



Arkitektur- og designhøgskolen i Oslo
The Oslo School of Architecture and Design

DIPLOMA PROGRAM FALL 2017

Diploma candidate(s): Tiange Wang

Institute: industrial design

Main supervisor: Carsten Oeding Loly

Second supervisor: Geir Oxeth

External supervisor:

Company cooperation: Higzip hardware factory in Dongguan

Title of project: light for compact living

Type of project:

Product design

Light for compact living

Field: industrial design
Name: Tiange Wang
Supervisors: Carsten Oeding Loly
Geir Øxseth,
co-operator: Higzip hardware factory

Abstract:

In this diploma, I will co-operate with a hardware factory in China to design light to enhance compact homes in cities.

Many compact spaces in cities are not famous for good natural light, and interior light in crowded city homes are often be ignored. In another hand, the light stimulate people in different spaces, people need different light for different tasks. A good light can make people comfortable in environment.

In this task I have a practical partner: Higzig hardware factory in China and the proposal of the lamp should be produced by them in a reasonable price.

Motivation:

I choose light design as my diploma project because they are the very basic things in our life, they are simple, functional, honest. They are shaping our life style and bring pleasure and surprise to our life. They are the honest story teller of material, functions and form. They are mirrors which can reflect who we are.

Design is "a full expression of what a thing is or does"-----george nelson

"In furniture design, as in architecture, the intelligent solution of practical problems can combine with an expressive development of form to produce a useful and visually meaningful result."

- **【furniture modern + postmodern + design + technology】**

co-operate partner:

Higzip is a factory which are producing hardware products for electrical appliances, household appliances, kitchen utensils.

(LED lamp series, accessories), LCD TV series (a variety of sizes), the series of lamps and lanterns Screen cell, charger, accessories, mobile phone battery tin, tin box cans and electronic ballasts, transformer. Heat sink series. Located in Dongguan in China.

70% of products are for export. It is also manufacture metal parts for IKEA.

Higzip, is the sub-supplier they don't sell products individually so that they don't have any retailer, for the future product, they wish they can sell it on internet.

punching 200-300mm 1-6mm depend on the thickness of material, copper, iron, aluminium
tube bending machine R 4mm 5mm 1200 round corner =<40mm shape freedom iron
spinning R=< 150mm< Iron, copper, aluminium

mainly machine:
Metal department:
metal punching 10t-160t
Spinning machine
pipe cutting machine
pipe bending
spot welding machine
Milling machine
grinder
water grinder
radial drill

Plastic department:
Plastic injection





What:

Light design for compact living.
The outcome of the task should be a specific light for the similar task in different situations, or a series of lamp which designed for different task with familiar characteristics.

As with user-oriented lighting design, light also has a supporting function in architecture. It is a tool for rendering the given architectural structures visible, and contributes towards their planned effect. Lighting can go beyond this subordinate role and itself become an active component in the design of the space. This applies in the first place for light that is not only able to render architecture visible, but also to enhance the intended appearance. This applies primarily to luminaires and their arrangement.

Successful lighting is integrated into both the architectural concept and the physical structure. The lighting concept is integrated into the architectural concept in three ways: (1) by enhancing the original designer's conception of the space, (2) by reinforcing the activity in the space, and (3) by highlighting areas to be prominent, while de-emphasizing areas to be subdued.

Lighting equipment is integrated into the physical structure of the building in three ways: (1) by selecting visible elements that harmonize with the design motif, (2) by incorporating hidden elements within the architectural forms and surfaces, and (3) by coördinating electrical systems with the other mechanical systems of the building.

[Handbook of Lighting Design Rüdiger Ganslandt ERCO Harald Hofmann edition]

WHO:

Background of target user group:

While I and Higzig had the meeting together, we decided that we can design and produce better product for everyday life . As now, the manufacturing in China is better than before, we can produce better and quality things, and there is a growing market for better products. People go abroad for shopping is not a break news in China.

