

MMME2024 2nd Year Group Project _Group 3 DESIGN REPORT

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PROJECT BRIEF

BRAINSTORMING

Context of Project Task of Project (Introduction)

Research

User Research Market Research Persona Interview

Generation I

Generation II

(*Notes*+*Sketch*)



EVALUATION



DEATION

Moodboard Sketch User Journey





IMPLEMENT

CAD Models Prototyping **Product Details** Storyboard

MANUFACTURE

Product Features & Assembly Material Research Manufacture Research Ergonomics

Tutor **Students**

REFLECTION

Group Reflection Personal Reflection

PROJECT BRIEF

Coursework Background

Due to the rapid growth of social media platforms, traditional photography has become less relevant. To attract the millennials, the camera industry must introduce new and fresh scenarios of using professional filming tools for them. Which can also be aided by the presence of supporting accessories.

The task is to design a set of add-on camera accessories for Fujifilm X-Pro 3, which can be used in a defined scenario. The accessories must help to enhance the filming experience of the target users, improve their skills and photo quality, and keep them engaged. This design report will guide you through our group' s working activities, from the beginning of our ideation process until the evaluation and reflection.

PROJECT INTORDUCTION

This is a set of camera accessories for the sensational Fujifilm X-Pro 3. The set includes a bag, a handle, a standing support, and a motion-charged power bank.

Each of it tailored to solve every problem you might face in your street photography journey. Special for Brompton lovers out there, all accessories can be attached to your folding bike at different places. Now you can capture every moment with ease.



RESEARCH



Street Photography Needs

In general, what do street photographers like our persona need?

- Fiona will go around to explore, so she needs a product to put the camera in when it is not used
- The weather can be unexpected, so she needs a product to **protect the camera and clean it**
- Fiona needs to bring many accessories, so she needs a modular product that have many functions to replace them or one to store all the accessories
- Fiona wants stable photos, so she needs a product to hold or rest the camera at
- Fiona never knows when the moment will come, so she needs a product that **provides easy access** to the camera at all times

What does Fujifilm X-Pro 3 lacks in terms of street photography use?

- The provided automatic mode does not produce good images at night and there is no built-in flash, so Fiona needs a product that can **provide additional light at night**
- X-Pro 3 only lasts for about 4 hours of use, so Fiona needs a product to store extra batteries or to recharge it quickly
- X-Pro 3 is a bit heavy and will make Fiona's wrist sore after some time, so she needs a product to **reduce the stress in her wrist** when using the camera
- X-Pro 3 does not have an anti-shake feature, so Fiona needs a product that can **stabilise the shooting results**





PHOTOGRAPHY AND CYCLING







The connection between photography and cycling can be traced to more than a hundred years ago. Nicéphore Niépce, known as one of the fathers of photography, is also a key figure in the history of bicycles. In addition, **the beginning of amateur photography occurred alongside the cycling boom** in the 1980s.

The combined use of bicycles and cameras had introduced a new dimension to photography. There was a magazine "only for cycling photographers" launched in 1897. It was called Cycle and Camera and had a large audience from the beginning.







WHAT DO THEY SAY?

"A lot of photography is exploring, that's where the bike really helps..."

"...I feel like you see certain things differently when you are on the bike..."

"...If you catch a glimpse of something good it is no harder than putting your foot down to stop and take a better look."

"Pedaling is a meditative state... When arriving at the destination, you will be prepared for seeing the world in a new light..."

"There are plenty of ways to incorporate the bike into your visual stories."

"Shoot before, during, and after the ride. Sometimes the magic and surprises are in there when you least expect it."

CAMERA AND CYCLING



ANALYSIS OF X-PRO 3



Screen Viewfinder

Portable



Women

Research of X-pro 3:

1.X-pro 3 didn' t have antishaking function2.The battery of X-pro 3 runs out very soon. with 3 hours of endurance.3.The fuselage is a little heavy

for women



Photograpgyer









Problems

User need :

1.Grab the camera rapid when stop riding and want to take photo.

2.Release(reduce) weight when taking photos.

