (figure B) directly influenced the functional design of the HUB unit.

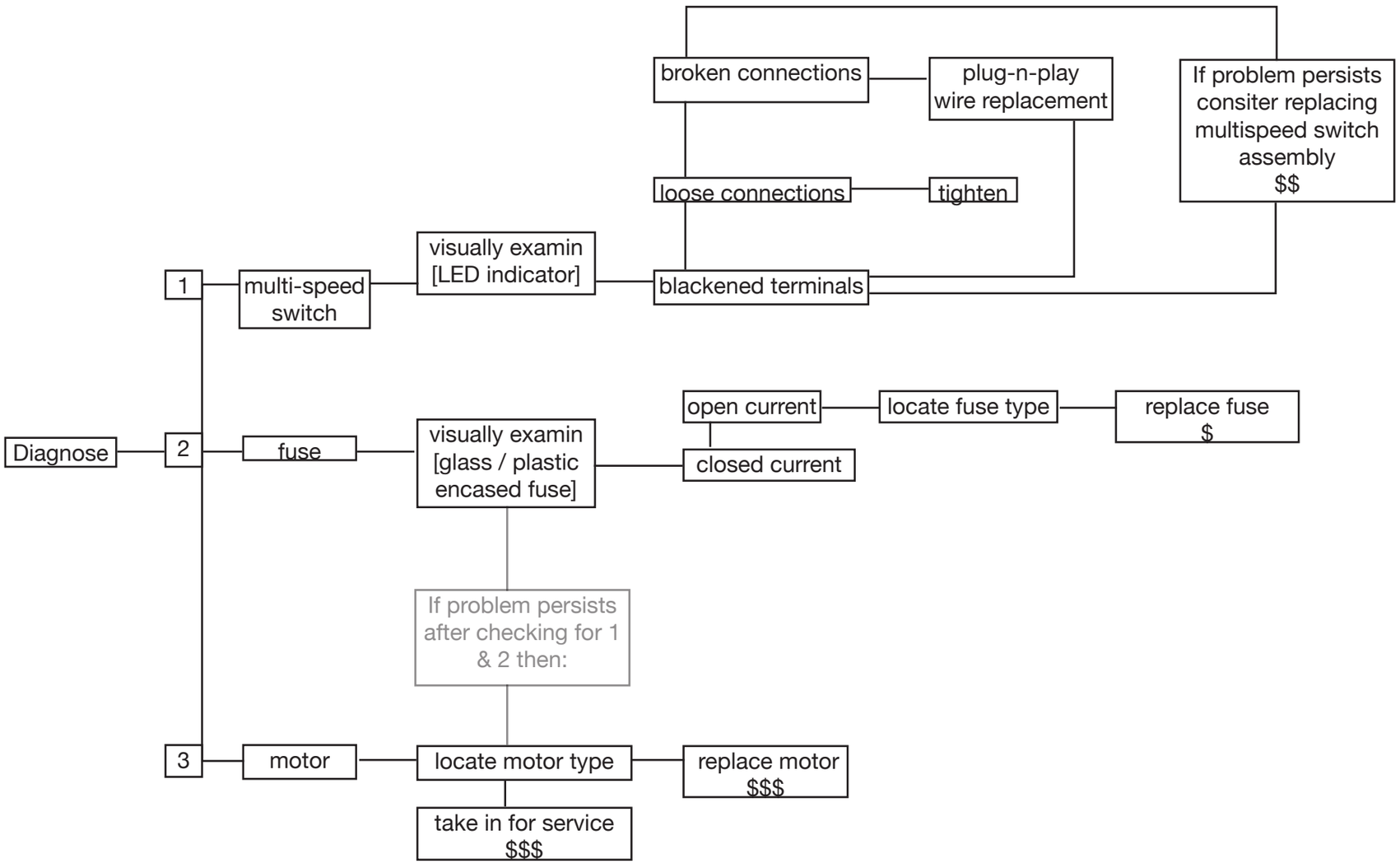
Current Process to fix a blender

figure A



http://home.howstuffworks.com/how-to-repair-small-appliances5.htm

Consumer-Optimized Process to fix a blender
figure B



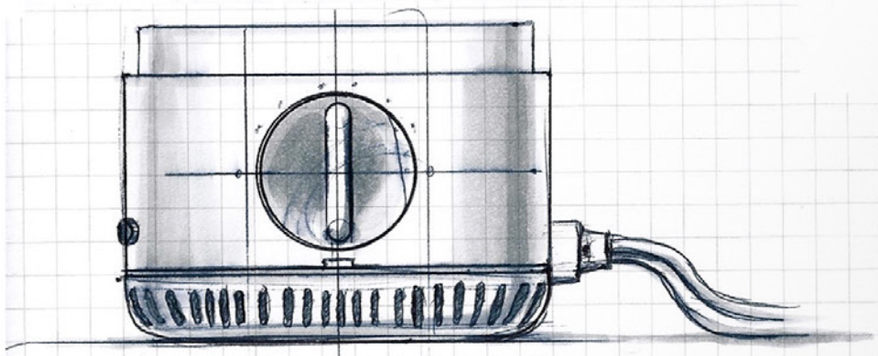
What I learned:

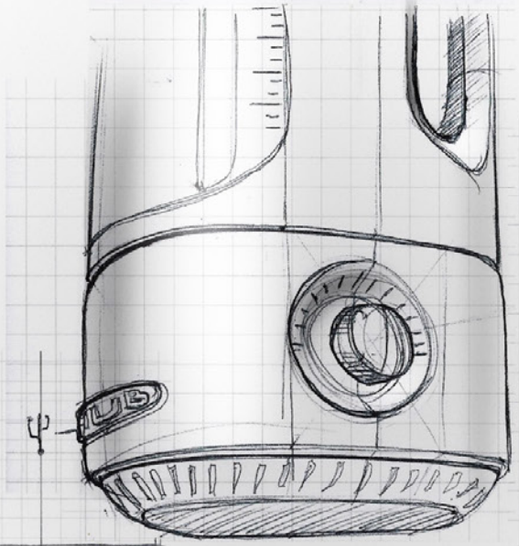
It's not so much about learning how to fix a blender, it's about realizing