

BA/MDes Product Design
M5X01239

USER EXPERIENCE DESIGN

Peeler

content

1 UX Design Research

2 UX Design Development

Two types of peeler



(Has the peeling blade in line with the handle)

Straight peelers



(Has the blade perpendicular to the grip)

Y peelers



UX Design Research

UX Design Research:

1.Photo and video diaries

Photo and video diaries are a highly effective way of collecting observational,visually rich data. That allow me to gain detailed insights into an individual's experience with a particular product or activity. (Milton and Rodgers, 2013)

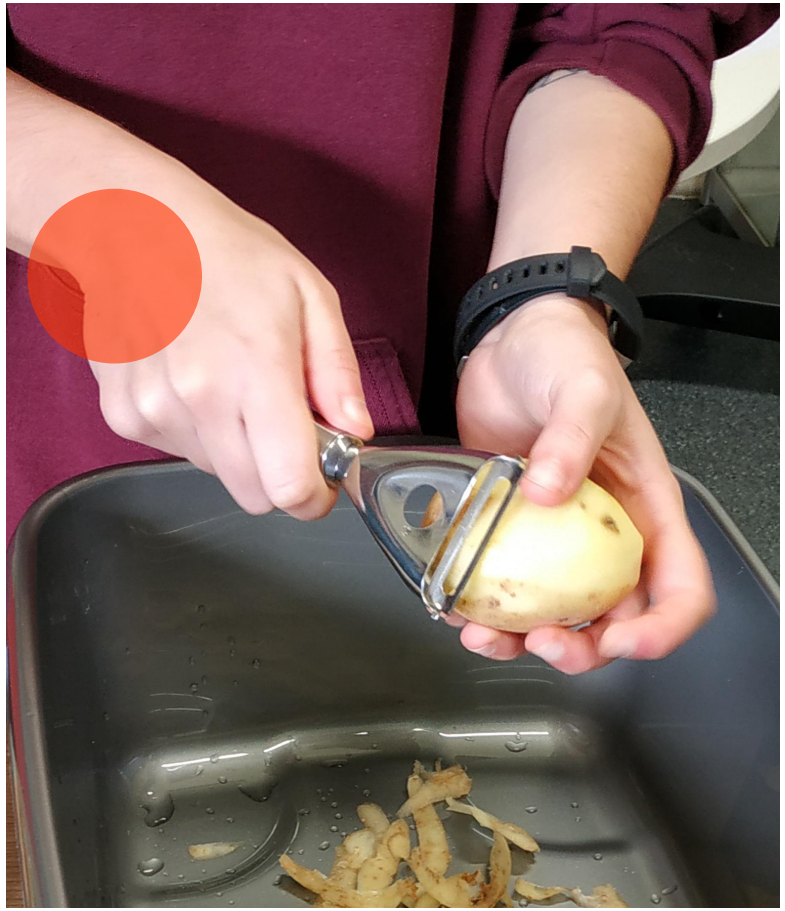
Research participants were asked to undertake 'potatoes and carrots peeling' tasks on their own and took photoes and videos.



UX Design Research:

1.Photo and video diaries





The first method I used was "Photo and video diaries" by using video to record participants' peeling processes and to see how different groups of people used and peeled.

A housewife told me that she felt a slight pain in her wrists when she peeled potatoes because she often did housework, which made me notice the repeated use of the wrists when using peelers

UX Design Research: 1.Photo and video diaries






use screenshots and photoes to analyze the angle of motion of the wrist





Because the Type2' s blade is perpendicular to the handle, the arm is always bent during peeling

UX Design Research:

1.Photo and video diaries

Housewives often do repetitive rapid wrist movements in their household chores, which may lead to carpal tunnel syndrome.
(Sung and Lai, 2011, p. 68)

Jennings and Faust (2016) described that repetitive hand using may causes carpal tunnel syndrome. Because wrist motions or activities over a prolonged period of time may aggravate the tendons in the wrist, causing swelling that puts pressure on the nerve.



It is shows that women were found to have a CTS rate more than 3x that among men, with persons aged 45-54 most impacted. (Center for Occupational and Environmental Health, 2018).

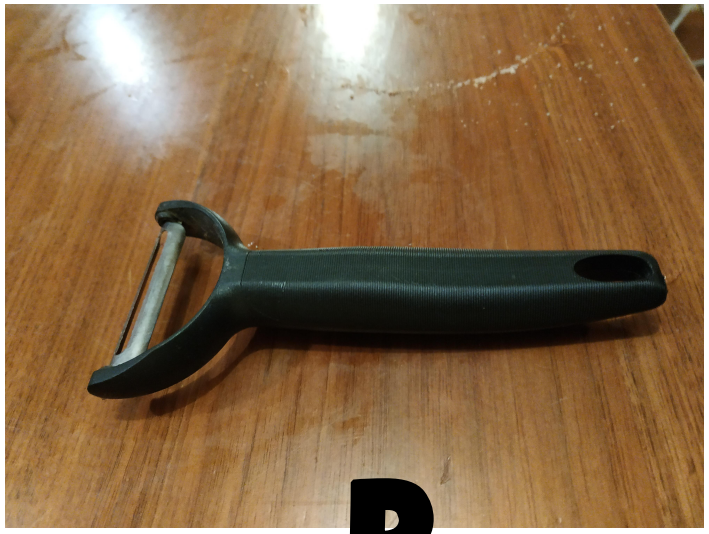


UX Design Research:

2. A/B Testing



A



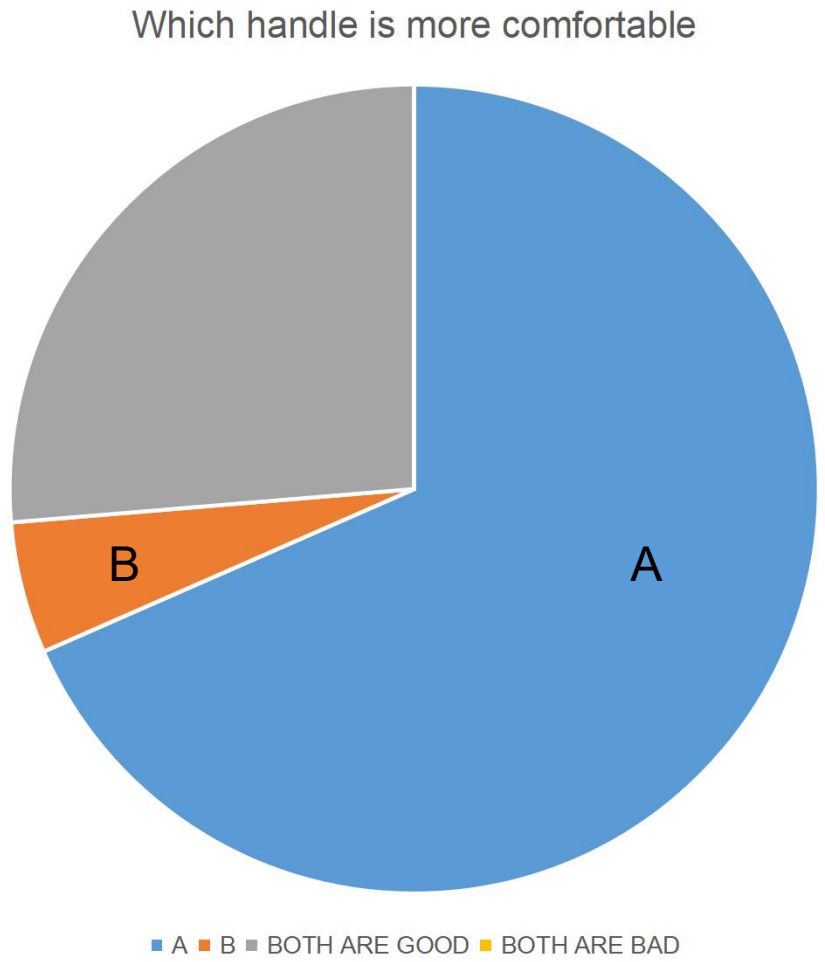
B

A/B testing allows me to compare two different versions of a design to see which one gets closer to my goals. (Martin and Hanington, 2012)

I used two different Y-peelers for testing to prove which handle gives a better experience and makes people feel more comfortable.

