



GROUP 4

Design for FUJIFILM

Project brief

Aim:

Design a series of accessories of FUJIGFX50R for our target users
Assist target user get a better experience when do outdoor activities
Both hiking and photography needs to be satisfied.
Improve portability especially in wild.

Target User:

Retired people who like to do some outdoor activities, and go hiking in his leisure time.

User Scenario:

A 65-year-old retired teacher **who loves hiking**. since retiring, he has more time to enjoy his hobbies and **explore the great outdoors with his camera**. she is an active member of a local hiking club for seniors and often goes on group hikes with fellow retirees.

Specific Consideration

Portability

Practical

Ease of use

Lightweight and muti-function



DESIGN SPECIFICATION

AESTHETICS	
What shape will it be?	No special requirements for shape form, but need to satisfy elderly seniors outdoor activities requirements, for instance, non-slip, lightweight
Will have a particular style?	No required style, but will follow some climbing style, satisfy elderly seniors hiking interests, and should comply FUJI style
Will it have different textures?	no specific texture, but it needs to consider function related textures, for example, anti-slip. it also can be related to the aesthetic.
What the color will be?	Color also impacts emotion. This design will choose calming or natural colors and FUJI classic colors like black & white
Type of product	A series of accessories of FUJIGFX50R, which can be used in a specific scenario
TARGET AUDIENCE	
Who is it for exactly?	The target group of this product is elderly seniors (45-55 years old) who has outdoor activities needs and like hiking, want to improve their photography experience and facilitate appropriate balance when they hiking.
What are the users'needs?	lightweight, portability, appropriate materials, support, and stability needs, increase quality of photos.
FUNCTION	
What is its purpose?	The aim of these accessories is to satisfy both the needs of elderly seniors for outdoor activities use with some extent (e.g. slip resistance, stability, support) and the needs of improve photography experience(increase stability when taking photo, eg), and it also need to consider the Seniors' various aspects of physical fitness,(for instance seniors specific ergonomics)

MATERIALS	
What will the key ingredients be?	Hard rubber, water proof, lightweight, good slip-resistance and Carbon Fibre materials will be considered in this design.
SIZE	
What size will it be?	it can be well fixed on the FUJIGFX50R, and size also need to consider the weight fo accessories and basic ergonomics.

MARKET RESEARCH

Company Brief

Overview

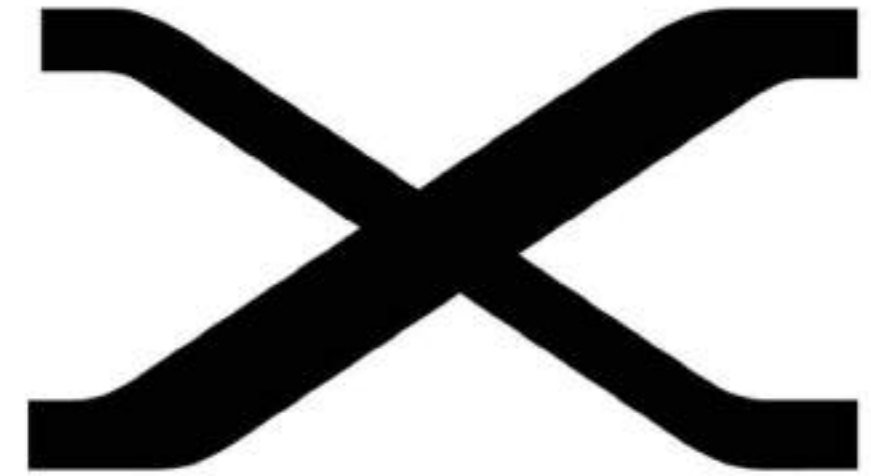
Fuji Is A Renowned Multinational Company Specializing In The Manufacturing And Distribution Of High-Quality Cameras And Imaging Products. With A Rich Heritage In The Photography Industry, Fuji Has Established Itself As A Leading Brand Known For Its Innovative Technology, Exceptional Design, And Commitment To Delivering Superior Imaging Solutions.

Mission

At Fuji, Our Mission Is To Inspire Creativity And Enable Individuals To Capture And Preserve Precious Moments Through Our Cutting-Edge Camera Systems. We Strive To Provide Photographers Of All Levels With The Tools They Need To Express Their Unique Vision And Unleash Their Creative Potential.

Product Range

Fuji Offers A Diverse Range Of Cameras And Imaging Products Designed To Cater To Various Photography Needs. Our Product Lineup Includes Professional-Grade Digital Cameras, Mirrorless Cameras, Compact Cameras, Lenses, And Accessories. We Combine Advanced Technology With Intuitive User Interfaces, Ensuring That Photographers Can Capture Stunning Images With Ease And Precision.



FUJIFILM



Design Language Of FUJI

Classic Design Elements:

The Fuji design language incorporates classic design elements from traditional film cameras, such as physical dials and knobs, allowing users to directly control camera settings. These elements are often made of metal, providing a tactile feel and enhancing the camera's high-quality aesthetic.

Retro Aesthetics:

Fuji cameras integrate retro aesthetics, including leather-wrapped grips, metal accents, and textured surfaces, giving them a classic and vintage appearance.

Minimalist Design:

Fuji cameras embrace minimalist design, focusing on essential functions and features. The design is clean, simple, and uncluttered, without unnecessary buttons or complex menus.

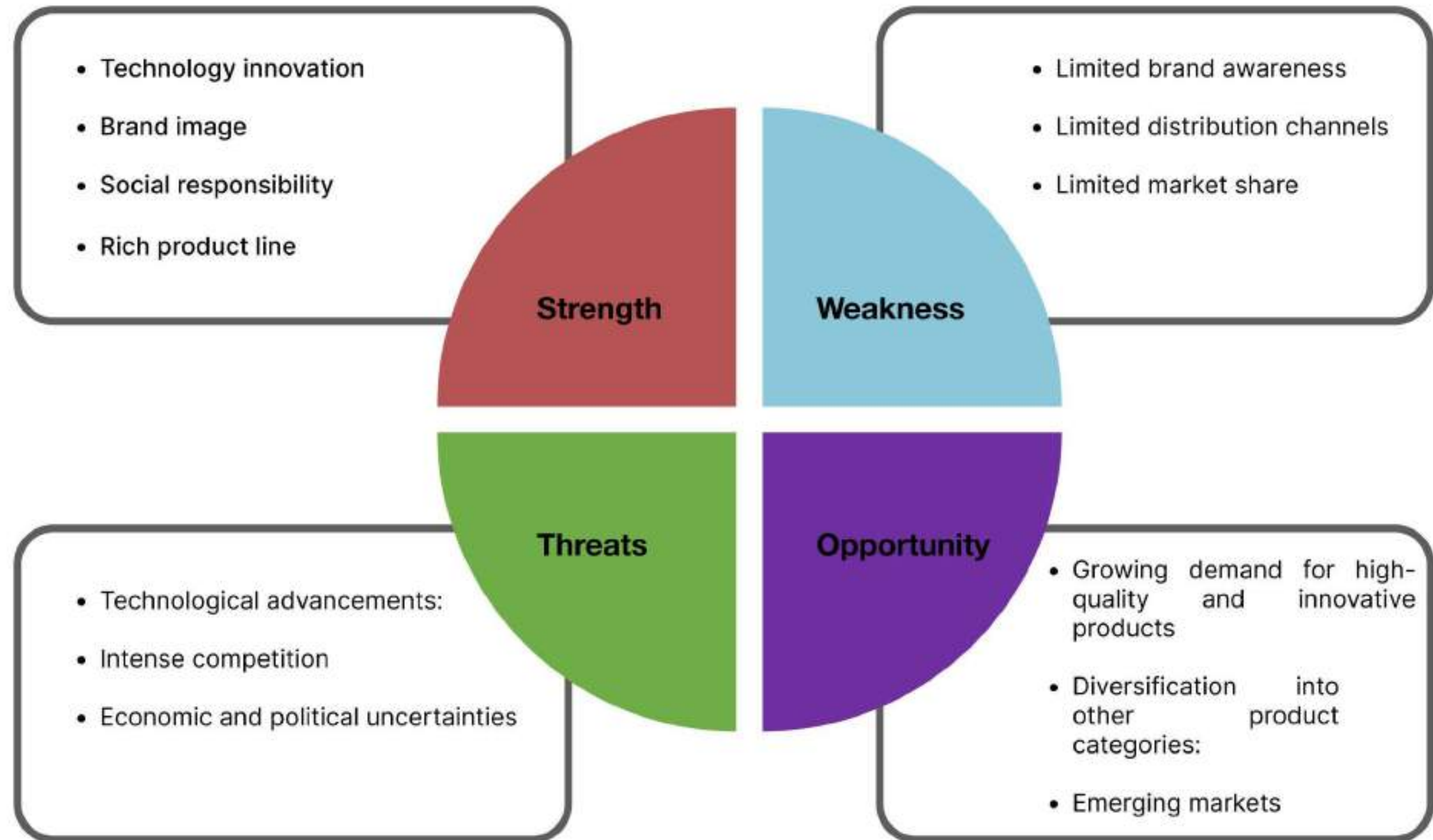
Attention to Detail:

Attention to Detail: Fuji camera designs pay attention to fine details, from button placement to typography on the camera body. This attention to detail extends to the packaging as well, with Fuji cameras featuring attractive and environmentally friendly packaging.

Color Palette: Fuji camera designs often feature a subdued color palette, focusing on black, silver, and other neutral tones. This gives the cameras a classic and timeless appearance, neither overly flashy nor overly trendy.



SWOT Analysis



4PS Analysis

Product:

FUJI has a wide range of products, including cameras, lenses, scanners, medical equipment, and printers. The company is known for its high-quality, innovative products that offer great performance and reliability.

Price:

FUJI products are available worldwide, through a combination of online and offline channels. The company has a strong distribution network that allows it to reach customers in many different markets.

Place:

FUJI products are generally positioned at the high end of the market, reflecting their quality and advanced technology. The company has a premium pricing strategy to maintain its brand image and differentiate itself from competitors.

Promotion:

FUJI's promotional efforts focus on highlighting the brand's technological innovation, quality, and reliability. The company uses a variety of marketing channels, including advertising, public relations, and sponsorships to reach its target audience.

Target Market

Retired people

Our target market are retired individuals in china who like to go to so outdoor activities, such as: camping, fishing, or hiking, and have a passion for photography and seek to explore their creative potential during their travel time. these individuals have the time, resources, and inclination to pursue photography as a hobby, capturing and preserving memories of their experiences.



PRODUCT RESEARCH

Product Research-Tripo



Product Advantages:

- **Leg and head design:** Various legs lock mechanisms (twist-lock, flip-lock) and head types (ball head, pan-tilt head, fluid head) allow for customization and versatility.
- **Adjustable height:** Most tripods offer adjustable height to cater to different shooting situations and user preferences.
- **Foldable and portable:** Many tripods have a compact design when folded, making them easy to store and transport.
- **Quick-release plates:** These enable users to easily attach and detach their cameras from the tripod, saving time and effort.

Product Disadvantages:

- **Load capacity limitations:** Some tripods may not support heavy camera systems, limiting their use for professional photographers and videographers.
- **Height restrictions:** The maximum and minimum heights of some tripods may not cater to all shooting scenarios or user preferences.
- **Stability concerns:** Lightweight tripods may not provide enough stability, particularly in windy conditions or with heavier camera setups.
- **Material quality:** Cheaper tripods made from plastic may not be as durable as those made from aluminum or carbon fiber.

Design Opportunities:

- *Enhanced stability
- *Increased load capacity
- *Improved material quality
- *Affordable high-quality options
- *Modular design
- *smart connectivity

COMPETITIVE ANALYSIS

-Battery Grip



Product Advantages:

- **Extended battery life:** Battery grips allow users to use multiple batteries simultaneously, significantly extending the camera's battery life.
- **Improved ergonomics:** Battery grips often provide additional grip points and handling options, making it more comfortable to hold the camera, especially in vertical orientation.
- **Additional controls:** Many battery grips feature extra controls, such as shutter release buttons, dials, or custom function buttons, making it easier to control the camera in vertical orientation.
- **Tripod compatibility:** Most battery grips come with a tripod mount, allowing users to attach the camera to a tripod without removing the grip.

Product Disadvantages:

- **Added bulk and weight:** Battery grips increase the overall size and weight of the camera, making it less portable and potentially more difficult to handle.
- **Limited compatibility:** Many battery grips are designed specifically for certain camera models, making them incompatible with other models and requiring users to purchase multiple grips for different cameras.
- **Price:** Battery grips can be expensive, especially when considering the additional cost of extra batteries.

Design Opportunities:

*Expanded functionality *Cost-effective options *Integrated power management



COMPETITIVE ANALYSIS

-Camera Cage



Product Advantages:

- **Protection:** Camera cages provide an additional layer of protection for the camera body, shielding it from potential damage.
- **Accessory mounting:** Camera cages offer multiple mounting points for accessories such as microphones, lights, and monitors, allowing for a customized setup.
- **Camera-specific design:** Some camera cages are designed specifically for certain camera models, ensuring a snug fit and compatibility with the camera's features and functions.
- **Rig compatibility:** Camera cages can be easily integrated into larger rig systems, providing a solid foundation for more complex shooting setups.

Product Disadvantages:

- **Limited compatibility:** Camera-specific cages may not be compatible with other camera models, requiring users to purchase multiple cages for different camera systems.
- **Inconsistency in quality:** There can be significant variations in build quality and material durability among different camera cage manufacturers.
- **Access to camera functions:** Some camera cage designs may limit access to certain camera functions or ports, hindering usability.

Design Opportunities:

- *Lightweight materials
- *Universal compatibility
- *Integrated cable management
- *Customization options
- *Enhanced accessory mounting
- *Unobstructed access



COMPETITIVE ANALYSIS

-Battery Grip



Product Advantages:

- **Reduced camera shake:** Shutter release cables allow users to trigger the camera without touching the camera body, reducing the risk of camera shake and blurry images.
- **Long exposure support:** Shutter release cables enable photographers to take long exposures without touching the camera, preventing camera shake and ensuring sharp images.
- **Remote control:** Some shutter release cables offer remote control options, allowing photographers to trigger the camera from a distance, which is useful for wildlife or sports photography.

Product Disadvantages:

- **Connection issues:** Depending on the camera model and shutter release cable, there may be compatibility issues or unreliable connections.
- **Limited range:** Wired shutter release cables have a limited range, restricting the distance between the photographer and the camera.
- **Battery life:** Wireless shutter release cables may rely on batteries, which could run out during a critical shoot.
- **Durability:** Some shutter release cables may have questionable build quality or use fragile connectors, leading to potential durability issues.

Design Opportunities:

*Wireless connectivity *Additional features *Smartphone integration



COMPETITIVE ANALYSIS

-Battery Grip



Product Advantages:

- **Improved lighting:** Flash units provide additional lighting in low-light situations, enhancing image quality and reducing the need for high ISO settings.
- **Creative control:** Flash units offer control over the direction, intensity, and color temperature of the light, allowing photographers to achieve various creative effects.
- **High-speed sync (HSS):** Advanced flash units support HSS, allowing for flash photography at higher shutter speeds.
- **TTL (Through The Lens) metering:** Some flash units offer TTL metering, which automatically adjusts flash output based on the camera's metering system.

Product Disadvantages:

- **Size and weight:** Flash units can add bulk and weight to the camera setup, making it less portable and potentially harder to handle.
- **Complexity:** Flash photography can be complex, especially when dealing with multiple off-camera flashes or advanced features.
- **Overheating:** Prolonged use of flash units can cause them to overheat, leading to temporary shutdowns or potential damage.

Design Opportunities:

*Simplified user interface *Smartphone integration *Modular systems

*Compact and lightweight design *Enhanced cooling systems



Camera Quick Release System

Market Background

In the wild the photographer did not want to miss any opportunity to capture a beautiful image on the way. User want to safely and comfortably carry your camera anytime, anywhere, and always have instant access. Basically every iconic product in this area was launched by crowdfunding initially. Overall there is no best solution in this market.

Existing Brand On The Market

Peak Design



In 2010 Founder Of Peak Design Peter Learned That Carrying A Big Camera Is Actually A Real Pain In The Ass. He Designed A Little Device That Would Make Carrying And Using A Camera An Absolute Joy Using 10 Months. Pete Put His Invention On A Fledgling Website Called Kickstarter And Asked Adventurous Photographers Like Himself To Take A Chance On The Little Product. Peak Design Has Been Riding That Wave Of Enthusiasm For Smart Design And Delightful Carry Solutions Ever Since.

Spider



Founded In 2009, Spider Holster Camera Systems Quickly Became Known As Being The Most Rugged, Secure, Ergonomic, And Fastest Release Professional Camera Carrying System Available. Our Mission Is To Provide Revolutionary, Ergonomic Solutions For Photographers From All Walks Of Life. SpiderPro And SpiderLight Systems Have Become The Trusted Carrying System For Photographers Looking To Protect Themselves Against The Neck, Shoulder, And Back Strain.

Cotton Carrier



The Cotton Camera Carrier Team Is A Group Of People Who Love Landscape Photography. As Professional Landscape Photographers, They Found No Product To Meet Their Need For A Camera-Carrying Solution That Was Comfortable, Secure, And Accessible. Sure, There Were Bags, Sling Straps, Belt Clips, And All Manner Of Shiny Things. But All Were "Toys" Designed By Designers. Five Years Later, Cotton Camera Carrier Systems Got Enthusiastic Feedback From Customers From Around The World.

Existing Product On The Market



Peak Design Capture



SpiderPro Single Camera Belt V2 Spider X Belt + Backpack Holster



Cotton Carrier CCS G3

Cotton Carrier StingBelt & Bucket System

COMPETITIVE ANALYSIS

-Peak Design Capture

Product Advantages:

- **Compact and Light:** The Peak Design Capture Camera Clip V3 is a compact and light accessory, weighing just around 84g and measuring 8.3 cm x 4.0 cm x 2.0 cm.
- **Compatibility:** With a 2nd Capture clip you can switch from backpack to belt carry instantly, or leave a clip permanently attached to your favorite pack.
- **Tripod Compatible:** Includes Standard Plate, which works with most Arca-type tripods.

Product Disadvantages:

- **Uncomfortable Placement:** Placement of the clip on a backpack strap often winds up a little high depending on the type of pack (including PD), that can be uncomfortable. The belt for the Everyday Zip has loops for it but they are so far off to the side I cannot reach them.
- **Heavy Loading:** When camera is attached on the pack, it was kind of heavy and uncomfortable.
- **Easy to Mismatch:** When camera is attached on the belt, it was hard to install the camera back to clip.

Design Opportunities:

*Better Placement Choice *Reduce Camera Loading *Better Install Way



COMPETITIVE ANALYSIS

-SpiderPro Camera Belt v2

Product Advantages:

- **Comfort:** While back and neck problems are almost inevitable with any occupation in which you're carrying around 5lbs or more for 12 hours straight, using the Spider Camera Holster will significantly reduce the pain in both your neck and back in comparison to a basic neck strap.
- **Placement:** Girls with fairly large bust lines may not feel comfortable with straps that cut directly through their chest as they can often be uncomfortable as well as create an awkward appearance. Since that the Spider Camera Holster isn't a strap based solution, this issue can be completely avoided.
- **Security:** It borrows the structure of the electrical worker's equipment to give user biggest security and make sure that users can quick release the camera.



Product Disadvantages:

- **Unstability:** Camera will remain loose on the brackets. Way to risky to just have it hang and just hope the screw doesn't untighten when swinging back and forth.
- **Heavy Loading:** It removes the pain from having the camera and lens hanging from my neck. There is too much weight on your hips so in other words, you'll trade one problem for the other.
- **Not Appealing:** This product's look may not appeal to all photographers. The structure makes people remind of electric welders

Design Opportunities:

*Reduce Loading *Mor Appealing Shape *More Stable Structure

COMPETITIVE ANALYSIS

-Cotton Carrier



Product Advantages:

- **Distributed loading:** The system all starts with the SlingBelt. This ergonomically designed Belt sits comfortably and distributes the weight of your gear to your hips. Say goodbye to upper body fatigue and eliminate a sore neck and shoulders.
- **Placement:** Girls with fairly large bust lines may not feel comfortable with straps that cut directly through their chest as they can often be uncomfortable as well as create an awkward appearance. Since that the Cotton Carrier isn't a strap can be completely avoided this solution.

Product Disadvantages:

- **Unstable :** The twist and drop design of holder is quick to put camera in and take out but since plate is roundish is swings back and forth when you walk probably adding to loosening of plate.
- **Certain Degree Loading :** Shoulder harnesses hurt after long use or if injuries to neck or shoulder.
- **Cheap :** All of the buckles and clips are plastic. Not just plastic but pretty cheap feeling plastic. There is no way this holds up long term.

Design Opportunities:

*Reduce Loading *More Stable Structure *More High-end Material Selection

USER RESEARCH

User Research

Persona



Name	Age	Gender	Occupation
Huawei CHEN	48	Male	A retired public functionary
Personality			Retirement Pay
Patient Calm temperament Enjoy outdoors activities Attentive			8000 Yuan per month

Personal description

He lives in Beijing after retiring. As a tired public functionary, he likes outdoors activities. He always go to camp, fish, and hike in his spare time. He will drive to some countrysides, mountains, and reservoir with two or three friends and stay wild for two or three days to camp and do the outdoors activity. He buys the GFX 50R because it is cheaper than other medium-frame cameras. This is his first camera so he is not familiar with the operation. He wants to use this camera to take some pictures when he doing those outdoor activities with his friends. He uses the camera frequently in the wild and he also wants to shoot himself and his friend except shooting the landscape. As an elder, he wants to use photo to record the memorable moments.

Purpose

- Taking the wild landscape pictures.
- Shot some high lights when he fishes or climbs mountain

USER JOURNEY

- He needs to protect his camera in the wild and carrying the camera is tiring.
- He needs to take many accessories and batteries for two or three-day travel.
- He can shoot when he is climbing or fishing and the camera needs to be stable on the ground or in other places

Quotations

- "Those accessories are heavy and not suitable for outdoor activities."
- "I can not shoot the moment when I get the fish."
- "I always carry the camera in the wild for a long time, I am worried if the camera will be damaged by the environment."
- "It is hard to find a good way to stable the camera in the wild."
- "I want to have some good photos but I don't know how to use the software such as the Photoshop."
- "Pictures are the collections of my good memory."

User Research

Tips for hiking photography

1. Bring A Tripod To Capture Some Self-Portraits

Perhaps you love doing solo hiking trips. If that's the case, bring a tripod on your hike so you can take some self-portraits!

