PORTFOLIO INDUSTRIAL DESIGN 2018-2020 by NAIXIN KANG

DORAEMON TOTE BAG

RESEARCH RETHINK OF SHOPPING BAG

MIND MAP

Convenient - Storage - move goods -Cheap - Heavy - Tight - Material - Degradation - Consumption - Ugly - Low quality -Waste resources - Sustainability - Toxic

MATERIAL

EXPERIENCE

Plastic / Paper / Convas

Unrecyclable / Unaesthetic Breakable / Pain in the hand



INTERVIEW



I use plastic bag. It's convenient and cheap. I throw it out or use as a trash bag after use. But it's easy to break.



I use paper bag, it looks nice and there are many styles I can choose, also it's environmental-friendly. But the capacity is limited and it is not waterproof, easy to break.



I have a tote bag, it is environmentally-friendly and it can be used repeatedly, but the capacity is too small to put all my stuff in, also i've got shoulder pains when I use it for a long time.

INSIGHT

According to the research, I found the handle of bags will cause hand ache, and general shopping bags are plastic, it's not environmental and are outlawd in many cities. For this project I want to design a bag that uses green material, and creates bigger storage through creative ways.

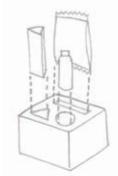


This bag is made by elastic fabric, the size of bag will change according to the amount of stuff that user puts in. Also it is easy to carry.





This idea is inspired by the toy bricks. It has different shapes of holes that can drop different staff such as water bottles, snacks, etc. And makes shopping bags more fun.



SKETCHING



MODEL MAKING



DORAEMON

This bag was made of spandex and canvas. It has two storage spaces: the inner space will become bigger as you put more and more stuffs; the external pocket is designed for something that is easy to pick up, such as mobile phones and drinking bottles.







FUNCTION

This bag has three different methods to wear. It gives customers flexibility of using. At the same time, two straps solve the problem of overweight resulting in arm and shoulder pain.



CONCLUSION

This project aims to come up with some solutions of tiny problems we meet in daily life, making life more convenient through redesigning product details.



TUBO

Cane designed for Parkinson stage 2 patients to help with walking stability and independent in standing up and sitting down

AGILE DESIGN PROCESS

DISCOVER DEFINE

Background Balance problem happen to children or elder

Market Balance training tools Body movement study

Research The reasons that cause balance problem

Find a specific group people that has balance problem caused by common resons

look into phenomenon and solutions.

Focus Stage 2 Parkinson patients. A DAY IN LIFE Safety Issue

Market Research existing products & parallel product comparson

Jser hierary needs

Goal Stable tool to support body during daily activities. Transformation from walk to cane.

Consideration Ergonomics& Aesthetics Keep it sample and acceptable.

DEVELOP DELIVER

Mind map Sketches Mock ups Testing Improvement pro ess

Story board Using scenario Final prototype

PRIMARY RESEARCH

ERGONOMICS CONSIDERATION

Parkinson's disease is an illness that affects the part of your brain that controls how you move your body. But over time, what starts as a little shakiness in your hand can have an impact on how you walk, talk, sleep, and think.

There's no cure for Parkinson's disease, but you can get treatment and support to help manage the symptoms.













TREMORS

BALANCE PROBLEMS

STIFFNESS

CHANGES IN SPEECH, VOICE AND SWALLOWING SLOWNESS OF MOVEMENT

TROUBLE WITH HANDWRITING

WHY BALANCE ABILITY IS IMPORTANT?



Improve the concentration of body's Become active and nerve system, thereby improving the health of the whole body. It helps further physical health and benefitbody all the time.

confidence and energy with good balance.

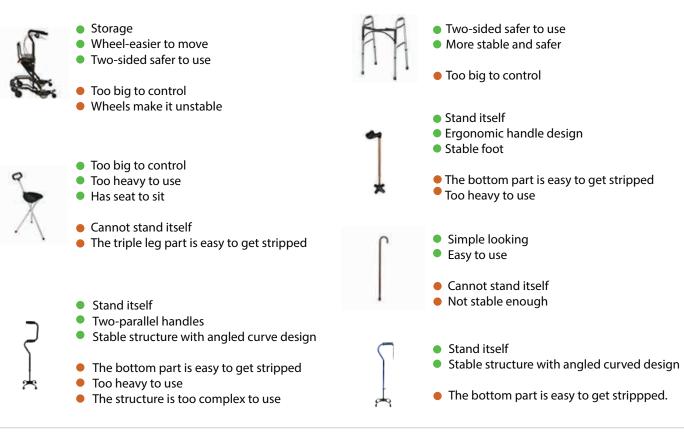
Good balance ability improves concentration, stabilizing the



Injury

SECONDARY RESEARCH

MARKET RESEARCH - EXSITING PRODUCT COMPARISION



mind.

Popularity



PRODUCT DEFINITION







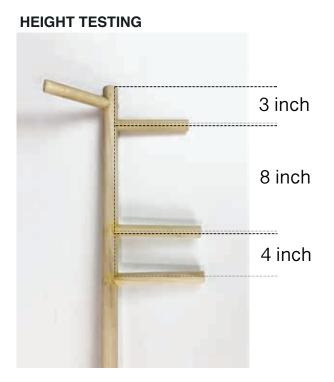
IDEA GENERATION

TEST

ERGONOMICS CONSIDERATION

Consider both left-handed and right-handed user. The most comfortable posture to hold and the easiest way to push tostand up.





ERGONOMICS CONSIDERATION ANGLE TESTING

What angle is easiest to hold?

What angle could have other usability, like instinction design? What angle is easiest to push during walking, sitting down and standing up?







USER TEST Parkinson stage 2 patient testing cane in physical therapy Testing handle heights, angle Advice on ergonomics handle shaps considerations

CLASS TEST Different heights, ages, sex and figures groups of people to testing (Inclusive design)

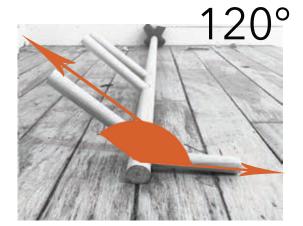
DETAILS - FOOT

Higher than existing canes to make it even more stable Design for prevent user from tripping 360 degree stable









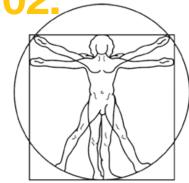






For user to stand up, sit down independently. Using two hands within two support is more stable.





