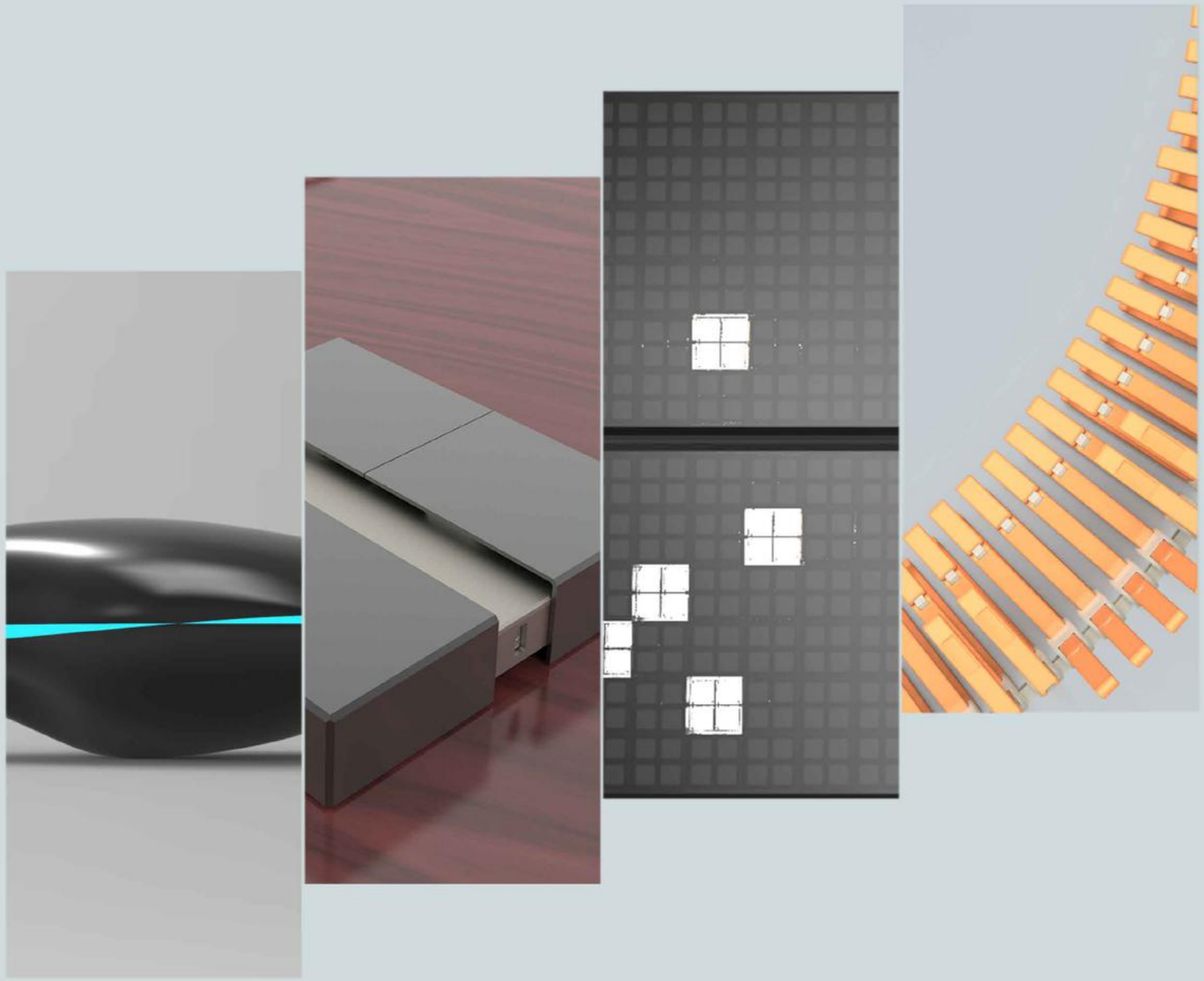

Qinyu WANG

Product Design and Manufacture
2016-2019

ABOUT ME

Qinyu WANG

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1767579472@qq.com

I am Qinyu Wang, a senior student graduated in Product Design and Manfacture from University of Nottingham Ningbo China. During the past three years, I have focused on product design and some fundamental industrial production methods.

I was concentrated on minimalism and modular design. The simple things can implement some functions, when they come together, some more complex works could be done.

In my spare, I enjoy making plastic model and seeking the machanical structureof it. My hobby sometimes can be a competent assistant of my main course.

CATALOGUE

1. GRAVITY MOUSE *p1-p6*

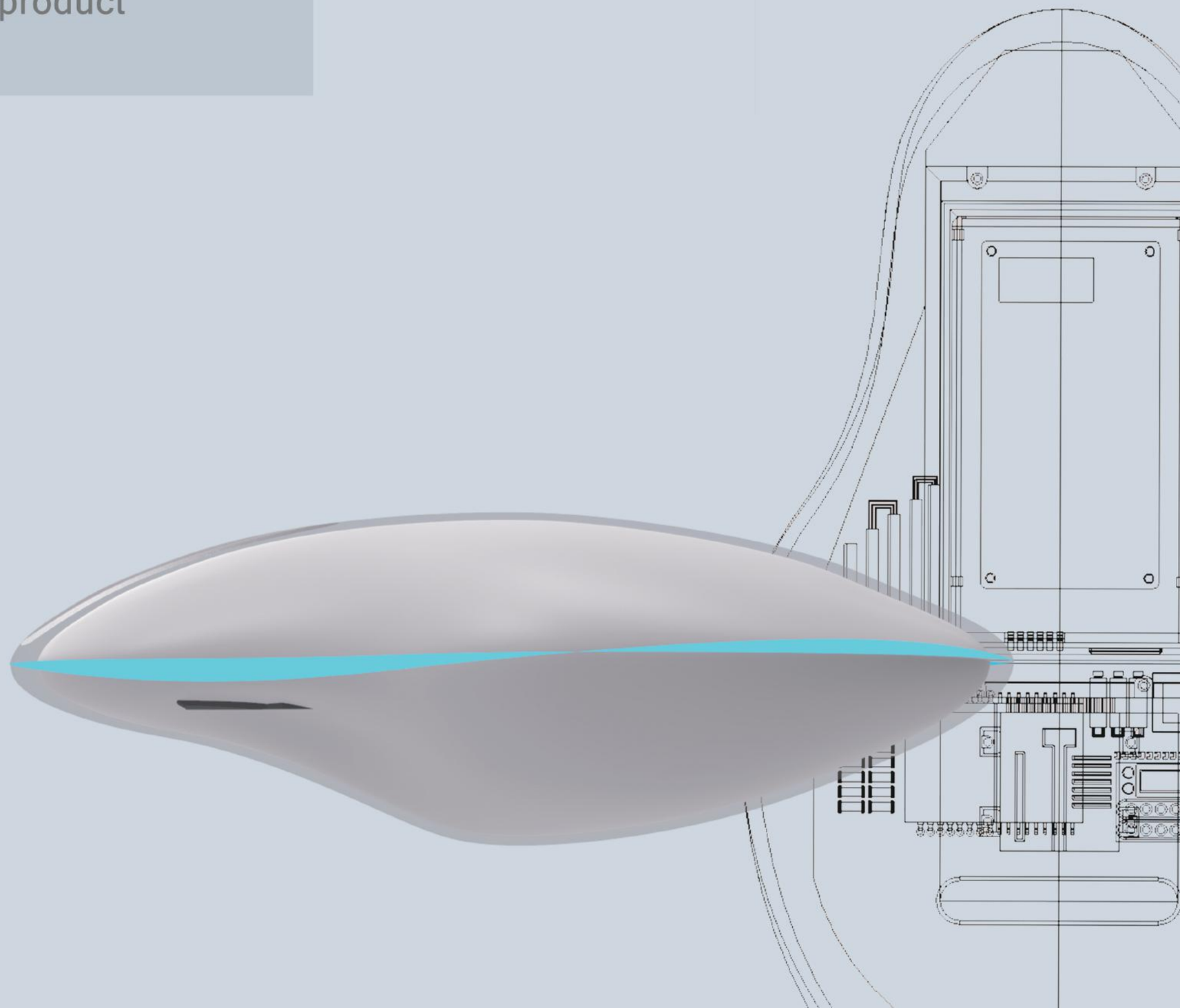
2. MAGIC HARD DRIVE *p7-p11*

3. IN-COOK *p12-p18*

4. AIRPORT FOLDING SEAT *p19-p23*

GRAVITY MOUSE

Revolution of classic product

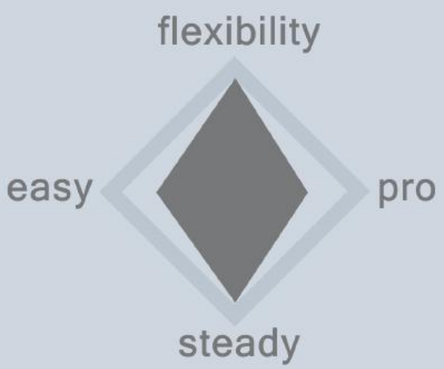


BACKGROUND & RESEARCH

The mouse is an important tool for working, studying and entertaiment. In different using circumstances, the shape and operability of mouses would be different.

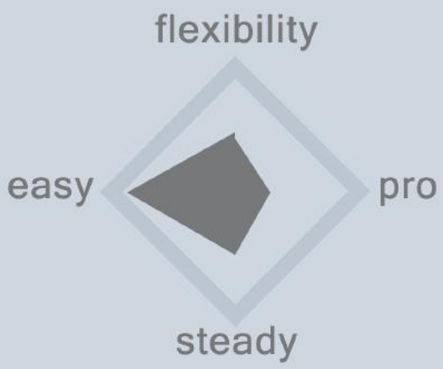
E-Sport

For e-sport players, the mouses should have hihger operability and stability to suit the intense game environment. The gaming mouse does not need too many keys for simplifiing the operation



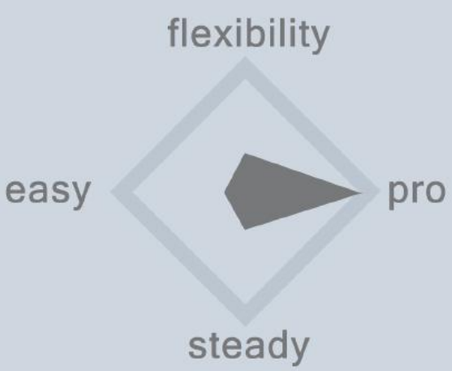
Office

The office-used mouse could be the most numerous similar product. Its shape is simple and aiming to work with documents, so that it just needs some basic fuctions like moving and clicking.