2. Use A Holster For Easy Camera Access

A camera holster or camera clip is one of the most useful photography accessories for hikers. These holsters clip onto your backpack strap and securely mount your camera in front of your chest.

3. Be Selective About The Gear You Bring

One of the unique challenges about hiking photography is that you have to carry a heavy load. Even if you have some high-end, ultralight hiking and overnight gear, your camera and lenses are still going to weigh the same as they always do.

4. Make Sure Your Camera Is Accessible

Bringing your camera along is the first step to taking hiking photos, but make sure it functions as more than a really expensive training weight and actually take it out and use it. Find a setup that allows you to comfortably hike with your camera. That usually means keeping it at the top of your pack or in a case or holder outside of your bag instead of burying it under your lunch at the bottom

5. Wait For Golden Hour Whenever Possible

When you have the time, aim to arrive at the top just before golden hour. Nothing compares to a sunset or sunrise in the mountains, and it's nearly impossible to get a bad photo at this time of the day.



User Research

Problems in hiking photography

Some problems from a blog about hiking photography

1. Unpredictable Weather

One of the realities of landscape photography is that you have no control over the weather. Maybe you want to photograph the sunset, but it's rainy and overcast with no sun visible. Or maybe you want to photograph a beautiful waterfall secluded in a forest, but harsh sunlight is making the scene less than ideal.

2. Short Windows Of Time For The Best Light

The hours around sunrise and sunset are obviously favorites for landscape photographers. The challenge is that these windows of time with the best light are limited, and you need to be ready to make the most of them.

3. Way Of Traveling

When your only means of getting anywhere is walking, it severely limits your ability to be in the right place at the right time, which is the most essential element in photography.

4. Challenges In Physical Fitness

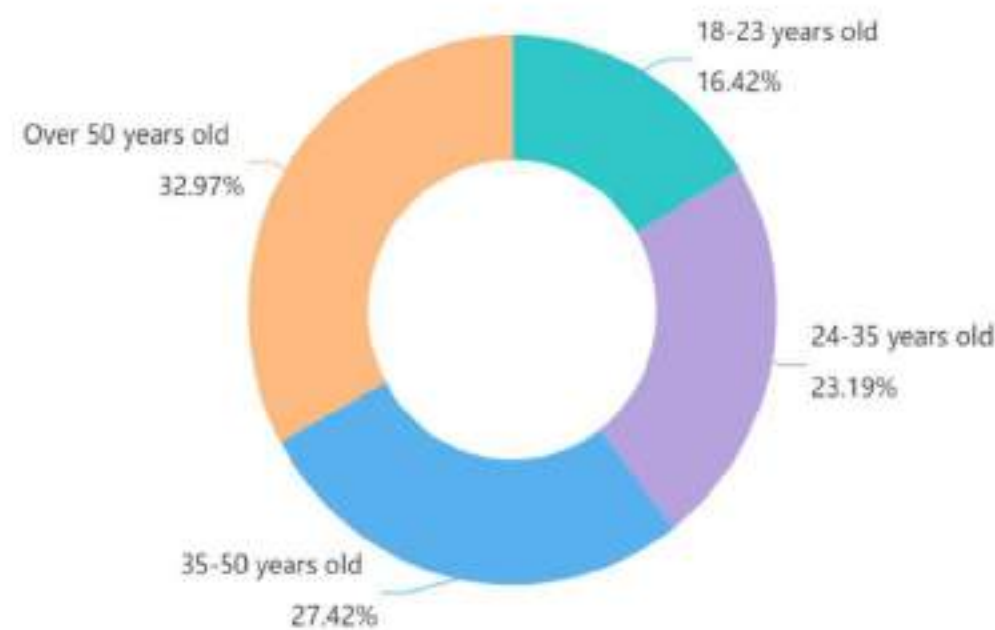
Hiking with camera and accessories will make people tired and exhausted. Take photos is not easy for a exhausted people. It's a lot easier to create good pictures when you are comfortable and well-rested.



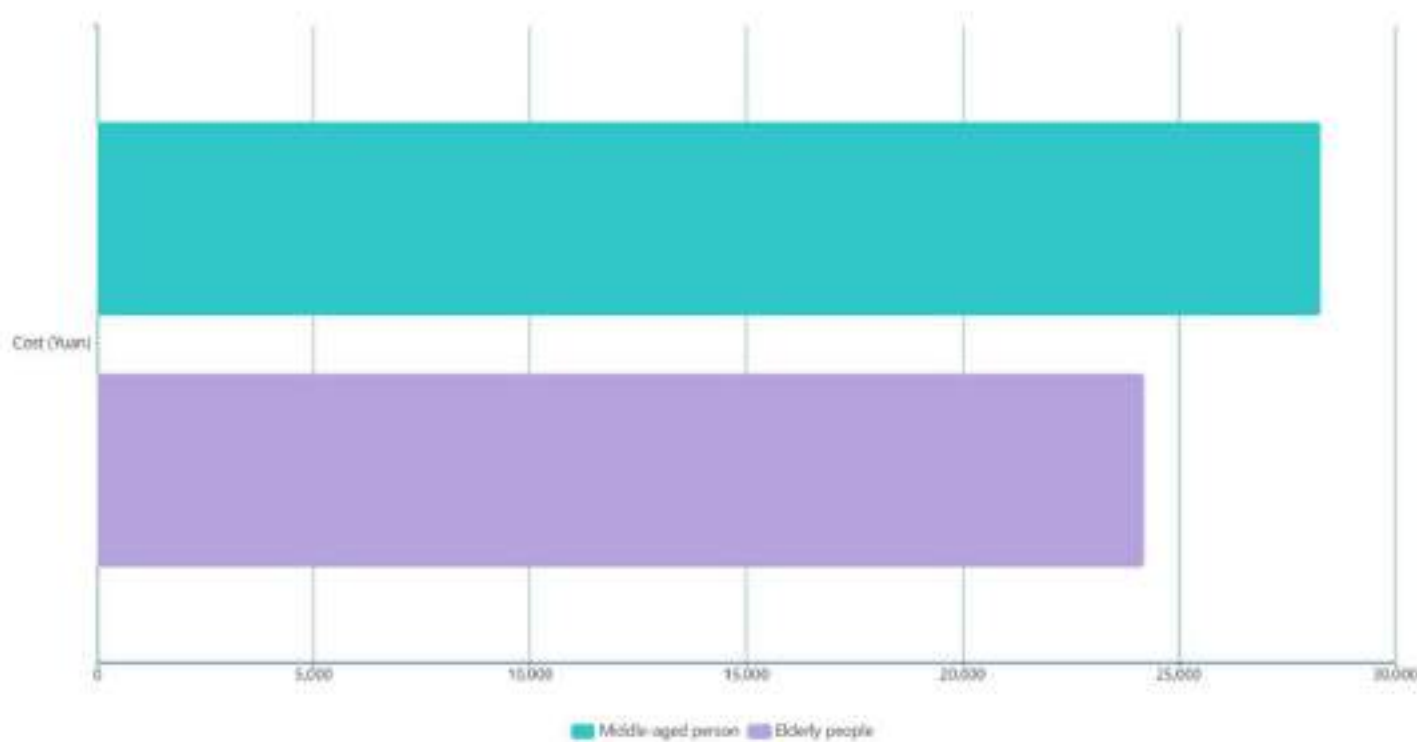
User Research

The Elderly People And Middle-Aged-People Are The Majority Of Camera Consumer Group In Recent Years

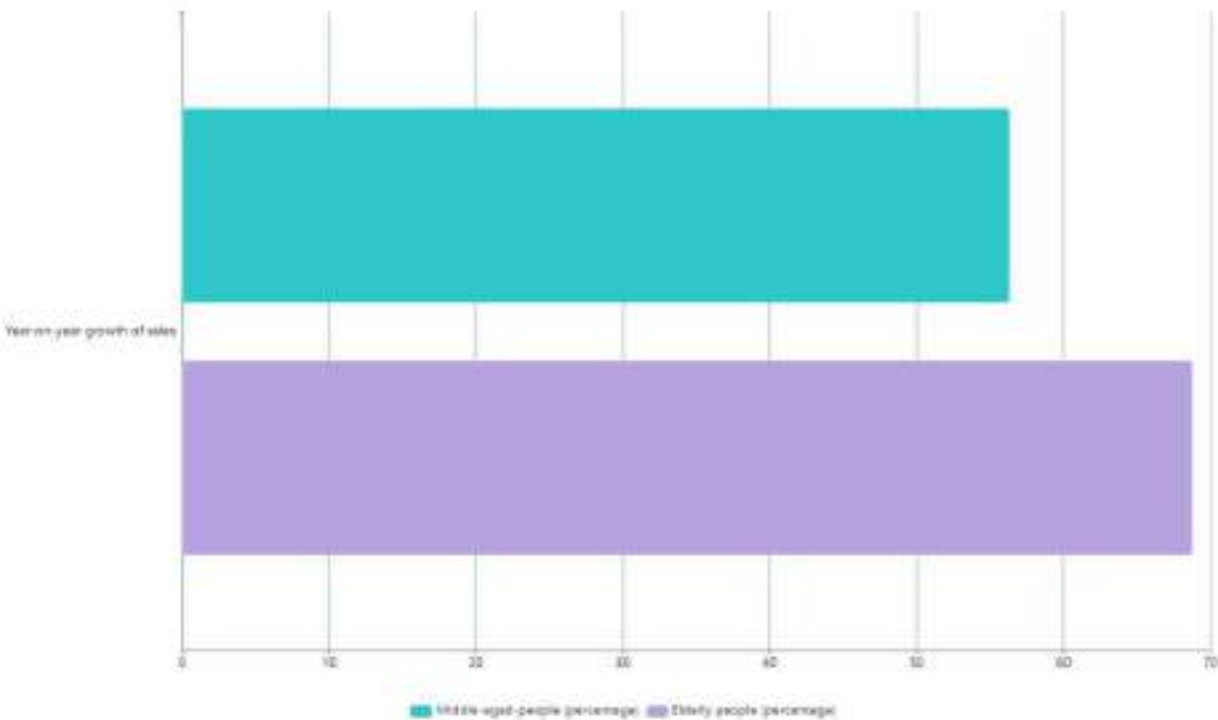
Age Distribution Of The Camera Consumer Group In 2021



Cost Of Camera On Suning.Com In 2018



Camera Year-To-Year Growth Of Sales On Suning.Com In 2018



User Research

Empathy map

Hear

- Pictures can help people to keep good memories.
- Get a picture of the moment that people get a fish makes them proud.

Think and Feel

- It is hard to adjust the ISO to fit the weather in the wild.
- Can not press the shutter when I'm fishing.
- I want use those pictures to record my memorable moments.
- I need to prevent my camera from damage.

Pain

- The operation of adjusting the sets of camera is difficult.
- The camera may be damaged in the wild.
- Using the camera when he does the outdoors activities is not convenient.
- Not satisfied for using normal pictures to record memory.
- GFX50R is too heavy when carrying in the wild

See

- The normal flash' size is too large for the wild using
- Tripod is heavy and hard to carry
- The photographer always want to

Say and Do

- Often say to his friends that let us have a picture together.
- Like shooting pictures when he goes hiking or fishing.
- Like capturing the poetic feeling when taking photos
- Have tried to use the Photoshop to improve picture's quality but failed.

Gain

- Want to have pictures with better quality.
- Improve the using experience.
- Protect the camera.
- Pictures can record more memories.



BRAINSTORM

Idea 1: An air bag

The air bag is designed for user to **prevent the fall of the camera**. The air bag contains sensor of falling, and it activates within seconds.

Inspiration



Storyboard



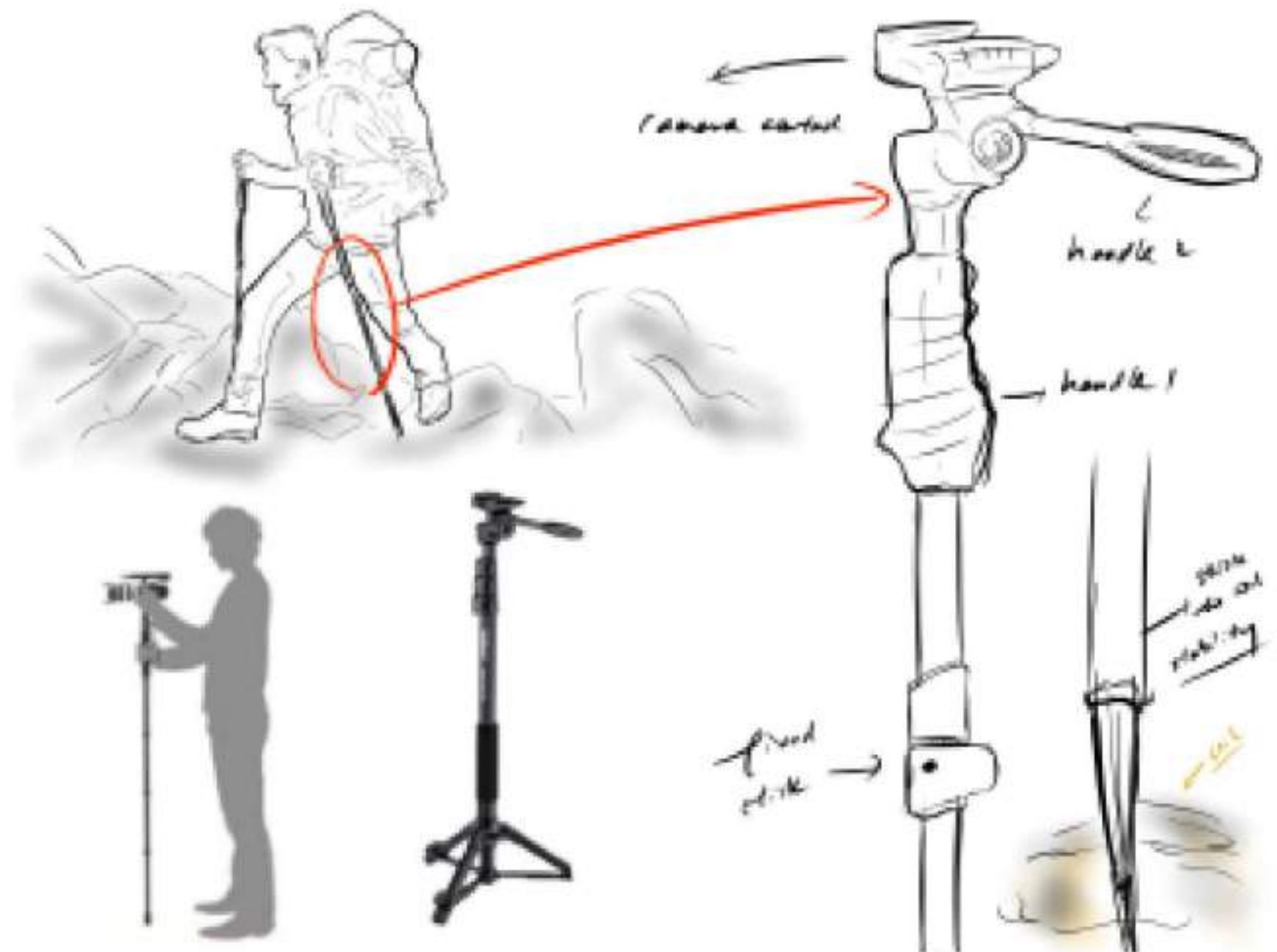
Idea 2: TripoTrek

Designed to enhance your outdoor adventures and photography experiences. This lightweight and durable hybrid product features **a telescopic design that can be easily adjusted for various heights and terrains.**

Inspiration



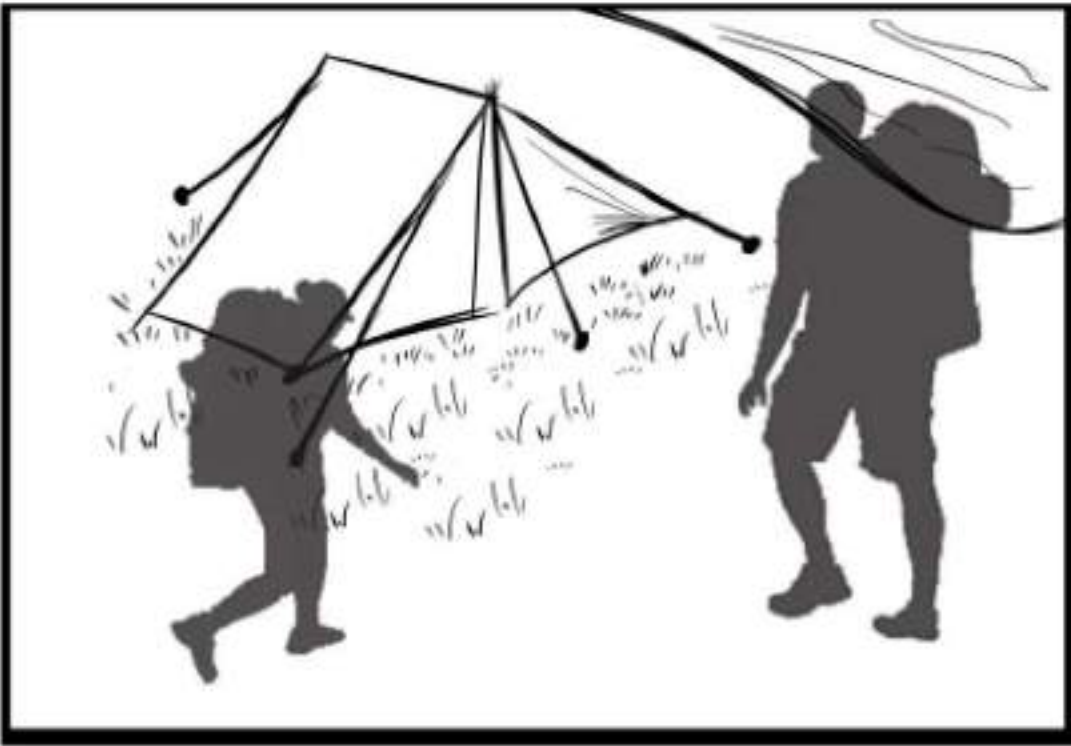
Storyboard



Idea 3 :Camera Handle

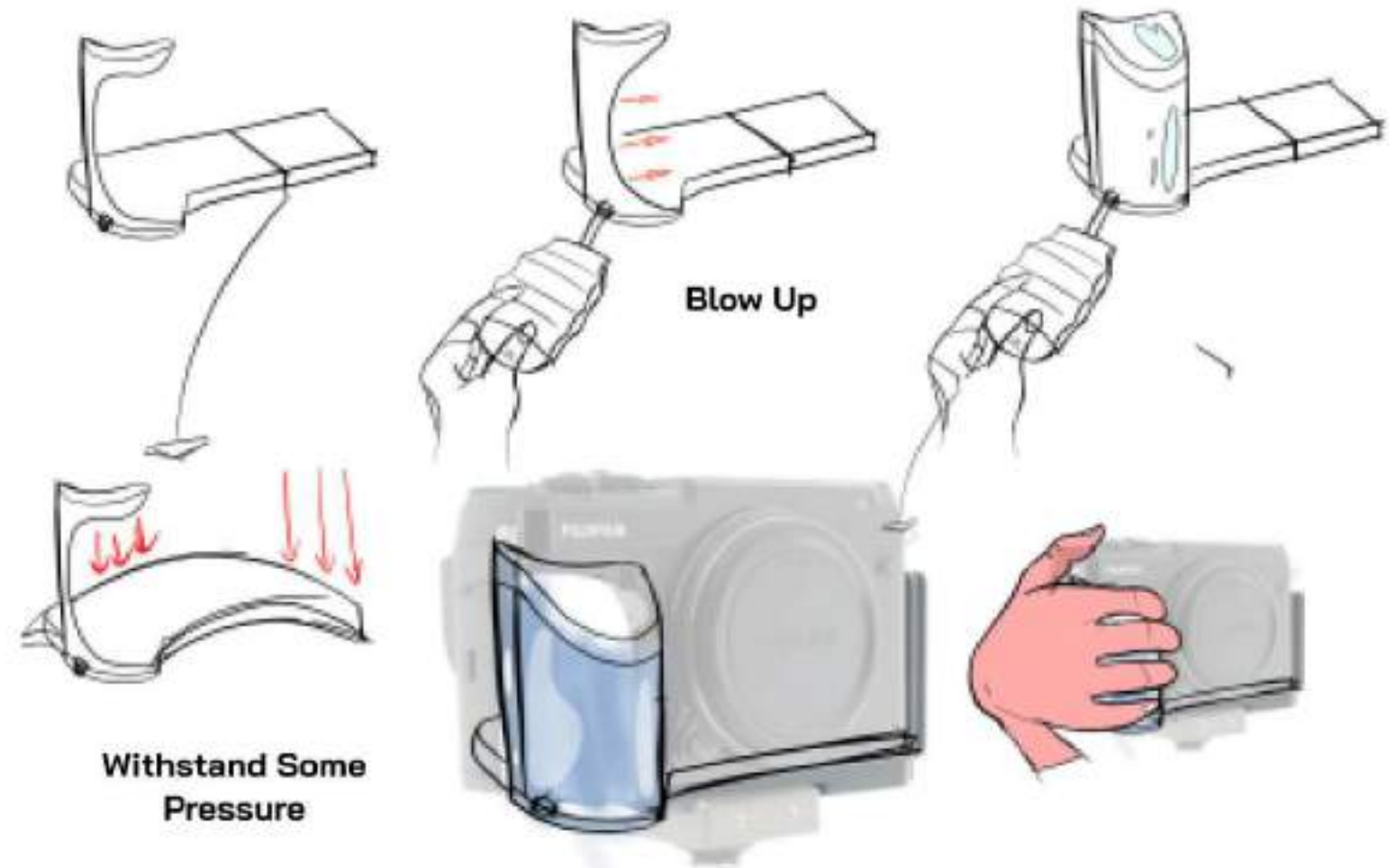
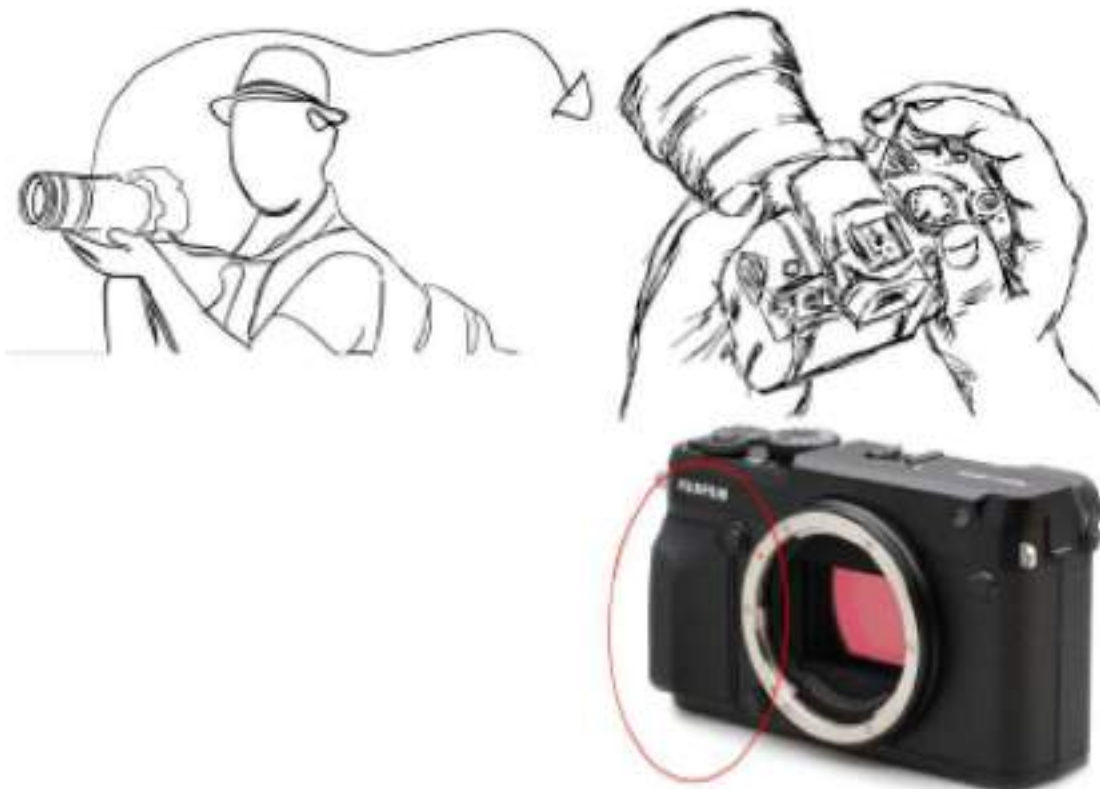
Storyboard

01



This is **an inflatable camera handle** which not only **improves hand ergonomics**, but **can help save space** especially in outdoors activity.