Ergonomics study: easy to hold, easy to push for arm,

Created by Oleksandr Panasovskyi from Noun Project





Consistent desig feature of handles with similar curves.

DETAILS - HANDLE



Multi-grip posture: Intentional design for hanging stuff like bags and umbrella

SCENARIO

USEFUL FOR RIHGT& LEFT HANDS



The cane could be used by either right or left hand to walk



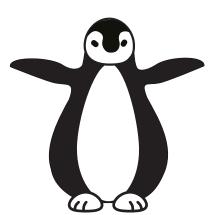
When user needs to use cane stand up or sit down, they can also choose either left hand or right hand to push through lower handle by rotating cane.

STAND UP INDEPENDENTLY





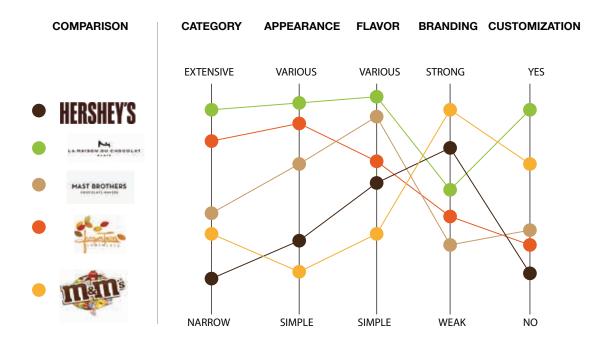
CHOCOLATE DESIGN



Background information inspiration | Penguin & Iceburg & Sustainability

Climate change could also lead to a decrease in krill, a major food source for Adélie penguins, and affect the species. Rain and puddles are bad because eggs can't survive when they're lying in a pool of water. Chicks that don't have waterproof feathers can become wet and die from hypothermia."

Marketing Research





Introduction of Chocolate Set Inspiration









Semi-ball

Semi-sphere shaped white chocolate was inspired by belly of penguin, cute and round shape is transferred into smooth and organic shape and a mouthful piece of chocolate.

Iceberg

Asymmetric shape of iceberg is transferred into symmetric geometry shape for synesthesia representing snow mountain and iceberg.

Igloo

The shape of the chocolate is inspired from the shape of igloo. There are two holes down below the igloo, where it is the home of penguins. The top of igloo is a irregular figure, with streamline, giving people dynamic feeling like a piece of ice floating on the ocean.

Crystal

Polyhedron shape was inspired by crystal ice, different from iceberg, the viewpoint is much smaller than iceberg but it is still a part of typical factor that existing in ice worlds.

Prototypes



White chocolate is sweet and will melt as soon as the chocolate being put into mouth, liquid white chocolate would spread all over the mouth.



Pure dark chocolate is as pure as Antarctic, the honest ingredient gives customer purest taste and cleanest feeling as if they got back to Antarctic, by the side of penguin.



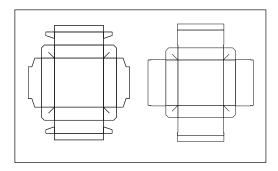
Blueberry filling dark chocolate. Sparkly blueberry filling gives customer melting feeling just like iceberg melting. The bitter dark chocolate mix with sweet fruit filling makes it so satisfying and texture is really smooth.



Dark chocolate with biscuit crumbs. Biscuit crumbs is crispy and sweet, it makes bitter dark chocolate has proper texture and amazing taste.

Packaging Design

2D Technical Drawing

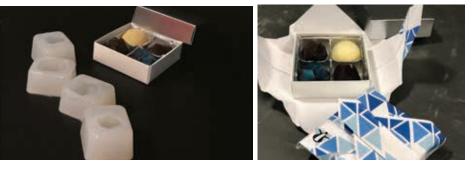


Pattern Design



Renderings

Rendring Box with Chocolate



Mold Prototype











Manufacturing





W-RADIO 'WALK-RADIO' FOR ELDERLY PEOPLE





RESEARCH BRAND ANALYSIS

Inspired by customers, and sharing creative design methods and ideas, this product is to give their customers a better life.



MIND MAP Simple - Sustainability - Budget -Function - Quality - Playful - Design - Value - Suitable



CATEGORY Furniture - Tableware - Textile -Bathroom ware - Home appliance -Decorations - Storage products -Foods

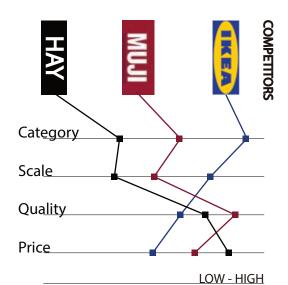


MATERIAL PP - Glass - Chipboard - ABS -Stainless steel - PET - Aluminium - Zinc - Waterweed - Bamboo -Opal Glass - Ceramic - PPMA -Polyester fibres - Cotton - Solid pine



MANUFACTURE

Bending Blow moulding Compression moulding Die casting Forging Vacuum forming Injection moulding Weaving



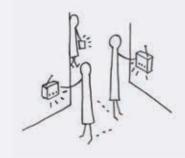


IDEA GENERATION DIRECTION & DEVELOPMENT

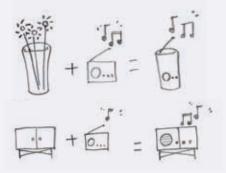
IKEA has a lot of solutions and ideas about small spaces. In view of the product, I hope the radio is not just taking up space on the table, but like the painting that uses the wall space.

IKEA has advocated that letting users participate in the creative process, so as to personalize their choice and self-assembly.

I met a lot of old customers in IKEA. Now more and more people will go for it in this age group.



The back of the radio is sticky so that you can stick it in any place that you want, such as kitchen or bathroom. The materail of this radio is rubber, which is waterproof and easy to clean.



This idea is to design a small component of radio. You can combine it with any product at home, so that it will become a special radio, such as in a vase, placed in a cabinet, to give a new life to the original household supplies.



This radio that you can bring out. It has a handle, which makes it portable and easy to use.