how many dead ends are built into many consumer products. All it takes a little investigation. Knowing why and how things are a certain way allows one to make meaningful changes.

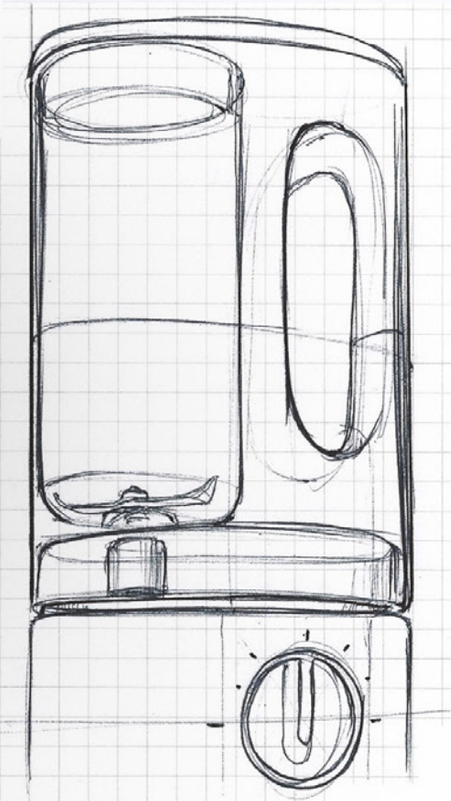
Figure A (the current process) was overcomplicated and filled with dead ends, while figure B was more straight forward and to the point.

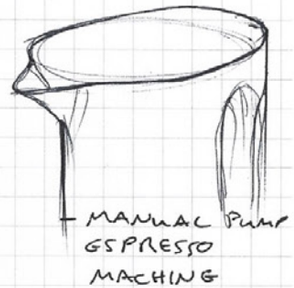
I wanted HUB to be straight forward and to the point.