3.Anti-shaking and shock absorption when biking.4.Need place to put theh camera.

5. Battery endurance

Using Problems cameras and bike:

1.Weather variability, wet the camera on a rainy day

2.No time to take pictures while riding

3.The battery life of the camera is insufficient

4.Need shock absorption and anti-shaking function when biking

5.The camera cannot be removed and retracted quickly and easily

BRAND ANALYSIS



HISTORY

Established in 1934

Milestones:

The **first digital camera** in the world with removable media in 1988.

The **first single-use** recyclable camera in the world in 1986.

Number eight globally in 2007 on the volume of cameras manufactured.

Key Feature:

The deepest unique understanding of color. Brand Values:

1. Vision- "To remain a leading company by boldly taking up the challenge of developing

new products and creating new value"

2. Slogan- "Value from Innovation".

3. Mission- "To help enhance the quality of life of people worldwide"

STRATEGY:

1. Advertisment: RED BOOK 2. Offfline experience store: X-Space



2位朋友订阅

ANALYSIS OF RADAR CHART OF FUJIFILM AND OTHER BRANDS









SUSTAINABILITY ACTIVITIES:











Summary:

1.FUJIFILM put much effort on advertisment 2. The key feature of FUJIFILM is the unique color ßim.





GLOBAL MARKET

Around the world, major cameras shipment (brands including Fujifilm, Sony, Nikon, Canon, etc) in 2023 was much lower than the previous years. It has significantly dropped in January before slowly increasing in February. However, for the shipping price, especially for mirorless camera, it has been rising rapidly.





MARKET RESEARCH



MIRRORLESS CAMERA MARKET

More than half of sold system cameras in 2022 are mirrorless, with the value being 86%. This shows the increasing demand for those in comparison to SLR cameras, especially in Asian countries, like China.

CHINESE MARKET

Mirrorless interchangable lens camera (like X-Pro 3) has been dominating the **Chinese market** of digital camera. Its sales volume is also expected to keep rising, making it a very promising market right now in comparison to SLR.

GLOBAL ACCESSORIES MARKET

Tripod Flash and lights Gimble

Remote shutter release Polarizing filter

Memory card Charger Battery Camera neck strap Others

CHINESE MARKET

General mass:

Polarizing filter

Flash and lights

Docking station

Charging/data wire

Remote shutter release

Camera bag and case

Camera neck strap

Memory card

Tripod

Gimble

Charger

Battery

Technical and professional:

Flash and lights Charger

Tripod Gimble **Docking station** Remote shutter release Polarizing filter Memory card Charging/data wire Battery Camera bag and case Camera neck strap

CHALLENGES?

At the beginning of 2023, the **shipment volume of digital** cameras in the Chinese market fell by 24% year-on-year. As mobile phones become more intelligent, people are more inclined to record quickly through mobile phone in this fastpaced life.

Vlogging and plogging are becoming a popular trend. Social media applications such as RED, Weibo, WeChat and Bilibili are becoming great platforms for sharing vlogs and high-resolution images to engage the audience and increase followers.

Fujifilm biggest advantage is their high fan activity.

SUB CULTURE



Top Camera Accessories Ranking

4	富士EF-X8 参数 图片 点汗	¥ 280
	Flashlig	ht
2	尼康WU-1a	¥ 498
3	DJI (大福) Transmission	¥ 5999
4	索尼RM-LVR1实时监控器	¥ 650
5	缴单A6000 水平仪	¥ 10
6	富士instax WIDE相纸	¥ 109

索尼相机配件排行榜 SONY 更多

₩ /E/IR	共5380
Nikon	
2 素尼 SONY	共26款
3 富士 FUJIFILM	共9款
4 猛玛 🕋 里 玛'	共5畝
5 fitte Canon	共11款

Brand ranking of camera

accessories

6 大貓 「」

ZOL

Brand accessories ranking 尼康相机配件排行榜 Nikon 更多>

*	尼康WU-1a 参 結 田片 点 评	¥ 498
	WiFi compo	nents
2	尼康UT-1	¥ 2850
3	尼康UC-E6 USB线	¥88
4	尼康GPN100 GPS单元	¥ 860
5	尼康DK-17M	¥ 418
6	尼康BM-12尼康D800 LC	¥ 109