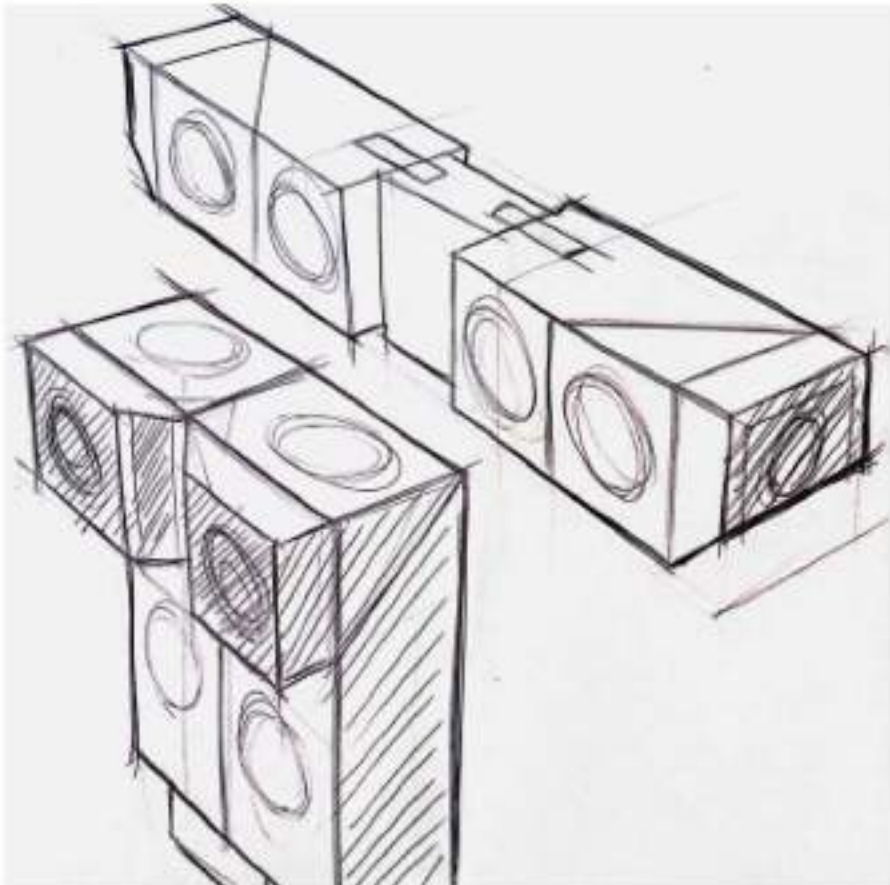
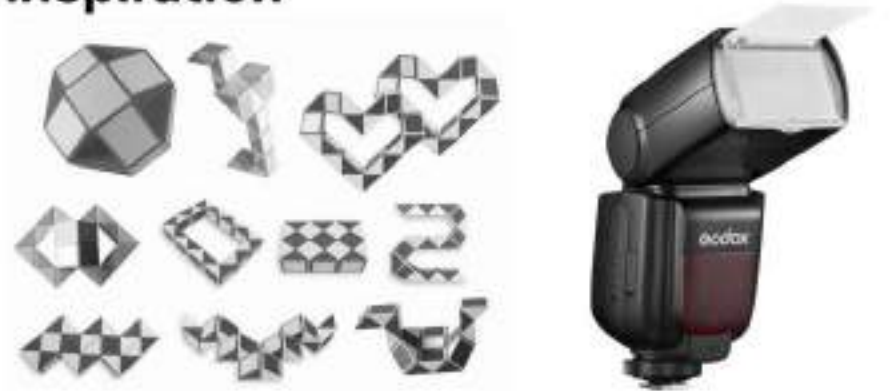
03



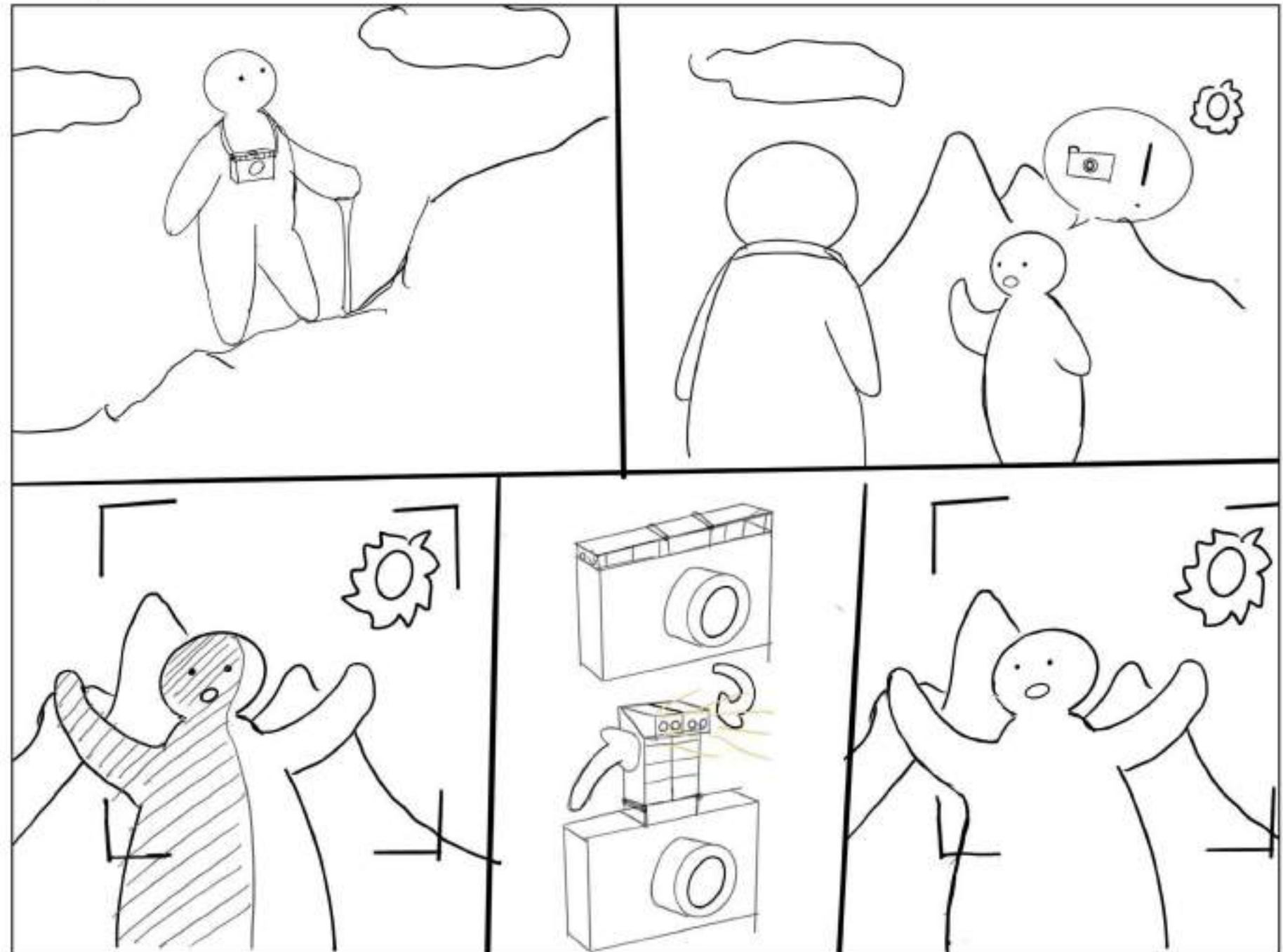
Idea 1 :A portable Flash

This is a foldable flash to meet the need of **filling flash in the wild**. There are two rotatable joints like the fidget toys to transform the flash from the lighting mode to flash mode and make it **portable** than normal flash.

Inspiration



Storyboard



Idea 2 :Creative Filter Toolkit

A creative filter toolkit which can let users create **interesting patterns** in their photos. during the photography , this toolkit can make users **change the filters easier and quicker**. This structure is inspired by **prescription glasses**

Inspiration



Storyboard



What if I have a filter toolkit ?



Wow ! I can rotate install and disassemble filters easily !

Sketch



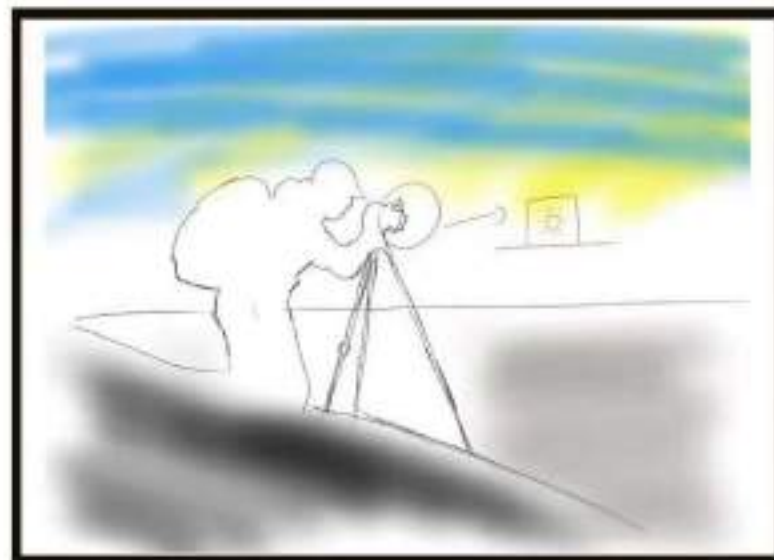
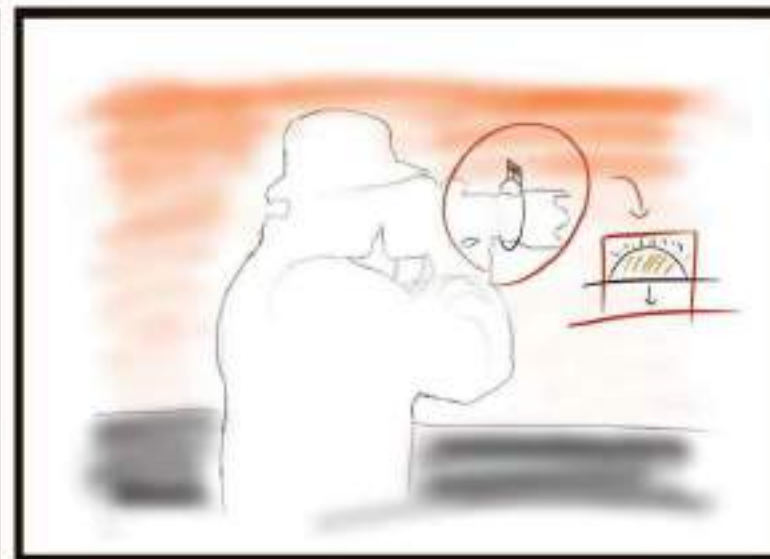
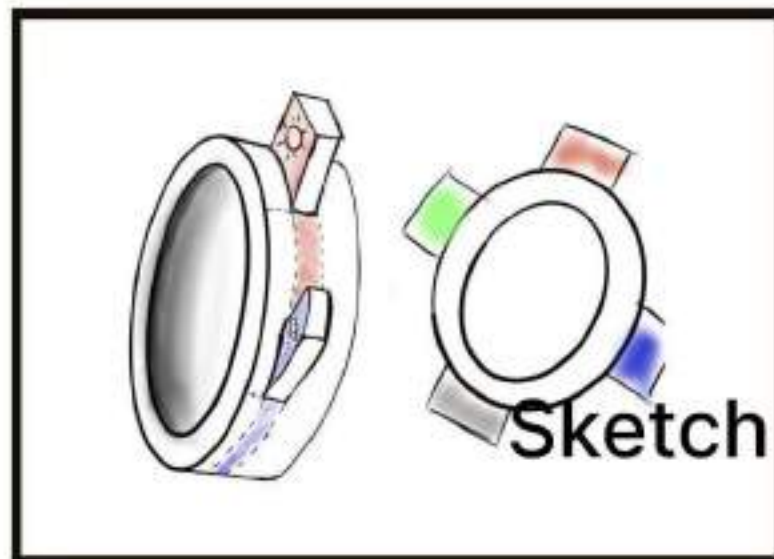
Idea 3.1 : Instructions for Photographic Exposure

The idea is about ND filters which assist to change the photographic exposure **under different weathers**. The design is an instruction which could connect with the ND filter to help users to **recognize the light in different environments**. In this case, the images would not be extremely dark or bright.

Storyboard



WITH ALTURA PHOTO FILTERS



Alternative 3.2



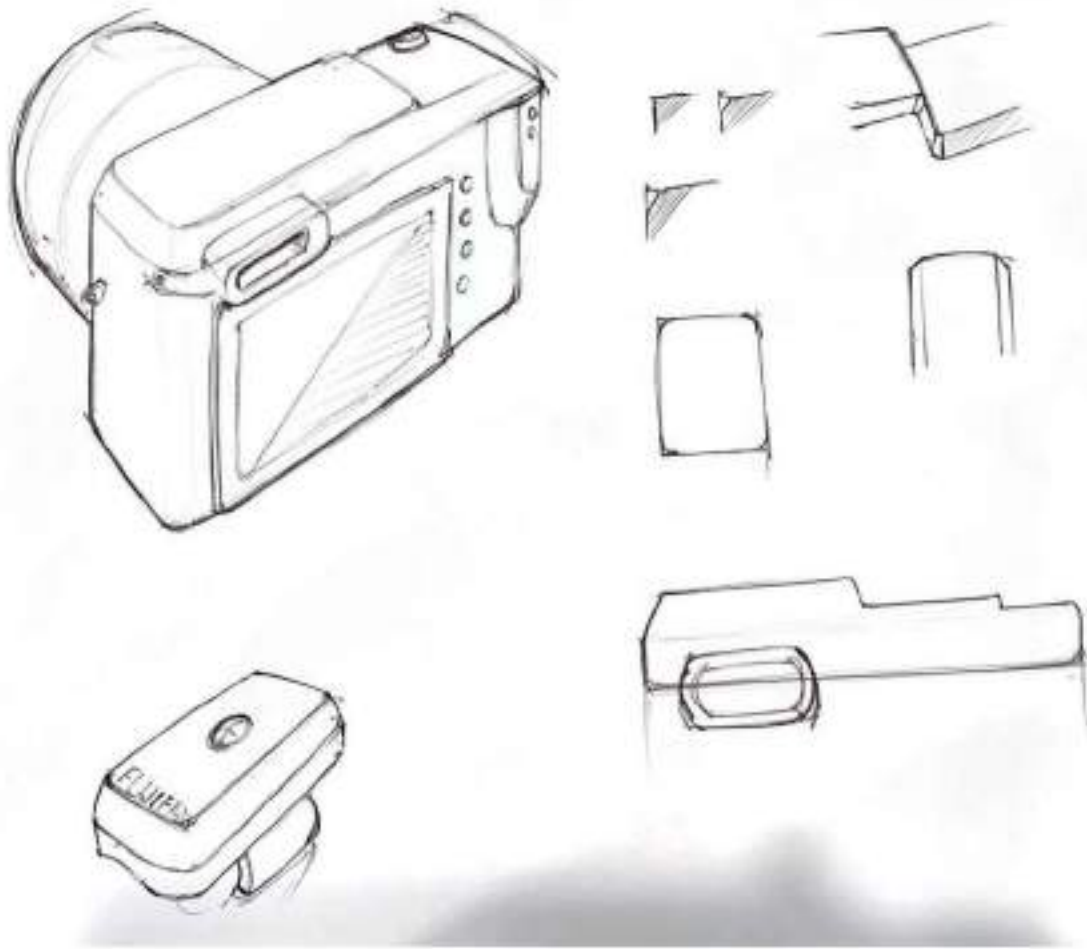
Table of Shutter Speed and Aperture for different weather conditions

ISO	warm, sand, snow (sun)	shadows, bright sun	backlighting	poor lighting	cloudiness, no shadows	overcast
100	1/25 f/16	1/25 f/11	1/25 f/5.6	1/25 f/8	1/25 f/5.6	1/25 f/4
200	1/250 f/16	1/250 f/11	1/250 f/5.6	1/250 f/8	1/250 f/5.6	1/250 f/4
400	1/500 f/16	1/500 f/11	1/500 f/5.6	1/500 f/8	1/500 f/5.6	1/500 f/4
800	1/1000 f/16	1/1000 f/11	1/1000 f/5.6	1/1000 f/8	1/1000 f/5.6	1/1000 f/4
1600	1/2000 f/16	1/2000 f/11	1/2000 f/5.6	1/2000 f/8	1/2000 f/5.6	1/2000 f/4

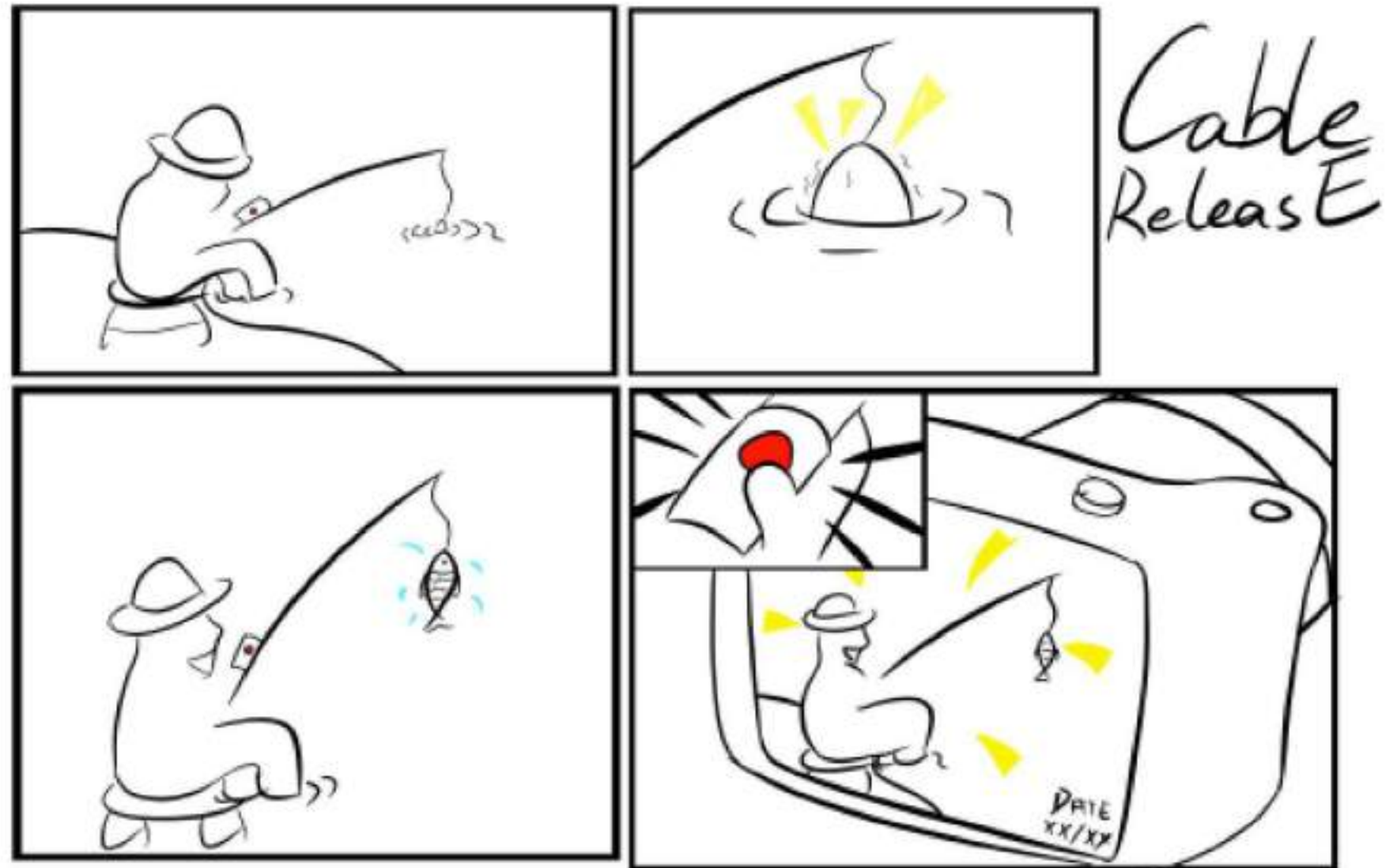
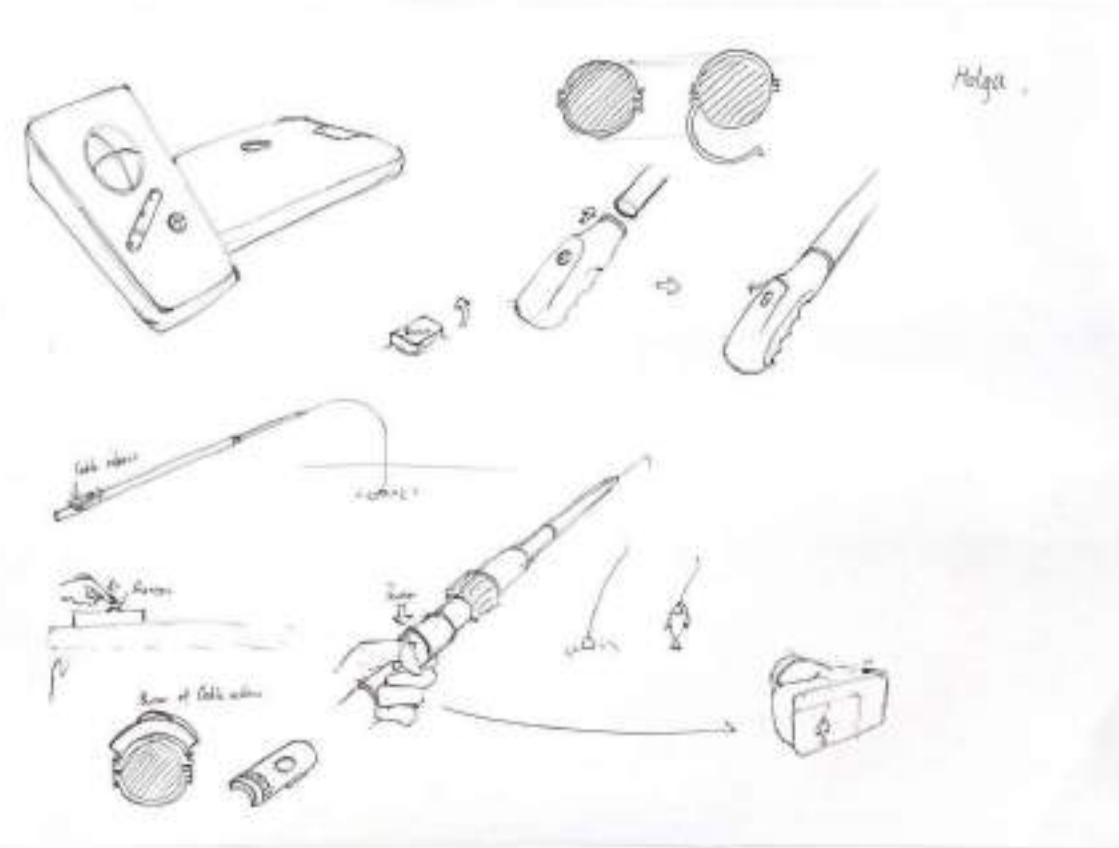