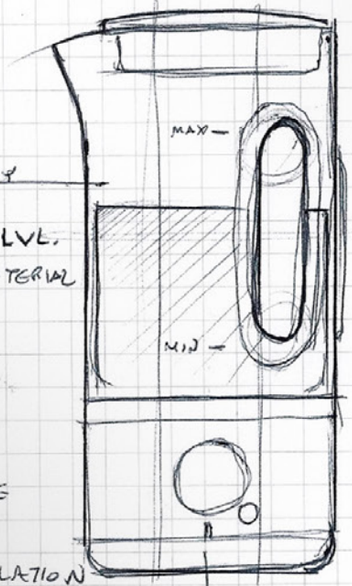
Form Ideation



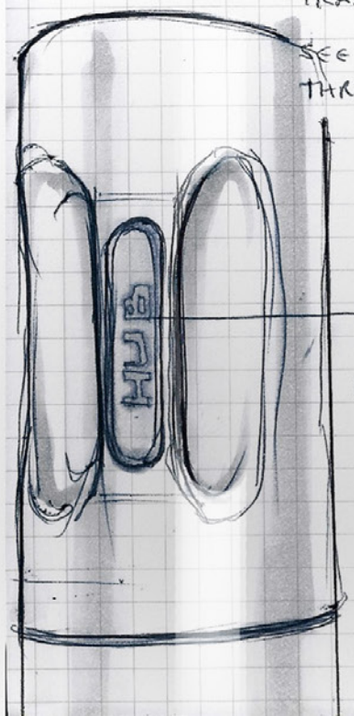








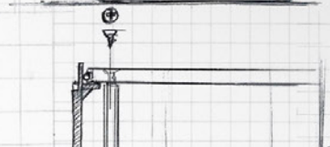
TRANSLUCENCY
SEE WATER LVL. THROUGH MATERIAL