UX Design Research:

2. A/B Testing

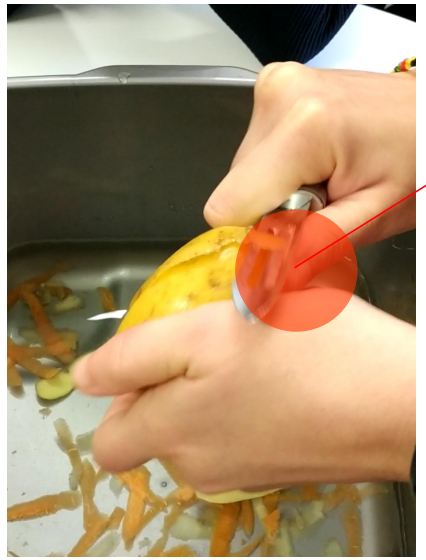


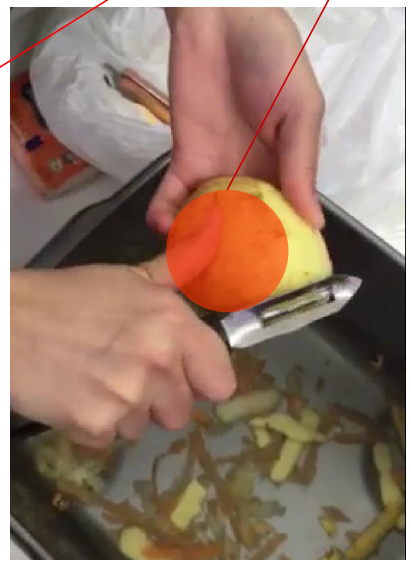
I asked 20 people to hold the A and B peelers in their hands and choose which one was better.
After statistics, 65% participants think A is more comfortable and 5% participants think is B, and 30% participants think both are good.
After talking to the participants, we found that because the handle of A has radians and fits the shape of the palm more closely, it makes people more comfortable.

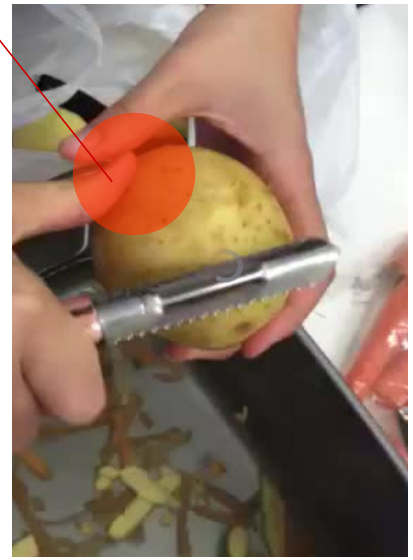
UX Design Research:

3. Try it myself

I tried 2 types of peeler.
Because I need to control the direction of my peeling, I need to put my thumb on the potato, but at the same time, the straight-peeler is likely to hurt my thumb.









UX Design Research:

4. Empathy tools

Used tape, rubber gloves and other tools to simulate people whose finger joint are not flexible and had contextual experience.

I found palms could not grasp carrots very well.





UX Design Research:

4. Empathy tools

Osteoarthritis is the most common type of arthritis in the UK, affecting nearly 9 million people.

Osteoarthritis initially affects the smooth cartilage lining of the joint. This makes movement more difficult than usual, leading to pain and stiffness.

(National Health Service, 2016).





UX Design Research:

4. Empathy tools

When the finger is not flexible, it is difficult to grasp the handle tightly, more often with the use of the arm to force





UX Design Research:

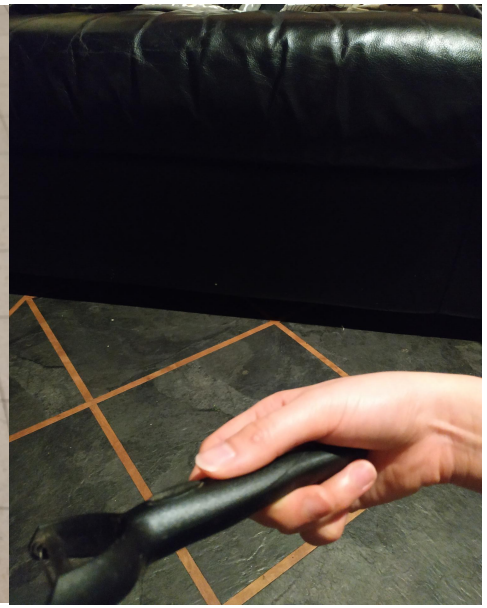
5. Extreme user interviews

After interviews with participants and a survey at the supermarket, I summed up the following information:

1. By comparison, the longer, thicker handle is more comfortable
2. Blade is very difficult to clean
3. Y-peeler is more easy for vegetables and fruits similar to cucumber carrots, and straight-peeler is more easy for vegetables and fruits similar to potatoes ,apples.
4. In the winter, they will feel a little cold because the handle of the metal material
5. Peeling by straight-peeler will find it a little hard





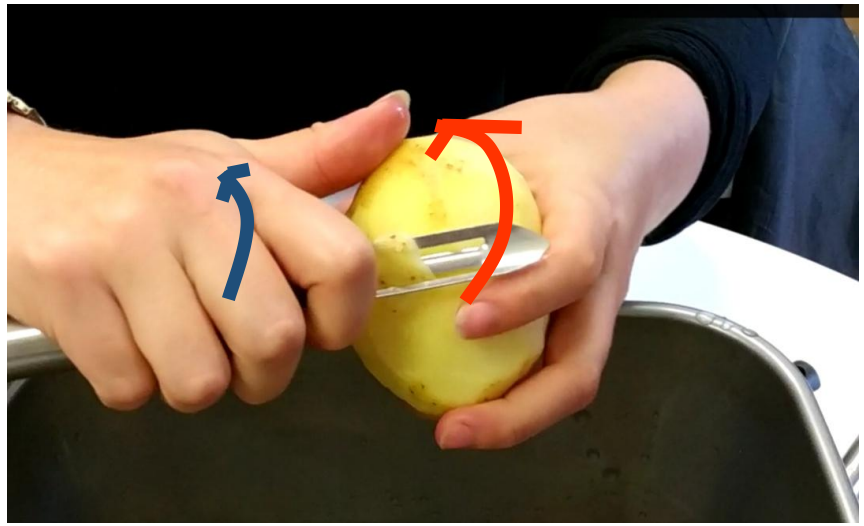
UX Design Research:

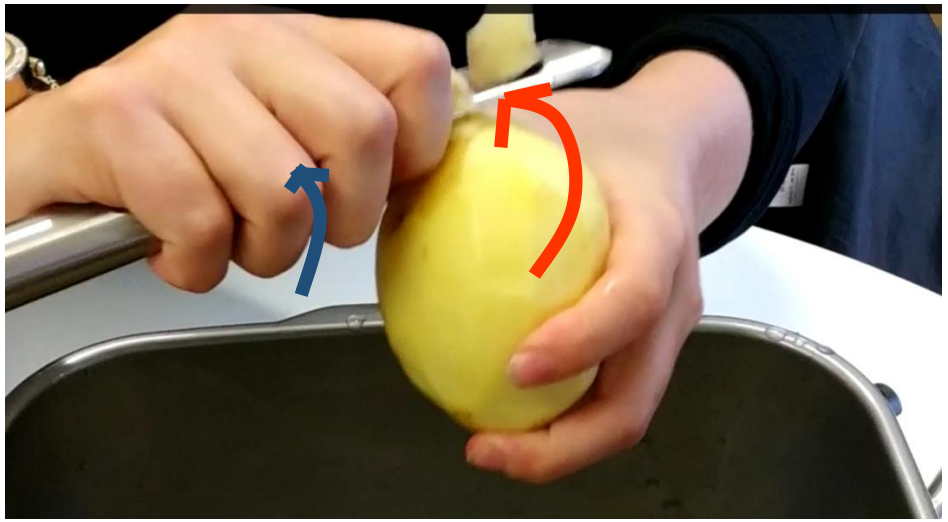
5. Extreme user interviews



UX Design Research:

5. Extreme user interviews





The path of hand movement

The path of blade movement

Thinking about why participants felt tired when using Straight-peeler, I watched the video over and over again. Here are my findings:

According to the lever principle, F1 × L1=F2 × L2, when using straight-peeler, the blue line stands for L1, the red line for L2, because L1 < L2, so F1 > L2, so this is a hard lever.

UX Design Research:

6. Review on websites

Rarsee Fiala

Best peeler ever

28 December 2018

Verified Purchase

this one has proved satisfactory for me, its stainless steel and has sharp peeling edges. suits right or left handers ,the gift brush is useful to clean. Recommended.