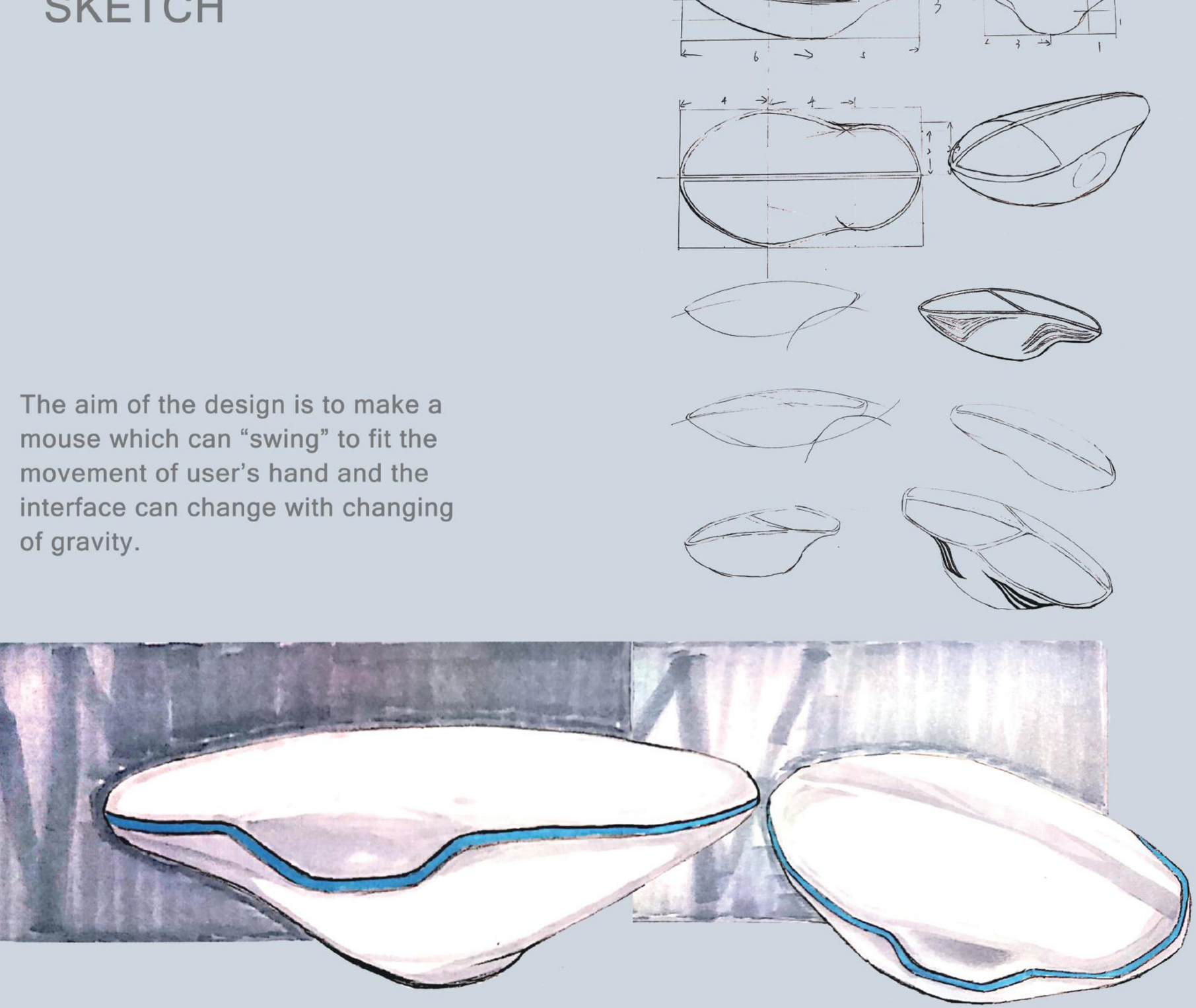
Handheld

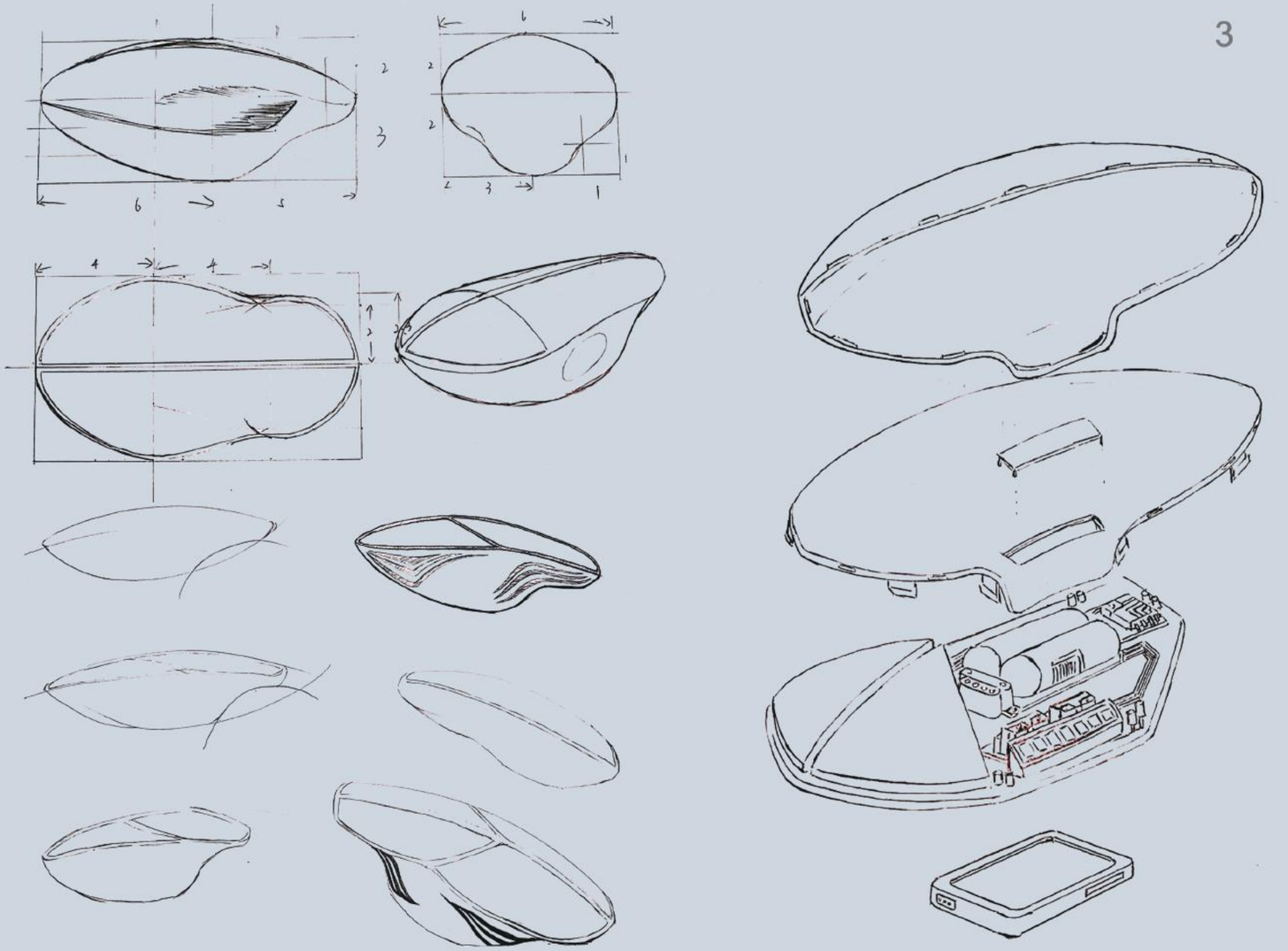
It is a special model but it is wildly used by the lecturers and publishers. Its shape is according to the structure of human's hand. With some buttons the user can remote control the terminal.

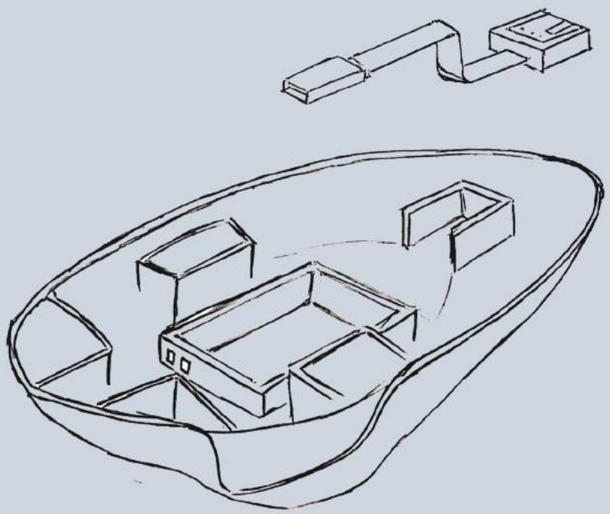


SKETCH

The aim of the design is to make a mouse which can “swing” to fit the movement of user’s hand and the interface can change with changing of gravity.





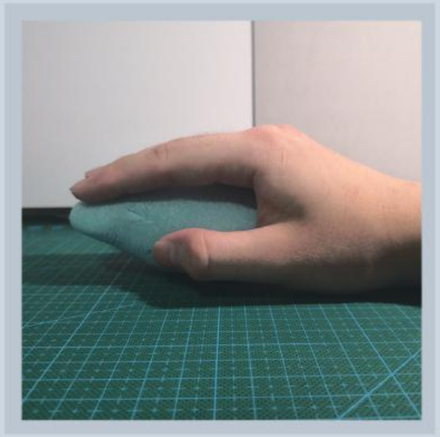


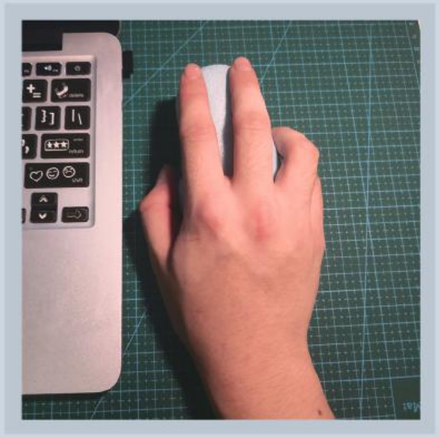
MODEL TSETING

To test the adaptability of Gravity mouse and human's hand, some models were made. The instruction of using environment is also shown.

The models were made by foam, and the scale were shown along with the mouses on the market.

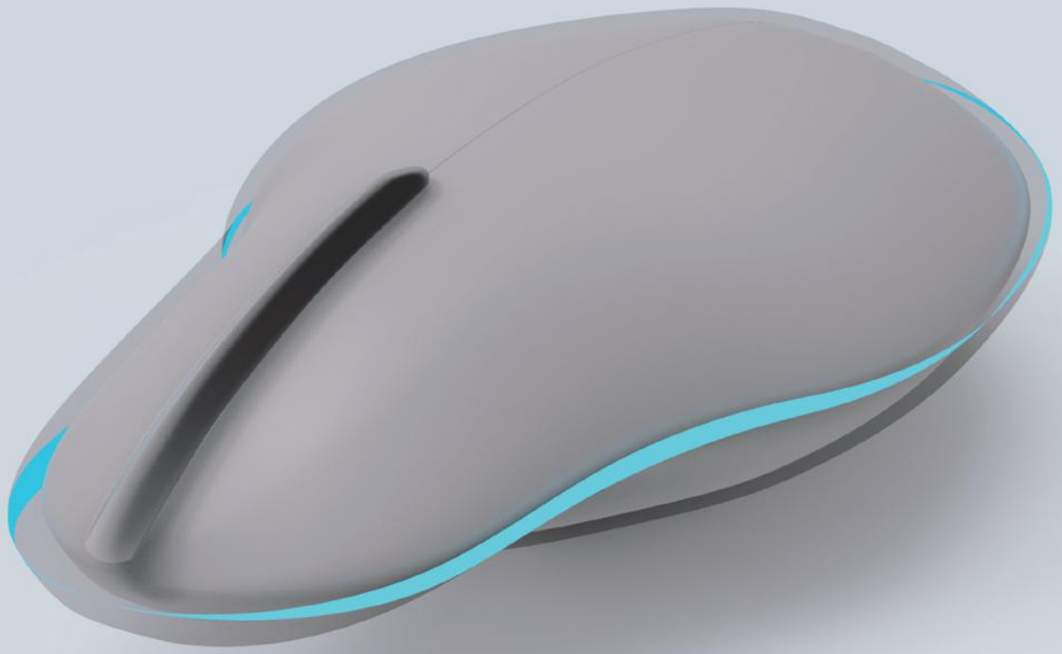
Production process through repeated experiments for the best feel of user's hand. Symmetric structure were made to accommodate left-hand users.