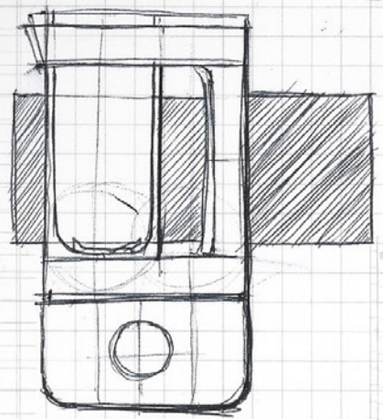


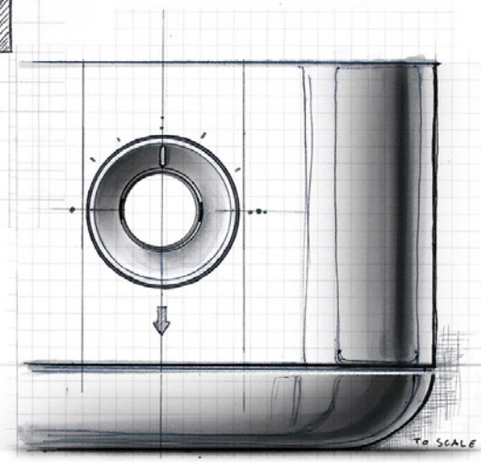
SILICONE INSERT FOR INSULATION

WATER HEATER COMPONENT

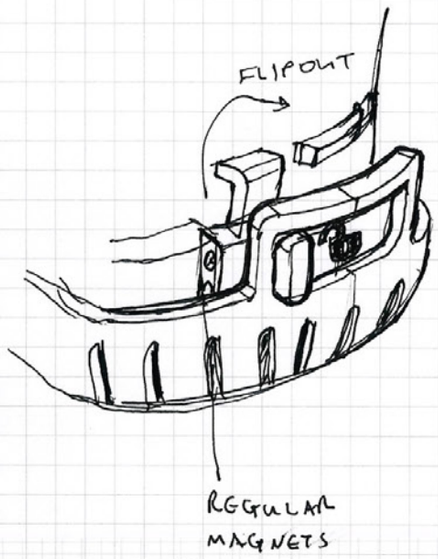
HUB

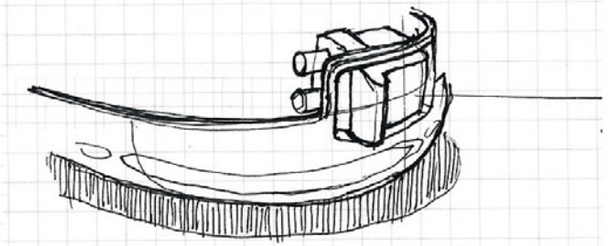


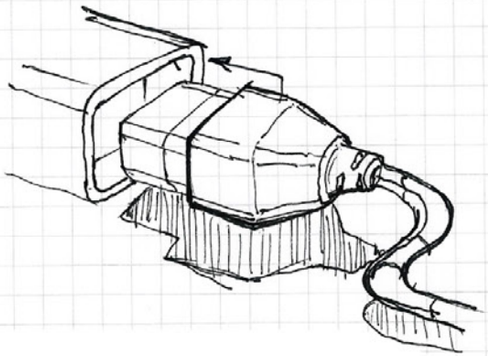


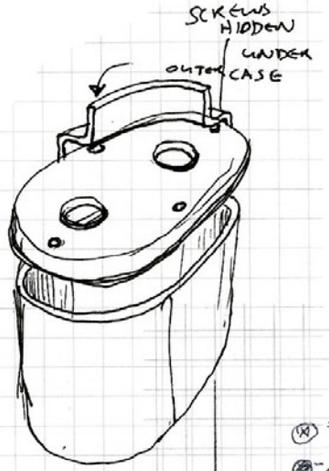


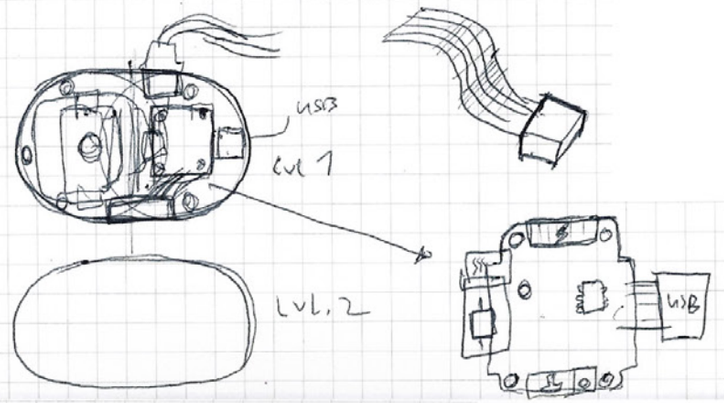
Function Ideation

