AI & data design

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projects in D&I college and Deisgn AI Lab

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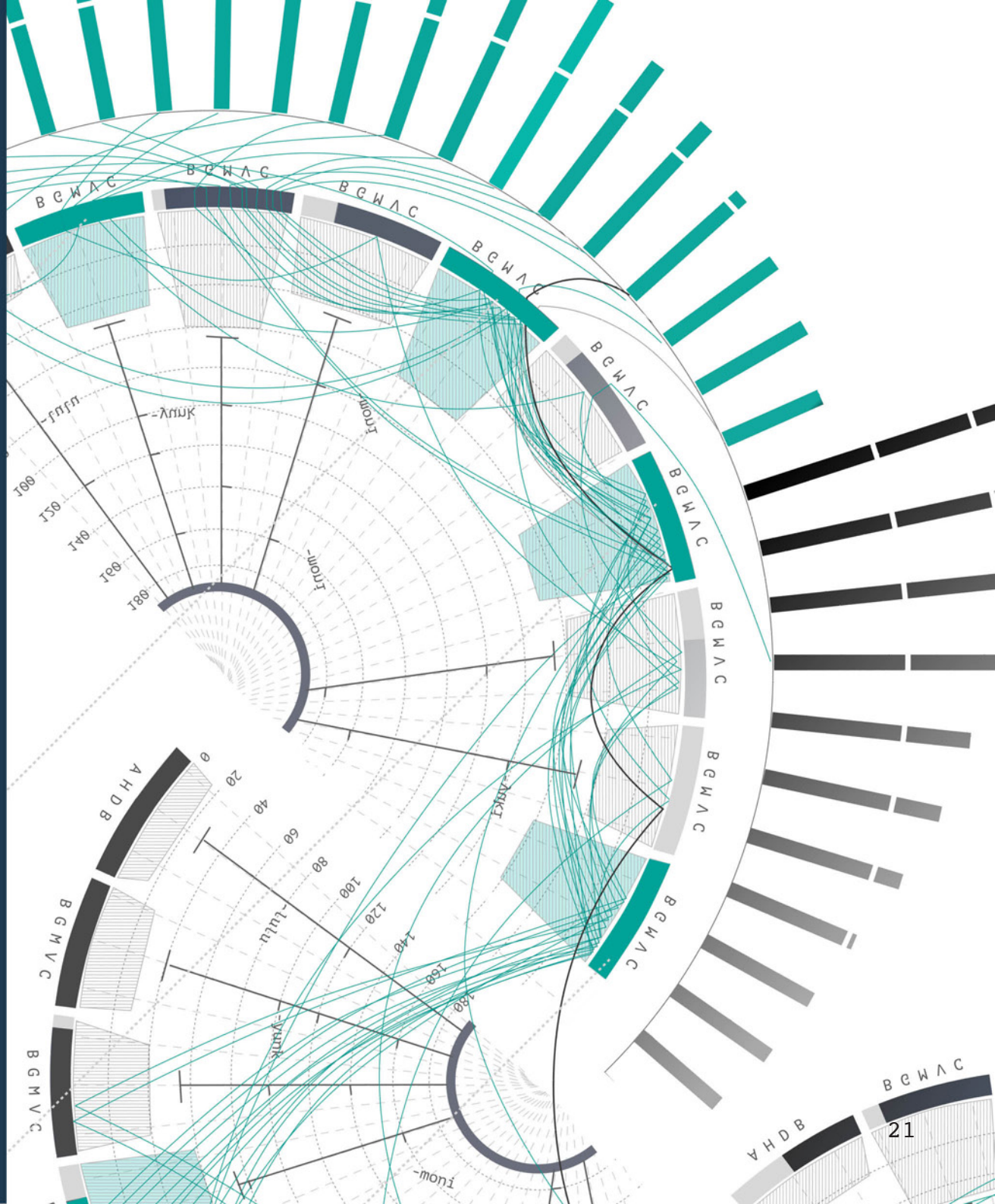
VISUALIZATION OF EHR DATA

DATA VISUALIZATION OF ELECTRONIC HEALTH RECORD (EHR)



VISUALIZATION OF EHR DATA

DATA VISUALIZATION OF ELECTRONIC HEALTH RECORD (EHR)

@ 1bowlLIYUFAN

EHR

Electronic Health Records contains multi-event and multi-sequence data for a big amount of patients. Visualisation that effectively shows Clinical Health Information can help professionals to make rapid life-critical decisions in busy distracting environments and help physicians to get insights on medical events.
Simple and intuitive visualisation designs minimizes the learning efforts of the untrained users.

project info

8 weeks / 2018.03 - 2019.05
College Studio / team work

project goal

Create an innovation method for electronic health record (EHR), which shows a big number of event sequence data in one graph.

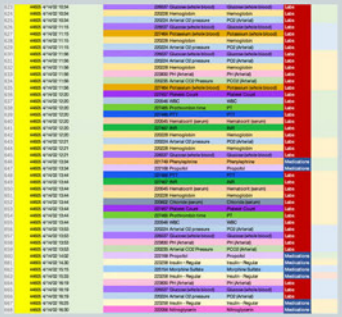
team

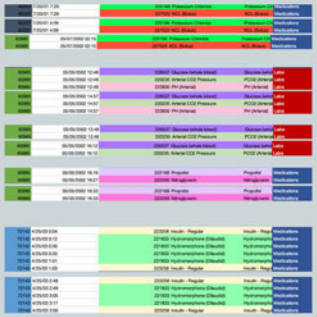
CHEN Lei Monica (Italy),
LI Yufan (China),
LIN Yuhong (China),
FOZIANO Maria Ludovica (Italy)

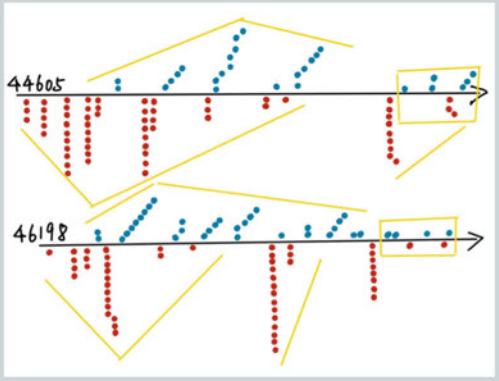
personal responsibilities

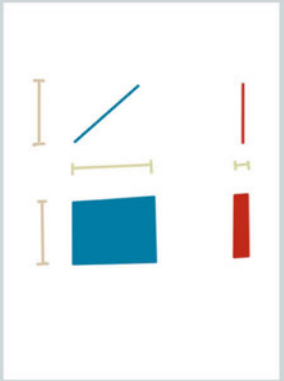
- Concept Design Phase:
  data analysis; creative ideas
- Visualization Phase:
  sketch; interaction animation
- Applicatiion Phase:
  evaluate document, user test

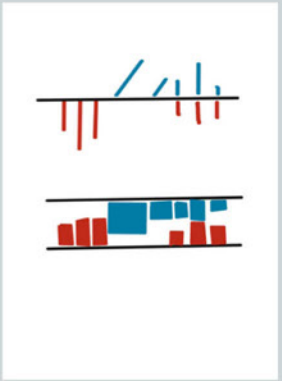
data analysis

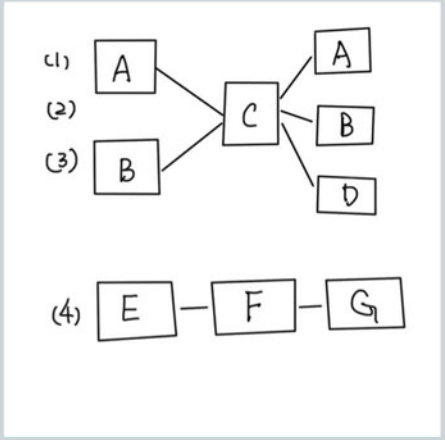


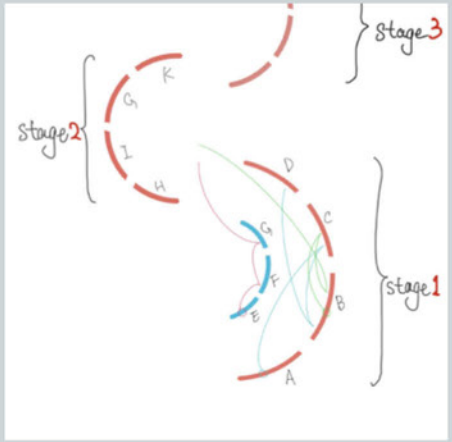












- **from data to graphics**
  The original data is the electronic health event sequence record of tens of thousands of patients.
  1. First, focusing on one patient, according to the time axis and the type of event, the original data was converted into a linear incident chart.
  2. The event type is reflected in the positional relationship between color and point.
  3. To further simplify the graph of event points, abstract a representative typical event pattern (including a series of event points).

- **from linear to circle**
  Consider displaying event data for multiple patients at the same time.
  1. The linear display method has many defects: it is impossible to restore the actual path of each patient; it is difficult to display the repeating pattern in the linear display.
  2. Try to display the data in a semicircle. Abstract all the event patterns, summarize the typical event patterns into different stages, and display the data in a semicircular manner.

design concept

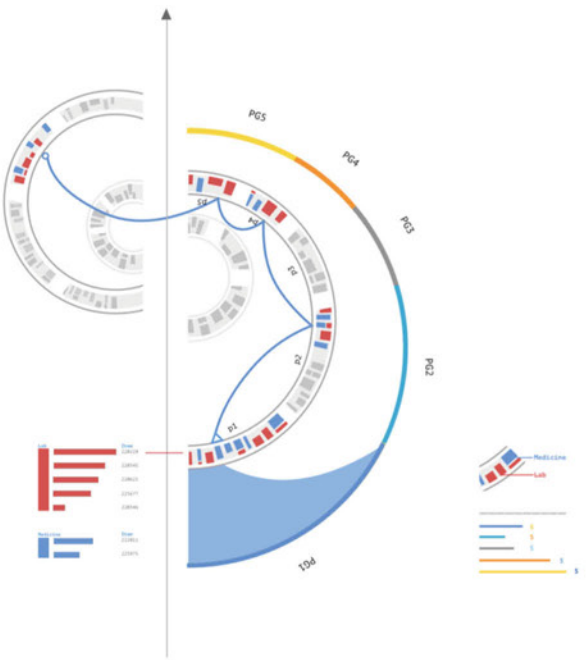
visual ecoding and visualization

DESIGN

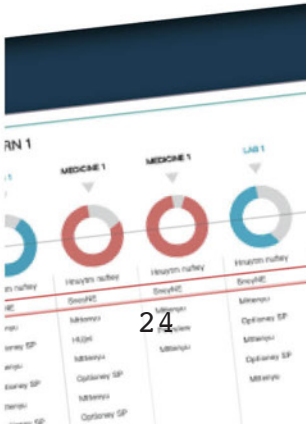
visualization:
VISUAL ENCODING

PATIENT GROUP

Length ---- Proportion
Color
Hue ---- Big group
Value ---- Small group
Half Circle ---- Big group
Lines ---- Path
Triangle ---- Start
Circle ---- Ending



interaction



visualization and interaction

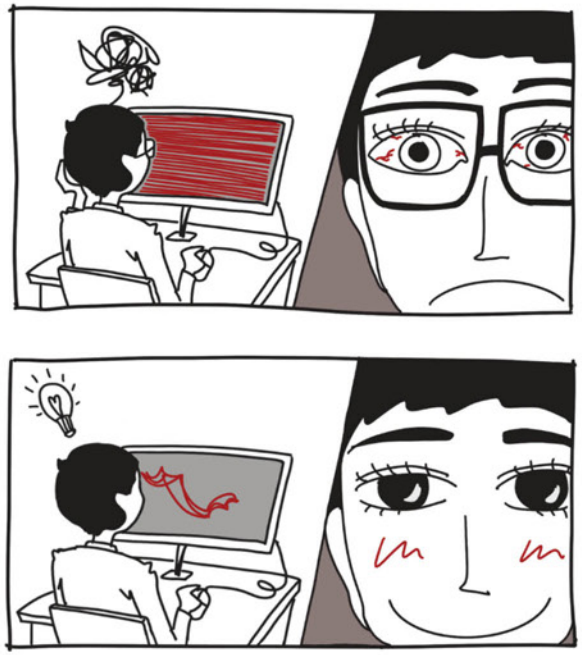
first version

application

senario

verification

The doctor wants to verify how many patients go through a specific pair of patterns he is interested in.



discovery

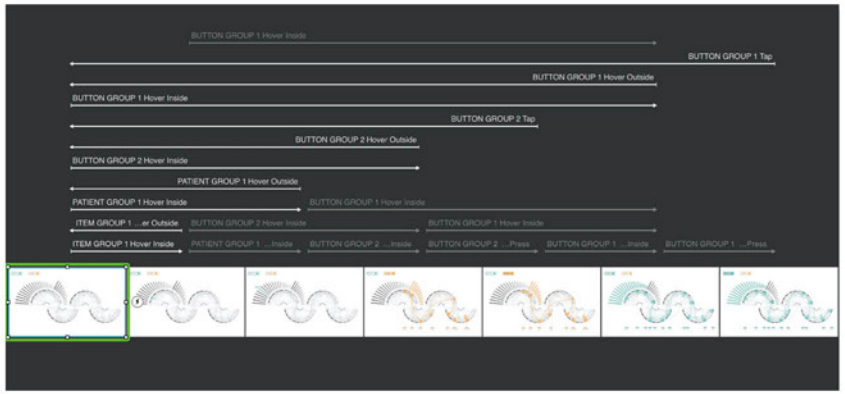
The doctor wants to find some abnormal patterns.