Helpful | Comment | Report abuse

Madalina7590

Product experience

13 December 2018

Good quality. But a little hard to clean because of the blades but the rest is fine

Helpful | Comment | Report abuse

Tej Rai

Sharp Peeler

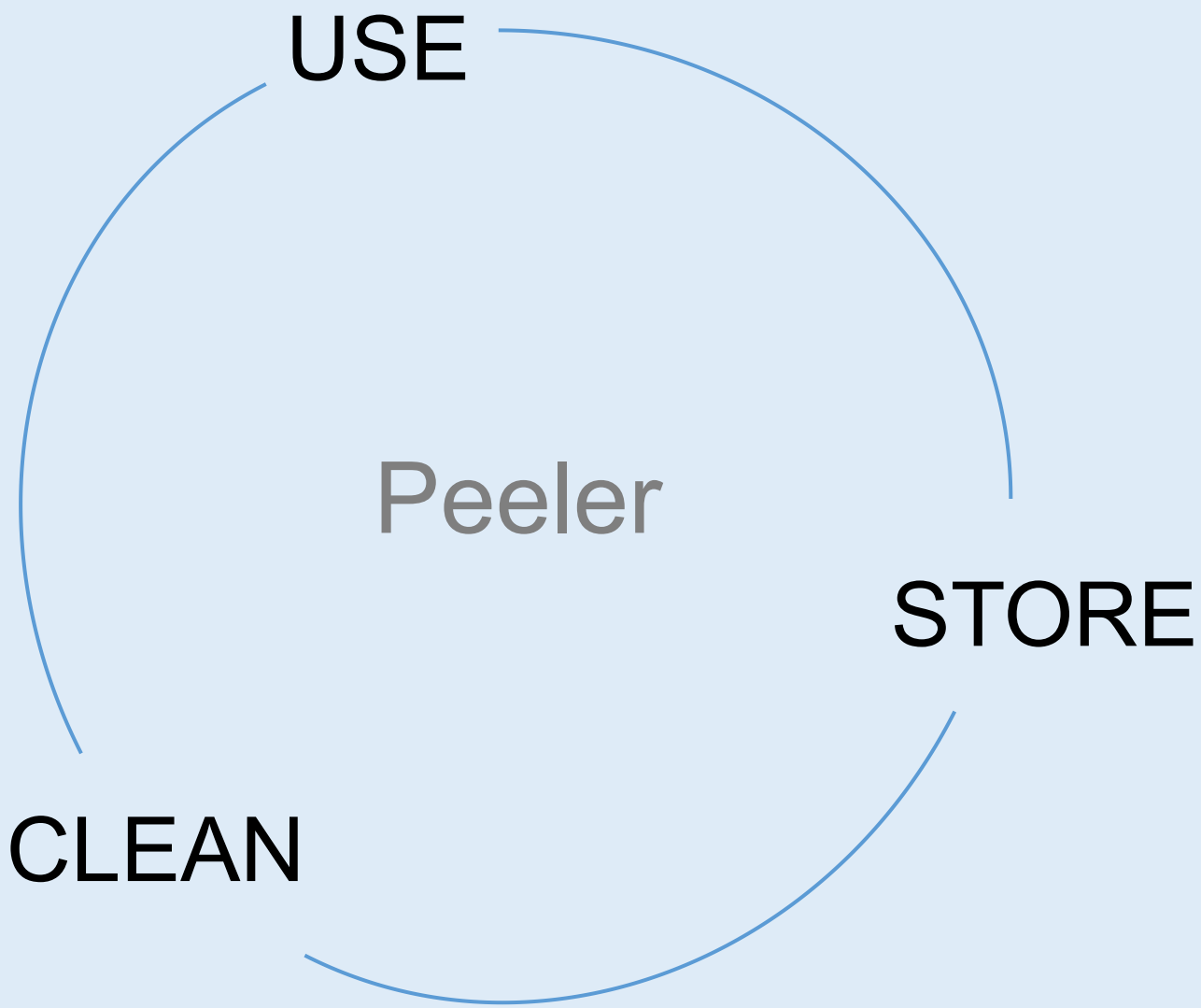
21 August 2018

Verified Purchase

Razor sharp tool that works very well with long vegetables and fruits like cucumber, carrot etc rather than potatoes and similar shaped things.

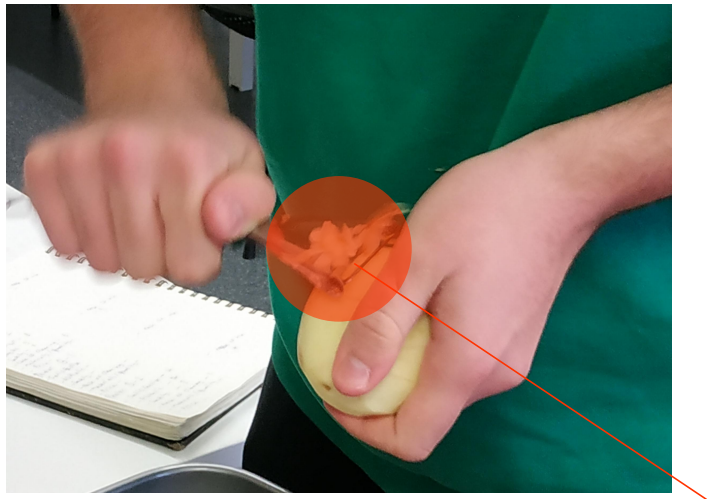
Helpful | Comment | Report abuse

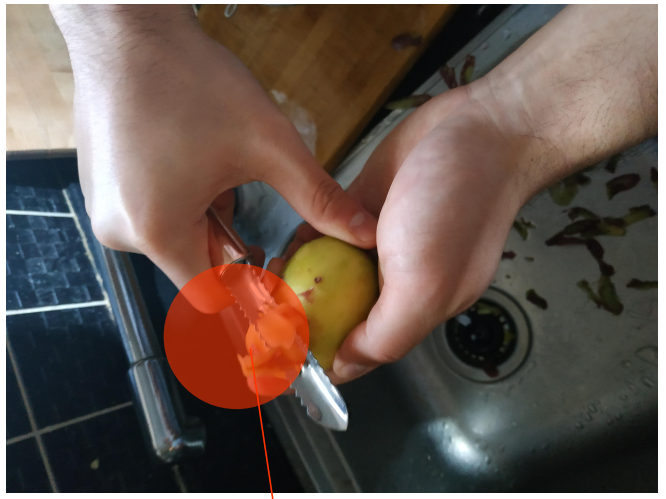
On Amazon's website, I looked at all kinds of peelers and found that the blade was difficult to clean because of the small cracks, and the sharp blade wound hurt the finger, so it was necessary to have a special brush for it. But we need to think more about its storage.

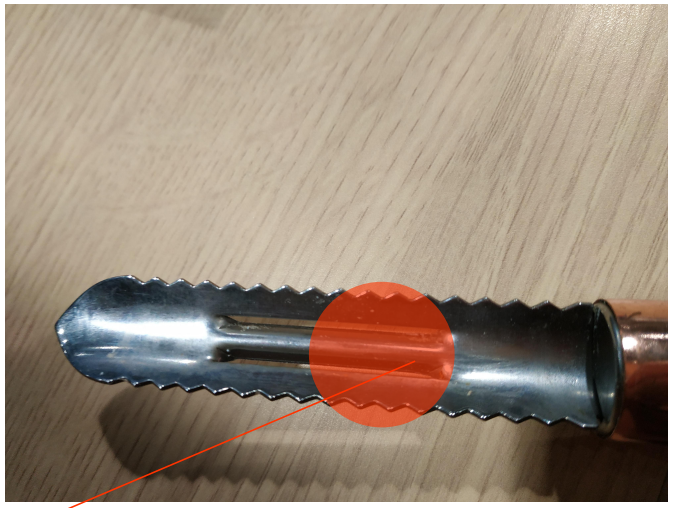

USE
Peeler
STORE
CLEAN

UX Design Research:

6. Review on websites







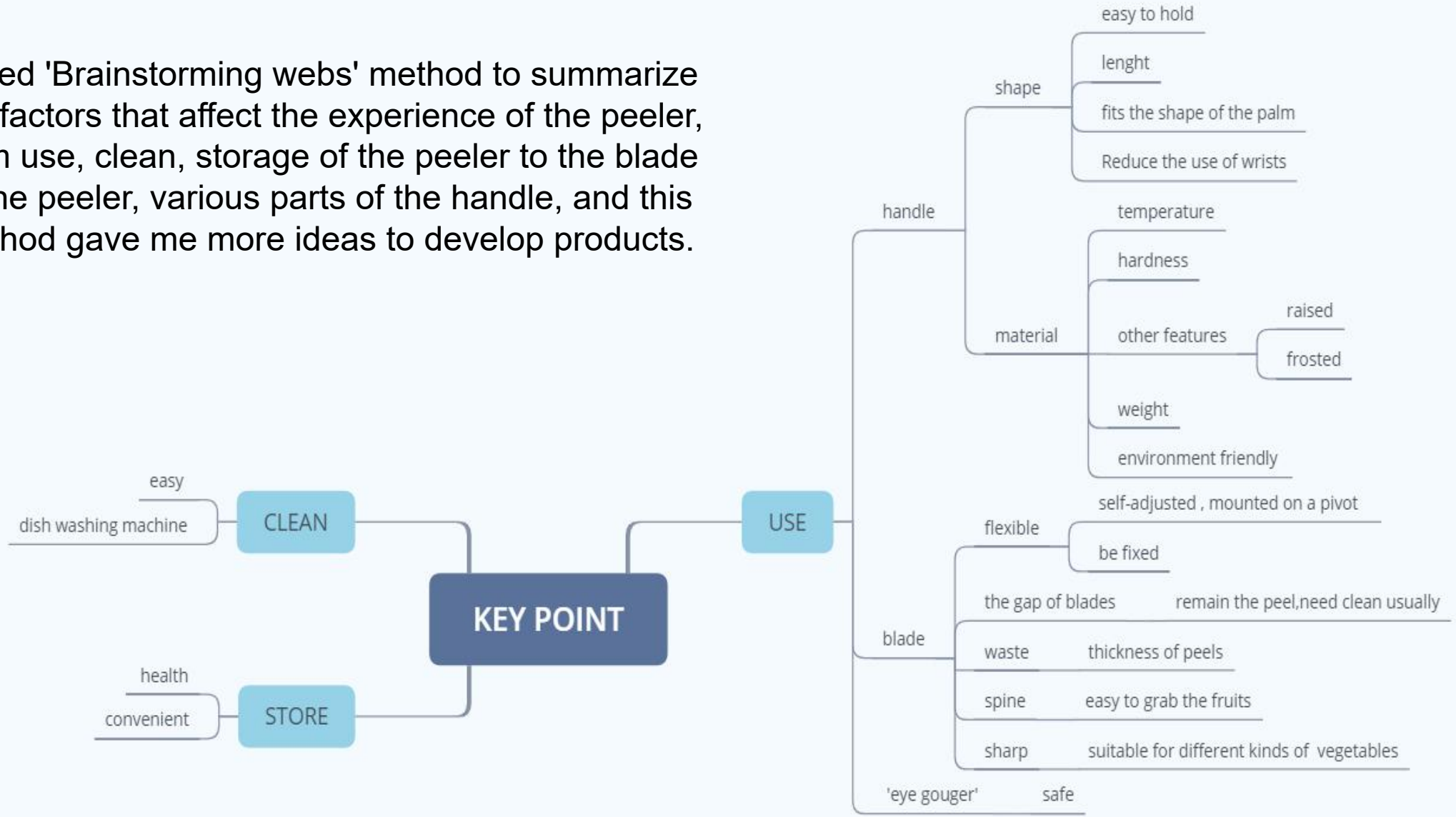
starch

hard to clean, blade hurt the finger

UX Design Research:

7. Brainstorming webs

I used 'Brainstorming webs' method to summarize the factors that affect the experience of the peeler, from use, clean, storage of the peeler to the blade of the peeler, various parts of the handle, and this method gave me more ideas to develop products.



UX Design Research:

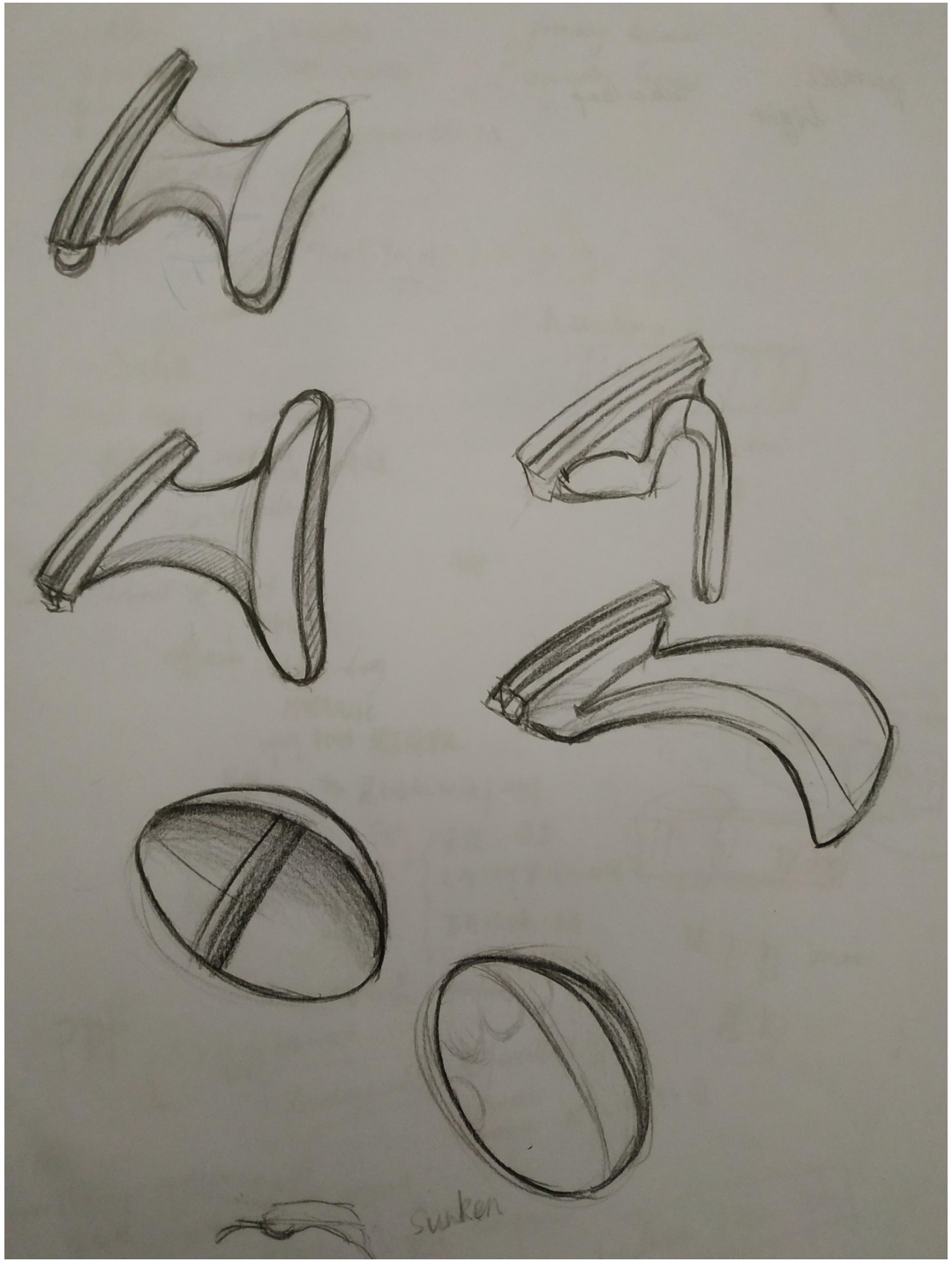
conclusion

1. Handle needs to be more fit the shape of palm
2. Avoid excessive wrist use.
3. Avoid handle too thin too small, for the joint pain people are not friendly when they grip.
4. Guide better posture to avoid finger injury
5. Consider how to clean the blade
6. Type1 is a hard lever