2	衆尼RM-LVR1实时监控器 参数 田片 点井 Activity mon SONY	¥650 itors
2	索尼XLR-K2M适配器套装	¥ 2979
3	索尼ACC-DCBX车载充	¥380
4	索尼ADP-AMA 热靴转换器	¥ 185
5	索尼ECMXYST1M	¥ 818
6	索尼VFA-49R1	¥ 159

富士相机配件排行榜 FUJIFILM >

共3款

¥280

¥79



4				
2	富士instax WIDE相纸	¥ 109		
3	富士instax mini相组	¥49		
4	富士MHG-XT3	¥ 678		
5	富士EF-60	¥ 2790		

6 富士instax SQUARE方形...

Analysis radar chart of Fujifilm





LEICA & BROMPTON



LEICA X BROMPTON X HENNESSY LEICA X BROMPTON X WOODLAND



徕卡M11相机

忠于传统,续写经典 将灵活性与前沿相机技术融 入独特的摄影体验。



Brompton单 车,无与伦比 的折叠体验

FREITAG包袋,苏黎世崛起成一个时尚活跃大都市 的代名词。代表着创新力,创造力和环保意识

LEICA X BROMPTON X FREITAG

EXISTING PRODUCTS OF EACH DIRECTION

HANDLE



SUPPORT (TRIPOD)



BAG



MOTION POWERBANK



USER RESEARCH



Female



Consumer Age: Mainly 23-40 years old



Photographer

POSTER RESEARCH DATA COLLECTION

X-pro 3 Target Market: Age: 23-40 years old young people Gender: Female 65% Photography Level: 35% advanced consumers.25% Novice photographer

Fujifilm and Brompton Shared Market : 81% Using Frequency :85% while riding Brompton photographying

Summary: 1. The female market are in the first position of global market. 2.Most Brompton owner owns Fujifilm camera.



Shared Market: Fujifilm & Brompton



Consumer Gender: Mainly female



Photography Level: Few advanced consumcers



Using Frequency: Taking photos by Fujifilm X-pro3 while riding Brompton.



Joint Events: Lecia X Brompton X Freitag Lecia X Brompton X Hennessy Lecia X Brompton X WOODLAND

PERSONA



Fiona

Gender: Female Age: 25 Income: 10k+

Lifestyle:

Rich, traveling during holidays with her Brompton bike, commuting by folding bike and subway.

Requirements:

1.Vintage style
 2.Easy to carry when biking
 3.Charging the battery when biking

Description:

Fiona is a **Chinese student** who studies **literature** in **Britain**. She has some experience about photography but **not a professional**. She often share her photographs about her traveling and studying, shooting by FUJI X-Pro3 and post on her own **we-media** account. She has a Brompton bike because as an **international student**, it is hard for her to get car license so she chooses to **ride a bike** while she goes out for **photography**. And she go to **museums** for her interests and courses' research requirements.

Goals:

We-media use
 Personal traveling
 Daily record life

Places:

Campus, cafes, business streets, crowded place, subway, countryside.

INTERVIEW

Interview

Gender: Male **Age**: 35 Job: Teacher **City**: NingBo

Married, has a 4 years-old-boy. A photography lover who used to live in the UK also a brompton owner who love travlling by bike.

MR BLACK Q: What kinds of people will buy Brompton bike ? A: It depends on different countries, In England the Brompton is a common transport tool. However, In China, it can be considered as a entry lux bike. Q: Are there any limitations when you are traviling with Brompton bike and wants to taking photos? 'When biking' 1. The camera has no place to put. 2. The camera battery can be run out very soon 3.It tired to hold the camera for a long time

BRAINSTORMING

BRAINSTORMING



BRAINSTORMING

PRELIMINARY IDEAS





FUTHER CONCEPTS:





DEATION

MOODBOARD&SKETCH PRE_DIRECTION 3 **PRE DIRECTION 1** PRE DIRECTION 2





IDEA 1 Portable charger



Charging



Sport







PRE_SKETCH 2









PRE_SKETCH 3



(lens part - and justable length)



sillicone case (lens covered w/ 4V lens)

MOODBOARD&SKETCH PRE DIRECTION 3 PRE DIRECTION 3 PRE DIRECTION 3

Direction1 **Plastic Case**



Direction2 Fabric



PRE_SKETCH 3

Direction1 Plastic Case This plastic case which could cover the surface of camera.