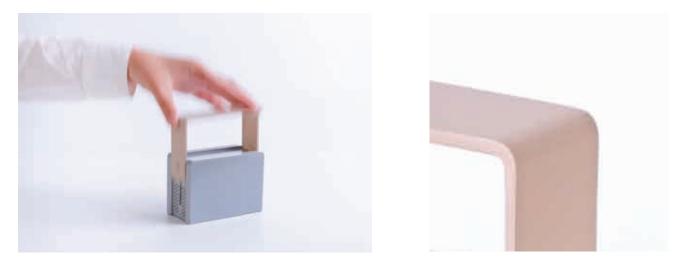


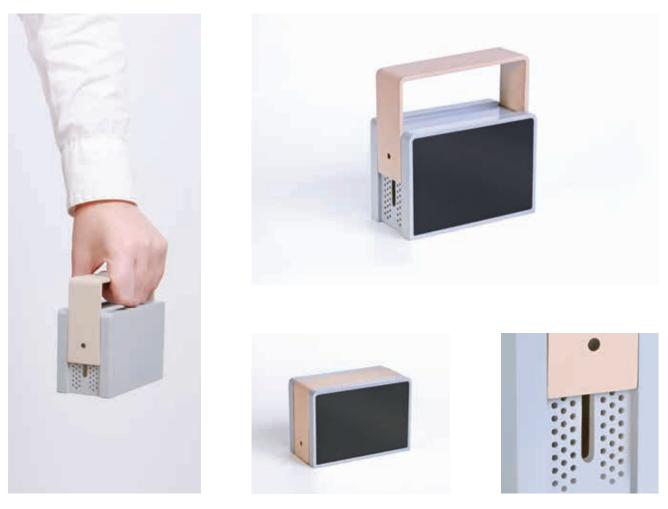






The elderly are the user base for this radio. I designed this radio with a handle that can be taken off. Materials contain plastic and wood. IKEA usually applied the combination of two common materials





When the handle is pulled up, it becomes powered on. Different heights represent the level of volume.



When you sleep, just press the handle to turn the radio off. It is easy to operate no matter how dark the environment is.





This project is mainly to study and understand a brand's design language.

Dark colors are selected and wood is used. On one hand, this conforms to the aspirations of the elderly. On the other hand, it avoids losing the IKEA style.

















20%

RESEARCH

computer / unsuitable / lack of exercise / daily meals / efficiency / sedentary / transportation / lifestyle / healthy problem / stressed

INTERVIEW

30% of the intervieweeS have neck pain in working environment 76% of the interviewees think work environment is not appealong and motivating for work

INSIGHT

Office workers health problem is always a topic of concern. After having interviewed some white-collar workers, I found that they actually want to relieve pain through some practical and interesting products. This project I hope to slove this problem. At the same time, I also want to bring more fun to their boring work environment.

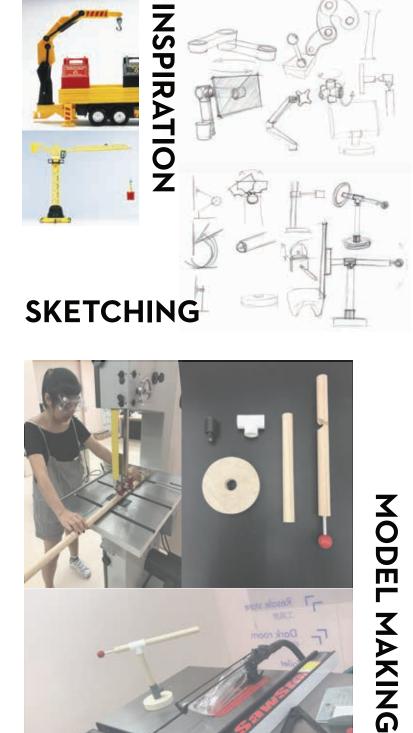
IDEA & DEVELOPMENT



This idea was inspired by SPINNING. It aims to combine fitness and working time together, so office workers can do some exercise of legs and feet. It also charge the lamp and moblie phone when they pedal it.

MORE FUN?

Working hours are often boring. Why not add some fun? Most offices are working face to face. I want to create a computer support product that allows two people interact with each other.





The average of office worker using computer is 7 hours a day. Sitting in front of a computer fora long time causes pain in the neck.

This idea is that the screen can change the angle automatically. Users can follow it to do neck exercise (like doing calisthenice in front of TV), interacting with screen.



This is a bouncing ball that can be timed. When the time is up the ball will pop out, users need to leave the desk to pick it up. Peope can get a rest during this process.

PEDESTAL

CARDAN JOINT

JOYSTICK

PITMAN

PITMAN is a computer support product. It is for office workers who are working face to face.

The materials of this product are wood, pipe fittings and joysticks. These materials makes PITMAN more fun and playablility

SCENARIO

When the person sitting opposite plays with PITMAN, the computer display will rotate so that the person who sits in front of the computer will follow the display to exercise his neck.



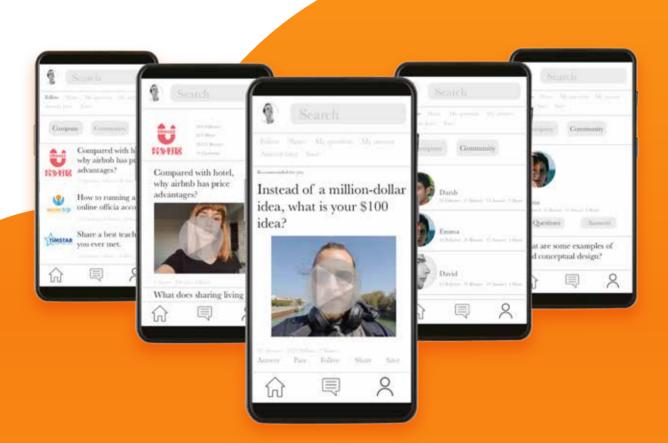
PITMAN enables not only neck exercise, but also the office workers to interact and communicate. It adds spice to the working space.







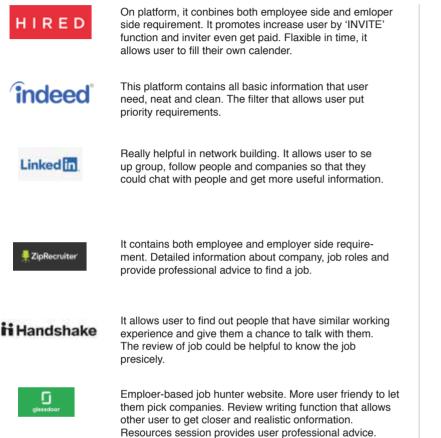
A New Information Exchange Platform for Online Job Seeker to Creating Learning Community



Information transfermation through short video question & answer to communicate with company directly

PRIMARY RESEARCH





Help user to evaluate their job value so that find a suitable



No job information that could see by user, only the platform contacts employer.