UX Design Development



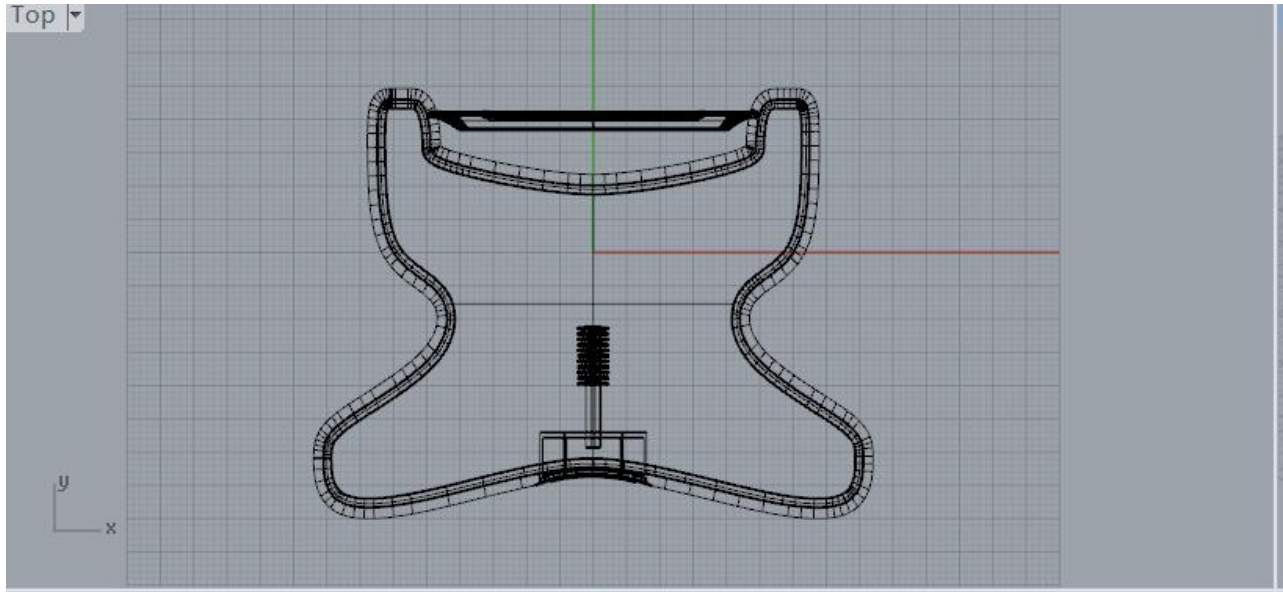
UX Design Development

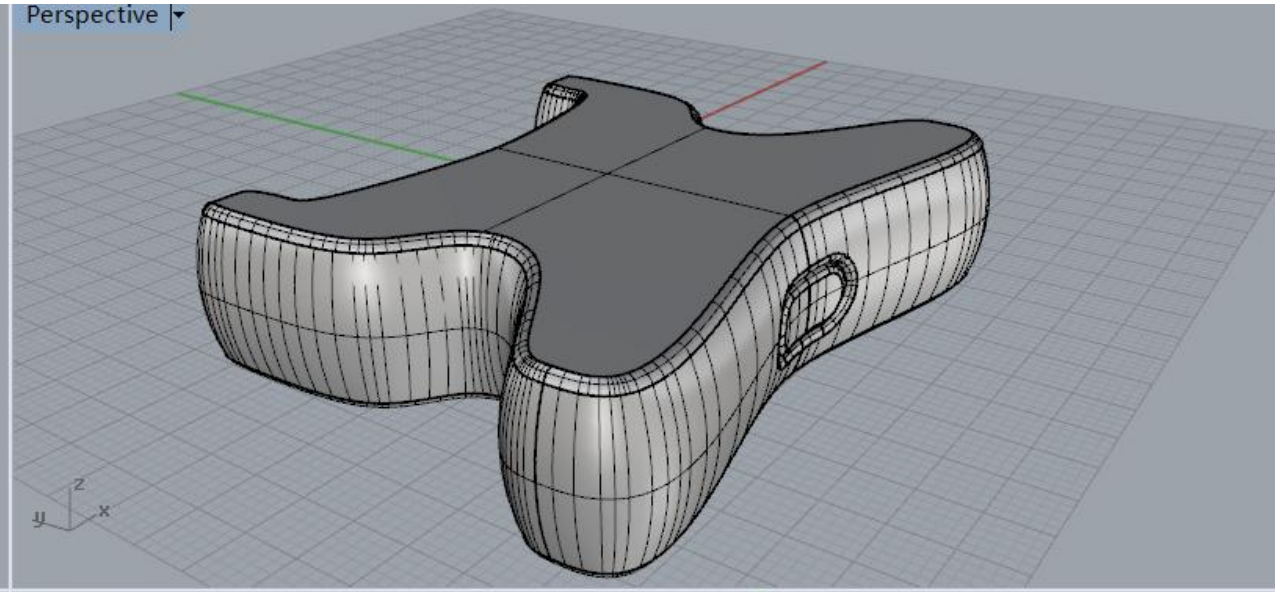


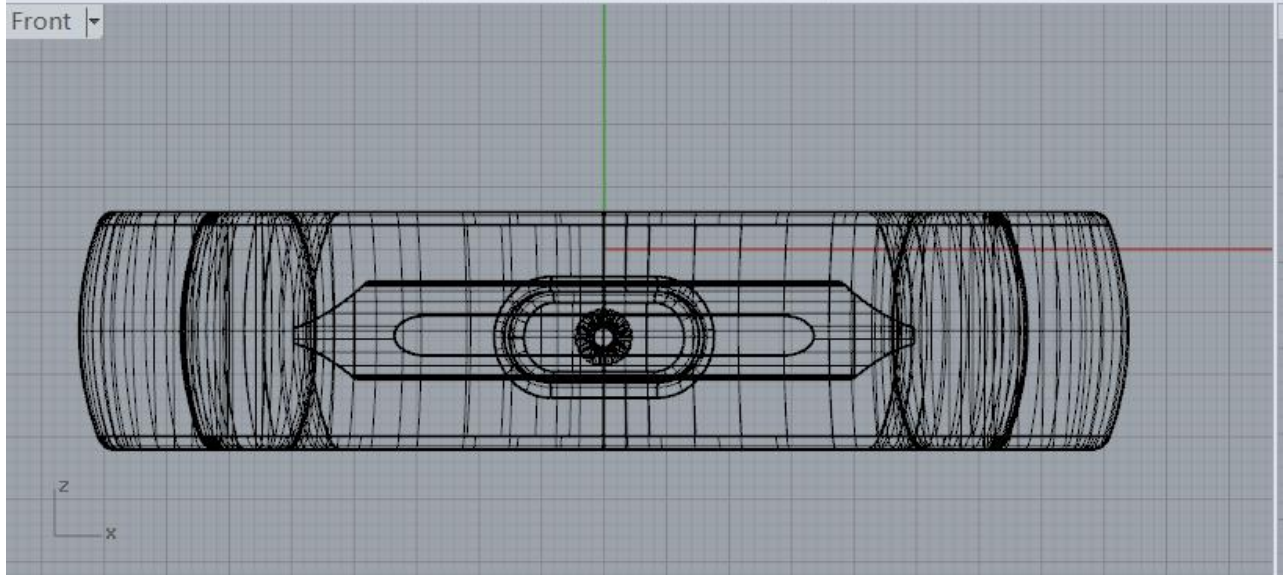
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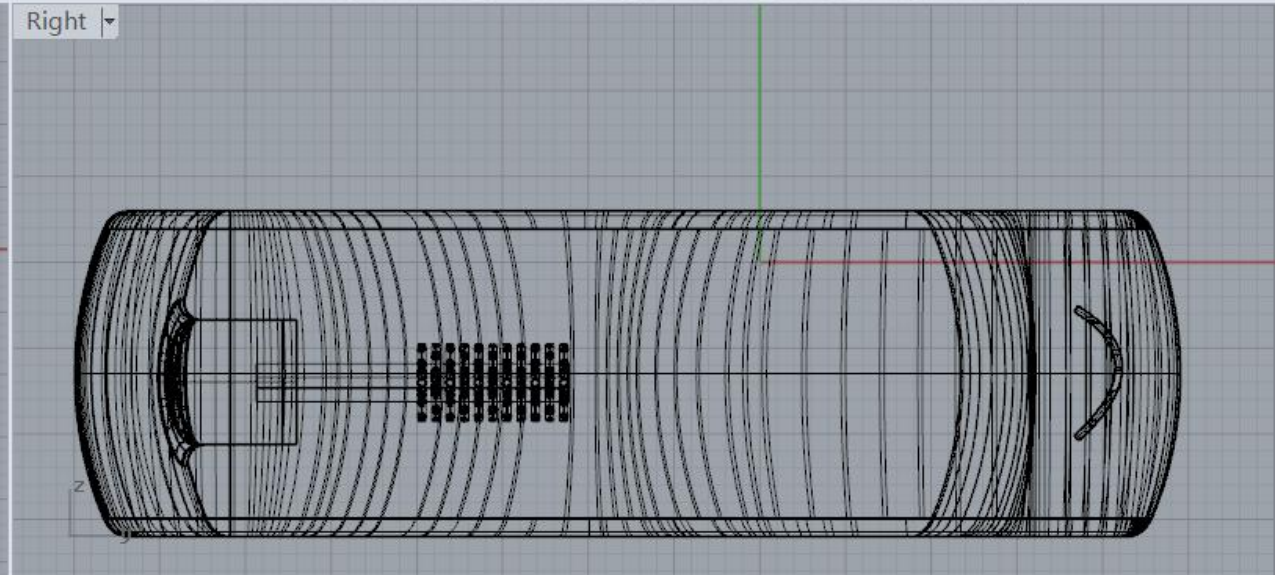
IDEA 1

