Approaching Chineseness:
Investigating the cultural transfer of behavioural factors in and through Chinese industrial design

Appendixes

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Appendix 1: ‘Better place’ electric car charging system design report

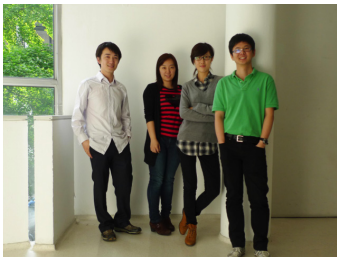
1.1

Project introduction

This project was addressed at the very beginning of my research (Nov 2009 -Sep 2010) as collaboration with three Chinese Masters students who were from the Vehicle Design and IDE departments at RCA. This project is a minor important one to support my research argument. However, it is indeed helpful for me to think about, critique and develop an understanding of hi-tech, globalization and culture: I initially promoted this project designed by Chinese designers with the intention of searching for how Chinese culture can manifest or benefit hi-tech design; however, it proved there was no significant Chinese cultural reflections into it. This design was successful as it won an international design competition. Although I planed to do a design that can be benefited from Chinese culture, it seems the Chinesenss did not add any special value into it. My question arises: does Chineseness really exists in Chinese designers, or the Chinese culture is just one of the designers’ strategy that be adapted when they need.

This is a design for “Better Place” company in the US. Based on the design concept design inclusive, user-centered and environmental friendly, this hands-free electric car charging is designed easy to manufacture and easy to install, creating the least impact on users, automakers and the environment; as well as its interaction system is safety and simple.

Cooperation with Rui Guo (graduator 2010 Vehicle Design, RCA), Shang Dai (graduator 2011 Vehicle Design, RCA) and Chenwei Wang (graduator 2011 IDE, RCA)



1.1
Better Place Design team: from left to right, Shang Dai, Chenwei Wang, Wenjin Yao, Rui Guo

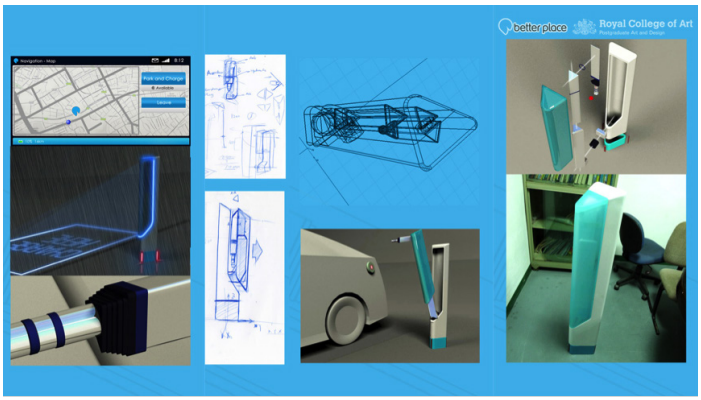
1.2

Phase 1 – Concept 1

The hands-free charging is designed to use the least complexity to realize the maximum applicability. It has a 3-part robotic arm, stored in an iconic exterior shell, installed in public car parks, roadsides and private garages. With the application of GPS, infrared positioning, and wide range robotic arm, the charging device can carry out charging duties accurately for all electric vehicles of different kinds, totally hands-free and energy-saving. What is more, the charging device uses plug adapters on the tip of the plug, to fit in different countries’ legislation requirements and different standardized plug sockets.

It is a simple and efficient hands-free charging and system design for electric cars for Better Place, based on existing and reliable technology.

In your car, from the GPS system, you can search any charge facility in the city and get the information if anyone of them is available or not. Chose one charge facility and reserve it. Then the GPS will guide you the path to arrive it. You should get it in required time; if not, the reserve will be canceled. Of course, you can use the available charge nearby directly as well. When your car approaches the charge, the GPS show you the best position



1.2
Better Place design concept one, hands free charging structure (video 'Better Place concept one')

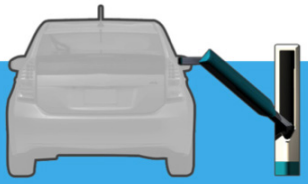
to put your car. During your parking, the three infrared lights on the base of charge offer continuous audio "Du" to tell you that your car is well parking. On other words, when the first "du" begins to sound, means you have already came in the hands-free charge working range and you have enough time to stop your car before this sound stop. Even if your car was stopped outside the infrared lights a little, this charge can still work because of its machine-arm large working rang. At the same time, the charge detects your arrive, opens its front cover with friendly blue light and confirms your reserve automatically. Now, it is the working time of machine-arm! It reaches out, the infrared device in front the outlet can search out the charging hole at the car, meanwhile, the machine-arm run following the infrared guide and as its writing run application. This movement can be done in seconds and totally hands-free process.

These following four parts make the whole hands-free process applicable:

> Firstly, the three infrared lights on the base make the driver park the car relatively accurately in the charge working aero. Second, the design of machine-arm and rotatable base offers the charge movement a large liberty on x, y, z directions. So that even you did not a good car parking, there is no problem for its work. Third, innovation the traditional outlet to be a column form, with the localizer on its top, insures the outlet can insert on different road situation, for example, parking on an acclivity. Last but not the least, the function of buffers cooperating with the run application of machine-arm, makes the charge process naturally and glidingly, no harm to your car. What is more, in a dark environment, a projective device on the top of the charge can project a flash blue park on ground to guide you put your car.

better place

Electric Car
Hands Free Charging System



Royal College of Art
Postgraduate Art and Design

Wenjin Yao
Rui Guo
Shang Da
Chenwei Wang

better place Royal College of Art

Electric Car
Hands Free Charging System

Design Development

Design Concept

Further Plan

Design Value

better place Royal College of Art

Design Development

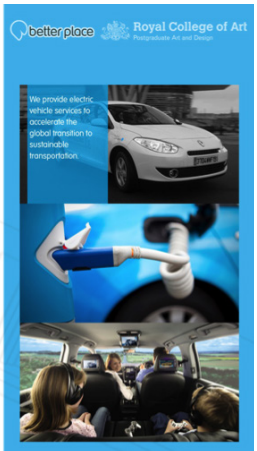
1.1	background research	2 weeks
1.2	brain storming	1 week
1.3	idea development	1 week
1.4	sketch, functional design	1 week
1.5	digital model & video	1 week
1.6	physical model building	4 weeks
1.7	farther research	1 week

Design Development

1.1 background research

- electrical car charging technology
- betterplace's vision & concept
- potential market

1.2 brain storming
1.3 idea development
1.4 sketch, functional design
1.5 digital model & video
1.6 physical model building
1.7 farther research



Design Development

1.1 background research

1.2 brain storming

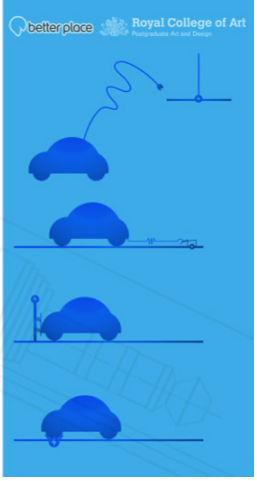
1.3 idea development
1.4 sketch, functional design
1.5 digital model & video
1.6 physical model building
1.7 farther research

Design Development

1.1 background research
1.2 brain storming

1.3 idea development
- proposal comparison & analysis
- creating choosing standard & criteria
- narrow down design direction

1.4 sketch, functional design
1.5 digital model & video
1.6 physical model building
1.7 farther research

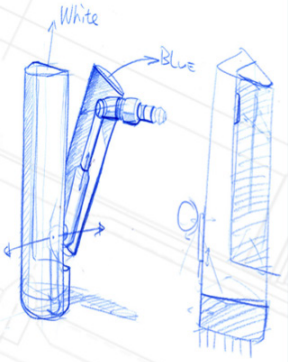


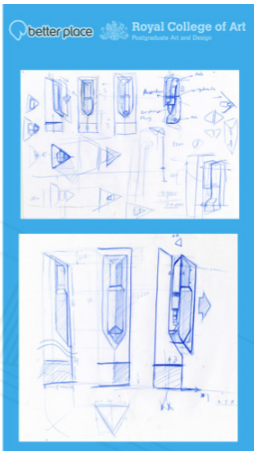
Design Development

1.1 background research
1.2 brain storming
1.3 idea development

1.4 sketch, functional design

1.5 digital model & video
1.6 physical model building
1.7 farther research





Design Development

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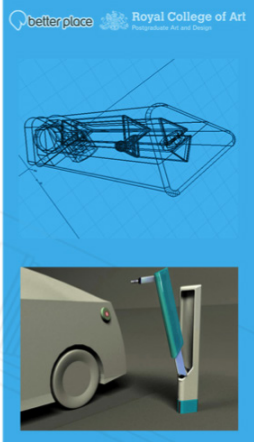
1.4 sketch, functional design

1.5 digital model & video

1.6 physical model building
1.7 farther research



Design Development

1.1 background research
1.2 brain storming
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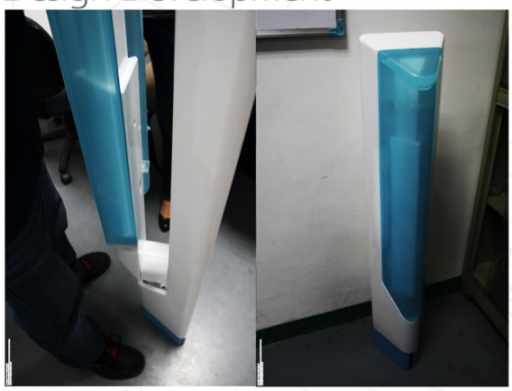
1.6 physical model building

1.7 farther research

Design Development



Design Development

Design Development

1.1 background research
1.2 brain storming
1.3 idea development
1.4 sketch, functional design
1.5 digital model & video
1.6 physical model building

1.7 further research
- mechanical engineers
- electric engineers
- potential market

Design Concept

2.1 environmental friendly
- energy saving machine arm
- energy efficient than inductive charging

2.2 inclusive design
2.3 simple yet efficient
2.4 high-tech experience

Design Concept

2.1 environmental friendly

2.2 inclusive design
- elderly people, disabled people
- fitting all vehicle types, charging adapter
- different parking position & environment

2.3 simple yet efficient
2.4 high-tech experience

Design Concept

2.1 environmental friendly

2.2 inclusive design
- elderly people, disabled people
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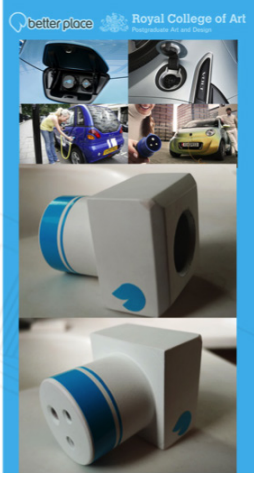
2.4 high-tech experience



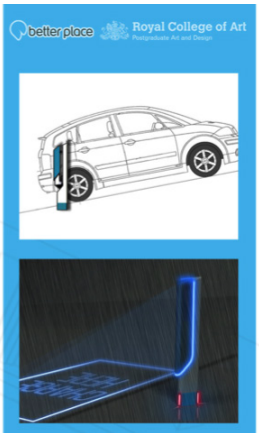
Design Concept

2.1 environmental friendly

2.2 inclusive design
- elderly people, disabled people
- fitting all vehicle types, charging adapter
- different parking position & environment

2.3 simple yet efficient

2.4 high-tech experience



Design Concept

2.1 environmental friendly

2.2 inclusive design

2.3 simple yet efficient
- appearance: line & graphic;
- visual connection with existing Betterplace design
- function: simple mechanical structure
- mature technology
- low production & maintenance cost

2.4 high-tech experience

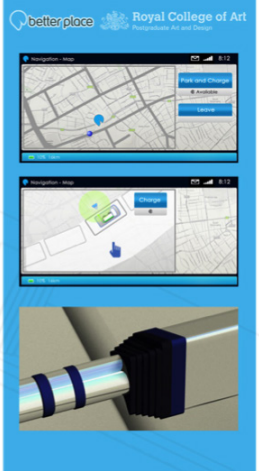
Design Concept

2.1 environmental friendly

2.2 inclusive design

2.3 simple yet efficient

2.4 high-tech experience
- appearance
- material & texture
- operating interface



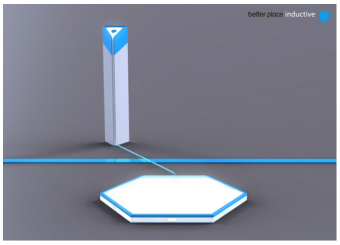
1.3

Phase 2 – Concept 2

Design directions and research references (1st Sep 2010)

Design direction 1

How can we understand the behavior and needs of consumers, and give them a good experience which can both meet their requirement and encourage them to accept EV and inductive charging tech.



1.3
Better Place design concept two, concept design for inductive charging

1 The requirement of potential EV consumers and their worries.

> "What really killed EVs, is American consumers. Because they did not accept this idea, did not embrace it, that vehicles could have these limited ranges, and still be functional, useful, and practical."
> "If you started out on a trip knowing that you were going to go dead in 60 miles, you'd be nervous about making the trip."
> "People think they need a car that will go 300 miles, and be able to charge it up or refuel in five minutes. For virtually 90-95% of your driving, you really don't need that. You need a vehicle that will go at least 60 miles or so, and that way your daily commute is covered."

Average miles driving per day: 29, by Bureau of Transportation Statistics.
From the film "Who killed the electric car"

2 Researches on Chinese EV situation and specific worries of Chinese potential consumers.

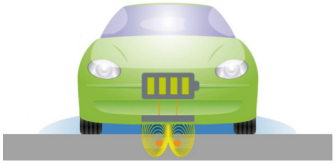
The four problems Chinese most worried about EV:

> Expensive price
> With the national investment to encourage people buying EVs, the subsidy that buyer can get could almost push the BYD F3 DM (plug-in hybrid) the same price as normal BYD F3.
> Uncompleted technologies
> Limited ranges
> Inconvenient charging.

There is specific problem for Chinese market that differs from other places in the world. As we know that the most practical way for EV charging is overnight charging with house socket. Yet most Chinese citizen in urban city does not have a garage.
According to the experience of BYD F3 DM (the only EV on sale in

China till now) users and electric bicycle users, charging is the most difficult problem that they have to solve it by themselves.

> "Charging for Mr. Wang is not a big problem because he just lived in the second floor. All he needs to do is through a cable out of his window onto the park outside and charge his F3 DM."
> "Yet for those users living to high, things will be not easy. A teacher living in the 20th floor, had to talk with the property of her flat to provide a cable to her underground parking place of her flat, which will probably cause more problems."



3 Understanding and encourage of IET technology and EV.

How can people understand the IET technology?
Will people believe that the magnetic coupling energy transfer replacing 220v cable is harmless, when they doubt the microwave from mobile phone is harm to their health?
How can they "see" the processing of electric going into the vehicle without a cable? Designers should find a way.
How can people understand the limit, benefit of EVs different from normal gasoline vehicles;
How to encourage consumers to embrace the new way of urban transportation with EVs without nervous and doubt?

4 Insight: we believe the device of IET should visualize the transportation of energy and process of charging to the user in a direct way. Also it will encourage them to fill and embrace the benefit of new lifestyle with those technologies. And the interface should also visualize some features as maximum range of current power in a more simple way.

Design direction 2

How can we get the best use of new technology by research in understanding and insight of the feature of those high-techs?

1 Current situation of electric cars and charging service

> "The battery, that you charge at home, gets between 70 and 80 miles per charge, which for me is more than all the driving that I need to do in the course of a day."
> "I'm not mechanical but I love dealing with my electric car, because it's so easy. I plug it in at night and when I need to drive it I unplug, and drive it away."
> "What the detractors and the critics of electric vehicles

> have been saying for years is true, the electric vehicle is not for everybody. Given the limited range, it can only meet the needs of 90% of the population."
> From the film "Who killed the electric car"

Three ways of charging: normal charging with standard 220-volt electric plug; fast charging station; battery switch station.
Overnight and parking charging is and will still be the most practical and main way of EV charging.

2 Related new tech applications

Fast charging: the technology of rapid charging cannot be widely put into practical for the reason that the power levels it requires are too high for the grid to provide.
11 March 2009—Materials scientists at MIT report that they've invented a new kind of lithium-ion battery that can fully charge or discharge in seconds instead of minutes. If commercialized, the battery could allow future hybrid cars to rapidly recharge their batteries, or it may lead to new consumer products, the scientists say.
Fast charging is of interest to some plug-in vehicle makers. For example, using Altair Nanotechnologies' battery technology, Phoenix Motorcars has built a 160-kilometer-range electric car that can be fully charged in just 10 minutes. But critics don't see much of a benefit, noting that it would take 250 kilowatts of power to do so—five times as much as what your average office building consumes at its daily peak.
(http://spectrum.ieee.org/energy/renewables/a-rapidrecharge-lithium-battery)
At issue are the awesome power levels required. To charge a 35-kWh battery in 10 minutes requires 250 kilowatts of power—five times as much as the average office building consumes at its peak. That rules out rapid charging at home. Even rapid-charge "filling stations" stretch the imagination, as you'd need a megawatt power feed—generally available only at electrical substations—to simultaneously operate four power pumps. That is a stretch too far for even some staunch EV proponents. "I look at 10-minute charging as a gimmick because of the power requirements," says Andrew Burke, an EV engineering pioneer at the University of California, Davis.
(http://spectrum.ieee.org/green-tech/advanced-cars/electriccar-maker-touts-10minute-fillup)
Vehicle to Grid: vehicle to grid concept, energy storage and the concern of burden or benefit electric car can provide to the grid.
Considering each EV of providing 100 kW, 4000 EVs together can support the grid with 400,000 kW power level in rush hours in a day, which can be equaled as 2,400,000,000 RMB investments of thermal

power stations.
Yet on the other hand, if hundreds of EVs charging at 10am, they will make burden to the grid almost as a new steel plant built in the city, which definitely force the grid to invest more money into building new thermal power stations.
New materials.
News from GE magazine, June 5th, 2010
http://www.gemag.com.cn/gemag/new/Article_content.asp?D_ID=12497

3 Features of IET technology
The Advantages of Unplugging: The 5 Pillars of Inductive Power Transfer new tech applications:
Dependable, Effective Performance
Easier and More Convenient
Complete Electrical Safety
Sensitive Urban Aesthetics
Durable for Life on the Street
Comfort
No action necessary on the part of the vehicle user
No need to carry charging cables on board the vehicle
The energy transferred can be charged through vehicle or personal ID
Reference: 100322_IET_IAV.pdf, UniServices Wireless Car Charging Brochure.pdf
According to our research, the most important feature and advantage of IET is that it gives a possibility of entirely automatic charge.

4 Insight: To solve the problem, designers need to lead the consumers to the way of charging EVs, not only benefit themselves, but also benefit the society.
According to the Fluctuating power requirement level in a day, the grid provided different price for using electric in different times. In China, the price between 11pm to 7am is only 1/4 of the normal price. So by encouraging consumers to charge their EVs at the right time, they could get commercial benefit and also make the EV group a positive support instead of burden to the grid.

5 Solution and concept:
We believe that a intelligent charging assistant system could solve the problem. The core feature is: consumers do not have to decide whether charge their EVs or not every time. They just need to set up different modes (the creating of modes is automatically optimized by computing factors as the plan of each day, the data of personal behavior, the

locations of frequently going, electric prices, etc.).
And the construction of this system required two parts: interface and intelligent program of controlling charging behaviors; hands-free charging device built by IET tech, which required no plug-in every time, so that the whole charging issue can be automatically finished.
Example of automatic charging modes:

	Feature	High price situation	Low price situation	Target	Travel purpose
Normal travel mode	Travel priority	Charge until 70%	Charge until 100%	Normal workdays	Going to work, unknown use
Economy mode	Economy priority	Charge until 30%, discharge until 70%	Charge until 100%	Planned normal work days	Only going to work and shopping
Family energy storage mode	Economy consider only	Discharge until 30%	Charge until 100%	Parked at home, almost no travel	None
Travel mode	Travel consider only	Charge until 100%	Charge until 100%	Busy travelling days	Frequently or long distance travel

1.4

Award evidences

better place

Innovation Design Engineering (IDE)
Royal College of Art
Kensington Gore
London
SW7 EU

Dear Wenjin Yao,

Better Place would like to announce, Wenjin Yao, your team from the Royal College of Art is the FINALIST/WINNER in the Better Place Hands Free Charging Design Challenge, part of a global design competition, targeting the top design and engineering schools and cooperations to create the winning design for hands-free charging for electric vehicles.

Better Place is awarding the finalist team 35,000EUR and inviting the team to present their design to the Better Place selection committee on April 14, 2010.

Better Place, is an electric vehicle services provider, accelerating the global transition to sustainable transportation. Better Place is building the infrastructure and intelligent network to deliver a range of services to drivers, enable widespread adoption of electric vehicles, and optimize energy use. More information is available at http://www.betterplace.com.

Thank you,

Guryan Tighe, Better Place
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Invoice No: EUR 104

Date: 07 June 2010

Customer Ref: BETPLA

Page: 1

Description	Net Amount	EUR
AWARD MONEY FOR WENJIN, IDE RESEARCHER		35,000.00

Appendix 2: Cultural integrations in Japanese design

This section aims to offer an inspiration for Chinese design through the case studies of Japanese culturally oriented design from the following design aspects: symbolic, commercial, and behavioural. In Japan, since the middle of the 20th century, designers began to create commercial products consciously embracing traditional Japanese cultural elements. Japanese cultural transfer was also addressed as a strategy of their local design exporting and led to great success (Kikuchi, 2008). For Chinese designers, although the Japanese successful experiences cannot be adapted overall, due to the different historical and social environment of two countries; the Japanese cases are always good resources in terms of their design methods and exploitative strategies, which are undoubtedly worth studying for researching Chineseness.

After WW2, the western impression of Japanese products was diametrically transformed from elegant artwork to rough imitation within a short time with the aim of rebuilding the image of Japanese design in the world. In 1951, the American designer Russell Wright was invited by the Japanese government to promote the Japanese design policy and system. His work in Japan extended the experiment of the American 'Good Design' movement with a reflection on Japonisme, in order to present and advertise the new Japanese designs for the western world (Kikuchi, 2008). In 1957, as part of its efforts to develop Japanese product design, the Industrial Arts Research Institute became engaged in a project to develop Japanese Modern styles to accord with the global Good Design movement, launching the Good Design Award (Hirose, 2008). This led to the emergence of a new type of craft called kurafuto, which occupied the space between studio craft and product design. Kurafuto sought to create a contemporary 'Mingei' (the folk craft movement in Japan from 1920s, when Japanese craftsmen began to discover functional daily crafts with simple natural beauty and Japanese style) (Kenjin, 2007) through the mass production of well-designed, functional and affordable products. In the 1950s and 1960s, through all of these strategies of development, rebuilding and branding national design, Japan changed the impression of Japanese design after WW2 from rough and cheap back to fresh and charming (Evans, 1985). This was also driven by a national range strategy and politics to promote national design and against copying:

1958 Establishment of Design Policy Office
Establishment of Design Promotion Council (-'98)
These departments worked as analysing problems and solutions of Japanese designs, promotion of exports and acting against design copying.

1957 Good Design Selection started (G-mark)
Establishment of Export Inspection Law

1959 Establishment of Exported Product Design Law
Law against design copying

1969 Establishment of Japan Industrial Design Promotion Organization (Hirose, 2008)

2.1

Cases of the reflections of Japanese cultural symbols in design

The following cases deal with Japanese design through transferring the typical Japanese and oriental symbols. They were reflected through some kind of abstraction of their appearances, rather than represented into a cultural stereotype directly. These cultural elements were designed combining with modern design forms or concepts, as well as with the considerations of their commercial values.

Further tracing back through history, the conscious reflection of Japanese cultural elements into products started from the Mingei Folk craft movement in Japan from the 1920s, when Japanese craftsmen began to discover functional daily crafts with simple natural beauty and Japanese style (Kenjin, 2007). Then after the Second World War, from the 1950s, as a part of Japan's development strategy, designers became engaged in projects to develop modern Japanese styles to accord with the global "Good Design" movement (Kenjin, 2007). They sought to create a contemporary Mingei through the mass production of well-designed, functional and affordable household designs while following the international design trend at that time. Craft categories and traditional symbols formed an important inspiring resource for Japanese designers, from which the designers extracted the technology or design method and applied it into their creations. These symbols include weaving, paper, bamboo, stationery, etc.

The butterfly stool created by Sori Yanagi in 1956 is representative of modern Japanese design (Figure 2.1). The stool has a frame comprising two identical pressure-shaped and reinforced plywood elements in a maple finish. The traditional craft of veneer cutting ensures that each side of the seating surface exactly mirrors the grain of the other side, making each stool a unique piece. What is more, this original design idea to fit to traditional living habits caused the unique form of the butterfly stool (Hagiwara, 2006). As the designer explained, initially the butterfly stool was intended for use on Japanese tatami mats, to protect the fragile woven straw from damage. That is why the feet of the tool were formed to lie flat. Even though the tatami played a smaller role in Japanese home life, Yanagi scooped out the lower leg portions so that the feet contracted the floor at four points with cushions to fit.

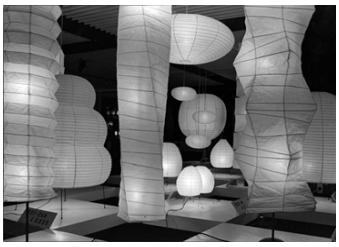
2.1
Yanagi, Butterfly stool, 1956

The Japanese American sculptor, Isamu Noguchi created a series of lamps named 'Akari' (Figure 2.2) in the 1950s (Kenjin, 2007). As an American-Japanese designer, Noguchi began to integrate elements of Japanese art

with Western modernism after his visit to Japan in 1931. It is an integration of traditional craft with a modern design form, while in terms of material he used 'shoji', a Japanese architectural paper made from the bark of the mulberry tree to create lampshades that would light a warm and cosy ambience like the natural sun[1] , This new use of the mulberry paper is also an attempt to keep the traditional craft going.

These two classical designs in 1950s were fulfilled with 'stories'. Yanagi and Noguchi use their product design to arouse the emotions and empathy of people by visualising and communicating Japanese local cultural messages – tatami and shoji. It returns to the fundamental question at the time - What is a good product? Such design concept - emotional design, or called 'Kansei iniative'[2] in Japanese - is one of the Japanese designers' answers to judge a 'good design' that generated in their culture context. Meanwhile, it also identified what is required for differentiation and innovation in order to help Japanese industries maintain and improve their competitiveness.

In addition, Japanese cultural symbolic elements are also adopted in commercial designs. For instance, the 2009 Infiniti Essence Nissan concept car design (Figure 2.3), as its designer explained was driven by "Japanese tradition into the future": The car's shape was based on the kanzashi, which is a hairpin used by women when wearing the kimono. The car's lines and details were inspired by the wide brush strokes of Japanese calligraphy. Its interior was made of leather, hand-painted wood inspired by traditional Japanese lacquer ware (2009). However, the appearance of this car is overall a modern style with a streamlined figure in general. Its Japanese element could be an added concept into design for commercial broadcasting, as well as a way to make an original mark within the global vehicle market.



2.2
Noguchi, Akari lights, 1950s

2.3
Infiniti Essence, Infiniti Nissan design, 2009

There are numbers of examples that Japanese elements in design perform in terms of commercial allure to make its success in the global market. For instance, MUJI and its concept of branding, whiteness and emptiness,

1. Refers to Noguchi Museum online: www.noguchi.org/shop/history
2. The word 'Kansei' stem from Chinese. It means emotion. Kansei iniative was introduced by Japanese Ministry of Economy. Refers to online resource: http://www.meti.go.jp/english/policy/mono_info_service/mono/kansei2009/

which were broadcast through the brand popularity and Kenya Hara's book Designing Design (Hara, 2007) to attain world-wide acclaim.

Zen is an important concept adopted in Japanese design that never goes out of style. It emphasizes meditation, peaceful heart and golden silence, in the attainment of enlightenment. The most famous ancient Japanese design inspired through Zen is the dry landscape garden. Today, driven by globalization, Zen has already been exported into a cultural symbol of Japanese design. It is represented as a Zen-like, pared-down look from the East with the emphasis on making a serene sanctuary-like feeling for the users.

The Concept design HONO Candle by Chiaki Murata in 2005 is such a design reflecting Zen through its particular users' experience. The designer said that he never intended the HONO to be a practical light, but a product whose purpose is to make its user feel calm and relaxed. The candle is 'lit' by using the match with an internal sensor, and when finished, the candle is just 'blown out,' and its 'flame' flickers when blown (Hagiwara and Kuma, 2007).

2.4
Murata, HONO candle, 2005

2.2

Innovation in terms of behaviours

The following offers another inspiration for local cultural transfer into design, which is transferring the local behaviour to benefit our life. The electric rice cooker designed by Toshiba in 1955 is an innovation through transferring the local behaviour into design, which enormously changed eastern people's daily life. Equally, I think it is a typical example in terms of a good design combination of technology and local culture, in the context of its electrical fast development time.