- And have a lens cover attached to this case.
- Users could communicate with camera through individual bottom cover components.



PRE_SKETCH 3

Direction2 Fabric

 This fabric cover is made of waterproof material This cover could be assembled to this camera easily. It is designed for emergent rainy days in outdoor.

Virection 2 - Fabric + woodonproof?



Direction3 Adjustable Louver





PRE SKETCH 3

Direction3 Adjustable Louver

- This adjustable louver cover could be used in different weather situations.
- In sunny days, louver are vertical as the first sketch shows.
- In rainy days, louver are horizontal so the water will not damage camera's structure.

Direction 3 - Adjustable Structure « Louver>



MOODBOARD&SKETCH PRE_DIRECTION 3 PRE_DIRECTION 3

Direction4 Umbrella



Direction5 Airbag



PRE_SKETCH 3

Direction4 Umbrella

This umbrella cover is designed for different weathers.

- In rainy days, pull down this umbrella structure, rain could follow the right part into the
- In sunny days, pull up the structure into a flat part attached to the top of camera.

Divertion 4 - Umbrella



PRE SKETCH 3

Direction5 Airbag



This airbag structure could be changed in different weathers. In sunny days, the airbag structures are flat attached tightly to the camera. In rainy days, these structures could be added in air and could prevent rain penetration.

MOODBOARD&SKETCH **New_Direction 2 New_direction 1**







New_sketch 2

F





New_direction 3



New Sketch 3



MOODBOARD DESIGN



USER JOURNEY **PRELIMINARY ONE**



JSER JOURN

STAGES Rides her bike to

the station

太 000

THOUGHTS 8 **EMOTIONS**

STEPS

OPPOR-TUNITIES

the bike?

IDEAS

Meke a camera bag/ case that can be attached to the bike (folded/ used), so that it won't be a hassle to bring around

IMPROVED ONE



FIONA (Female, 25 years old)

is a Chinese student who studies literature in England. She has some experience in photography but is not a professional. She often takes pictures of her traveling and studying activities using FUJIFILM X-Pro3 and posts them on her we-media account. She has a Brompton blke because as an international student, it is hard for her to get a car license so she chooses to ride a bike when she goes out. She likes to go to museums for both entertainment and her courses' research requirements.

Action (interaction with the product)

Rich travels a lot during holidays with her Bromoton bike commutes with her folding bike and subway

Habblet Photography, making vlog, sightseeing, riding bikes traveiling

Places Campus, cafes, business streets, crowded place, subway countryside

Make a portable charger that can be

generated by kinetic energy or attached

to her bike, as she likes to ride it around

SCENARIO

Evaluation

This Saturday, Flons plans to take her blike to look sround some tourist areas in London that she has not visited before. She will also bring along her camera, Fujifilm X-Pro 3 to take pictures there.

Preparation

E

Folds her bike and brings it with her to take the tube

Viatches and takes pictures of the changing of guards that is happening

Make a support to put her camera on that

is connected to her bike, so that the bike

and this product can be a makeshift tripod

Continues to tour Eats Linch and around the palace goes to the next to take pictures spot, Westminster Abbey

Looks around and takes pictures of the interesting interior

Rides her bike to the Big Ben, their next destination

Waits for the Big Ben to chime, but realizes that her cameta is dead

Goes for dinner and then back home using the tube

Checks the pictures she has taken after she arrives at home



Make a handle or hand strap for the

camera that can make the action of

grabbing the camera easier

Make a camera stabiliser that can make up. for the lack of the enti-shake feature