DEVELOPMENT OF TYPE 2





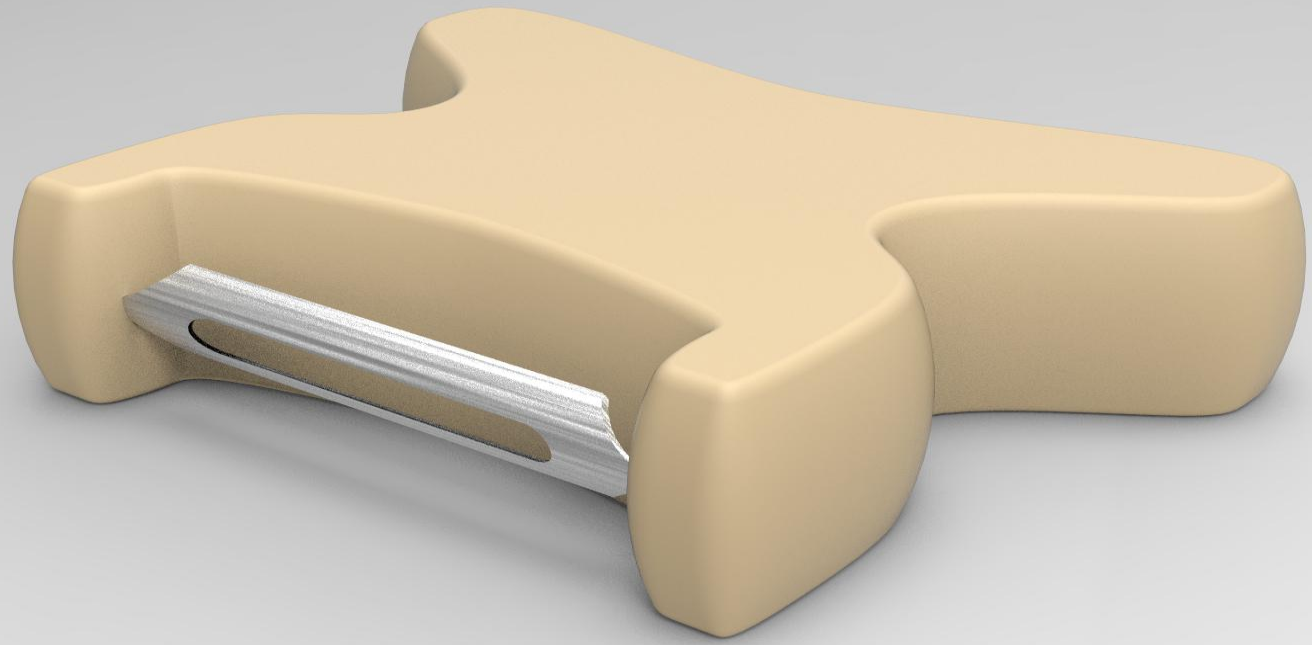




UX Design Development

IDEA 2

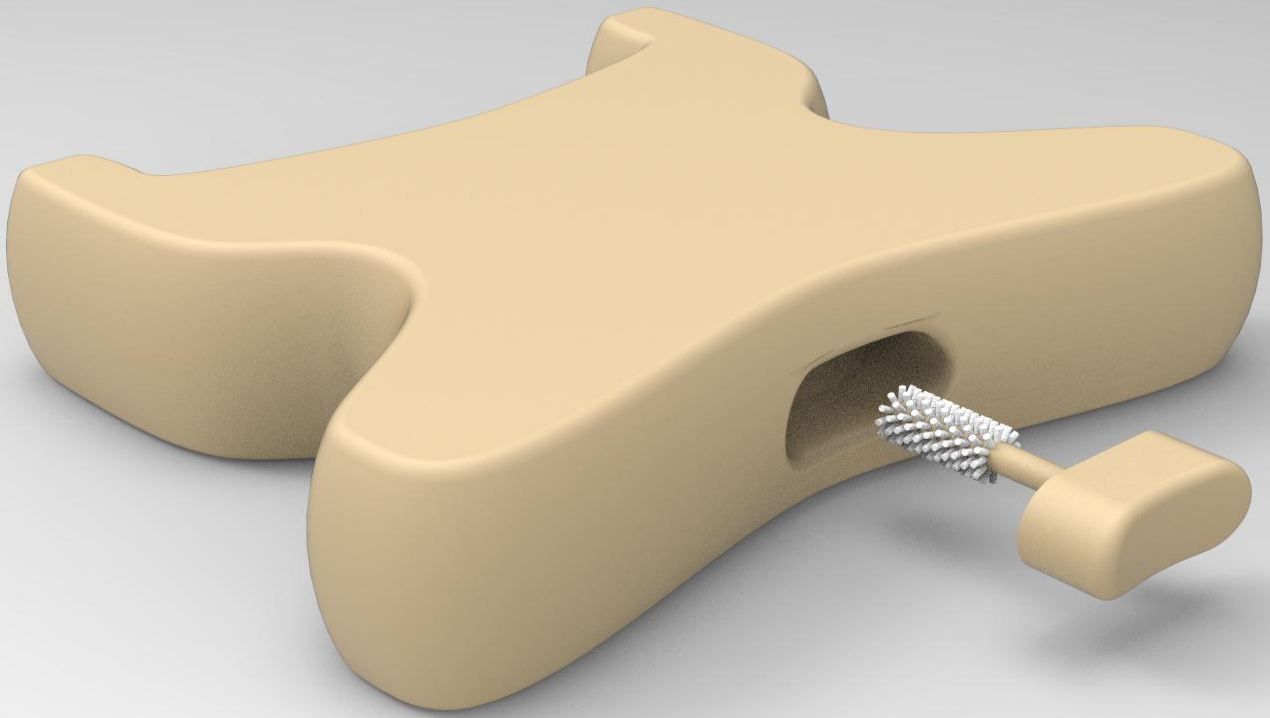
DEVELOPMENT OF TYPE 2



UX Design Development

IDEA 2

DEVELOPMENT OF TYPE 2

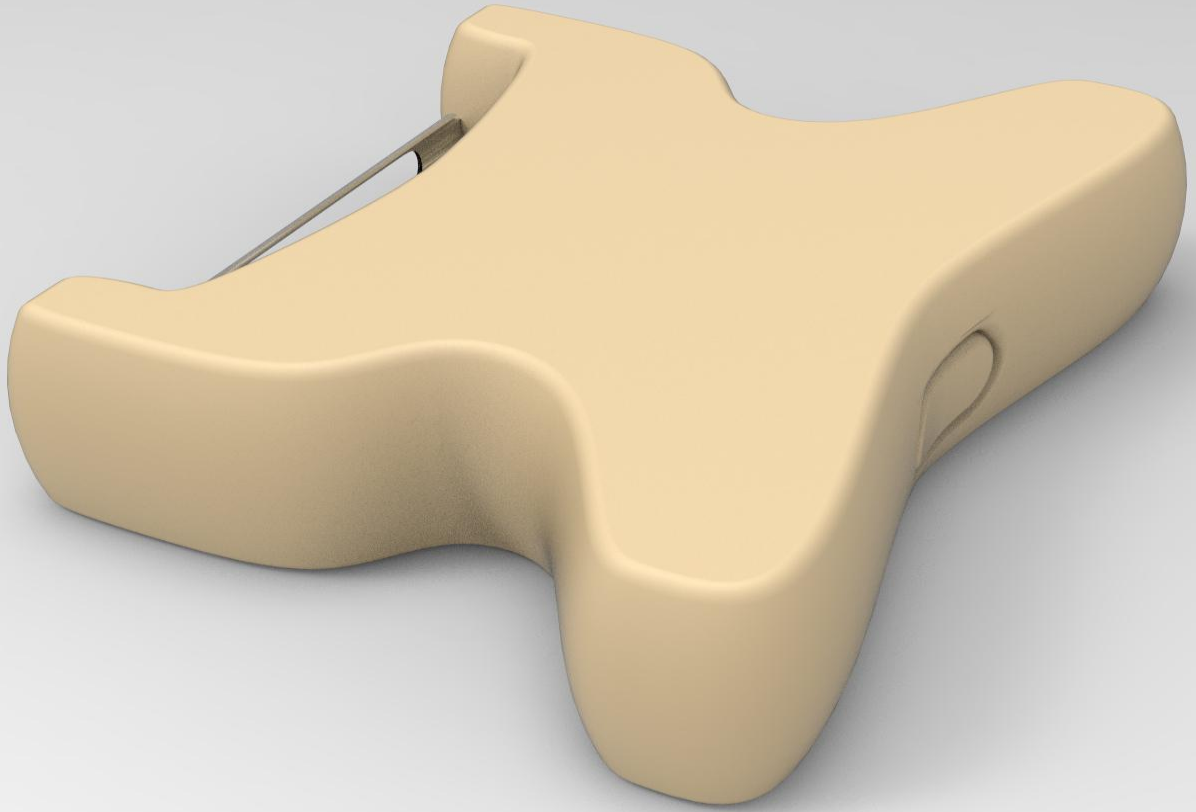


BLUSH FOR
CLEANING

UX Design Development

IDEA 2

DEVELOPMENT OF TYPE 2



UX Design Development

IDEA 2