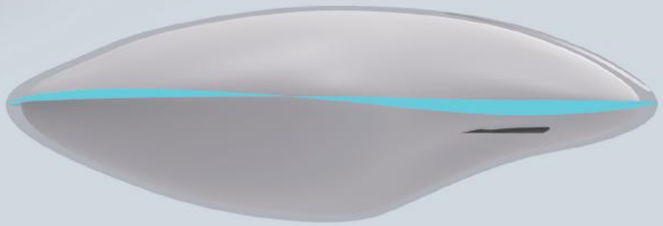


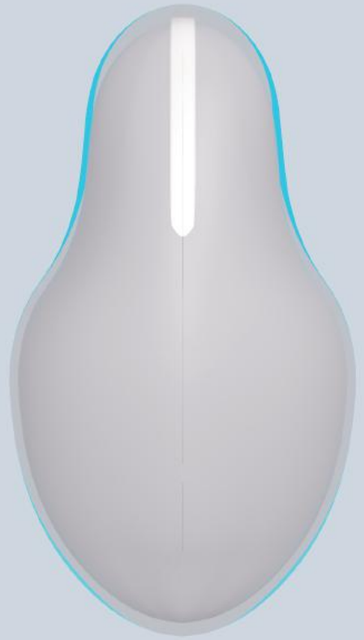


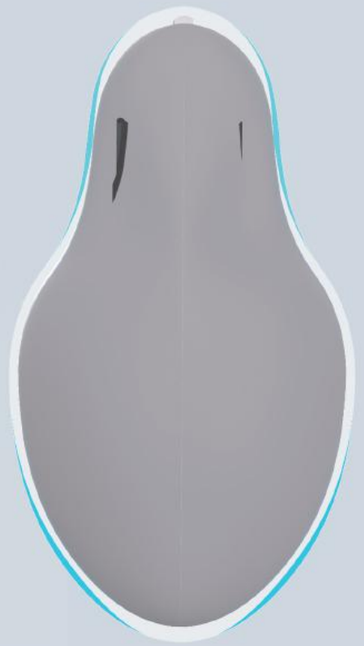
The base of the Gravity mouse is not flat as the tradition ones. The user can hold it to tilt to any angle. The target of this mouse is some 3D induction softwares, such as 3D modeling, space design and FPG(first-person game).

