

Matters of Knowledge in Co-Design: The Case of “My Architect & I”

Çiğdem Yönder

2025

Thesis submitted in fulfilment of the requirements for the degree of PhD in Architecture and Urban Planning

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Imperial College London, Dyson School of Design Engineering - Faculty of Engineering, Collective Innovation Lab
Prof. Dr. Liesbeth Huybrechts
Hasselt University, Faculty of Architecture and Arts
Prof. Dr. Joanna Saad-Sulonen
LUT University, School of Engineering Sciences
Prof. Dr. Stéphane Safin
Télécom Paris – Department of Sciences Économiques et Sociales

INTER’ACT

LIÈGE université

Matters of Knowledge in Co-Design: The Case of “My Architect & I”

Introduction

Research Approach

Results

Concluding Remarks

Introduction



#1 The housing in Belgium:

In Europe, “89% of architectural practices are involved in designing private housing” (European Council of Architects, 2022, p.4).

In Belgium, individual houses, extensions, and loft conversions covering 62% of the market (European Council of Architects, 2022, p.28).

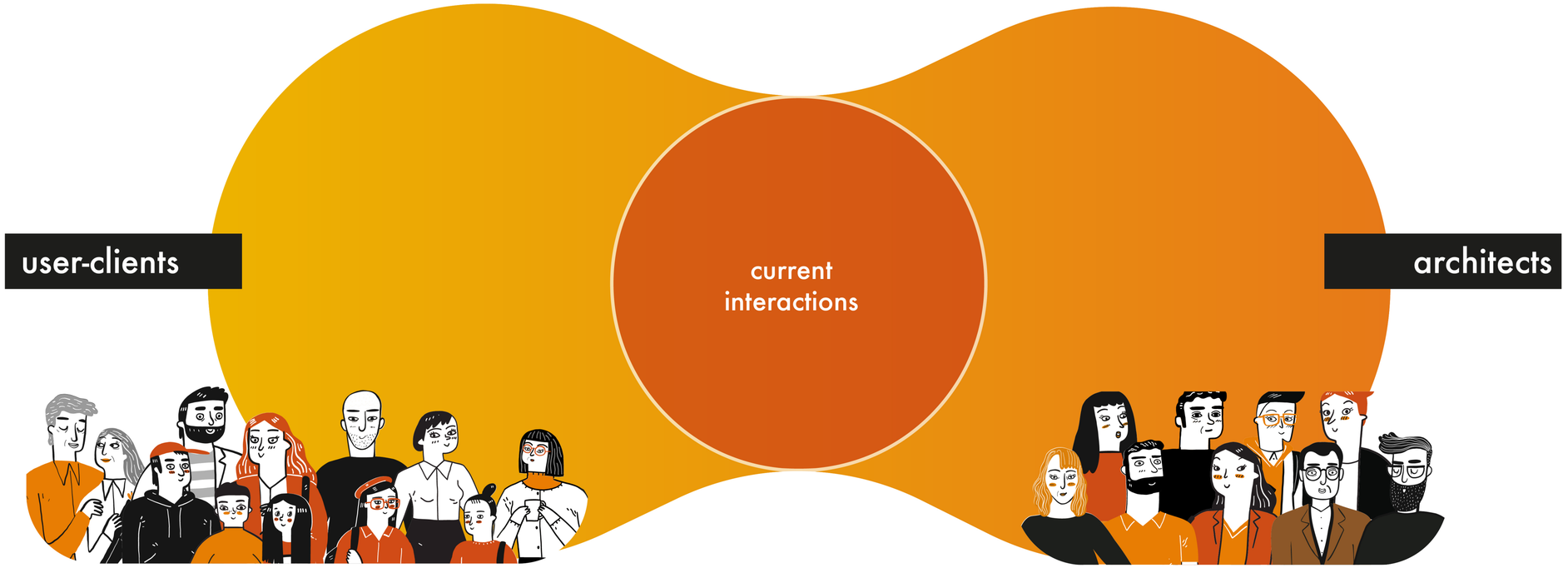
#2 User-client's involvement in architectural design:

In this context, user-client refers to both a future inhabitant (the user), and an investor and owner of the future building in question (the client).