Since the 1940s, Mitsubishi Electric Corporation had manufactured an electric rice cooker; however, it was not convenient for rice cooking and was eventually superseded by a Toshiba version. This electric rice cooker's shape was designed to be similar to a conventional rice cooking pot, yet was simple and modern in form with a white body and metallic top cover. It bore the streamline trademark of the American industrial designer

Raymond Loewy. What made this rice cooker revolutionary was its way of applying the technology, and integrating the behavioural elements to improve daily life (McGee, 2004). Before its design, Japanese housewives used charcoal and it was a messy, not to mention time consuming, affair to cook their daily staple of rice. As women started moving into the workforce, saving time on cooking became much more important and the electric rice cooker was developed to save time without compromising on tradition. The bigger challenge of design was how to produce delicious tasting rice using an electric rice cooker automatically. Through tests, the designers designed the electric rice cooker, which could be switched off automatically within a calculated amount of time needed for the water to evaporate and convert to steam - at 100 degrees in 20 minutes[3] . This version of an electric rice cooker was a confluence of insight into the behaviour of a culture with innovative technology inspired by the users' daily life, and conversely, changing their daily lifestyle.

Now, as an Asian person who eats rice everyday, I can imagine my life would be very inconvenient without an electric rice cooker. However, we could not have a sense about how important it would be before its invention: we would behaviourally feel that steaming rice on fire and calculating its time was a part of our daily life. On this point, the electric rice cooker created a new demand in our life, which is cooking rice automatically; as well as investigated a blank area in design, which is designing the Asian kitchen behaviours into electric products. Correspondingly, this case brings out questions which relate to Chineseness: what Chinese designers can do at the behavioural level of cultural transfer now? How to search the possibility for new requirements from the Chinese behaviours? And how to create their value?

3. Refers to Toshiba Firsts of Their Kind Toshiba Science Museum Online: http://museum.toshiba.co.jp/toshiba_history/firsts_products/1955rice.html

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Appendix 3: Cultural integrations in Japanese design

3.1

Chinoiserie design at 18th Centurial Europe

3.1 (Left)
The Badminton Bed, designed by John Linnell, William Linnell, about 1754, exhibited at V&A, Museum, no. W.143

3.2 (right)
Carved and gilded wood Mirror, designed by Thomas Johnson, 1750-1760, exhibited at V&A, Museum, no. W.23-1949

3.2
Chinoiserie design today

3.2
Ferrari's art car, designed by Lu Hao, 2009

3.3
BMW 'Joy', design for Chinese market, 2009

3.4
Unknown brand mouse design at Chinese ‘Shanzhai’ electric market, 2008

3.5
ALESS ‘Mandarin’ citrus squeezer, 2001

Appendix 4: An interesting design case for Chinese symbolic transfer into design: Klemens Schillinger, Chinese Whispers Chairs

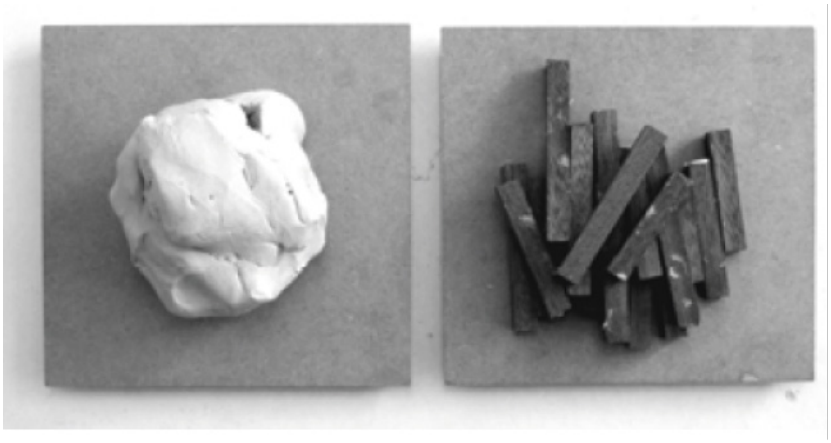
'Chinese Whispers Chairs' is designed by Klemens Schillinger (2011 IDE graduator) at 2009. This group of chairs was designed by using a method based on the principles of the game Chinese whispers. This project took place in the Royal College of Art and the Imperial College. Over 40 people from different backgrounds were participating in the project.

The designer's inspiration came from the Chinese whispers game. Its approach to this project was the idea to design something that was in-flu¬enced by people's subconsciousness and uncertainty.

To translate the Chinese whispters principles into a form, Klemens chose plasticine and wooden sticks because they are easy to handle and need no additional tools; the plasticine is easy to shape and the sticks can provide a supportive structure.

The rules for the 47 whispers design participants were simple: see the object for 3 seconds and was asked to remodel the object in a maximum of 3 minutes. After several tests run, Klemens found out that if he wanted to design something that was new he could not start with the archetype of a chair because people have such a strong image of chair that is proportion with 4 legs and backrest. Klemens said that his starting point seems to be an odd and randomly designed object, but the amount of sticks and plasticine was thoughtful chosen.

Based on these prototypes, Klemens could design a series of chairs in a same strong style sense. He picked up two of them (no.31 and 36) to make into products.



4.1
Materials and 47 Chinese whispers Chairs through participants

4.1
Materials and 47 Chinese whispers
Chairs through participants

4.2
Made the prototypes into products

This series of chairs design is lovely and smart. We cannot find any visual Chinese symbolic elements on it. Klemens was gained the design idea from a symbol, Chinese whispers. He transferred this concept in terms of groups work, and ignored this concept with the work going on, taking it only as an inspiration, rather than continuing exploring and visualizing the 'Chinese whispers' itself.

Appendix 5:
'Chinese folk art design' workshop

5.1

Workshop detailed information

Workshop Leader:	Wenjin Yao
Tutors:	Ashley Hall (RCA), Chao Zhao (Tsinghua)
Start Date:	20th April 2010
Completion Date:	21st April 2010
Workshop Duration:	2 days
Groups:	4

Participants list:
Team 1: paper-cut
Renata Fenton, Daniel Watson, Alicia Tam, Li Yizhou (Tsignhua)
Team 2:Chinese Calligraphy
Ollie Poyntz, Anu, Alex Bone, Hu Yinghui (Tsinghua)
Team 3: clay sculpture
Jessi Baker, Marc Purser, Charlotte Christoffersen, Ge Rui (Tsinghua)
Team 4: Thearical face draw
Patrick Hyland, Dominik Donocik, Kunal Nandi, Fu Yu (Tsinghua)
Team 5: Dough sculpture
Klemens Schillinger, Sam Jewell, Hugh Laughin, Maxime Geib, Wang Luxi (Tsinghua)

Workshop Plan and Timetable
20th April Morning
9:00 am-9:20 am
Introduce briefing on aims of the workshop, times and events –Wenjin Yao
9:20 am-10:20 am
Lecture on models, case studies and examples of cultural transfer -Wenjin Yao
10:30-12:30
4 traditional craftsmen on different folk art area (e.g. paper cutting, theory face painting, mud sculpture, kite making, etc.) show their work and technique and communicate with students. Then the teams can work with traditional craftsmen to design contemporary products (making session on next step).
20th April afternoon:
Observation, Hunt the transfer and product analysis
IDE and Tsinghua students go shopping with cameras to work together to gather images of
products which are designed with Chinese cultural transfer or looked very "Chinese", then, by team, discuss and classify the results through insights and analysis:
Which products you think are traditional Chinese, which you think are

contemporary one through cultural transfer?
How do you judge this transfer on design, great, so-so or rubbish? Why?
If you think it is a mess-cultural-transfer, how about your design conception to refine it?
Choose a contemporary product by team to redesign, using the elements abstracted from the morning craftsman's work. This transfer can be on appearance of product, design process method, etc.

21st April:
product concept design and sketch
Brainstorming, Team work on developing the concept design of the chosen product and give sketches of design to present the ideas of transfer.

21st April afternoon 4:00 pm-6:00 pm
Presentation of each group on both product analysis (through photos) and the design cultural transfer concept (concluding session for feedback and discussion of result)

Team Format
The module is run in 4 teams of 5 students from IDE, Tsinghua or both. Each team will be able to work with one craftsman in the first morning. The product hunt will be done as individuals but analysis, concept design, present and be tutored as a team.

Team 1	5 IDE students
Team 2	5 Tsinghua students
Team 3	3 IDE students and 2 Tsinghua students
Team 4	2 IDE students and 3 Tsinghua students

Learning outcomes summary: Research Skills
Chinese elements inspiration Design analysis
Concept Development
Team Working
Narrative and Presentation Skills

5.2

Design concepts

Team 1

Bathroom product design through transfer from paper-cutting art.

5.1
Photo shooting of bathroom products in Chinese supermarket, team 1

5.2
Team on photo shooting: paper-cuts elements

Team one' design is a mirror. The mirror was designed to be used specifically in a bathroom environment. Design inspiration was from two of the characters of paper-cutting: "hanging one mirror" and "temporary decoration in a festival". Applying a special varnish coat on the normal mirror, allowed the mist to rise on this mirror and a paper-cutting pattern to appear in a short time - until the mist faded.

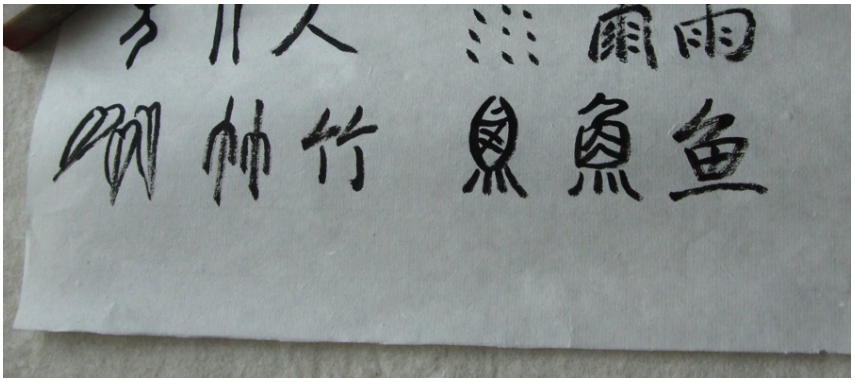
5.3
The "paper-cut" mirror

Team2
A series of tableware designed through transfer from Chinese calligraphy.

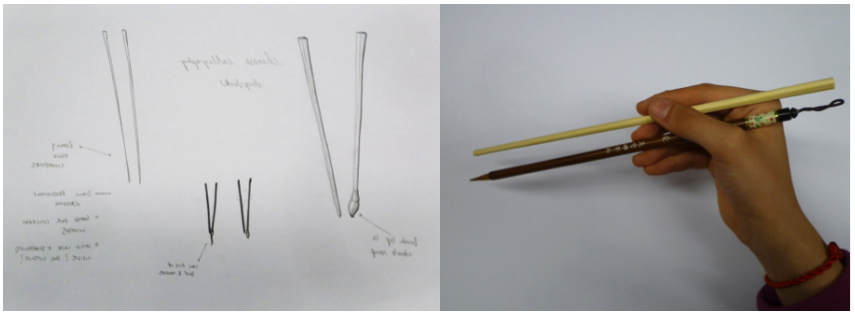
This team thinks the way of holding a brush pen is just the under-half posture of holding chopsticks, which is a 'Chinese posture'. For me, this is a foreign understanding or misunderstanding of Chinese traditional culture. Although this is a common posture of using chopsticks, there are a lot of Chinese holding sticks in different ways.

This team's concept was to inject elements from Chinese calligraphic strokes, which

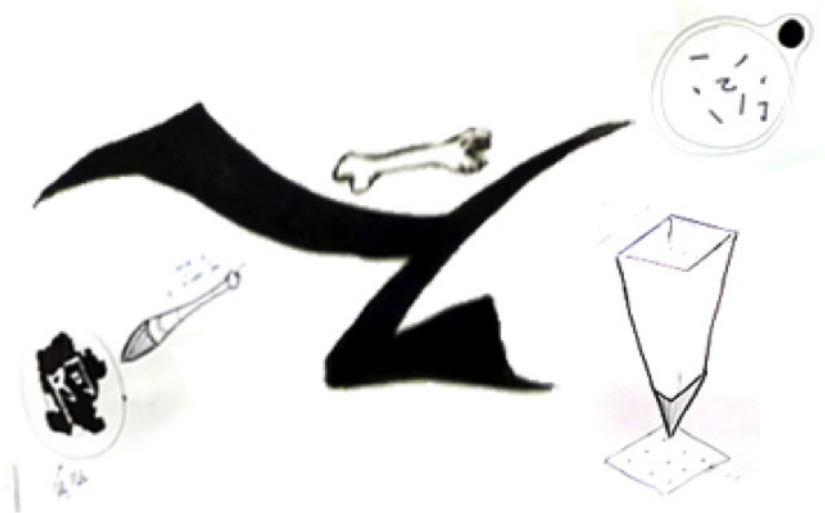
Form the basic elements of Chinese calligraphy writing as well one of the most significant distinctions that separate Chinese calligraphy from others. There exist eight basic strokes and twenty-nine compound ones. Different strokes in structure can consist of a character following a stroke written order; meanwhile each stroke is a separated figure.



5.4
Members' writing practices



5.5
Comparing of holding sticks and brush pen

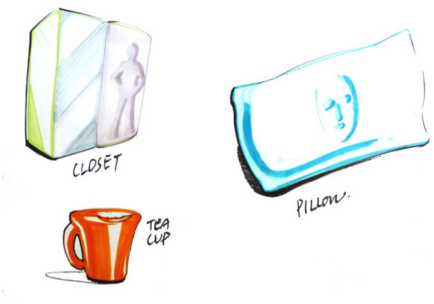


5.6
Tableware design inspired by the calligraphic "stroke"

Team 3

A creative process of clay sculpture.

The members of this team were not focused on the art form itself, but reported that the most interesting and attractive part of the clay sculpture was the "communication" between creator and material, as well as the fact that it left individual imprints on it. This creation process is like a "communication" between people and product, which they thought quite interesting and wanted to bring into their designs. For example, through adapting a clay-like material, they designed a chest, which allowed its user to impress his/her figure on the door; a pillow that could leave a pattern on your face at the last minute before you get up; a cup leaving the lips shows a figure. They wanted to choose an ideal material, which would allow these personal imprints not to last too long a time but to recover slowly.

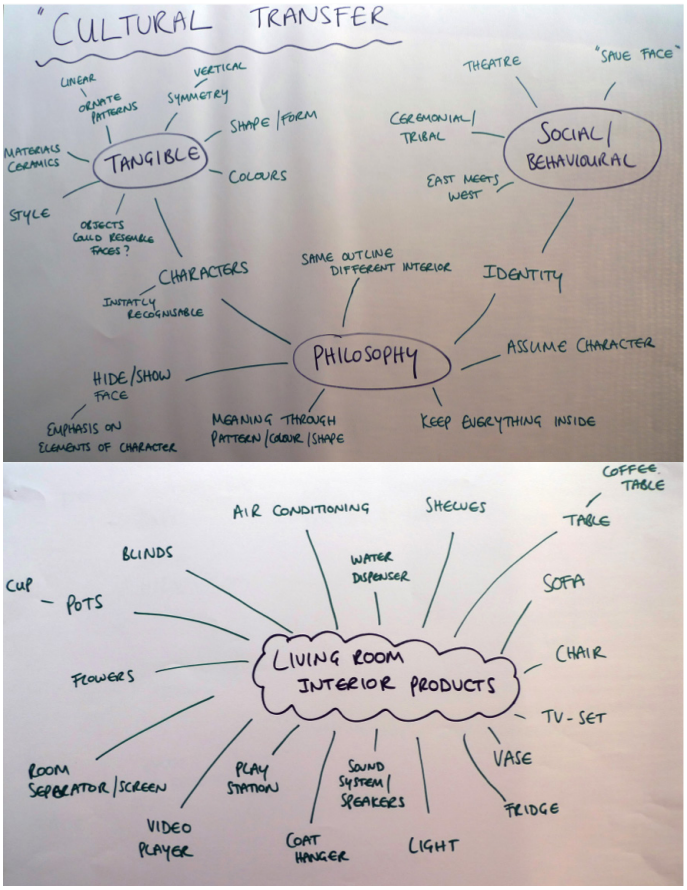


5.7
Bedroom products design: communication with your product and personal imprint

Team 4

Living room product design through transfer from theatrical face painting.

This team's design concept came from the idea that the craftsman introduced to them "different colours represent different personalities" in the face painting tradition. For example, they designed a coat with a cap. On it, there was a mask, which, when you were in a bad mood, you wore as well as ding up your coat: this signified, "leave me alone". Another example was a series of chair designs. The students learnt from the craftsman that in face painting, the core part was the form and colour was painted onto the forehead. There were different forehead patterns that corresponded to different characters. The chair designs expressed some forehead forms directly, being used as feet and elbows. Through different feet and elbow colours and forms, these chairs expressed different emotions.



5.8
Brainstorm sketches of team 4

5.9
Living room products and emotions

Team 5
Garden product design through transfer from dough sculpture.

As the dough sculpture is made from a sticky powder as well as describing a figure in a story, this team linked their design with a fertilizer-based material and the aura of Kwan-yin (a god in Buddhism). They designed a garden gnome whose material was a mix of fertilizer and seed that had potential to grow into a plant.

5.10
Garden gnome design sketch

5.3

A memo – workshop presentation and Q&A

00:17:00 Paper-cut group

Q: How would the findings from the workshop change your future ideas?

A (Daniel): It's a good experience. Before you really deal with the deals, you can't imagine how complex it is, how it works, or how about its material. So you can see this through the workshop. That's good.

A (Alicia): For me, my background is architecture, which is tally 3D. So it's really interested to see how 2D patterns can inspire.

A (Renata): In my case, I think the more interesting and valuable for me is the craft always has a certain mystery or intangibility of it, because it can't be separated from the master produced culture. Here, we worked with the artist, she showed us the technology and process, it more like to take the mystery into a status of understanding.

00:39:00 Theatrical face drawing

Q: You talked about you use design theories or principles in your design process. However, if you face the global costumer who has no idea about this Chinese theatrical face drawing culture, how you make your design understandable? How can you let them know the meaning of your design?

A (Kunal): I don't know. Well, in this example, I mean this is not only mean [...] , we can also redesign it. We could start to think an approach about this.

00:55:00 Calligraphy
Q: How about this experience.
A (Alex): For me, I familiar with writing with pencils. The brush pen calligraphy is about control. You should make the paper flat on the table, stay strait and hold your pen.
A (Ollie): For me, it's similar as Alex. I really enjoy the slow down and peaceful situation.

1:14:42 Team 4 Clay sculpture
Q: How about the key things you found for the cultural transfer in the workshop?
A (Marc): the story about the product
A (Charlotte): I think it's the face to face creation. It is very emotional
A (Rui, in Chinese): We visited Xiushui market yesterday, from where we see lots of Chinese products. We noticed we should see more in order to know how to mix the Chinese elements into design.
For this clay element, the most important is that you have a handmade experience. This is a communication between the creator and the creation. However, we don't have many such 'communicate' chance in our daily life with the products surrounding us. This inspired us to inject this character into our daily life products design.
Q: If you send it globally, how do you identify the Chinese quality? What is the value of this?
A (Charlotte): It's more a general cultural experiences. Maybe it is Chinese, maybe it isn't. I don't know if it's important. I just see the value it's good over here.

01:41:35 Discussions
Q: Can you say something about your experience in the workshop? Can you identify the difference of Chinese and non-Chinese in the workshop?
A (non-Chinese): It is kind of difficult to change ideas wit the Chinese students. Maybe sometimes we try to persuade something, but it is not so easy to do.
A (Chinese): I think they more open-minded. They just do the design what they like, don't really care about it's right or wrong (means right or wrong with a regular understanding in Chinese culture). This may be more creative. Chinese students think about 'is it useful?' or 'it works'. I think the foreign students have more ideas than this and intelligent.
A (non-Chinese): I don't know. I don't feel there is difference between Chinese students or non- Chinese students. We worked together.
A (Chinese): Can I say something different? I think Tsinghua students are awesome great and intelligent. I barely feel some communication

difficulties between us. I think it's not because of the language; it's more about cultural different. When I do discussion in our group, I want to help. Because they come to China to learn something, I know China well. I want to help. But they are too active, as to be a leader.
(Non-Chinese): We do a lot of group work in IDE. I think you didn't get used to it (our way of group work).
Q: Here some suggestions to Wenjin. You design this workshop, you should design the approach to reveal the different between the Chinese and non-Chinese students. They are from the different cultural contexts.
A (Wenjin): I initially wanted to separate the groups into Chinese and non-Chinese, for later comparison. But the difficulty would be the communication between the non-Chinese groups and the craft masters. I think your commence is quite the point. This will be my next step of work.
A (Chinese): For me, in this group work, I'm not only thinking about that I am a Chinese student or they are RCA students. What I think about is that we are all designers; we all contribute to our background, knowledge, and experiences. It is just I'm more familiar with Chinese culture, but maybe they are more sensitive.

Appendix 6: Project documents 'the mobile interaction design for the Chinese elderly'

6.1

Proposal to Alibaba Cloud Computing design team

New generation mobile interaction design facing to future Chinese users: A proposal

Proposer: Wenjin Yao (PhD, Innovation Design Engineering Department, Royal College of Art, UK).

Whole project duration: 6 months
Work duration in Alibaba: 3 months
Start date in Microsoft: 26th Jul 2010
Completion Date in Microsoft: 26th Oct 2010

Abstract

As a device increasingly pervading our live, mobiles have growing demands to become the first-class computing devices and media center. The searching and sharing data functionality based on mobile interface, relevant mobile internet device and service design facing to specific social systems can be a significant challenge. This proposed research project will not only focus on the Chinese users' special habits and requirements on these applications, but also the Chinese culture and social elements which can influence the mobile interaction design through user experiences of using smart phones or getting mobile services (e.g. mobile shopping, mobile bank, etc.). Through multi-methodology including market research, literature review, case study, comparison and user interview, a concept interface/interactive?/system? design will be shaped out for testing the relations between Chinese cultural transference and Chinese users' acceptance of new generation of mobile services and how the design comes from people's habit and then change their behavior as well. This design will be face to a certain group of future Chinese smart phones and service users, create a simple, new digital tool, for solving some of potential problems for this specific end users. A report on publishable standard will be submitted at the final of project, a detailed long term goal proposal on the field of "new generation mobile and service design and relevant social influential elements" may be figured out.

Figure 1 shows the logical structure and methodology of this project.

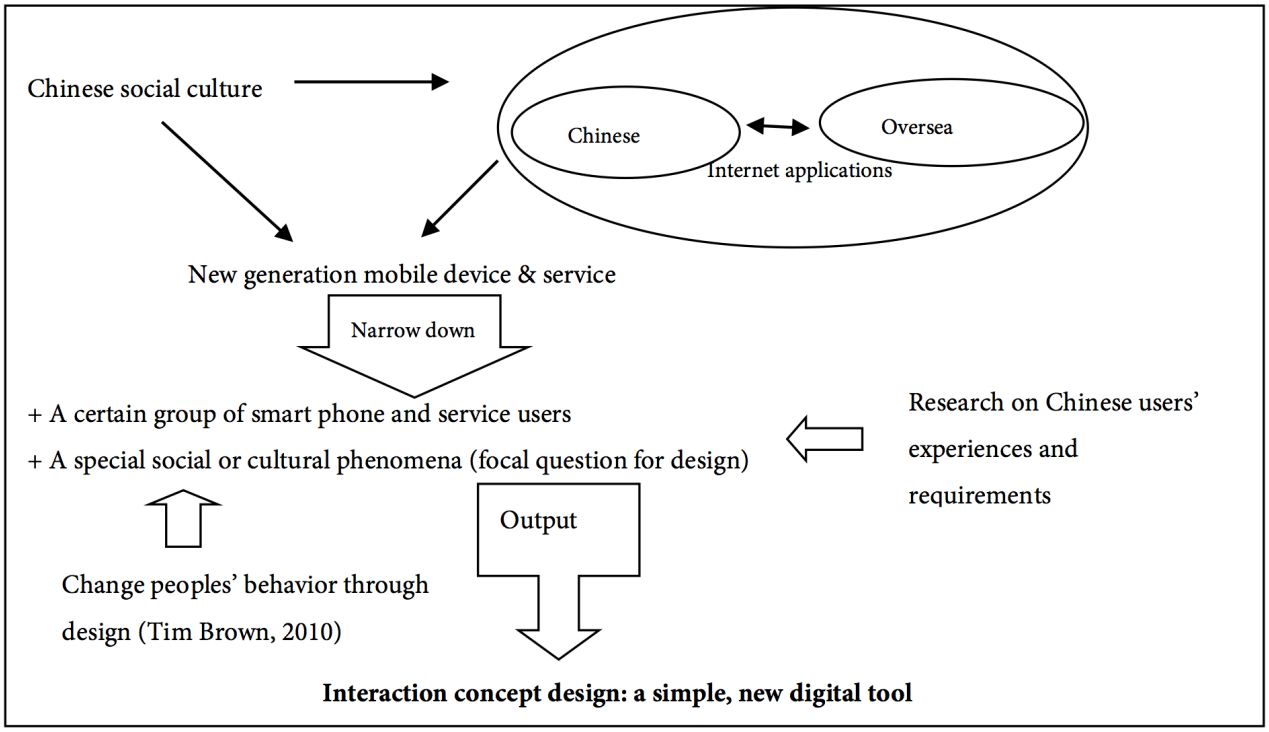


Figure 1
Proposed project structure

1 Introduction of Project

In the past ten years of first Internet revolution, a large number of Chinese IT companies developed their internet applications based on the existing ones from oversea, as well as integration the consideration on Chinese users. Some of them come to a huge commercial success in China, even comparing with the original ones they copied. Draw out the reasons of these successes, one of the important ones is the localization and cultural transference facing to the Chinese social structure and users' habits and interests. For example is the Tencent QQ, starting from a "copy to China" IM software of ICQ in 1999, QQ has now successfully expanded its services to many online and offline sectors, and has became a leading provider of Internet and mobile telecommunications and other value-added services in China. Its various online platforms, including IM, web portal, Online Game, blog and wireless portal, are all taking the top places in the respective sectors in China. What makes QQ special is the way in which it converts user's "eyeballs" into cash. When most of Internet companies are counting on advertising as the solely profitable service they offer, Tencent is making most of its revenues from its users directly (Shu Wu, 2008). Why the users are willing to pay, from the design aspect, QQ applies a "cute" style interface, around applications and services design, builds an easy-use communicate platform for chart and game, which is attractive for Chinese young netizens. Another example is Taobao's success. Copied from e-bay, while the interaction design and the system behind are well adjusted to

Chinese market, which has forced Ebay to quit the Chinese market recently. Taobao puts all the commodity links on its home page, which is likely to positively push information to users, but not waiting for the users searching by themselves, which is a significant change for the Chinese netizens' structure and use habits. Meanwhile, from the other aspect, those successful internet applications from Chinese market has influenced the oversea ones as well. Kaixin net is a website in China copying the form of Facebook. But the most popular Facebook game today—the 'Farm ville' is actually copied from the Kaixin game "Kaixin Farm". Today, as we are coming into the new internet era, most of these applications exploited their smart phone editions, as well as mobile platform services. Undoubtedly, mobile internet and its relevant products are becoming the new trend of the world. Based on those above cases, the following questions should be asked:

> What will change in the new internet era?
> What will be the trend on the mobile internet device and application service design facing to Chinese users?
> What will be the influential elements effecting on the applications differences between Chinese and oversea market in the future?

In western countries, the mobile internet influence has deeply reflected in mobile hardware, software and service development. (Horrigan, John, 2010) In the hardware field, IPhone and Blackberry, combining the alphabetic keyboard with mobile, makes mobile searching much easier to use; "Square" links the mobile money transfer with the credit card directly. While in the field of software and service, 3G web, Google's product for mobile and RFID payment system etc. are promoting the application of mobile website. Through the Nielsen statistics, in the quarter4 2008, 14% mobile users in the States are using smart phones, while in quarter4 2009, this number has increased to 21%. It is expected that in 2011, the smart phone users' number will be more than the traditional ones, and will keep increasing. (Nielsen, 2010) However, today in China, the usage of smart phone and relevant mobile application is much less than in the States, UK or Europe and most of Chinese consumers buy mobile just as a product, but not a service. Comparing with the Chinese IT market experience in the first internet revolution, we can easily image that, today and in the not far future, the smart phone device and relevant service design facing to Chinese users is high valued in both commercial and research fields.

While different from the applications born in the first internet revolution, because of the specific user experiences of the mobile internet, for example, more personal, less chance to get help from others, etc. the design of mobile devices and services should consider these social elements influencing the users' personal behavior, as well as inject these considerations

into design facing to Chinese users. From this point, research on the Chinese users' behavior and requirement on smart phone and service design through Chinese cultural transfer is going to be focal in this proposed project, and how to apply this social structure into design will also be one of the challenges.

The Chinese society has experienced a rapid change during the last thirty years, there are more than one generations have to change their lifestyle totally and be forced to accept the high-tech products or new stuff in a short time. Taking the computer internet for example, most of the Chinese over 40s cannot use it independently without help from the young generation. While the mobile internet is much more personal, how can design help the old Chinese generation to get used to in the future? Another example is that Chinese society lacks of mature credit system, which may cause a possible risk of task on mobile service. What can design do to make the mobile service more trust by people? Based on such questions, through comparing with the Chinese and oversea applications in the first internet revolution, this estimated six-month project will start with a wide research on the Chinese cultural transfer on internet applications and its potential influence for the future mobile internet service, then narrow down to a focal direction facing to a certain group of future Chinese users who will be the big potential component of Chinese market of new generation of mobile. An interaction concept design will be carried out to solve this focal direction as the output of this project. Finally, as the assessment part, conclusion and perspective on the future mobile internet device and service design facing to Chinese market will be submitted, a long term plan can be relatively clearly figured out.