3D MODEL DISPLAY

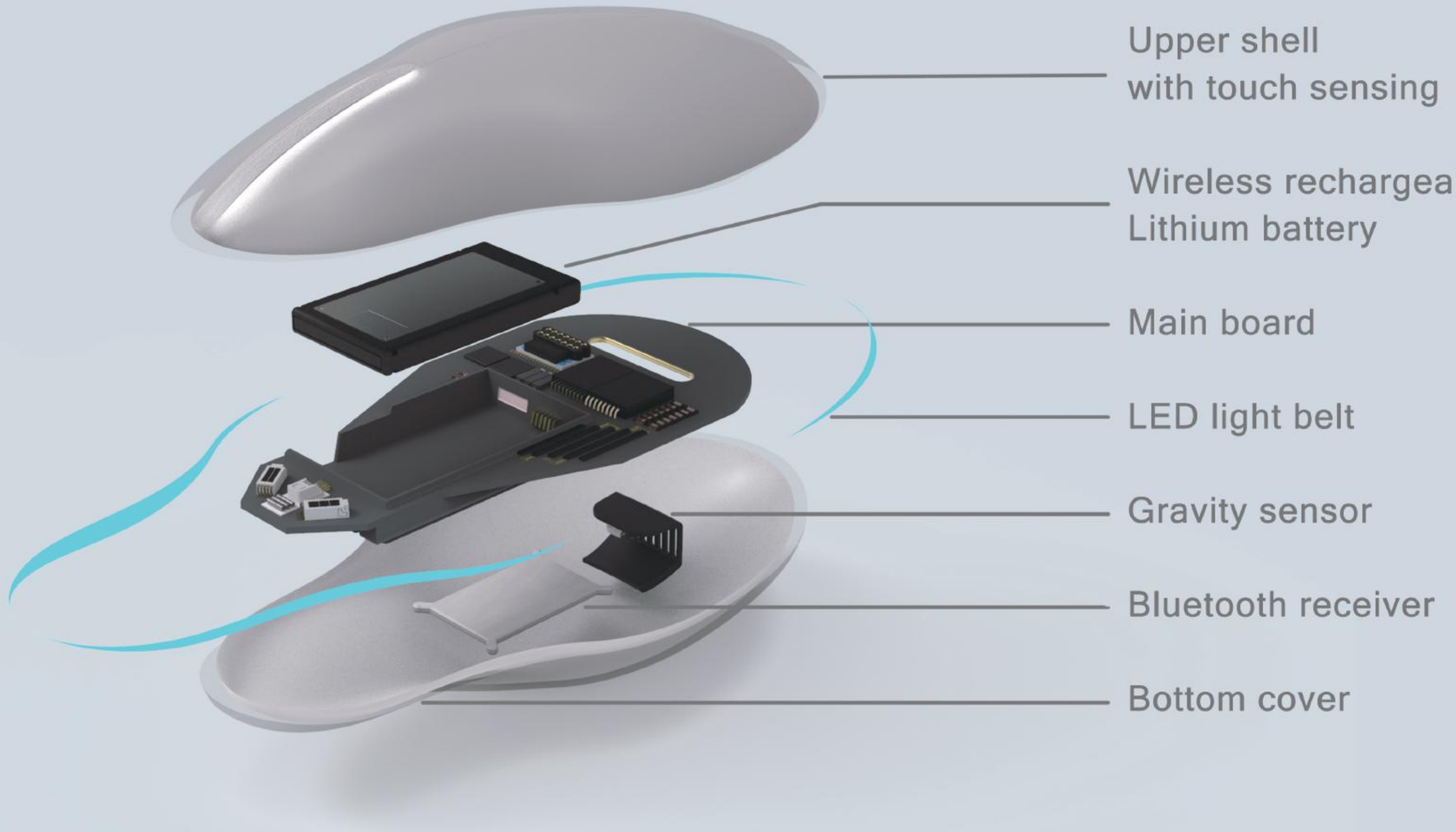






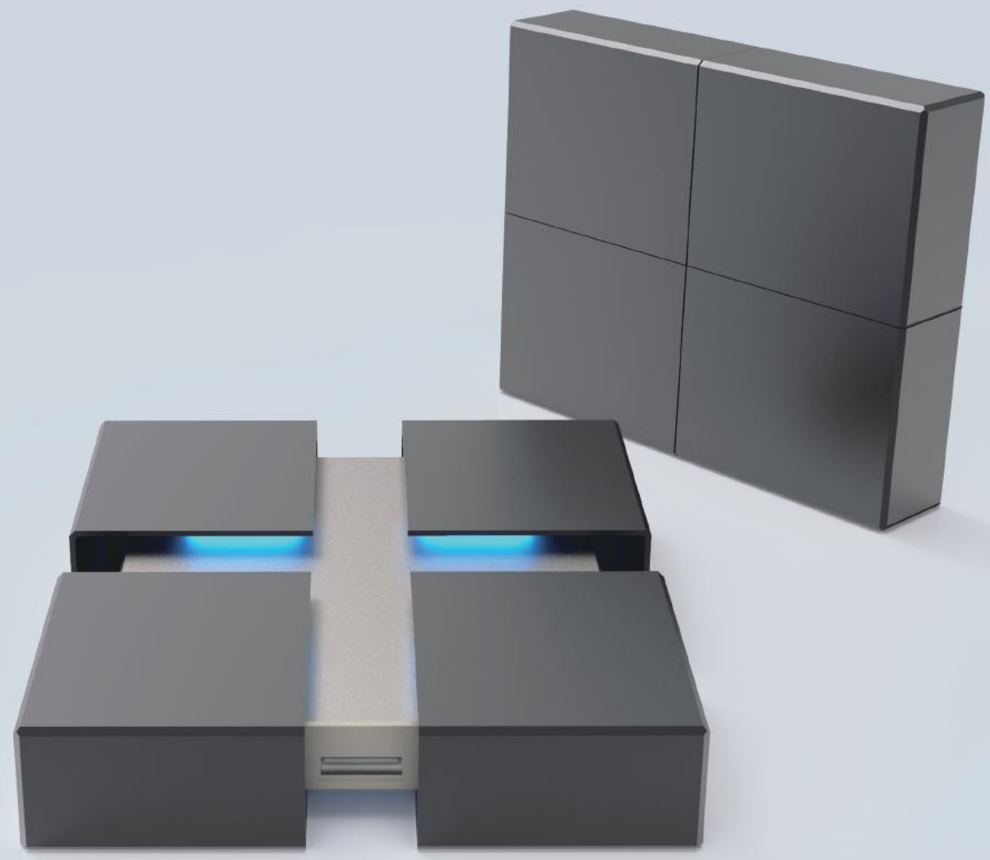


EXPLODED VIEW



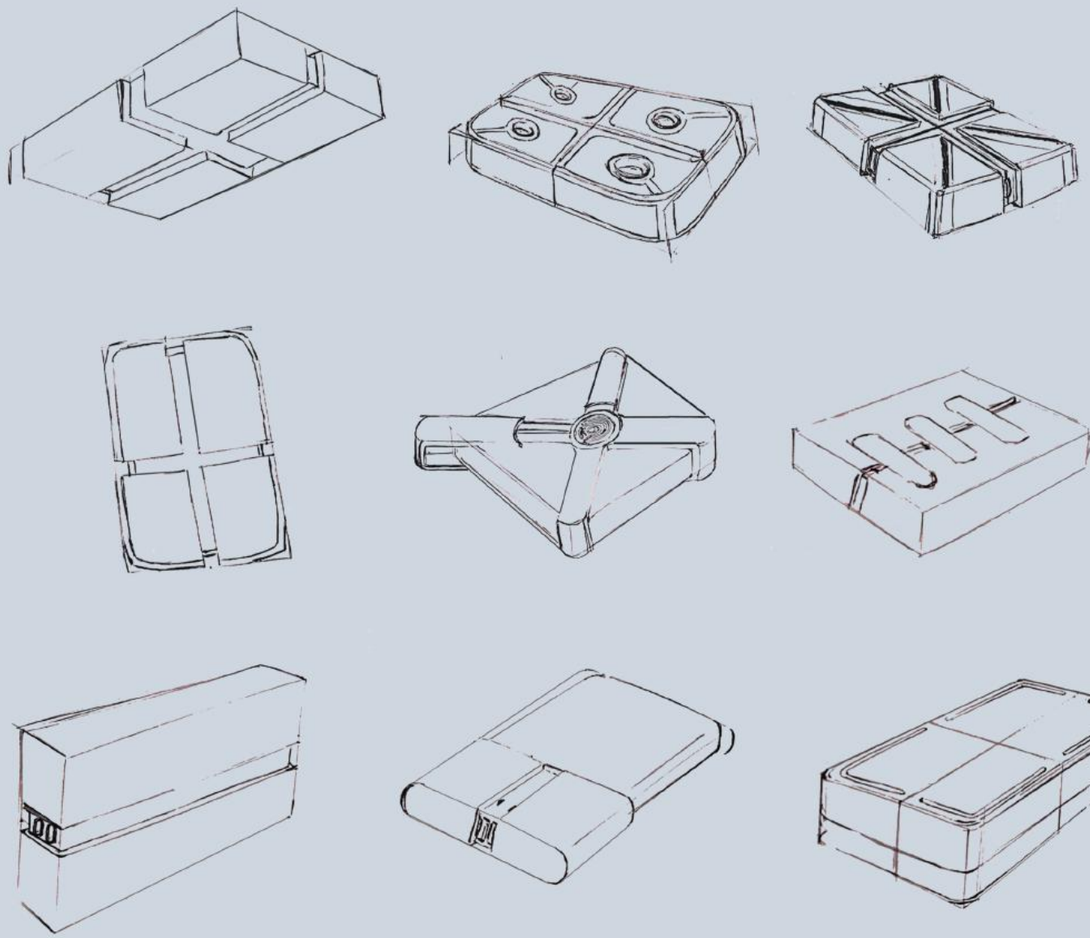
MAGIC HARD DRIVE

For better protection and diversified office work



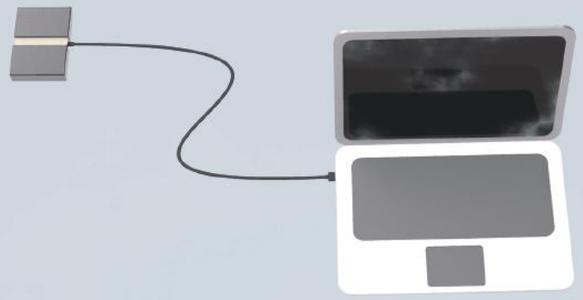
SKETCH

In this project the target is to make a portable hard drive which can protect the inner part with its shell



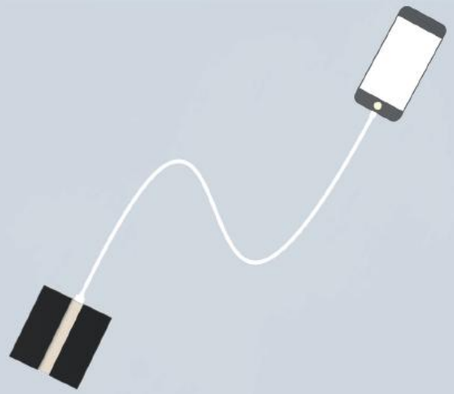
3D MODEL DISPLAY

This is Protecting mode, four shells were colsed to cover the inner part.



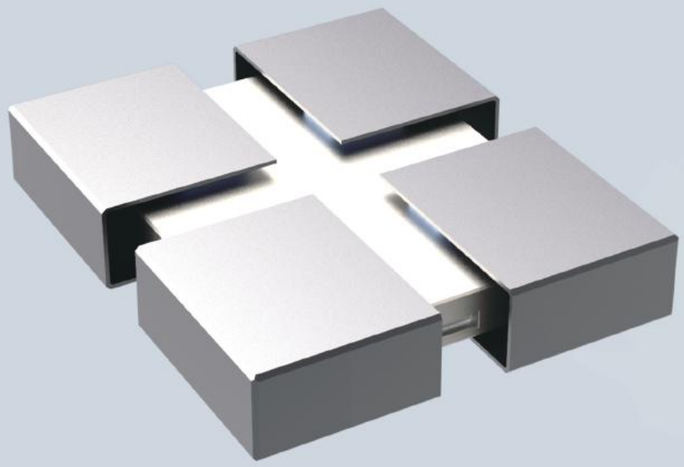
In this project the target is to make a portable hard drive which can protect the inner part with its movable shells.

To open the closing shells according to one axis, one or two interfaces would be shown.



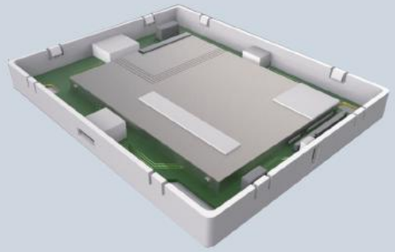
With a transmission wire the Magic Hard Drive can help to transmit and store data whenever and wherever as the users want.

This portable hard drive supporting three wildely used interfaces: USB3.0, Type-C and Thunderbolt.



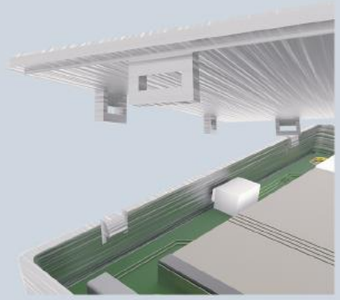
When all the outer shells were opened, the hard drive can be used for multi-plex transmission.

EXPLODED VIEW

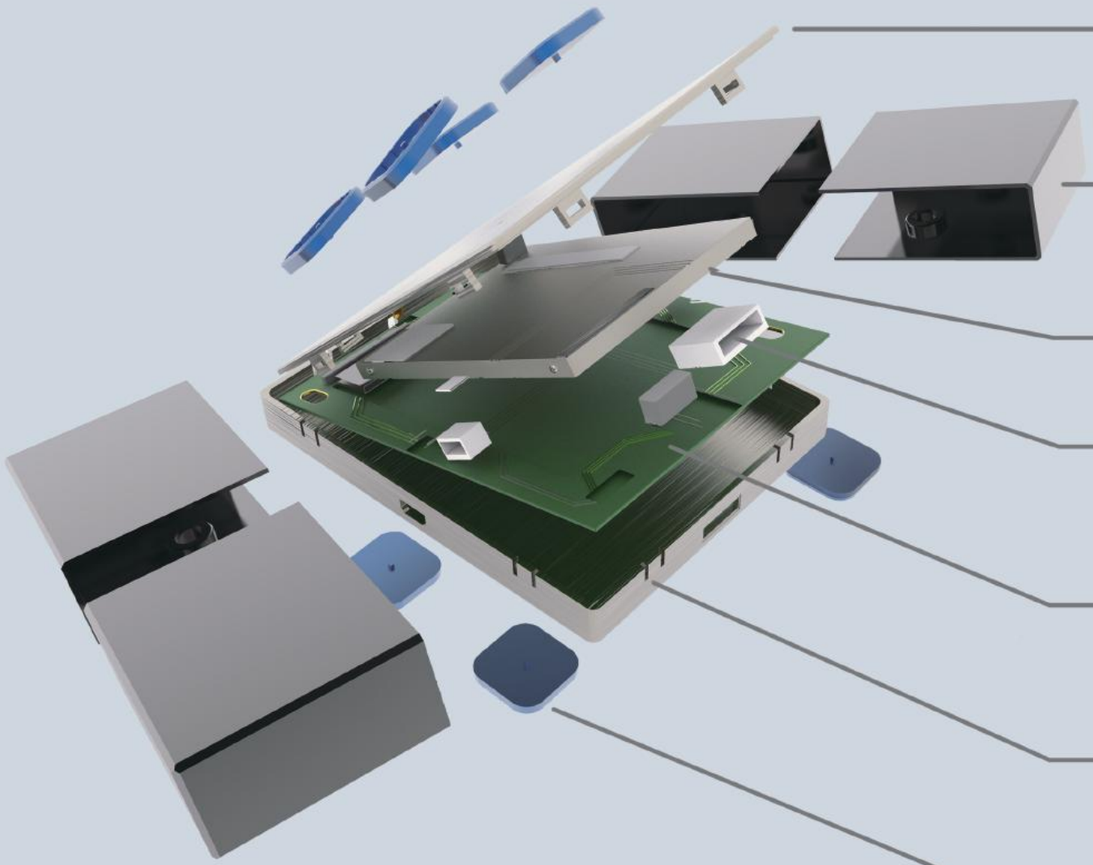


There are three interfaces and one indicator light in four sides

The silders were fixed by screws in the bottom, and some cushion materials were added inside the shell.



There are two fasteners on each side of the protection and bottom shells.



Upper protection shell*1
(Aluminium alloy)

Outer shell*4
(Aluminium alloy)

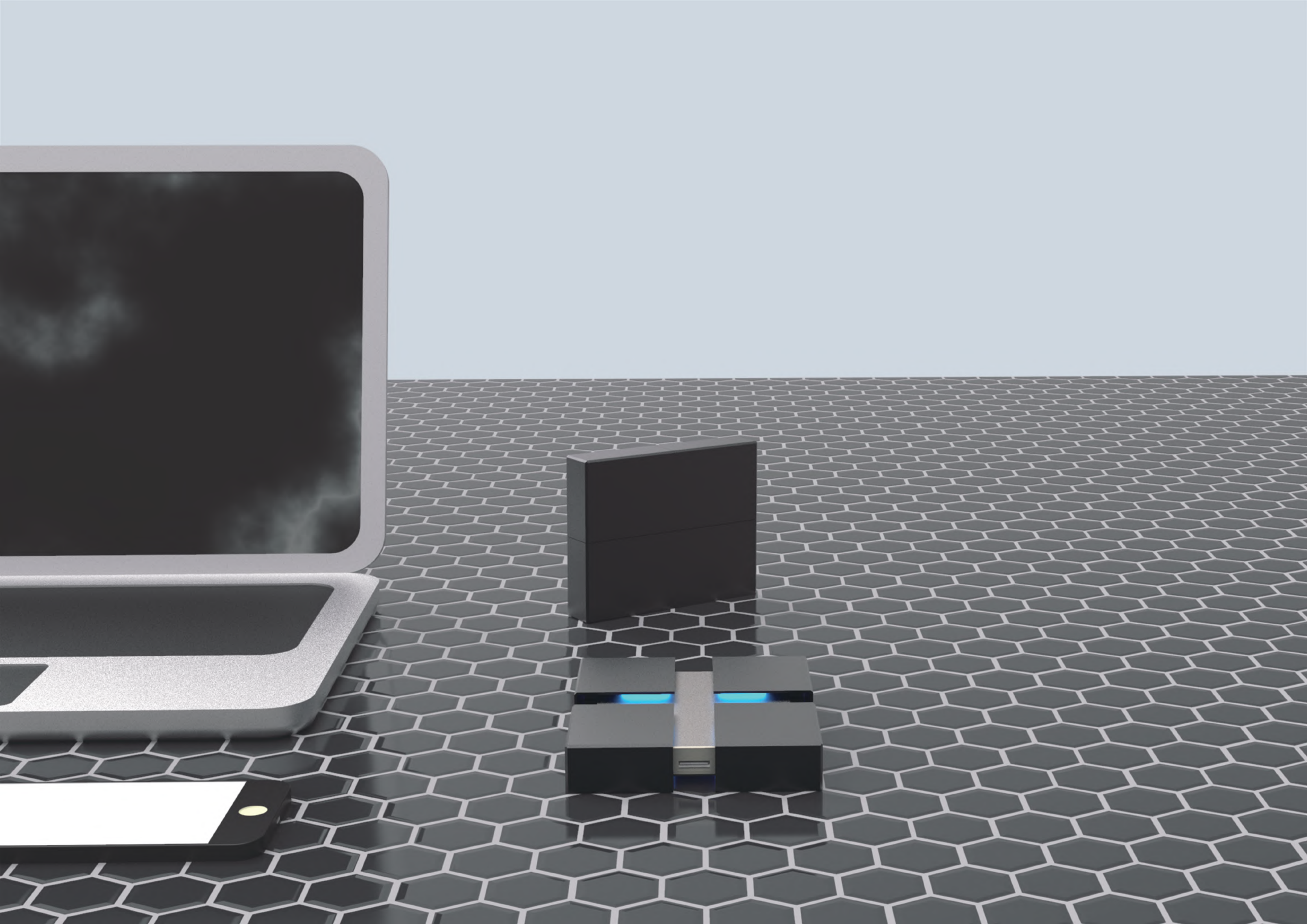
Samsung SSD drive*1

USB interface*3
(PC)