Interacting with user-clients is a challenging everyday reality for architects (Stals et al., 2018).

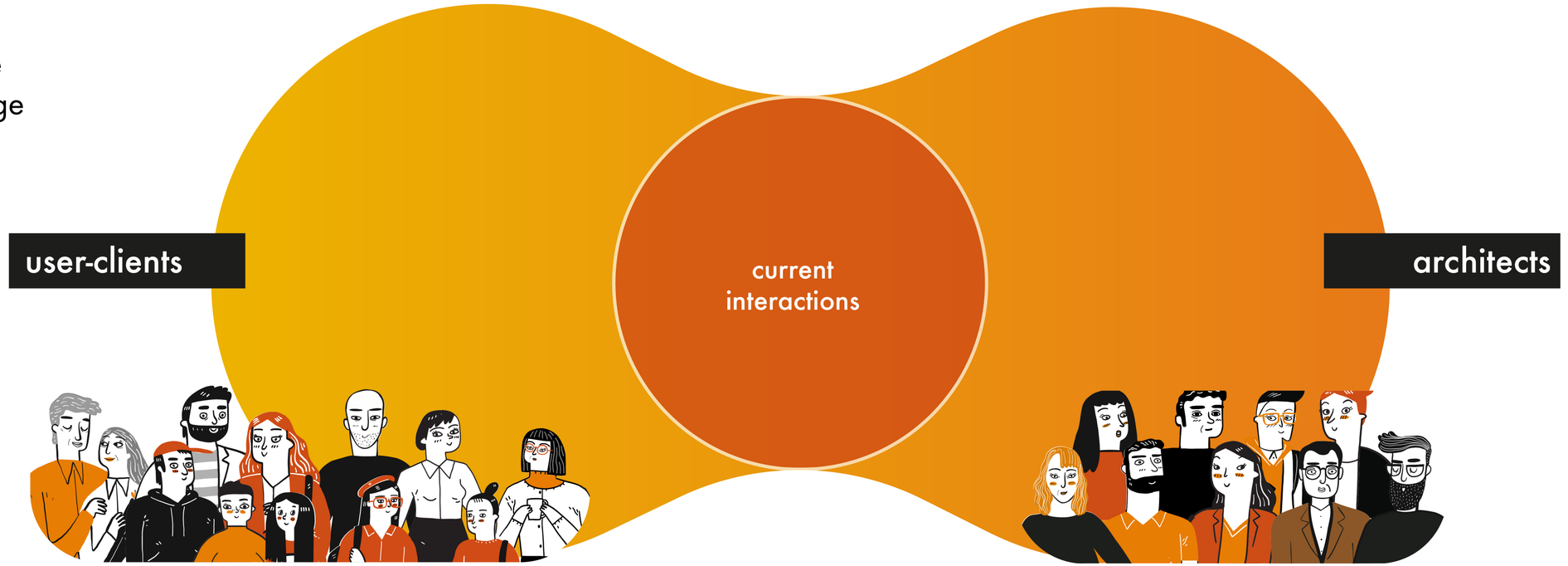
User-clients report dissatisfaction and even anxiety related to their architectural project experience (Nauwelaers and Rossini, 2014).




user-clients
current
interactions
architects

user-clients have limited knowledge of architectural processes

(Siva & London, 2011)