An accessory which can recognize the **weather and sunlight** intensity to give user setting recommends

Idea 1: Wireless cable release

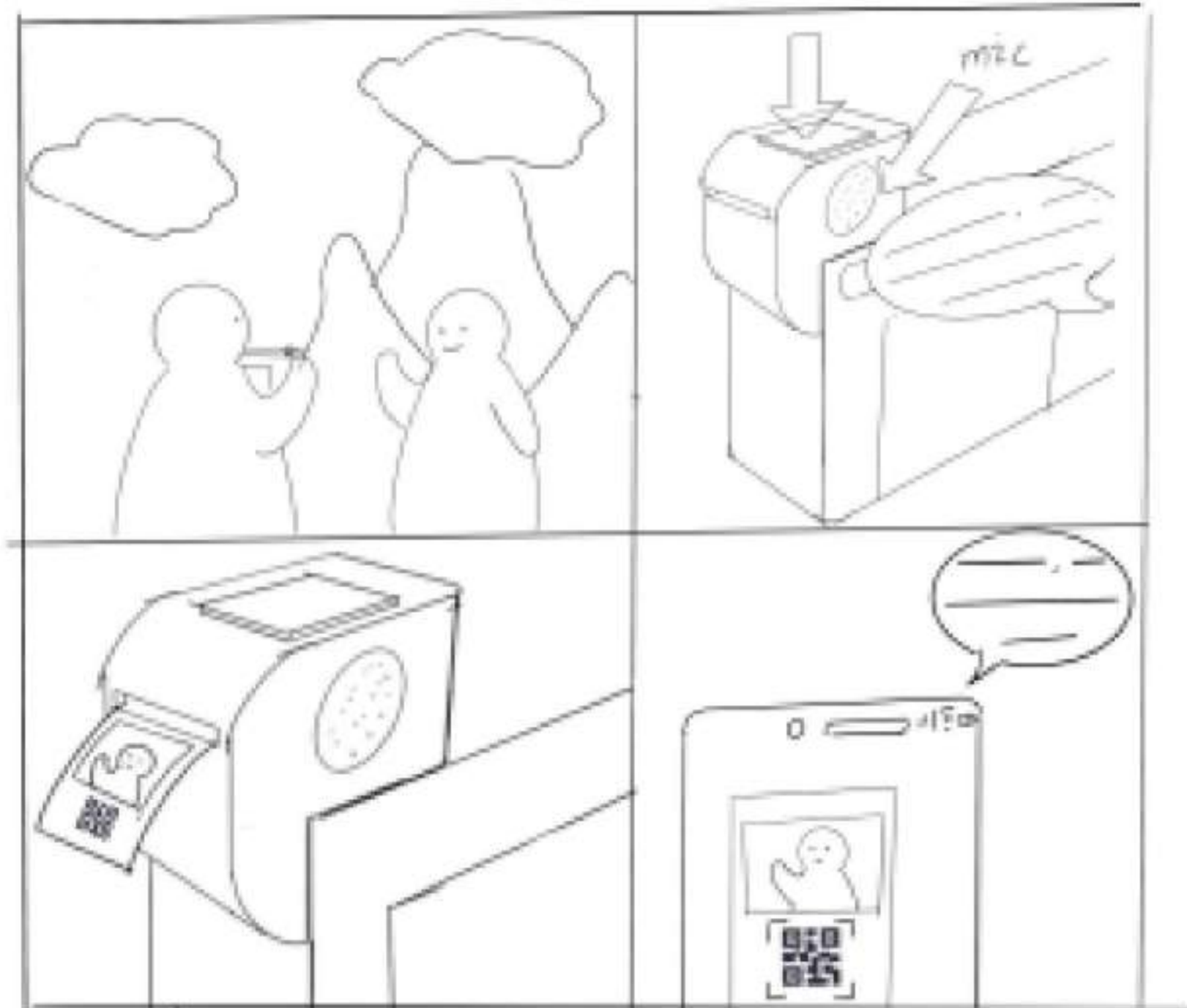
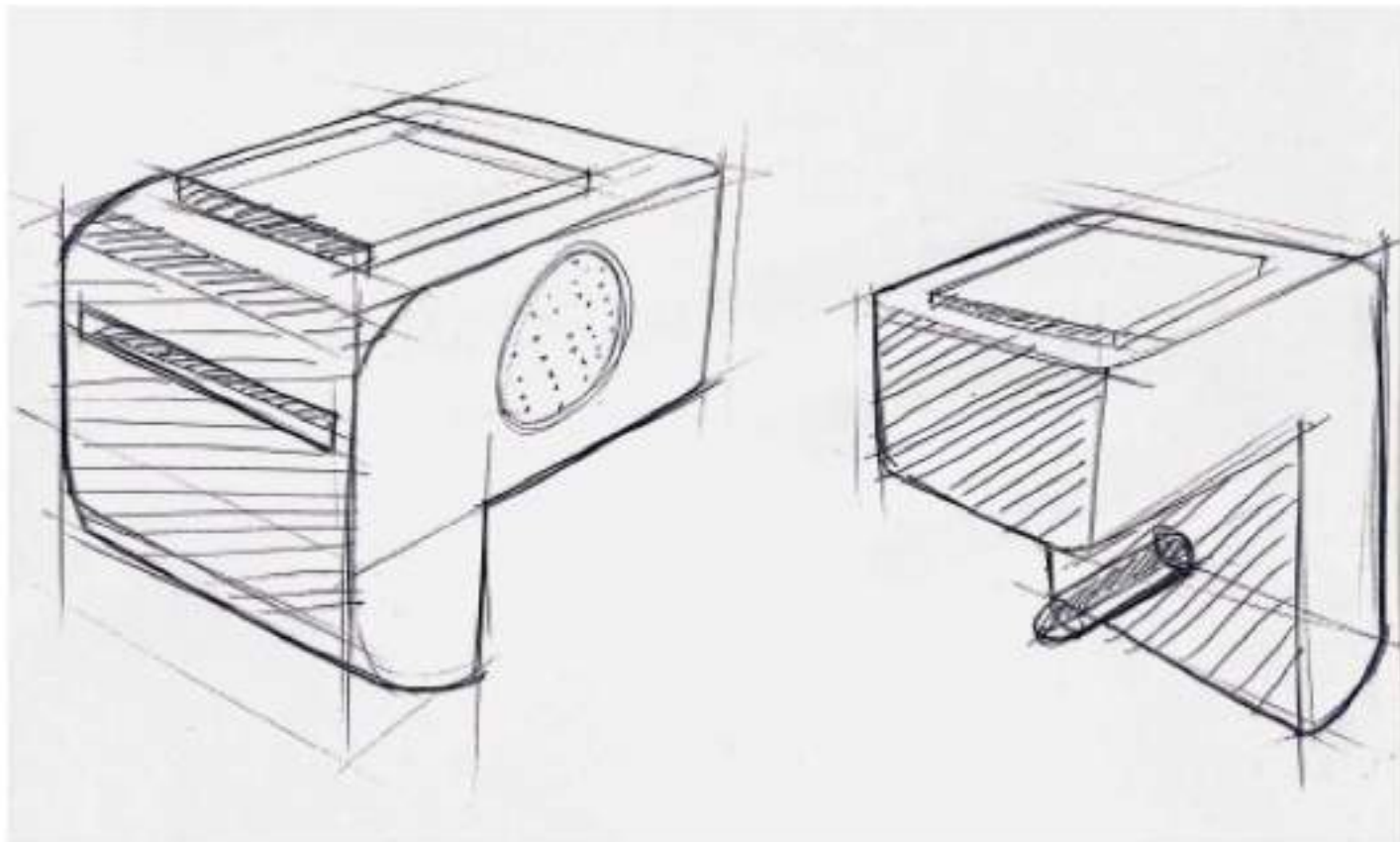


This is a wireless cable release. As we all know, a fisherman may catch nothing even all day, so it's a now or never opportunity for him **showing his pleasure catching a fish**. this cable release can achieve his wish.



Idea 2: Voice Picture Printer

This is a small printer with a mic to record voice. **User can press the button before shooting. After he press the shutter to get a photo, the printer will print this photo with a QR code. User can scan the code to play the recorded voice.**



Idea 3 :Memory Anchor

This is an accessory equipped by Lidar rangefinder and a screen which help user create a 3D environment using photos. **This can bring user a experience of going back to the past memories. Medium format lens OF GFX 50R makes it more easier to achieve this goal.**

Inspiration



Work Flow Using Camera

<https://medium.com/@EightyLevel/what-camera-should-you-use-for-photogrammetry-3a67864bd4eb>

Sketch



A screen which can navigate user to move help user create a 3D environment using photos

Storyboard



What if I create a space ?



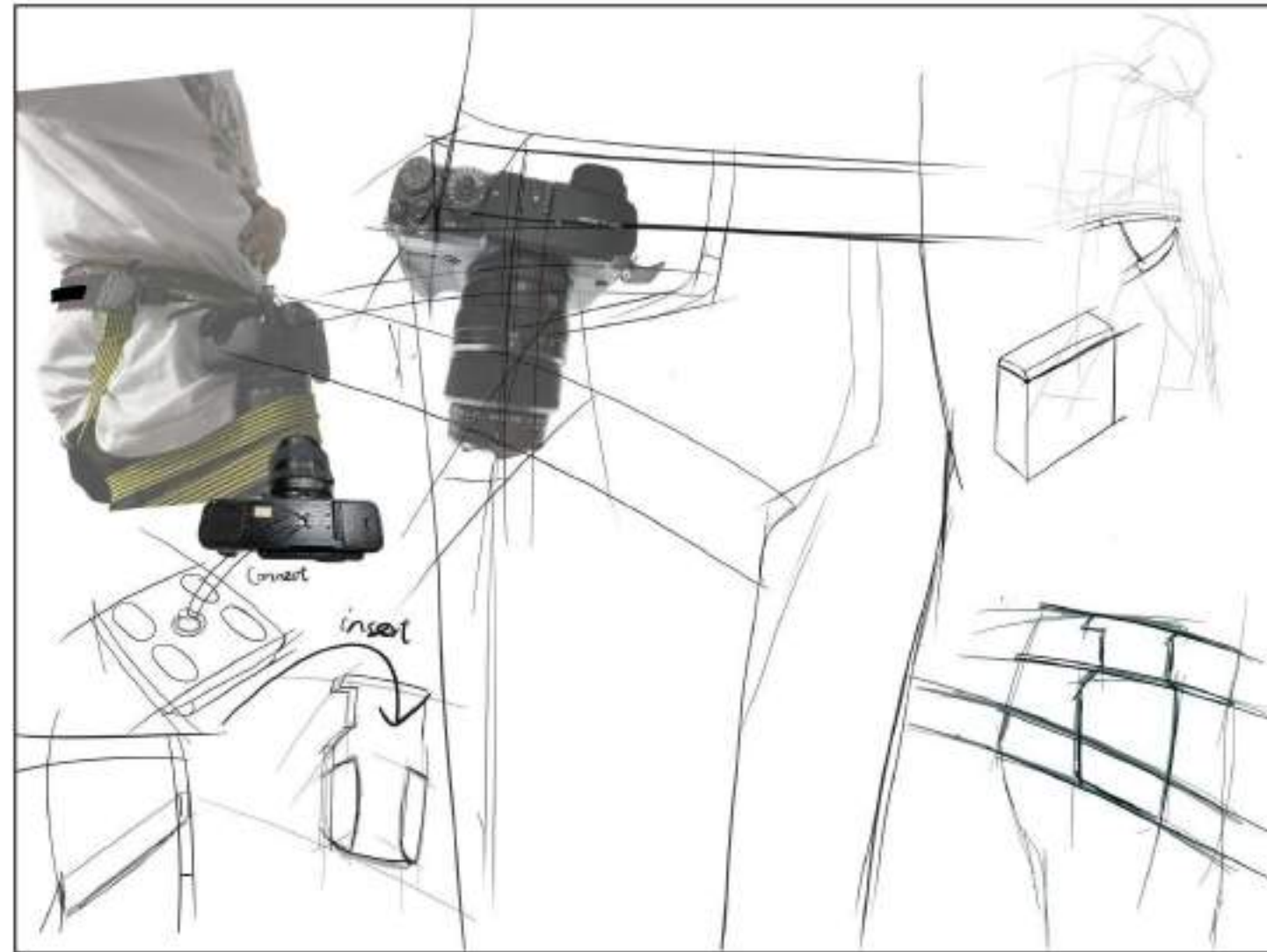
Extra Idea :Sinking Camera Holster

Many middle-aged photographers have varying degrees of muscle strain on the lumbar and neck. To relieve heavy loading above the waist we are inspired by **sinking pistol holster** and **thigh bag**. A tactical drop leg pouch-like camera clip can fulfill user relieve loading and capture moments when walking in the wild.

Inspiration



Sketch



Weight Comparision

FUJIFILM GFX50R	750g
Pistol(Without Bullet)	700g-900g

Feature

- Relieve pressure on the upper extremities
- Ergonomics : Lower waist is a more ergonomic position