IMPLEMENT

CAD MODELS **DIRECTION 2 DIRECTION 1**







DIRECTION 3





PROTOTYPES





PRODUCT DETAILS

HANDLE

1. Ergonomic shape for comfortable grip



2. Titanium and leather finish to match X-Pro 3



3. Signifier to indicate how to dettach the camera



4. Consist of two parts for ease of manufacturing



5. Hole to accomodate battery slot



6. Sliding slot to connect with support



BAG

1. Can be slipped into handles on the bicycle bar



2. Velcro straps to keep the bag in place



3. Magnetic flap cover for take out the camera easily and cushioned protection for lens



4. Compartment for lens cover



5. Leather and titanium lining to match X-Pro 3



6. Adjustable strap length with titanium buckle when used as a crossbody bag



SUPPORT

1. Connector is easy to slip in into the seat pole, bolt and nut is used to keep the connector in place



2. Support is easy to slip into the connector, the connector then clamps the support in place



3. Slot to slip in the camera (that is attached to the handle), and keep it in place



4. Ball head allows a full rotation (360 degrees)



5. Fastening knob can be tigtened or loosened to keep the head in place



6. Extra leg supporters to keep the legs standing with a 60 degrees angle



7. Adjustable height both when attached to bike (adjustable seat can adds height) or used alone



8. 3D textures to match X-Pro 3



POWERBANK & GENERATOR

1. Leather straps (matches with X-Pro 3) to tie the powerbank bracket to the bike



2. Fastening in two directions prevents the bracket from moving



3. The powerbank can click into the bracket without moving around



4. A slot to especially fit the X-Pro 3 battery, placed facing the front for easy access



5. Appearance of the screen matches X-Pro 3



6. The generator case gives protection and matches with the appearance of the powerbank



7. The case clamps into the bike horizontally



8. Another clamp placed vertically, fastened with bolt and nut, to keep the generator in place



Storyboard1



Storyboard2







Scene 04

















POSTER DESIGN

FUJIFILM × BROMPTON Nottingham

Yanchen SHEN | Yifan CHEN | Glorianne KEPARTONO | Xiangqin SHI | Zihan LU This is a set of camera accessories for the sensational Fujifilm X-Pro 3. The set includes a bag, a handle,

a standing support, and a motion-charged power bank. Each of it tailored to solve every problem you night face in your street photography journey. Special for Brompton lovers out there, all accessories can be attached to your folding bike at different places. Now you can capture every moment with ease



USING SCENARIO

HR

Storyboard 25+ 10











DESIGN PROCESS

Research

70%

81%

Thave Market

Persona

Gendor Fr

Income: 104.+

65%

85%

a Galensee obselvent wind at school. Hierendere in Ballada, a supportention advance privatagraphy bud nobia peokaal

the good out for plutagraphy. And she go to an



Mid-Review



IMPLEMENTATION

PRODUCT FEATURES & ASSEMBLY

BOOKLET DESIGN





03/Supporter

Scenario



Assembly



Scenario

Assembly







Scenario



Assembly



Nut and Bolt

THANK YOU FOR READING



02









Assembly







Assembly LCD Scree Power Bank Case & Bracket Fixing Straps Camera Battery NP-W12



MANUFACTURE

PRODUCT FEATURES & ASSEMBLY





Injection Molding+Coating

Handle-Upper Part Aluminum Alloy+Leather+Rubber Injection Molding+Gluing

(Standard Component)

Injection molding

Connector to bike Sheet metal fabrication (bending & punching)

Generator Case PP Injection molding

03/Supporter



MATERIAL RESEARCH

TITANIUM ALLOY



Very high tensile strength and toughness, light in weight, have extraordinary corrosion resistance and the ability to withstand extreme temperatures.

POLYPROPYLENE



Flexible, translucent/waxy, weatherproof, good low temperature toughness (to -60'C), easy to process by most methods, low cost, good chemical resistance.



Low density, is non-toxic, has a high thermal conductivity, has excellent corrosion resistance and can be easily cast, machined and formed.