2 Short term goal

This project is estimated to be six months, from June 2010 to the December 2010.

June 2010-mid July 2010: Literature review, market research in UK and the States (London, New
York)

Mid July 2010- mid Oct 2010: Research in China, concept design (Alibaba Research Center,
Hangzhou)

Mid Oct 2010 – Dec 2010: Assessment, report writing (RCA, London)

The output will comprise a report on publishable standard, a concept design represented through video, image or physical model, a paper publishing on international design conference or journal. This project will also be a part in Wenjin Yao's PhD final thesis.

3 Long term goal

This project can be a primary testing work of a new generation mobile and service design based on social and cultural structure research system. It will contribute to the natural user mobile interface design for Chinese users as

well. Last but not the least; it can build a research communication bridge between IDE Royal College of Art and Alibaba Research Center, as an entrance of long term international collaboration.

4 Background

Wenjin Yao (PhD, Innovation Design Engineering Department, Royal College of Art, UK)

Wenjin's current PhD research project in Royal College of Art is "The Integration of Chinese Cultural Elements and High-Tech Product Design through Cultural Transfer as an Industrial Design Methodology", whose research question focuses on "How can the Chinese cultural transfer into design can build a link between a new high-tech product and the users' familiar stuff for make/leadc user better accept this new product". Through one year of background research, she has built a relatively mature structure and a rich research database on this field. As this proposed project is close linked with her PhD topic, her previous research is helpful to orientate the valued points of this project, support strongly the project process and analyses result comprehensively.

Yan Lu (Ma & Msc, Innovation Design Engineering Department, Royal College of Art & Imperial College, UK)

As a passionate design student who is fascinated by the relations between digital technologies and physical objects, Yan Lu is currently doing the Ma and Msc course in Royal college of Art and Imperial College, and his development strand is experimental design feathered with interactive technology. Based on the previous interaction and system design experiences, he is currently doing the research for the dissertation of his master course, which is about how digital communication tools (mobiles and internet etc.) affect the human behavior and how it shapes our minds and cultures. Since his academic background and practical project experiences are tightly relate to the proposed project, he will be fully engage with the complexities and challenges, concretely contributing on building the comprehensive research structure, and forming the luminous tangible results.

5 Required resources from Alibaba

Work space in Alibaba Research Center, Beijing Office

Team consisting: Wenjin Yao, Lu Yan, with one or two staffs from Alibaba

Budget: three-month work payments for Wenjin and Yan, travelling and other fees spending on project

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6.2

Mobile research: the timeline of mobile designs

For the purpose of this section, why choose mobile phone as a typical object to do analysis and comparison on its development trends in different countries;

Firstly, the users' aims in different countries are generally similar: phone, SMS, multifunction and 3G Internet.

Second, the core technique of mobile phone is a shared resource today; which means although it is recognized as a kind of high-tech product, there is no high requirement of technique or engineering on its design process.

Through this case study, figure out certain elements influence high-tech product design development and raise relevant questions on high-tech product design.

Mobile Phone Design in the US and Europe

Influential Factors

Development of core technology 90%+

Popular culture 10%-

Mobile Phone Design in the US and Europe

Influential Factors

Functionality optimization 50%-

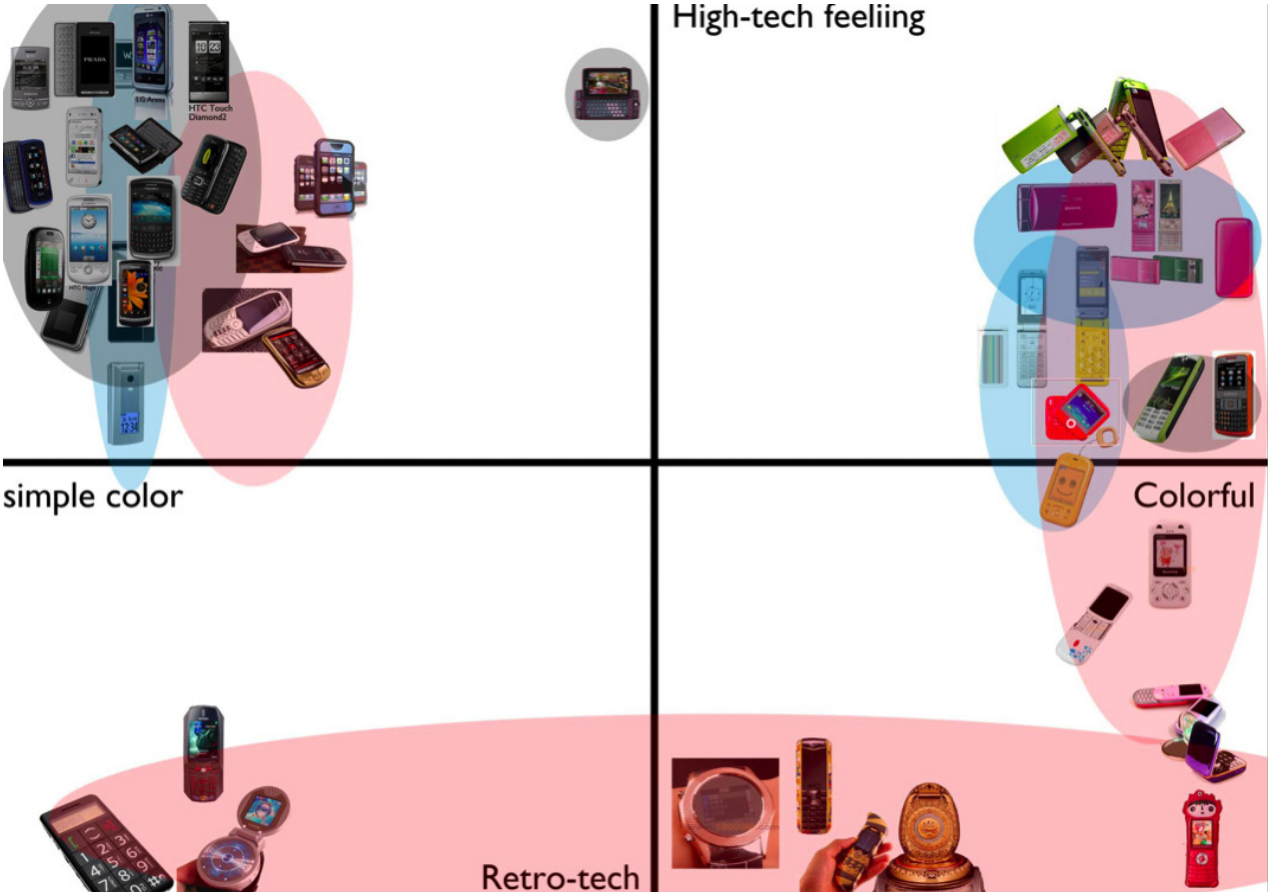
Appearance design 50%+

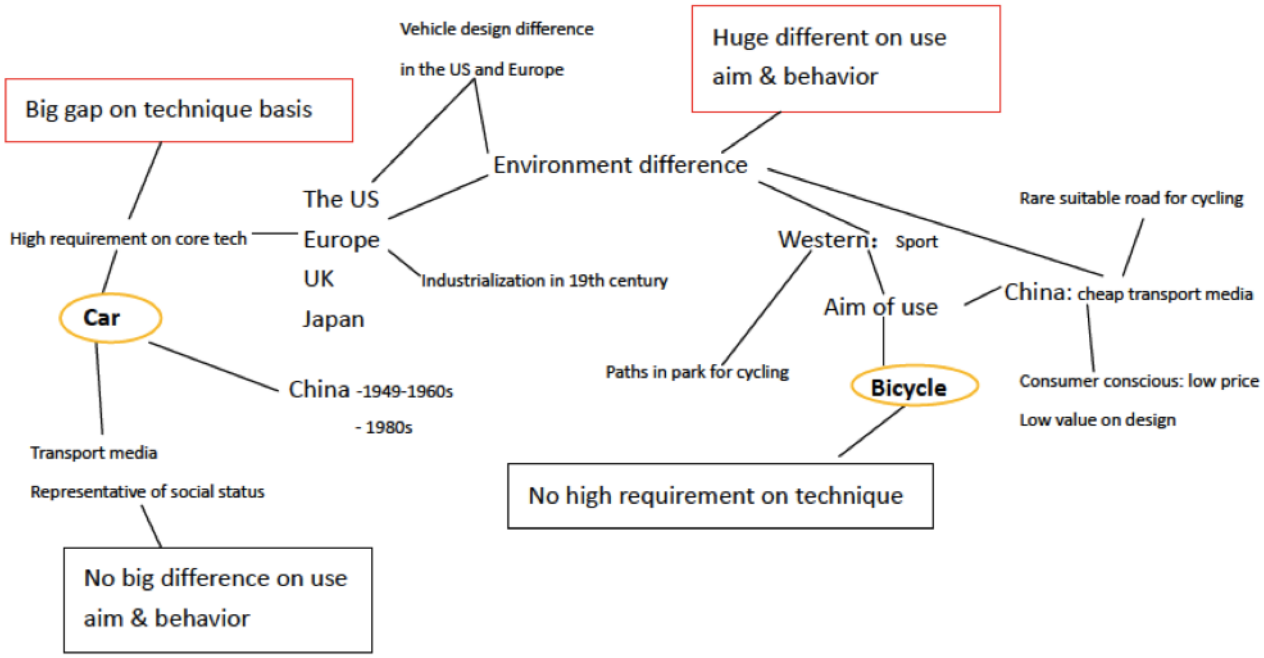
Mobile Phone Design in China

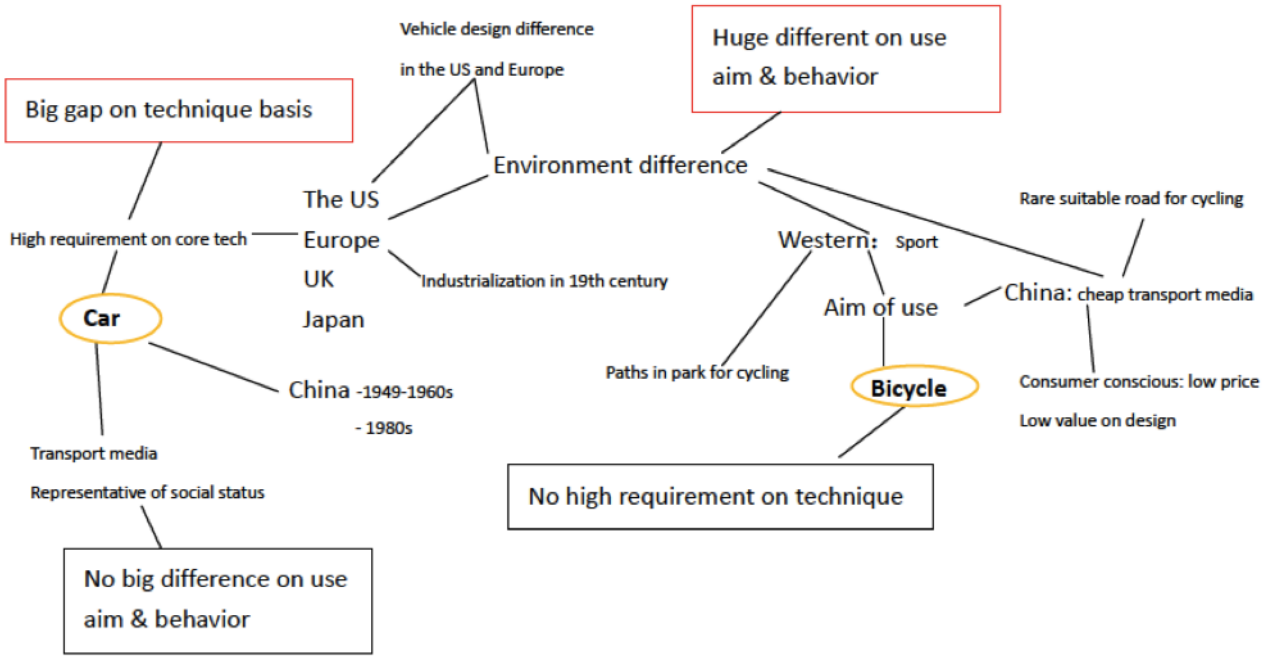
Influential Factors

Cheap price 90%+

Design facing to Chinese aesthetics 10%-


High-tech feeliing
simple color
Colorful
Retro-tech


Vehicle design difference
in the US and Europe
Huge different on use
aim & behavior
Big gap on technique basis
Environment difference
The US
Europe
UK
Japan
Industrialization in 19th century
High requirement on core tech
Car
China -1949-1960s
- 1980s
Transport media
Representative of social status
No big difference on use
aim & behavior
Rare suitable road for cycling
Western: Sport
China: cheap transport media
Aim of use
Paths in park for cycling
Bicycle
Consumer conscious: low price
Low value on design
No high requirement on technique



Relevant Questions to ask:

What is "high-tech"? –Technique content? Or user's feeling on design?
How can the high-tech products be accepted?
Rapid development and huge change took place in China in the last 20 years, how about the old generations accept the high-tech product?
Concepts: interaction, end users
Links with familiar staff (successful design cases: "Shan-zhai" mobile phone design in China, such as 54 mobile for elderly people, "Zen" phone for monks and Buddhists)
"Long-tail" effect on high-tech product?

Cultural transfer design: link with the unfamiliar high-tech product with familiar stuffs

6.3

The workshop for 'finding design points'

The initial workshop was with 15 intern design students from Beijing University of technology and science, who were separated into three groups and worked from the following briefs:

1 Mobile Development: Search and collect the documents on mobile

development since the appearance of the first mobile in 1983. Consider the factors that affected the mobile's development both directly and indirectly - social events, new technological influences, pop art and culture, and so on. Express this information visually. Through this team's work, I wanted to make explicit the different factors that impact the trend of mobile development, technology-centred or user-centred.

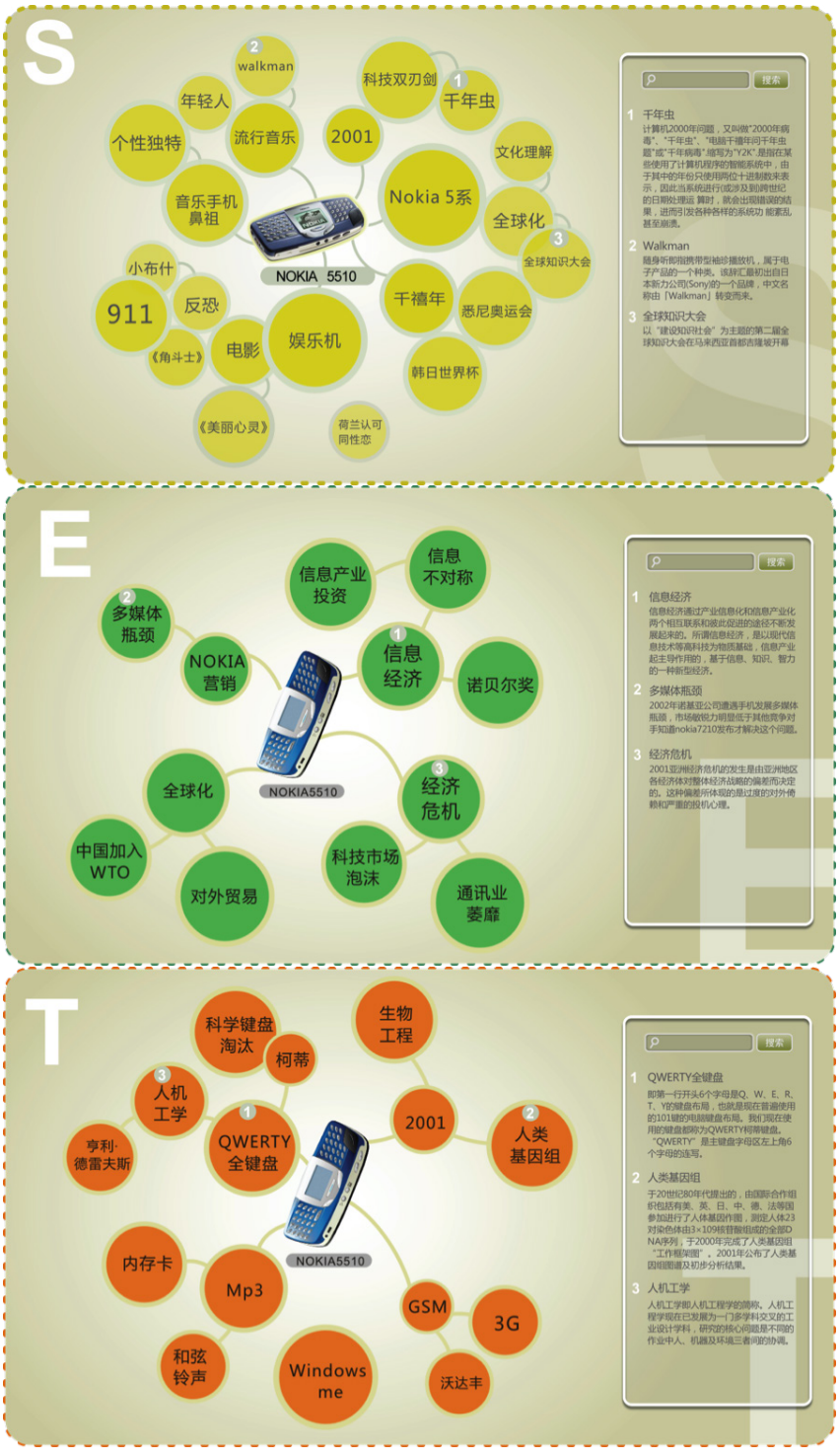
2 Narrative of Chinese users' experiences of technology products: Photograph and video to record users' experiences, then represent or create stories. Find the interest points and ask questions. Through the work of this team, I wanted to discover more interesting points in Chinese mobile users' experiences, as well as narrow down and specify my starting question.

3 Mobile Transfer: Without consideration of technological limitations, if the mobile existed at a specific era, what would it be like and what aims would it serve? Imagine, design, as well as giving some supporting reasons for your choices. Through this team, I attempted to indicate the links between mobile functions and its users' potential requirements because of their social context.

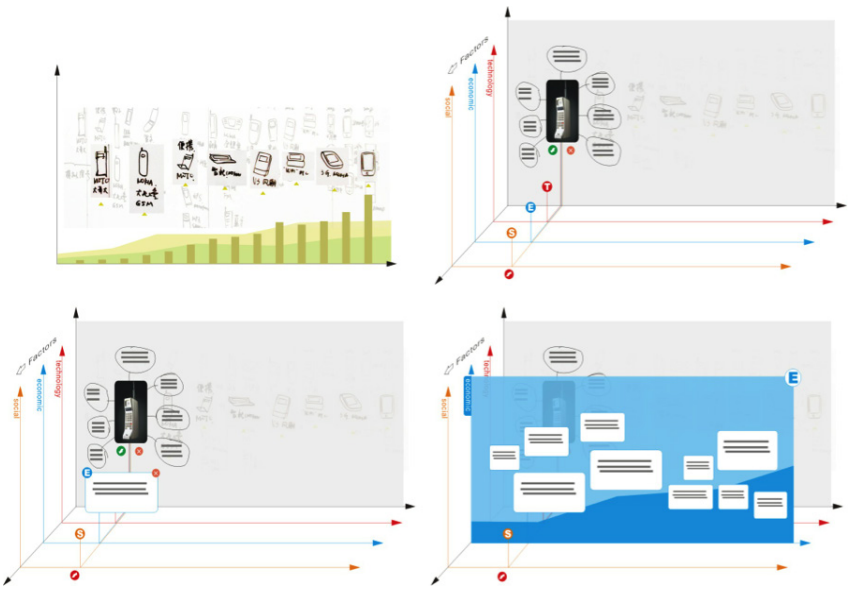
Figure 6.1
Industrial Design BA students from Beijing University of technology and science

Team 1

Team1 made an axis to show the factors that affected mobile development. This axis revealed that before 1996, with immature technology, the technological factor was the most influential factor for mobile design, reflecting that the mobile tended to be smaller, lighter and multi-functional at that time. The image of future technology in pop art was also slightly influential, but quite limited. Since 1997, the mobile appearances became various. The focus of mobile design moved from solving technological problems to better and more diverse appearances. In 2007, with the launch of iphone, the mobile interaction and user experience began to be highlighted.



6.2
Team 1: Mobile analysis examples through their surrounding society, economic and technology



6.3
Axis demo of the affective factors of mobile development

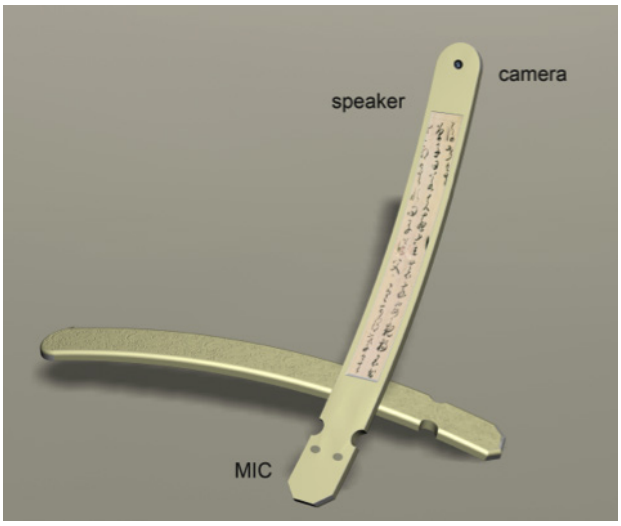
Team 2

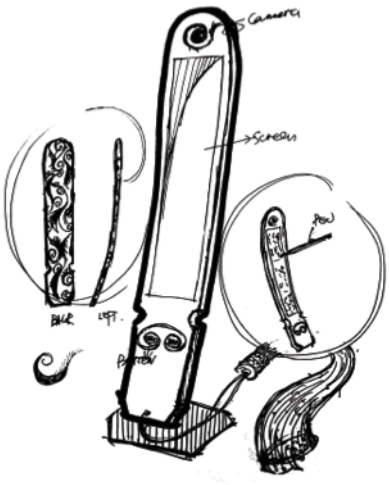
On the storyboard of Team 2, they highlighted two groups of people: the elderly and immigrant workers. They said they choose these two groups of users to observe was because they found more inadaptability when these two groups of people used technology products.

6.4
Photo shooting for the storyboards of the Chinese elderly

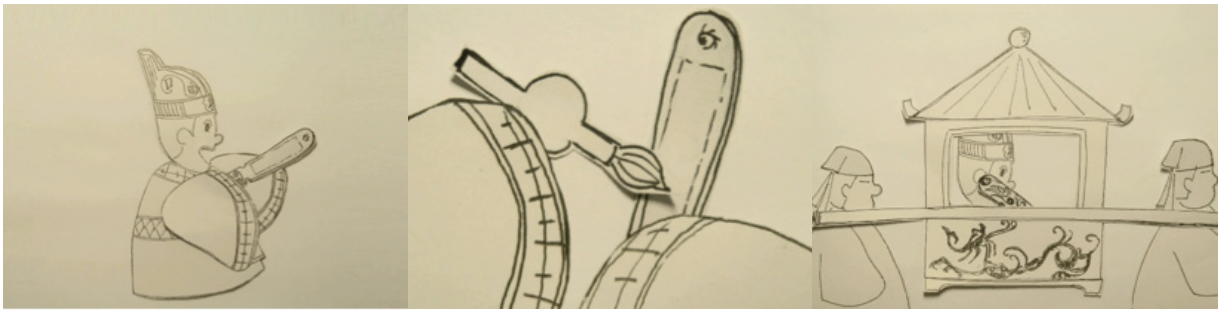
Team 3

6.5
Elements of Han Dynasty





6.6
Han Dynasty Smartphone design sketch and 3D model



6.7
Animation of Han Dynasty Smart-phone, using environment

This team designed a smart photo for the bureaucracy in China's Han dynasty (25 A.D – 220 A.D), and devised an animation to describe its use.

6.4

Chinese elderly interviews

Focus group: empty nest old, Interviewee: Mr. Zhang Date 24th Aug 2011

The follows come from interview with Mr. Zhang (Z), from Hangzhou, China, retired, whose son worked at Germany. After some ice breaking questions, the interviewer (WY) shifted to the 'official' topic of the interview – how do you use the technology products? What are the purposes?

The conversations are recorded in video. It is original in Chinese, translated into English as follow:

(Recorded in a 5 min video)

WY: how you contact with your family members, your son?

Z: We contact through mobile. He used his phone in the foreign to call us. Call my mobile in China

WY: Only though phone?

Z: [m..] We don't understand computer. It should be more convenient if we know how to use computer.

WY: through Computer, Internet can be much cheaper

Z: Yes, it's much cheaper, a lot. Only 0.10 yuan RMB per min through internet mobile card.

(We all know Chinese mobile call oversea is very expensive)

WY: So, it's normally he calls you?

Z: Yes, he calls us. If we call him, when the call connected, he found that the call came from China; he would hang-up and then called back.

WY: Well, that's interesting

Z: We call him is very expensive, 3.6 yuan per min

.....

WJ: but it's not so convenient when you contact him firstly, depends on if he has time to call you back or not

Z: It's continent. We talk one or two times every week. My son is very

filial.
WY: It's nice.
Yan Lu (Recorder, project partner):how about the photos? Does he sometimes send photos to you?
Z: Photos... We visited him at Germany for three months. His life there is very good. His company ... [a talk about his son's work and life at Germany]
WY: wow, it sounds great. Uh? He sends photos to you?
Z: Photos. Yes, of course. He sent to the computer [through internet] we received and printed.
YL: So you don't get used to see the photos on computer?
Z: he sent photos on website, need to be online
WY: through email
Z: yes, through email, then we print the photos after he sent
WY: printed the photos out?
Z: yes
YL: that's because you don't get used to look photos on computer?
Z: No. I have two sons. My other son is in Wenzhou [another city in China]. He printed the photos (online from Germany) and sent to us by mail, because I don't have a computer.

Mr. Zhang invited us to his home and showed us his photos that were sent from his son at Germany

WY: ? why you don't have a computer? Can't use it?
Z: I don't understand how to use it. Just know a little bit.
...

We also interviewed Mr. Li, who lived together with his son. All his family members were living in Hangzhou. He had a computer at home. He only used it for watching online TV. He didn't have a mobile. He called his family or friends using his land phone. His daily life is very regular:

Get up and took exercises in the park

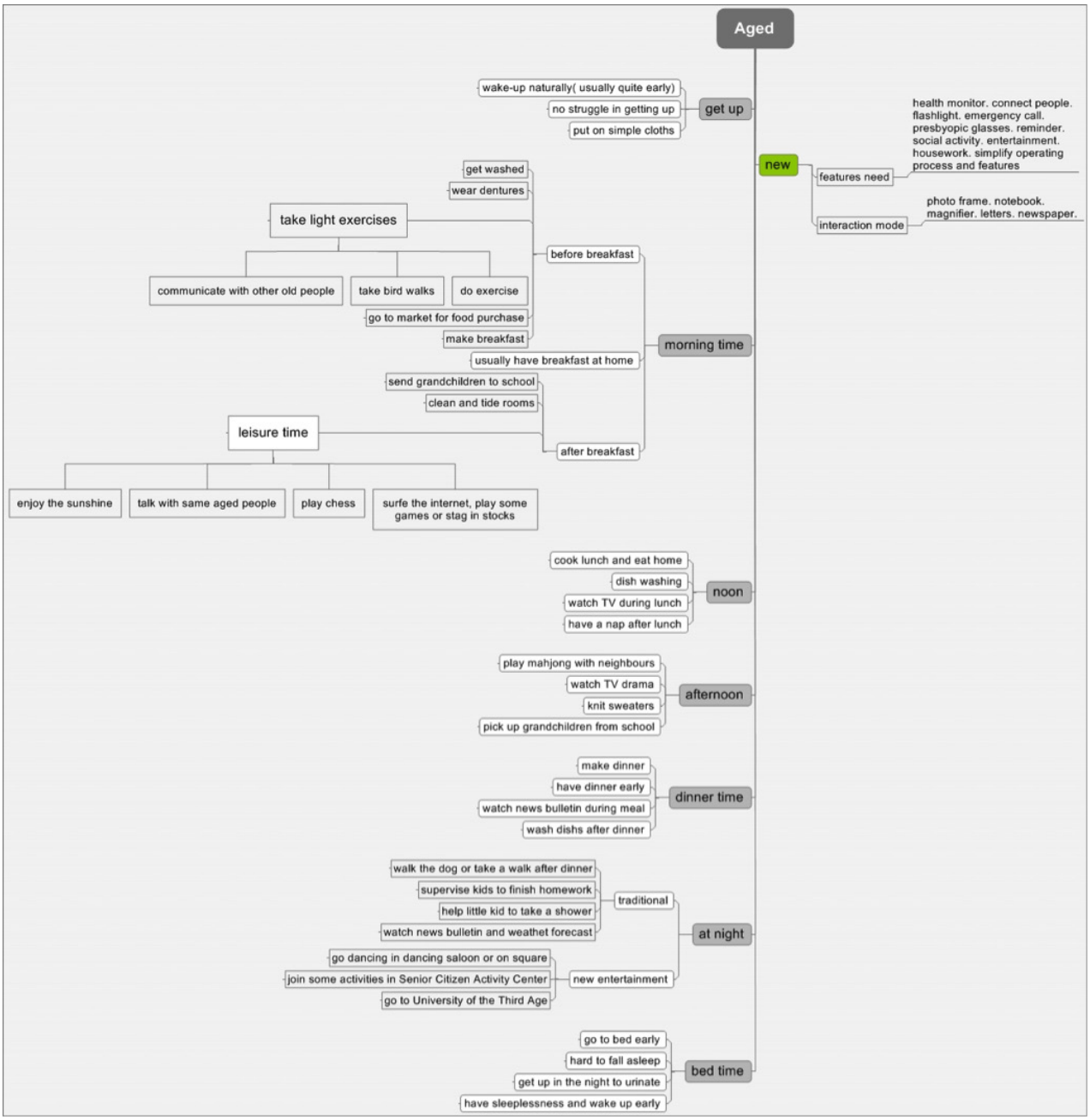
Spend morning on reading in the library of 'the elderly family'
Lunch break
Watch TV in the afternoon

He was interested in healthy care. He though he has no requirement on any technology product.