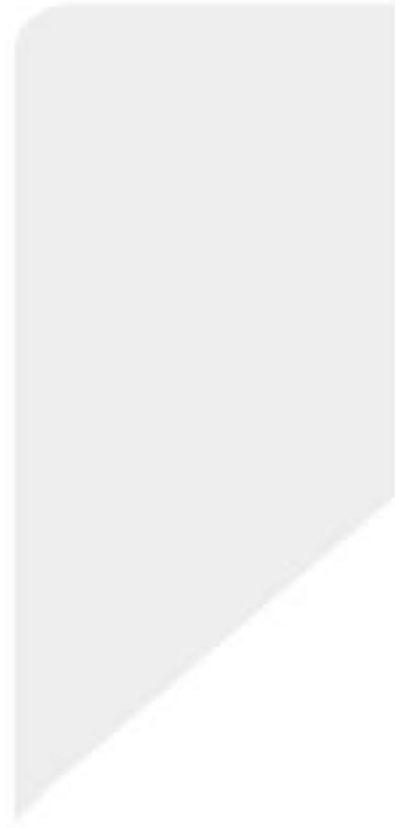
MOODBOARD

Moodboard-Tripotrek



Moodboard-Thigh Strap

FUJIFILM



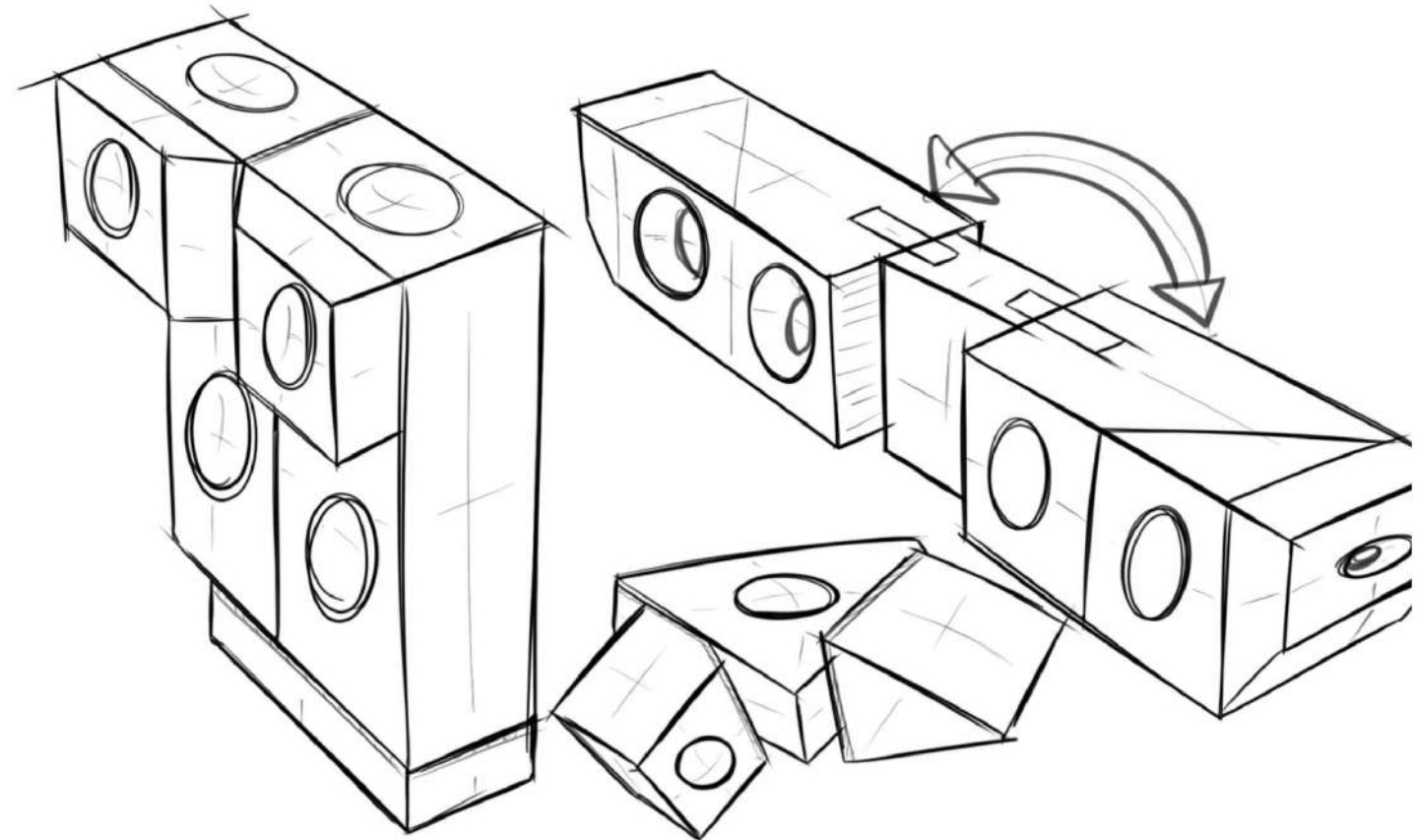
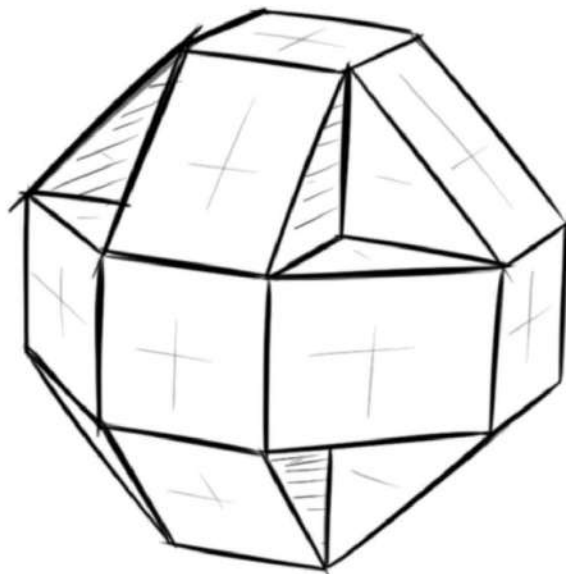
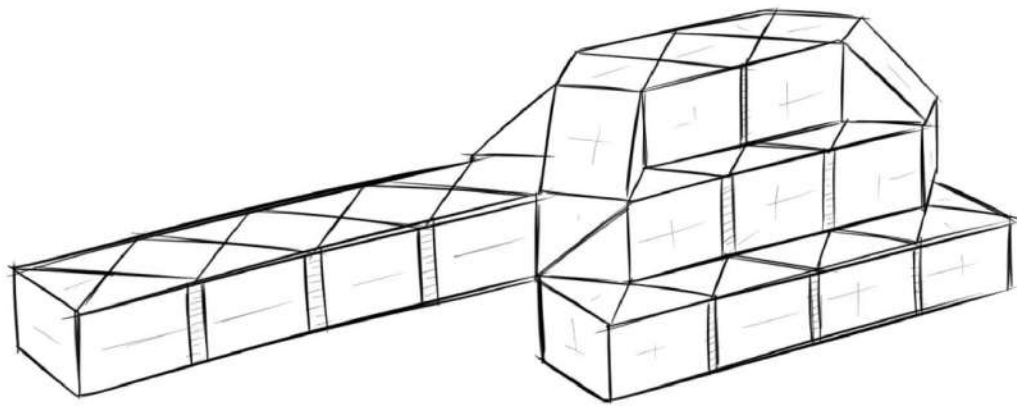
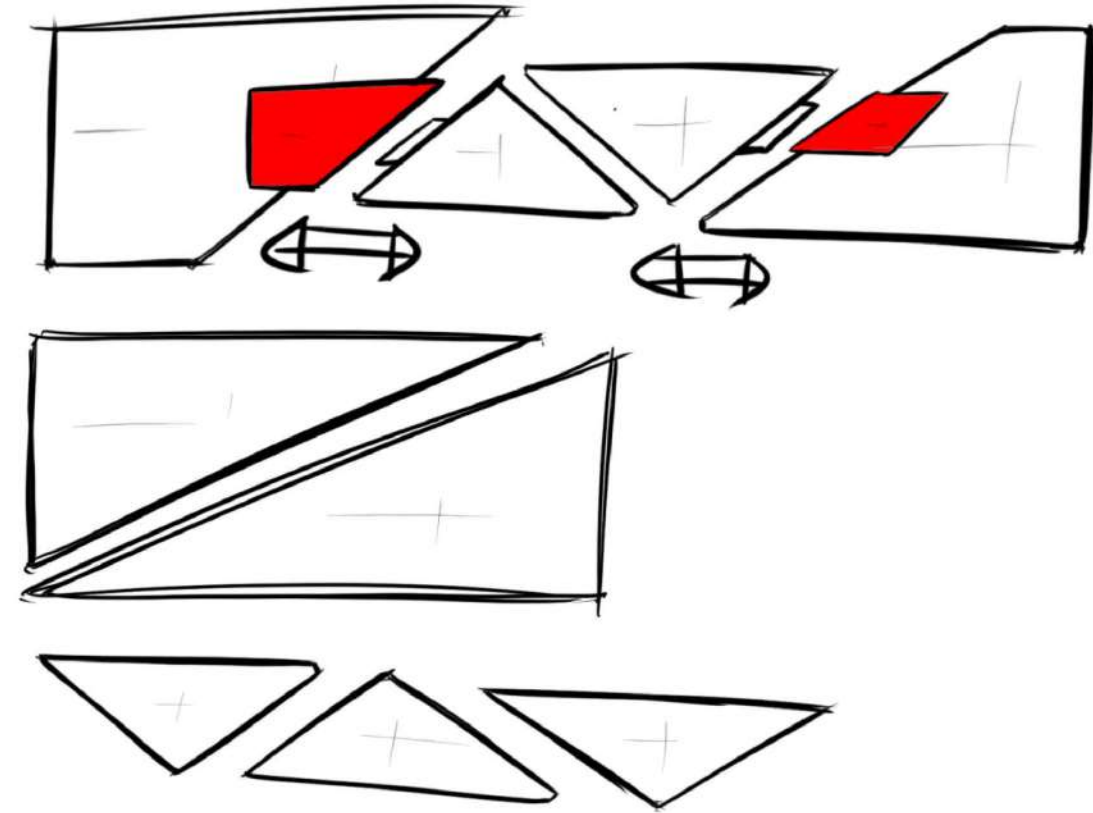
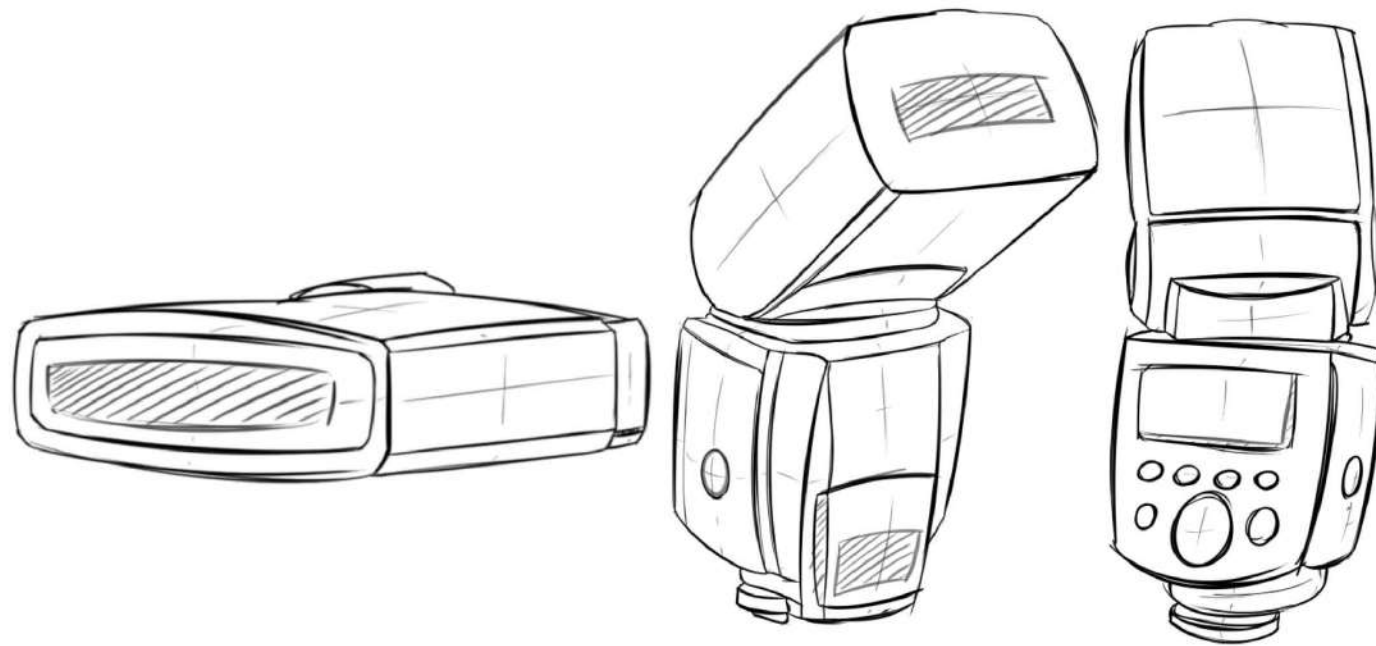
Moodboard- Flash



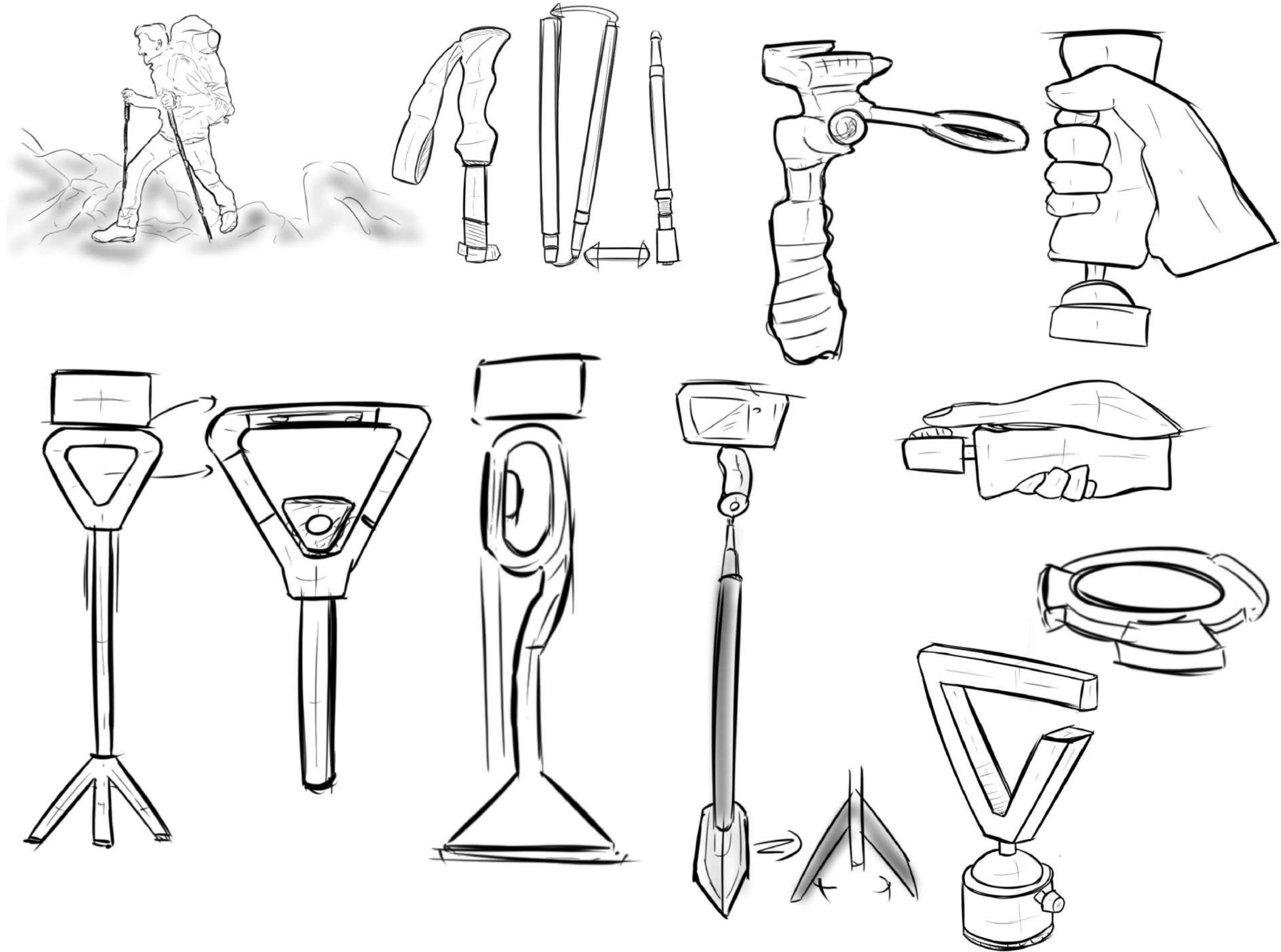
SKETCH

Sketches- The redesigned flash light

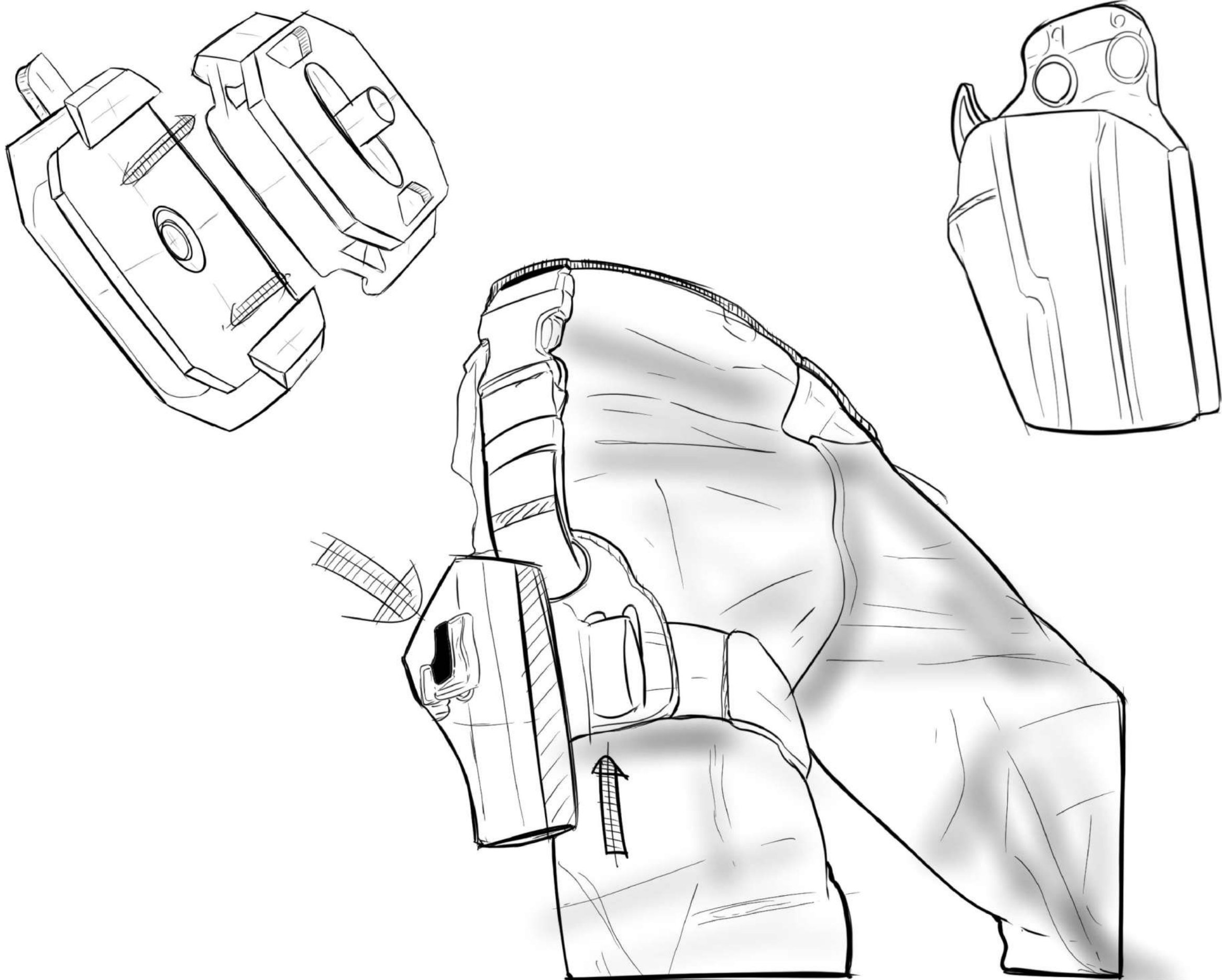
Sketches- Flash Light



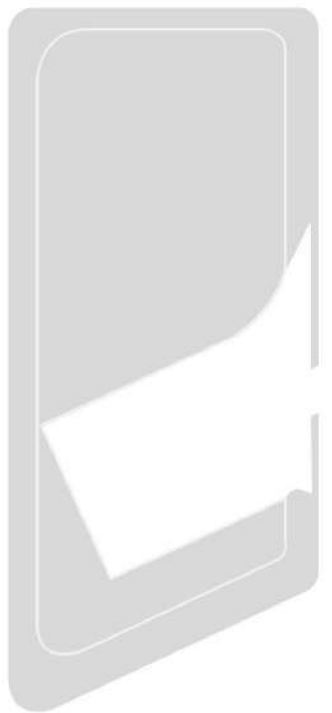
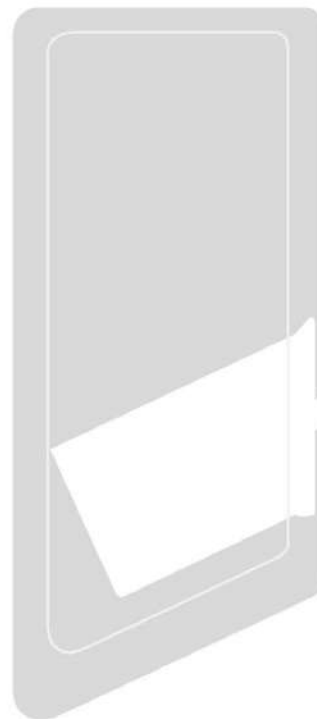
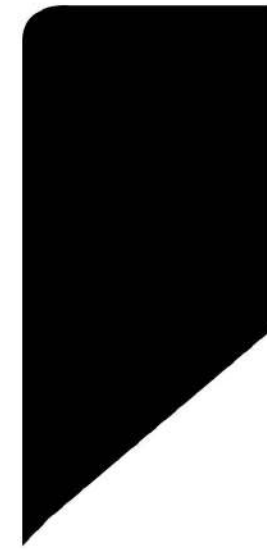
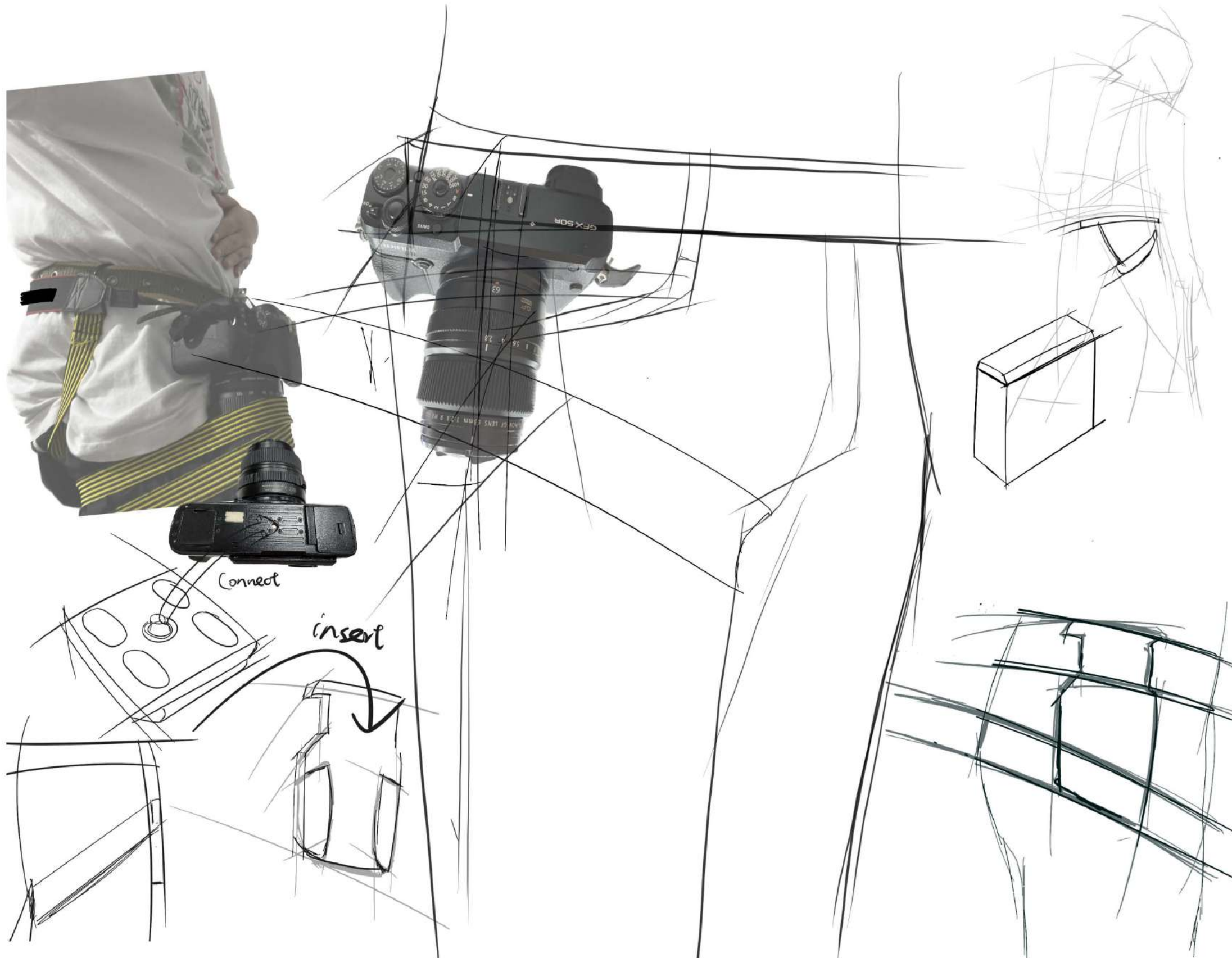
Sketches- Tripotrek