At the same time many individual brands are rising these years, People have the willing and can afford better things.

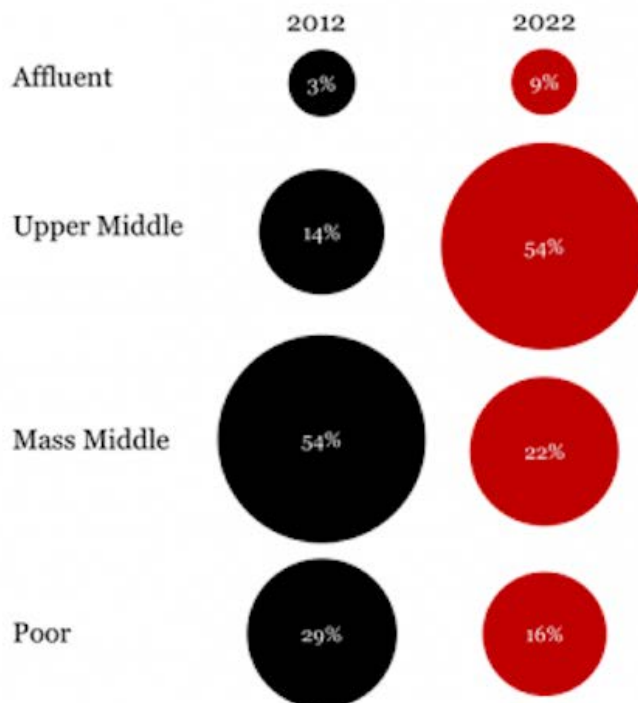
middle class employee

Big mount of people who live in the cities especially in first line(Beijing, Shanghai, Guangzhou, Shenzhen), and second line(Hangzhou, Suzhou, Wuhan....) cities are middle class employee. From predict from McKinsey & Company, 76% families in cities will be come middle class family till 2022. Their characteristics are very typical:

Living in the cities
Middle or high income
child>=1
decorate homes

small space in cities
afford for better things
more space
presentation

China's Middle Class as Percent of Urban Households



Source: McKinsey & Company
Household incomes:
Affluent: >\$34,000
Upper Middle: \$16,000 - \$34,000
Mass Middle: \$9,000 - \$16,000
Poor: <\$9,000

www.truewealthpublishing.asia

WHERE:

in big cities, small dwelling

most of our target users live in compact home in cities.

In many reasons, people are bonded in compact home in cities.

The reason including:

There are many reasons for unpleasant light in compact spaces in cities: bad building structure, lack of daylight, unconscious of interior light, insufficient space for lighting, hard to access to the space.

Common characteristics of small spaces: Multifunctionalism, Poor natural light, Narrow, crowded

