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UX/USABILITY TESTING AND EVALUATION REPORT

KITCHEN PEELERS

User Experience Design M5X01239

BA/MDes Product Design

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First of all, I have carried out the user experience research in the following way:

I have used five different methods, which are try it yourself, empathy tools, carachter porfiles, surveys and activity analysis.

Based on some existing products I have searched for the best solutions that have been implemented in kitchen peelers over time.

I have also studied ethnography. I have evaluated the users to whom the product is directed to draw more accurate conclusions.

I have finally studied the anthropometry of the parts of the human body that are activated to use the product. To see how they interact with each other.

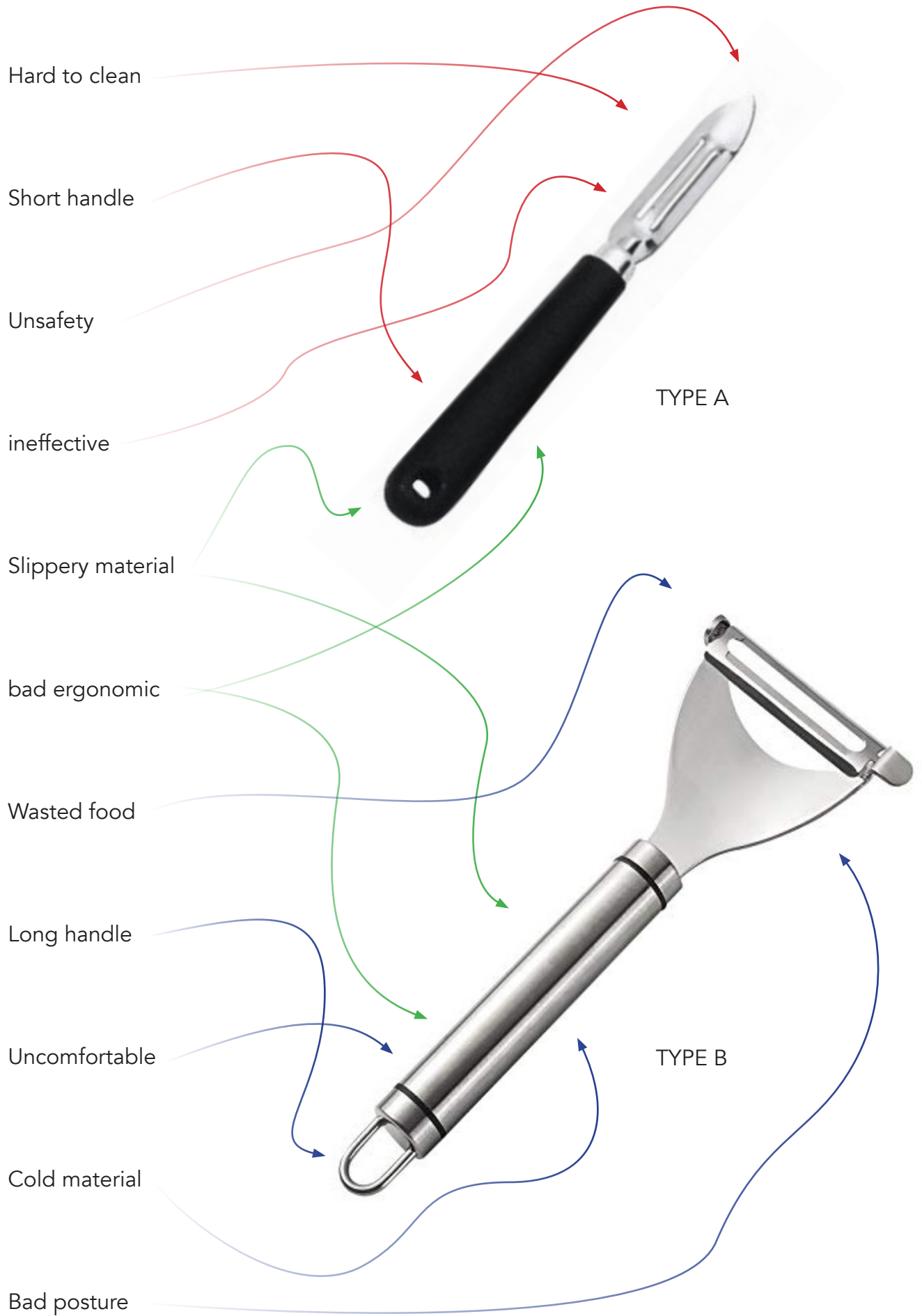
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All this I have done with the purpose of clearly identify those aspects of each participant's 'total' experience with the products that could be enhanced, looking for issues that may relate to a specific user type or common ground issues across the range of users that make up the sample. And thus create two new peelers, always trying to improve them to satisfy each and every one of the needs of the users.