Circuir board*1
(Copper clad plate)

Base plate*1
(Aluminium alloy)

Sliding rail*8
(Aluminium alloy)

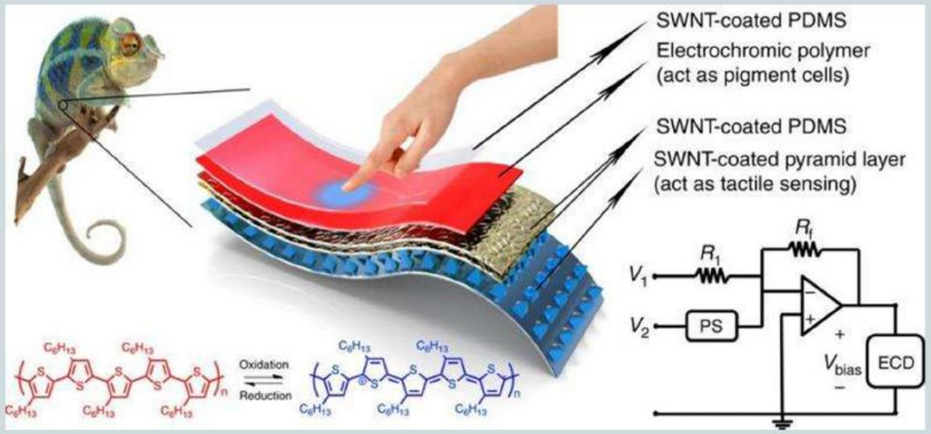


IN-COOK

a smart appliance for family kitchen

BACKGROUND & RESEARCH

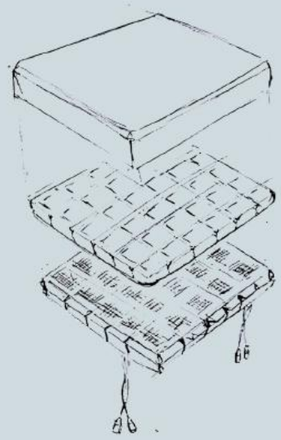
The kneading panel is a kind of the kitchen ware that with several concetric circles with granduations to help to make the dough into specific sizes. Some mode of the panel has the shape of dumplings or biscuits. Children or freshmen in the kitchen can offer some data from the signs on the surface. In the IN-COOK it is eqquipped with the lumious pad under it. And a screen on the left side can show some information like the weight or material proportion.

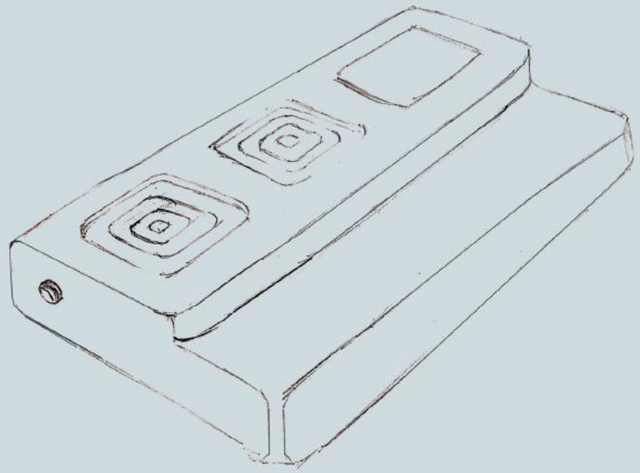


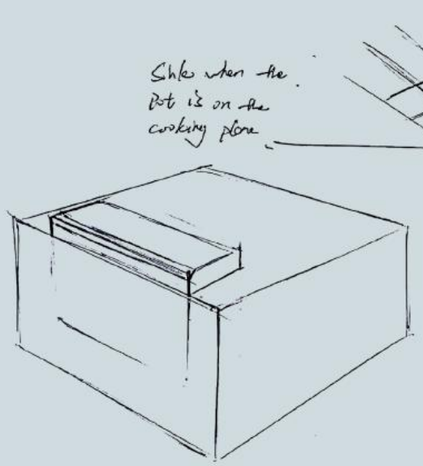
Researchers at Stanford University have fabricated a stretchable, color-changing, pressure-sensitive material-basically the closest thing yet to an artificial chameleon skin. Touching the new electronic skin (e-skin) with varying amounts of pressure causes it to change colors, as the pressure indirectly alters the chemical structure, and subsequently the optical properties, of the "electrochromic" material. The e-skin could have applications in interactive wearable devices, artificial prosthetics, and smart robots.
However, this technique is just from the testing stage. If the e-skin can be mass producted, the LED panel can be changed to this new material.

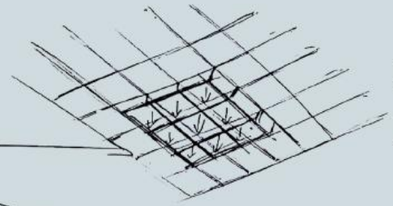
SKETCH

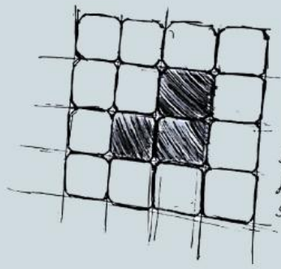
The basic inner structure were shown in these sketches, the ordinary using method and some parts of function were displayed as well.