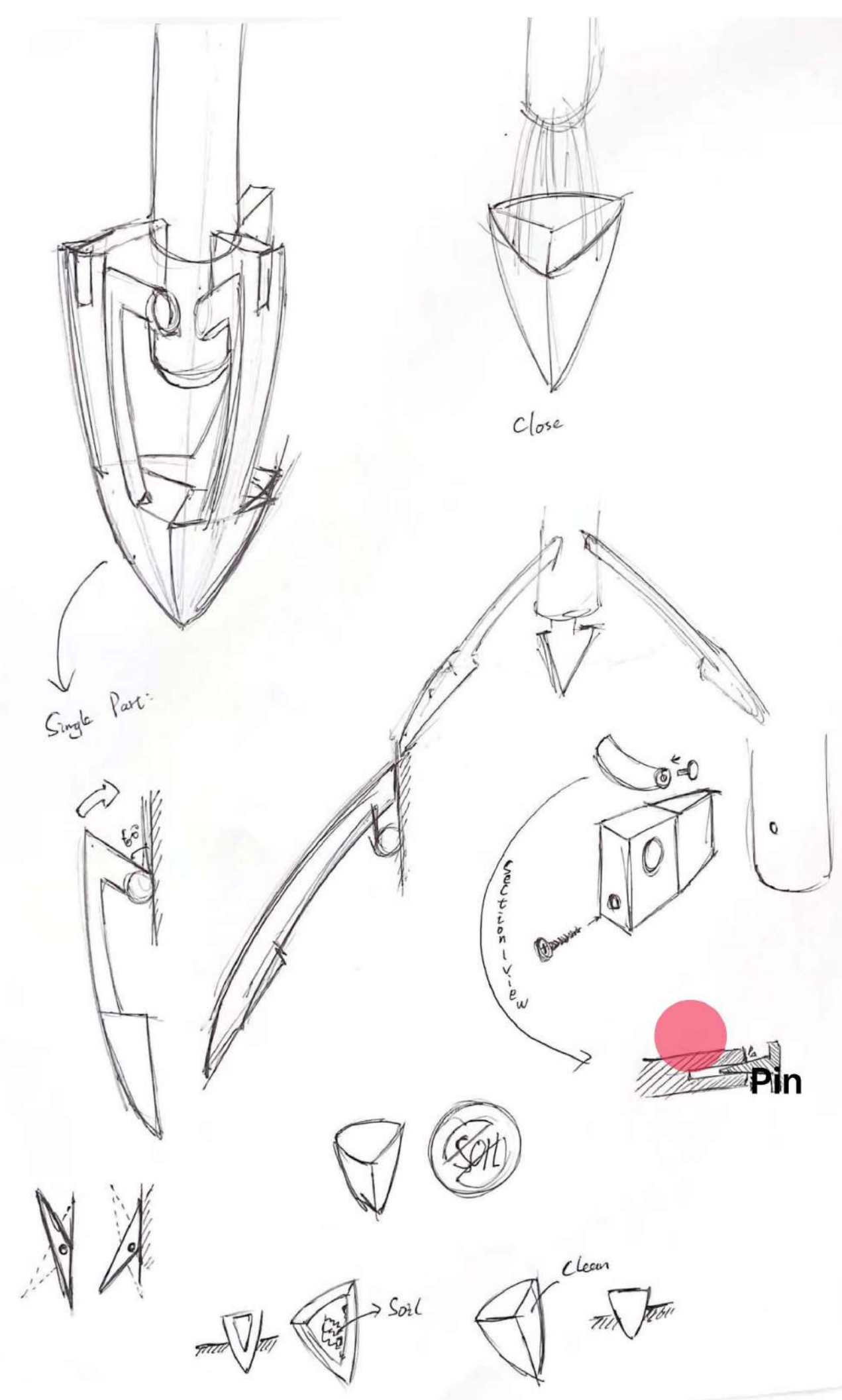
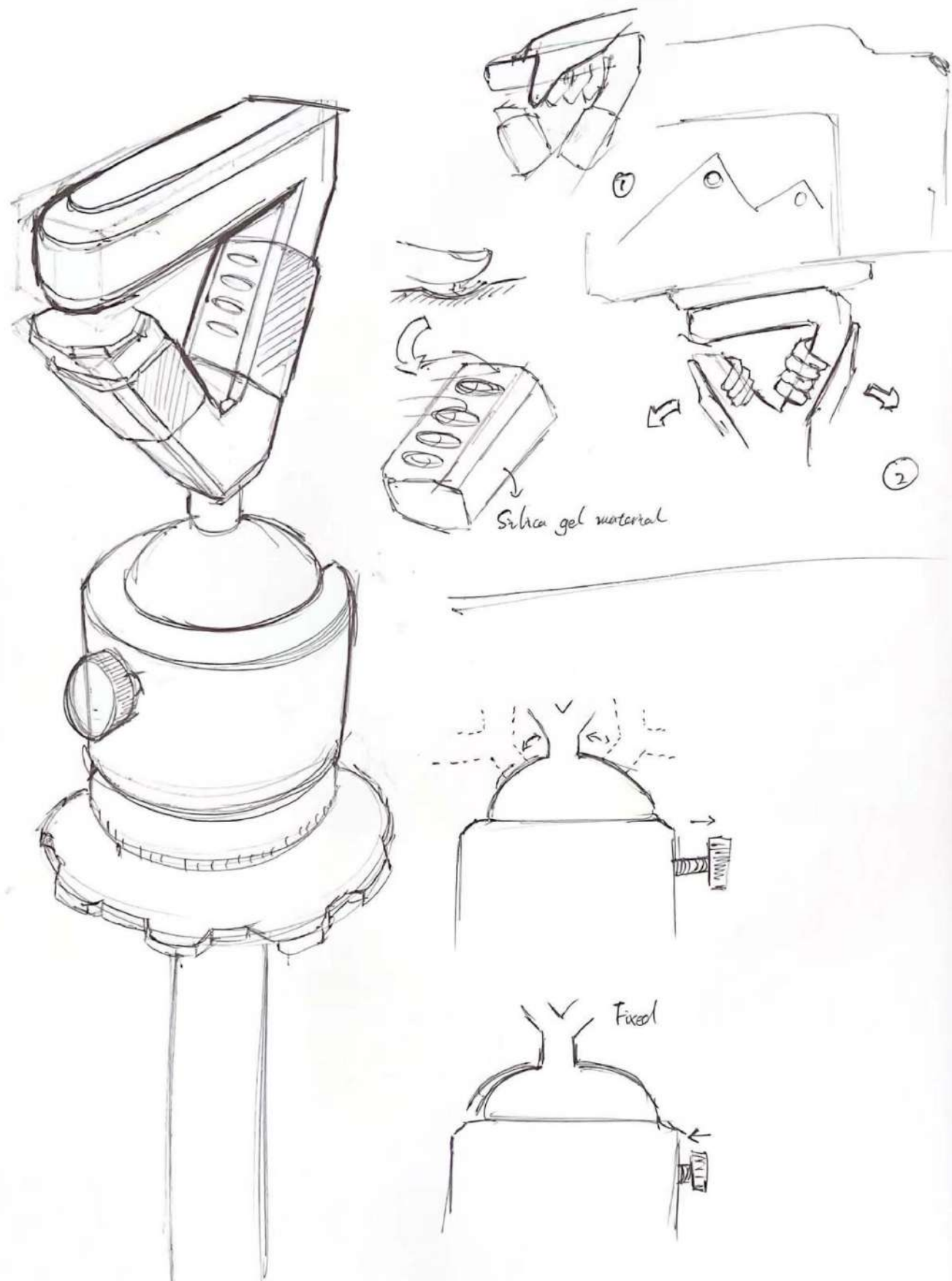
Sketches- Thigh Strap



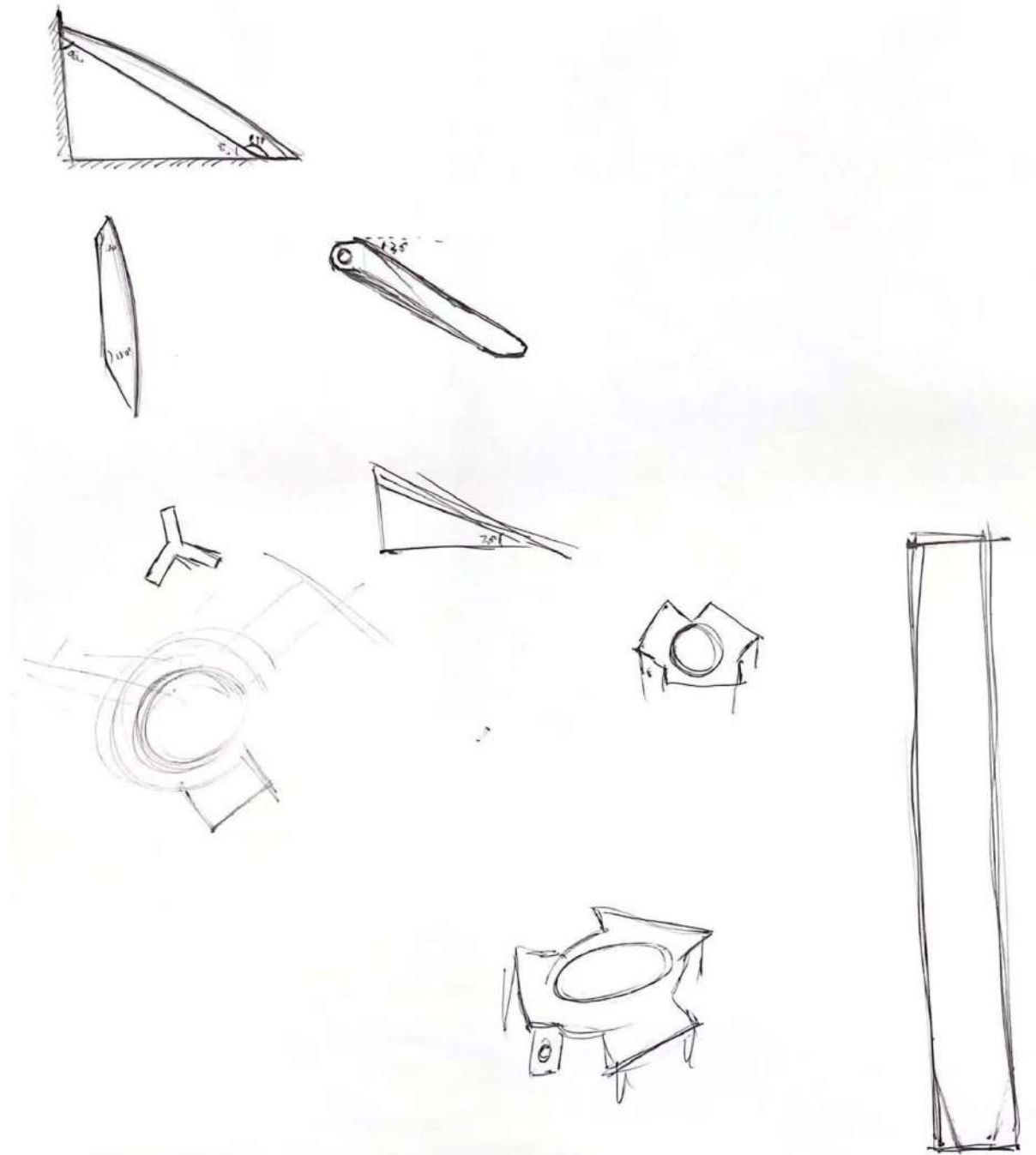
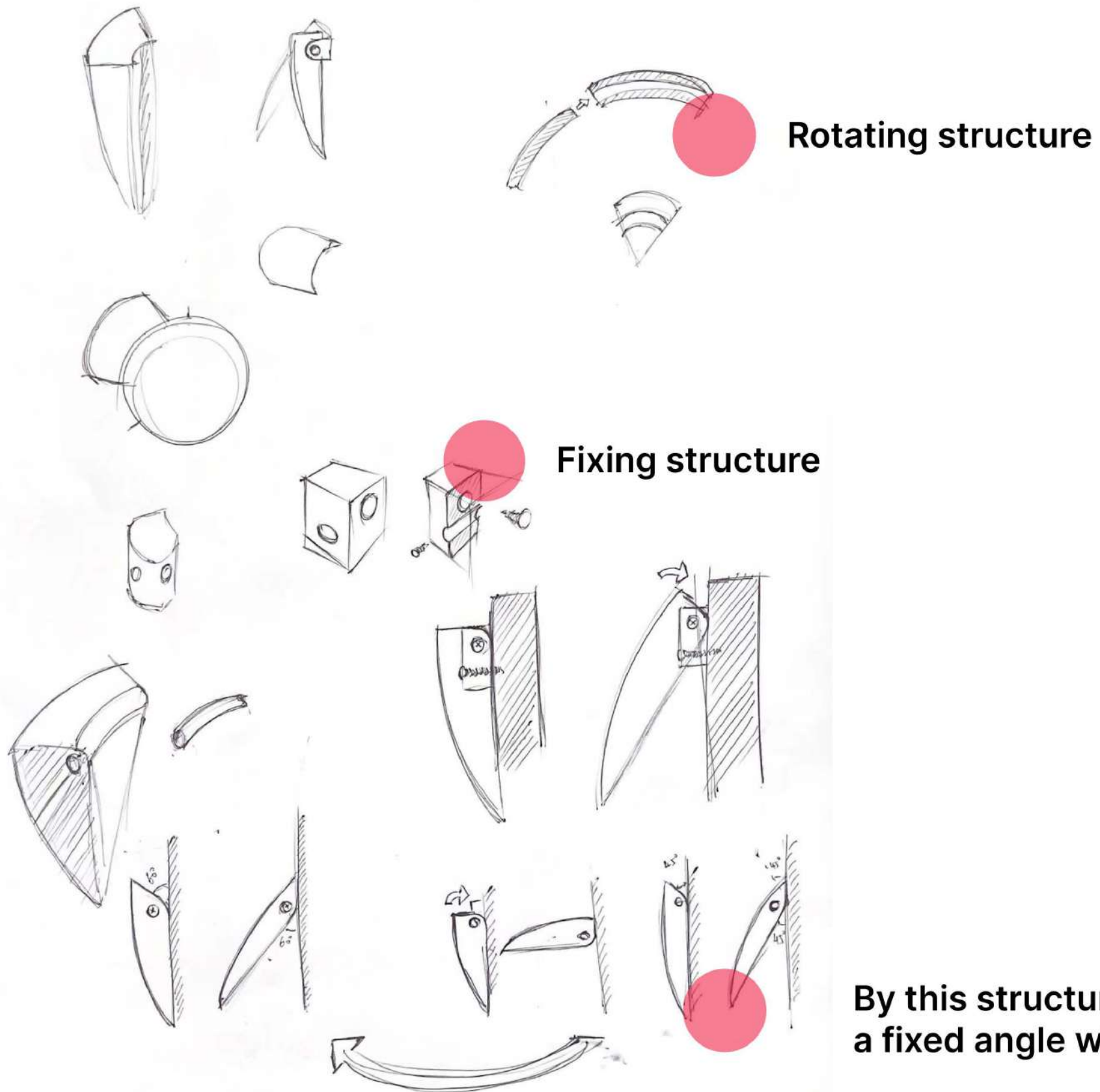
Sketches- Thigh Strap



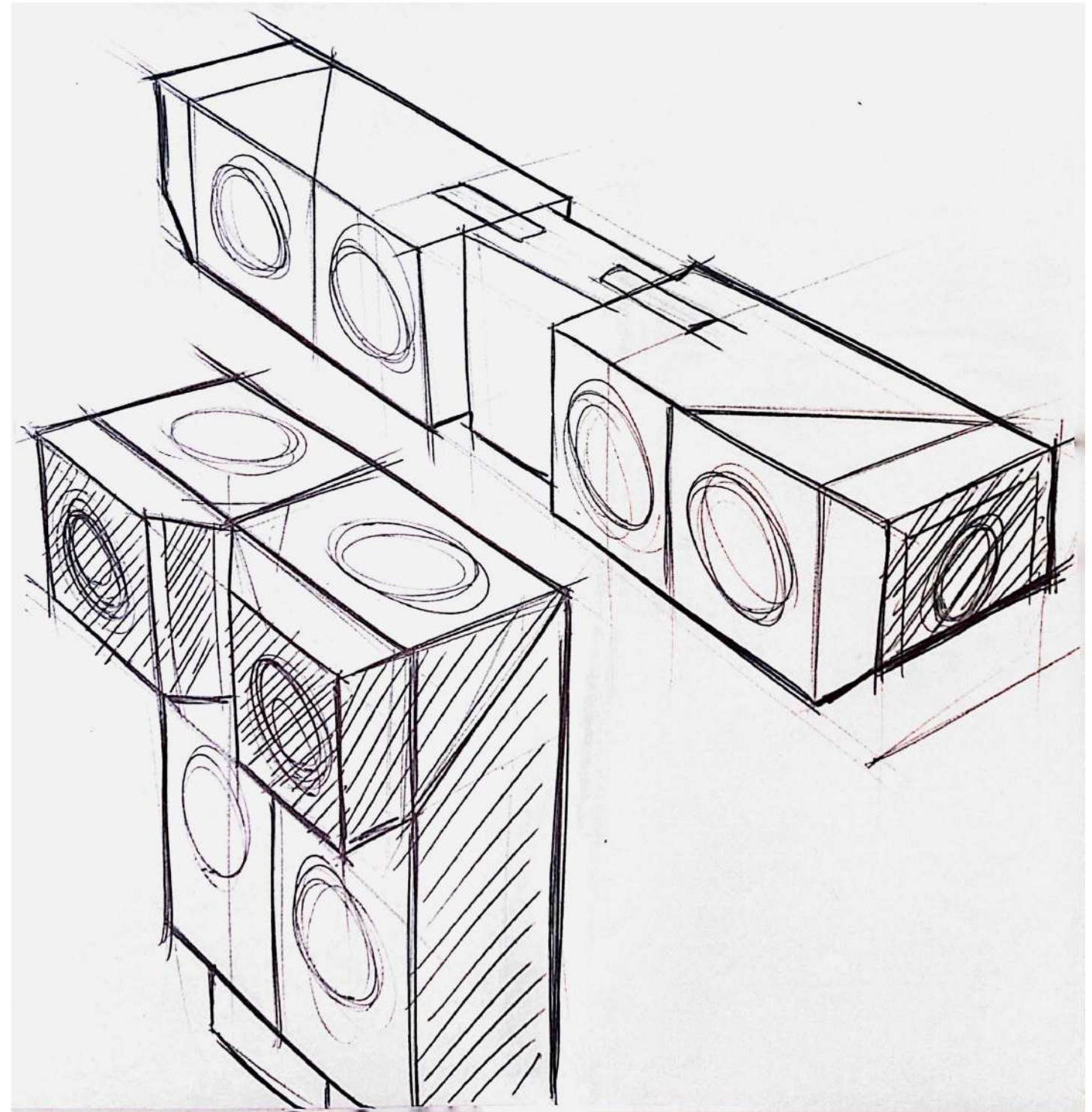
Sketches- Tripo Trek



Sketches- Tripo Trek



By this structure, the supporting structure can be locked into a fixed angle when the legs open.



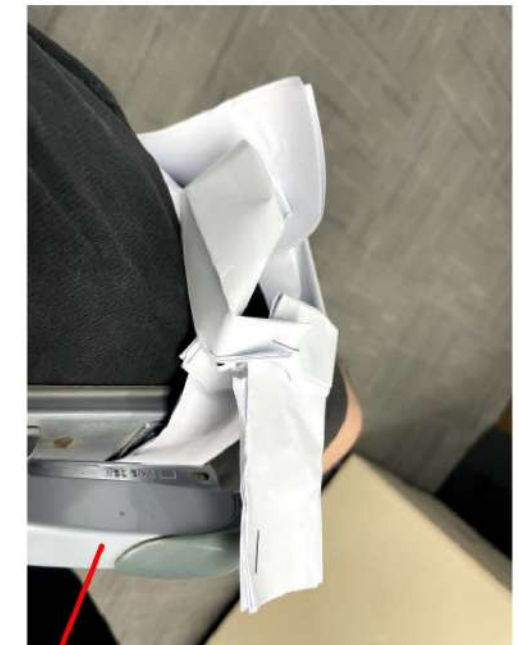
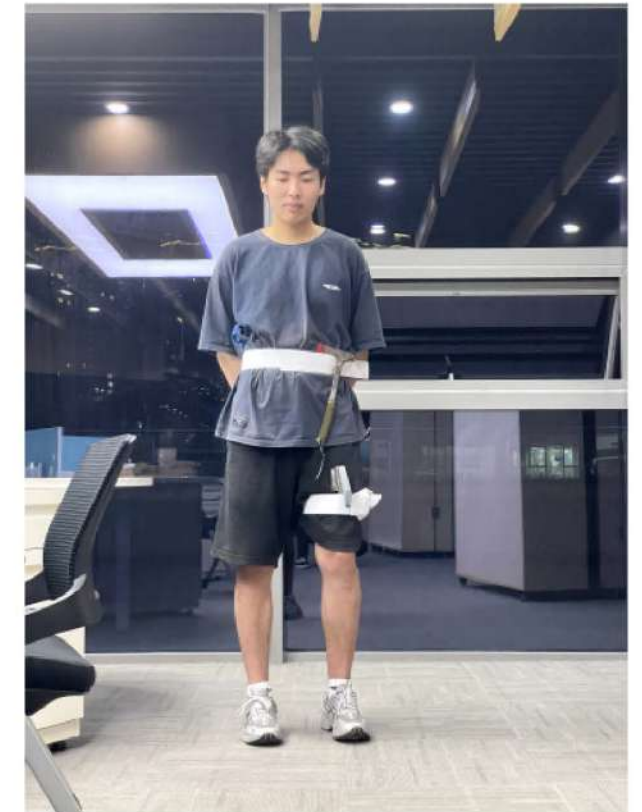
SKETCH MODEL

Thigh Strap

Iteration

we made first rough paper prototype, test if the click is reliable tight enough(是否合身, and whether it is comfortable. especially, when we hang on something on it, if it will be stable.