The navigation and layout isn't as aesthentically pleasing as other sites and it doesn't offer many additional resources.

They need to disclose plenty of their personal information, therefore, they could be in more risk of identity theft in the event of a breach in LinkedIn security. The user must keep profile information up-to-date to build credibility, which can consume too much of user's time. Many reports that cancelling premium membership and add-ons is difficult.

Set-up costs a lot of time. Many complaints about excessive sales calls once you sign up for the free trail. The four day free trail may not be adequate to decide whether the service is right for your recruiting needs.

It is only mainly for university students. Currently, student with more than one major have to manually change their 'home school' in Handshake to register for a given home school's exclusive events, which is inconvenient.

Hard for job seeker to use a platform for employer to find a job and. It has an annoying bug that essencially resets all of your search criteria as soon as you make one small change.

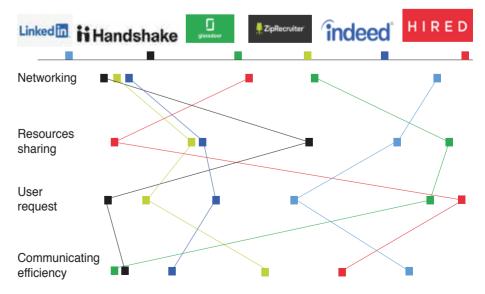
MIND MAP



head hunter company - boss - gender - cv - interview - networking - salary - recruit - working experience cover letter - reference letter - policy - competition training - oppotunity - internship - stress - international communication - background - counterpart - protfolio - social media - language - communication - anxiety confidence - work time - race - gender - company

and precise job.

COMPETITORS



PRIMARY RESEARCH

88%

The process that you feel the most anxious.



Waiting for results



Find a related job

12%



ONLINE

Preparation 17%











After I submitted my application, I never heard from them again, not even an Email. They should at least told me I am rejected.



I don't have any people to talk to, so I am afraid of quality of my CV. And I need more job resources. Finding a job is not related with ability, but luck.



My experience is that send as much application as possible, no top. Just to maximum the possibility of finding a job.



Input so many key words on job searching platform got me so sick. There is no job searching website or platform contains all information that I need, which reduce the efficiency of finding a job.



The job description makes me frastrated, because it is not clear at all. I always get confused what I gonna do based on "job description".



Most of employer request for working experience, but I just graduated, looking for a job is my new start. I don't have any experience so they don't want me, but I really need a job.

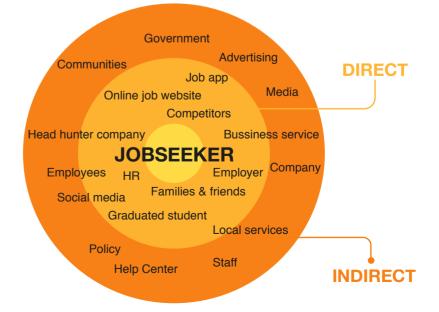
STAKEHOLDER MAP

Main considerations of job

JOB CONTENT 67%

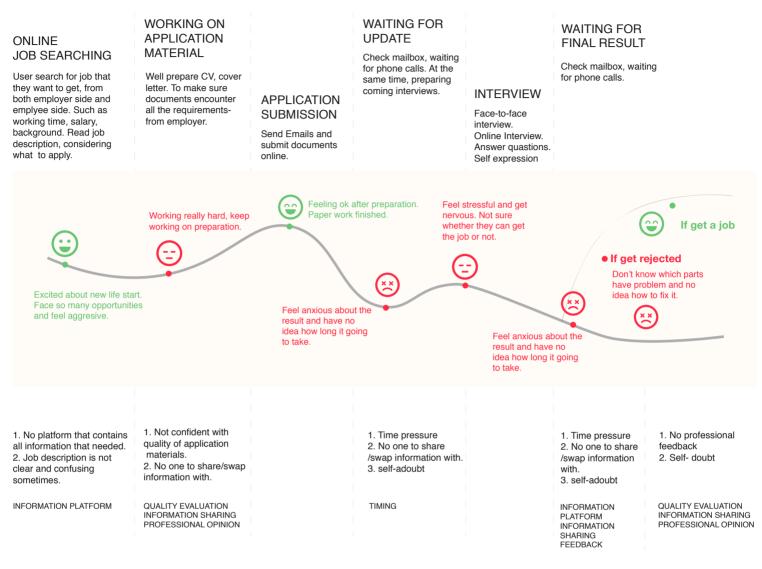
> COMPANY 48%

INCOME 65%



SECONDARY RESEARCH

USER JOURNEY MAP



DESK RESEARCH

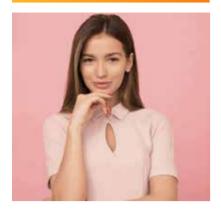




Short video becomes a new popular tide to spread information and use as a learning platform

500 million people in China are using short video platform in 2018

PERSONA



Lisa Marie

ABOUT 22 Graduated college student \$50k-\$60k Education Background

NEEDS

Find a job that related with her background. Need to know realtime information of related job hunting and better to have someone in similar situation to talk to.

"I always feel like I didn't show my best on interview, because I realise I forgot to share some important information after interview."

Kayla

ABOUT 47 HR 4 years HR experience at D&G **NEEDS**

Help company to hire capable people and promote the further development of the company.

" Our company trend to encourage employee share information internally."

" After the first interview, the expression of some interviewees is not matching with resume."

INSIGHTS

Transfer job hunting process into a learning experience.

Online service is the latest service platform that is accepted and used by young people and this trend is becoming more and more popular.

Short video and visual information transmit

Information exchange and communication is in urgent need. 'Question & answer' is the most efficient way of information exchanging.