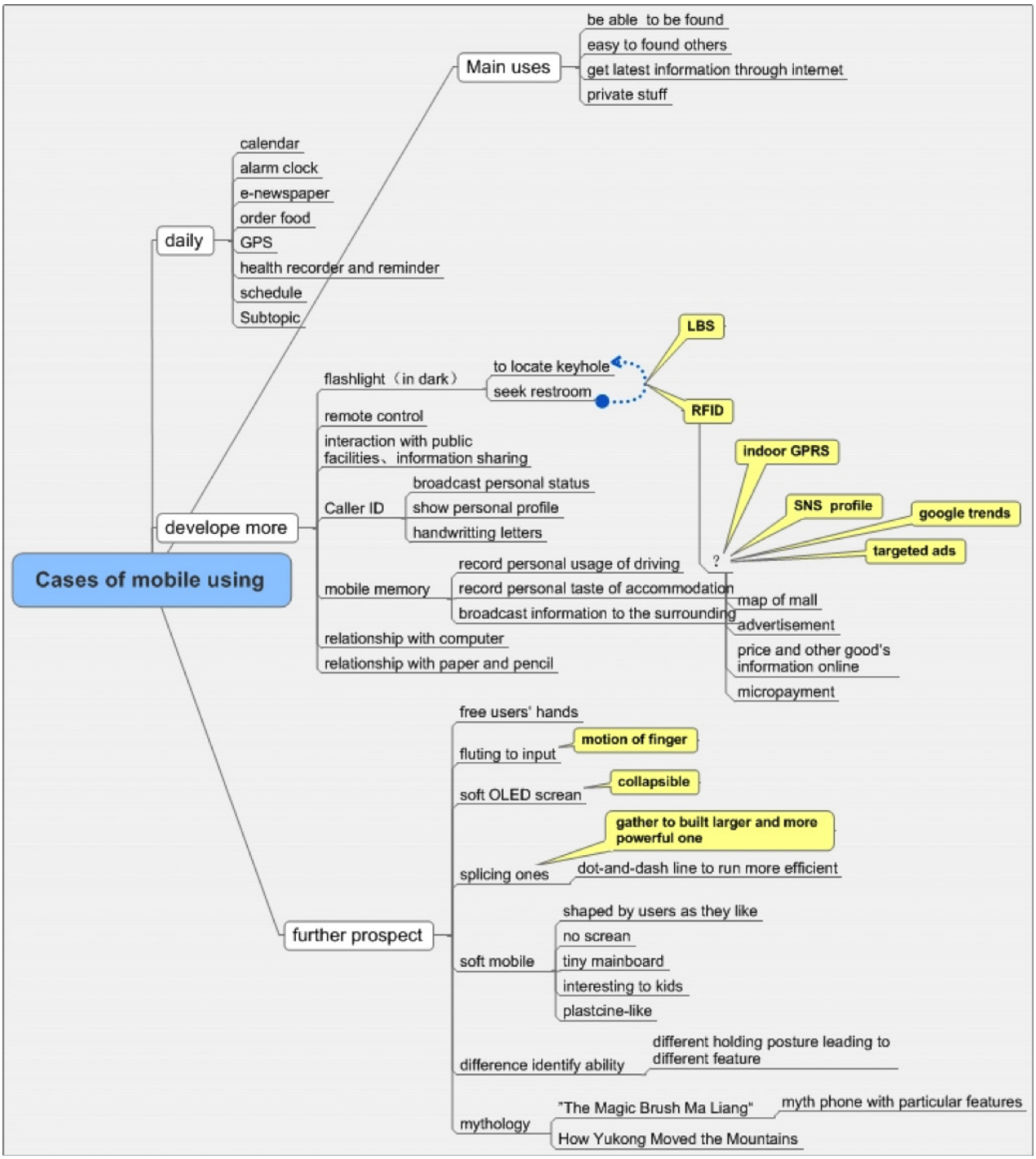
(This interview was recorded in a 7 min video)

6.5

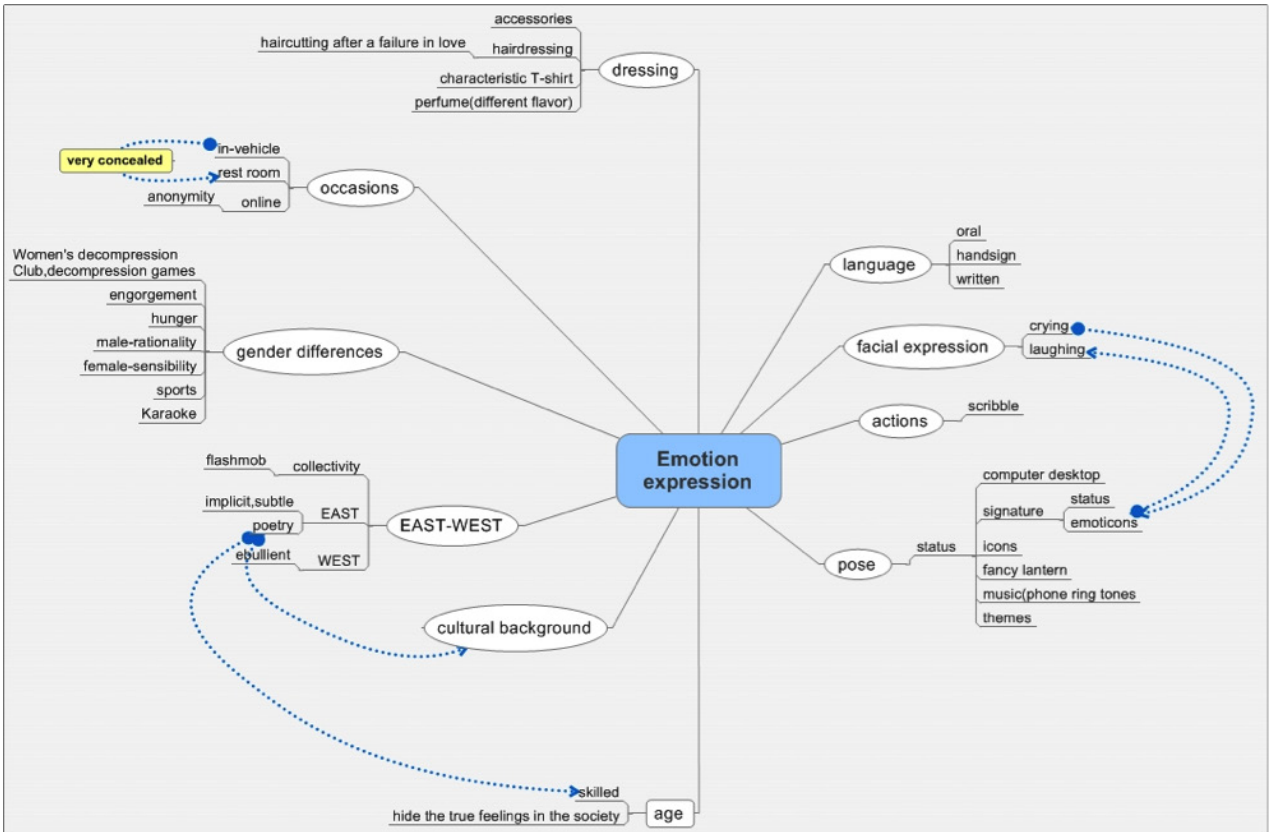
Samples of brainstorming maps



6.8
Brainstorm of Chinese elderly daily life trail



6.9
Brainstorm of the mobile function and use, 2010 summer



6.10
Brainstorm of emotion expressions

6.6

Interview of Alibaba designers about their concept design 'nostalgic Pop-up apps' for the Chinese elderly

Design concept:

This is a pop-up book design to guide Chinese activity older users to use their smart phone, for bridging the generational communication gap.

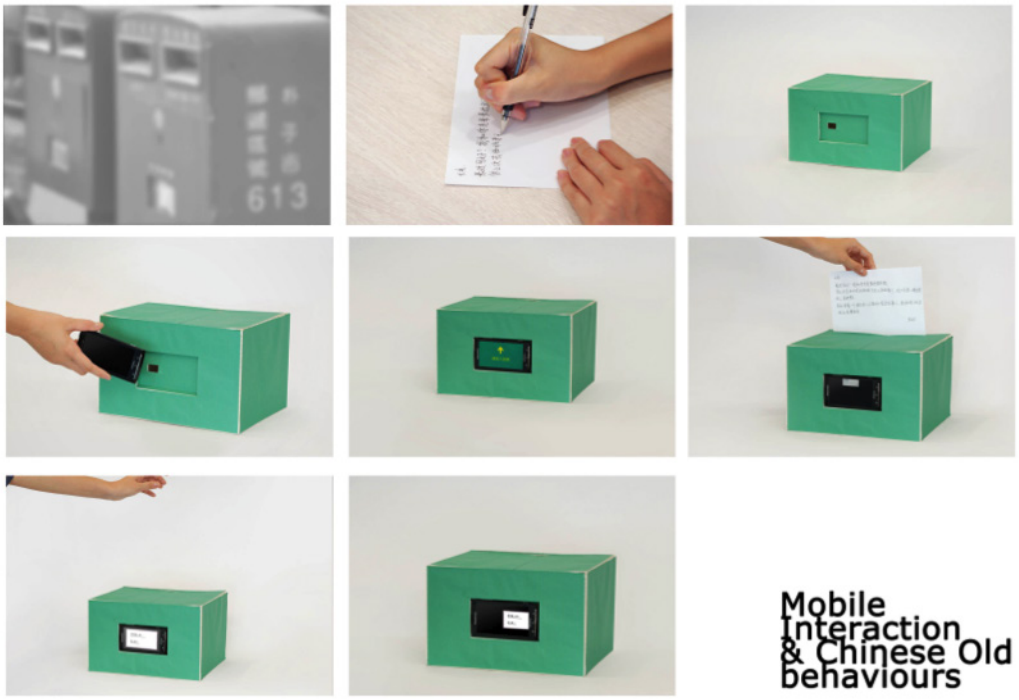
There are four pages in this book, which are pop-upped mailbox, envelop, TV and album, representing the functions of sending email, email box, videophone, and SNS album (e.g. Facebook album).

Mailbox: When put the phone onto the box, the phone's camera recognizes the barcode in the box automatically. On the screen, it prompts to insert the letter. Then the camera takes the photo of letter and sends to the contact directly as a jpg file.

Envelop: Put the phone on this pop-upped envelope, it jumps into the inbox directly.

TV: This links Skype/G-Talk videophone.

Album: Chinese young people use "Renren" to share personal information as Facebook. When put the phone on pop-upped album, it can guide the older people to their children's Renren album.


Mobile
Interaction
& Chinese Old
behaviours


Mobile
Interaction
& Chinese Old
behaviours

Alibaba Designers: Guopeng liang, Ji Zhao, Aug. 2010 (open-ended interviews, reorganized and translated from Chinese)

What is the challenge of this concept design?

In china, there are more than 100 million older people are "empty nest". For those elderly, the communication with their children seems a very important part in their daily life. Meanwhile, as the huge change in China in the past 30 years, the communication media in different generations in China today is quite different. It is very hard for the Chinese older people to get use to the young people's communication way, for instance, SNS, email, Skype, etc. It is not only because the technology adaption difficulty, but such kind of interaction way is unacquainted for them.

What makes this a good design solution?

This experimental design is an output of a three months collaborating research on Chinese older people's lifestyle and their communication ways with the young generation. Based on workshops, interviews, observation and case studies, we found this simple yet pragmatic design solution to solve the problem. In this pop-up book, we try to link the most useful functions in smart phone with the Chinese older people's familiar stuff, in order to make the interaction of smart phone as simple as possible for them. Through this, they might find the interest of using "young guys' stuff", improve their communication with their children, as well as make their life more independently. Also we found that, in China, the technology relevant products are almost introduced by the young people to the elderly. We made this design in an activity and lovely way, which is attractive for the young people firstly. We expect this pop-up will be introduced by the young to their parents or grandparents, and it is a very personal communication tool. The blank part of the book is left for writing the notice when the young people first time to teach how to use it. It is another potential part to in this design to add the generational communication.

What is your overview of the design for the Chinese elderly research-design project? You think the process is useful to you? I think it is most useful in terms of being able to get the perspective of the Chinese social-cultural factors to design – on the level of concept and methods from design research to practice. Being aware of the complexity, contradictions and challenges of the Chinese users' socio-economic conditions, but also looking out for opportunities from this situation.

When you look back the research process, what stand out in your memory? When we chat with the elderly, they complained that the manufactories need to understand the lifestyle of older people. It also presented an opportunity for designers to intervene through a co-design process in which the design solution perhaps an alternative way of allowing products be flexibly arranged for both the old and young.

What if anything did you learn through this project? I rethink of design as a vessel for consumerism or lifestyle appeal toward a more culturally, socially and environmentally sustainable model, rather than a consumer good. There is a huge challenge in disseminating this agenda across, from the level of policy to people's everyday habits, especially for our interaction designers working in such a technology company. I think in China, where design is very pragmatic, marketing guided, that calls for greater network of exchanges or platforms for educating and communicating these priorities, as well as the development of projects of such type to gather a strong evidence for the possibilities of change.

6.7

Tsinghua design workshop: Design for the Chinese elderly

PRE-WORKSHOP ICE-BREAKING PRESENTATION - 'THE INTEGRATION OF CHINESE CULTURAL ELEMENTS AND HI-TECH PRODUCT DESIGN THROUGH CULTURAL TRANSFER AS AN INDUSTRIAL DESIGN METHODOLOGY - WEN JIN YAO

How social researchers have classified 'cultural transfer':

Tangible physical and material culture – pattern, figure, etc.
Social and cultural behaviour transfer
Intellectual, ideation, concept or philosophy transfer
Projects that exercised the different forms of 'cultural transfer'

1 On the level of tangible physical and material culture:
Craft workshop between GoGlobal IDE RCA, Tsinghua design students and Craftsmen.
Craftsmen with a background in Chinese craft such as paper cut, calligraphy, etc. were invited to teach the design students from Tsinghua and RCA.

2 On the level of social and cultural behaviour transfer:
Mobile interaction design facing Chinese users through Alibaba cloud computing project, in which I worked with university students, during a summer school in Alibaba's office
The goal was to ask how can the Chinese culture be transferred into design by building a link between a new high-tech product along with what Chinese users re familiar with so as to make them better accept a new product?

Team 1 the mobile interaction department – investigates different influential socio-cultural factors.

Team 2 investigates the Chinese user experiences through narrative, story-telling (photos + videos) techniques to find out the habits and lifestyle of the elderly and migrant worker working in the city and how they use their mobile phones.

Team 3 investigates the notion of cultural transfer on the level of a form that resembles a Han dynasty typologies.

This was followed with a brainstorming session raising the question of how do the Chinese express our emotions in our daily lives? What are our daily lifestyle habits? What is the mobile user/functional needs?

We realize that there is a challenge in integrating Chinese traditional habits with universal mobile interaction design.

We also employed other research methods such as interviews (talking to parent's children and elderly living on their own 'empty nest'). We found out that for those who are living with children, the elderly don't need to communicate via the phone, but those away would need to communicate with their children. There is also a generation gap on the way people communicate – children use emails, they share photos on web platforms such renren.com, and they text message using pinyin, but their older parents don't know any of that. We also took note of the types of entertainment that older people engage in i.e. parks, playing musical instruments, simple exercises, etc.

So we concluded that in one of our case studies on elderly mobile phone with a photo-sharing function, we decided to keep the user interface as simple as possible, and that its functions must be linked to already familiar things, and that these new products should be introduced by the young to the old. So we came up with samples such as using the traditional album interface as a photo-sharing function.

A summary of responses

This presentation raises the question of what it means to design for China, for users in China, or for the Chinese context as echoed by the other presentations. The classification of the word 'cultural transfer' onto the level of tangible physical and material features, socio-cultural behaviors, and intellectual ideology is a necessary breakdown and the user-investigation has revealed how each of the 3 factors can be important criteria for the user group. Some user group certainly prefer the presence of Chinese traditional symbols or typologies that resonate certain Chinese philosophies but there is also the question of whether such a concern is as necessary as the criteria of socio-cultural behaviours? If the design empathically takes into account of such a factor, wouldn't that necessarily lead to a usable, relevant and valuable mobile phone? And if it does, does that mean it's not necessarily a cultural strategy of designing, but more of a contextual one?

And as much as it seems very natural to investigate on cultural factors or cultural transfer in mobile design, one wonders what would have triggered such a need, especially when mobile phones have been imported and used in China for at least the past 10 years? Why wasn't this set of concerns been raised before, if it hasn't been? It will be interesting either from the manufacturer or user point of views to raise some of the specific problems that raised such a need. The presentation mentioned how existing phones don't match specific Chinese lifestyle habit – perhaps it would have been more helpful to know its specific problems rather than essential

a Chinese-friendly design.

Workshop steps

Two Directions: Mobile and SNS

Design aims:

Compare traditional / modern habits

Compare different mode manner, logic

Search communication ways

Develop concepts about UI, interaction, DP, system

Timetable:

Day1

3:00-4:00pm Brief to students

Day2

2:00-4:30pm Communication with older people

4:30-5:00pm Brainstorm

5:00-5:30pm discussion, find the interesting design focuses

After 5:30pm teamwork

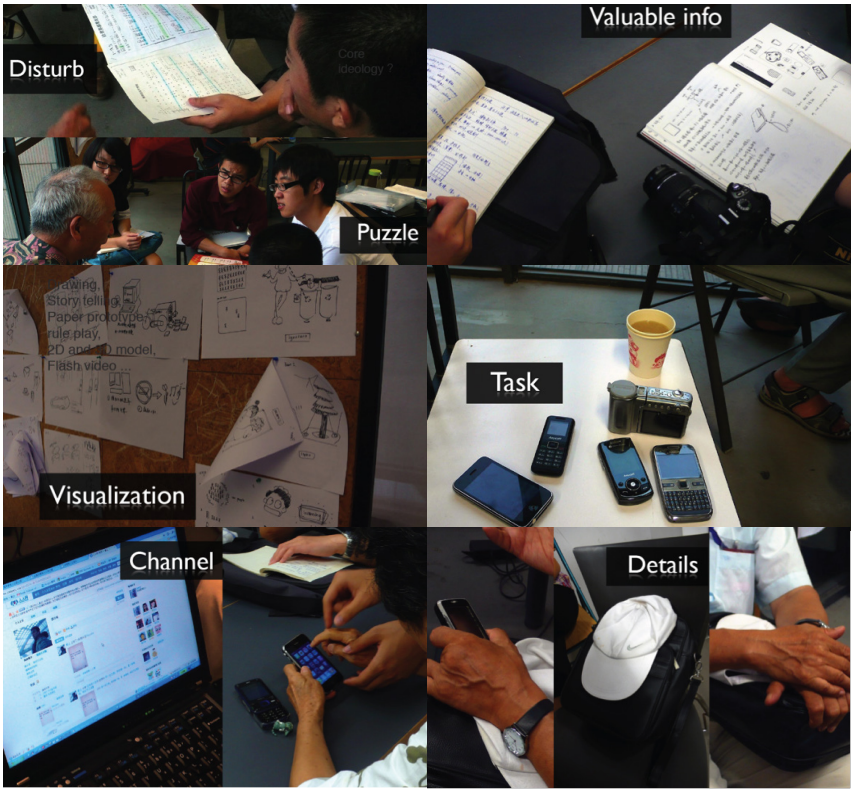
Day3

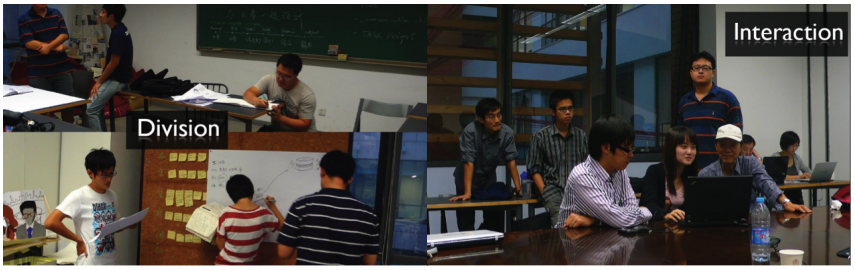
9:00-12:00am Sharing, feedbacks

1:00-4:00pm Design refining

4:00-5:30pm Presentation

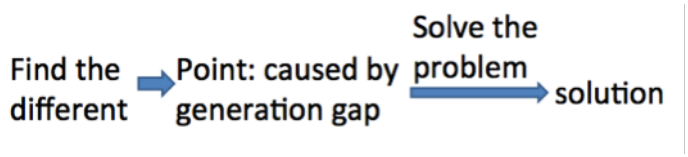
Workshop Questions:

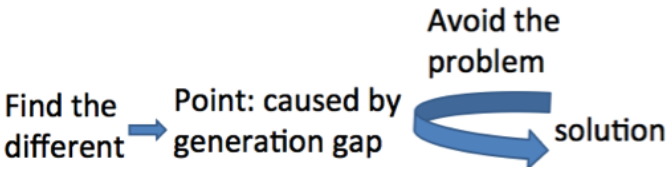




List the behavioural differences between the older people and young.
Why there are such differences?
These behavioural differences cause what differences in their communicational ways?
In today's design, is there any sample that reflects such difference and or solves the problem of 'gap'?
How to solve the communicational gap between the traditional and new through design?

Two different design models
Model 1:
Model 2:

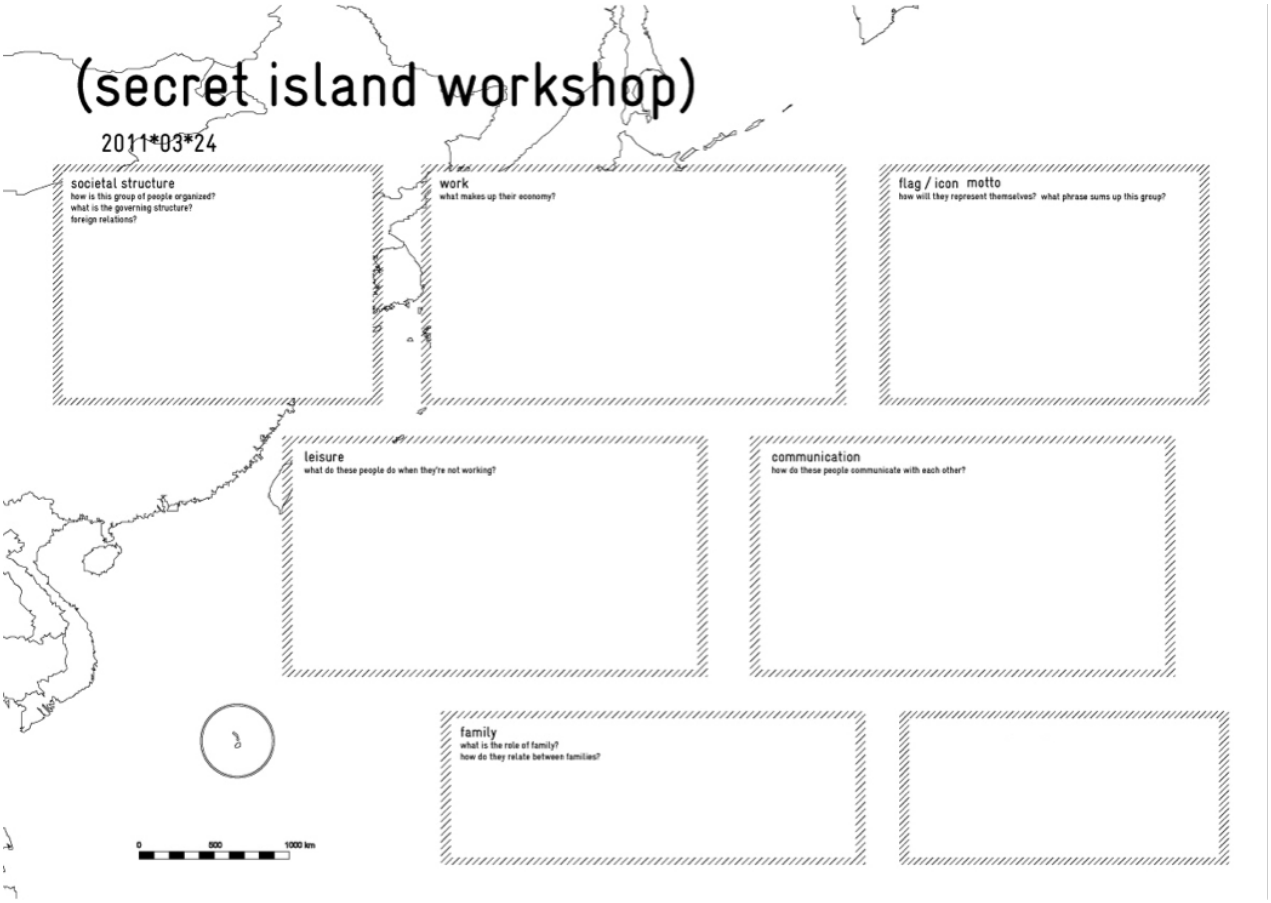




Appendix 7:
Sketches of Top-Secret Islands

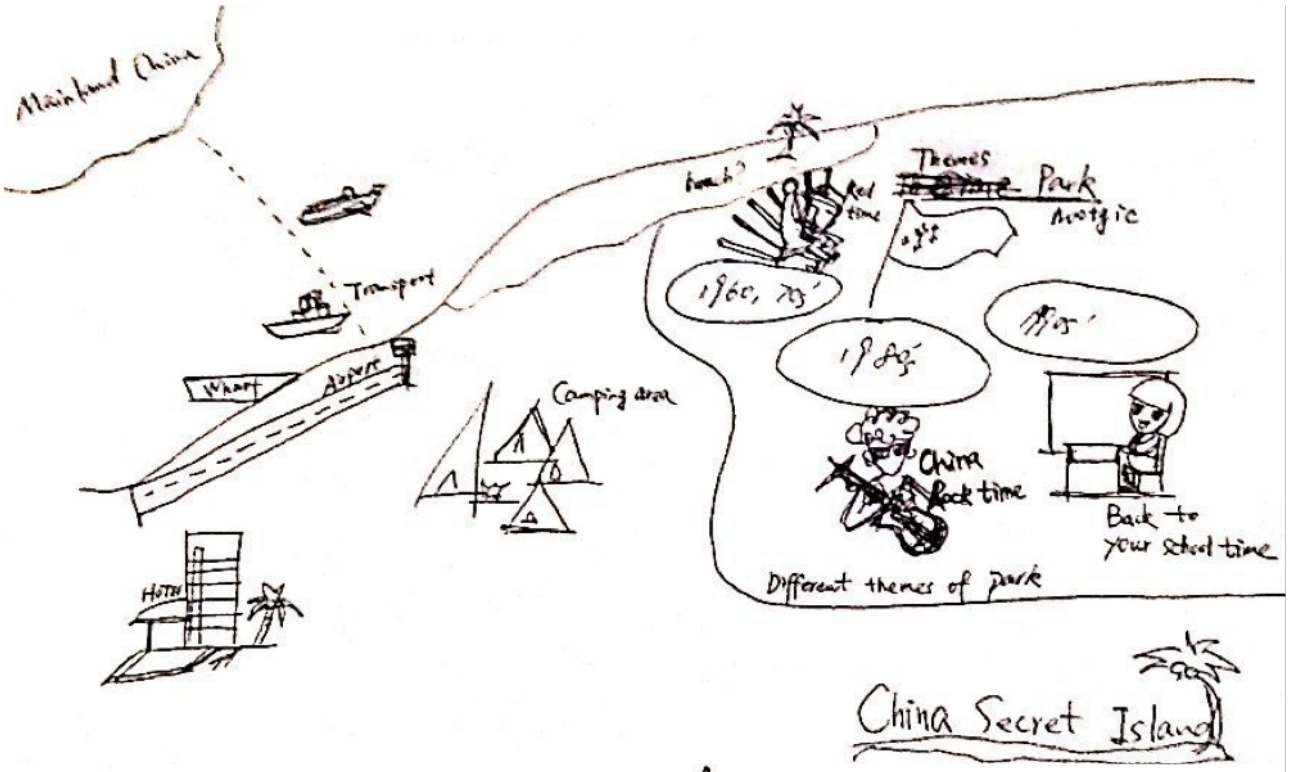
7.1

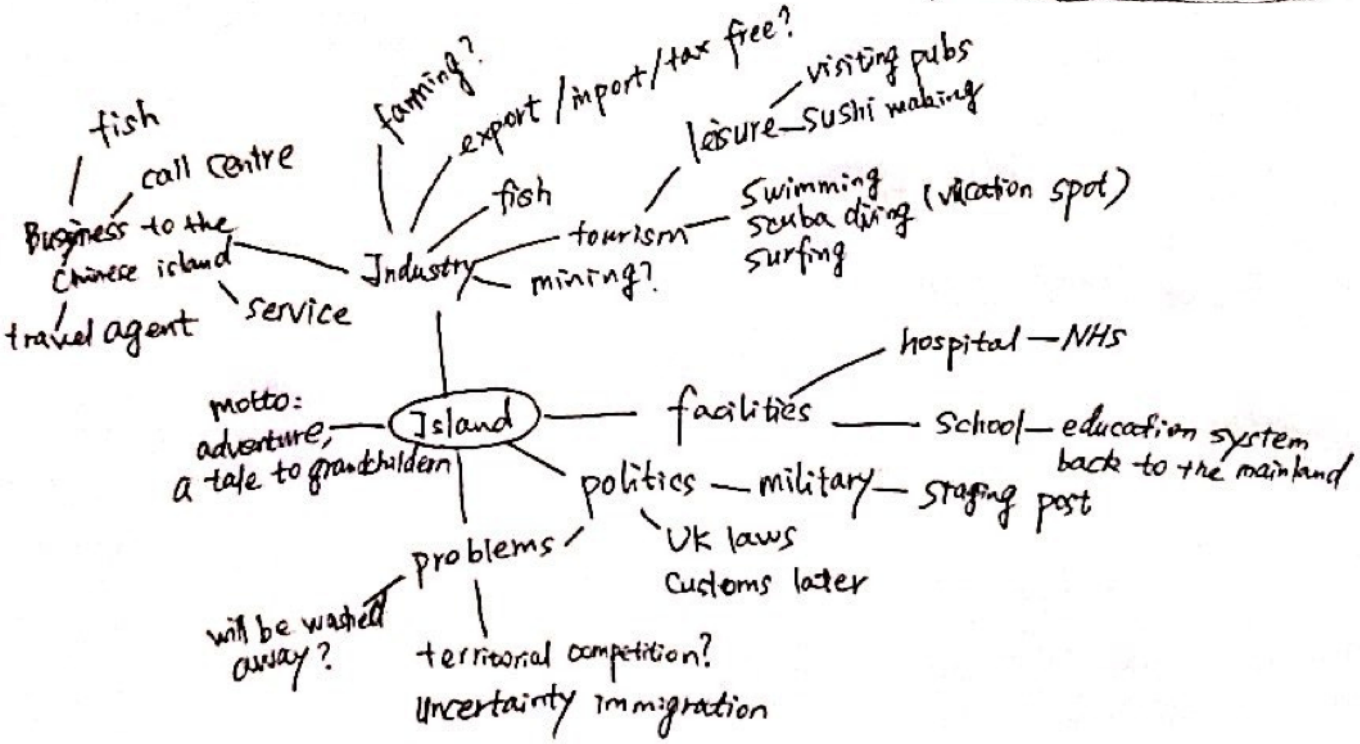
Workshop information form for design a secret island