User Testing



悬挂测试物

Thigh Strap

Iteration



User Testing



Finishing



Tripotrek

Iteration 1 - Quick and dirty prototype



Tripotrek

Iteration 2 - 3D printing prototype



Tripotrek

final version



The Redesigned Flashlight

Iteration

Prototype v1



Prototype v2



The Redesigned Flashlight

Iteration



CAD MODEL & RENDERING

Thigh Strap

CAD Model



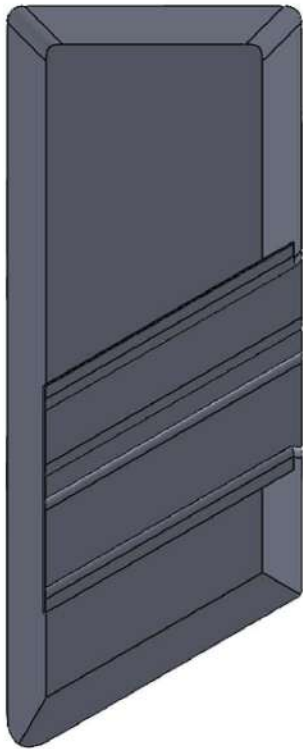
v1



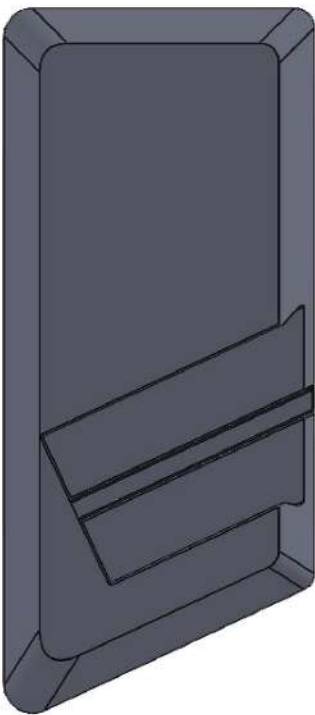
v1



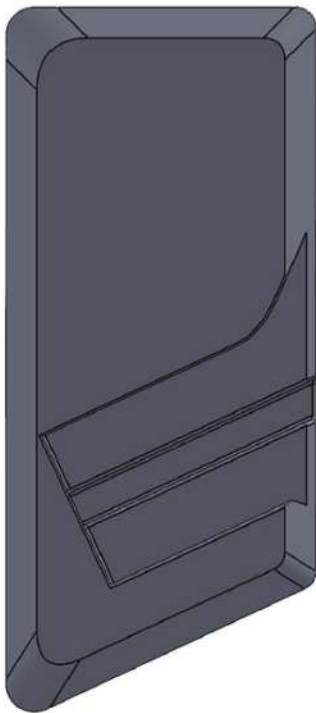
v1



v2



v3



v4



v4

Thigh Strap

Rendering v1



Human-Machine Rendering

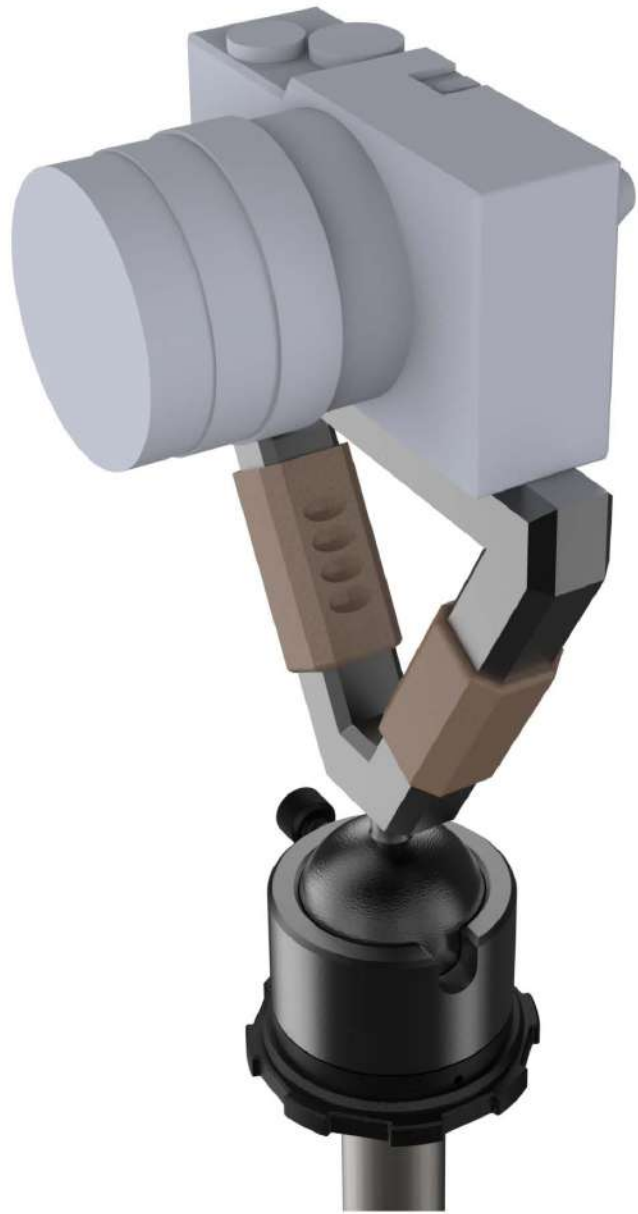


Rendering v2



Tripotrek

Rendering v1



Tripotrek

Rendering v2



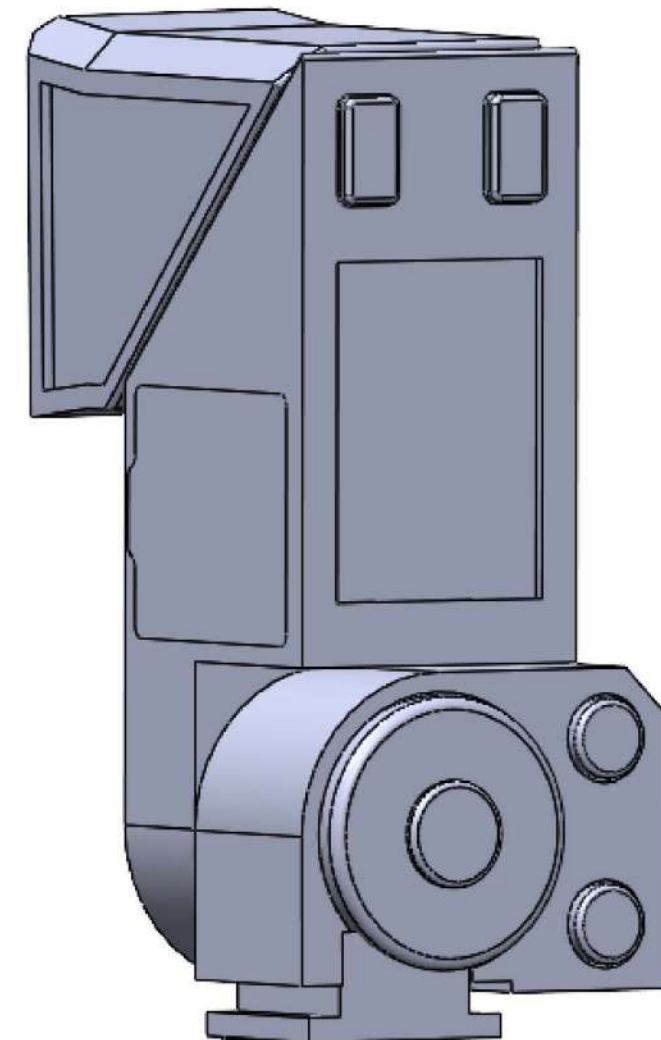
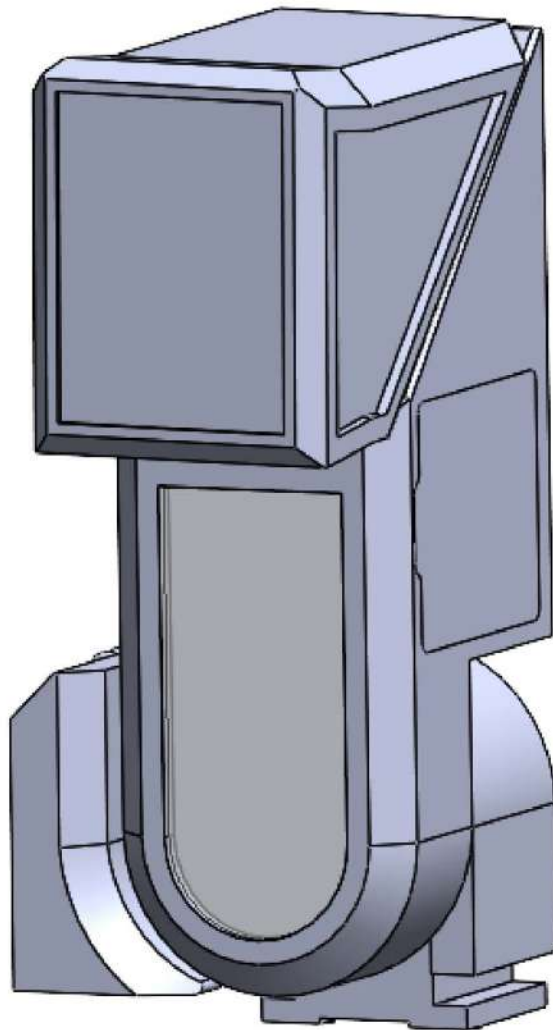
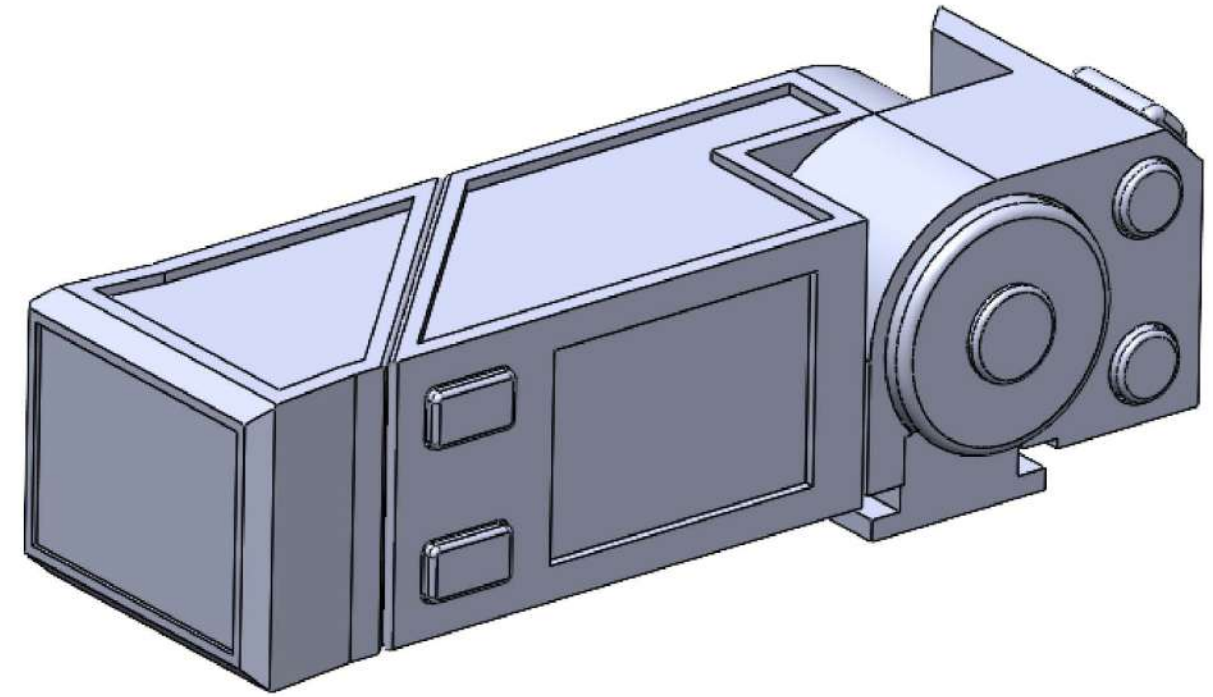
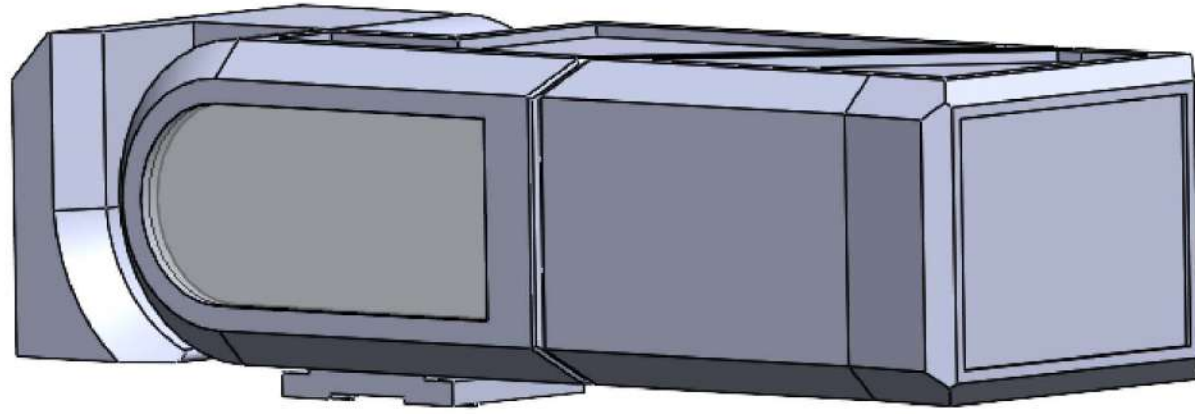
Tripotrek

Rendering v3



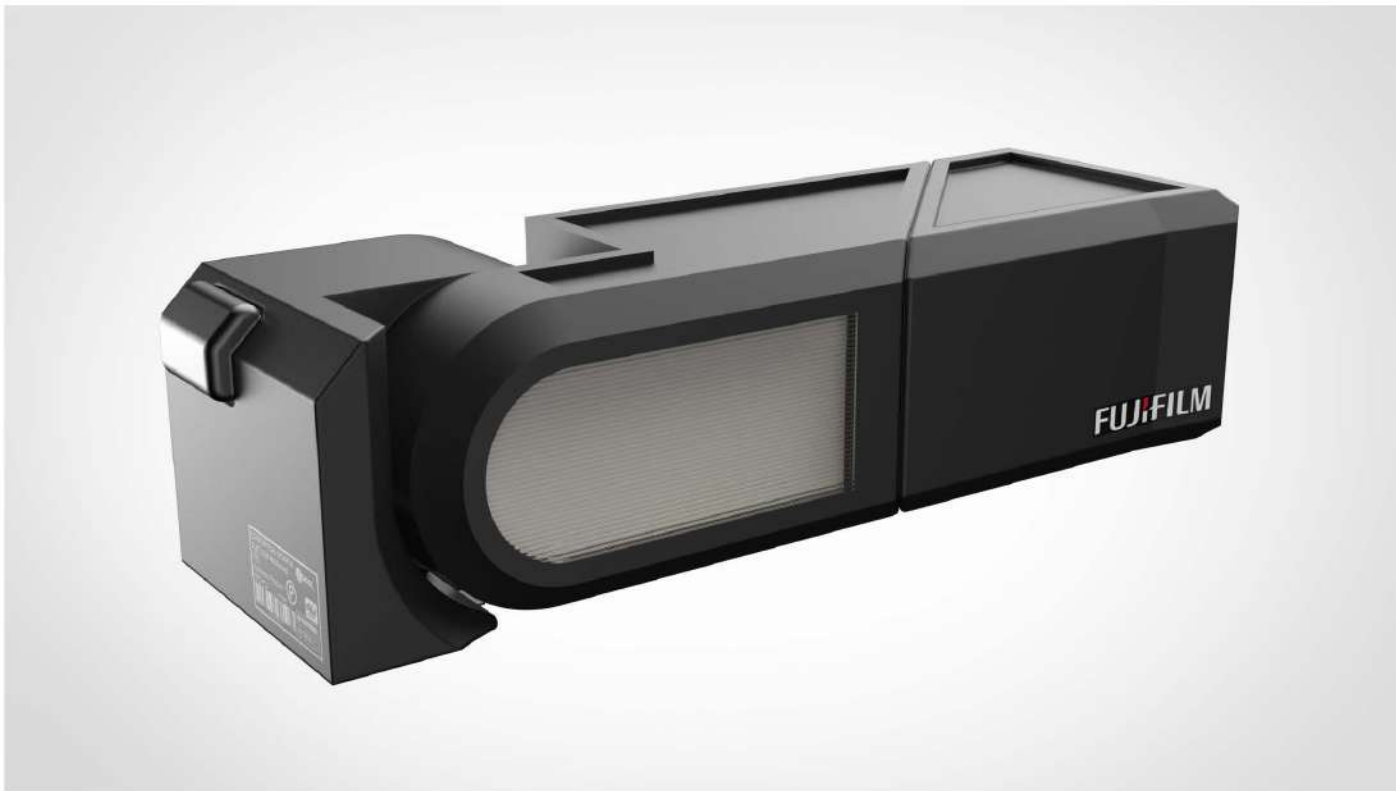
The redesigned Flashlight

Rendering



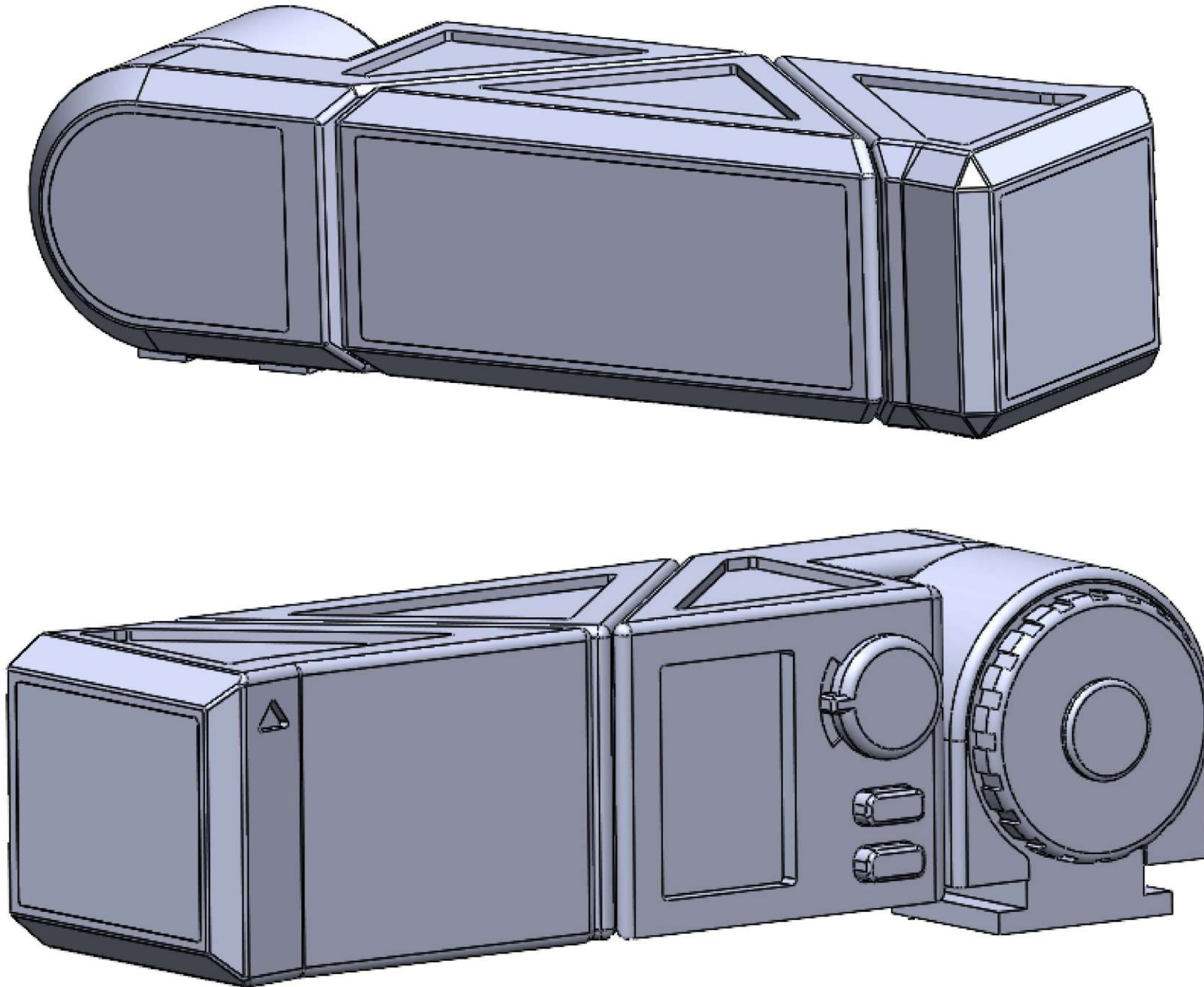
The redesigned Flashlight

Rendering



The redesigned Flashlight

Rendering



The redesigned Flashlight

Rendering



The redesigned Flashlight

Rendering



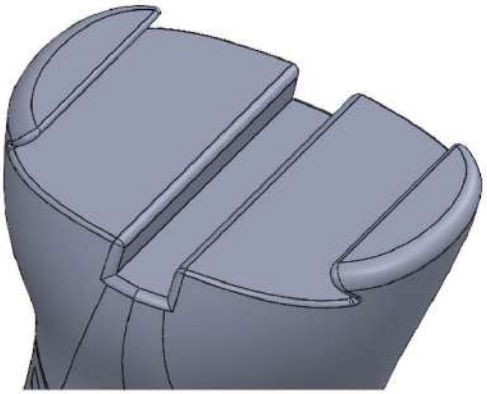
The redesigned Flashlight

Rendering



The redesigned Tripo trekking

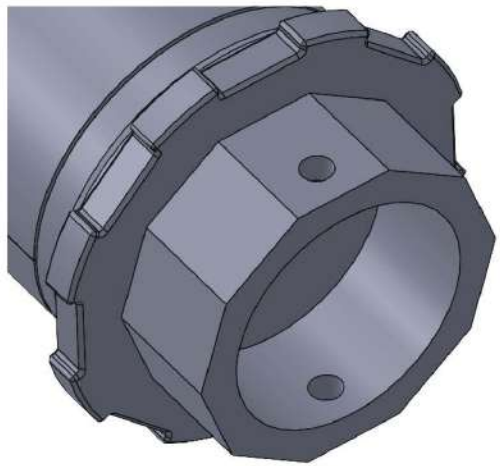
CAD model



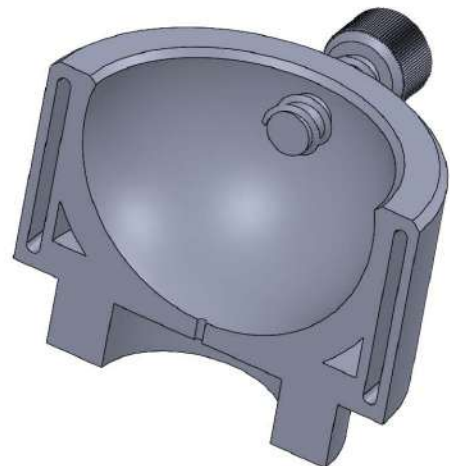
Quick release structure



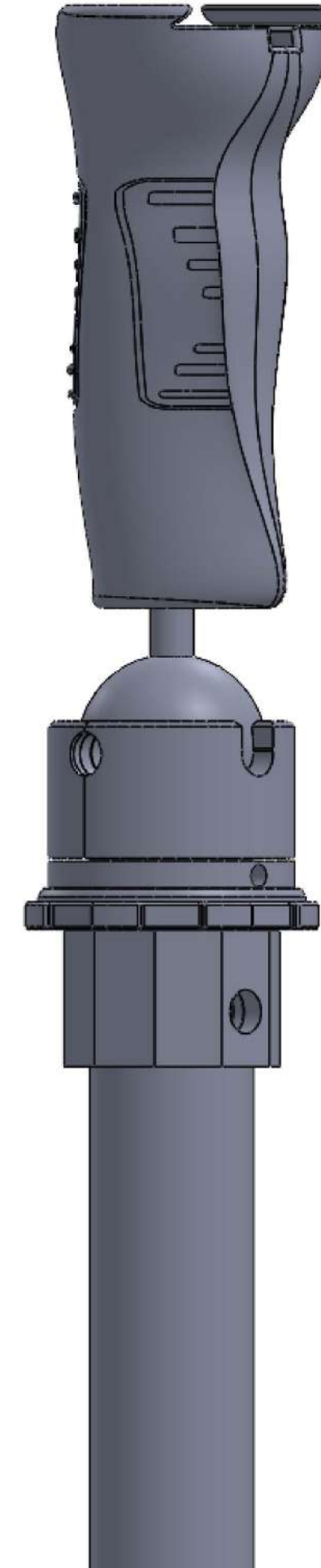
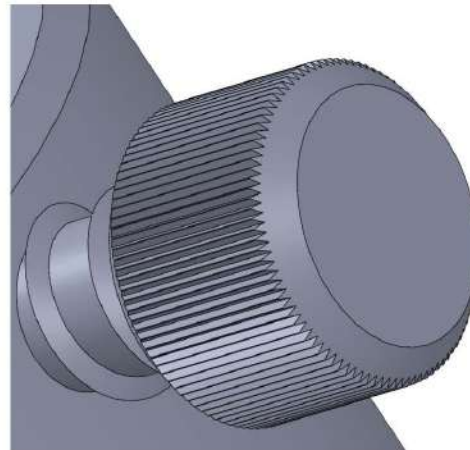
Ergonomic grip