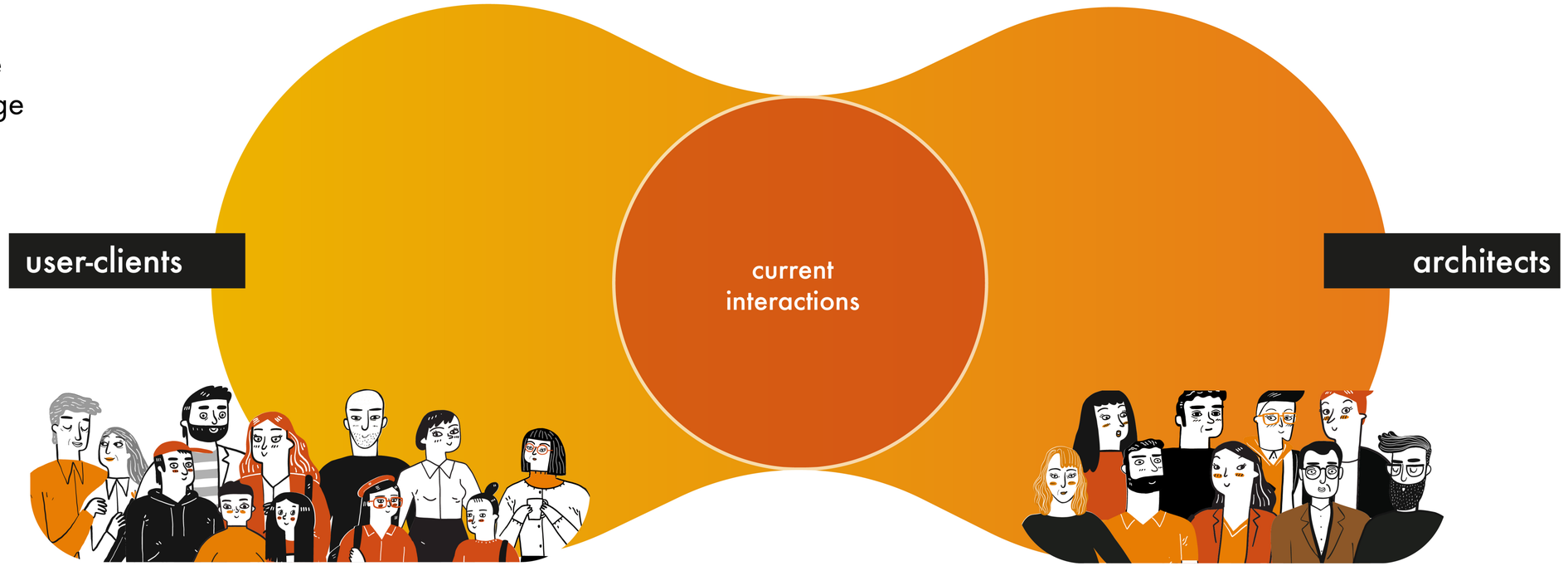


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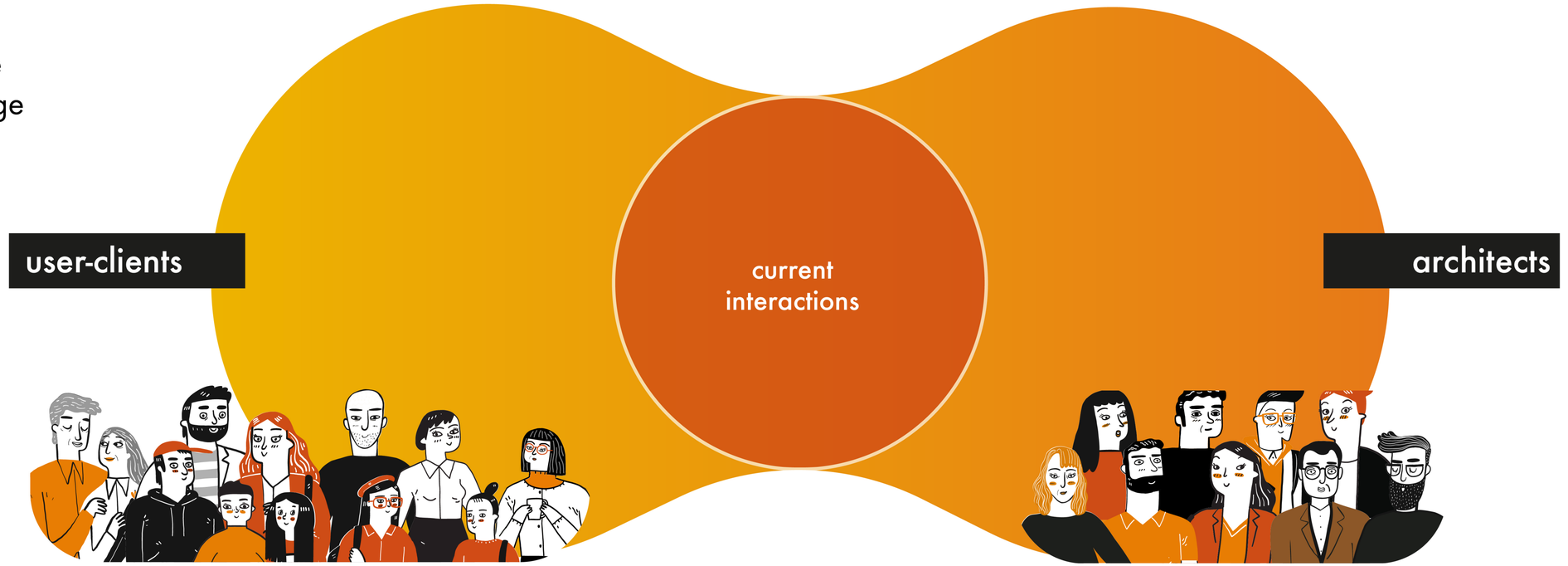