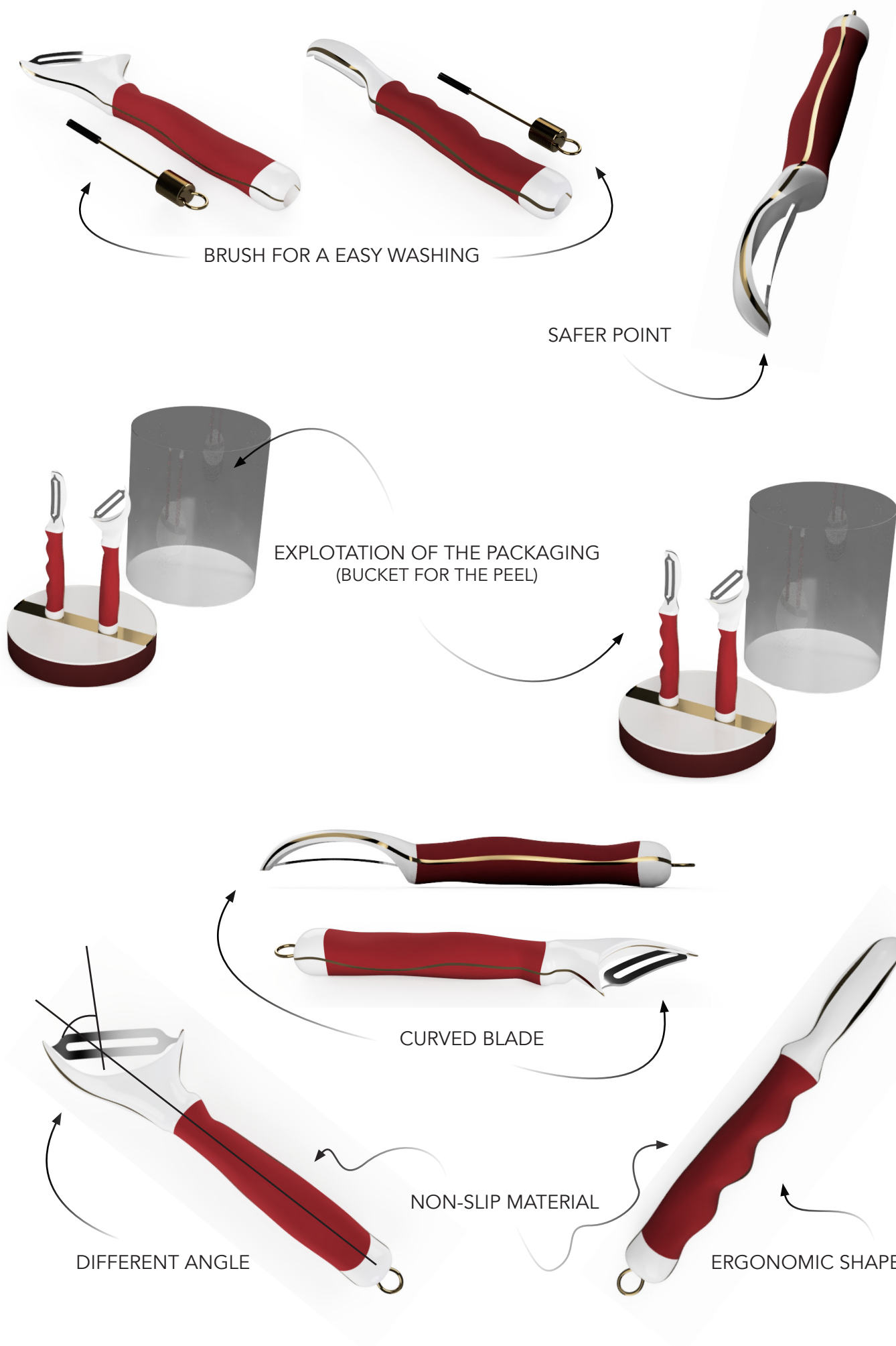
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The conclusions I have drawn from all this research is that there are many types of peelers: different sizes, shapes, colors, materials ... And each of them have some good qualities but they lack many other aspects. There is no perfect peeler, and this is impossible to achieve but we can try to get the most out of all of them and put it together.