**Connection part
to scalable bar**

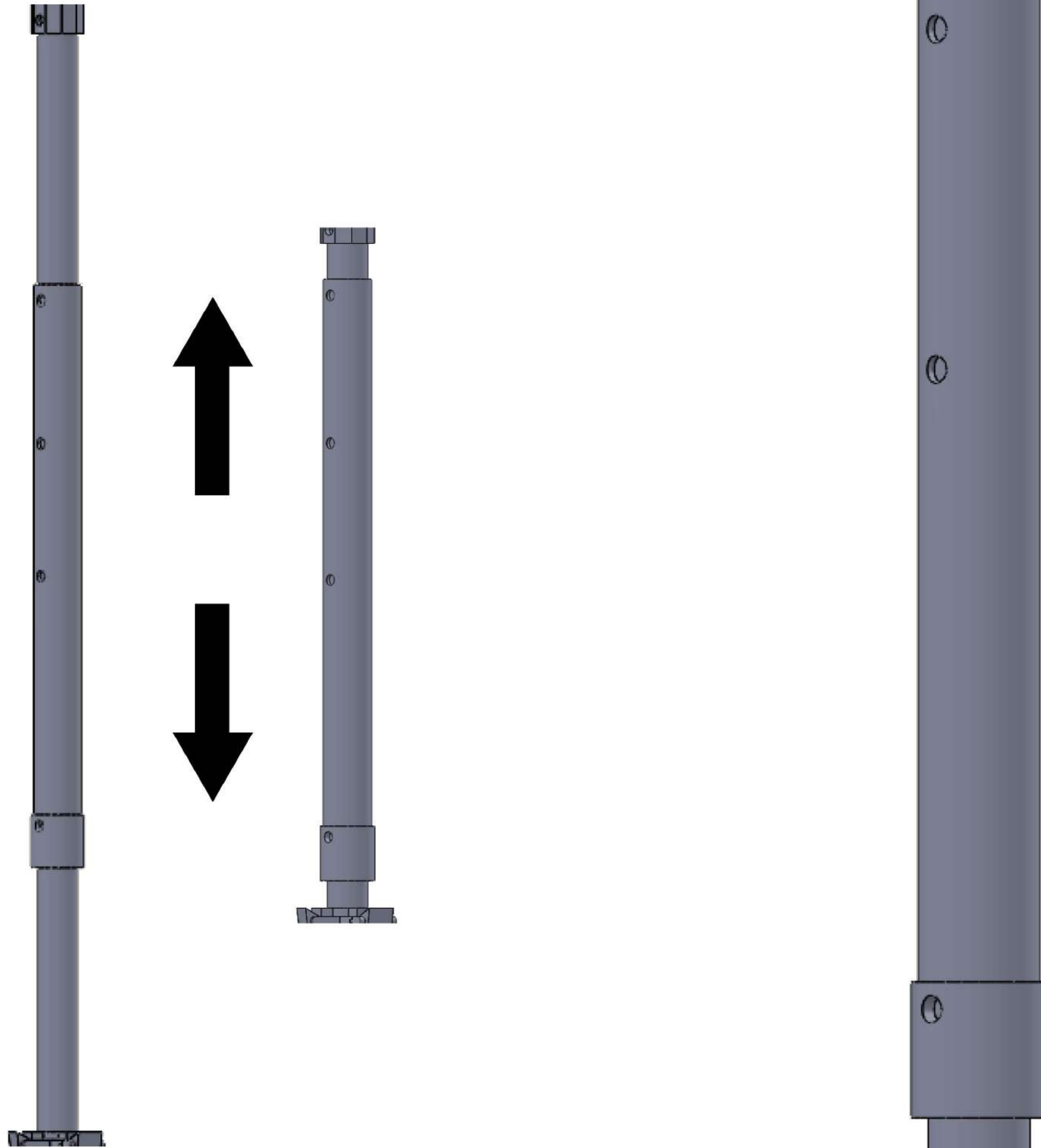


Rotary knob



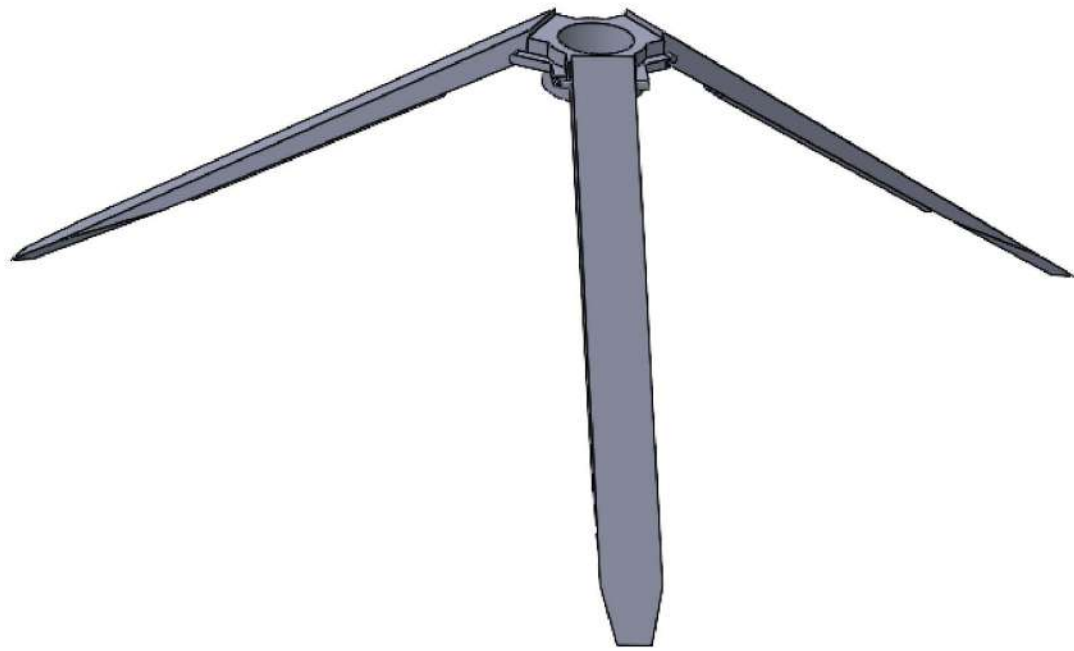
The redesigned Tripo trekking

CAD model

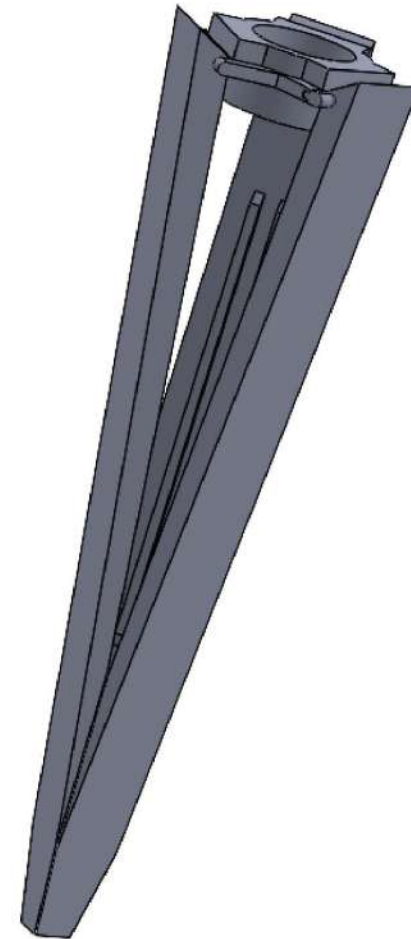


The redesigned Tripo trekking

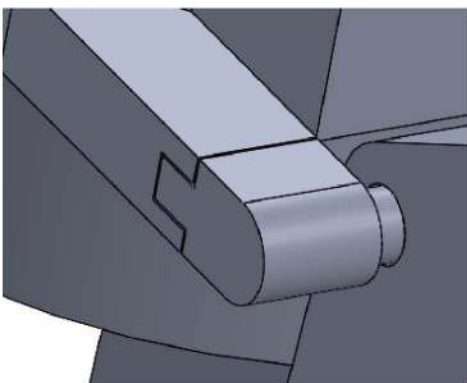
CAD model



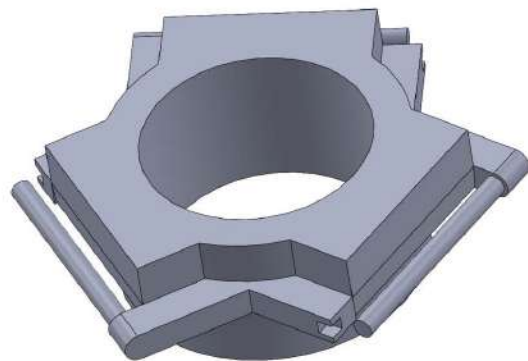
Open state



Close state



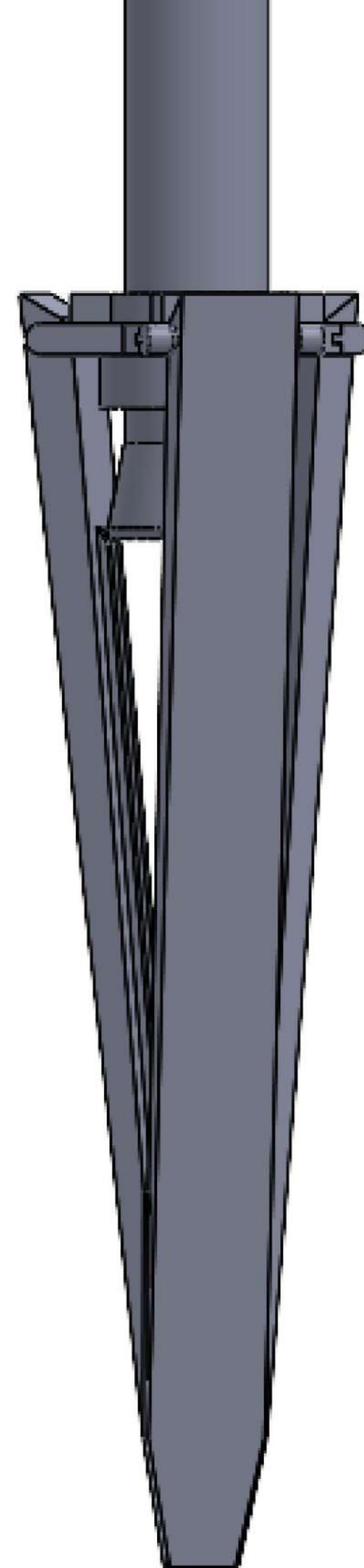
Pin



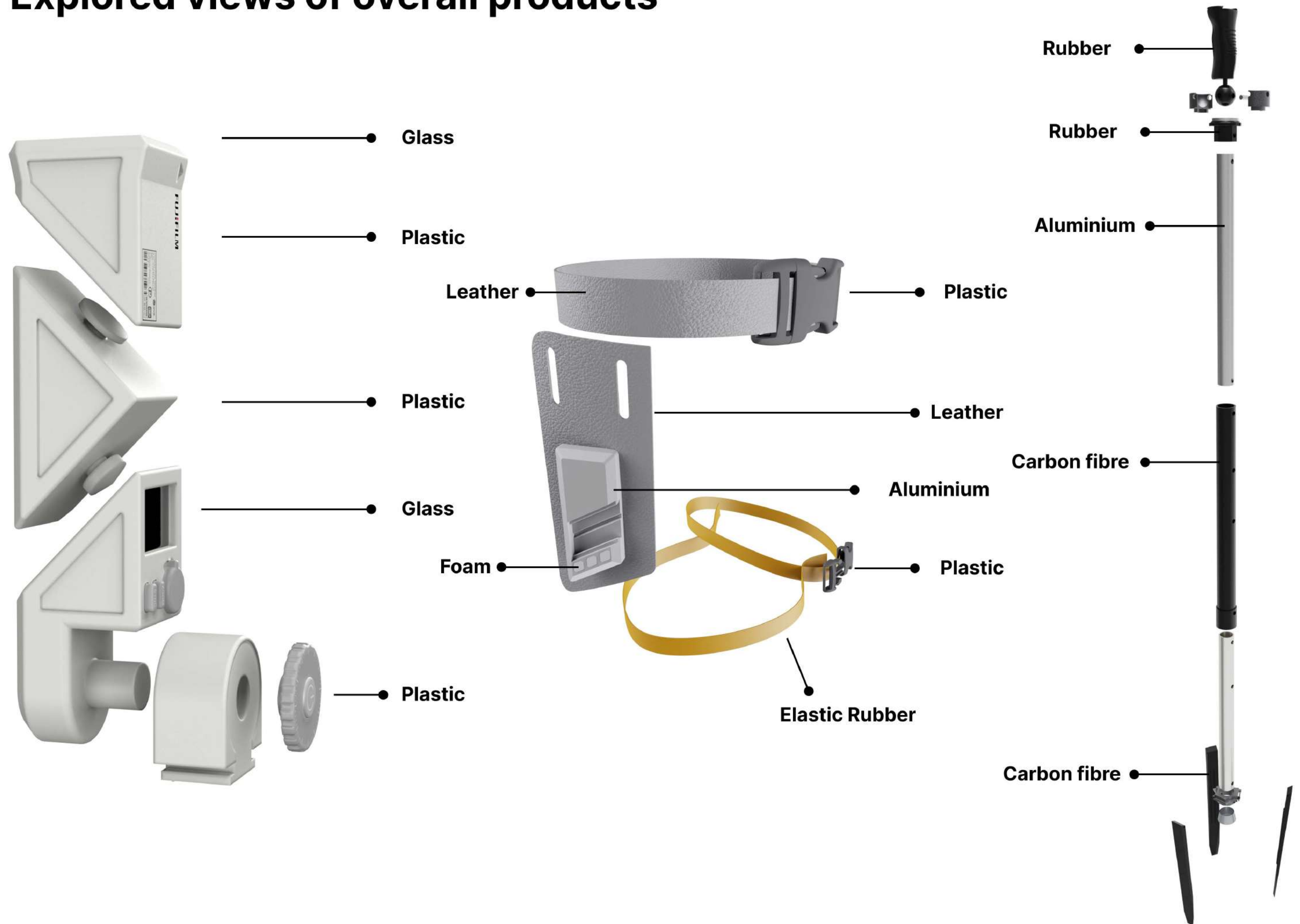
Connection part



Leg



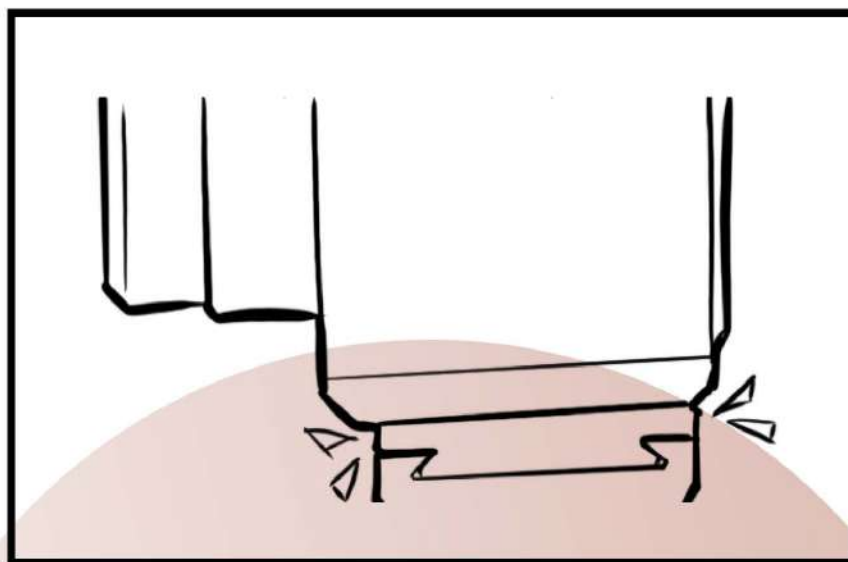
Explored views of overall products



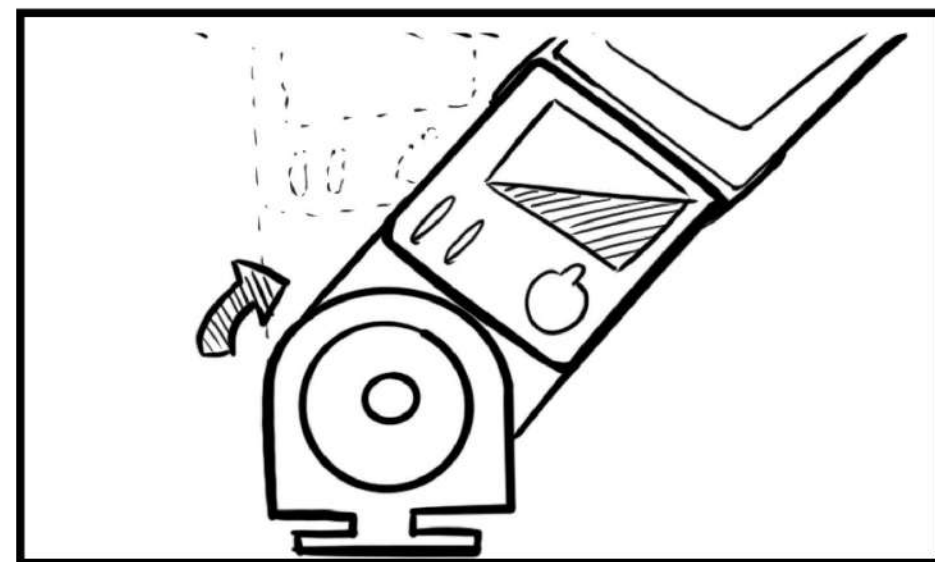
Storyboard



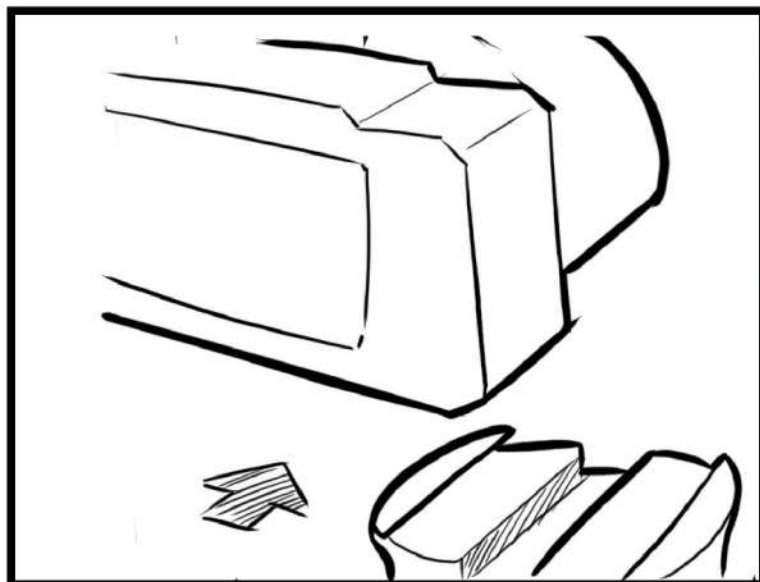
Take off the camera



Slip into the handle



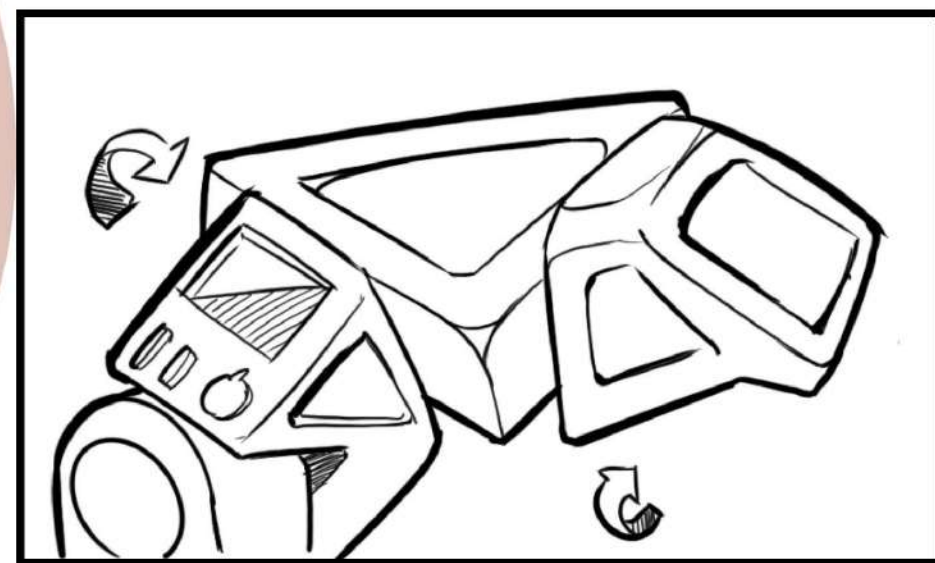
Rotate the light components



Slip into the handle



Slip into the camera



Rotate the light components

Group reflection & evaluation

After we finished our presentation, the WY&P and FUJI mentor said the folded flash light is very good to satisfy users different light source needs from different directions. and about the Tripo-Trek: the point is good, and it actually help users increase portability and solve the problems of taking a extra equipment, which is struggle for hikers, especially they are exhausted but the stability and ergonomics of handle need to be improved, and more field test need to be done. About the thigh strap, it is aimed to help users hugely reduce the cameras weight when users taking it. Fuji mentor said this is really cool and it is needed for real target users because many photographers have complained that existing products in the market are not so comfortable and beautiful aesthetic but the shape may need improve.

Looking back the whole process, our preliminary research is rough and not clear. We did not research as a group. However, after several group meeting, we had a quite clear mind map and finally go to a correct path, and have a good definition of our target user. After having some interviews with hikers, we conclude some real pain points they encountered. In back of our process, we are a little procrastinated about the model making, because of wrong ergonomic data estimate of tripo-trek which taught us when we make prototype, measure is vert significant. Because we are not familiar with fabric making, we cannot refine the working prototype of thigh strap to a very high level in a short time which may give FUJI mentor a not so impressive impression.

Finally, due to the delay, we have enough time to figure out the prototypes. For the tripo-trek, it was successfully printed in time, and we assembled them carefully but still need to be strengthened. The leg part of the tripo-trek was not stable but as a prototype it was useful. For the flashlight, it finished very soon, and the results showed a huge success. The interior structure used the principle from a toy called "Rubik's Snake". The wedges are connected by the spring bolts, so that the flashlight could be easily twisted but not separated. The process of making thigh strap is difficult, because we need to connect the clamp and the drapery by using nails. With the knowledge we learned from the other courses, we finally made it in the workshop. In the final presentation, the thigh strap performed excellent, which ensure the camera stable on people's thigh, and achieve the goals of reducing the load.

In conclusion, these three accessories are made for elder people who prefer hiking and photographing. For the future development, we should do the research and understand the users' needs more comprehensively at the beginning of the design process. On top of that, for the ideation part, it could be better to generate more sketches or other ways to present our ideas clearly. With the combination of the deep research and the clear idea output, we believe the next design project is promising.

Thank You