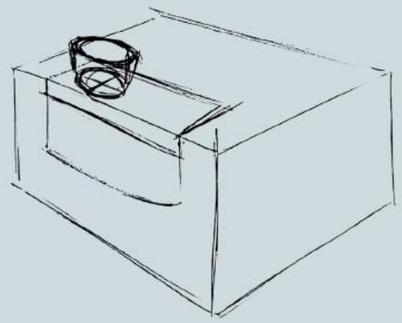


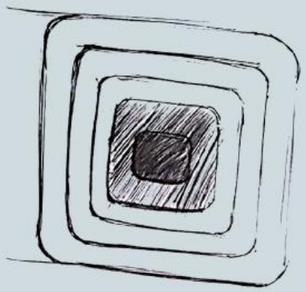


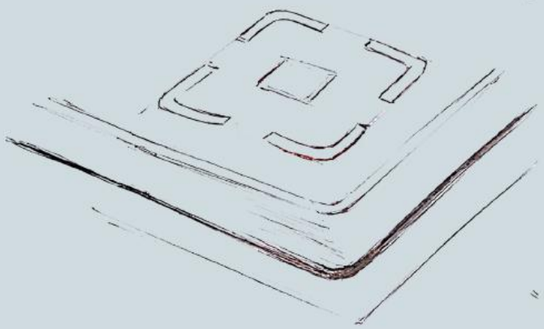


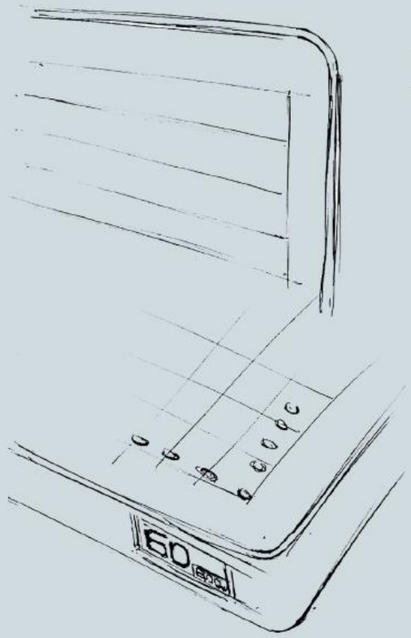


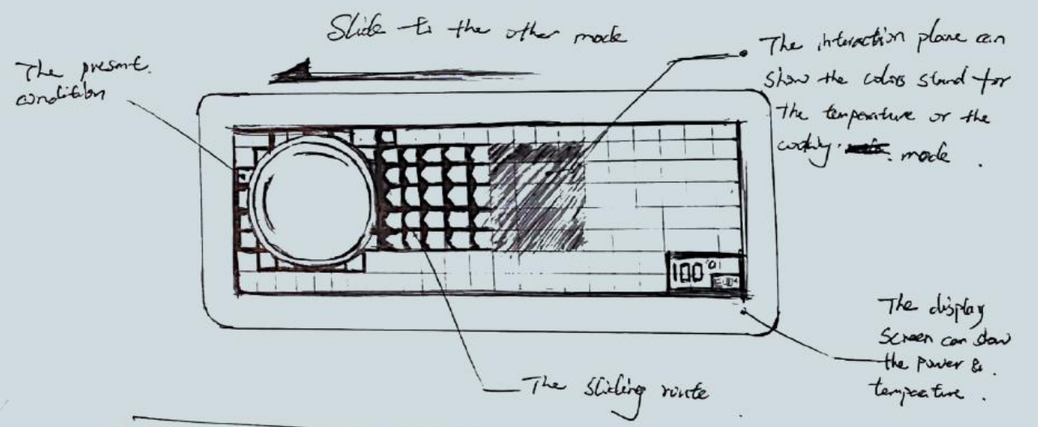


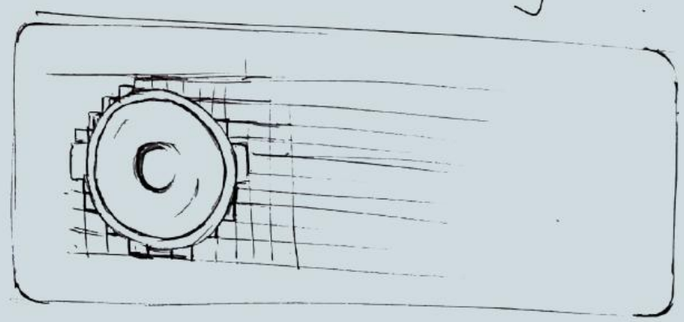






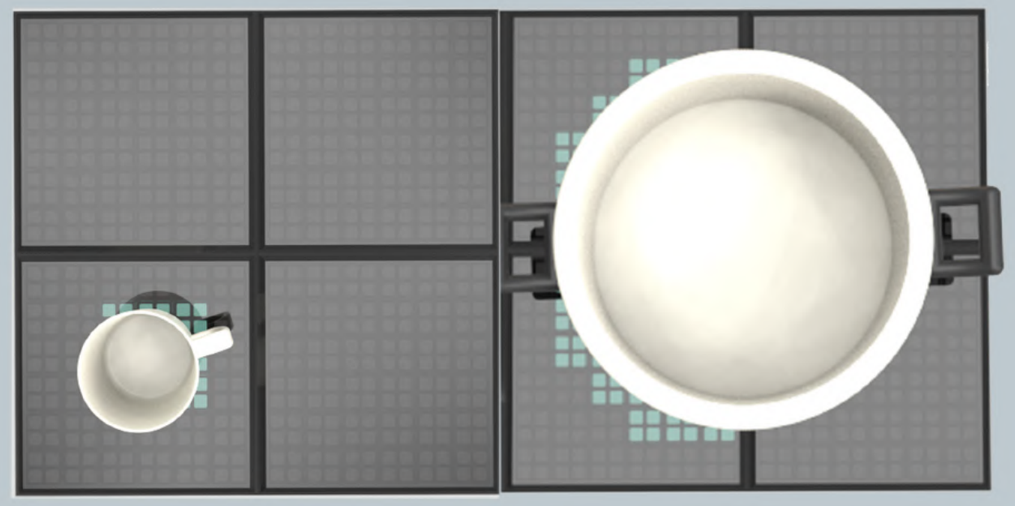






DETAILS

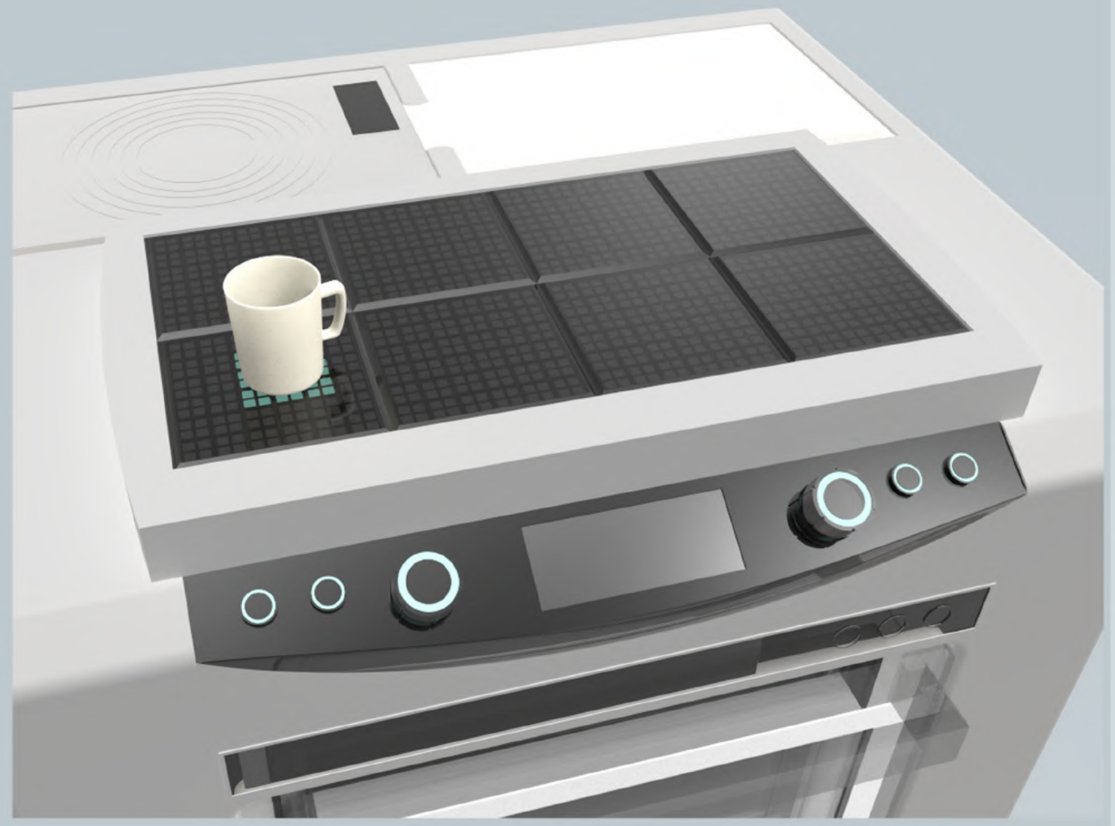
cooking pad& lighting set

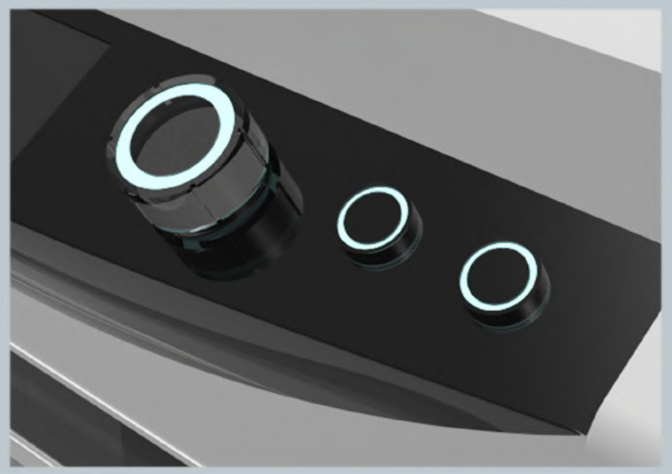


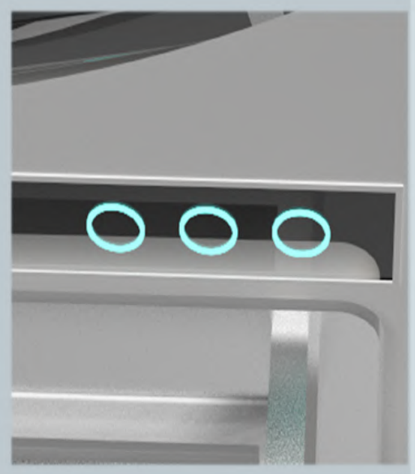
Cooking pad is the combination of touch pad and heating panel. It can detect the pressure then show the outline and track of kitchenwares' movement.

When the cook is at working, the light would change into brighter colour to remind the user that the heating panel is hot and do not touch.

Smart lighting sets and screen can help users to see the operating interface clearly when the environment light is weak. The sense light could change the light intensity as the user touch the pad.

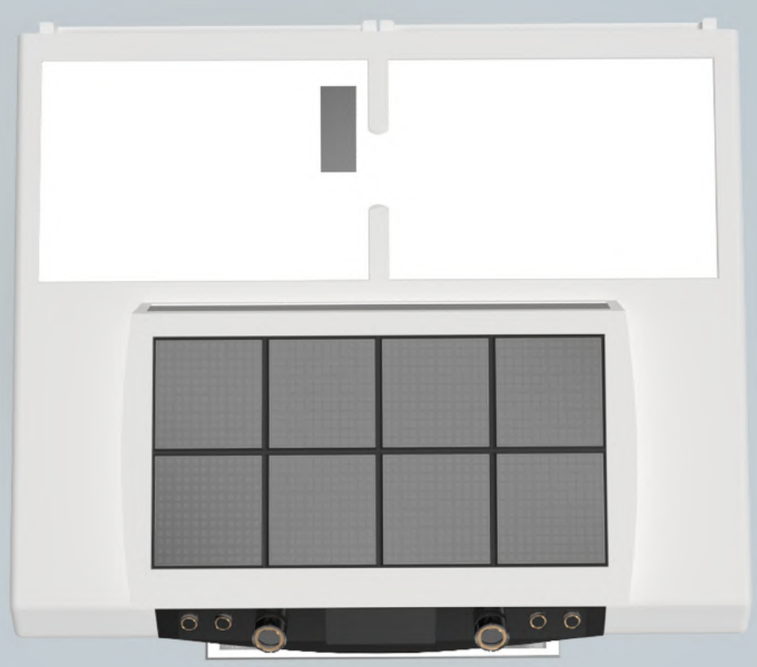






DETAILS

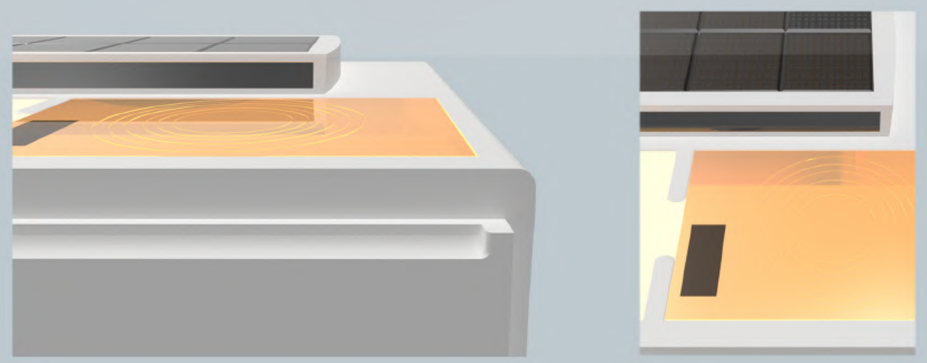
workbench & oven



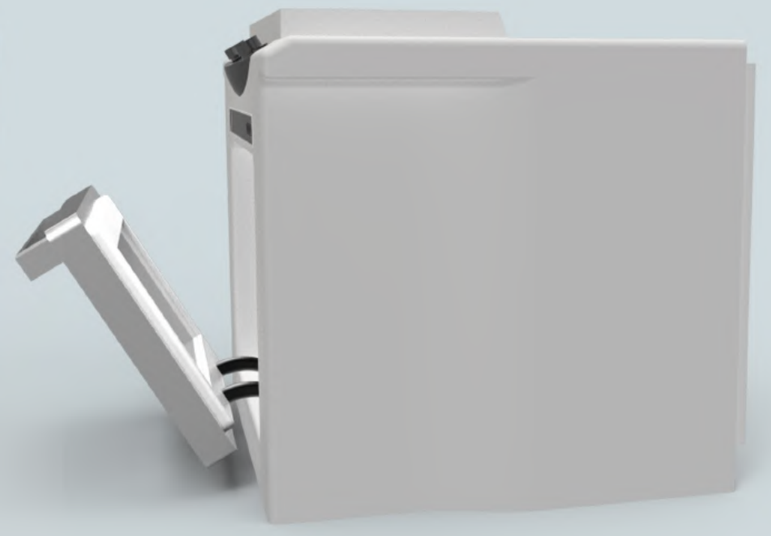
Children area

Parents area

For another side of the cooker is the workbench which offers a kneading pad and chopping block, this working area is for children to do light work like making cookies.