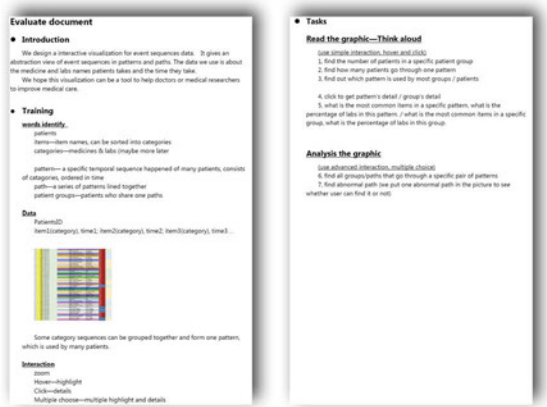
interaction and functions

- SELECT TWO MAIN GROUPS
- SELECT ONE OF THE MAIN GROUP TO SEE THE PATTERN OF ITS ITEMS
- HOVER OVER THE SMALL GROUPS TO SEE ITS DETAILS
- SELECT A SPECIFIC GROUP OF PATIENTS TO SEE ITS PATH AND ITS DESCRIPTION.

evaluation

evaluation documents
prepare tutorial document and tasks to evaluate the prototype.





Evaluate document

- **Introduction**

We design a interactive visualization for event sequences data. It gives an abstraction view of event sequences in patterns and paths. The data we use is about the medicine and labs names patients takes and the time they take.

We hope this visualization can be a tool to help doctors or medical researchers to improve medical care.

- **Training**

words identify

patients
items—item names, can be sorted into categories
categories—medicines & labs (maybe more later

pattern— a specific temporal sequence happened of many patients, consists of categories, ordered in time
path—a series of patterns lined together
patient groups—patients who share one paths

Data

PatientID
Item1(category), time1; Item2(category), time2; Item3(category), time3 ...

Some category sequences can be grouped together and form one pattern, which is used by many patients.

Interaction

zoom
Hover—highlight
Click—details
Multiple choose—multiple highlight and details

- **Tasks**

Read the graphic—Think aloud

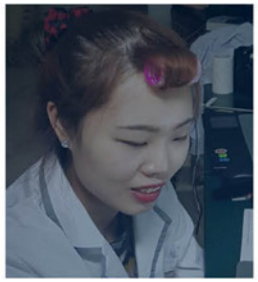
(use simple interaction, hover and click)
1. find the number of patients in a specific patient group
2. find how many patients go through one pattern
3. find out which pattern is used by most groups / patients

4. click to get pattern's detail / group's detail
5. what is the most common items in a specific pattern, what is the percentage of labs in this pattern. / what is the most common items in a specific group, what is the percentage of labs in this group.

Analysis the graphic

(use advanced interaction, multiple choice)
6. find all groups/paths that go through a specific pair of patterns
7. find abnormal path (we put one abnormal path in the picture to see whether user can find it or not)

users & tests
Invite two medical graduate students to participate in prototype testing.

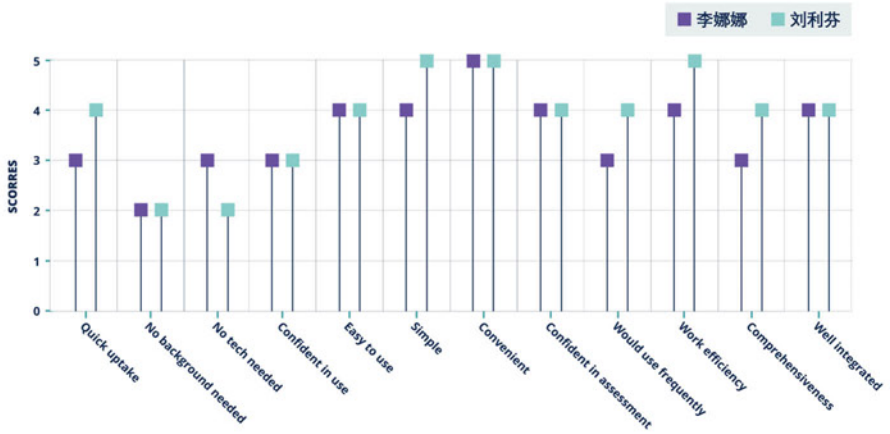


李娜娜
medicine student
Tongji University

刘利芬
medicine student
Tongji University

feedbacks

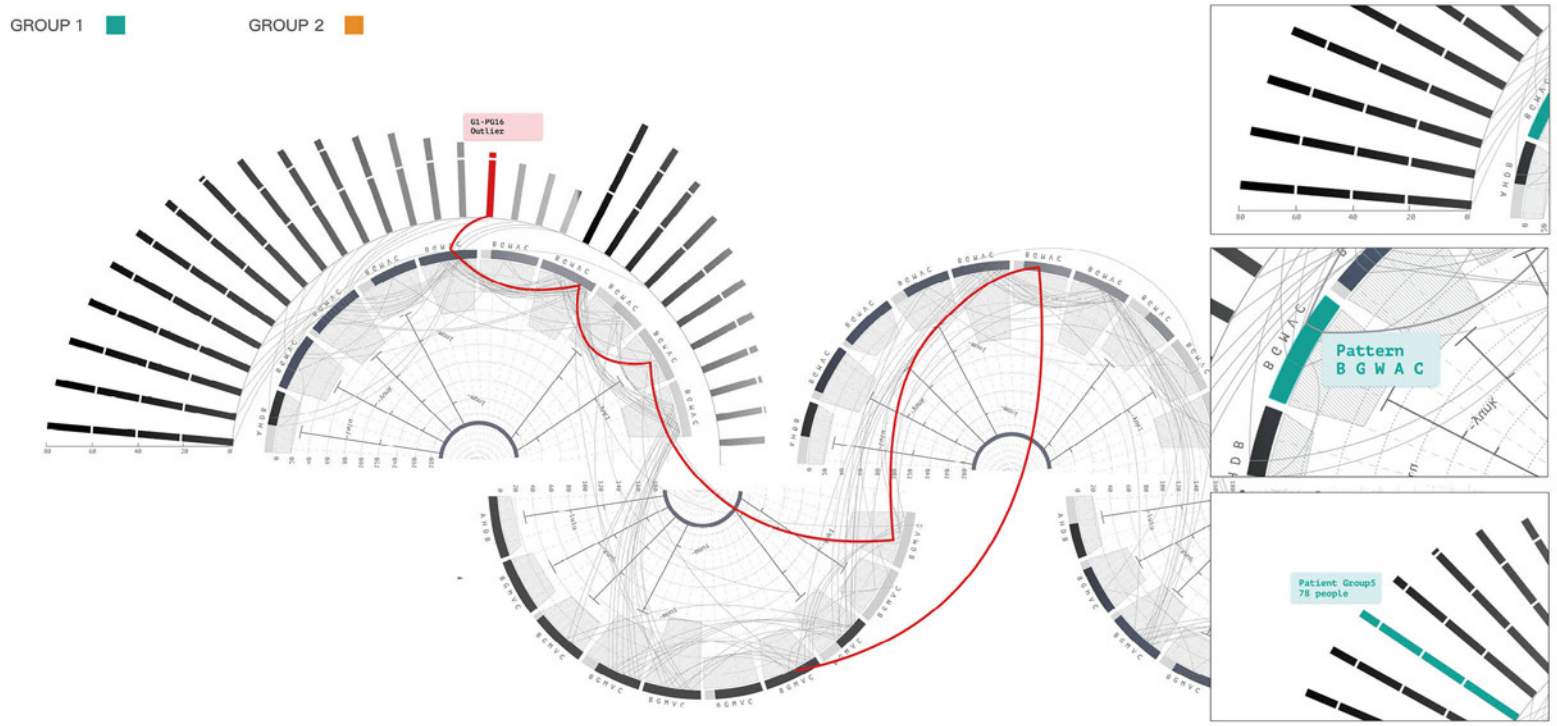
Experience questionnaires and problems



- More explantion needed for first time users before the beginning of the test, because they felt confused before remembering all the visual encodings.
- *Big patient groups* and *small patient groups* made them confused at first.
- Some numbers are not clear in the visualization, like the numbers of patients in each group.

refinement

1. Add scale
2. Add tooltips
3. Make outliers clearer



DEISGN A.I. REPORT 2019

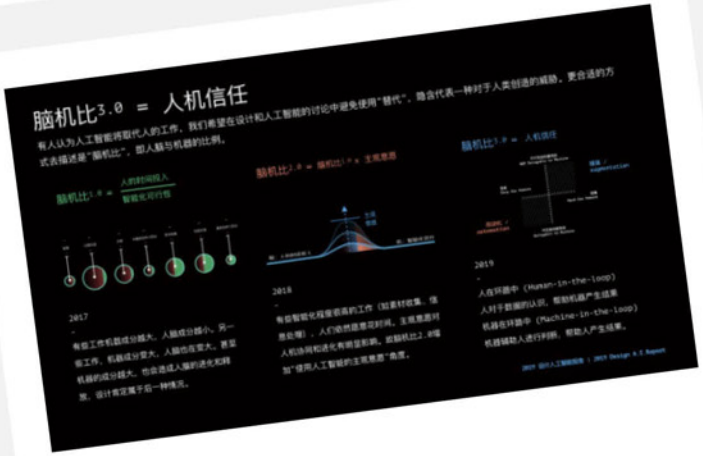
ACADEMIC PROJECT IN DESIGN A.I. LAB, TONGJI UNIVERSITY.

01. 数字经济下的设计

数字技术的摩尔定律带来扩张的零边际成本和接近无限的运算能...

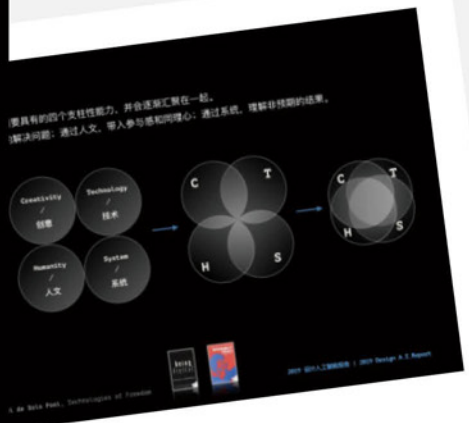
算 = 无限想象

运算有很长的历史，并伸。设计...



04.脑机比 3.0

脑机比3.0 试图在设计创意领域描述人与机器之间信任的程...