DESIGN ISSUES



DESIGN INTERVENTIONS



In order to evaluate the efficiency and effectiveness of the product and the satisfaction of the user, we must have clear the definitions of these three aspects:

Effective: able to accomplish a purpose.

Efficient: performing or functioning in the best possible manner with the least waste of time and effort; having and using requisite knowledge, skill, and industry; competent; capable.

Satisfaction: having a feeling of contentment or pleasure; contented.

"<http://www.wordreference.com>" [10.12.18]

Now that we know what they mean we can judge whether a product has these qualities or not. Drawing conclusions from the previous definitions, the effectiveness and efficiency of a product can be measured and analyze according to the results, in other words, they are objectives. Whereas, the satisfaction of the user with the product is subjective, it is a personal opinion of the user according to his experience with the product.

That's why I've divided the test into two parts:

On the one hand, for the objective part, I have prepared one task to do to all participants, in which I calculate both the wasted peel and the time to peel one potato with each peeler.

(See appendix n°1)

On the other hand, for the subjective part, I have prepared a questionnaire where I obtain the personal opinion of each participant regarding comfort, safety, user experience and aesthetic of eah peeler.

This questionnaire is based in likerts scales. Likert items are simply statements that the respondent is asked to evaluate by giving it a quantitative value on a subjective dimension, with a level of agreement/disagreement used.

(See appendix n°2 and 3)

Order to take the test:

1. Feel the n° participant, age, gender and handed gaps.
2. Weigh all unpeeled potatoes
3. Peel one potatoe with on peeler and time it.
4. Weigh the peeled potatoe.
5. Feel all likerts scales.

RESULTS

Using the data of the UX design test results (See appendix n°4 and 5), I have compared the times, the weights and the user experiences of the 4 types of peeler.

Below you can see the results. Those that are marked in green are the peelers considered better in that field.

TIME TEST RESULTS

	TIME PEELER A	TIME PEELER B	TIME CONCEPT A	TIME CONCEPT B
Average	53	37	61	42
Range	14	14	15	16
Minimum	46	31	55	35
Maximum	60	45	70	51

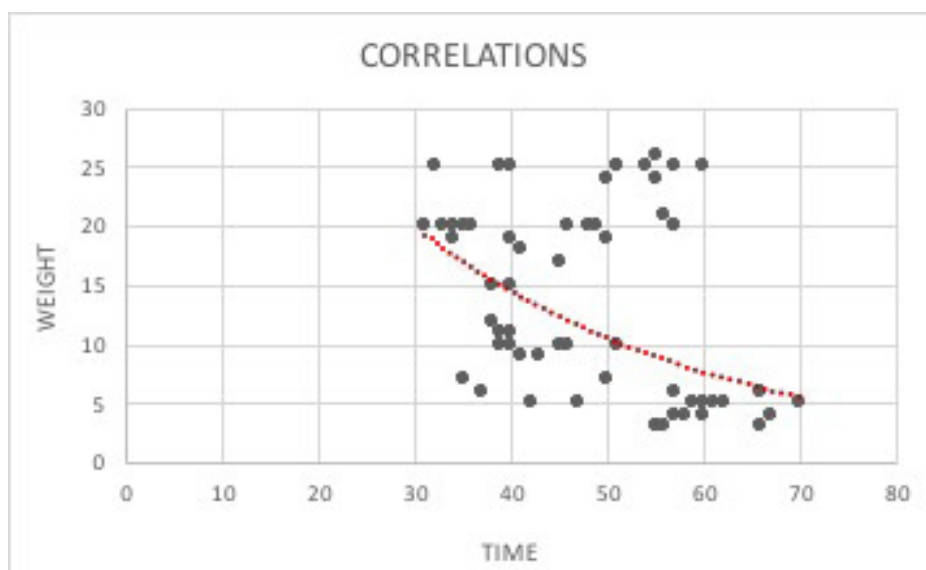
The results show that the peeler B is the fastest. Whereas, the concept A is the slowest.