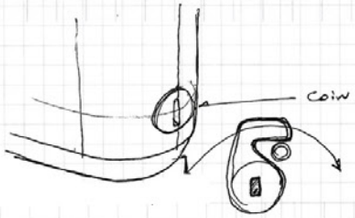


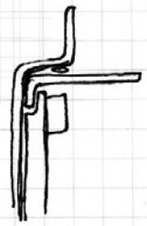


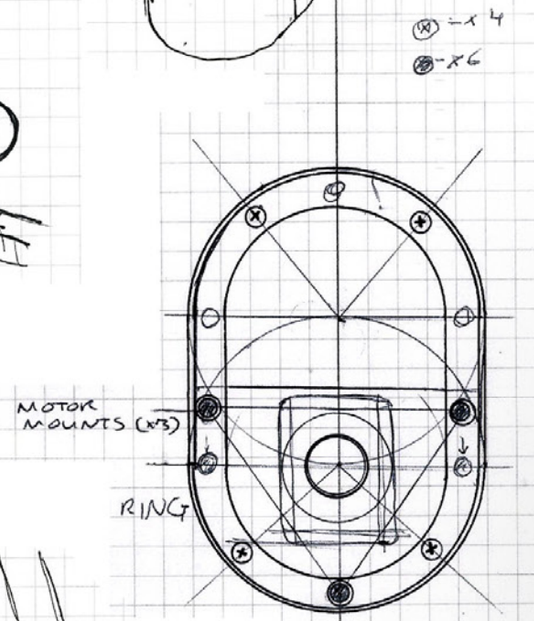


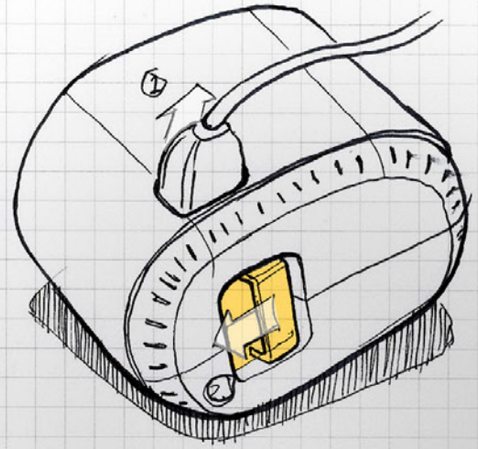


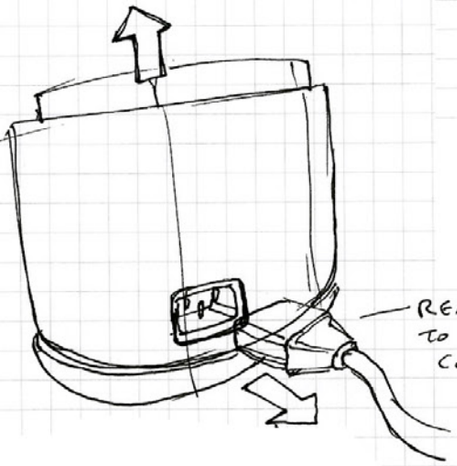


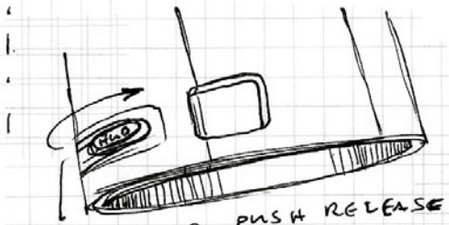


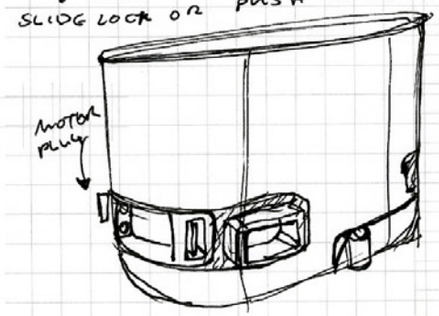


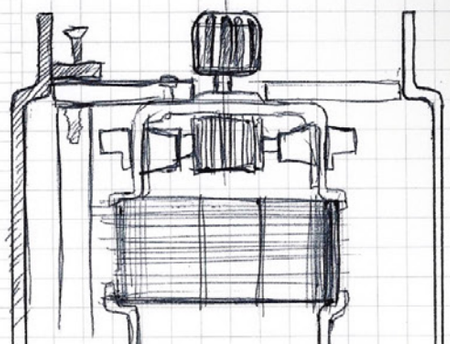


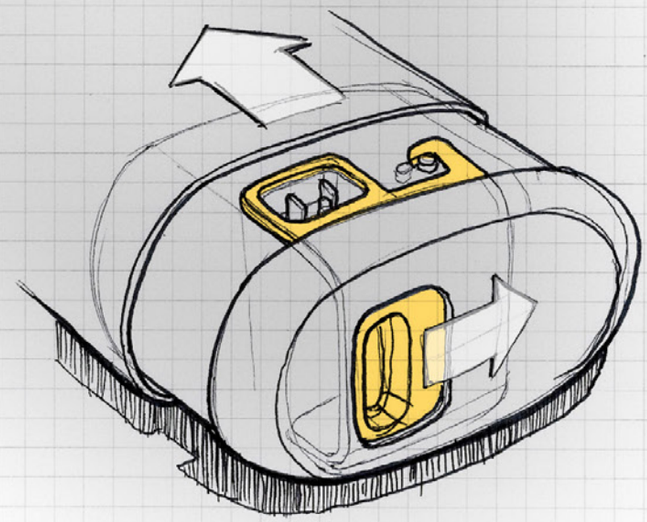