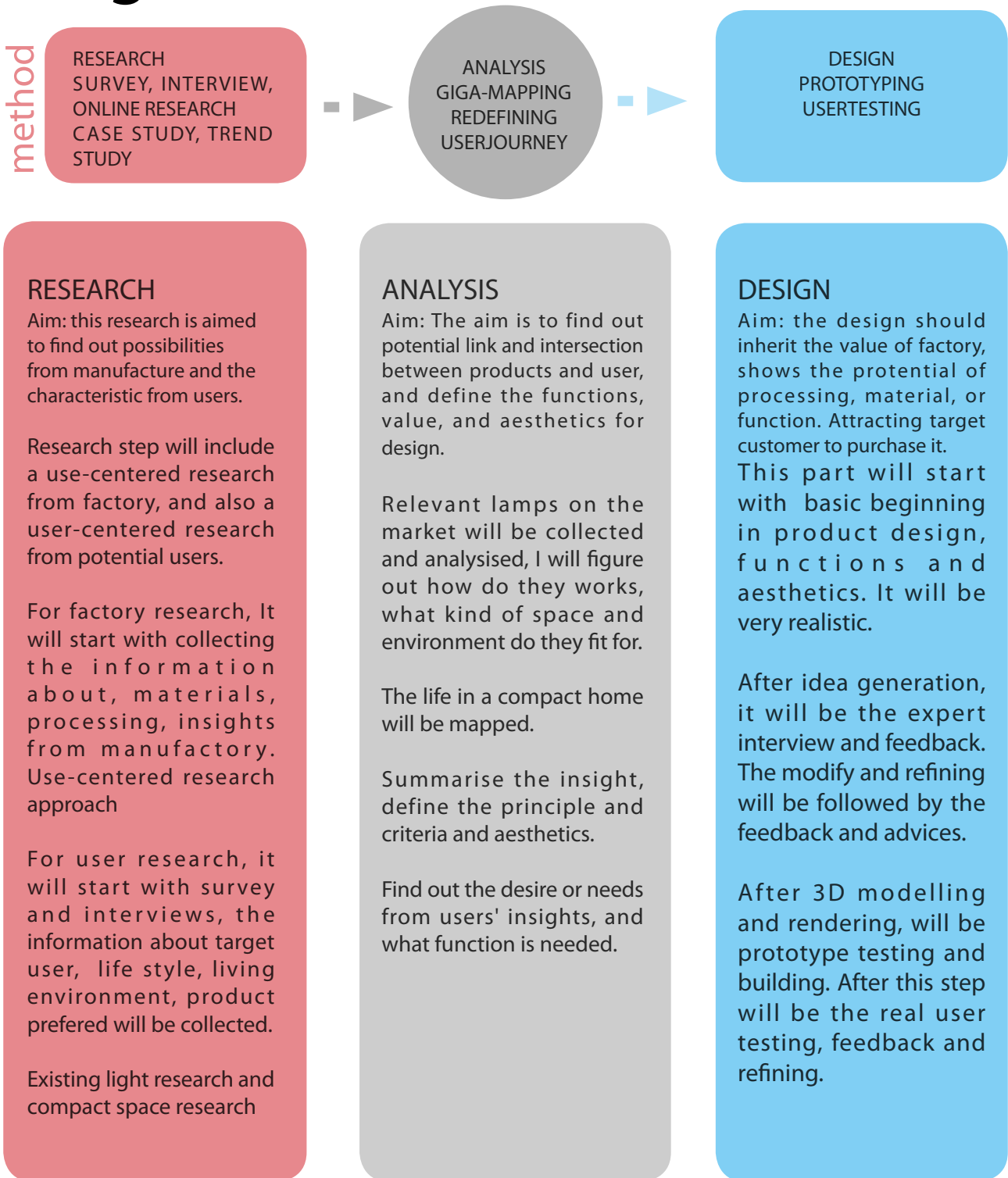
When talking about small compact housing it is important to remember that small housing can't necessarily all be put into the same box of definition or typology. Instead it should be considered that there are several different types of small compact housing, which all differ more or less from each other, either in size, shape, function or practical use etcetera. Which type people choose might depend on many things, and the reasons may also change depending on the user group in question. When one chooses to live in such a small space it is important that the space fits to the wants and needs of the user. 【Brown, 2005; Mitchell, 2014; Richardson, 2011; Kottas, 2014】

what kind of lamp?

This lamp or lamp series will not focus on architectural based lamps, which means the very basic lamps which are designed and installed in interior construction stage, it will more concern about the case when premade lamp don't fulfill people's daily routine.

The lamp which have free access to many different spaces, it does need to be mounted on the wall with pre-made electric lines in the wall. It offers multifunctions at home such as Floor lamp serves as different roles at home, the second light resources, task lamp, ambient light, or reading light. Multifunctionalism is also a characteristic of compact spaces.