STAINLESS STEEL



Corrosion resistant. High tensile strength. Very durable. Temperature resistant. Easy formability and fabrication. Lowmaintenance (long lasting).

ALUMINUM ALLOY

RUBBER



One of the few naturally occurring polymers and prized for its high stretch ratio, resilience, and water-proof properties.



MANUFACTURING RESEARCH CASTING MIM COATING PIM







Casting processes involve the use of molten material, usually metal. This molten material is then poured into a mould cavity that takes the form of the finished part. The molten material then cools, with heat generally being extracted via the mould, until it solidifies into the desired shape.

Metal injection molding (MIM) is a metalworking process in which finely-powdered metal is mixed with binder material to create a feedstock. The feedstock is then solidified and shaped to produce the final product.

Titanium coating is a process that involves depositing thin layers of titanium onto the surface of an object. The layers are applied alternatingly, with each layer only a few microns thick.

Bending



Bending is one of the most common sheet metal fabrication operations. This method is used to deform a material to an angular shape.

PUNCHING



Punching is a forming process that uses a punch press to force a tool, called a punch, through the workpiece to create a hole via shearing.

Sheet metal fabrication is the process of turning flat sheets of steel or aluminum into metal structures or products, by cutting, punching, folding and assembling. Sheet metal can be cut, bent or stretched into nearly any shape, which is generally done by cutting and burning the metal.



a screw in a heated barrel rotates to transport, melt and pressurize the polymer in the barrel, and then reciprocation of the screw injects the melt into the mold.





Uncured rubber is pulled into the injector. The uncured rubber is liquidized at a high temperature. The liquid polymer is injected into the injection mold cavity through a runner and gate. The rubber material is cured and vulcanized at a high pressure and temperature.

MANUFACTURING RESEARCH **RTM COLD FORGING** FILAMENT WINDING



Cold forging is a metal working technique to process bar stock and squeeze it into an open die. This method occurs at ambient temperature or below the metal's recrystallization temperature to form the metal into the desired shape.



Filament winding uses continuous reinforcement to maximize the use of fiber strength. Preimpregnated tape, or a single strand that has passed through a resin bath, is wound onto a mandrel in a prescribed pattern. Design and winding technique allow the maximum fiber strength to be developed in the direction desired.

CUTTING



SEWING





RTM is a process in which resin is introduced to a laminate containing dry fiber. The fiber is typically applied to a mandrel through filament winding, or by a hand layup process with woven fabrics including glass, carbon, and aramid.



ERGONOMICS RESEARCH





_	INO.	Name	Gender	Iviean	Stumie	asrumie	_
	1	Thumb Longth	М	65.0	58.1	71.9	-
	I munio Lengui	F	59.2	53.2	65.2	_	
2 Index Finger Length	М	71.4	64.4	78.5			
	index ringer Length	F	67.1	61.9	72.2	_	
_	2 Middle Finger Length	М	80.8	72.7	88.8	-	
	3	Middle Finger Length	F	76.5	70.5	82.4	_
	4	Lland Longth	М	183.4	168.1	198.7	-
	4	Hand Length	F	168.5	156.8	180.2	_
	F	Middle Finger Distal Joint to	М	163.8	151.0	176.7	
	Э	Wrist Crease	F	150.6	139.6	161.5	(UK data
	6		М	82.8	74.7	90.8	-
	6	Hand Breadth	F	73.3	65.9	80.7	
_							-
	7	Fire Uniorth Citting	М	784.9	723.5	846.3	-
	1	Eye Height, Sitting	F	719.7	664.9	774.5	
_	0	Lower Legs Vertical & Thighs	М	425.7	382.6	468.8	
8	Horizontal, Seat Height	F	395.5	351.8	439.2	(UK data	
_	0	Back of Knee Height,	М	409.8	372.2	447.5	•
	9	(Popliteal), Sitting	F	378.4	341.1	415.6	
_	10		М	502.0	456.3	547.7	-
	10	Top of Knee Height, Sitting	F	456.0	414.6	497.4	
		Buttock to Front of Knee.	М	556.3	505.3	607.3	-
	11	Sitting	F	530.7	482.9	578.4	
_	10	Buttock to Back of Knee.	М	451.5	404.1	498.8	-
	12	(Popliteal), Sitting	F	438.0	392.7	483.4	
		Back of Elbow to Tip of	М	450.1	414.7	484.5	-
	13	Middle Finger	F	411.2	19.7	378.8	
_							-
_		5	М	1572.6	1476.2	1669.0	-
	14	Eye Height, Standing	F	1434.2	1344.5	1524.0	
_	45		М	506.7	461.2	552.1	-
15	Knee-Cap Height, Standing	F	467.7	425.6	509.7	(UK data	
-	4.0	Back of Knee Height,	М	\	\	\	-
	16	(Popliteal), Standing	F	437.4	396.1	478.8	(UK data
_	47	Arm Length, Shoulder	М	734.6	682.0	787.2	-
	1/	(Acromion) to Fingertip	F	659.7	613.6	705.9	
_							-
_		Shoulder Lenath. Neck to Tip	М	151.4	129.8	173.0	-
18	of Shoulder	F	139.8	120.9	158.8	(UK data	
						-	