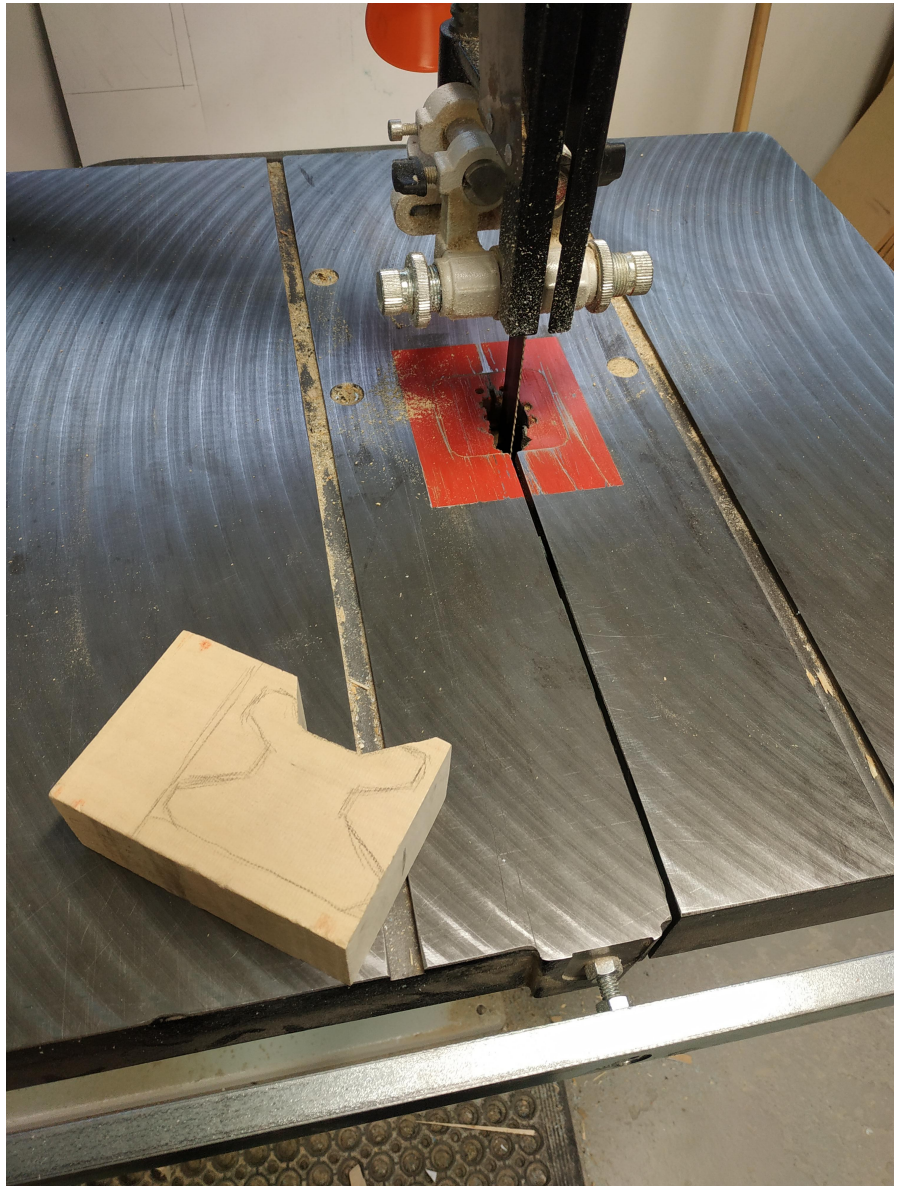
DEVELOPMENT OF TYPE 2





Using blue foam for prototypes
The front one is more comfortable
The back one is too thin

UX Design Development
IDEA 2
DEVELOPMENT OF TYPE 2





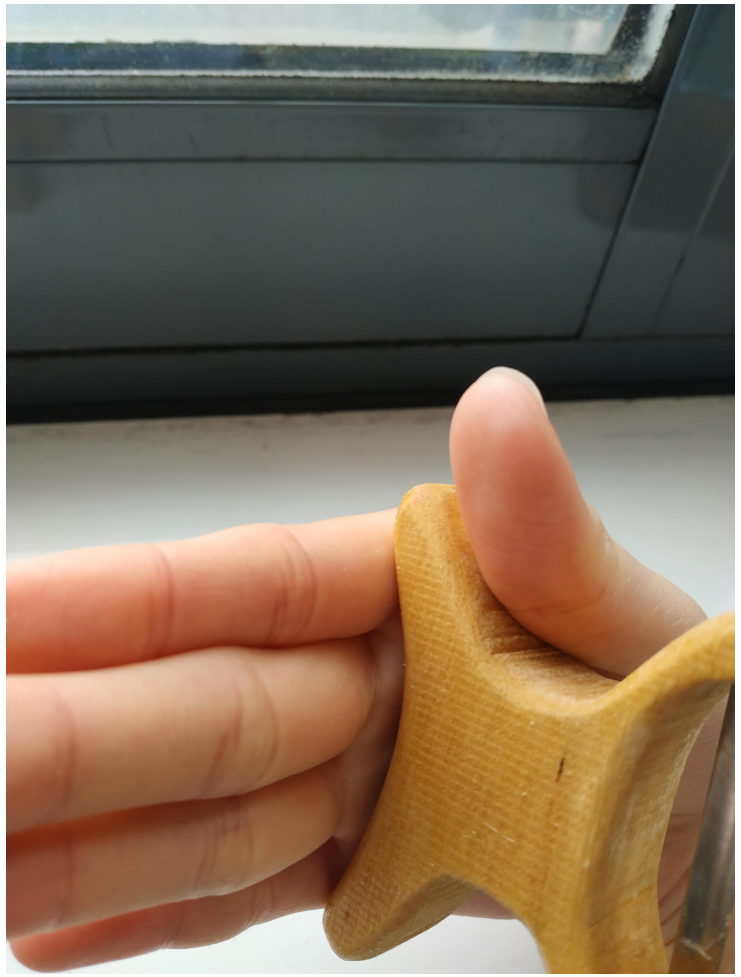
Because the blue foam was too soft, I used harder materials to make prototype that could be used to test for participants.