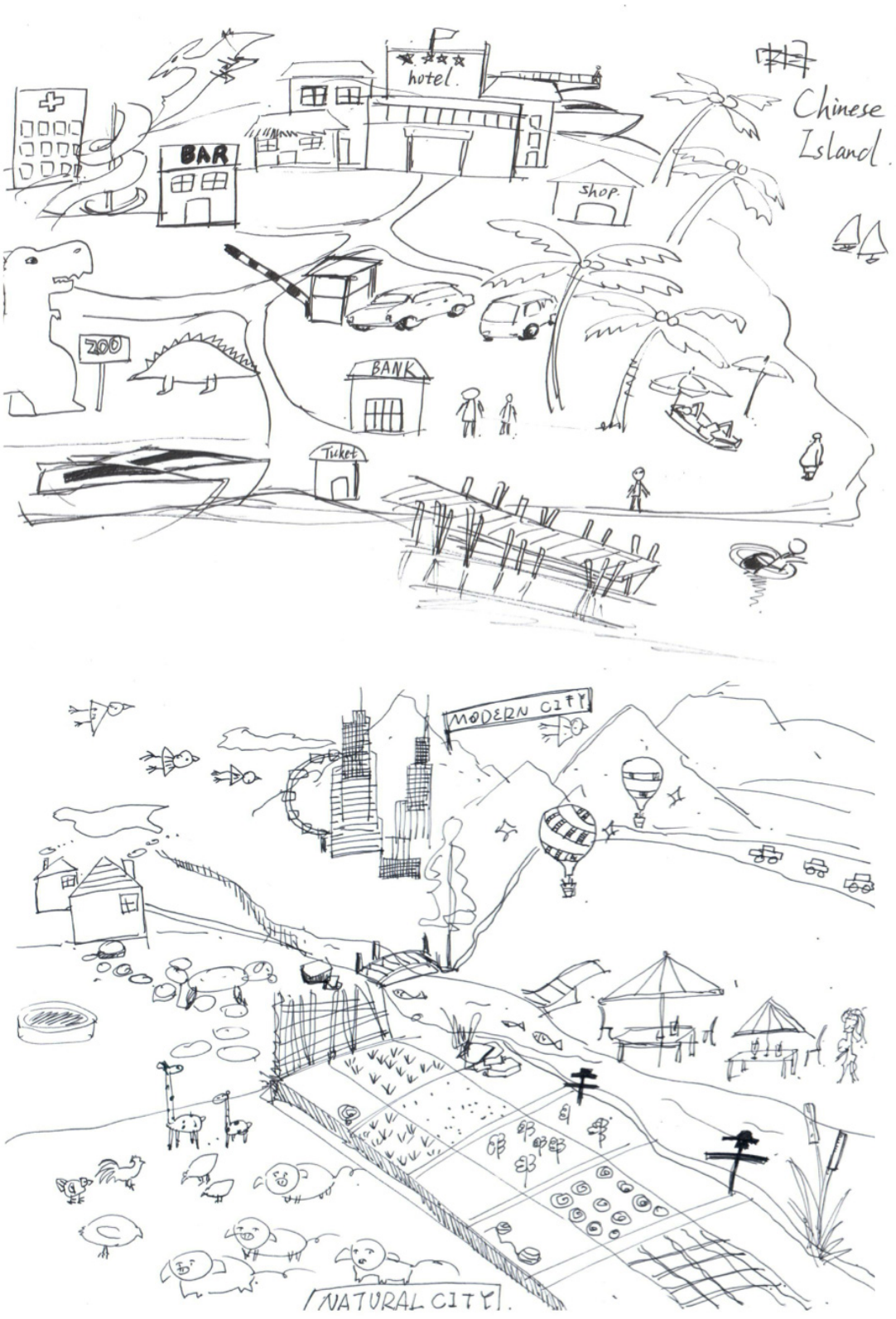


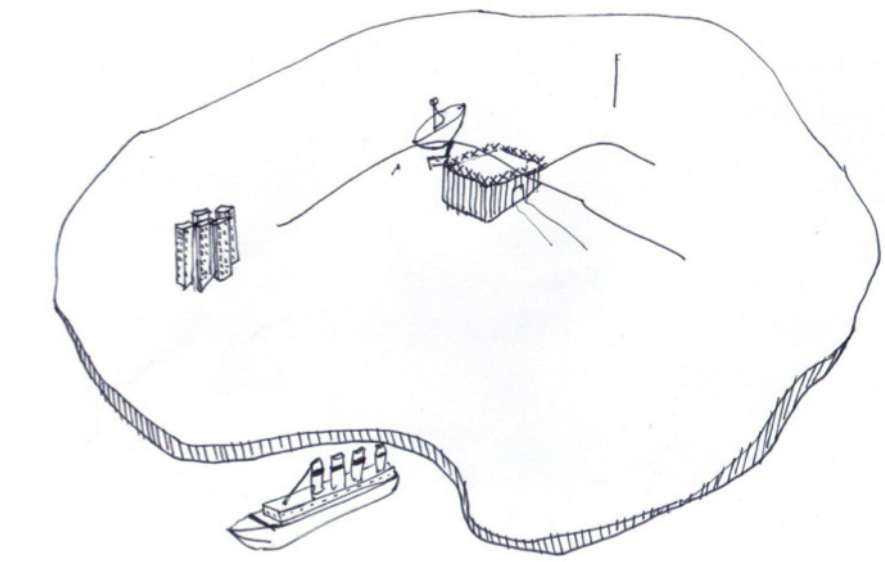
7.2

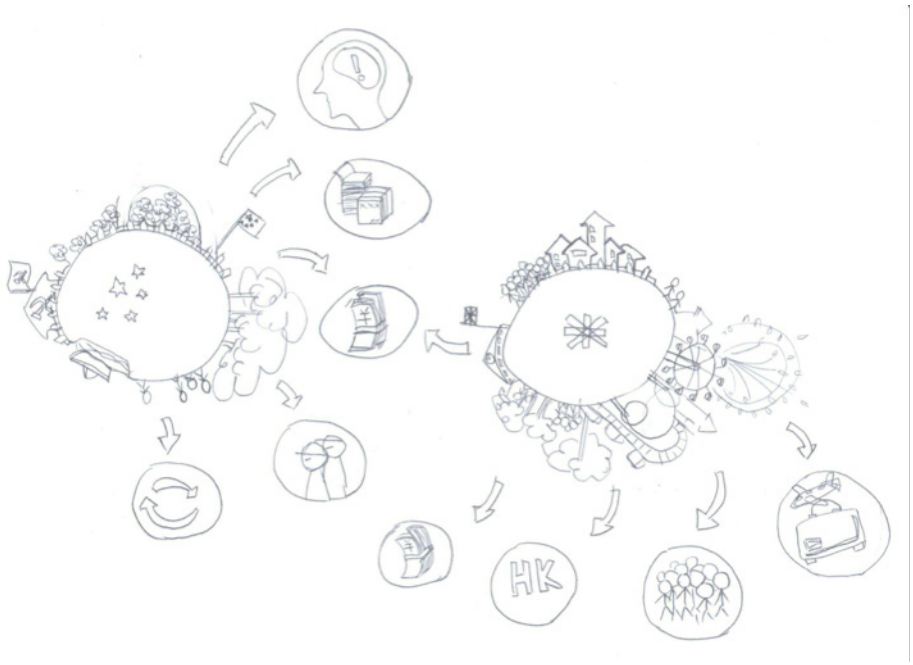
Sketch of the secret island concepts

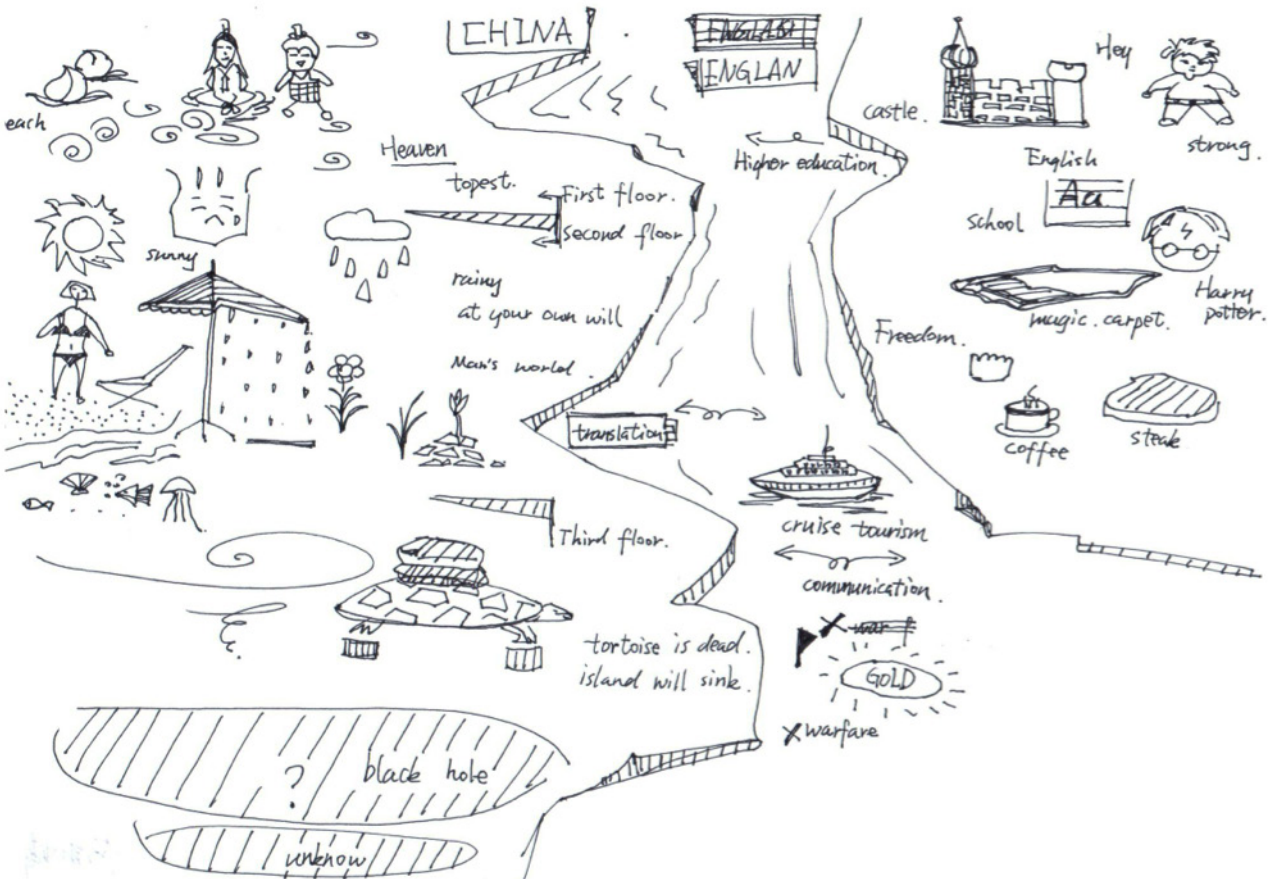


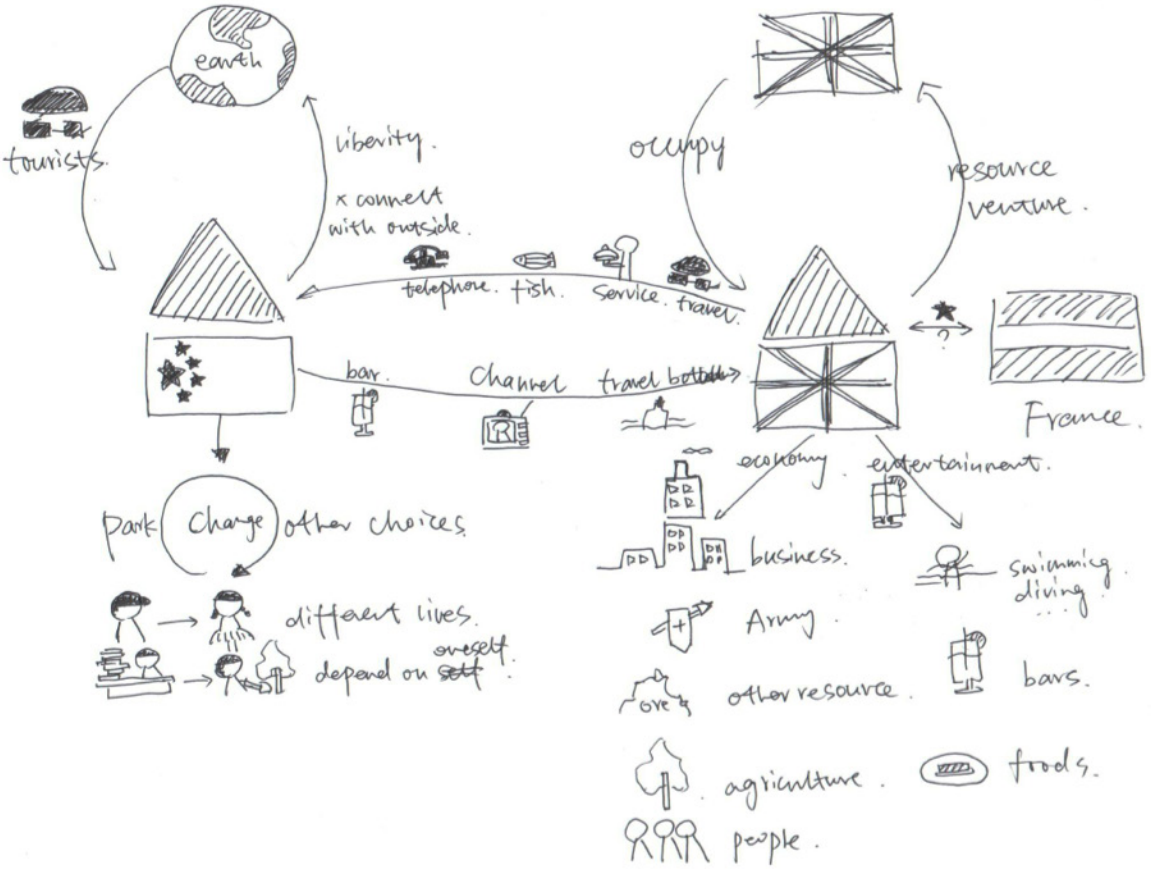


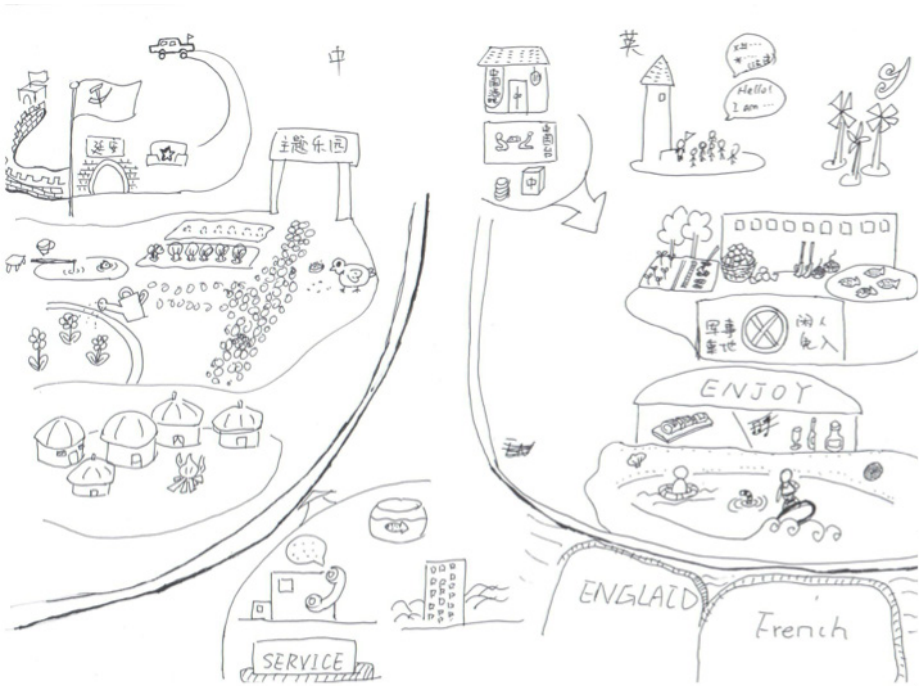

hotel.
Chinese Island.
BAR
shop.
ZOO
BANK
Ticket
MODERN CITY
NATURAL CITY.




HK


CHINA
ENGLAN
Heaven
topest.
First floor.
second floor
Higher education.
castle.
Hey
strong.
English
School
Harry potter.
magic. carpet.
Freedom.
coffee
steak
each
sunny
raining
at your own will
Man's world.
translation
Third floor.
cruise tourism
communication.
tortoise is dead.
island will sink.
GOLD
warfare
?
black hole
unknow


earth
tourists
liberity.
× connect with outside.
telephone. fish. Service. travel.
bar.
Channel
travel bottle
occupy
resource venture.
France.
economy
entertainment.
business.
Army.
other resource.
agriculture.
people.
swimming diving
bars.
foods.
Park
Change
other choices
different lives.
depend on oneself.


中
主题乐园
英
Hello! I am ...
ENJOY
SERVICE
ENGLAND
French

Appendix 8:
Smart dating project documents

8.1

Project proposal to Nokia Research Centre (NRC) Shenzhen

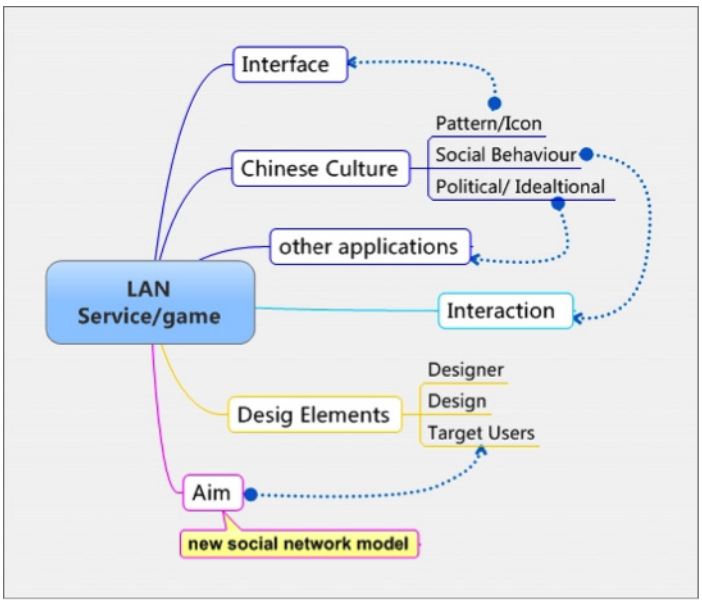
This project aims to investigate a useable LAN system facing the Chinese young users. It focuses on stimulating new virtual social activities for young Chinese. Through a LAN mobile network technology, create friendly mixed reality communication or social activity in virtual environments for Smartphone users in local areas.

For instance, café is becoming a popular place for Chinese young people to talk with friends or stay alone to relax. With the collaboration of a café shop, we can install a LAN indoor positioning system in the shop, building this mobile orientation system. With joining this service/game, users in the shop can see the virtual animation characters on mobile screens, which corresponds their real locations. Through this, users can communicate or play games in Smartphone virtual environment with others in this area.

The ideal LAN environment can be in café, tube, or bar. It might be open more opportunities for young people to know new friends or find a romantic relationship, especially for those shame and unsocial ones.

What is more, based on this platform, a social network system can be developed. It can include the information of partner areas (where install this LAN orientation service), series of activities and games, or live LAN game competitions on big LED screens at public places, etc.

Meanwhile, as this is for Chinese user, we hope it can include and reflect the Chinese cultural elements, no matter on its interface design or interactivity ways.



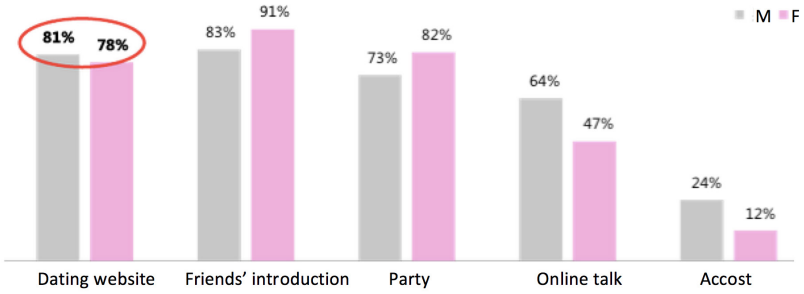
Statistics about Chinese dating

Jiayuan.com is a cooperative partner of this project. The following quantitative data about Chinese youth dating attitude refers to their 'Report of Chinese dating and marriage 2011-2012'. This report based on questionnaire that collected from 75,185 cases, including different ages, social incomes Chinese people. This offers a general view about Chinese peoples attitude about online/smart dating. (the following is translated from Chinese)

About 80% interviews can accept dating online through website

Females prefer the traditional ways, through the introductions from family or friends, or on
parties

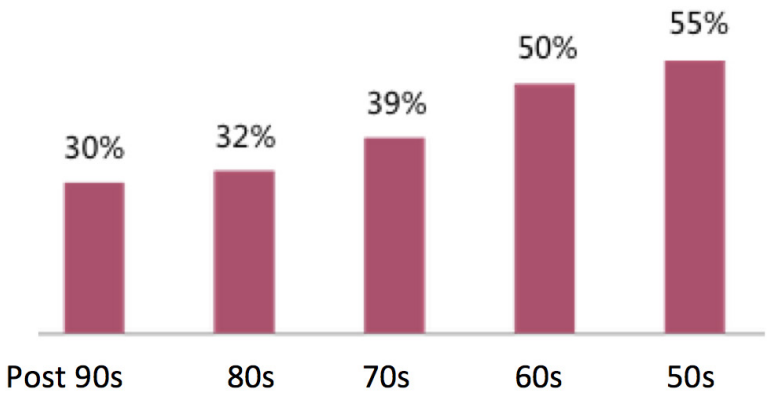
Male more easily accept develop a dating through online talk (QQ, MSN), or accost



Younger people can more accept the dating without knowing the other's identity information

Agreement rate about 'must check identity at the first dating'

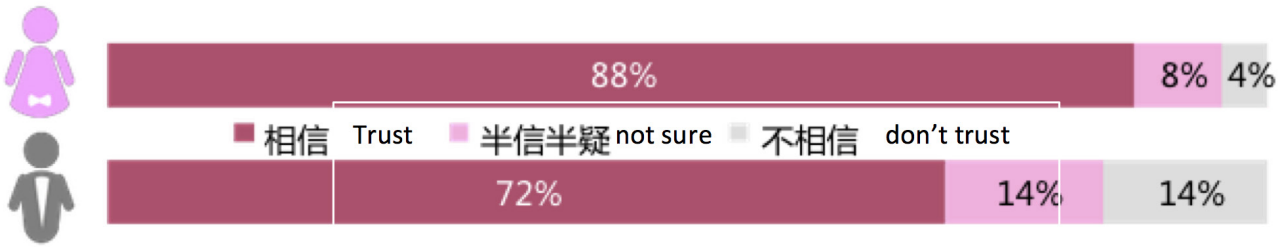
Q: Can you accept to check the ID when your first date with somebody who you know online?



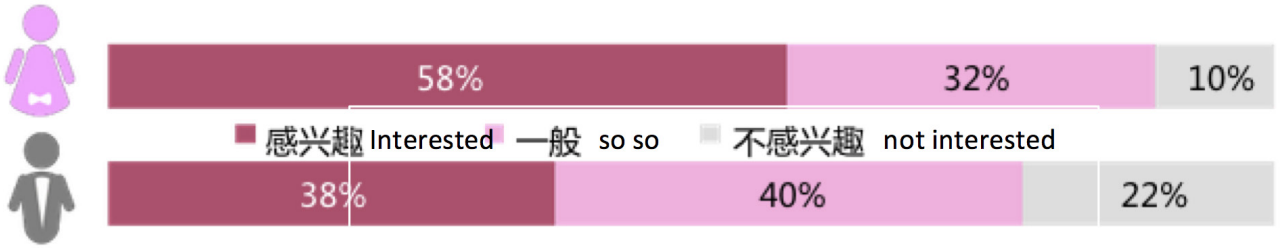
Seven main reasons causing a single statement

The reason	A typical idea
Can't understand the opposite sex	I don't know what he/she is thinking, has interest on me or not
Negative	Don't want to chase somebody. Be afraid to be refused
Self-centred	Deeply feel nobody really understand me. It's difficult to find someone who is really my cup of tea.
Hesitating	Look back now, I feel I missed a lot of chance
Communication difficulty	What to talk in a dating?
Confused	I feel frustrating when dealing with the problems in a relationship
No target	I can't figure out my ideal lover

Do you trust the words from the experts of relationship?



Are you interested in reading the relationship books?



8.2

Smart dating design storyboard

在相亲 party 中，当害羞的你遇到心仪的 ta，会如何表示呢？会因为怕被拒绝，而不敢主动吗？下载 smartdating 手机应用，来参加我们的 smartdating party 吧！
In the dating party, when you meet a right person you want to talk with, did you ever face an awkward situation on how to begin the first step?
Try "smartdating" mobile App and take part into our party.

让我们来看看他们的 smart dating 故事吧
只要上网注册一下，下载 smart dating 应用到手机，就可以来参加 smart dating 相亲 party 了。
Let's have a look these following "smartdating" Scenarios.
Before the party, quick register and download the App to your mobile.

下面是小丽和小令的故事
当小丽在相亲 party 中看到小令时，就在用户列表中加小令为关注。用户列表是根据其他用户离使用者的距离由远到近排序的。
The first story is about Lili and Wang.
Lili add a special on Wang's name at the user list when she first see him in the dating party.

回到座位后，小丽查看了小令的资料。朋友说："果然是你的菜哦，主动点吧"。于是小丽在小令的用户页面中选择"戳 ta 一下"和小令打了个招呼，紧接着有在礼物功能中选择了一杯香槟送给小令。
After then, she looked more his information and feel he is a charming guy. Even Lili has a relatively shy character; she decided to take an initiative this time. After her friend's encourage, she sent a vibratory message to cause Wang's attention and sent champagne through the gift function by phone as well.