DESIGN OPPORTUNITY



Target User



Start-up company

Start-up small companies that eager to hiring various fields people



Online jobseeker /user

Young people feel comfortable with using online services / filming

Be willing to share information

DESIGN DIRECTION



Information exchange platform for creating learning community

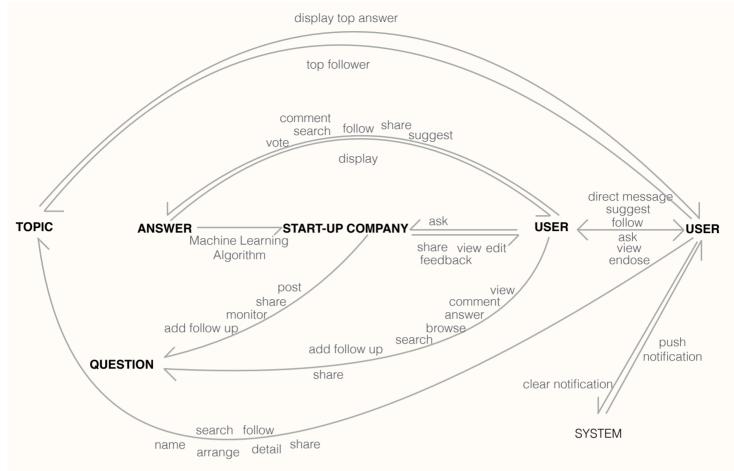


1-2min short video answering



Filling the gap Q&A platform with jobseeking platform

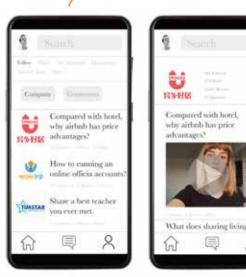
SERVICE FLOW



TOUCH POINT



The Lore system recommends related contents once user registered and picked interested topics. The platform will show the top popular content through Machine learning Algorithm system.



red with hotel, mb has price ges? User can interested company through a users.

2

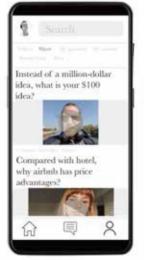
For start-up companies, the database could be created and the companies will become famous by sharing information from interested users.

User can follow companies they interested, then all questions raised by company will be shown, user could go through answers and chat with other users.

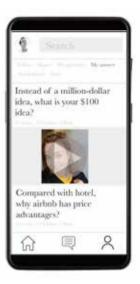


User could follow other users that share valuable information or have similar job seeking situation, then the user could set up knowledge community and learning from each other.

User could improve professional skills by preparing answer and become confident when other user share their answers and also they could get various comments from others.



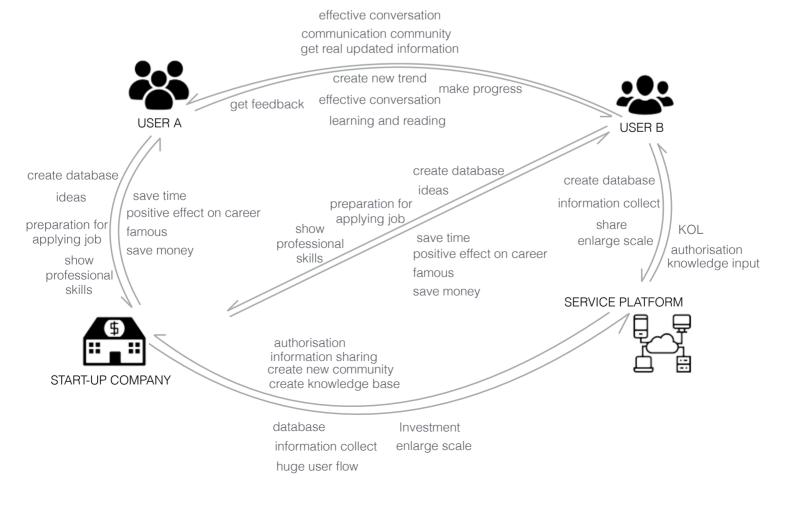




Lore system manage user information in an effective way. The shared, answered, saved contents will be collected

VALUE EXCHANGE

separately.





SHELTER TRUCK SIDE-LIGHT



ACCIDENT AT NIGHT

Federica Baldassa 26 (08-02-2015)

She was cycling back to Whitechapel after a leaving party for a colleague when she was crushed beneath the wheels of a lorry turning into Bloomsbury Square.

Brian Holt 62 (02-06-2014)

He is believed to have come from a side road and attempted to cross Mile End Road, which has a cycle superhighway running along it.



CAUSES OF CYCLING ACCIDENTS

Truck – Blind spot Headlig<mark>ht</mark>

Cyclist – High speed Disobeying road signs and markings

BUT...

CYCLIST EQUIPMENT AT NIGHT

Bike light Reflective vest Helmet

SOLUTION?

Design a fixed device for truck that solve the problem of blind spot and can connect between cyclist and truck driver.

RESEARCH CYCLIST & TRUCK

TRUCK DEVICE FOR BLIND SPOT

RADAR SENSOR

REFLECTORS The headlight of another car will influence truck driver's sight

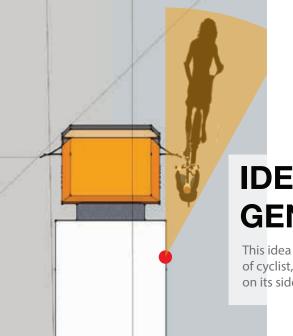
REAR CAMERA Limited perspective

INSPIRATION

2

3





IDEA GENERATION

This idea is use the light to stretch the shadow of cyclist, so that the driver can see the cyclist on its side.

TESTING

By using torch and models, according to the different heights of torch, I found the lower light can stretch the longer shadow.



SKETCHING

COLOR SELECTION

The colors I choose are yellow and red, which are to show the danger level of different truck positions to the cyclists

THE POSITION OF LIGHT

MODELING

This is a sidelight that shows the width of a truck at night. I choose this position to install my light and it still keeps the original function.

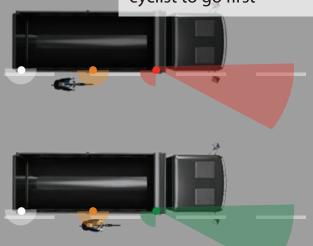






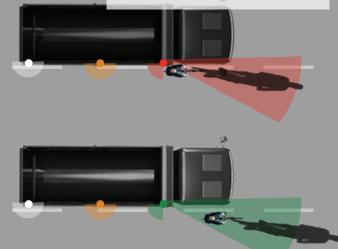
SCENARIO -1

When truck driver sees cyclist from reflectors, they will change the light to green, meaning the cyclist to go first



SCENARIO -2

When truck driver sees the shadow of cyclist in front of the truck, they will change the light to green to let cyclist go first