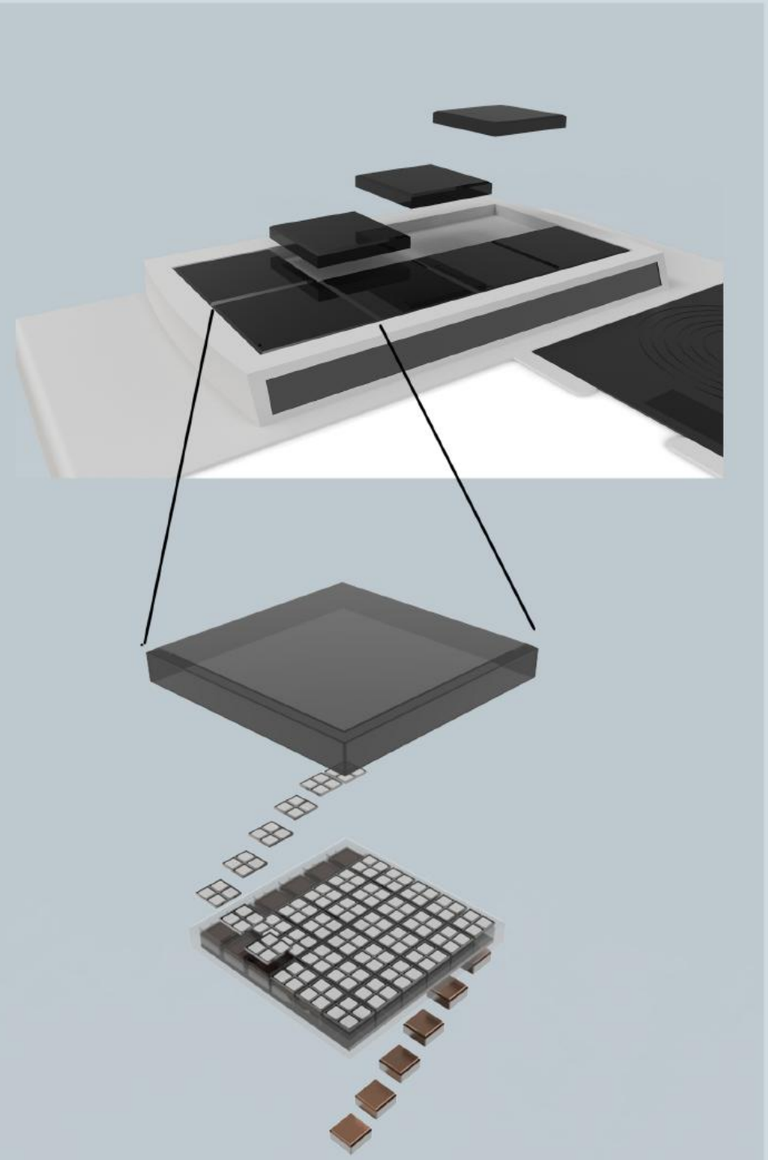
Below the operation panel is an oven, baking biscuits or roasting meat can be done here. This part is facing to the parents, the electric device and heating unit are kept away from children.



SUPPORTING

Under the operating panel here is an oven, with two barbecue grills in the box, which is convenient when users want to make some small baking things like biscuit or steak.

On the back of the oven is a double-deck cabinet, some small kitchen wares can be stored here. Of which inner side is eqquipped with magnet so that it can self-closing tightly.



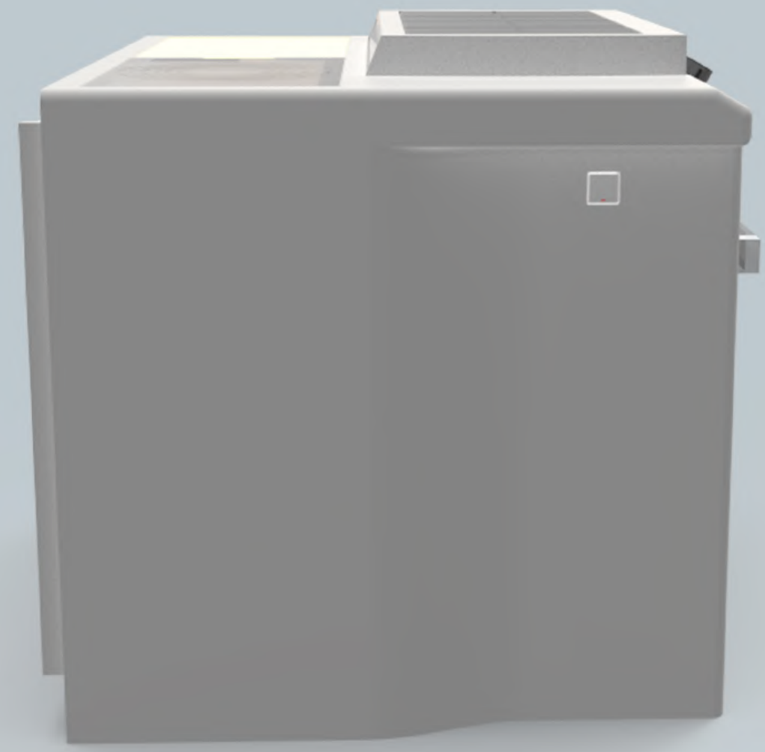
For the luminous facilities, the heating pad is divided in two parts. on the upper part here place 36 lighting plates in 6*6. Under the pad the electric heating apparatus are stuck on. The aluminium pad along with the fence strucure forms the supporting frame. On each luminous group there are four LED lighting pads, the upper side can feels the pressure and gives feedback to the processing unit, then the light can “trace” the items on it.

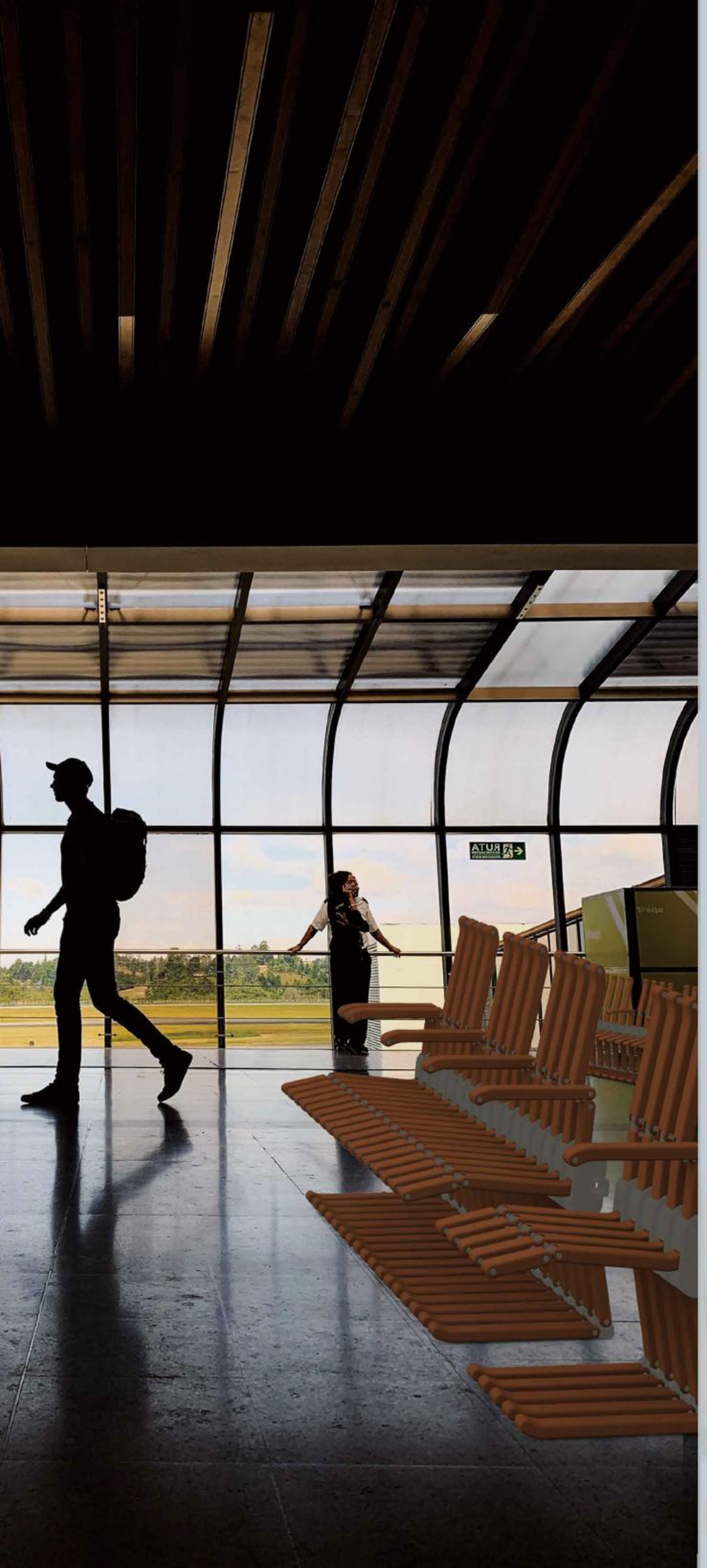
SUMMARY

Nowdays the kitchens is most for dull cooking, there is no much place for children show their imagination. Some parents think it is dangerous and intrusive. Some children lost their opportunity of participating cooking.

The primaty purpose of this project was adding some fun and convenient to the cooking process. Then intelletive operating panel and the gleamy kneading pad were added. As a gesture to security, all the facilities are just electric, the ones with gas were removed.

In the end, this smart appliance was finished. It can be regarded as two parts, one for parents, with electromagnectic oven and smart operating floor; another side for children, with a handwork panel without any electric heating apparatus. Still there is a big oven under the main panel.





AIRPORT FOLDING SEAT

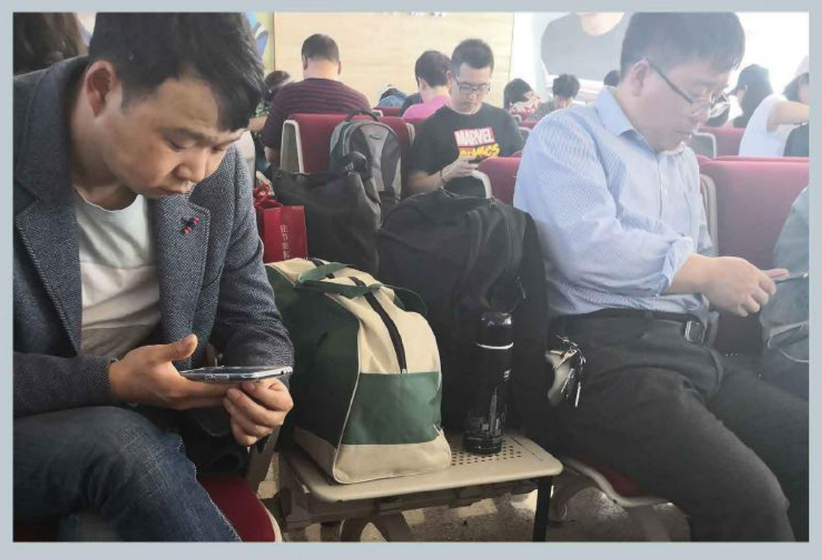
Modularize design for better experience

RESEARCH

For the people who would like to do some working or just some entertainment, the airport in the nowdays just offers some hard benchs seldom with a table, they can only do the work with a laptop on their legs.