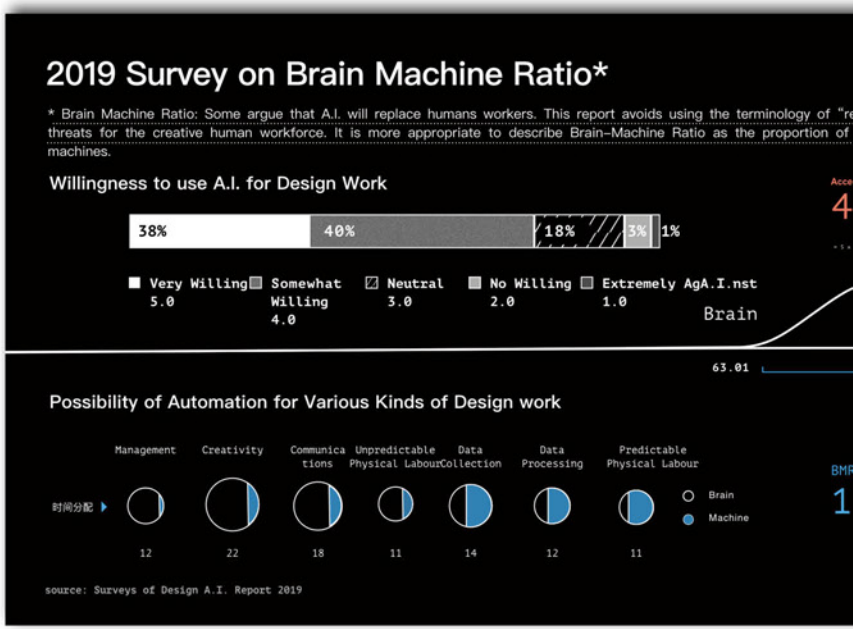


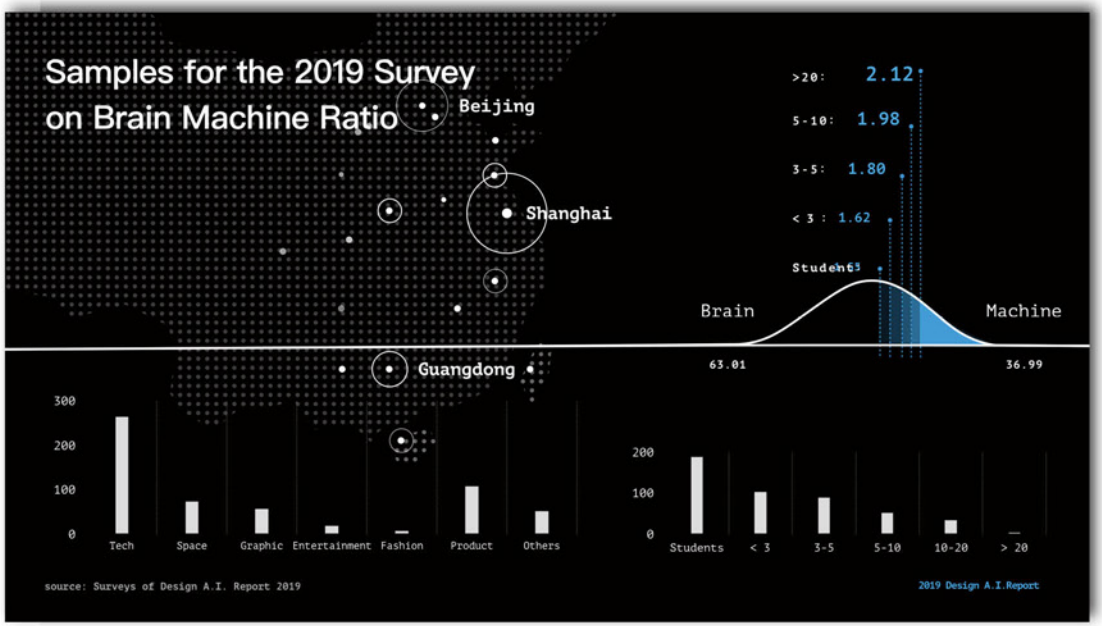
想象力的反思

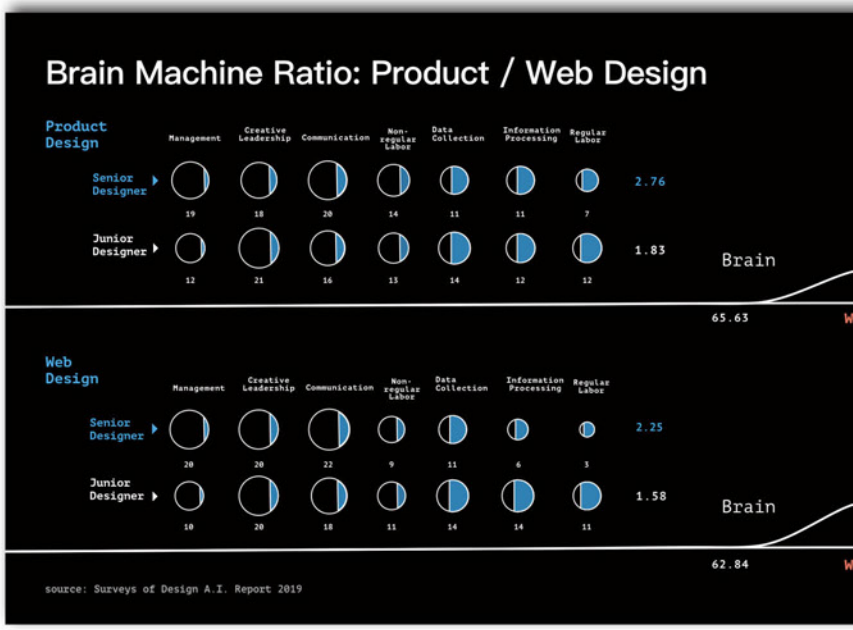
Responsible for Chapter 3

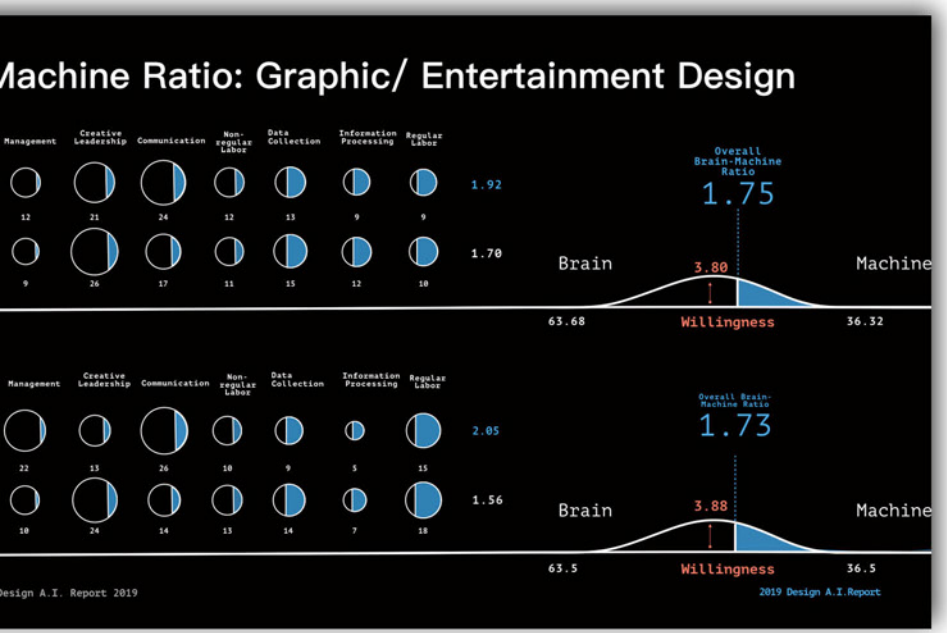
In February 2019, the 2019 Brain-Computer Ratio Research and Test Activity was launched, 480 valid questionnaires were recovered, and human-machine collaboration data from students to designers with more than 20 years of industry experience were obtained. The sample covers 23 provinces and cities, including the six design industries of product, Internet, plane, space, entertainment and fashion.

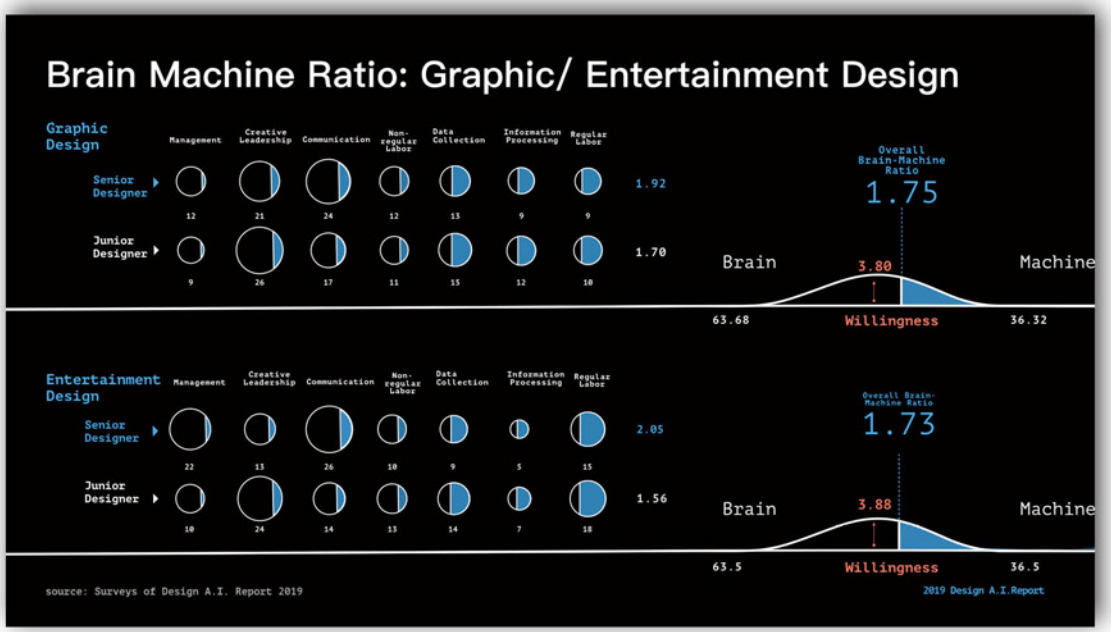
At the same time, more than 40 design industry companies were invited to participate in the survey to investigate the willingness, difficulty and landing scenarios of the company to introduce artificial intelligence technology in the design work.








Machine Ratio: Graphic/ Entertainment Design
Management
Creative Leadership
Communication
Non-regular Labor
Data Collection
Information Processing
Regular Labor
12 21 24 12 13 9 9
1.92
9 26 17 11 15 12 10
1.70
Overall Brain-Machine Ratio
1.75
Brain
3.80
Machine
63.68
Willingness
36.32
22 13 26 10 9 5 15
2.05
10 24 14 13 14 7 18
1.56
Overall Brain-Machine Ratio
1.73
Brain
3.88
Machine
63.5
Willingness
36.5
Design A.I. Report 2019
2019 Design A.I.Report


Brain Machine Ratio: Graphic/ Entertainment Design
Graphic Design
Senior Designer
Junior Designer
Management
Creative Leadership
Communication
Non-regular Labor
Data Collection
Information Processing
Regular Labor
12 21 24 12 13 9 9
1.92
9 26 17 11 15 12 10
1.70
Overall Brain-Machine Ratio
1.75
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63.68
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36.32
Entertainment Design
Senior Designer
Junior Designer
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2.05
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1.56
Overall Brain-Machine Ratio
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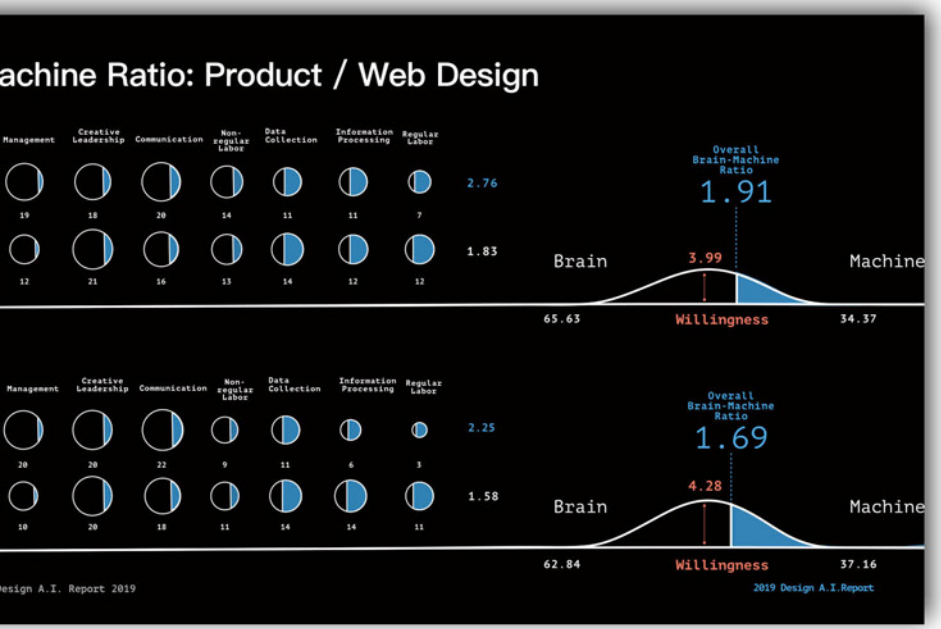
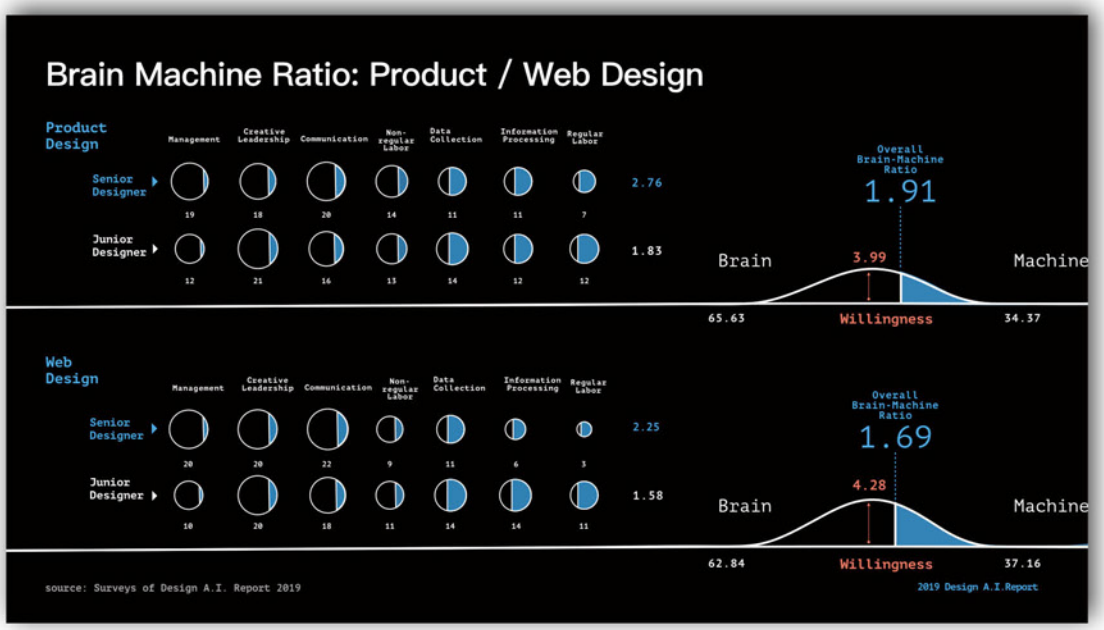
Brain
3.88
Machine
63.5
Willingness
36.5
source: Surveys of Design A.I. Report 2019
2019 Design A.I.Report


achine Ratio: Product / Web Design
Management
Creative Leadership
Communication
Non-regular Labor
Data Collection
Information Processing
Regular Labor
19 18 20 14 11 11 7
2.76
12 21 16 13 14 12 12
1.83
Overall Brain-Machine Ratio
1.91
Brain
3.99
Machine
65.63
Willingness
34.37
20 20 22 9 11 6 3
2.25
10 20 18 11 14 14 11
1.58
Overall Brain-Machine Ratio
1.69
Brain
4.28
Machine
62.84
Willingness
37.16
Design A.I. Report 2019
2019 Design A.I.Report