"唉？好像有短信"小令拿起手机，看到了小丽向他打招呼的短信。他抬头在 party 中找到了小丽.....
Wang received Lili's "hello" message and found Lili through her photo in the party.

之后，waiter 端来了小丽送的香槟。小令举杯敬小丽。礼尚往来，小令在和小丽的互动短信中选择"送一杯鸡尾酒"给小丽
Later, water passed Lili's gift champagne to Wang. Wang send a cocktail to Lili as a polite, maybe more...

小丽收到鸡尾酒。"好开心哦！既然大家已经认识了，可以加入他们的聊天了吧。嘿嘿~"小丽想。
Lili received the cocktail. Well done.

镜头转向 party 的另一角。逸琪站在吧台点酒，收到了成成发来的聊天短信。“咦?这是谁呢?”逸琪在地图定位中找到成成。她抬头看了看。“哈，原来就坐在那边啊”“一起来喝一杯吧”逸琪发出短信。收到逸琪的主动邀请，性格内向的成成欣然走来，愉快自然得开始了两人的聊天。
Yiqi received a message from Cheng. She found this guy through the mobile LAN map. “Come on to have a glass, “ Yiqi sent back a message to Cheng.

如果你真的不善于言谈，不防来参加一下 party 里的小游戏吧。 一泽收到李浩的游戏邀请短信。她开心的点击了接受。两人虽然第一次见面，可在游戏环节中还真的是默契十足啊。
If you really not good at social and feel nothing to say in the dating party, you can take part in some small games in the party, by sending or accepting the game invitations.

Party 结束离开时，小碗在吧台出示了礼物列表给 waiter，领走了 party 中收到的玫瑰和巧克力。心情很飞扬。当然，最让她高兴的是，今天和小凯聊的很开心，说不定可以有所发展哦。
After the party, you can show the gift messages list to waiter and took away your received roses and chocolates at the party.

Smart dating 相亲 party 结束了，不管真的能否遇到心动的人，这都是一次轻松愉快的体验吧。
The end of the Smartdating party...
No matter you meet the one or not.
Hope it is a relax and happy dating experience for you.

Smartdating party plan
La Mer Café, the Coast shopping center, Shenzhen
Participants: Single, 100 Females, 100 Males, download the smartdating app before the party

(Smartdating register web pages)

Workflow(backwards)

1

User list

Register the name

Personal infor

The massage number of *Chat, Gift, Game invitation*

The number of *gift* can be sent

Buy the gift

2

Users location map

Show on the big screen 1 in the party

3

Games system to the game participants

Play the games on the center platform

Show on the big screen

4

Pop list

Show the most popular participants photos, judged through the total score of *Chat, Gift, Game invitation, Message support*

5

Supporting message

Passage of the party can vote for the participants, there will be gifts

Score rules:
Chat begin a talk with new person +1
Gift receiving one gift +5
Game receiving one game invitation +5,Sending an invitation +5, Accepting an Invitation +10

Appendix 9: Sex education workshop video recording

9.1

Workshop content

Location: Love hotel (either a board to go over the bed as table or sit on carpeted floor)

Phase 1

Metaphor (approx. 1 hour) Males & Females in separate rooms
(Room filled with bananas and donuts...any other related snacks welcome)
Intro
Animal masks to hide identity
Inspirational videos from research

Task: Code number to action in bases

Key party / pick character story time:
"I'm a very experienced..."when I like younger man" I love environment" before & after"

Scenario problem, tasks:
Parents avoiding kids
Entrance education for kids
Couple's first time
Sex up marriage. etc (more suggestions welcome)
2 groups get together to see each other's works (maybe not even meet, just see works)

Phase 2

Sensuality (approx. 1 hour) Males & Females in separate rooms
Initiate lower lighting
Drop placebo pheromones over candle Research videos on fake orgasms and sounds

Tasks: how to talk about sex....
Name tag: "my friend likes"
Use Lego props
e.g. to have light on/off, close windows, close curtains, switch off the tap....

Phase 3

Future history (approx. 1 hour) Males & Females together
Show research about historical sexual preferences
How would the future look at us? How do we document, pass information to future generations? Discuss, draw, play do, use plays, writing, video.

9.2

Quotes from the workshop conversations

Phase 1 Metaphor and sex experiences

Men's part 1

中国男人都不喜欢自己的女人有太多的性经历。当一个女人已经开始掌握粗细, 大小, 长短的时候, 说明她的 经验已经很丰富。所以我觉得这是问题所在。反正我不喜欢。

No Chinese guy likes a woman has rich sex experiences. I think the point is, when a woman talks about men and sex on topics of size, length, time, it means she has rich enough experiences to compare. That is why I don't like.

Women's Part 1

我在越喜欢的人面前会越矜持。(和做爱比起来)反正我会(更)喜欢特别乖的看着他。

I tend to be more reserved and restrained when face a man I really like. I prefer an eye communication with him rather than sex.

Men's part 2

电动的就是因为不如人的所以才会需要人。如果有一天科技发达了,会造一个性爱机器人各方面比人都强,那我可能就不需要人了。如果只是单纯寻找性爱的话,只需要单纯找妓女,但如果技术的可以达到真人的水平,可能就不需要找妓女只要通过性爱机器人就好。可是现在没有,就说明技术还是达不到真人的水准。

Technically and emotionally, a sex toy cannot reach a real man's level now. If one day, a sex toy can be better than a man, why I must to find a man to satisfied myself on sex. If only for sex, and the technology is mature enough that the sex toy is better than a sex worker, there won't be sex service anymore. Now the point is, technology isn't developed enough.

Women's part 2

做爱是为了更多的满足内心的high是吗?做爱是为了什么呢?无非是为了满足我们,那满足是有生理的和心理的两方面的。我说的满足更加是要满足心 理上的点。

What is the aim of having sex? The aim is to satisfy ourselves, both physically and mentally. I think the mentally satisfaction is much more important.

Mixed conversation part 2

Woman: 我想问问大家是身体高潮多一些还是精神高潮多一些?

Woman: I wander you have more experiences in terms of physically sex climax or mentally?

Men: . . . . . (5 秒沉默)什么是精神高潮啊?男人不知道什么是精神高潮

Men: (5 seconds silence) What is mentally sex climax?

Woman: 这就是我们刚才讨论的问题,生理满足和精神满足的问题。 女生更想要心理满足,男生更容易要生 理满足。

Woman: That's what we talked about just now, physical and mental satisfaction. Women prefer a mental satisfaction, but men care about physically.

Man: 女生是不是只要心理满足,就算生理也没有满足也行?

Man: You mean it is still an excellent sex for a woman if she is only mental satisfied rather than reaching a climax?

Woman: 对,这个也 OK 的。

Woman: Yes, it's OK.

Man: 真的假的?!

Man: Really?!

Woman: 真的,而且我觉得心理满足更让我满足。而且男生有一个误区。其实女生希望自己和男生满足,是心 理满足。而男生希望女生满足,是希望女生达到生理高潮,是因为他有征服欲,希望证明自己特别牛逼。

Woman: Yes, and I think mental is more important. Man has a misunderstanding. Actually, the satisfaction a woman wants is mental one for both.

But man wants a woman satisfaction means bringing her a sex climax; because of a male sense to be a conqueror, to improve that he is good.

Women's Part 3

其实我就特别烦那种(话多问问题的)。

其实我觉得大家做完爱之后躺一会儿, 安静一会儿, 什么都不说, 或者互相看看也好。就怕那种问“哎, 你觉 得我怎么样”的。本来觉得挺好, 结果这么一说, 立马觉得很扫兴。

而且中国的男人很喜欢说什么一夜几次, 一夜几次郎。说什么一夜 5 次郎, 其实一次才牛吧?

可是你不觉得一次拖得时间太长就会觉得很没劲吗?什么时候总要有个度, 要是为了显示时间长什么的而超过 那个度, 不久不好了吗。

I really hate a man asking questions after sex.

I think we should be quite and eye-communication after a sex.

You know, the Chinese guys like to say how many times in one night. Actually I think once in a long time is the best.

Well, don't you think it gonna be boring if one sex time is too long? I think it is like a parabola, when the time over a point, it is getting worse.

Mixed conversation Part 3

Man: 男女双方都不应该只为了满足对方而且做爱, 而应该为了自己。如果你心里只想着满足对方, 那你自己 不会觉得好, 对方也不会觉得快乐。

Man: Neither men or women should have sex not only for satisfying the other, but also for yourself. If you only want to make your other part happy, you may lose a happy experience, he/she won't be really happy.

Women's Part 4

大家在事前都有没有什么特殊癖好之类?

有啊, 我就会在事前在旁边放杯水。

(laugh)你五行缺水

不是, 有时候嗓子会. . .

(joke)嗓子不好, 会干, 说多话发多声音容易干

那 sex 只有一个垒, 所有的 sex 就包含在里面了吗?

对啊

Do you have any special habits before sex?

Yes, I put a glass of water before hand.

(Laugh) You lake water in your five elements.

Well, no, it's just sometimes the throat...

(Joke) Throat always feels sore

Do you think for sex, there is just one 'basement', including every level of sex actions?

Yes (everybody says yes)

Mixed conversation Part 4

Man(当今社会的影响和从前比较)现在男人女人越来越趋于中性, 可能几百年后人类就都会无性繁殖。

那多可怕啊

这是趋势啊

The social impact both man and woman to tend to be less and less different. Maybe after hundred years, the human being will non-sex breed.

Women's Part 5

人都有爱的一面和性的一面，当性的一面上来的时候，你就恨不得所有人都臣服与你。当你high到一定程度，你就会觉得全世界都是你的，自己特别伟大。所以我在那种时候就会想，我要是埃及艳后就好了，连脚趾头都有 人给我按摩。

Who do you want to be when you having sex?

Human has both 'love' and 'sex' aspects. When the sex aspect is much strong, you really want everyone can be subjugated to you. You feel you are the greatest. At such time, I want to be Cleopatra, enjoying 'all fall down' from toe.

Mixed conversation part 2

Who do you want to be when you having sex?

Man: 做爱的时候会想那么多吗?一想就软了。我曾经在做爱的时候想过温家宝，然后一下就软了。

Man: Should I think such things when have sex? I once suddenly thought Jiabao Wen (Chinese prime minister at that time), and it only brought me feel impotence.

Women's part 6

前提是你做爱的时候想成为谁，这时候想成为武则天多苦逼啊。你会想 '哎，南方又闹水灾了'

It's who you want to be when you are making love. Being Wu Ze-tian (the only female emperor in Chinese history) gonna be sick. I would think 'Ah~, the south is in a flood now...'

Ending (all the participants' conclusion in short words)

在肉体纠缠的同时，还是更多的去关注一下精神上的交流 – 四个字 '安全第一'

每个人的观念都不一样，但是别忘了人伦就行

性可以是正大光明的

多做，少说多做

我觉得应该男女多在一块说（交流） –我觉得我们应该多策划这种不是约炮的活动 –性就是我爱你 –我希望大家多关注同性之间吧 –享受生活，享受性爱

性爱无罪，双性更好

玩的开心，注意安全就行

尽情的享受性爱吧

Caring more about mental communication when sex.

Safety is the first

Everybody has different idea, but don't forget the basic ethnics

Sex can be unambiguous and a communicable topic

More experiences is not bad

I think there should be more communication about sex between man and woman

We should plan more such communication workshops

Sex is 'I love you'

I hope the society pay more close attention to homosexual people
Enjoy life and enjoy sex
Sex is not a sin, double sexual as well
Enjoy sex and keep an eye on safety
Enjoy sex to your heart's content

Workshop image documents

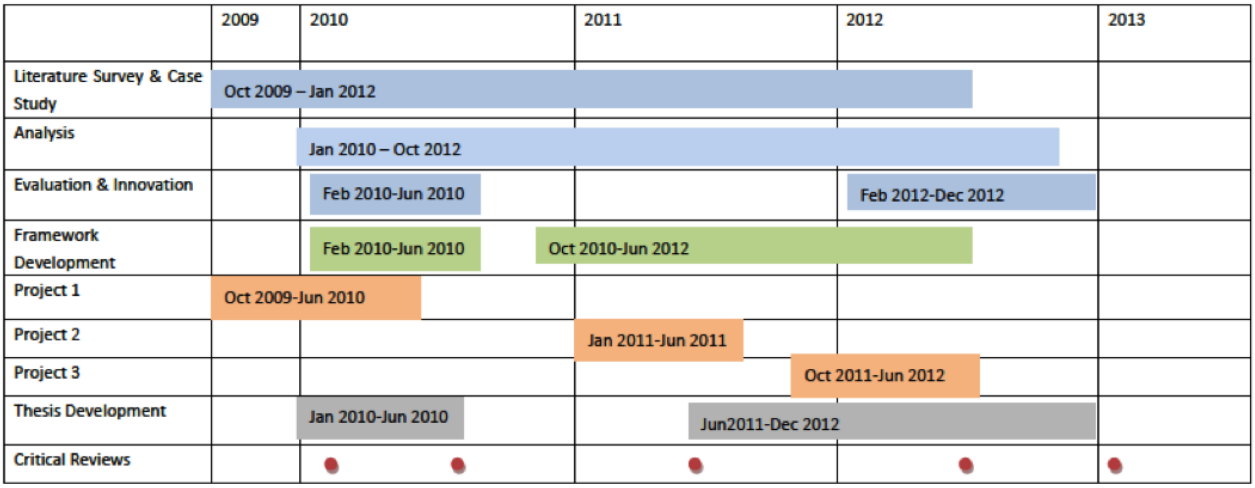
Appendix 10: The beginning three projects thinking developed and organizations

10.1

Research initial plan and proposal

Work plan made in RCA PhD proposal June 2009:

WORK PLAN



Research title

The Integration of Chinese Culture and High Technology Products through Cultural Transfer as an Industrial Design Methodology
PhD by Project

Introduction

This proposed research is aimed to investigate an Industry Design approach which can transfer the interior factors of Chinese culture and integrate them into high-tech products. It will focus on how the abstract connotation of Chinese culture can be refined and used together with high-tech factors on different processes of Industry Design. It will be based on research of Chinese social science, cultural and anthropology, new technique applications on products, and product design consumption market, etc, in order to find a methodology which can mix Chinese local culture factors and global technology factors using in product design in a harmony.

This research will take advantage of ongoing collaborations between Tsinghua University and IDE Department RCA. A period of work will be done in China. Participation of consumer Industry Design projects and international communications with global researchers on the same domain will be also accessed in future research.

Background

We now live in a small world with a global market. While the market heads

toward "globalization", design tends toward "localization." So we must "think globally" for the market, but "act locally" for design. Designing local features into a product appears to be more and more important in the global market where products are losing their identity because of the similarity in their function and form [18]. Using local features in design fields as a strategy to create product identity in the global market, the designer has noted the importance of associating products with cultural features in order to enhance the product value. At this point, the field of Industrial Design has played an important role in embedding the cultural elements into products and in increasing the cultural value in the global competitive product market. Therefore, designing a product with local features in order to emphasis its cultural value has become a critical issue in the design process [12], [13], [14].

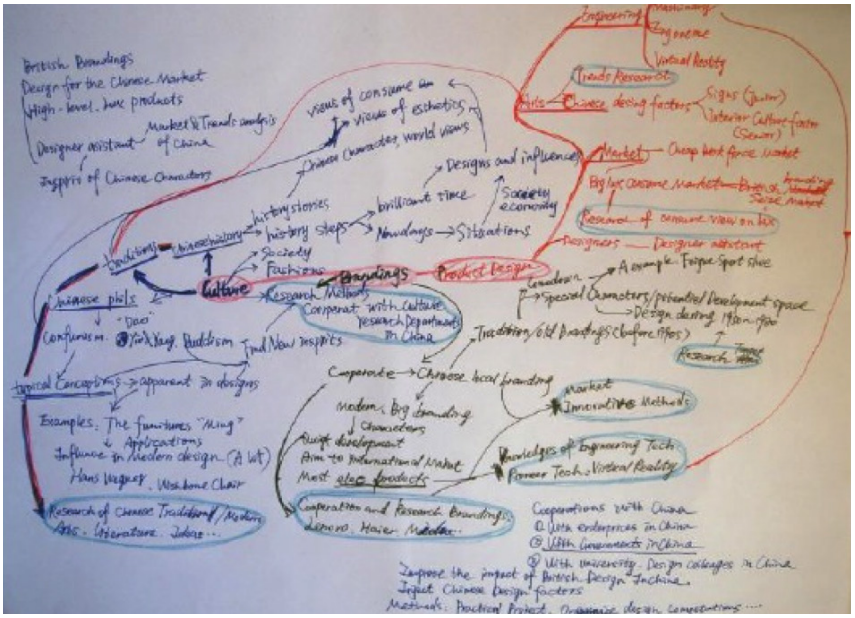
"Culture, branding and product design in China" is a current research area in IDE Department of RCA. My proposed research will be part of this big research area. China has a long history and a special culture character. The Chinese factors used in design nowadays are almost the traditional and ancient patterns or signs, but not its interior culture and philosophy content. It makes that the usage of Chinese culture in product design seems to clash with technology feeling of products. A research of Chinese culture, then transfer and use it in product design, especially high technology product design, must inject new inspirations for global design.

Preparation work

The following prophase work has been done, in order to get a preparatory target of research on this area:

1 Draw a "mind map" to find the ideas and potential research directions as many as possible
2 After the definition and classification, propose some points and methods could be used in research
3 Made a compared graph to get my research interested points
4 After a discussion with the IDE exam board, interview with the designers of Midea (a Chinese electrical appliance enterprise) to get a relative clear awareness of design needs of enterprise.

Mind Map



Mind Map in considering the interested directions

On this step, on the words “culture”, “branding” and “product design”, a brainstorming is imagined without limit for finding all the possible research points.

General Ideas of Research

By analyzing all the information in the mind map, a general idea of research is summed up on these 10 points below:

1. Culture
1.1 Chinese typical signs Research
1.2 Traditional literature, painting and calligraphy research
1.3 Research of Chinese Philosophy and its potential influence on design
1.4 Research focuses on society situation of China and associate with government
1.5 Cooperate with Chinese local universities
2. Branding
2.1 Mainstream and big Chinese brandings in China: Design exploitation and innovation
2.2 Traditional and potential brandings (1950s-1990s), redesign and develop
3. Product design
3.1 Chinese factors transferred and used in design
3.2 Design targeting Chinese market (Chinese consumer product

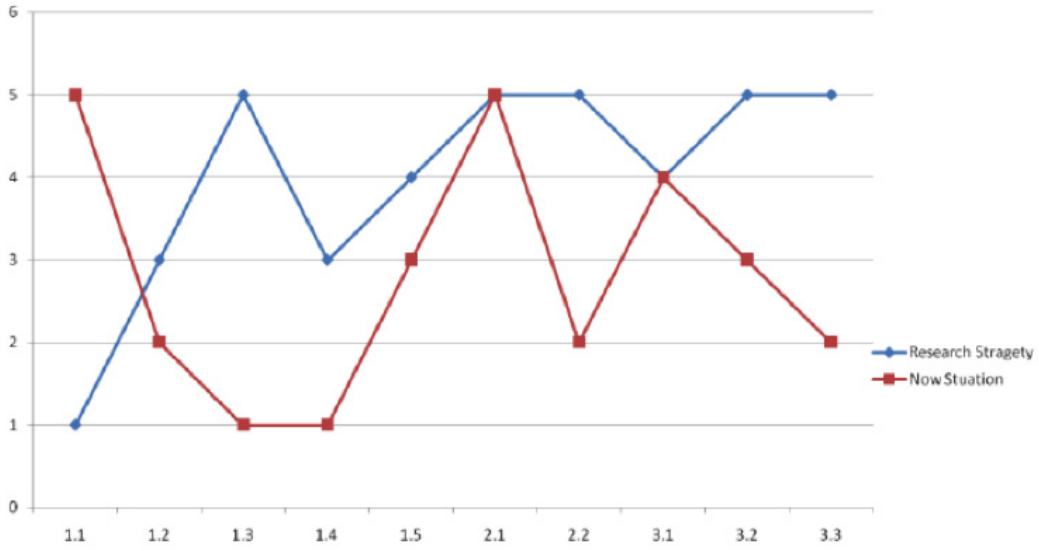
design)

3.3 Specialize in paring Chinese culture with high-tech factors

Compare Graph

This graph aims to find my own interest in this research area.

On this graph, I give scores to the above ten "General Idea of Research"



Compare graph of 10 research points

points from one to five. The red line means now situation, the higher the score, the more maturate of the nowadays existing research on this point (These red scores comes from my observation and experience of the nowadays Chinese design market. It is a data intuitive, but not statistical); the blue line means the possible research points for me, the higher the score of a point, the more interesting of this point for me in future research. By this way, a relatively clearly preparatory research emphasis can be proposed:

Find the interior factors in Chinese culture, transfer and inject them into product design
Specialize in paring Chinese culture with high-tech factors
Aid global brands and designers to do the Chinese consumer product design

Interview with Chinese Designers

For more focus on the research scope, an interview was taken with the designers in Midea, China. Midea is an electrical appliance enterprise in China, created in 1950s. It is now one of the biggest appliance enterprises in the world.

This interview was with the chief designing officer of Midea Microwave

and Electrical Appliances Manufacturing Department and research director of Midea Design Research Center, which aim is to get awareness of the status of Chinese designers' work and the their needs on design research.

As Midea design for example, the nowadays main design method is getting inspiration from the currently fashion factors and use them directly into design. The usage of Chinese elements in design is attached importance but just limited on the use of simple signs, which still cannot relate with "high-tech" feeling. On the other side, the designs are fashion but lack of a continued branding character. The designers want to inject more interior Chinese culture factors into design, and also want to find the elements in Chinese culture which can be used as brand's character representing in appearance of products, including both the feeling of "Chinese style" and "content of technology".

Base on the work steps above, a target of research is proposed: The Integration of Chinese Culture and High Technology Products through Cultural Transfer as an Industrial Design Methodology.

Research question/scope

The research questions are mainly on these aspects:

> How to find the interior factors in Chinese culture and transfer it into Industry Design, for injecting design with new elements.
>
> On which steps of design process, the high-tech design factors (or assistant methods, such as Virtual Reality) and design culture factors can be used together to progress the design, and how.
>
> How to integrate Chinese esthetic factors into high-tech products; combine oriental beauty and technological beauty perfectly on products.
>
> How to use the two factors "Chinese culture" and "high tech" to design products which can suit to the Chinese consumer market.

According to the research questions, the references will be focused on these four domains:

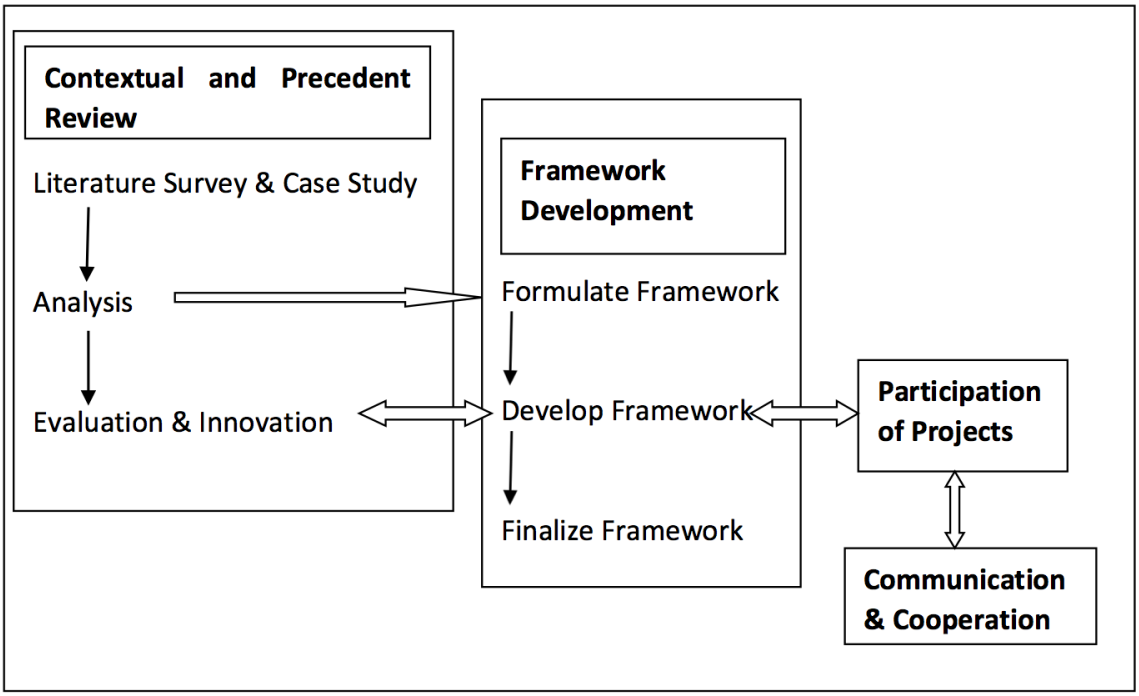
> General Research Methodology
> Culture, Social Science and Anthropology Transfer to Design (China and other countries)
> New Technology applied in Industry Design (used in design or as design assistant)
> Consumer Market Research

Methodology and work plan

To approach doing the research, the study may be conducted in the following stages.

Contextual and Precedent Review
Framework Development
Participation of Projects
Communication & Cooperation

Work flow



Contextual and Precedent Review

Literature Survey & Case Study

Literature Survey: a survey on books, websites, journals and articles on design studies, last industry design tech and culture research (maybe Chinese philosophy, history, literature, traditional painting and calligraphy).

Case Study: background, development, current conditions and environmental interactions of one or more individuals, groups, communities, businesses or institutions is observed, recorded and analyzed for stages of patterns in relation to internal and external influences.

E.g. The Chinese ancient product design and the modern Japanese design may be two of study emphases. Finding out the some typical Chinese old

design during the years 1950s and 1980s which have special time characters, research and redesign

Analysis

Classes of the data from literature survey and case study are collected and studies conducted to discern patterns and formulate principles in order to guide framework formulation.

Evaluation & Innovation

Based on the analysis and development of framework, propose evaluative and innovative points in research (use the knowledge of Engineering, Trends and Virtual Reality, etc).

Framework Development

The framework will be based on the knowledge from contextual and precedent review. The framework includes product designs, project reports and thesis, refers to the following three aspects:

Applications of culture and high technology on Industry Design and design assistant (content of tech and practicability)
Transfer Chinese culture into product design, especially high tech product design
Chinese consumer product design

It will be tested through projects.

Participation of Projects, Communication & Cooperation

For developing and testing the framework, the research will be practiced by 2 projects.

Project 1: Explore the framework with commercial partner

By participating in consumer Industrial Design project, prove the applicability of research. The partner could be design apartment of enterprise or design company. This will be a test of framework on the aspect of application on commercial design.

Project 2: Explore the framework with academic partner

Communicate with and study from the experts on same domain, for example, Yantang Lin, Professor of Hong Kong Polytechnic University; Shouzhi Wang, professor of Art Center College of Design; etc. The communication will also base on the ongoing cooperation between Tsignhua University and RCA. That means some part of the work will be taken overseas.

Both of projects will be consumer Industrial Design projects. By comparing the results of these two projects, evaluate framework development.

Outcomes

The framework development will be the main objective in this research. The main benefit of this framework will be to aid designers and design companies develop their own characters of design which is not just a simple usage of Chinese sign, but the design injected Chinese culture characters and high-tech elements at the same time, facing to the global market. On the other side, this research will also help the global brands marketed in China to do a Chinese consumer product design.

Additional information

I am fully aware that this is a project difficult; however, I have confidence.

1 I am a Chinese, which means that there is no many difficulties for me to collect documents in Chinese or work in China, and I already have a lot of knowledge about China.

2 I am good at communication. It is not only because I can speak Chinese, English and French, but also because I am positive, vivacious and have a can-do attitude. I was the vice-president of student union in my college and have organized various events and conferences successfully; during my work experiences, I have cooperated with the other teammates very well.

3 I am capable of both engineering technique and design art. I can use the engineering software to model a machine tool and simulate its process, for example, CATIA or Pro/E; meanwhile, my design of car participating to a conception vehicle design competition was awarded a prize.

4 I am accustomed to organize my work plan well every time before I begin to work. My research reports are considered by my professors to be written systematically. The fact that after some months of learning

Any employment or experience relevant to application	Date from	Date to
High-Tech Development Centre, Yangquan, China Theme sculpture design of High-Tech Development Centre Square	Sep. 2008	
University of Angers & ParisTech d'Arts et Métiers, France Virtual Reality project «3D child» for companies Gautier and Dorel	Feb. 2008	Jun. 2008
Graphic design for Servalu, France	April. 2008	May. 2008
High-Tech Research Institute of NUAA, China Engineering, measuring on project of satellite design	Feb. 2007	April. 2007

Application Relevant Experiences

French I have been able to communicate well in France can prove that I have a good study capacity. (In fact, during the period of working in France, I have worked on trends analysis and have analyzed the trend of Chinese style. My tutor gave me a total admiration on my work.)

5 I have work experiences both in China and in Europe, on engineering design area and design research area.

6 My current study is Master Research on Virtual Reality and Innovation; I have good knowledge on innovative methods and research methods.

My required resource and information services:

1 A space for work in the studio of IDE Department.

2 A work place in the workshop in Imperial.

3 A charge for going on business to China, if there is a need on my research or work.

Do you have a proposed Supervisor in mind?

Not yet.

My proposed supervisor is an expert on industry design. Besides, I hope a Chinese design expert can be my other supervisor, as a part of my work may be in China.