UX Design Development

IDEA 2

DEVELOPMENT OF TYPE 2



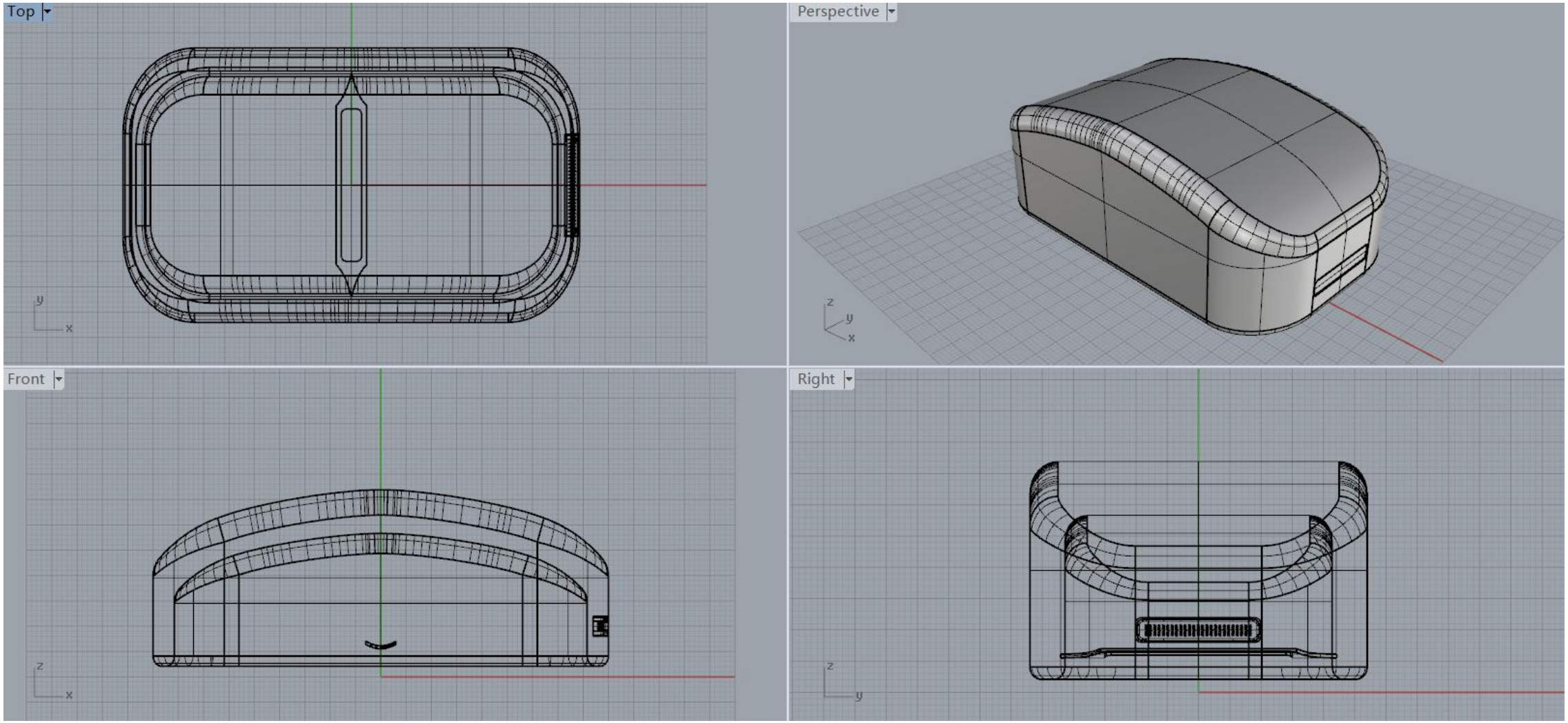


The radians of the tail are designed to be closer to the shape of the palm

UX Design Development

IDEA 2

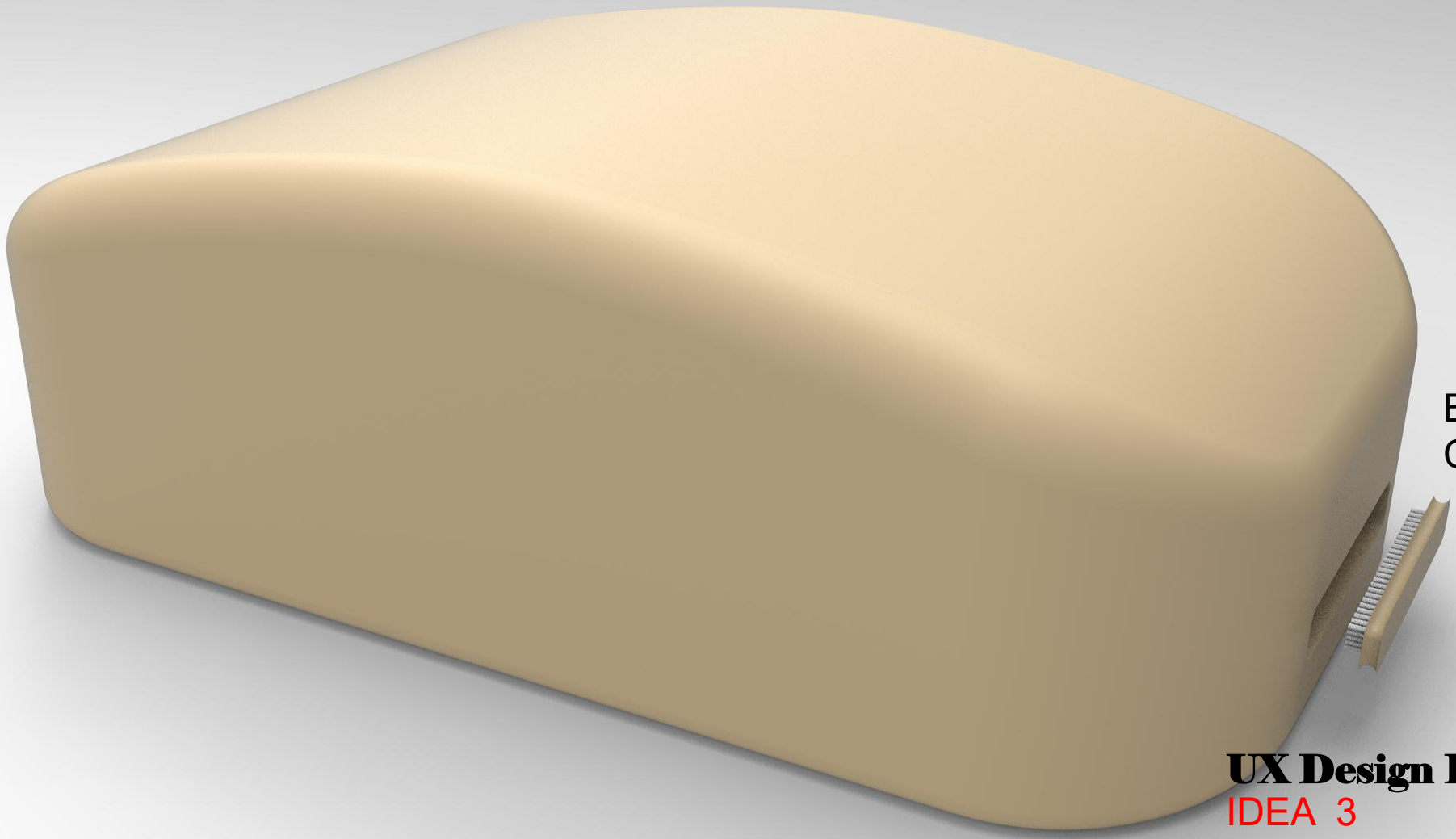
DEVELOPMENT OF TYPE 2



UX Design Development

IDEA 3

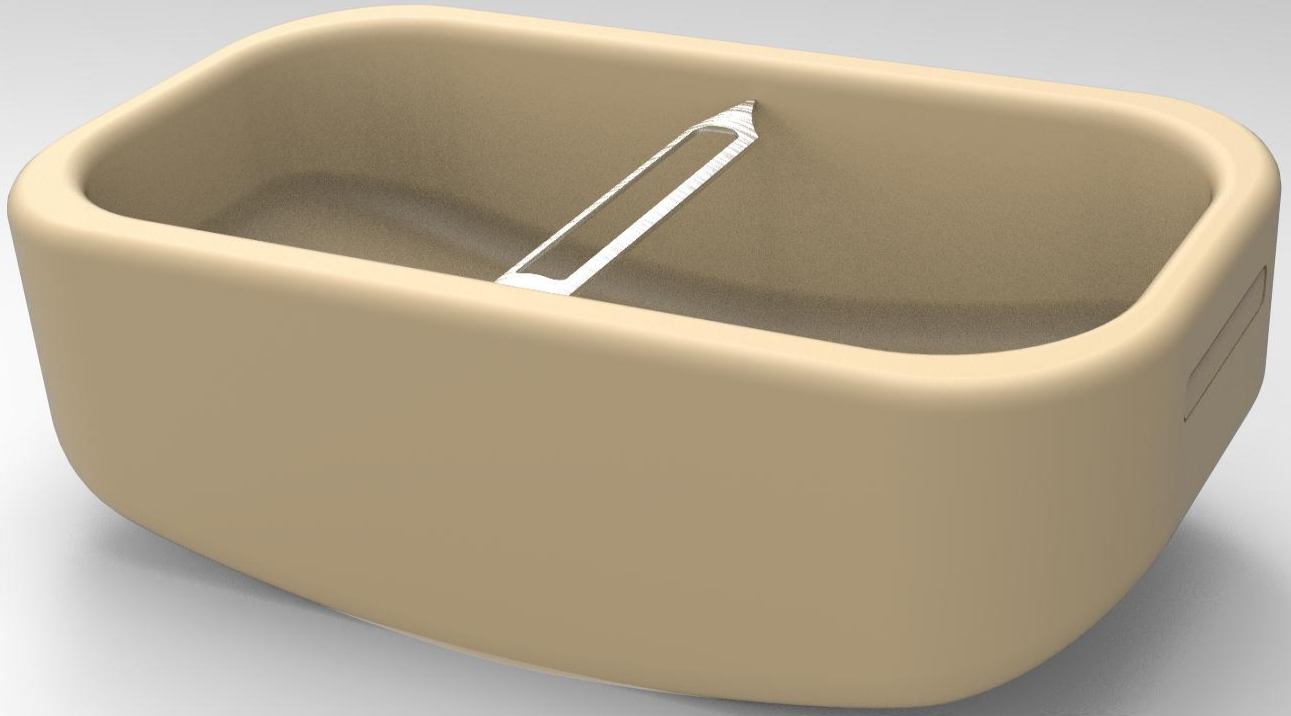
DEVELOPMENT OF TYPE 1



UX Design Development

IDEA 3

DEVELOPMENT OF TYPE 1



UX Design Development

IDEA 3

DEVELOPMENT OF TYPE 1





UX Design Development

IDEA 3

DEVELOPMENT OF TYPE 1



Use hand to hold the peeler for reducing the excessive bending of the finger joint.

UX Design Development

IDEA 3

DEVELOPMENT OF TYPE 1





After I made the prototype, I put in the blade and started the test.

UX Design Development

Prototype Test 2





Test another prototype

UX Design Development

Prototype Test 3

Reference list

1 Milton, A. and Rodgers, P. (2013) *Research methods for product design.* Laurence King Publishing Ltd.

2 Sung, Y and Lai, C. '削皮器操作行為模式應用設計The Application Design of the Operation of the Peeler' *设计研究学报*，pp.68
DOI: 10.29701/JDR.201106.0005

3 Jennings, C. and Faust, K. (2016) *Diseases and Conditions Carpal Tunnel Syndrome*
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5 Martin, B. and Hanington, B. (2012) *Universal Methods of Design.* Rockport Publishers.

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