Brain Machine Ratio: Product / Web Design
Product Design
Senior Designer
Junior Designer
Management
Creative Leadership
Communication
Non-regular Labor
Data Collection
Information Processing
Regular Labor
19 18 20 14 11 11 7
2.76
12 21 16 13 14 12 12
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Overall Brain-Machine Ratio
1.91
Brain
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Web Design
Senior Designer
Junior Designer
20 20 22 9 11 6 3
2.25
10 20 18 11 14 14 11
1.58
Overall Brain-Machine Ratio
1.69
Brain
4.28
Machine
62.84
Willingness
37.16
source: Surveys of Design A.I. Report 2019
2019 Design A.I.Report

Machine Ratio/ Japan* 🇯🇵

ceived 171 responses from Japanese designers of various levels of experience, from six major design industries. With regards to willingness to acceptance of automation, Japanese designers are more conservative than Chinese designers. Here are some examples of the responses from signers.

rning comes to conclusions based
wledge and insights. It is only
can create the future. So I think
stion is how to use machine
o assist human decision-making.

ctor, Isobar日本

“

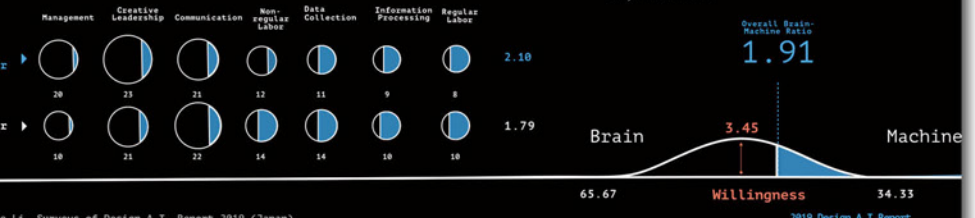
Our company is using A.I. to make wine, but we have not thought about relying on A.I.. There is not one best answer to the perfect taste. It is the humans who give tastes meaning. A.I. can be used to shrink the distance between goals and reality.

Komoni Takashi
CTO, ima Inc.

“

In design, there is always some part of the human brain that is irreplaceable by A.I.. Human brains utilize creative inspirations to understand customer psychology. In order to design digital products, it is possible for A.I. to automate the process by matching certain customer experiences with types of flavors.

Takana Yuichui
CDO, BizReach Inc.



e Li, Surveys of Design A.I. Report 2019 (Japan)

2019 Design A.I.Report

Human Machine Trust + Collaboration

When studying the influence of artificial intelligence on design, we should turn our attention to domA.I.ns outside automation. We should think about the complex decisions that are hard for humans. How might machines work with humans to make better decisions?

PPT
* https://deckrobot.com/
* https://www.beautiful.ai/

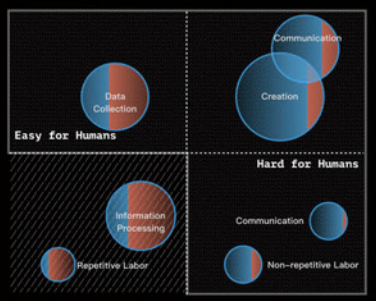
Logo
* https://xzlogo.com/?ref=baidu
* http://www.eplogo.cn/index/logo.html
* http://ai.logo123.net
* https://logojoy.com/
* https://app.brandmark.io/v2/
* https://www.designhill.com/tools/logo-maker
* https://studio.tailorbrands.com/
* https://www.logopony.com

Graphic
* https://luban.aliyun.com
* https://kuaizi.ai/
* http://www.deepdraw.cn/#/
* http://www.hecaila.com/
* https://ling.jd.com
* https://www.tezign.com/solution
* https://www.arkie.cn/welcome

Video
* http://alibabawood.aliyun.com
* https://zenvideo.cn/#/home
* https://www.taihua.com

Web
* https://thegrid.io/
* https://sacha.ai/
* https://www.b12.io/
* https://zh.wix.com/

Architecture
* https://www.xkool.ai
* https://seehome.cn/product.html



augmentation

AI辅助设计过程
* https://www.bslong.cn/#/
* https://www.miotech.com/#/moltoai
* https://airbnb.design/sketching-interfaces/
* http://khroma.co
* https://letsenhance.io/
* https://facet.ai
* https://www.gaoding.com/koutu?hmsr=cn.bing.com
* https://clippingmagic.com/
* http://deepangel.media.mit.edu
* https://fontjoy.com
* https://www.whatfontis.com
* http://fontmap.ideo.com
* https://paintschainer.preferred.tech/index_zh.html

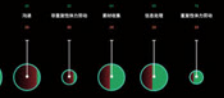
AI辅助设计理解
* https://autodeskresearch.com/projects/dreamcatcher
* https://www.refoot4.com/
* https://www.kzeo.net/
* http://www.semsx.com/post/custom/07_meta=1
* https://www.malong.com/zh/home
* https://albert.ai/ai-marketing-product/

2019 Design A.I.Report

Machine Ratio 3.0 = Human Machine Trust

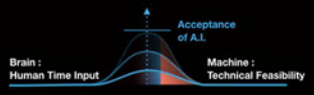
e Ratio: Some argue that A.I. would replace humans in jobs. This report avoids using the terminology of “replacement”, which signifies threats vork of humans. It is more appropriate to describe BrA.I.n-Machine Ratio as the proportion of work done by humans and machines.

= Human Time Input / Technical Feasibility



tivities, the larger the machine component smaller the brain component becomes. In ies, the machine- as well as the brain expand simultaneously. The growth of the mponent can release further brain hich is certainly the case for design.

$BMR^{2.0}$ = $BMR^{1.0}$ x Acceptance of A.I.



2018

-

People are still willing to spend time on highly automatable work (such as material collection and data processing). Social acceptance of A.I. has a significant impact on human-machine coordination and evolution. Therefore, Brain Machine Ratio 2.0 incorporates the acceptance towards using A.I.

$BMR^{3.0}$ = Human Machine Trust

2019

-

Humans-in-the-loop : People’s understanding of data helps machines to produce results.
Machines-in-the-loop : Machines help humans to make decisions and produce results.

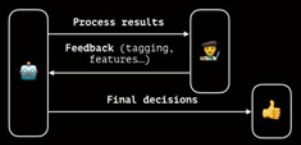
2019 Design A.I.Report

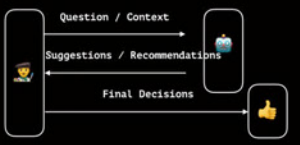
Human-centered Machine Learning

Automation is not the sole purpose of machine learning. Machine can also augment human intelligence. Human-centered machine learning can be realized through the paradigms of “Humans-In-the-loop” and “Machines-In-the-Loop”.

“

Dis-trust leads to
dis-use,
Over-trust leads to
mis-use!





Human-in-the-loop

-

Adding feedback from human experts in the machine decision process.The purpose is not to let machines handle big data directly, but to learn to make decisions based on human understanding of data.

Machine-in-the-loop

-

Humans make final decisions that are informed and augmented by machine intelligence. The machine learning model of “machine-in-the-loop” adds value to design as a way to solve for open-ended problems.

source: Chenhao Tan, Human-centered Machine Learning

2019 Design A.I.Report

systemic design

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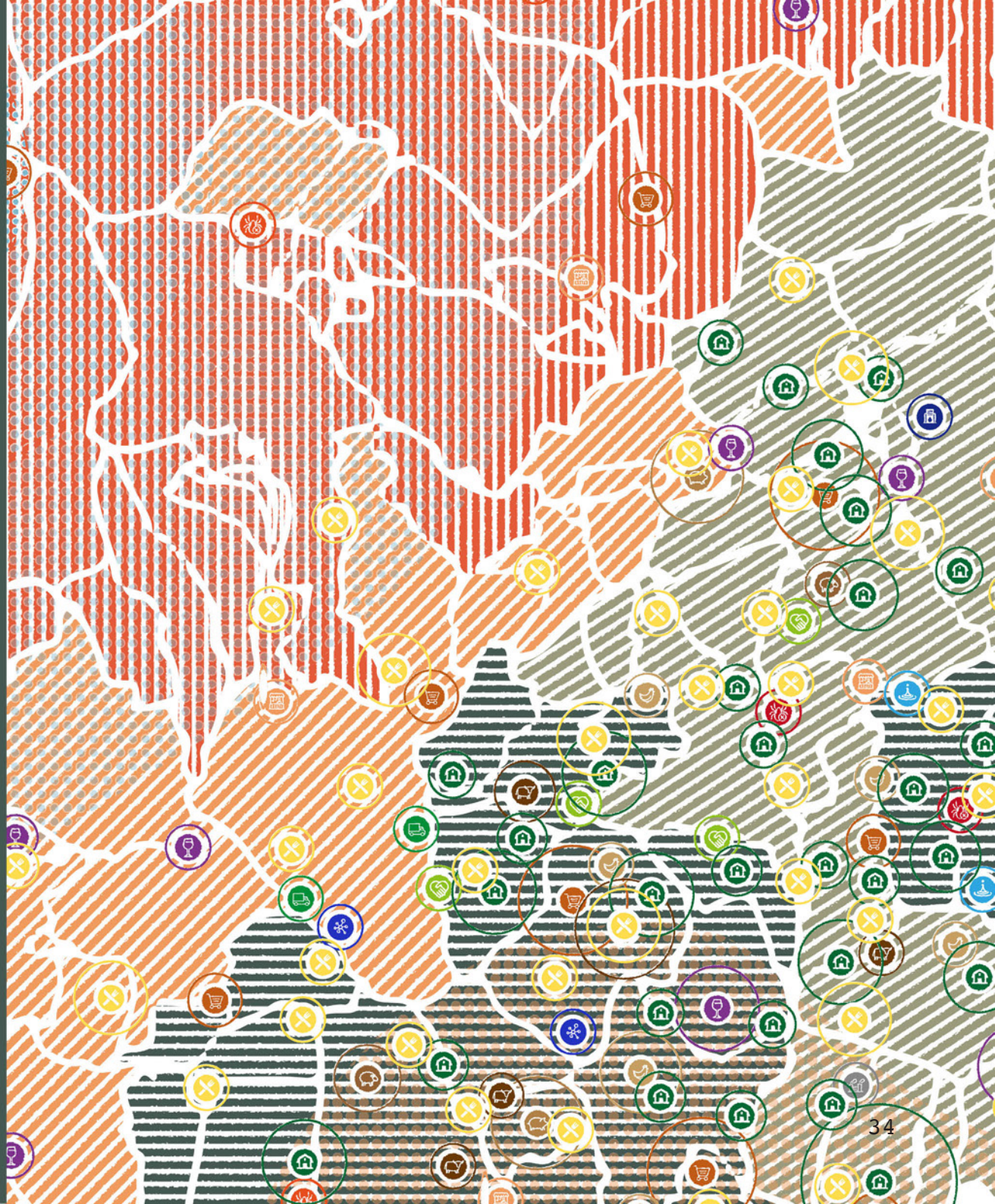
project in Open System Lab of Polito

@1bowlLIYUFAN

STRATEGIC DESIGN OF AGRIFOOD SYSTEM FOR CANAVESE AREA

SYSTEMIC DESIGN PROJECT
IN OPEN SYSTEM LAB,
POLITECNICO DI TORINO.



STRATEGIC DESIGN OF AGRIFOOD SYSTEM FOR CANAVESE AREA

SYSTEMIC DESIGN PROJECT IN OPEN SYSTEM LAB, POLITECNICO DI TORINO.

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The territory of the Canavese Valleys LAG covers an area of 1120.6 square kilometers in the Northwest of the Piedmont region, in the central sector of the Graie Alps. The moraine hills are characterized by areas of intensive agriculture (Agliè, Cuceglio, Bairo and Vialfrè are in the Erbaluce wine production area), by administrative and service centers for the surrounding mountain areas (e.g. Cuorgnè) and by secondary and tertiary production centers.

project info

20 weeks (4 months) / 2020.03 - Ongoing
Team work / College Project Colaberated With Canavese Government

project goal

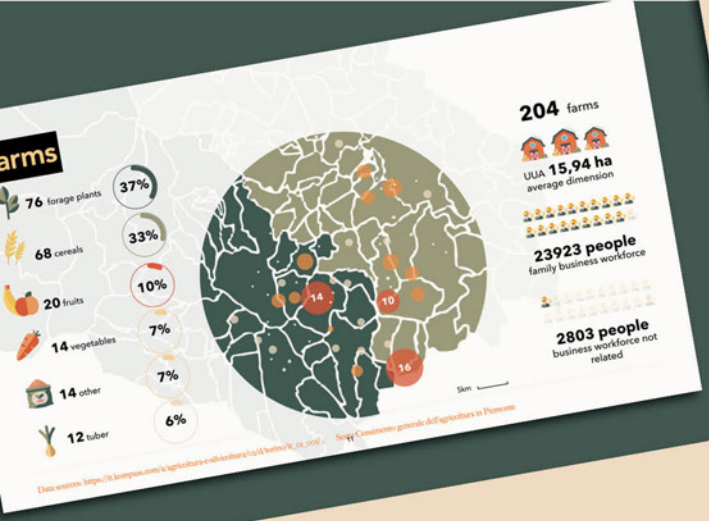
Use system design theory and methods to comprehensively analyze agricultural systems in the canavese area and design agro-ecological services that meet sustainable development goals.