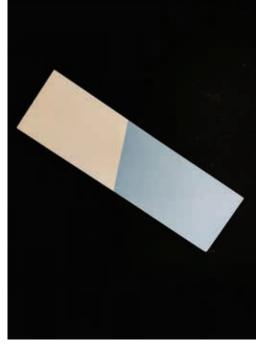


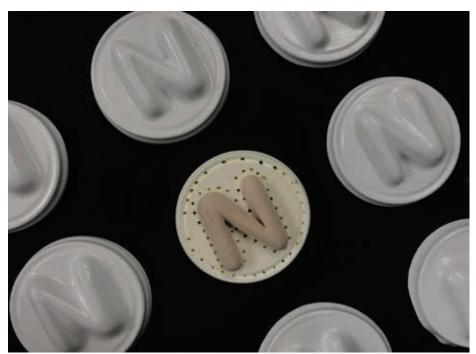


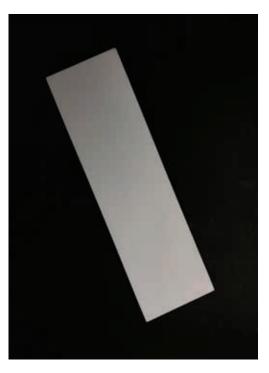
PROTOTYPE MAKING

Craftsmanship/Vaccum Forming/Lathe/Paper/Board/Plaster/Wire/Sanding/Painting/Soldering/