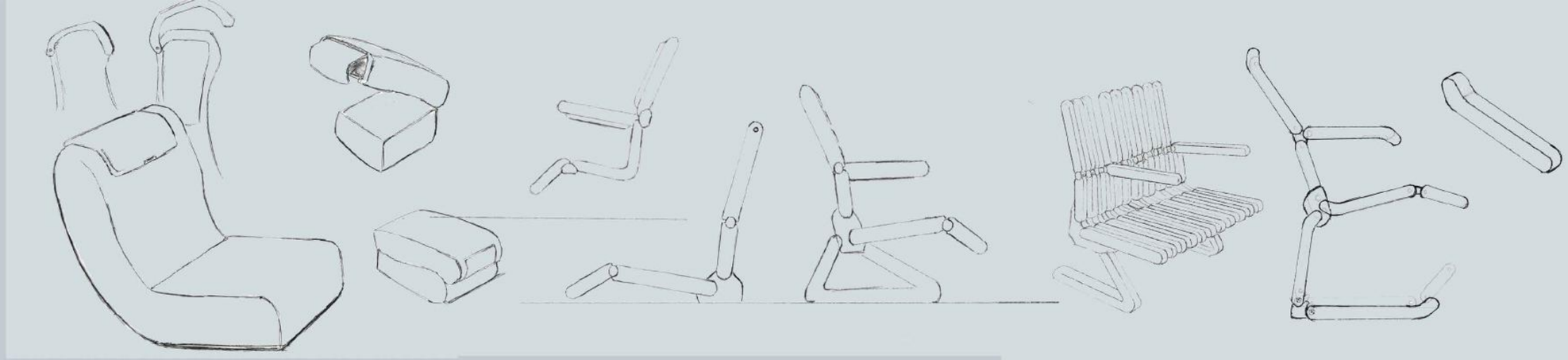
It is a part of daily of businessmen, government agents and travellers to take a plane to their destination, so that the public bench in the depature hall is where providing them a place for a rest. Some passengers would like to do some job here as well.

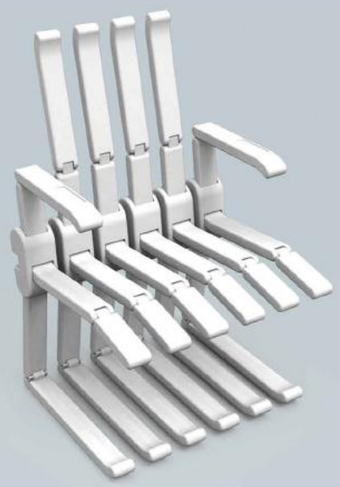
No matter what you want to do, the structure of the normal seat cannot be adjusted on their own. With the same posture is a torment during the whole waiting time.



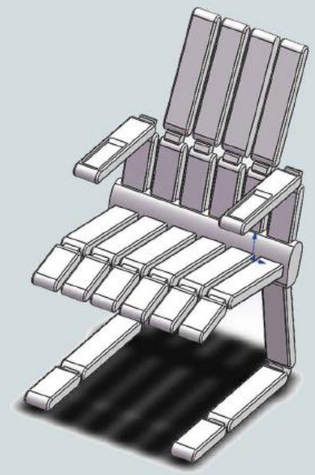
One of the biggest problem is, there is hard to find a approprite place to put down the belongings. So that the ground, the table even the seat beside become the goods racks.

DESIGN & DEVELOPMENT



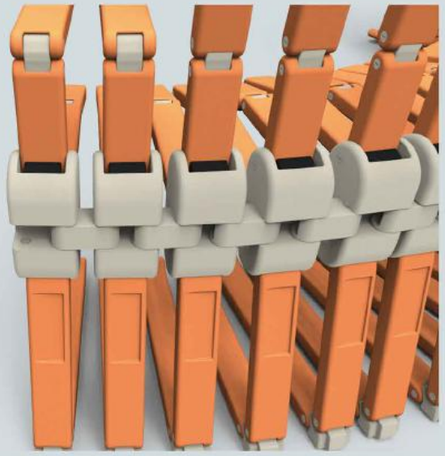


The core idea is to let the airport seat evolve into a product that adjustable and flexible. So the initial plan of the “drawer” was abandoned. Instead is an idea of “Piano Keys”



All the parts of the folding seat were made into the same or similar structures. With the adjustable joints passengers can choose the best posture for them. Also the connections in the back provide a chain structure to fit the design of local airport

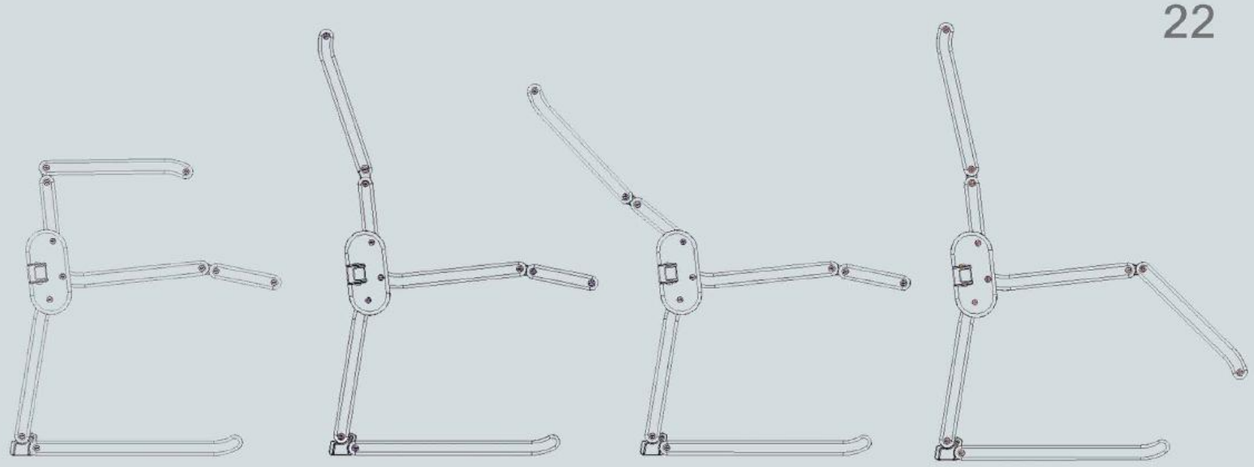
Palisade structure can provide more room for placing more belonging as well.



DESIGN & DETAILS

The joints can be adjusted freely and the spring group provides buffer for the laying passengers.

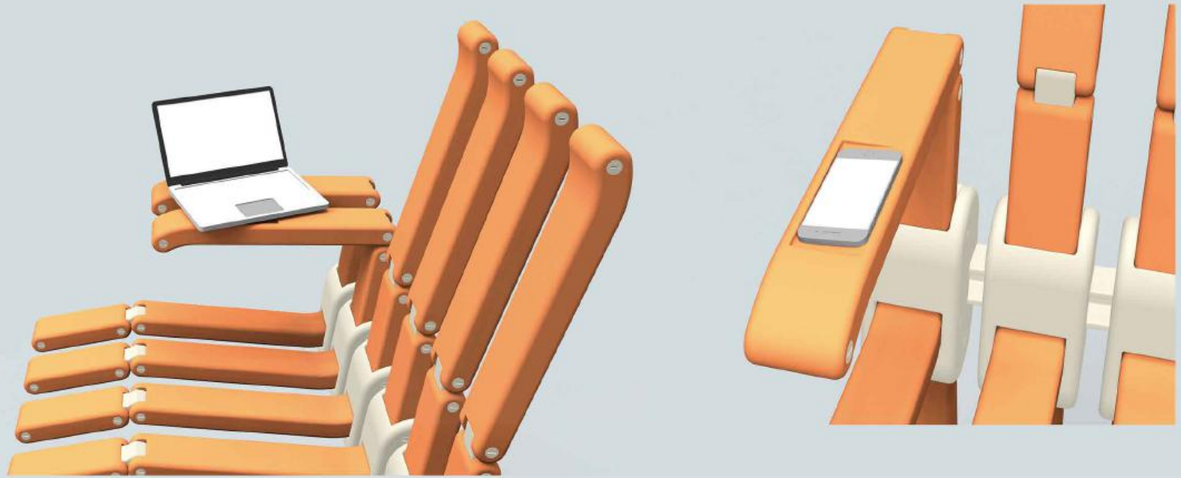
Designated parts can do some free combination



With a large vacancy under the chair, passengers can arrange their boarding case(For maximum size 40x60x100cm for free baggage allowance.)

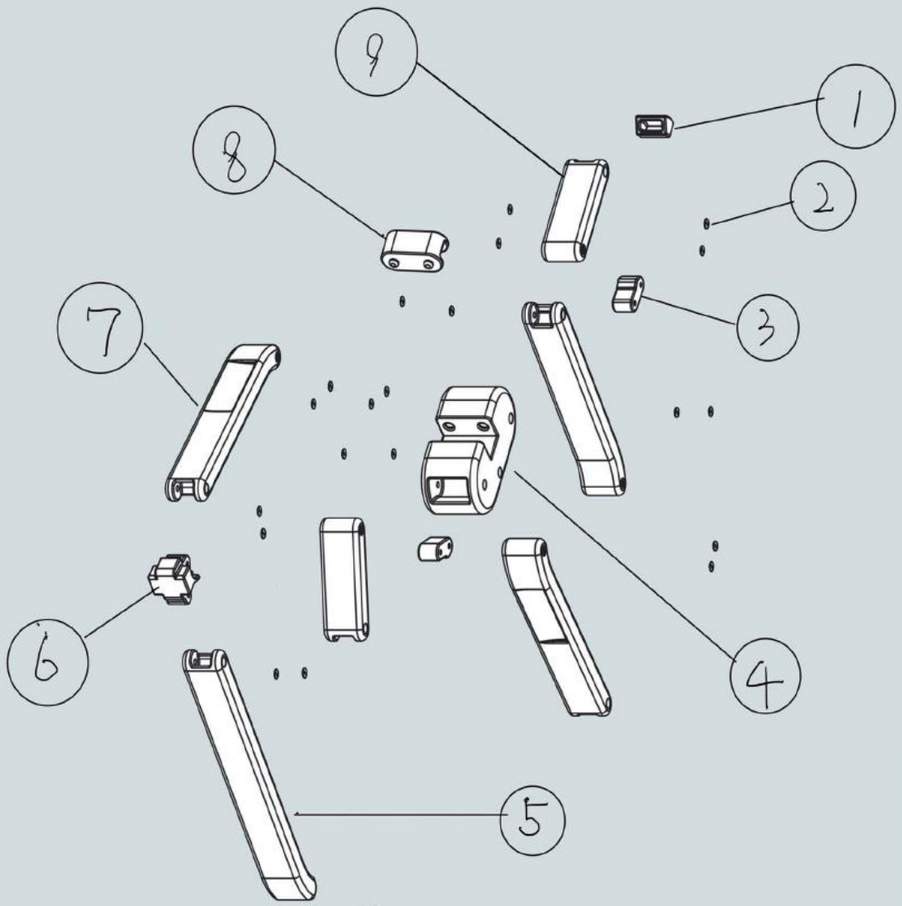
An inclined plane was added to the handrail / backrest part, it is designed for bigger cell phones. In the spot is a simulation of IPhone6s.

After folding the backrest, there is a small flat platform for placing some personal belongings, if there needs more, just fold two.

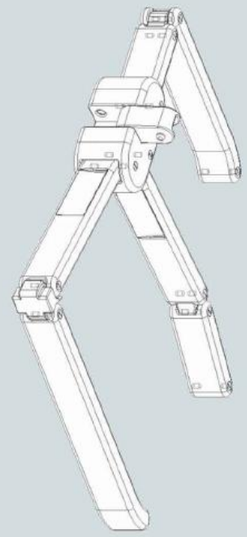


Manufacture & Material

Almost all the components are made by PE(Polyethylene), so that with high pressure process the components can be finished. And with cold drawing spring steel the spring group can be



比例 0.150



Part number	Name	Quantity	Material
1	Spring Group	1	Spring steel
2	Pin	20	PE
3	Connection01	2	PE
4	Main connection	1	PE
5	BasicPart1	1	PE
6	Base connection	1	PE
7	BasicPart 2	3	PE
8	Joint	1	PE
9	BasicPart3	2	PE