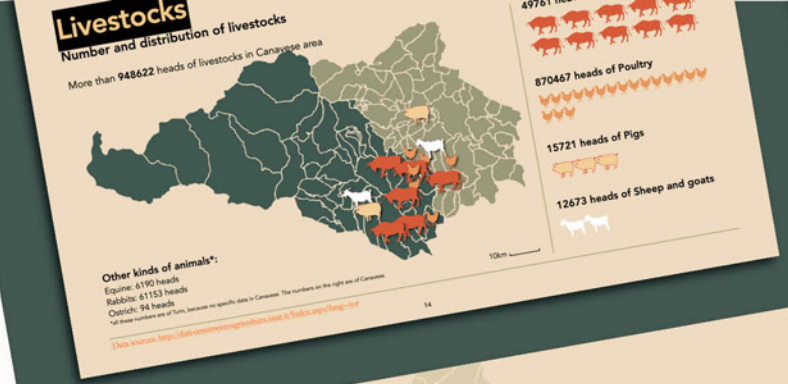
team

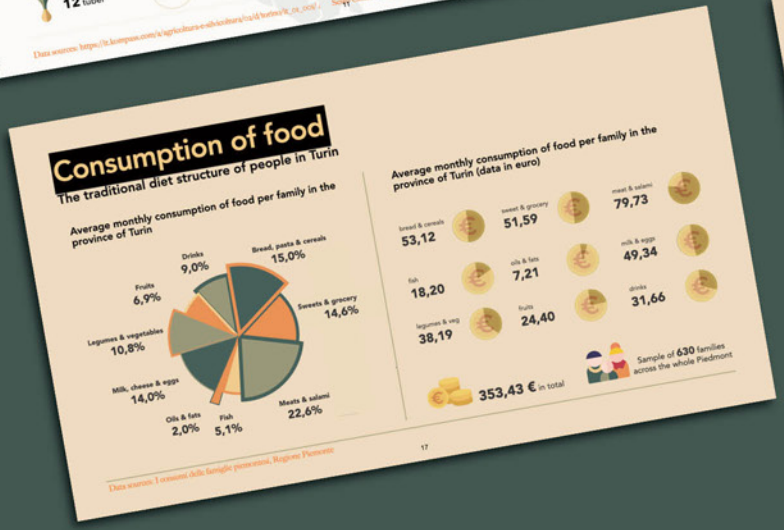
LI Yufan (China),
HOU Lu (China),
MOLINA Elisabetta (Italy),
MAGI Elisa (Italy),
AGNOLIO Nicole (Italy),
VERSAVAUD Dorine (France),
MAHIEU Vera (France).

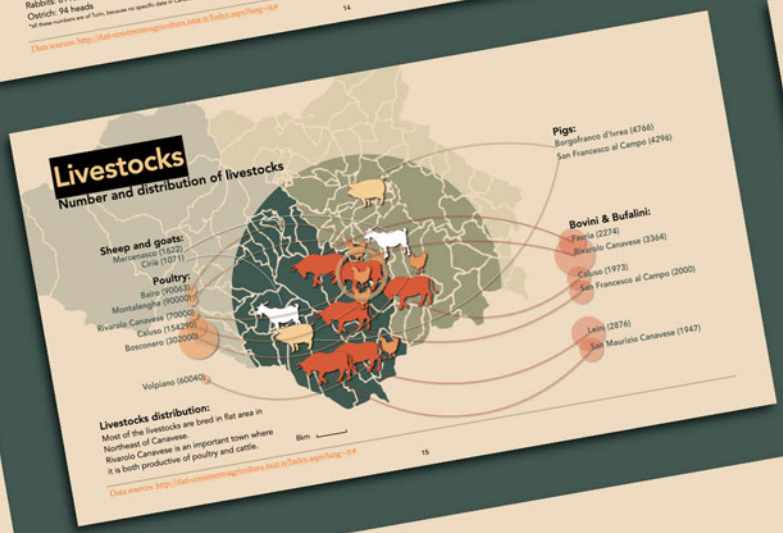
personal responsibilities

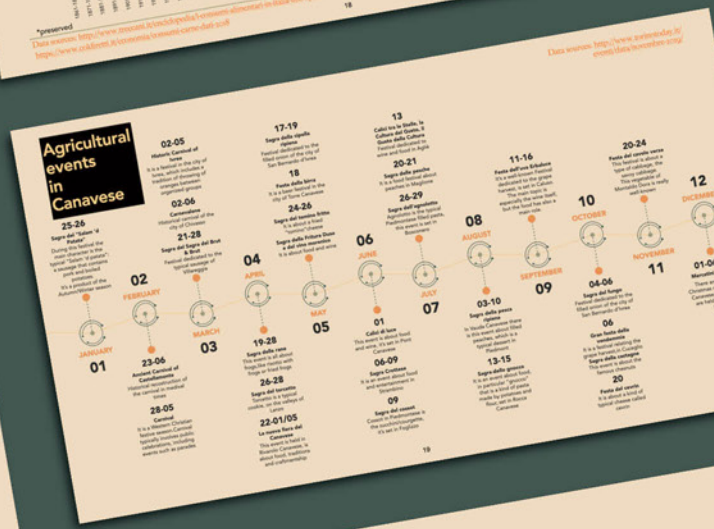
- ecological analysis & solution
- cheese company analysis & solution
- visual director

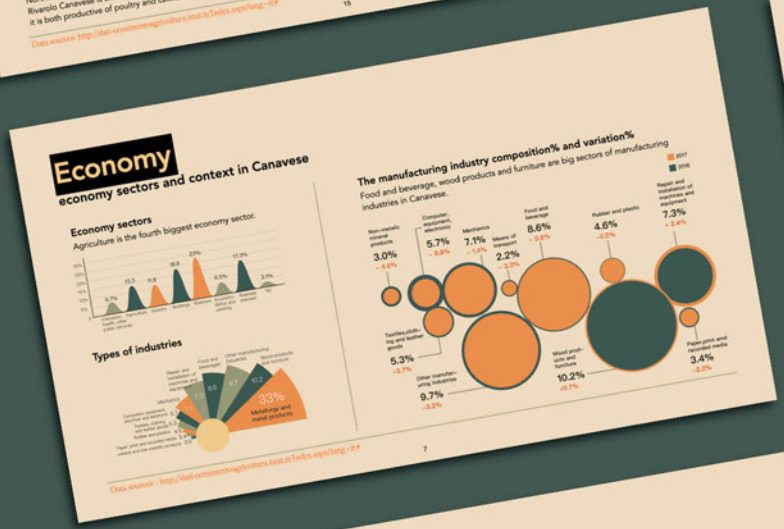


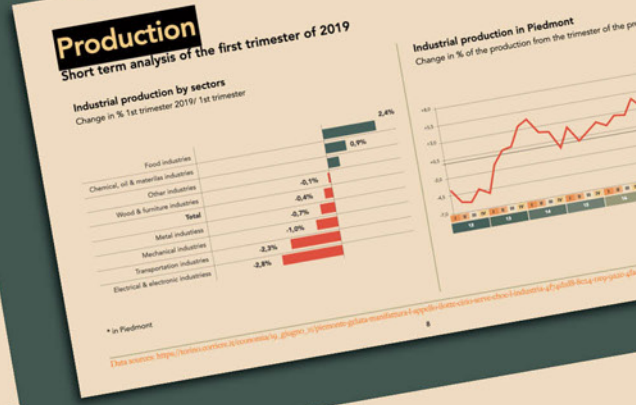






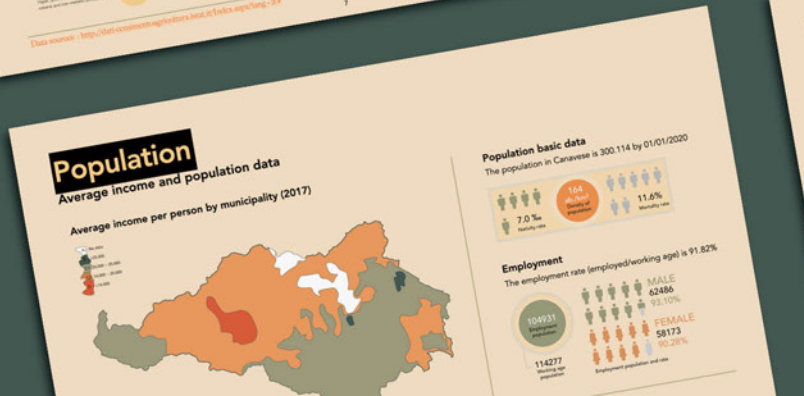






holistic
research

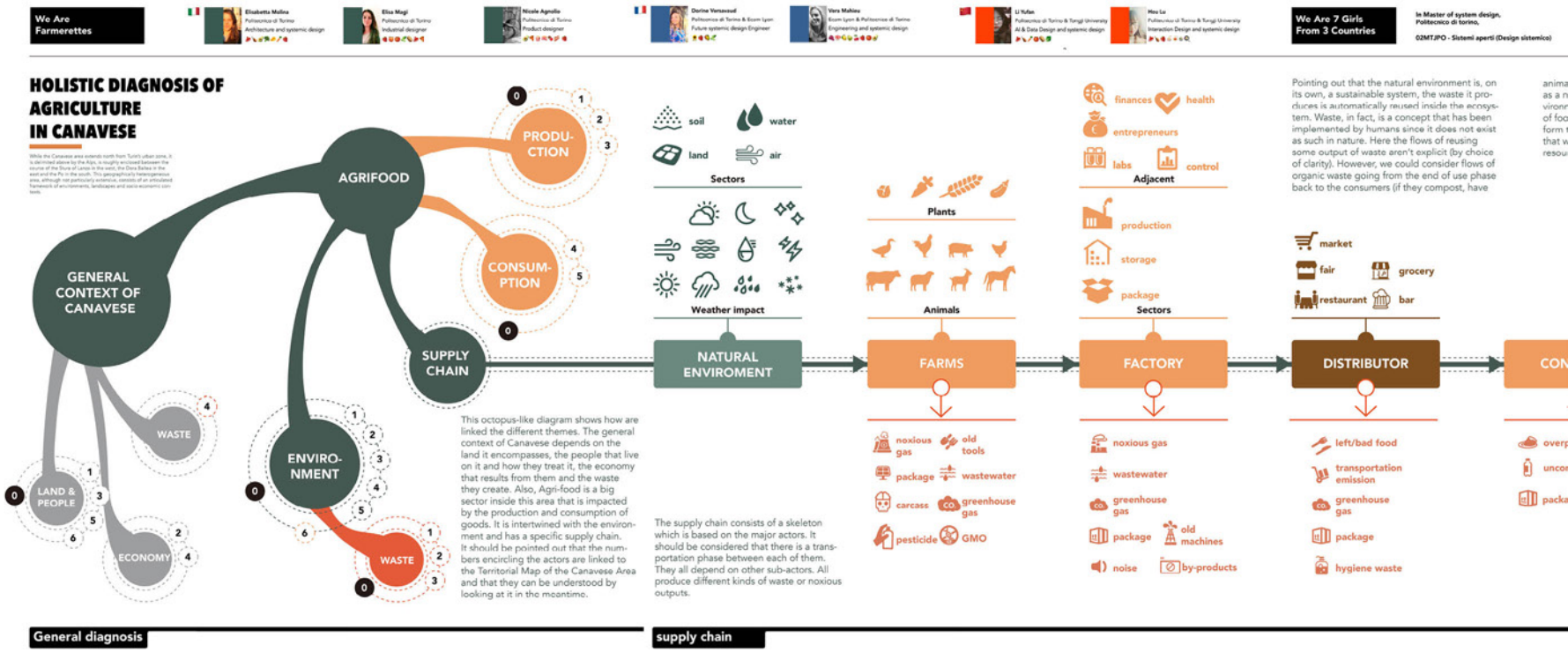
Collect data and information about agrifood system in Canavese area and make a report.