WEIGHT TEST RESULTS

	WEIGHT PEELER A	WEIGHT PEELER B	WEIGHT CONCEPT A	WEIGHT CONCEPT B
Average	23	20	4	9
Range	7	10	3	7
Minimum	19	15	3	5
Maximum	26	25	6	12

The results show that the concept A is the one that wastes less peel. Whereas, the peeler A is the one that wastes the most.

TIME VS. WEIGHT



The results aren't very clear, but looking at the exponential line (marked in red), we can see that the faster the peeler is, the more peel is wasted.

RESULTS

EXPERIENCE METRIC TEST RESULTS

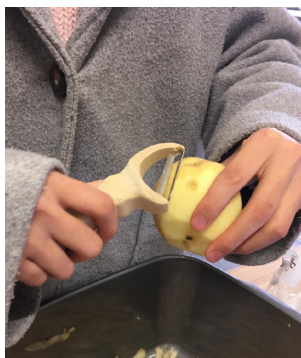
PEELER TYPE A: EXPERIENCE METRIC				PEELER TYPE B: EXPERIENCE METRIC				CONCEPT TYPE A: EXPERIENCE METRIC				CONCEPT TYPE B: EXPERIENCE METRIC			
COMFORT Rating	AESTHETICS Rating	SAFETY Rating	USER EXPERIENCE Rating	COMFORT Rating	AESTHETICS Rating	SAFETY Rating	USER EXPERIENCE Rating	COMFORT Rating	AESTHETICS Rating	SAFETY Rating	USER EXPERIENCE Rating	COMFORT Rating	AESTHETICS Rating	SAFETY Rating	USER EXPERIENCE Rating
1	1	1	1	2	2	2	3	2	3	2	1	3	3	1	2
1	2	1	1	2	1	3	3	2	3	3	2	3	3	1	3
1	1	0	1	2	1	3	2	3	3	2	2	3	3	2	3
0	1	1	2	1	1	3	2	3	3	2	1	3	3	3	3
1	0	0	1	2	1	3	3	3	3	3	2	3	3	3	3
1	1	0	1	2	1	2	3	3	3	3	2	3	3	3	3
1	1	0	1	2	1	2	3	3	3	2	2	3	3	2	2
1	1	0	1	2	1	3	2	3	3	2	2	3	3	2	3
1	0	0	1	2	1	3	3	2	2	3	2	3	3	1	3
0	0	1	2	1	0	3	3	2	3	2	3	3	3	2	3
1	1	1	1	1	1	2	2	3	3	2	2	3	3	3	2
2	1	1	2	2	0	2	2	2	2	3	2	3	3	3	3
1	1	1	1	2	1	3	2	3	3	2	2	2	3	2	2
1	0	0	1	1	2	2	3	3	3	2	2	3	3	2	3
1	1	0	1	2	1	2	3	2	2	3	2	3	3	2	3
1	1	0	1	2	1	2	3	2	2	3	2	3	3	3	3
14	12	7	18	26	15	38	39	39	45	36	29	44	45	33	41
51				118				149				163			

According to users' opinions when using the four types of peelers, I have drawn the following conclusions:

The best valued peeler regarding comfort, aesthetics and user experience is the concept B. The peeler best rated in safety field is the peeler B.

The concept A has the best aesthetics together with the concept B.

SOME PHOTOS ABOUT THE TEST:



EVALUATION AND CONCLUSIONS

I have to say that the test method used is very limited, this is due to a number of aspects:

First, A larger number of 15 participants is needed as a population for our test. We have to keep in mind that users in contact with a kitchen peeler are many more than 15.

With a greater number of population we could take into account the gender, age, dominant hand, disabilities... and be more accurate.

Finally, concepts A and B are prototypes. Neither the shape, or the material, or the color or the blade are those intended for the final product. With which neither the aesthetics or the effectiveness are real or comparable with a peer bought in the supermarket (peeler A and B).

That's why, to value the aesthetics of the prototypes, I have shown a render from the computer to all the participants. So they could have an idea of what the final product would be like.