Have you discussed your research proposal with him/her? I have discussed my proposal with IDE exam board.

Will your proposed research require guidance on research ethics? No.

10.2

'Chinese folk art' workshop plan and organisation

In the RCA interim show Jan 2010, I exhibited some of my research ideas and initial contexts. I also opened a space to collect the visitors' impressions of Chinese culture. Then, I found the Chinese culture in the eyes of who participated was very symbolic. This is why I chose Chinese cultural symbolic transfer as the direction of my first project.

I made calls and sent emails to the Chinese local crafts and arts organizations and schools. Finially got supporting form the Chinese Folk Art Organization in Beijing.

The following email is which I sent to their chairman Mr Yu in March 2010, when it was one month before the workshop.

Application Relevant Experiences

Wenjin Yao <wenjin.yao@network.rca.ac.uk>

民间艺术家在清华设计学院的学术交流活动

1 封邮件

Wenjin Yao <wenjin.yao@network.rca.ac.uk> 2010年3月17日上午9:29
收件人： mx22054@sohu.com

于先生您好，

我是要文瑾，在英国皇家艺术学院（Royal College of Art）工业设计系做博士研究。昨天打电话过去，非常感谢您的热心帮助，在这里向您介绍一下我们这次活动的安排：这次活动为期两天（4月20，21），地点将在清华大学设计学院工业设计系，参与对是10名英国皇家艺术学院工业设计专业的硕士生和10名清华大学工业设计的硕士生。这20名学生将组成5个小组，每个小组与一名民间艺术家组合，进行互动。20日上午9点活动开始，在我做过简要介绍之后，九点半左右开始由咱们的民间艺术家为各组学生现场展示自己的手工艺技术以及带来的作品，谈论关于这些技艺的一些特色等等。
然后以小组为单位进行交流，作为设计师，参与的学生会向民间艺术家们提出自己感兴趣的问题，并且对谈论自己对这项工艺的一些想法。（语言的话不用担心，外国学生会和清华学生搭配成组）
不同于以往的一些民间手工艺交流活动，这次的活动我们不但注重于参与对象对手工艺的了解，而且还要求参与的硕士运用现代的手段和这些手工艺里的艺术元素进行现代产品的设计。当然，我想对于我们的民间艺术家，这次活动也会成为一个非常有趣的体现，因为可以从年轻的国际设计师那里得到一些新的想法，看看他们对于这些民间传统工艺的理解，了解一些最新的现代设计理念，怎样把这些手工艺更好的推向世界等等。
这个活动为期两天，我们最理想的状况是民间艺术家和参与的学生可以全程互动，当然这也要看你们的时间安排。过几天我把翻译过来的中文活动安排发给您看一下，然后我们保持联系。我们这次两天的活动，是皇家艺术和清华设计学院为期2周的国际交流活动的一部分，不管是清华还是皇艺都很重视。如果我们民间艺术家协会可以协助我们这次的学术交流活动的话真的是太感谢了。
我现在在英国，因为有时差，所以联系不大方便，不好意思现在才发邮件给您。 我4月17号左右会到北京对这次活动进行一些前期安排，到时有机会的话能现当面交流一下就太好了。
这里附带一些我们皇家艺术工业设计系的信息，如果您想了解更多的话也可以上网搜索一下：
Royal College of Art, IDE，英国伦敦
IDE，Innovation Design Engineering department, 英国皇家艺术与伦敦帝国学院联合创办的创新设计工程系。英国皇家艺术成立于1837年，服务于当时英国工业革命对于现代设计的要求，是全球最早也是最富盛名的设计学校。该校位于伦敦市中心，是目前全球唯一只有硕士以上教育的艺术与设计学院。对学校的质量认可，该学院拥有大批国际知名设计师的杰出校友，如詹姆斯戴森，托马斯赫斯维克，大卫霍克尼，特雷西艾明，克里斯托弗贝利，朱利安麦当劳，艾莉森杰克逊，伊德里斯汗，大卫阿贾耶，冠捷，苏西邓普顿等等，不胜枚举。
IDE作为皇家艺术的一个部门，提供世界级的工程商业和艺术设计的综合课程，并被
《Business week》评为全球最顶尖的工业设计系。IDE的硕士来自世界各地拥有包括工业设计，工程，建筑，市场营销和艺术的不同背景。在学术合作方面，合作学校包括清华大学，墨尔本皇家理工，悉尼技术大学，筑波大学（日本）等等。商业合作领域，IDE的客户和赞助商包括索尼，宝洁，联合利华，O2，百安居，明基，施华洛世奇，福特，夏普等等，不胜枚举。另外IDE最为独特之处在于由皇家艺术和帝国学院主办。帝国理工学院作为理工医学和商学的综合性大学，目前世界一流大学排名第五，拥有14位诺贝尔奖获得者和
众多世界知名的研究中心。IDE隶属的帝国理工工程部，有3,500名学生和72教授。
另外我这边还和British Museum 和V&A museum 有一些联系，如果将来有机会的话说不定可以在伦敦做些关于中国民间工艺的展

览什么的之类也说不定。

再次感谢您的帮助，保持联系

要文瑾

Wenjin YAO
Research
Innovation Design Engineering (IDE)
Royal College of Art
Kensington Gore
London
SW7 2EU_

English Translation:

Dear Mr Yu,

This is Wenjin Yao, PhD candidate from Innovation Design Engineering department, Royal College of Art, London. It's really nice talking with you through phone just now. Thank you for your interests on my proposal. Here I introduce our workshop timetable to you:

This workshop will be hold for two days, at 20th and 21st April, in School of Design, Tsinghua University. The participants will be 10 students from Tsinghua and 10 from RCA. They will be separated into 5 groups, in each group with two of them from each side. Each group will work together with one folk art artist. At 9am 20th April, after a brief, the folk art artists can introduce their craft and culture to all the students. Then we begin the collaboration in groups: artists will teach their technique to the students and tell them stories about this art as well. Also, students ask what they interested in this process. (Please don't worry about the language; we have Chinese students in every group who can translate.)

In contrast to those traditional ways to teach craft, this workshop will mix the modern design thinking, as well as focus on the craft into future. I believe it will be also helpful to the crafts masters. They can hear the young's and international voices, maybe thinking about how to be global.

I can send you more detailed schedule and proposal later. This two-day workshop is one part of a two-week international academic collaboration between Tsinghua and RCA, which is highly appreciated by both of these schools. It's really great appreciated that your organisation can help us and contribute for this.

I am at London now and will be back to Beijing at 17th April. We can have a face-to-face talk then, whenever you are convenient.

Moreover, I think, you definitely know Tsinghua well. The following is the introduction in Chinese about IDE at RCA. Of course, more information can be searched online:

… …

All best,

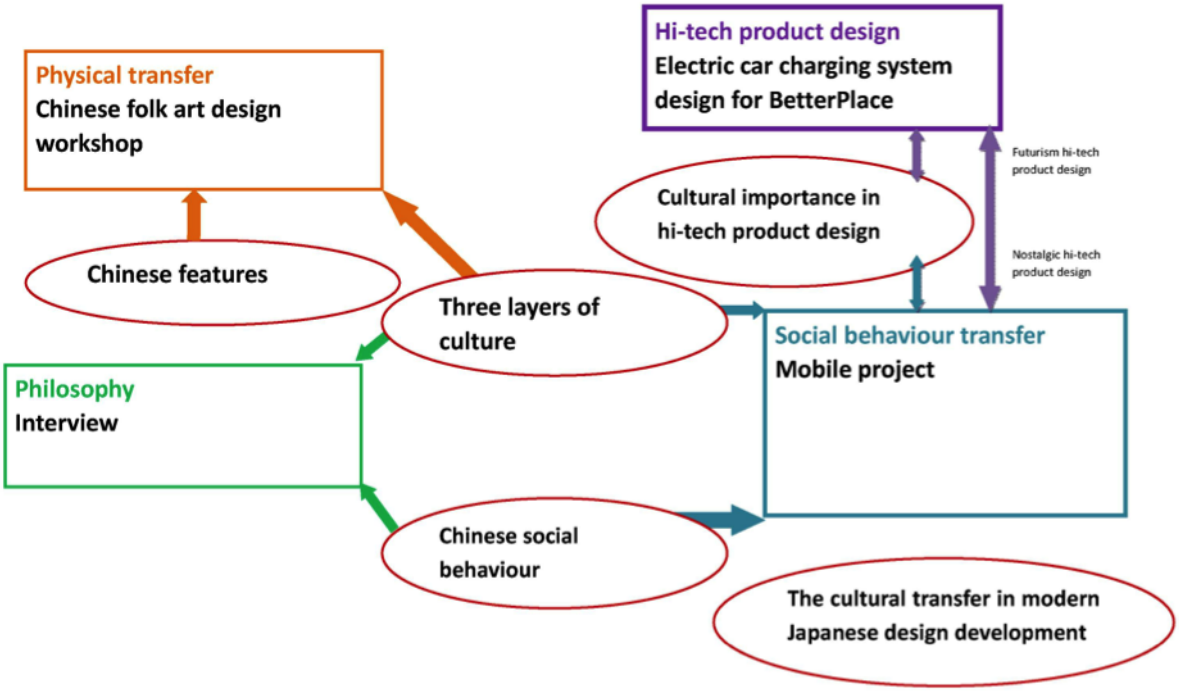
Wenjin Yao

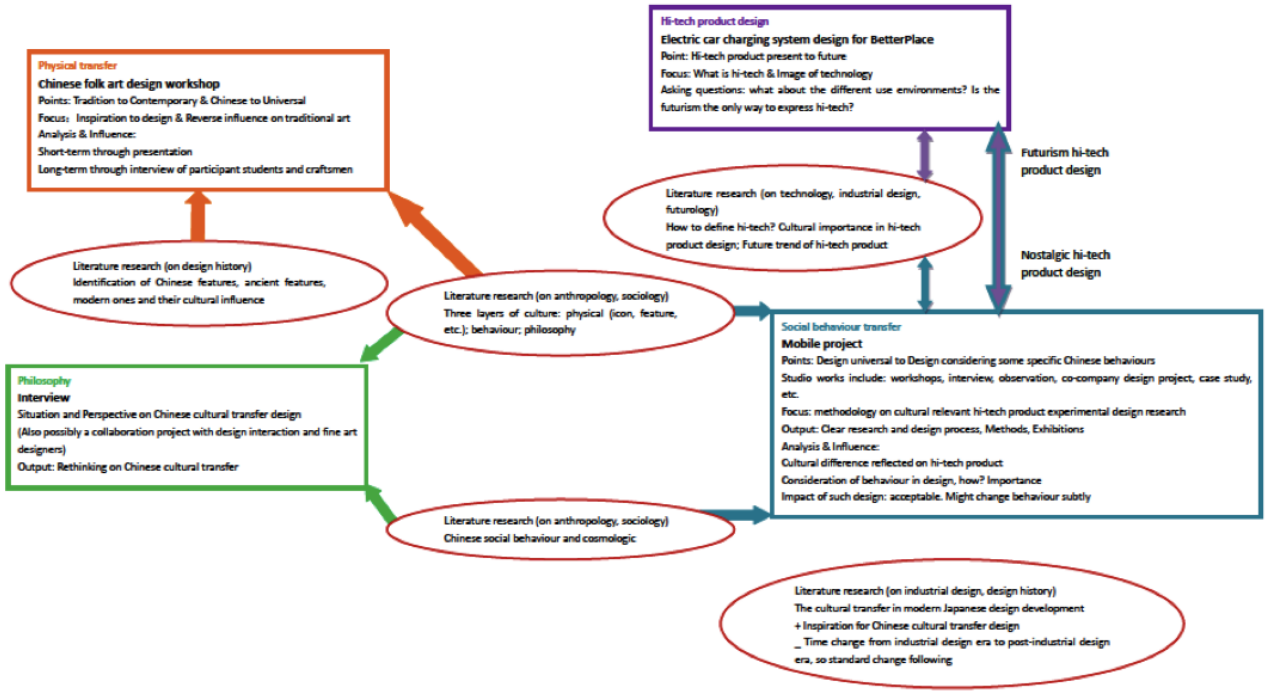
10.3

The background of projects 'Mobile Design for the Chinese elderly' and 'top-secret island' sending up

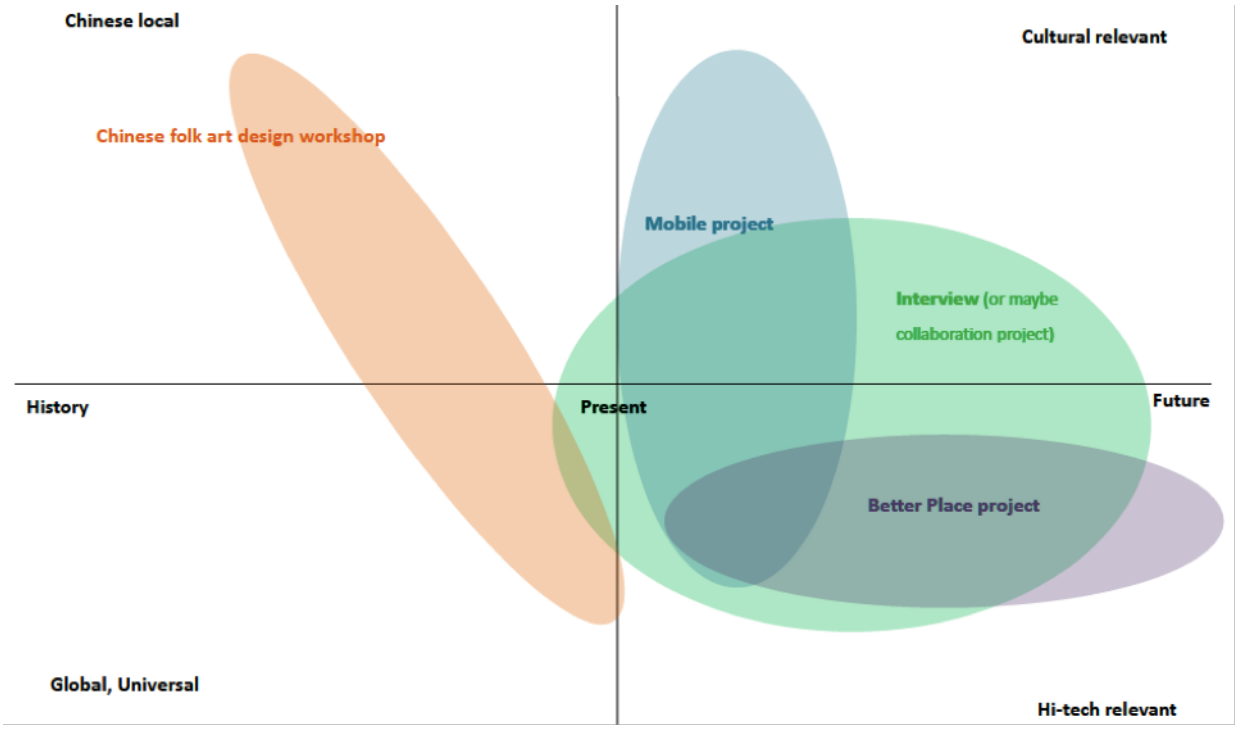
After the folk art project, I thought to represent culture and cultural design transfer in terms of different layers, such as, upper symbolic layer, middle behavioural and inner philosophical. The following graphics are what I made to consider the relationship of each layer and how to develop their relative projects (May 2010). At that time, I still kept my research interest in hi-tech product.

Thus I planed the next project is about mobile. At that time, smart phone was early emerged in Chinese market and tended to be a stream, which relatively later than in Europe because of the lack of service. However, I believe that smart phone large range acceptable and its service design going locally would lead the further of Chinese mobile market.





Research map in May 2010:



Moreover, I wanted to develop a system of cultural transfer design demos, which can put the different cultural elements into boxes as symbolic, behavioural and philosophical:

Cultural relevant design demos

A Constructivist perspective in the application of cultural elements in the design process

Design research development and constructivist perspective in design

Design has been influenced by theories and methods from related disciplines. In 1960s, the design methods movement borrowed approaches from engineering. During the 1980s, social science, cognitive science and anthropology became an important source for user-centered design, for instance, to inform designers about the social context they were designing for (Bayazit, 2004). Besides, it is not sufficient for design simply to adopt theories and approaches from other fields, design researchers investigate some particular methodologies, such as "designerly ways knowing"(Cross, 2001). In other words, as design is dealing with changes in social systems, it is necessarily risky and uncertain. Consequently, design can be named the "science of uncertainty", which comprises the knowledge not of what is, but what could be (Dilnot, 1998).

Through the previous design research which mentioned above, there is no one-to-one relationship between design methods and practice. Consequently, some design researchers address a constructivist perspective in design (Bredies et al., 2010). Taking a constructivist viewpoint on uncertain position for design and design analysis, for constructivist viewpoint "holds that individuals acquire knowledge by building it from innate capabilities interacting with the environment" (Houston, 1995).

I support that the main point of constructivist perspective in design is to take a closer look at the uncertain elements in design, actually deal with the gap between contingency and principles.

Contemporary design theories present us with geometrical and structural imagery, but we cannot ignore naming their contingency. As Wolfgang Jonas addresses, in design, "from it emerges the phenomenon of oscillation between disciplinary fantasies of omnipotence and impotence: is design an agent of reconciliation, a gapfiller, or is it simply trying to find its humble niche" (Jonas, 2000). He gives examples on this aspect, for instance, HAAVISTO' s Yin-Yan model; FRIEDMAN' s (1999) pentagon of social sciences - technology - art - natural sciences - humanities.

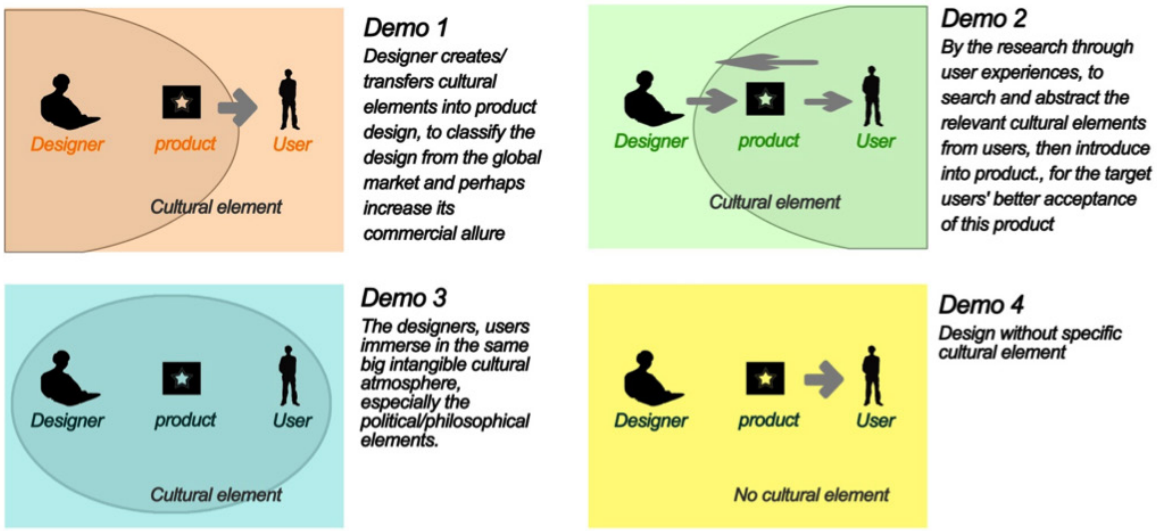
Cultural elements in design, uncertainty, contingency or catalyst?

In design, cultural elements can be used as a catalyst for designing innovative products meanwhile it is an uncertainty factor. There is no solid theoretical framework which can assist designers to consciously integrate "culture" in designing products. This challenges designers to gain a deeper

understanding of "culture" and find methods on how they can use culture as a resource in product development. However, the concept of culture and design are intertwined, thus modification in the former evolution both reflect and determine developments in the latter. For example, design changes culture and at the same time is shaped by it, which can be called in a "constructive relationship".

Cultural relevant design demos-a constructive view on designers, products, users and relevant cultural elements

Here discusses an experimental cultural elements leading design structure which developed through practical projects and literature study. Designer, product, users and cultural elements are four core factors in this design structure. The first three ones are fixed and the cultural element factor variable. As designers strive to create meaningful relationships between users and the products that they use. The design practice is the bridge linking of the three factors. It centers on embedding technology into the ambient social complexities of the physical world. Cultural elements influence the design practice through the following four ways:



In summary, the uncertain factors are the only certainty in design process. Cultural elements are one of such typical uncertainty in design. This structure of these cultural relevant design demos is an attempt to organize and analyze these design contingencies and uncertainties into a logical approach. In my research, this structure is developed and explained as a simple and rational design methodology, through projects facing to each demo, from a constructivist design perspective. This methodology is expected can be practical for various cultural relevant design processes.

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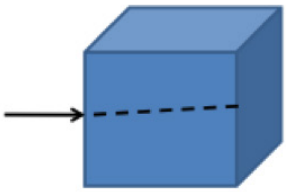
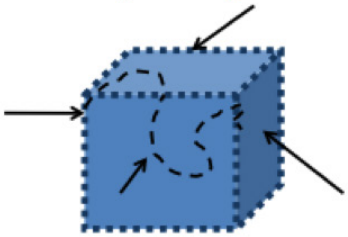
I sent my proposals to different companies in mobile design or consultant area from April to May 2010. I got a positive response from Alibaba Cloud Computing. It's mainly because this company was new and I had met their design director at a dinner party and had a nice talk at that time. They wanted to give a space to design research, even for fussy edged, and to try something different. (referring my proposal to Alibaba in Appendix 5.1). I sent up a small team, with other three design interns full time working with me, from June to Sep 2010 at Alibaba, Hangzhou, China. We also worked with Alibaba designers and their visiting students of enterprise - university summer school (referring to thesis Chapter 5).
Research Questions at that stage:

1) What are Chinese cultural elements?
2) What is its value for design?
3) How to abstract Chinese cultural elements and transfer them into design?
4) How to make the "traditional Chinese " and " high-tech" factors to exist harmony in design?
5) What are the standards to judge a good cultural transfer design?
6) How to make the "Chinese cultural transfer" methodology commonly applicable for different projects?

How to transmit design of Chinese cultural transfer globalization?
How to make this design methodology universally for different cultural relevant designs?
I planed to do the Chinese design transfer in term of philosophical layer through interview. However, after the three-month project, I found that a lot of things about culture were very tangled, cannot be put into boxes. I changed my research approach and wanted to deal with uncertainties through more critical methods. The following table is what I represented my changes in terms of my research approach in the spring term 2011.

Working process	Asking research questions →immersing in project, lost	→ finding answers to some questions
Emotion	Enthusiasm → Isolation and confusion	→increasing interest in work
Methods	Make sure everything is a structure 	Certainty ⇔ uncertainty, fussy construction, learning with doing 
Reasons (WHY?)	1. Personal interest in Chinese culture 2. Commercial value	1. From Chinese designers' perspective 2. From western's perspective 3. What are the standards to judge a good cultural transfer design?

I began to interested in the critical design thinking of Design Interaction department of RCA. I talked with Elliott Montgomery from Design Interaction, RCA, who was MA 2nd year at that time, in 2011. He was quite interested in culture research and what I proposed – the concept of three-cultural-layer structure and fussy-edged. After several talks and design, as well as plan of details, we sent up the 'top-secret island' workshop together in April 2011.

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Reviewing and Envisioning Cultural Value in High-Tech Product Innovative Design

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Abstract

The globalization seems leading "universal" to be a world trend in design and innovation area, especially for those "high-tech" ones. In keeping with a different perspective, this paper dissects another flawed binarism, that of the definition of technology and people's image on hi-tech, the importance of cultural information and the value of innovation in hi-tech design. The second section is a general introduction of the industrial era we are facing today. What we should consider on "innovation"?

Keywords: hi-tech; innovation; cultural transfer; human-centered design

1. Introduction

This paper is a critical review and envision on cultural information transfer on design innovation. The first section is a discussion of high-tech products definition. Even though there is not a classification on high-tech at all, why there indeed exists a huge commercial value inside this word? Following the definition of culture in the third section, the forth section assume the cultural transfer potential contribution on high-tech products innovation, which takes Chinese cultural transfer as an example.

2. The definition of hi-tech products

What is technology? Where should one draw the line to define "high-tech" products? There are no standard answers to these questions. Design researcher Klaus Krippendoff asserts that every action system beyond the

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basic apparatus of the body is a technology (Klaus Krippendorff, 2004). Through various points in history and the development of human society, technological artifacts/products become moving targets (Wilson, 2002) Like ceramics, sculptural tools, and printmaking apparatus were state-of-the-art products thousands of years ago; more recently, cinemas, and electrical goods were considered high-tech. Now, however, when people talk about high-tech products, they are not talking about these technologies.

From the aspect of user experiences and design semantics, the bodies of high-tech artifacts are limited by what human users can do, monitor and understand. What goes on inside such artifacts, besides the human sensory-motor coordination with them, is no longer relevant to their users. In fact, it can remain quite incomprehensible – as long as users can handle them adequately and are not be frightened by it. The forms of high-tech devices are no longer derived from how they are produced and what they do, but from their users' ability to conceptualize and handle them. As most of the users hardly know the core technique or manufacture of a product, especially the electric/electronic ones, when they encounter the difficulty of usability, they take the tack of "this is a novel high-tech product" to explain why. So sometimes "high-tech" becomes a euphemism for those user-unfriendly-products.

However, the users directly connect with the product through its interface and through interaction, rather than through the inner workings. That means the unadaptable nature of high-tech product is not caused by its core technology, but its interface or interactivity. No matter the fascination or inadaptability with high-tech products derive less from the arbitrariness of their forms and the artistic license them offer to designers, but more from new qualities of human involvement with them.

What is more, there exists the imagination of technology. That is another reason why people chase "high-tech". Sociologist Arjun Appardurai contends that the image, the imagined, the imaginary are all terms that direct us to something critical and new: the imagination as a social practice (Appardurai, 1996). This imagination around "high-tech" products is an individual human feeling, while driven by social consciousness as a whole, and influenced deeply by the mass media. Most of the time, when we talk about "high-tech", we are actually talking about a feeling, which may come from science fiction film Minority Report or a newly launched digital product.

Overall, since there is no specific class of technology that is high tech, the definition shifts, and is considered over time. Meanwhile, this fuzzy definition has indeed led to marketing departments describing nearly all new products and creating huge commercial allure. I therefore define the "high-tech products" in this paper as the contemporary products which, backed up by relatively novel electric, digital, or material technology, offer their users on "high-tech" qualities of involvement with them, or desire the image of a certain lifestyle that is conjured by owing the product.

3. The changing environment of design, representation of hi-tech design innovation

So the following question is: since there indeed exist images of "high tech", does that mean designers need to conform to such standard versions?

In 1980, Klocker Ingo applied Elinger's information theory to describe the identity of a design product. According to the theory, the better the product informs, the stronger its identity. Identity of design product can be approached from three kind of information: information about existence (its material and form), origin (its designer, manufacturer, country and culture) and quality (its function, use and maintenance).

However, the society has already celebrated the shift from the industrial era into a postindustrial one. Today, design is also shifting from being technology-centered to human-centered. In the last century, industrial designers gave form to products; in this century they will give form to experiences (Roux, 2009b). In order to successfully consider experiences on the connected information infrastructure, we need a new framework for design and its

contribution to the world. The previous product identity standard becomes less meaningful for designers. In the course of this transition, the framework of "high-tech" product design should also shift from a simply representation of a "high-tech" sensation, to brave new information-based design in a manner that is engaging, useful, sustainable and human-centric.

Therefore, I contend that the representation of technology products needn't follow a rule. It can reflect a futurist mood, or a nostalgic design. The value of design in "high-tech" products is on its optimization benefits and conveniences of technology bringing to users, through suitable user interfaces and interactivities. A high-tech product design quality judgment standard should, therefore, be looked upon as a relationship between its users, the technology of a product, its semantic and visual representation.

4. The definition of culture

4. 1 Definition

Culture being a pursuit of our total perfection by means of getting to know, on all the matters which most concern us, the best which has been thought and said in the world, and, through this knowledge, turning a stream of fresh and free thought upon our stock notions and habits, which we now follow staunchly but mechanically …-(Arnold, 1869)

Culture is known by many definitions. It is a difficult word to define, and its meaning tends to shift depending on the reason you use it.

'Culture is the way in which group of people solves problems and reconciles dilemmas (Schein, 1985).' This could be a useful way of thinking about where culture comes from. If we focus on what culture is, perhaps the most difficult question is not 'What does the concept of culture mean to you? Can you differentiate several components'; but 'Can you name anything that is not encompassed by the concept of culture?' From the sociological aspect, social interaction, communication, presupposes common ways of processing information among the people interacting; which is due to that the actors together constituted a connected system of meanings： a shared definition of a situation by a group (Trompenaars and Hampden-Turner, 1997).

4.2 The Three Aspects of Culture

The English cultural theorist Raymond Williams came up with three definitions of the term culture in his "cultural materialism" theory (Williams, 1958): the works and practices of intellectual and especially artistic activity, the particular way of life of a people, period or group, and the process of a society's intellectual, spiritual and aesthetic development. While, these three spheres overlap not exist separately, they are changing within the history and influence each other.

This research focuses on "Chinese cultural transfer". Keeping in mind Williams' definitions above, this task is to search a critical theory of Chinese local cultural transfer into "high-tech" product based on an experimental design research structure.