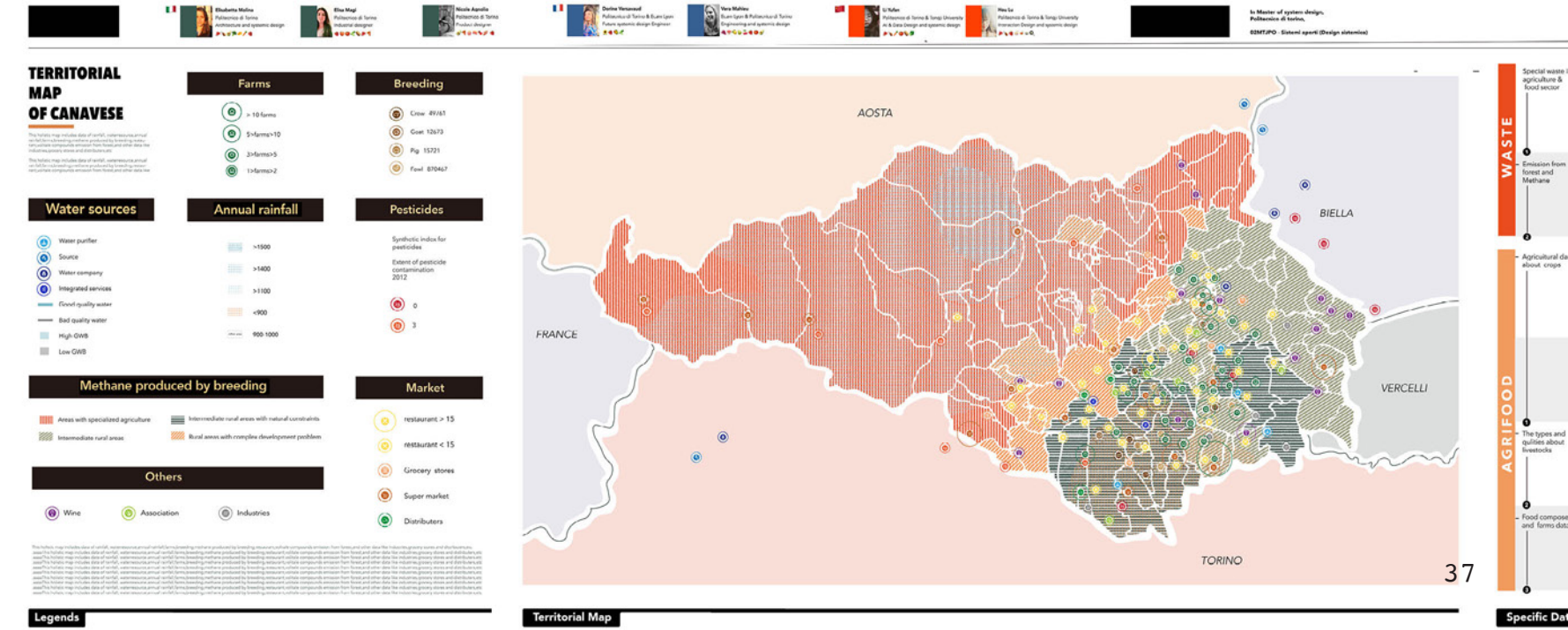


holistic analysis

Select valuable information and data for Gigamapping.

1. supply chain of agrifood system
2. agrifood system map
3. holistic analysis map





We Are Farmerettes

ls), to the farm (to feed the animals or use atural fertilizer), or even to the natural en- nent. In order to solve the actual problem d waste, it should be considered to trans- he linear food system into a circular one ould grow, reuse and regenerate its own ces.

SUMER

END OF USE

assed product

sumed product

ge

Thanks to

TOMAS LUTHE and Prof. CHIARA BATTISTONI

We Are 7 Girls From 3 Countries

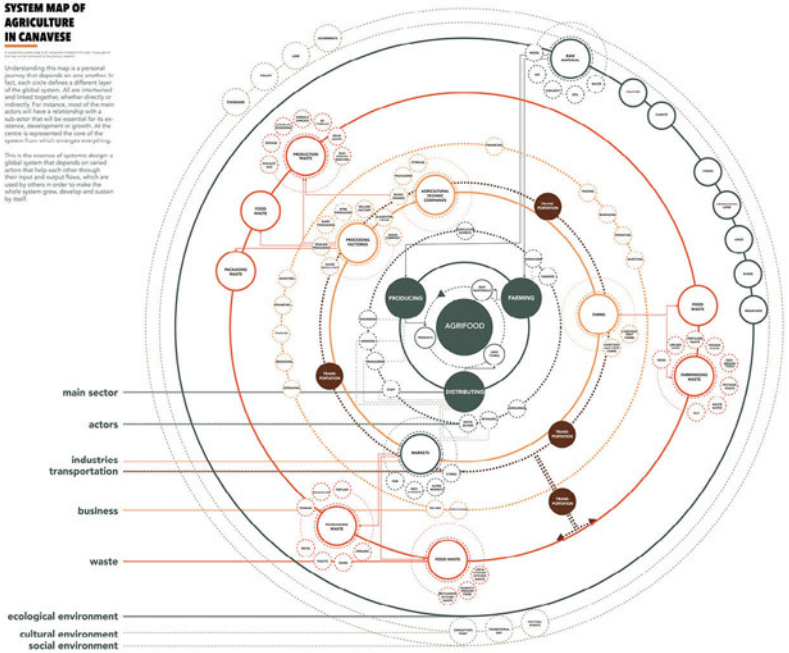
In Master of system design, Politecnico di torino (SDMT.IPD - Second agent (Design sistemico))

We Are Farmerettes

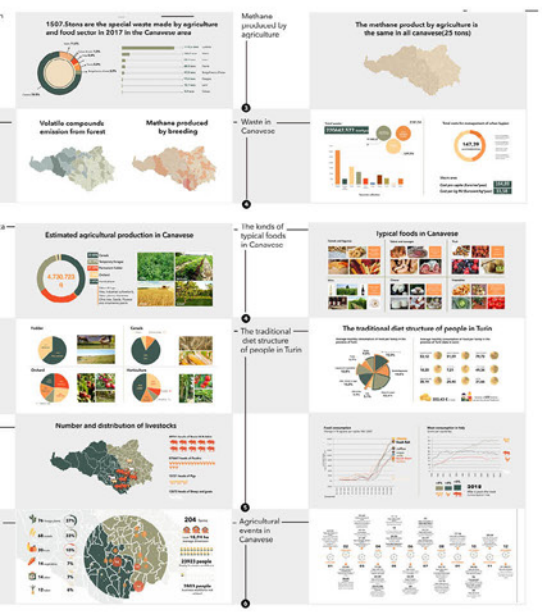
SYSTEM MAP OF AGRICULTURE IN CANAVESE

Understanding this map is a personal journey that depends on one another. In fact, each circle defines a different layer of the global system. All are interleaved and linked together, whether directly or indirectly. For instance, most of the main actors will have a relationship with a sub-actor that will be essential for its existence, development or growth. At the centre is represented the core of the system from which emerges everything.

This is the essence of systemic design: a global system that depends on varied actors that help each other through their input and output flows, which are used by others in order to make the whole system grow, develop and sustain by itself.



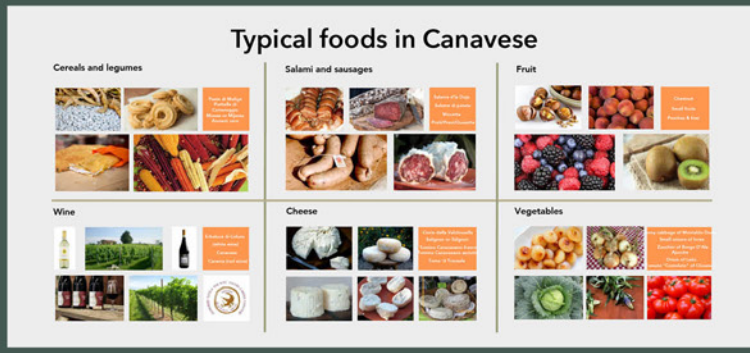
system map

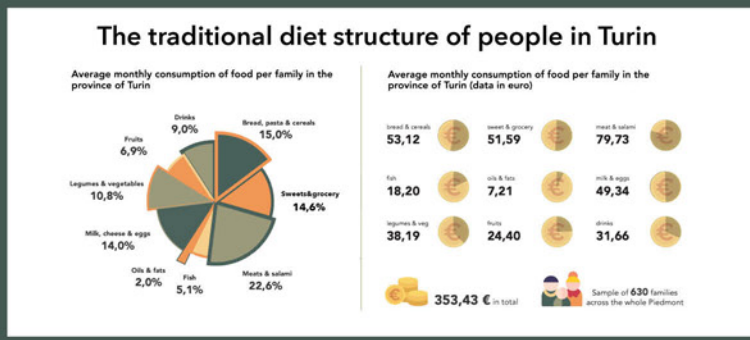


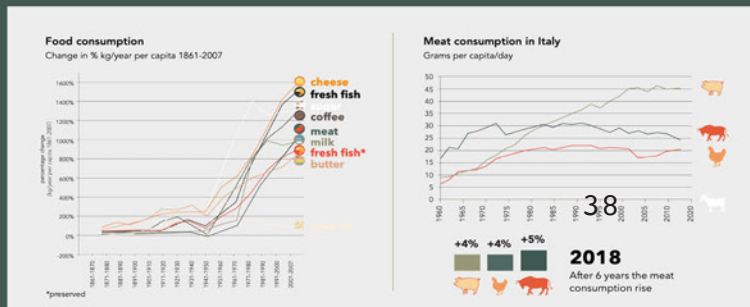
topic determination

decide specific topics that are worth to explore further. According to regional characteristics and special agricultural products, the topics for further exploration are:

- **cheese production**
- **wine production**
- **grain grinding production**







ecological research

Ecological research of cheese production and agriculture related.

The Canavese area is a geographically area, consisting of an articulated framework of environments, landsacpes and socio-economic econtexts.

01 Brief intro

Agrifood and cheese production in canavese

02 Background

Food consumption & diet structure in Canavese

Since 1950, the consumption of food in Italy has soared because of the economic developmentnature.

Cheese production in Canavese

The Piedmont is the fourth region in Italy for cheese production, with 1078192 tons producted in 2018.

Variety of cheese in Canavese

To be precise the cheeses listed in the traditional agri-food products in Piedmont are 51.

Life cycle (LCA)

Using 51 cases study to analyze from four stages of LCA

Sustainability system

Analyze farm system from feed system

Analyse about environmental/sustainable system and LCA

03 Literature review

Environmental/-sustainable problems

cattle breeding

Methane

Dairy cows can lead enteric methane emissions (EME).

Carbon dioxider

Livestock, especially cattle, produce a lot of co2 .

Environmental/sustainable solution

cheese producing

Wastewater

The production of cheese produces a lot of salty wastewater

By-product

Whey and potassium lactate are important by-products

Manufacturing process

High energy costs and the risk of microbial contamination

Equipments

Polypropylene, high density polyethylene , ,stainless steel,

Manufacturing process

Using the Ultrafiltration method with automation

Cattle breeding

Cut down on cattle and use sheep's milk to make cheese

cheese producing

Wastewater

Culture chlorella using Saline wastewater (SWW)

By-product

Whey is used as a biofuel catalyst

Make ecological report of cheese production in Canavese area.

content

Preliminary Analysis of Cheese Production in Canavese

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2 2. Background data
2 2.1 Food consumption & diet structure in Canavese
5 2.2 Cheese production in Canavese
8 2.3 Variety of cheese in Canavese

Ecosystem Service

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13 3.4 water purification and wastetreatment
3.5 air regulation

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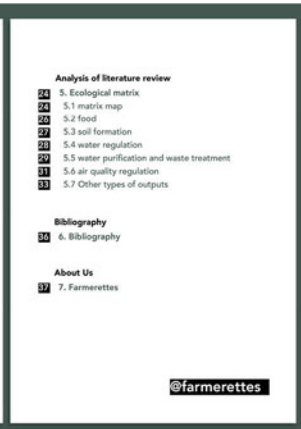
@farmerettes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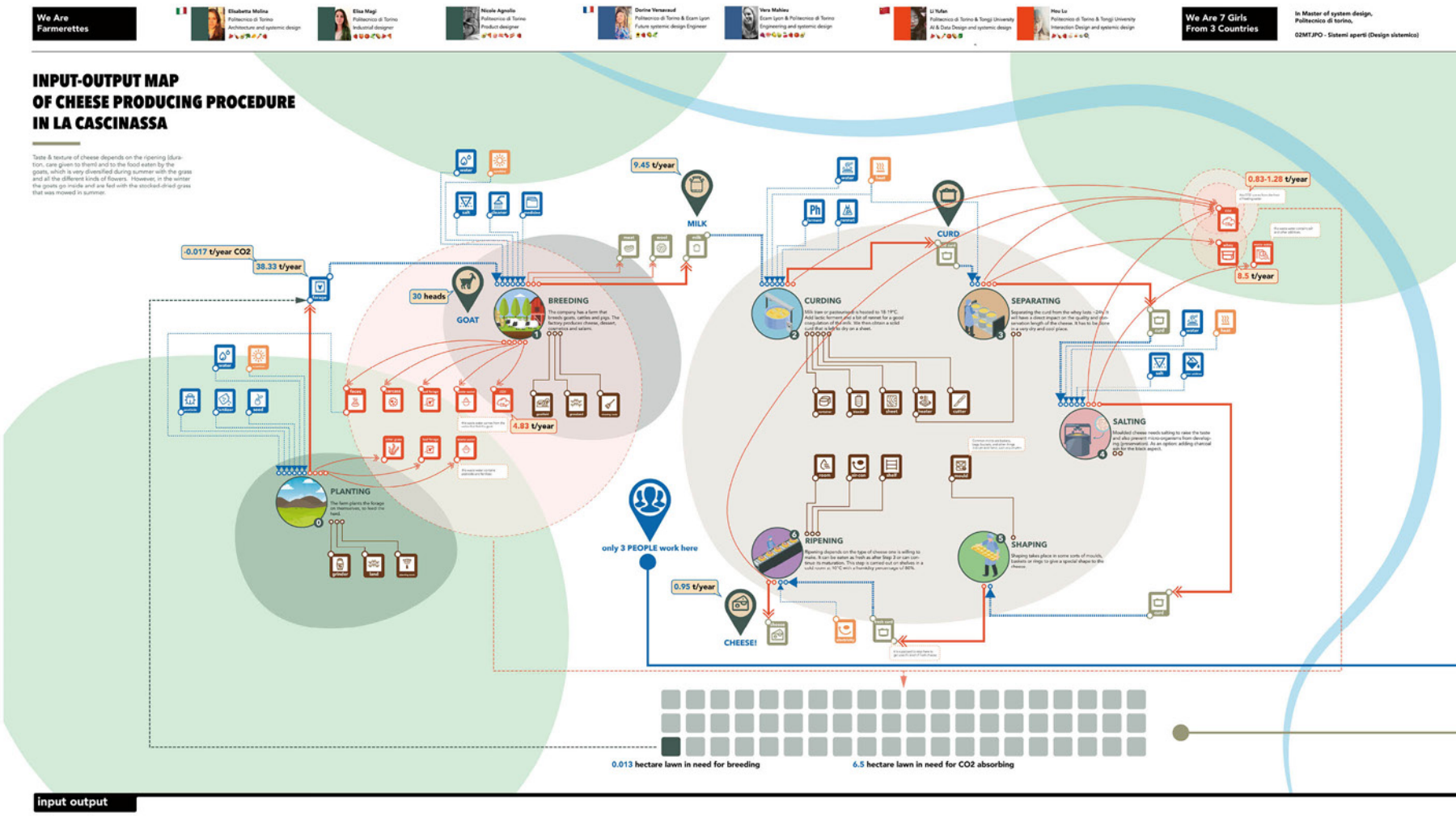
2.3 Variety of cheese in Canavese