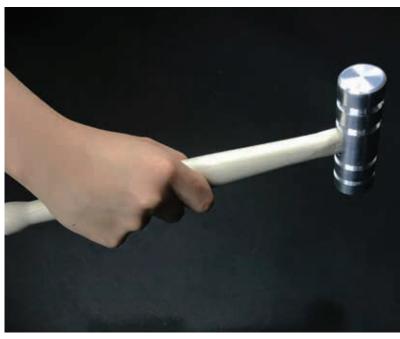










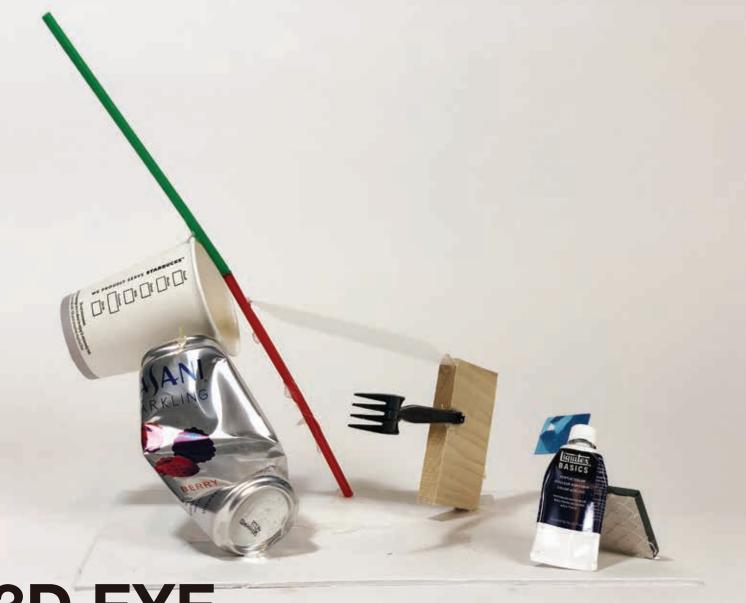






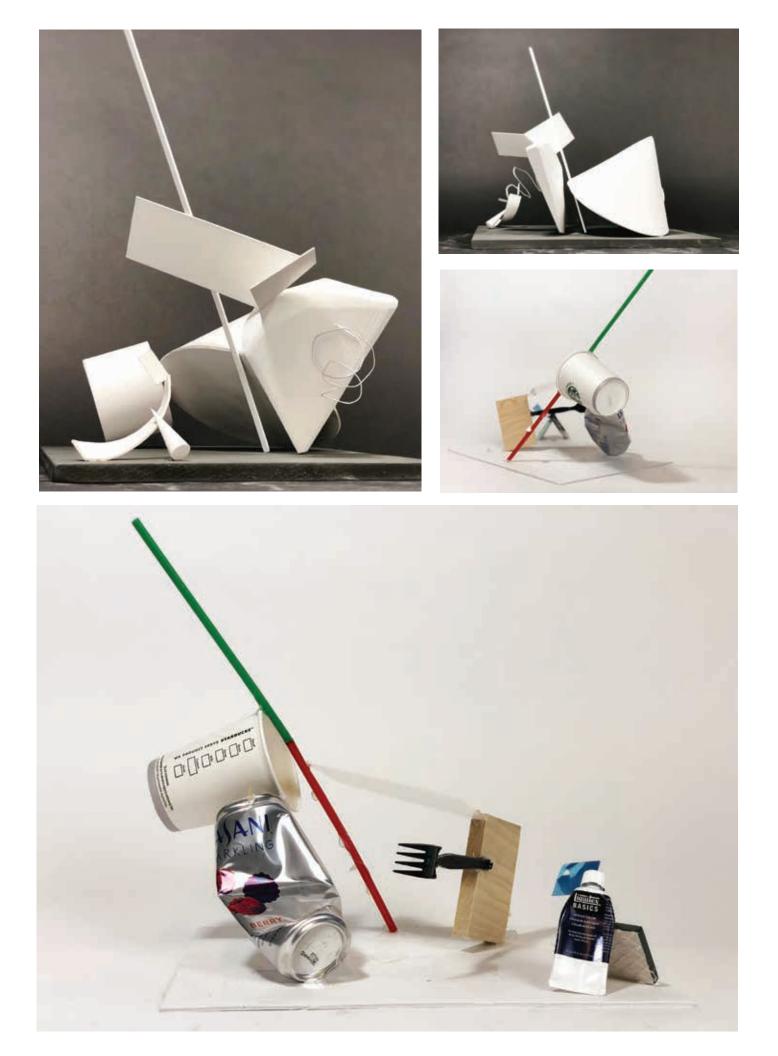






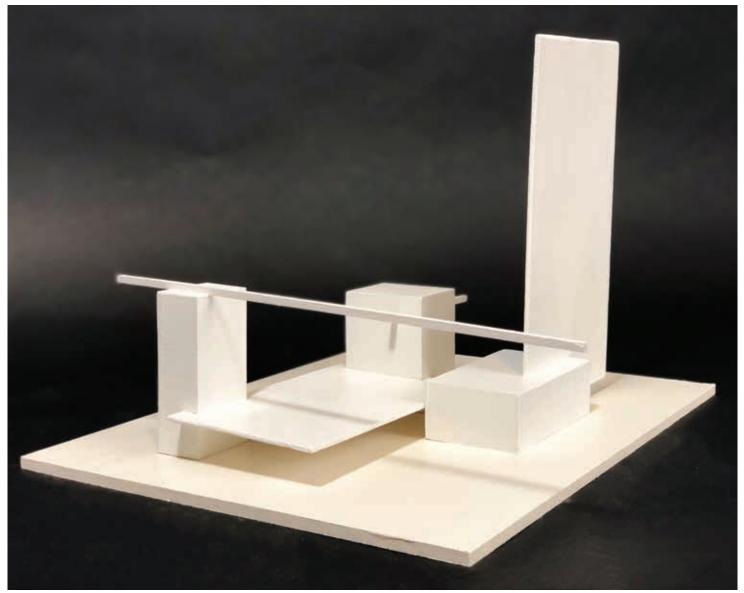
3D EYE TRAINING

Craftsmanship/Eye movement/Space design/Dominant/Subdominant/Subordinate/Rectilinear/Curviliear/Paper/Board/Plaster/Wire/Sanding/Painting/Soldering/























COLOR STUDY

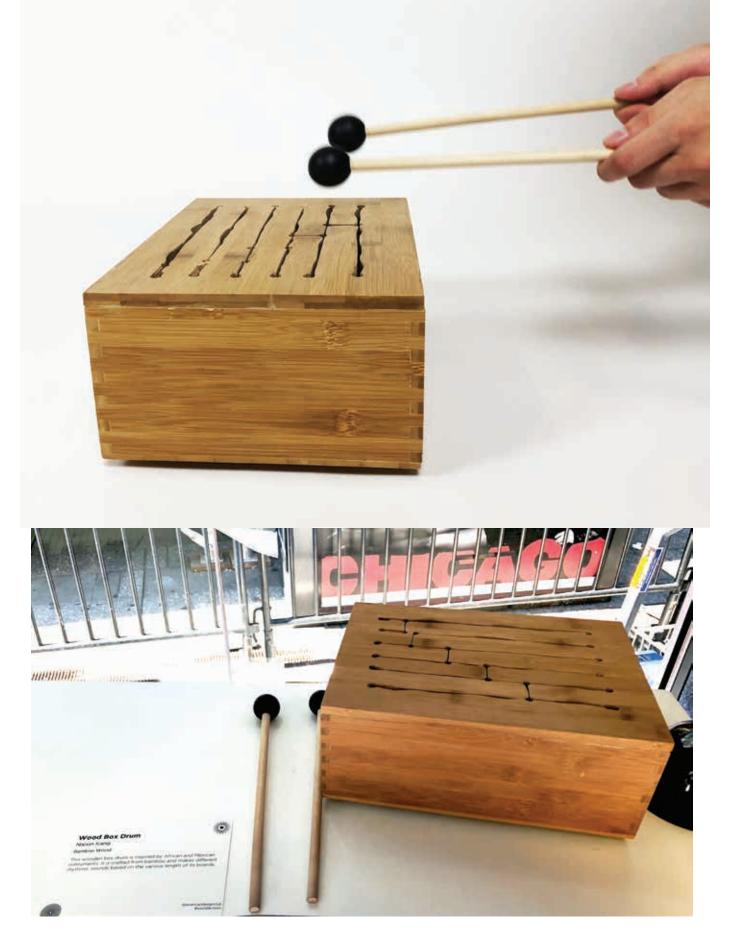


3D PRINTED LAMP

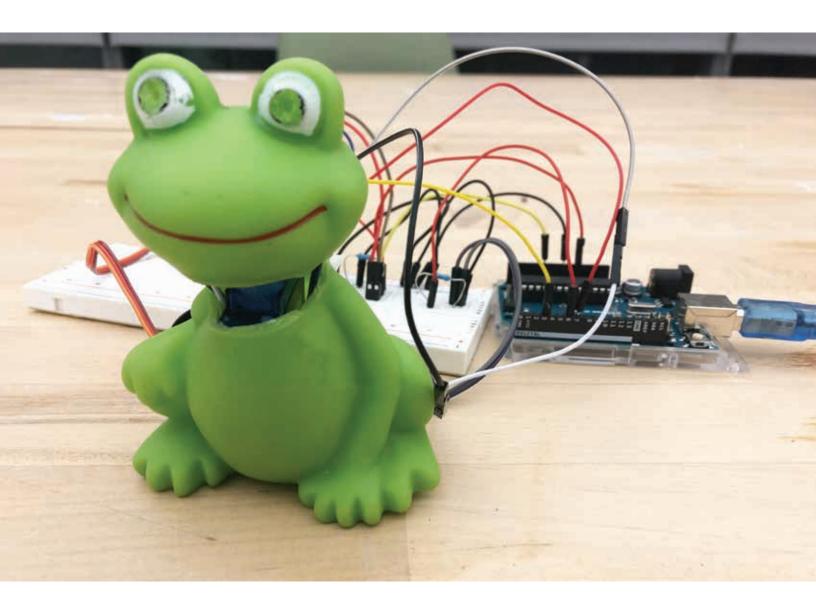
The 3D printed lamp that I want to design has simple shape and clean appearance. Exploring the light effects by changing brightness of lights through adjusting thickness of PLA.

INSTRUMENT DESIGN

The PP drum was inspired by a bamboo instrument from Mexico. Easy to play for people who don't have music background. Easy storage for drum sticks. The principle of making sounds is via different length of bamboo bar and air vibration.



The PP drum was chosen by American Design Club and it was on exhibition 'SoundxVision' at Times Square during 05.2019 hosted by NYCxDesign.