Designed to be versatile, economical, & mass appealing.

Designed for the modern day kitchen...
& the kitchen of the future


Motor
Heating Contact
I
O

Recessed Control Dial:

Allows external housing to slide off without the unnecessary removal of a protruding knob.

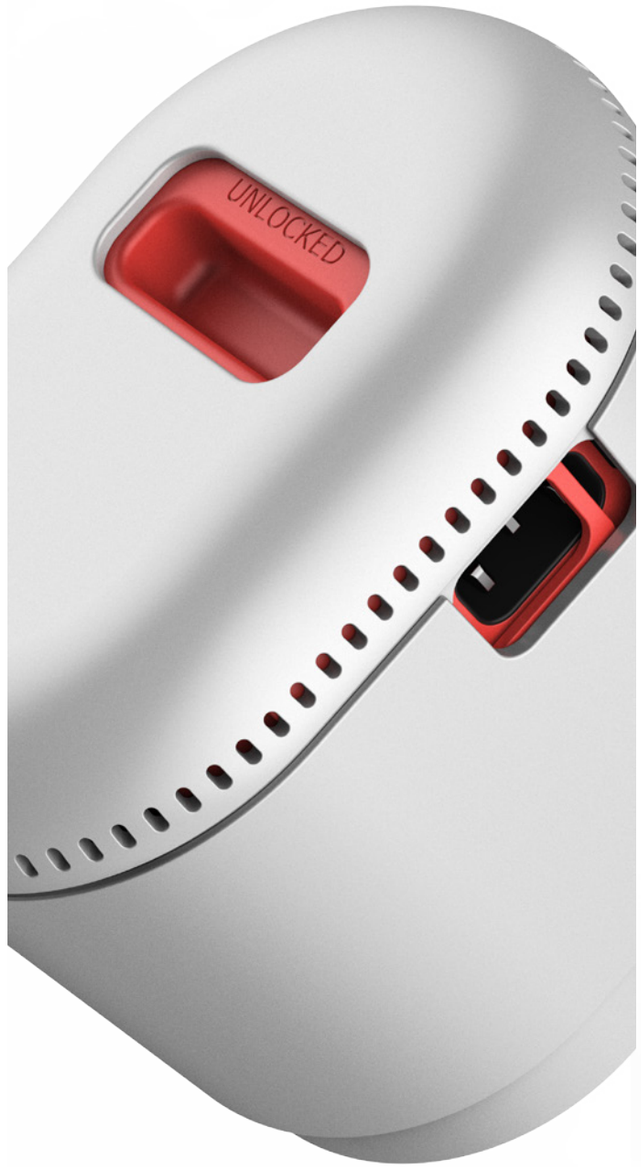
Plug Port
uses a standard AC
chord— convenient for
both International use