5. The value of cultural information in hi-tech innovative design

Design innovation has become a global phenomenon. Thus to take central and Eastern Europe alone, following the collapse of state socialism there, some 350 million citizens have been drawn unto liberal democracy and market capitalism. A new generation of consumers of innovative products within a capitalist context is

emerging. The remit of design practice itself has extended during the same period. Due to this globalization, it seems that there is no longer a "value-added" extra applied to a range of domestic innovation, especially for high-tech products design; for example, the digital interfaces in computer, mobile and websites, to be designed similar to different market (Julier, 2008).

However, this kind of discourse is based on the "Eastern-World-Central" axiology. It ignores the fact that there are a more than 3 billion world people living in different social and cultural backgrounds who accept western design exports passively. As industry shifts into a new era to "human-centered", "high-tech" products innovation, the consideration of its users' local cultural background becomes all-important.

Take China as an example, which has a population of 1.4-billion and a huge number of individual local cultures. Furthermore, for today's Chinese generations, they have experienced huge changes during the last thirty years; their lifestyle has shifted totally and has had to accept novel/innovative western stuff, especially "high-tech", in a very short time. Maybe some suggest that these 'no-cultural-differ' 'high-tech' products occupy the market in China and have proved to be highly successful. However, I assume that because most of the time consumers never know what a really good product for them should be like, until they get one.

The double S-Curve in fig.1 shows a standard trajectory of innovative objects passing through time. Objects arise from means, motivations, skills and material opportunities. They diffuse through a population. Then unavoidably, as a common order of nature, they fade out of popularity with time (Sterling, 2005). From this S-Curve, it can be seen that cultural factors can efficiently stimulate the growth of a new product become popular.

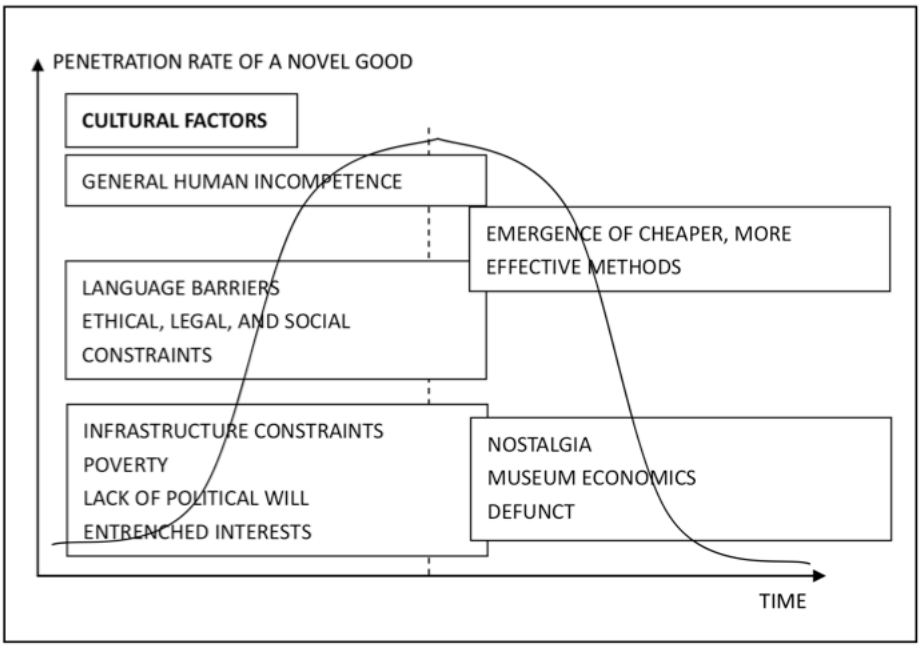

Fig.1 "The mirrored S-Curve of technological adaption"(Sterling, 2005)

Last but not least, from the aspect of the reverse design effect on culture; design can react to different cultural conditions. Tim Brown (CEO of IDEO) asserts that design can nudge people into new behaviours; however, as long as such designs must be acceptable and adaptable firstly for users. What is more, a new product will not simply replace old one, but rather will learn to interact with it in a complex relationship in what is called "convergence culture" (Jenkins, 2006). This "learns to interaction", is actually learned cultural elements reflected through the old.

Thus, designers' considering of local culture in design, and injecting a local cultural transfer into new "high-tech" products, for a specific market, can potentially broaden the market. Reversely, such a transfer might

eventually change behaviour, social relationship, and cultural conditions subtly.

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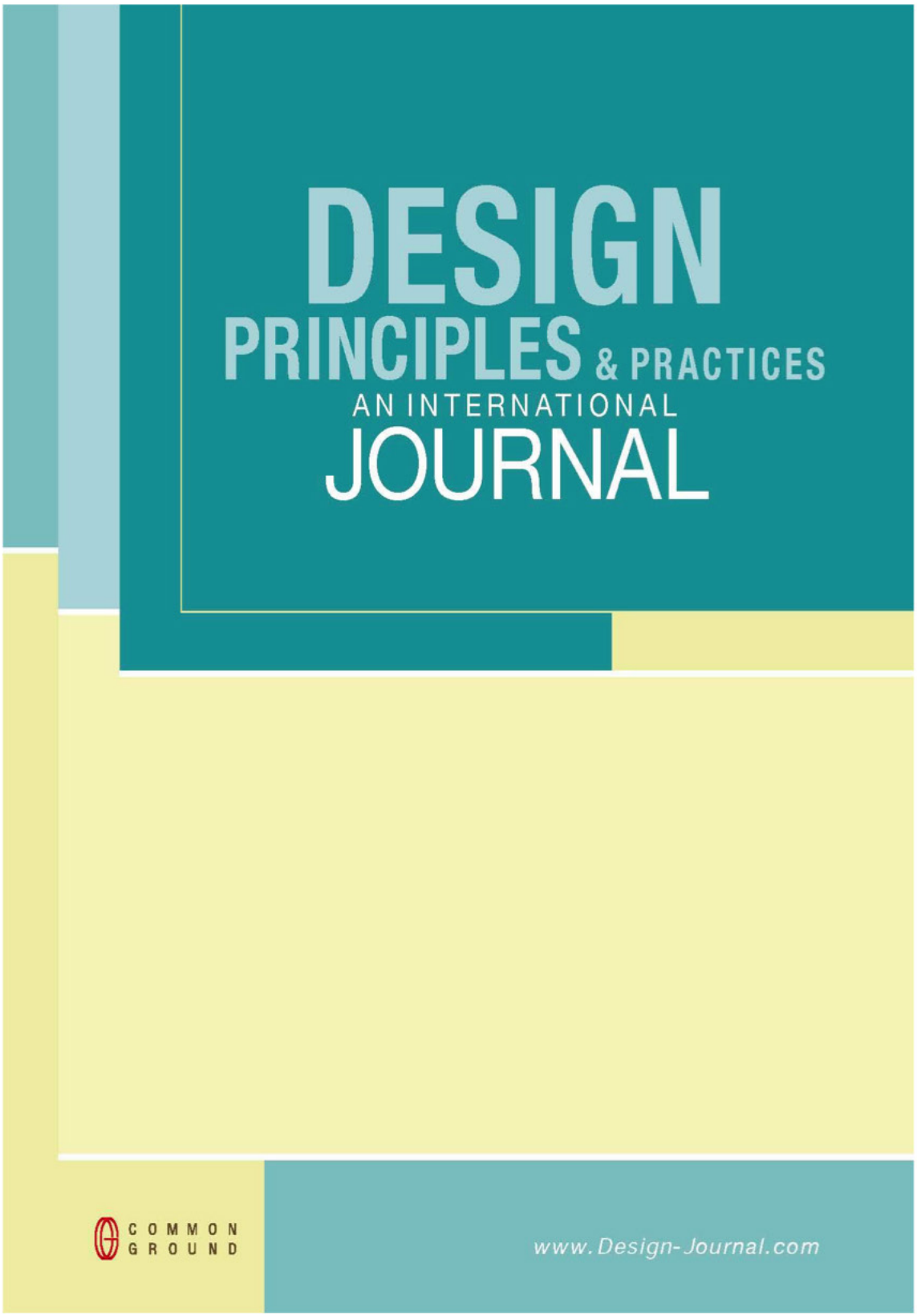

Wenjin YAO & Ashley HALL, 2011. The Transferral of cultural factors from traditional Chinese folk art into contemporary product designs. *Design Principles and Practices: An International Journal,* 5, 313-326.

The Transferral of cultural factors from traditional Chinese folk art into contemporary product designs

Abstract

This paper describes an exploration into the absorption of local cultural elements and how these can be synthesised into new concepts from abstract elements into successful designs. A cultural transfer design workshop was held with students from the IDE department at the Royal College of Art in the UK and Art and the Design Academy of Tsinghua University in China, in collaboration with traditional Chinese craftsmen. This workshop is one part of the international collaborative IDE "GoGlobal" project in 2010. Through methods including: craftwork, market observation, case study, brainstorming and concept design, the workshop results demonstrate an understanding of the transferred object from its aesthetics and ethical context of local traditional art and essential factors producing a mature culturally transferred response. As design research, the workshop is a rethink and experiment on searching the value of Chinese elements in products, individual designer and team opinions and analysis of the transfer in respect of both global and Chinese markets

***Keywords**: Cultural transfer, Chinese folk art, Concept design, Design pedagogy, Workshop organization*

5. Introduction

Cultural transfer is an increasingly important element of the creative activity of developing economies in order to capture meaningful aesthetic and functional attributes that display cultural relevance in home markets and marketable differentiation for international export sales. China is now the major manufacturer of many categories of world products and yet is at the early stages of developing a cohesive contemporary cultural design language. The aim of this workshop is to begin the exploration of the methods for successful cultural transfer from traditional Chinese elements into meaningful contemporary product designs.

In generally, there is a lack of in-depth research and appropriate methods to assist designers on how culture can be consciously integrated in product design in cultural transferred design domain (Moalosi, 2007). Some researchers built culture-oriented design models based on methodology and design principles. For example Moalosi's African folk art oriented design model, which was developed from analysing the methodology and focused on meeting users' needs. Other design models are focused on designers' work steps carrying on cultural transfer design. Lin's Taiwan aboriginal cultural product design model is in this structure, which consists of steps identification, translation and implementation (Lin, 2007). This workshop is an attempt on the integration of principle-oriented and design practice method lead model. It is based on the cultural transfer design methods, while no limitation on participants' creativity.

The workshop began with the collaboration of design students from the Royal College of Art (RCA) and Imperial College in the UK and Tsinghua University in Beijing, China, and Chinese traditional craftsmen located in the Art and Design Academy of Tsinghua University between 21st and 22nd April 2010. The participants included fifteen dual masters students from Innovation Design Engineering (IDE) department RCA, five MA industrial design students from Tsinghua; tutors from RCA and Tsinghua and five Chinese craftsmen from different folk art fields including paper-cutting, clay sculpture, Chinese calligraphy, theatrical face drawing and dough sculpture. This aims were to expose design students to concepts dealing with folk art, a key component of Chinese traditional culture. The workshop steps included observations, case studies and concept designs that enabled students to absorb knowledge of certain Chinese craftwork, analyse Chinese cultural elements in existing products and attempt to create or improve a contemporary design using Chinese elements at the conceptual design stage. It was also a practice to better understanding the importance of cultural value in design and the methods to realize it. Moreover, from a design pedagogy perspective, this workshop was a briefing to design students about the application of traditional culture. Meanwhile the craftsmen will have the opportunity to know contemporary Chinese and international ideas about their work and receive modern creative inspirations through their participation.

Figure 1.1 shows the organisational model of this workshop. It focuses on the design students' input and output, which was facilitated via the learning from the craftsmen and communication with design tutors. The output is expected to show the different possibilities of cultural applications in modern design. Research analysis can provide evidence of the individual designer and teams' opinions and about Chinese cultural elements transferred onto modern commercial product designs from both international and Chinese perspectives. It is also an investigation for potential cultural transfer design methods.

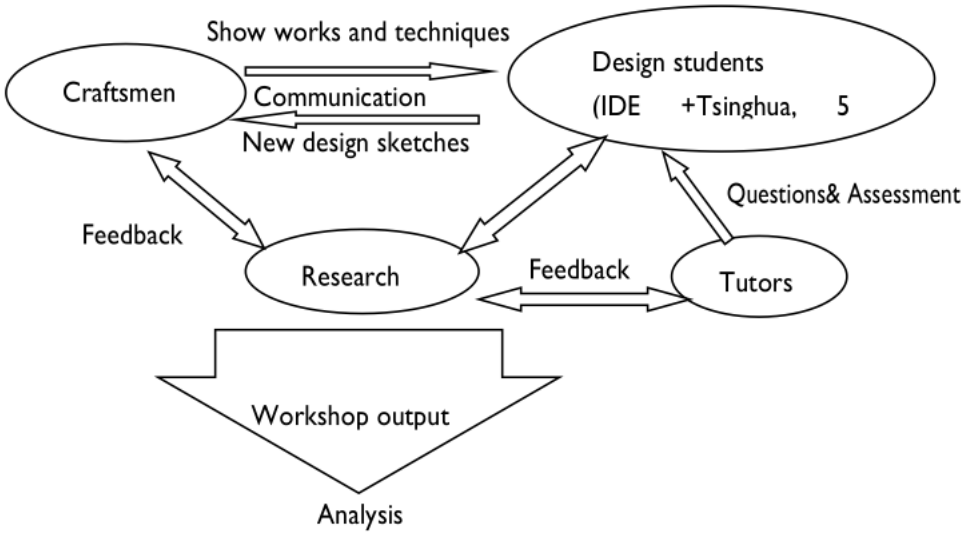

Figure 1.1: Logical structure of workshop

This workshop is one part of the "GoGlobal" international collaborative educational project established in IDE for first year students. This project works at the boundaries of

contemporary design, architectures and urbanism, and engages with the world's influencers and drivers to make a proactive global contribution through creative ideas and practice, where design could make a significant posiive contribution. The 2010 project theme is China: rural-urban". Its aim is to take the country and city migration, communication and society as a meta-theme project. Students explore the large subject area and choose smaller focused problem areas to tackle for diverse final outcomes. Issues centre on communications between migrant family members, balancing education between countryside and city, movement of goods, retaining cultural connections and living systems in cities. As one part of the GoGlobal project, this workshop offers an opportunity for participants to experience Chinese folk art and apply these elements into design concepts.

6. Workshop setup

The workshop is run in five teams of three students from IDE and one from Tsinghua. Each team was able to work with one craftsman in the first morning.

Step one: Workshop and relevant knowledge introduction Briefing on aims of the workshop, times and events. The following is a brief description of the five fields of traditional Chinese folk arts, quoted from the handbook published by Chinese Folk Literature and Art Society:

"Paper-cut

Chinese paper-cut or Jian-zhi 剪纸 is the first type of paper cutting design, since paper was invented by Cai Lun in the eastern Han dynasty in China. The art form later spread to other parts of the world with different regions adopting their own cultural styles. Because the cut outs are also used to decorate doors and windows, they are sometimes referred to as *"chuāng-huā"* 窗花, meaning Window Flower. In the north rural countryside in mainland China, paper-cut is a traditionally female activity. In the past, every girl was expected to master it and brides were often judged by their skill

Chinese calligraphy

The local name for calligraphy is *Shū-fǎ* 书法 in China, literally "the way of writing." The Chinese calligraphy is an important and appreciated aspect of Chinese culture, which is normally regarded as one of the arts

Clay sculpture

Chinese folk clay sculpture is three-dimensional artwork by shaping and combing clay. While different from the sculpture practice in western, Chinese traditional folk clay sculpture do not limit on the point-line-surface concept, but focus on catching the abstract immaterial appearance.

Theatrical face drawing

Theatrical face drawing is the unique type of art of Chinese drama. The fixed and personalized pattern makes stronger aesthetic effect because of its exaggerative colours and different lines. It has abundant colours and different colour represents different characters and personalities in the drama. For example, red represents faithfulness and braveness; blue means unyieldingness, boldness; white likens cattiness and guile, etc.

Dough sculpture

Dough sculpture means to make figures, which are mainly from the Chinese folk stories, with the material of sticky powder in different colour, with hand and simple tools. These figures are usually made quite small and in a delicate style."

Step two: Learning traditional Chinese folk arts with the five traditional exhibited their works and techniques and communicated with students in five teams. The five teams worked with traditional craftsmen to gain this traditional technique for inspiring design ideas that will be applied to design contemporary products in the next session of the workshop.

Figure 2.1 Team 1: Paper Cutting, Team2: Chinese Calligraphy, Team 3: Clay Sculpture, Team 4: Theatrical face drawing, Team 5: Dough sculpture

Step three: Market observation and research Exercise where the five teams go shopping to five different appointed places (Table 3.1) with cameras to collaborate for gathering images of products that are designed with Chinese cultural transfer or looked very "Chinese". Teams then discuss and classify the results through insights and analysis using the following questions:

- Which products do you think are traditional Chinese and which do you think are contemporary ones created through cultural transfer?

- How do you judge the cultural transfer of a design and why is it useful?

Step four: In the brainstorming and concept generation stage each team was given a series of products (details in Table 3.1) to design with the requirement of combining folk art elements, using the elements abstracted from the morning craftsman's work. Brainstorming was carried out in teams to develop concept designs for the appointed product. This transfer can be on the aesthetic appearance of a product or a design process method. Each team must prepare design sketches to present the ideas of cultural transfer.

Step five: The presentation of each team was required to be on both product analysis through hunting photos, design sketches, and on the culturally transfer concept. As the last part of workshop this was a conclusion session for feedback and discussion of the results between students, craftsmen and tutors.

7. Results

3.1 Concept design

In the brainstorming and presentation phases of this workshop, each team presented more than one design. In this session, we picked up the most typical concepts from each team。

	Corresponding folk art	Appointed design products	Concept design
Team 1	Paper-cutting	Bathroom	Mirror
Team 2	Chinese calligraphy	Kitchen	Stroke tableware
Team 3	Clay sculpture	Bedroom	Personal imprint
Team 4	Theatrical face painting	Living room	Emotional design products
Team 5	Dough sculpture	Garden	Garden gnome

Table 3.1 Design output of the five teams

Team 1: Bathroom product design through transfer from paper-cutting art. The mirror is designed to be used specifically in a bathroom environment. Design inspiration was from two of the characters of paper-cutting: hanging one mirror and temporary decoration in a festival. This design concept moved a paper-cut from window to mirror, changing the visual background from transparent to reflection. By applying a special varnish coat on the normal mirror, it allows a function that when the mist rises on this mirror, a paper-cuting pattern will appear in a short time until the mist fades.

Figure 3.1 The “paper-cut” mirror

Team2: Kitchen product design through transfer from Chinese calligraphy. This team’s concept is to inject elements from Chinese calligraphic strokes into designs for a series of tableware. Figure 4.2 is a bowl. The stroke is the basic element in Chinese calligraphy writing as well one of the most significant characters to separate Chinese calligraphy from others. There exists eight basic strokes and twenty-nine compound ones. Different strokes in structure can consist of a character following a stroke written order; meanwhile each stroke is a separated figure.

Figure 3.2 A tableware design from “stroke”

Team 3: Bedroom product design through transfer from clay sculpture. This group of design concepts was inspirited through the creative process of clay sculpture. The team members reported that the most interesting and attractive part of the clay sculpture was the “communication” between creator and material, as well as leaving the individual imprints. They are interested in such “communication” between product and user. For example, through adapting a clay-like material, a armoire allows its user impress his/her figure on the door; a pillow can leave a pattern of your face at the last minute before you get up; a cup leaving the lips shows a figure. These personal imprints will not last a long time as the material can recover slowly.

Figure 3.3 Bedroom products design: communication with your product and personal imprint

Team 4: Living room product design through transfer from theatrical face painting. This team's design concept came from the idea "different colours represents a different personality" in the face painting tradition. For example, they designed a coat with a cap. On it there is a mask which when you have a bad mood; you wear the cap and close the coat with the mask, which means "leave me alone". Another example is a series of chair designs. The student learnt from the craftsman that in the face painting, the core part is the form and colour is the forehead. There is a standard on different forehead patterns corresponding to different characters. The chair designs expressed some forehead forms directly, being used as feet and elbows. Through different feet and elbows colours and forms, these chairs express different emotions.

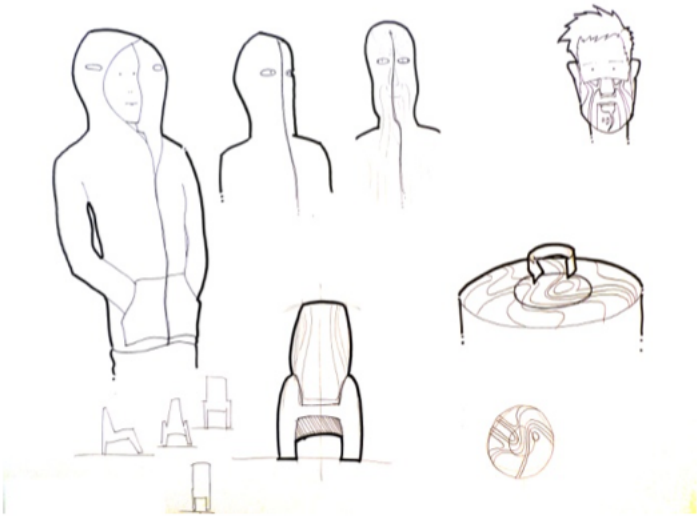

Figure3.4 Living room products and emotions

Team 5: Garden product design through transfer from dough sculpture. As the dough sculpture is made by a sticky powder as well as describing a figure in a story, this team linked their design with the fertilizer-based material and the aura of Kwan-yin. They designed a garden gnome whose material is mixed with fertilizer and seed that will grow into a plant.

Figure 3.5 Garden gnome design sketch

3.2 Photo hunting

The product hunt was conducted as individuals but the analysis, concept design, presentation and tutoring as a team. Figure 3.6 shows some of the photos taken by teams. Through this phase, students can have an intuitive observation of the existing cultural transferral of products into a Chinese market. Meanwhile, it offers us a visual resource for the relevant future design research.

Figure 3.6 Photos taken by participants, Beijing

3.3 Answers to research questions

On the first day of workshop, the authors proposed questions to participants (details are in the workshop setup step three). In the presentation section, they gave their points of view and discussions through the two days of the workshop. Here is a summary of the answers：

Firstly, on the argument of the difference between the real traditional products and products created through cultural transfer, participants hold that in general there is no obvious symbol on products in today's market. For example, there exist a large number of products in its original Chinese usage as hundreds of years ago, while sometimes made in a new material or in a modern aesthetic form. Moreover, through their experience of learning the most traditional Chinese folk art and the observation of the marketplace, they found that a lot of traditional art forms remain similar as in the past. As design develops following the society as a whole, various elements inject into product design softly with time. Meanwhile product design influences society in a reverse manner. That means there is no absolute limitation on "traditional" or "modern cultural transferral" products. Of course, if there is a product in the form of an obvious contemporary or western style while with a Chinese pattern in a traditional form, we can directly judge it is a culturally transferred product.

Secondly, for the standard of a successful culturally transferred design, it should depend on the design's value on the different targets of innovation, market sector, etc. and the contribution of the cultural elements on the corresponding target. For example, even if a cultural transfer is not high in aesthetic value and it satisfies its target users desires, then we cannot deny that it a successful culturally transferred design. Although the standard is broad, we can still find some mass-cultural-transfer designs, those designs applying cultural elements for neither meaning nor target.

8. Evaluation and analysis

The process and results of the workshop fulfilled the authors research questions through participants having had an intuitive understanding of one of the folk arts and its relevant knowledge, interdisciplinary designers working together on cultural transfer designs and inspiring each other, innovative transfer methods and the concept of cultural transfer value in design and local craftsmen receiving creative influence from participants' concepts. After the students' presentation the evaluations focused on the cultural transfer design and design pedagogic assessment through participants' personal learning development, workshop tutors' questions and assessment and folk artists feedback.

4.1 Assessment of student participants' feedback

The master students from IDE are from an international background while the Tsinghua students are all of Chinese background. During the two-day workshop they worked together in harmony as teams. While the key of this cultural transfer workshop is "Culture", considering the unconscious and super-rational influence of the workshop process, the authors questioned team members about their individual contribution in the team work when the workshop completed.

The general feedback suggested that the Chinese students are more sensitive in searching for the interior meanings of the folk art while the international students are more innovative in the design process. In the brainstorming stage, the Chinese members can broadly imagine relevant applications, ideas and inner philosophies. However during the design stage, they felt their design ideas are easily limited by their existing knowledge, as well as the cultural transfer seeming to remain at a visual and tangible level. For the non-Chinese design students, during the workshop they received the relevant culture, e.g. background stories, and philosophies through their Chinese partners' explanation. In the design process their concepts are wider and less imitated combining with more cross-cultural modern design elements with which they are familiar. Compared with their Chinese partners, the cultural transfers preferred to be on an intangible level, while on the other side, some of those designs are "too much" for Chinese aesthetic standard. This situation in the workshop collaboration can stimulate the cultural transfer designers to find the right balance.

4.2 Assessment through tutors' questions

In the presentation phase, tutors' questions can be concluded on these following three

aspects:

1. What is the reflection of the original “Chinese” characters on your design?

2. What do you think the cultural transfer level is in your design, tangible, intangible or both?

3. Through students’ answers and our further analysis and research, we give our answers on these questions through this workshop.

As mentioned in the second section of this paper, cultural transfer can be classified in three ways: form, behaviour and philosophy. If the “Chinese” character in a design through cultural transfer is wanted to be discovered directly by the customers or users, this design must be applied on the first transfer method: with a tangible Chinese cultural form or pattern transfer on it. However, an important judgment standard of a cultural transferred design should be similar as any other designs: that is user experiences. In the last century industrial designers gave form to products; in this century they will give form to experiences (Roux, 2009a). A successful design cannot be limited by chasing cultural forms and patterns, but on searching the abstractive value from transfer to encourage users to be able to make better use or more interesting use of the final design. The most successful strategy is to synthesise these tangible and intangible cultural transfers in a design at the same time in harmony. The “paper-cut mirror” design concept from team one and the series “theatrical face” chair of team four are successful examples. We can find the Chinese local character directly in the design and the application of the concept from this folk art gives the product innovative characteristics.

4.3 Craftsmen’s feedbacks

During the workshop process, the craftsmen took part in two phases. In the first day morning, the craftsmen showed their works and taught the students some basic skills and relevant knowledge. In the presentation phase, they learned the design concepts birth from their folk arts and expressed their personal opinions. As one of the aims of this workshop is to benefit folk art transmission, from the craftsmen’s feedback, they were quite satisfied and surprised to see the students design concepts. They reported that this workshop helped them to think about how to express and show their traditional folk arts through a suitable modern and international method or media which can be a worldwide attraction.

5 Conclusion and Discussion

We see products in terms of technological mediation, as devices that evolve from behaviours as well as changing behaviours via experiences in interaction. In this way, Chinese cultural transfer in design is not only about mixing functionality and local characterisation, but also includes aesthetic and philosophical considerations about what kind of behaviour and experiences a product should derive from the transferred cultural artefact. From this point of view, the workshop stance aims to elucidate certain cultural transfer principles through a practical methodology, in terms of cultural transfer design and design pedagogics. In this paper, we bring together a theory on cultural transfer through the

relevant background research, experiences from participants and feedbacks, which can be concluded into the following points:

• Cultural transfer should not stay on a principle level, but needs to be practical. Collaboration of the designers and the local cultural artists should be considered to be an efficient path.

• This cultural transfer should not be limited through design appearance, but also through the design process, applying the transferred concept via design methods.

• Combined with contemporary design concepts including emotional design, user centred design, etc. This is the way to include the local elements into designs for a global market.

• Record the internal structural value of the transferred cultural element. As history changes, people's aesthetics follow also. The reason why those traditions can always exist and inspire is that the internal concepts are high valuable and well accepted by a common human aesthetic or emotion. Those intangible concepts are the core of cultural transfer in design.

• It is said that we now live in a small world with a global market. While the market heads toward "globalization", design tends toward "localization." In many design domains, "think globally for the market, but act locally for design "has been a maxim (Majendie, 2010, Fernandes, 1994). Designing local features into a product appears to become important in the global market where products are losing their identity because of the increasing ubiquity in their function and form created by a need to satify diverse markets (Handa, 1999). Cultural features are considered to be a unique character to embed into a product both for the enhancement of product identity in the global market and for the fulfilment of the individual consumer's experiences (Fiss, 2009, Lin, 2005). Its is now considered that "localisation" is one of the possibilities to increase design value and separate the design character. The application of this "localization" must be "globalization", which means the cultural transfer is just a method of design, but not the final aim of design. The importance is not to pursue how much the design reflects the local cultural elements, but to find the valuable cultural elements to contribute to design through different methods. The cultural transfer should service for general design targets, not only focus on aesthetic or market considerations in isolation.

• Products designed and manufactured are influenced by multiple factors, such as the availability of raw materials, human skills, tradition, and socio-cultural values. It is expected that culture plays a crucial role in designing contemporary, socially-acceptable products. In this paper, the definition of "cultural transfer" means the adoption of, or relating to the arts, social behaviour of a society, ideas, or intellectual achievements; application or reflection on these elements within product design. Thus, cultural transfer can be classified in three ways: Tangible physical and material culture transfer (pattern,

figure); Social and cultural behaviour transfer; and Intellectual, ideation, concept or philosophy transfer.

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