company research

Input-output map of a cheese production company, La Cascinassa



Ecosystem services

1. soil formation
2. food
3. water ragulation
4. waste treatment

1 The soil can be contaminated by both the use of **fertilizers in open field cultivation to feed animals** and the use of **livestock manure, resulting in nutrient overload (NO3)** on the aquifers and accumulation of metals in the soil from animal manure (Cu and Zn).

2 The remaining **liquid of whey (permeate)** is still considered as a **polluting waste** due to its **high lactose concentration.** Existing research has suggested techniques and methods that can help harness this **nutrient-rich byproduct.**

3 About the **water regulation** ,the main impactor is **Chiusella river,** it is small water source.

4 Wastewater is a kind of waste in cheese production. The concern is due to the environmental impact of the **discharge of its wastewater.**

Chlorella vulgaris is examined for its **ability to grow on saline wastewate**r from demineralisation of cheese whey used as the basic **component of WCM**.

SWOT analysis

SWOT analysis of the company La Cascinassa.

Strengths

1. It provide a lot of **different kinds of cheese**
2. The production process is **green and healthy**. All materials used can be traced back where and how it is produced
3. Customers can **visit the farm and participate workshops**, which make the customers feel kind and assured
4. Most of the **raw material** (forage, goat, milk) in cheese production are **produced by itself**, therefore the cost is low
5. Only 3 people work here, which is **controllable**
6. It has its **own shop**, in which it sells the products itself
7. It not only produce cheese, but also **salami, cosmetic, dessert** and workshops

Weaknesses

1. No specific treatment to the **waste water and whey**. It would pollute the river and ground nearby, which would make the environment **unable to support the continuous operation** of the farm
2. Huge amount of **methane and CO2** is produced in the breeding process. Although the cultivation process can absorb a small amount of greenhouse gases, the absorption volume is too small compared to the production volume
3. The **scale of the company is too small** to compete in the market
4. Because of Small scale, few staff, low operating efficiency, there is a development bottleneck. It is **hard to grow** into a bigger scale and make more profits
5. Most products are **handmade**, there is a possibility of **contamination** in breeding, cheese producing and planting

Opportunities

1. Liquid whey/ by-products can be **reused**
2. Goat cheese is more **healthy and sustainable** than cattle cheese
3. **Local** food to local market
4. **Rise of the cheese consumption** in Italy
5. Rising of **interest in local food** and healthy eating
6. There are many producer associations
7. **Alternative** of animal cheese

Threats

1. **Vegan** people don't eat cheese
2. The **high amount of fat and cholesterol in cheese** is considered bad to human health
3. Criteria for animal selection
4. The **sudden epidemic** caused the store to close and the workshop was temporarily closed

Strategies for the company

Opportunities + Strengths = strategy for Increasing

Opportunities + Weaknesses = strategy for Improving

1. Use characteristics of diversity, healthiness, and localness for promotion,
   Improve operational processes, increase efficiency
   so that to enlarge company scale.
   - The **scale of the company is too small** to compete in the market
   - Because of Small scale, few staff, low operating efficiency, there is a development bottleneck. It is **hard to grow** into a bigger scale and make more profits
   - Only 3 people work here, which is **controllable**
   - It has its **own shop**, in which it sells the products itself
   - **Local** food to local market
   - **Rise of the cheese consumption** in Italy
   - Rising of **interest in local food** and healthy eating
2. Use vegan alternative to meet the vegan's need
   - **Vegan** people don't eat cheese
   - **Cheese is not a so healthy food**
   - **Alternative** of animal cheese
3. Use by-products to develop new products, such as cosmetics
   - No specific treatment to the **waste water and whey**. It would pollute the river and ground nearby, which would make the environment **unable to support the continuous operation** of the farm
   - Liquid whey/ by-products can be **reused**
4. Protect the potential of natural resources and prevent degradation of soil and water quality, so that can maintain and enhance production
   - No specific treatment to the **waste water and whey**. It would pollute the river and ground nearby, which would make the environment **unable to support the continuous operation** of the farm
   - Huge amount of **methane and CO2** is produced in the breeding process. Although the cultivation process can absorb a small amount of greenhouse gases, the absorption volume is too small compared to the production volume
5. Increase ways of selling, such as e-commerce, provide to agents
   - The **scale of the company is too small** to compete in the market
   - The **sudden epidemic** caused the store to close and the workshop was temporarily closed

Gigamap_Canavese

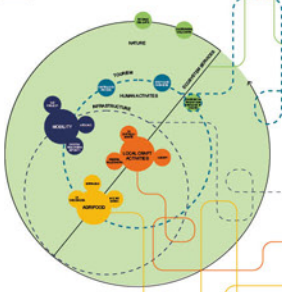
With Canavese we usually indicate that part of Piedmont between the Serra Morenica of Ivrea and the lower course of the Dora Baltea da Mazzè as far as the confluence with the Po, the course of this river as far as the confluence of the Stura di Lanzo, the left bank of the Stura, excluding a small part of the plain north of Turin (Settimo Torinese), then the culminating peaks of the Graie Alps from Levanne to the Gran Paradiso massif (Valle del Malone, Val di Locana, Val di Soana and Val Chiusella).

ABOUT THE ANALYSIS

The analysis of the Canavese territory was conducted through the analysis of **5 topics** representative of the historical and cultural **background** of the territory. The analysis was carried out by paying particular attention to the **production sectors** characteristic of the territory and investigating their production lines. The analysis has highlighted the existence of several **different problems** related to the linearity of the above mentioned production processes.

Thanks to the approach deriving from **systemic design**, it was possible to identify some **operational strategies** for the creation of new networks and material and immaterial flows aimed at transforming the economy and production processes in the territory from a linear to a **circular approach.**
The application of these strategies becomes successful if they are rooted in the **local** cultural and territorial context.

CANAVESE and TOPICS SCENARIO



1 Nature & ecosystem services
An ecosystem is an ecological unit made up of living organisms (plants and animals) able to interact with each other and with the surrounding physical environment. All the benefits derived from the nature of ecosystems are called ecosystem services. They support directly or indirectly our survival and quality of life.

2 Tourism
Tourism, the act and process of spending quality time away from home in pursuit of recreation, discoveries, and pleasure. Tourism is a social phenomenon of great importance that involves many aspects. It promotes immaterial benefits to the people by an established system of local actors and the overall economy is generally insulated from difficulties or dangers.

3 Mobility & infrastructure
Mobility and infrastructure are defined according to the category (nature, economy, energy, people) within which goods, materials, people or information are exchanged in a society. Mobility always consume a movement of resources, physical or digital, while infrastructure, understood as an artificial system, also physical or digital, allows the effective realization of mobility itself.

4 Local craft activities
Productive and, in some case, artistic activities organized mainly on an individual or family basis, involving the use of traditionals material and techniques, manual skills and a limited use of machinery, as opposed to mass-production.

5 Agrifood
The outcomes of producing food agriculturally are opposed to through hunting, fishing, gathering, and so on), food as produced.

SELECTED LOCAL ACTORS

SYSTEMIC STRATEGIES and OPPORTUNITIES

Strategies are aimed at creating networks between actors in the area to create virtuous social processes and improve the management of flows by making them circular, creating interdisciplinary and engaging exchanges that hope for a shared and shared knowledge.

1 Reuse and enhancement of elements and resources in the production process.

2 Giving new life to waste by-products by using them as input for a new production process within the company or by third parties.

3 Sustainable management of the natural resources of the territory to reduce its environmental impact by ensuring a better balance of CO_2 produced, producing energy from renewable sources, implementing waste management.

4 Sharing of know-how in new areas of application generating economic value through collaboration with third parties.

5 Create a network aimed at the promotion among different actors in order to enhance the cultural and local handicraft production.

6 Use of advanced technological platforms for better management of the production process.

7 Improve the experience of using the territory through the creation of innovative tourist services and through communication of the intrinsic value of a product and/or an actor with the aim of increasing awareness and knowledge of the territory and its characteristics.

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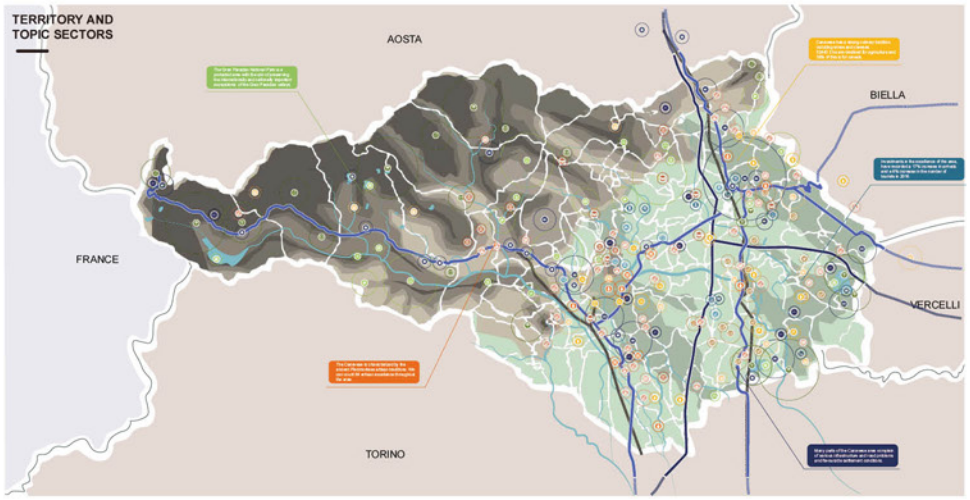
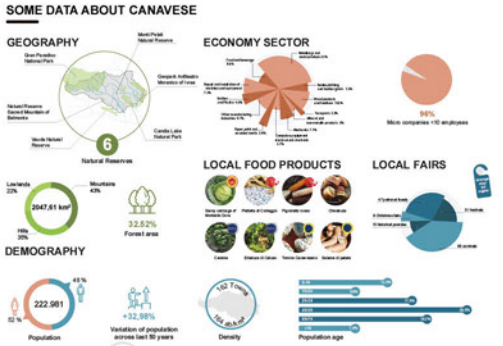
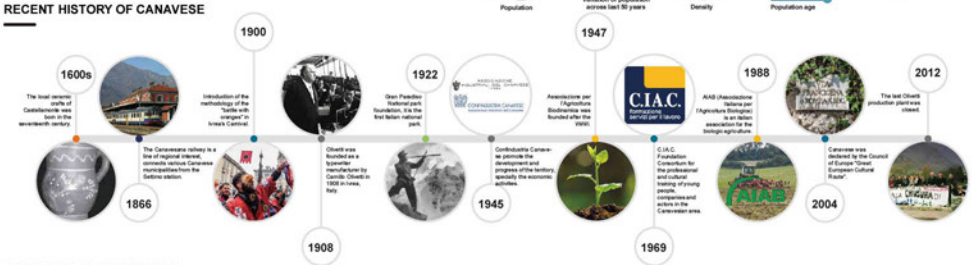
TERRITORY AND TOPIC SECTORS



SOME DATA ABOUT CANAVESE



RECENT HISTORY OF CANAVESE



PROBLEMS IDENTIFICATION

Agrifood

- Lack of cooperation between actors in the sector aimed at promotion which prevents them from approaching new markets outside the local area.
- Reduced size of the companies and of the market in which they are inseted cause low efficiency and bottleneck in the production processes.
- Lack of economic and qualitative valorization of the by-products of the production process that are disposed.
- The production process has a high environmental impact due to: self-consumption of electricity and fuel, soil consumption and subsequent degradation, pollution of groundwater by detergent waste and the production of co2 due to the production process, transport and distribution.