Motor cooling vents
designed to be uniformed
& visually balanced

Lock Latch
ergonomic
handle unlocks
the outer
housing

Safety:
prevents users from
opening HUB without
1st unplugging it

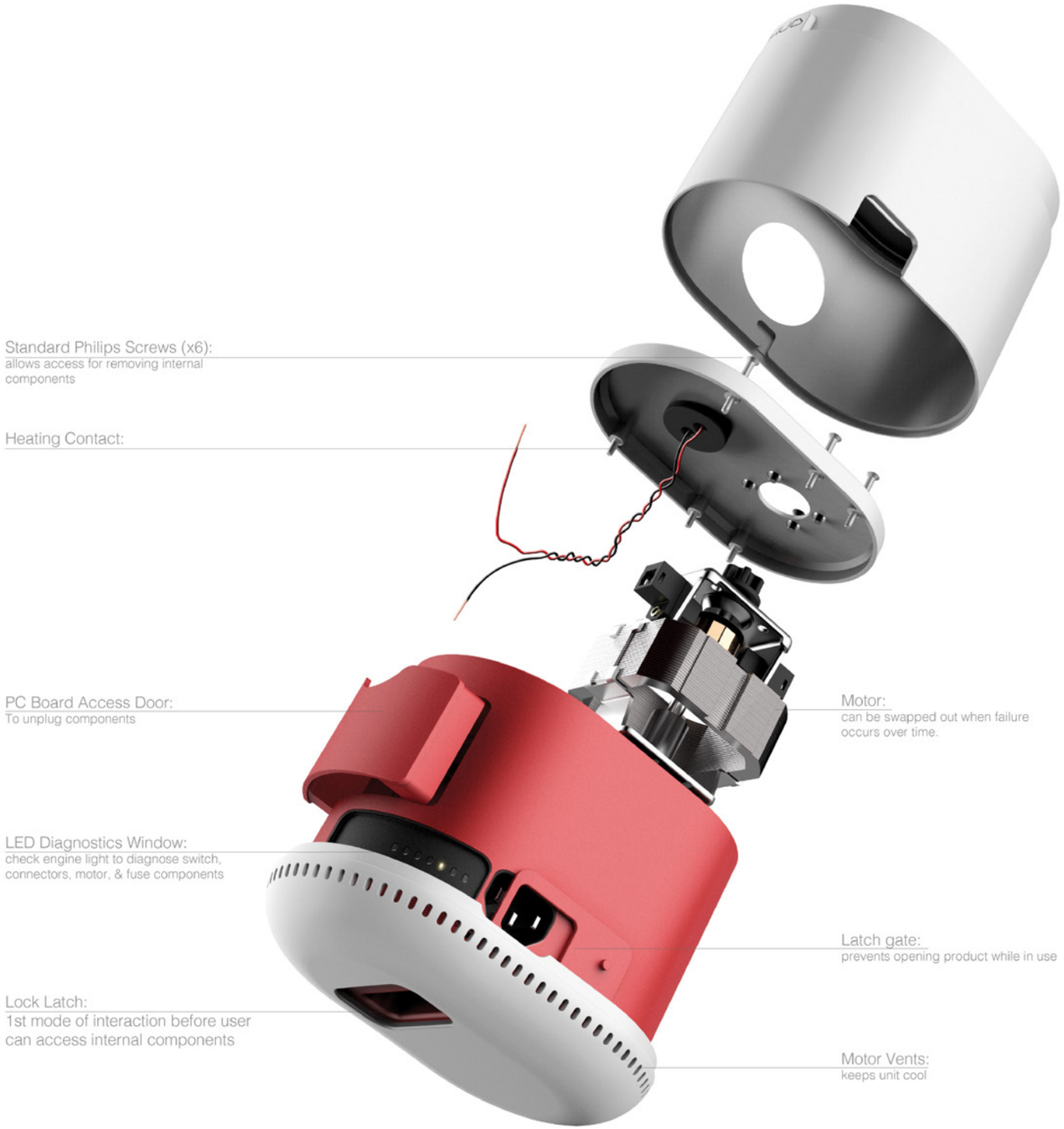
Accessibility



Safety

Convenience

Multi-functionality


Standard Philips Screws (x6):
allows access for removing internal components
Heating Contact:
PC Board Access Door:
To unplug components
LED Diagnostics Window:
check engine light to diagnose switch, connectors, motor, & fuse components
Lock Latch:
1st mode of interaction before user can access internal components
Motor:
can be swapped out when failure occurs over time.
Latch gate:
prevents opening product while in use
Motor Vents:
keeps unit cool

Thank you.