ARTIFICIAL PET

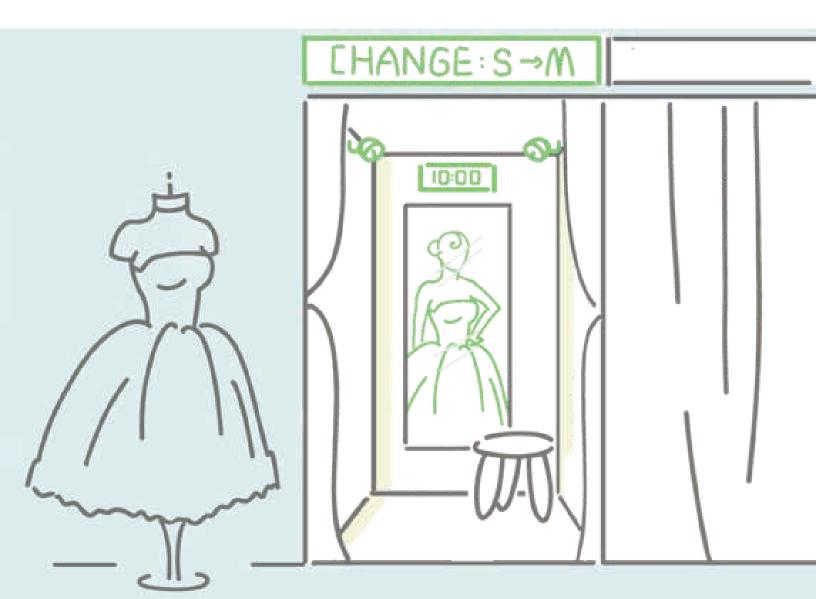
Designed for giving user companion and interact with user. When user touch it, the frog will give user feedback through blinking eyes. And if user try to tickle frog, the frog will shake his head.

URL https://www.youtube.com/watch?time_continue=1&v=RQBWw5neDAs&feature=emb_logo



GIZMO

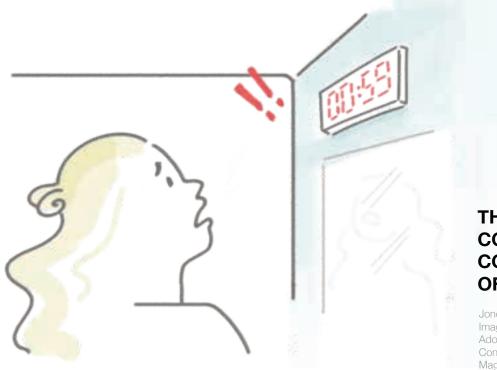
Arduino/Star fish/Programming/Laser cutting/3D printing/Assembly



DESIGN FOR ANXIETY FITTING ROOM DESIGN

The design that induce anxiety, trying to understand what might be anxiety-provoking in order to reflect on how not to do it.

10:00



THE EFFECTS OF TIME CONSTRAINTS ON CONSUMERS' JUDGMENTS OF PRICES AND PRODUCTS

Jones, D.C., Vigfusdottir, T.H. & Lee, Y., 2004. Body Image and the Appearance Culture Among Adolescent Girls and Boys: An Examination of Friend Conversations, Peer Criticism, Appearance Magazines, and the Internalization of Appearance Ideals. Journal of Adolescent Research, 19(3), pp.323–339.

DEVELOPMENT AND VALIDATION OF THE PHYSICAL APPEARANCE STATE AND TRAIT ANXIETY SCALE (PASTAS)

Reed, D.L. et al., 1991. Development and validation of the Physical Appearance State and Trait Anxiety Scale (PASTAS). Journal of Anxiety Disorders, 5(4), pp.323–332.

BODY IMAGE AND THE APPEARANCE CULTURE AMONG ADOLESCENT GIRLS AND BOYS

Jones, D.C., Vigfusdottir, T.H. & Lee, Y., 2004. Body Image and the Appearance Culture Among Adolescent Girls and Boys: An Examination of Friend Conversations, Peer Criticism, Appearance Magazines, and the Internalization of Appearance Ideals. Journal of Adolescent Research, 19(3), pp.323–339.



COGNITIVE CONSEQUENCES OF SELF-AWARENESS

Geller, V. & Shaver, P., 1976. Cognitive consequences of self-awareness. Journal of Experimental Social Psychology, 12(1), pp.99–108.

USE OF FIRST PERSON PRONOUNS AS A FUNCTION OF INCREASED OBJECTIVE SELF-AWARENESS AND PERFORMANCE FEEDBACK

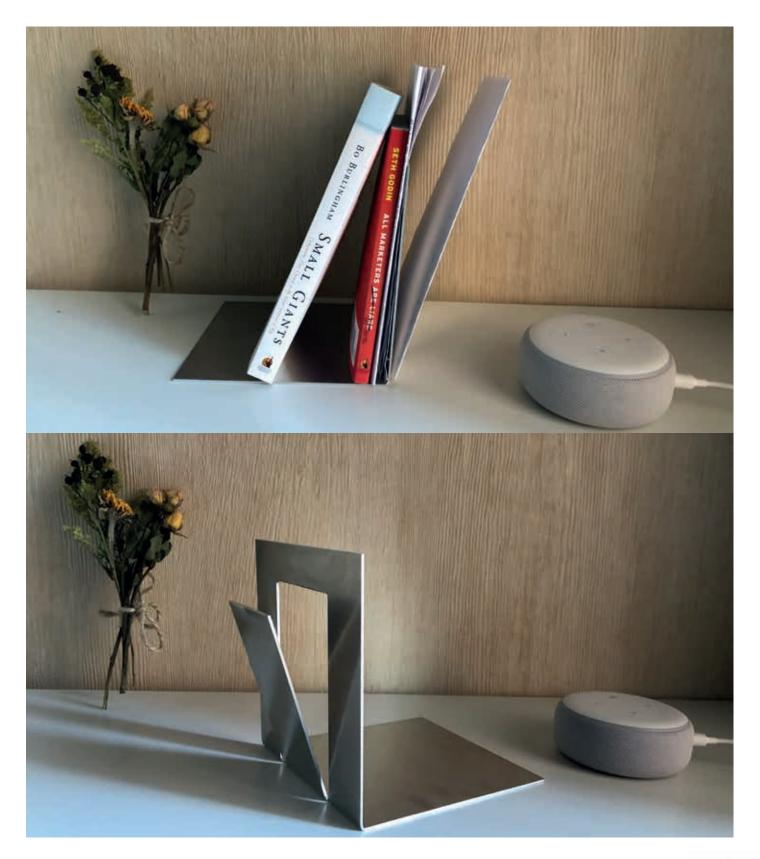
Davis, D. & Brock, T.C., 1975. Use of first person pronouns as a function of increased objective self-awareness and performance feedback. Journal of Experimental Social Psychology, 11(4), pp.381–388.



DIVIDO

The DIVIDO is designed for disorgabnised people. It helps user to devide their documents into seperate slot and make it easier to pick up their desired documents.









REVIT PRACTICE