Maybe, with a prototype closer to reality, the results would be even more useful.

Taking into account the previous results, we could say that the most efficient peeler would be the one in the middle. That is to say, the peeler that isn't the fastest but that isn't as slow as the slowest. And, at the same time, the one that doesn't waste as much peel as the fastest. This peeler is the concept B.

In addition, focusing on the results of the users' experience, the best valued peeler, by far, is the concept B too.

So, clearly, the best peeler is the concept B.



APPENDIXS

PARTICIPANTS		TIME (seconds)				WEIGHT (grams)			
PEELER		A	B	A'	B'	A	B	A'	B'
#1		51	36	70	51	125	120	110	120
						100	100	105	110
#2									
#3									
#4									
#5									
#6									
#7									
#8									
#9									
#10									
#11									
#12									
#13									
#14									
#15									

You are going to test four types of peelers, each one different: two of them are existing products in the market and the other two are new creations.

PARTICIPANT #

Handed: L / R

Age:

Gender: F / M

Please indicate the degree to which you agree/disagree with the following statements:

EXPERIENCE

1. My experience was positive

Peeler A	☐	☐	☐	☐
Peeler B	☐	☐	☐	☐
Concept A	☐	☐	☐	☐
Concept B	☐	☐	☐	☐
	Completely Disagree	Disagree	Agree	Completely agree

COMFORT

1. The peeler is comfortable.

Peeler A	☐	☐	☐	☐
Peeler B	☐	☐	☐	☐
Concept A	☐	☐	☐	☐
Concept B	☐	☐	☐	☐
	Completely Disagree	Disagree	Agree	Completely agree

SAFETY

2. The peeler is safe.

Peeler A	☐	☐	☐	☐
Peeler B	☐	☐	☐	☐
Concept A	☐	☐	☐	☐
Concept B	☐	☐	☐	☐
	Completely Disagree	Disagree	Agree	Completely agree

AESTHETICS

3. The peeler catch my attention.

Peeler A	☐	☐	☐	☐
Peeler B	☐	☐	☐	☐
Concept A	☐	☐	☐	☐
Concept B	☐	☐	☐	☐
	Completely Disagree	Disagree	Agree	Completely agree

You are going to test four types of peelers, each one different: two of them are existing products in the market and the other two are new creations.

PARTICIPANT #1

Handed: L / (R)

Age: 20

Gender: (F) / M

Please indicate the degree to which you agree/disagree with the following statements:

EXPERIENCE

1. My experience was positive

Peeler A	☐	☒	☐	☐
Peeler B	☐	☐	☐	☒
Concept A	☒	☐	☐	☐
Concept B	☐	☐	☒	☐
	Completely Disagree	Disagree	Agree	Completely agree

COMFORT

1. The peeler is comfortable.

Peeler A	☐	☒	☐	☐
Peeler B	☐	☐	☒	☐
Concept A	☐	☐	☒	☐
Concept B	☐	☐	☐	☒
	Completely Disagree	Disagree	Agree	Completely agree

SAFETY

2. The peeler is safe.

Peeler A	☐	☒	☐	☐
Peeler B	☐	☐	☒	☐
Concept A	☐	☐	☒	☐
Concept B	☐	☒	☐	☐
	Completely Disagree	Disagree	Agree	Completely agree

AESTHETICS

3. The peeler catch my attention.

Peeler A	☐	☒	☐	☐
Peeler B	☐	☐	☒	☐
Concept A	☐	☐	☐	☒
Concept B	☐	☐	☐	☒
	Completely Disagree	Disagree	Agree	Completely agree

PEELER A TEST RESULTS

BIOGRAPHICAL DATA				PEELER TYPE A: USABILITY METRICS		PEELER TYPE A: EXPERIENCE METRIC			
PARTICIPANTS	AGE	GENDER M/F	L / R HANDED	TIME (Seconds)	WEIGHT (Grams)	COMFORT Rating	AESTHETICS Rating	SAFETY Rating	USER EXPERIENCE Rating
P1	20	F	R	51	25	1	1	1	1
P2	20	M	R	57	20	1	2	1	1
P3	18	F	R	54	25	1	1	0	1
P4	23	F	R	48	20	0	1	1	2
P5	24	F	R	50	19	1	0	0	1
P6	56	F	L	46	20	1	1	0	1
P7	53	M	R	55	26	1	1	0	1
P8	23	F	R	57	25	1	1	0	1
P9	25	F	R	50	24	1	0	0	1
P10	22	M	L	56	21	0	0	1	2
P11	23	M	L	49	20	1	1	1	1
P12	21	F	L	55	24	2	1	1	2
P13	72	F	R	51	25	1	1	1	1
P14	93	F	R	57	20	1	0	0	1
P15	69	M	R	60	25	1	1	0	1