Local craft activities

- The small size of local craft businesses and the market has a negative impact on their ability to make sufficient profits.
- Lack of cooperation between actors in the sector aimed at promotion which prevents them from approaching new markets outside the local area.
- Craft and semi-productive production activities show high energy and fuel consumption.
- Lack of economic and qualitative valorization of the by-products of the production process that are disposed of.

Mobility & infrastructure

- The long and continuous movement of heavy goods vehicles along the roads of the Canavese produces strong CO_2 emissions.
- The construction of new infrastructures needs to pay particular attention to the visual, light and sound impact of such structures in order to limit the disturbing impact on the natural territory.
- The huge flows of raw materials for the construction of digital infrastructure components involve foreign suppliers and therefore have a big impact in terms of CO_2 emissions.
- The production of digital infrastructures components has a strong polluting impact due to high electricity consumption and packaging waste materials and the industrial production itself which pollute the surrounding aquifers in a very significant way.

Tourism

- Collapse of international tourism due to the recent pandemic, hotels and the whole industry have incurred major economic losses.
- Centres managing tourism activities are experiencing a considerable decrease in capital.
- The absence or limited number of collaborations between tourism structures and local productive activities do not provide a valorization of traditional local products.
- The international export sector of local producers is not sufficiently developed to form a solid basis on which to build an international tourism sector.

Nature & cosystem services

- Problems of coexistence between human activities and natural actors due to the mixture of urban areas and natural habitats.
- Human activities have a strong invasive impact on the natural territory due to CO_2 emissions, noise pollution and aquifers.
- Lack of comunication of knowledge and awareness about the existence and importance of ecosystem services outside of those working in the sector, even among public bodies.
- Lack of economic and qualitative valorization of the by-products of the production process that are disposed of.

Lack of valorization of the quality and importance of local products and by-products linked to the cultural territorial heritage.

Lack of cooperation between actors in the sector aimed at promotion which prevents them from approaching new markets outside the local area and international tourism flows.

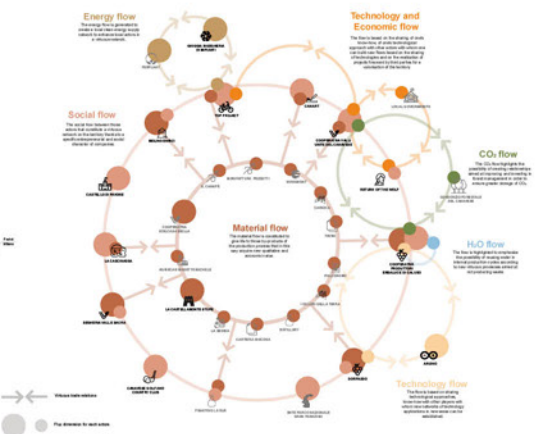
Lack of a sustainable management system for pollutingwaste products from production processes.

Excessive consumption of natural resources and energy: that consequently affects the natural environment.

CIRCULARITY and NEW FLOWS

In order to establish **new circular flows** based on the identification of new **relationships**, potential new local, regional and italian actors have been identified with which to build these material and immaterial flows.

The diagram highlights and underlines the way in which the new flows between the actors are carried out, the type of **flows** that is going to be constituted has been highlighted: **material, social, CO_2, H_2O, technology, energy, economic.**



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The course

Open Systems Lab

a.a. 2019/2020

Master's degree Course in Systemic Design

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illustration

©2020

projects out of interest

@1bowlLIYUFAN

GROCERY IS THE NEW FASHION

BRAND DESIGN FOR SUPERMARKET PAM

GROCERY IS THE NEW FASHION

BRAND DESIGN FOR SUPERMARKET PAM

© 2020

This project is out of interest. I draw a series of illustrations that show a fashion girl wearing different kinds of vegetable, and try to use it to do the brand deisgn for the supermarket Pam.

competing supermarket

Supermarkets in Italy

Carrefour >>> **Large and complete**

Pam/ COOP/ MD... >>> **no preferrence**

IN'S >>> **Local and supercheap**

problem & requirement

Indistinguishable

It does't have its own characteristic that is totally differrent from other supermarkets in the middle level.

Need branding to make it be extinguishable from others.

brand research

Pam

Easy, fresh and light.
Wide selection of things (but not as wide as carrefour).

GROCERY IS THE NEW FASHION

target people

20-30 years old, young people

- enough purchasing power
- need to do grocery because of living independently

key workds

- **fashion**
- **living**

design concept

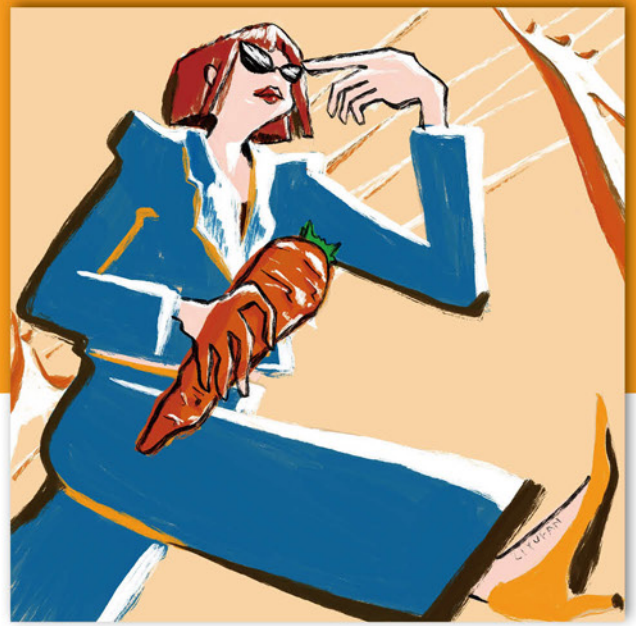
Grocery is the new fashion

- fashion >>> young chic lady
- living >>> carrying vagetables

after work / at weekend, go to Pam to buy necessities.

processing

Apple ipad, procreate app.



GROCERY IS THE NEW FASHION

must-haves for summer 2020: carrot, melon, scallion, tomato.

Application

payback card

CARTA

GROCERY IS THE NEW FASHION

Application

Printinig

GROCERY IS THE NEW FASHION

Pam

Application

Screen

DIS-CONNECTED

UT DESIGN FOR UNIQLO

DIS-CONNECTED

UT DESIGN FOR UNIQLO

© 2020

This project is out of interest. I drew a series of illustrations that reprensent the young generation's emptyness and dumb, and tried to apply it to Uniqlo's UT series.

brand research

UT series
not only to sell T-shirt,
but also to sell a young living style.
Self-expression
use UT to show users' living style, to prove users' existence.

target people

22-29, Young generation
They are fresh at work, busy workinig, busy surfing the social media. They are full of **emptyness and stress**.
They want to be heard but they lose their own voice.

interview

Miss T, 25, fresh at work
"Everything seems normal. i have good job, i eat normally, i exercise everyday, i work hard. But sometimes i just feel wrong. It is like i am stucked or falling down. Sometimes i want everyone can speak to me. but actually i dont want to say anything."

key word

Screaming silence.
empty, deaf and dumb.

-Sometimes i want everyone can speak to me but actually i don't want to talk to anyone.

-Hello? can you hear me?

-I cannot hear anyone.

DIS-CONNECTED

design concept

- Use digital symbols such as unread bubble, breakwire, unplugged earphone to show being disconnected.
- Use a young girl figure to represent the young generation.

Application

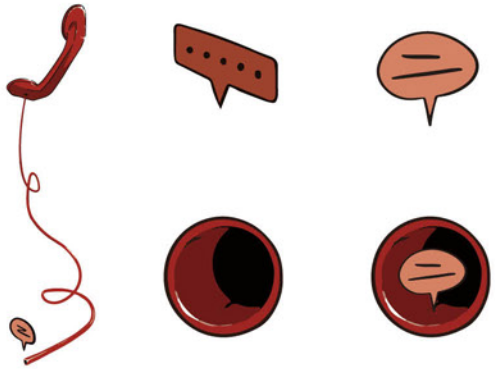
Store image, shopping bag.

DIS-CONNECTED

I am in a SCREAMING SILENCE.

Patterns

Patterns for application.



DIS-CONNECTED

"Sometimes i want everyone
can speak to me,
but actually i don't want
to talk to anyone."

UNI QLO

"Hello?
Can you hear me?"

UNIQLO

DIS-CONNECTED

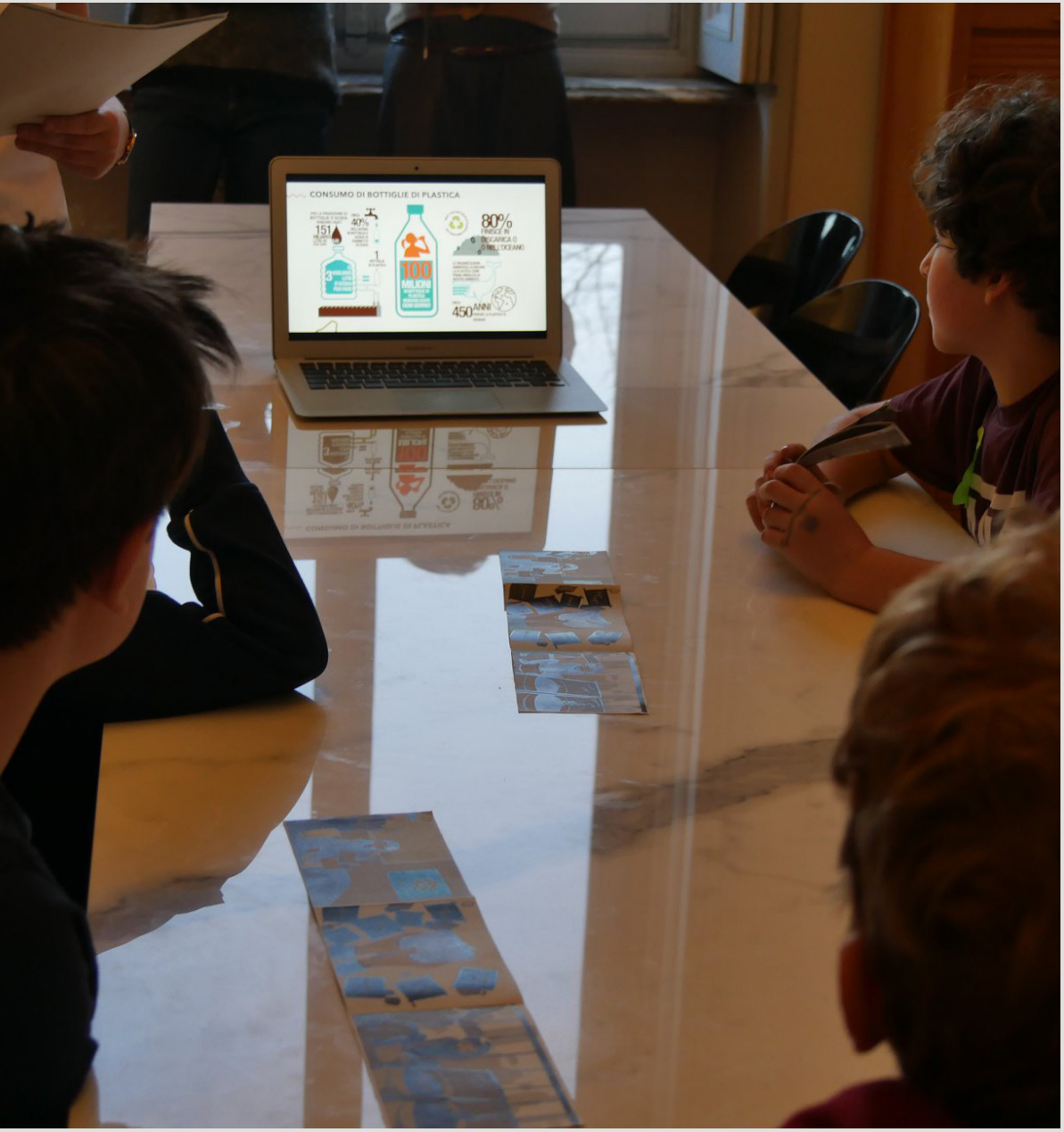
DIS-CONNECTED

"I cannot hear anyone."

OTHER ILLUSTRATIONS & GRAPHICS

illustration & graphics design for a children workshop of Fablab Torino

I joined a team that planned a workshop and was responsible for the illustrations and graphics design. The workshop was held in 2020.02.13, kids and their parents loved the comics very much.


CONSUMO DI BOTTIGLIE DI PLASTICA
80%
450 ANNI

GABBRIELLE
FEDERICO
ANDREA
Fernando
WORKSHOP
KIT
Benedetta
BE
CAREFUL
WHEN
OPENING

summer in green

2020.05

sunday moring

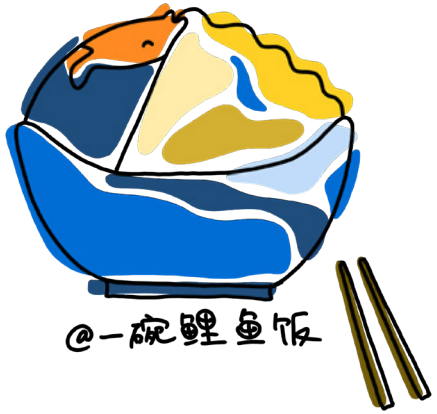
2020.03

a rainy day in Torino

2020.04

portfolio

2018–2020 ©



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AI &data design
systemic design
illustration