Brompton	Folden Size (H*W*D)
A Line	645*585*270
C Line	645*565*270
P Line	645*585*270
T Line	645*660*320





No.	Dimension	
1	Diameter (approx.) - 31.6mm (with flared end)	
2	Diameter (approx.) - 38.0mm	
3	Diameter in middle (approx.) - 25.4 mm	
4	Diameter (approx.) - 29.9 mm	
5	Diameter (approx.) - 19.2 mm	

EVALUATION

WHAT DO THE MEMBERS THINK?





- The CMF used are in line with the X-Pro 3
- Can be used in various ways
- Makes grabbing the camera easy
- The magnetic flap is a great idea
- The inner structure can be improved
- The assembly to the bike can be better or simplified
- The overall shape can be improved and made more unique
- Easy to assemble/ disassemble to the camera
- Makes grip more comfortable
- There is a clear affordance
- The CMF reflects the characteristics of X-Pro 3
- A more unique appearance that does not resemble products from the market can be considered
- Can consider adding a strap





- Multifunctional
- Good details in the features that match with X-Pro 3
- The idea of connecting a tripod to the bike is great
- The structure must be improved, made stronger and simpler
- Can use more stardardised parts
- Can add icons to guide users
- The idea of movement charging is very interesting
- The details in the features are in line with X-Pro 3
- The feasibility must be considered more thoroughly
- The structure of powerbank bracket and generator case can be improved to ensure stability and to avoid disturbance when cycling

WHAT DO THE TUTORS THINK?

"The bag idea is very interesting, but it needs a cushioning layer inside."

"The presentation is great. The poster layout looks good, you showcase your design process (prototypes), bring a real Brompton bike, directly show us how to use the accessories, and print out booklets." "You can use a comparison to show how quick you can take the camera from the bike, that your product is better than the ones out there."

"There are details that follow X-Pro 3 and there is a clear logic behind each design direction."



This project has finally come to an end, and our group is happy to say that we are proud of our final products. "Three" has been able to reflect the goal we wanted to achieve, and that was to design camera accessories that could enhance the users' experience of street photography when using X-Pro 3, and reflect the design language of X-Pro 3.

Initially, our plan was to design three separate accessories. But after careful consideration, we decided to focus on products related to a Brompton bike. The idea actually stemmed from one of the concepts we had in the mid-review. Since the main theme changed, we had to redo some things, but eventually, we became very fond of the concept.

Looking back on our design process, we realized that we could have done some things better. For example, although the planning were great, the execution and communication between the members in a few working stages was inadequate. We could also have better budgeting and more effective meetings.

Despite all the problems we have stumbled upon and the detours we have taken, we always managed to find a way out together, which in the process has also made us stronger as a team. Everyone has gained valuable experiences, worked harmoniously together and put a lot of effort into this project. In the end, were able to maximise each other' s strengths and that has helped us to finish the project efficiently.





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