PEELER B TEST RESULTS

BIOGRAPHICAL DATA				PEELER TYPE B: USABILITY METRICS		PEELER TYPE B: EXPERIENCE METRIC			
PARTICIPANTS	AGE	GENDER M/F	L / R HANDED	TIME (Seconds)	WEIGHT (Grams)	COMFORT Rating	AESTHETICS Rating	SAFETY Rating	USER EXPERIENCE Rating
P1	20	F	R	36	20	2	2	2	3
P2	20	M	R	33	20	2	1	3	3
P3	18	F	R	38	15	2	1	3	2
P4	23	F	R	40	15	1	1	3	2
P5	24	F	R	32	25	2	1	3	3
P6	56	F	L	31	20	2	1	2	3
P7	53	M	R	39	25	2	1	2	3
P8	23	F	R	41	18	2	1	3	2
P9	25	F	R	31	20	2	1	3	3
P10	22	M	L	34	19	1	0	3	3
P11	23	M	L	40	19	1	1	2	2
P12	21	F	L	40	25	2	0	2	2
P13	72	F	R	35	20	2	1	3	2
P14	93	F	R	34	20	1	2	2	3
P15	69	M	R	45	17	2	1	2	3

CONCEPT A TEST RESULTS

BIOGRAPHICAL DATA				CONCEPT TYPE A: USABILITY METRICS		CONCEPT TYPE A: EXPERIENCE METRIC			
PARTICIPANTS	AGE	GENDER M/F	L / R HANDED	TIME (Seconds)	WEIGHT (Grams)	COMFORT Rating	AESTHETICS Rating	SAFETY Rating	USER EXPERIENCE Rating
P1	20	F	R	70	5	2	3	2	1
P2	20	M	R	66	3	2	3	3	2
P3	18	F	R	60	5	3	3	2	2
P4	23	F	R	58	4	3	3	2	1
P5	24	F	R	62	5	3	3	3	2
P6	56	F	L	57	6	3	3	3	2
P7	53	M	R	61	5	3	3	2	2
P8	23	F	R	56	3	3	3	2	2
P9	25	F	R	55	3	2	3	3	2
P10	22	M	L	60	4	2	3	2	3
P11	23	M	L	59	5	3	3	2	2
P12	21	F	L	57	4	2	3	3	2
P13	72	F	R	67	4	3	3	2	2
P14	93	F	R	55	3	3	3	2	2
P15	69	M	R	66	6	2	3	3	2

CONCEPT B TEST RESULTS

BIOGRAPHICAL DATA				CONCEPT TYPE B: USABILITY METRICS		CONCEPT TYPE B: EXPERIENCE METRIC			
PARTICIPANTS	AGE	GENDER M/F	L / R HANDED	TIME (Seconds)	WEIGHT (Grams)	COMFORT Rating	AESTHETICS Rating	SAFETY Rating	USER EXPERIENCE Rating
P1	20	F	R	51	10	3	3	1	2
P2	20	M	R	40	10	3	3	1	3
P3	18	F	R	46	10	3	3	2	3
P4	23	F	R	42	5	3	3	3	3
P5	24	F	R	38	12	3	3	3	3
P6	56	F	L	35	7	3	3	3	3
P7	53	M	R	41	9	3	3	2	2
P8	23	F	R	39	11	3	3	2	3
P9	25	F	R	45	10	3	3	1	3
P10	22	M	L	47	5	3	3	2	3
P11	23	M	L	37	6	3	3	3	2
P12	21	F	L	39	10	3	3	3	3
P13	72	F	R	40	11	2	3	2	2
P14	93	F	R	43	9	3	3	2	3
P15	69	M	R	50	7	3	3	3	3