Progress:



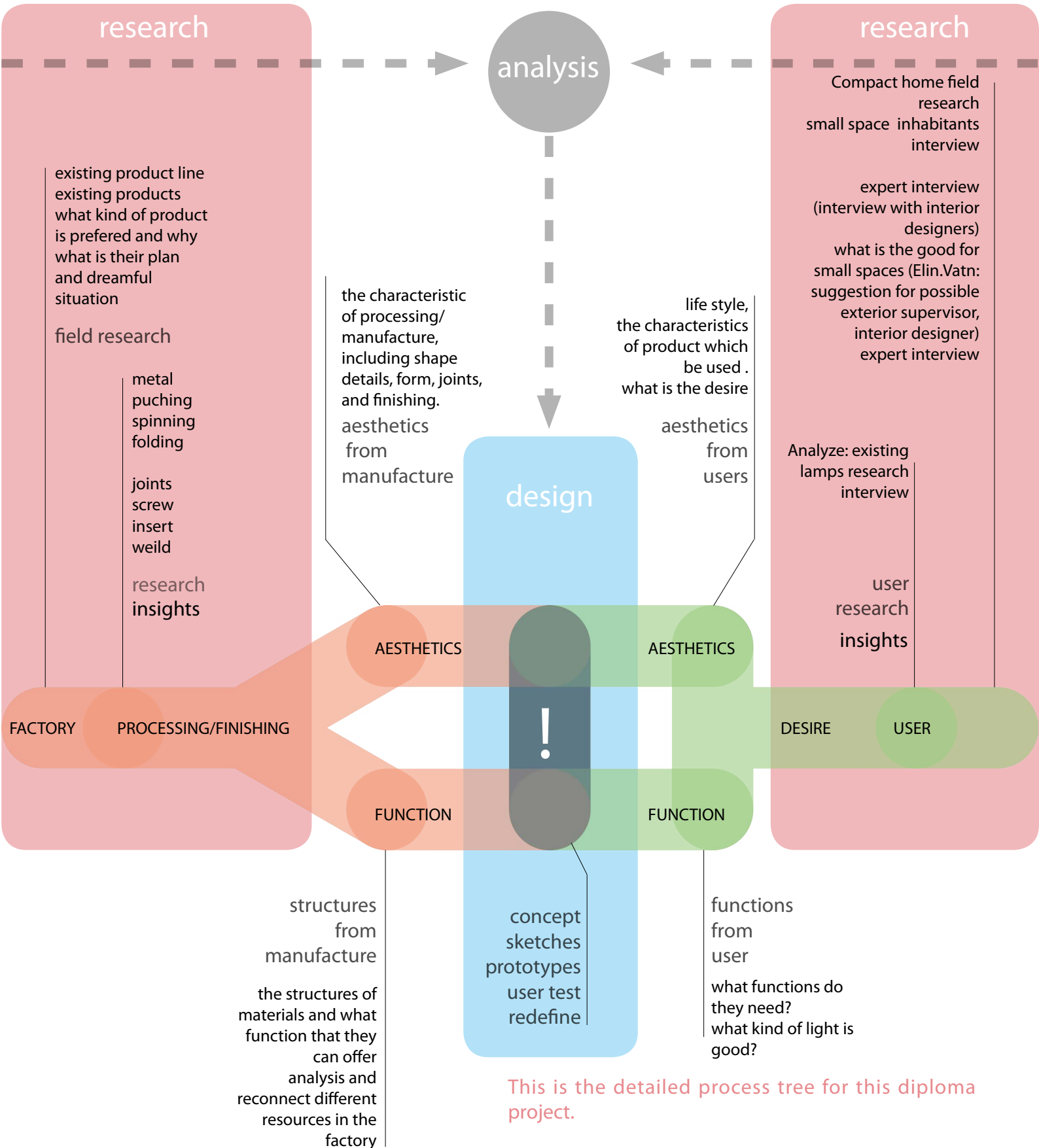
factory come in in this stage

DELIVERY:

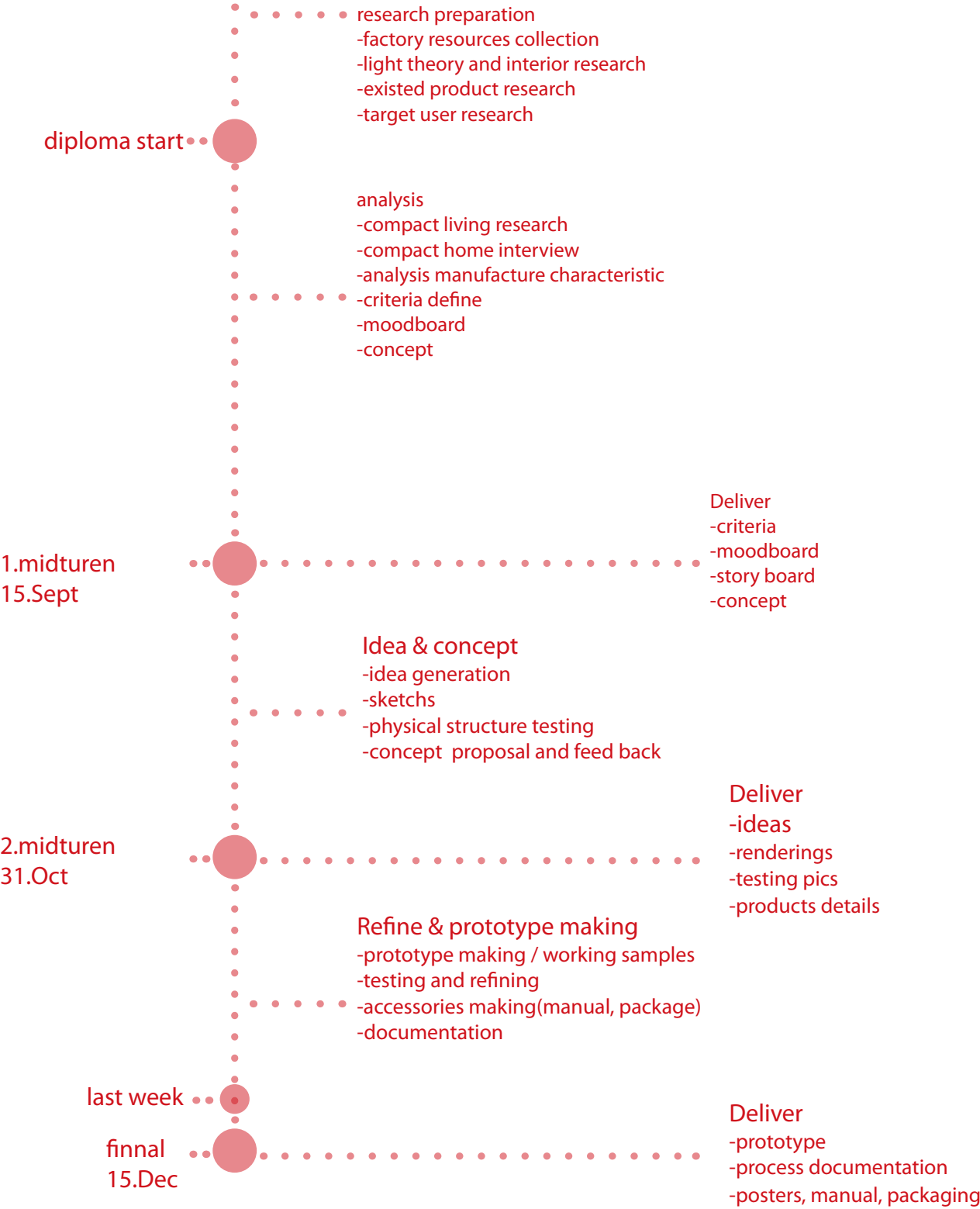
The outcome of the task should be a specific light for the similar task in different situations, or a series of lamp which designed for different task with family characteristics. Product prototype, poster, and documentation of the develop process.

Progress:

! is the final design



TIME LINE



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【Brown, 2005; Mitchell, 2014; Richardson, 2011; Kottas, 2014】