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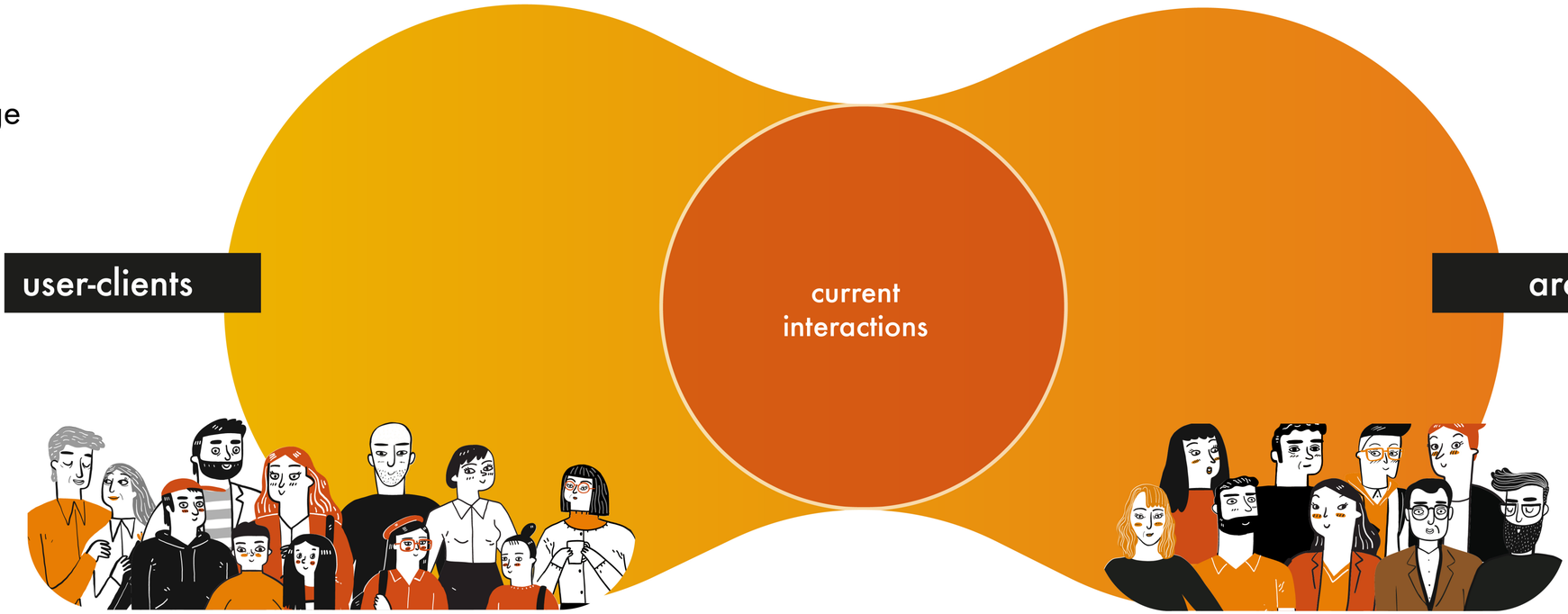
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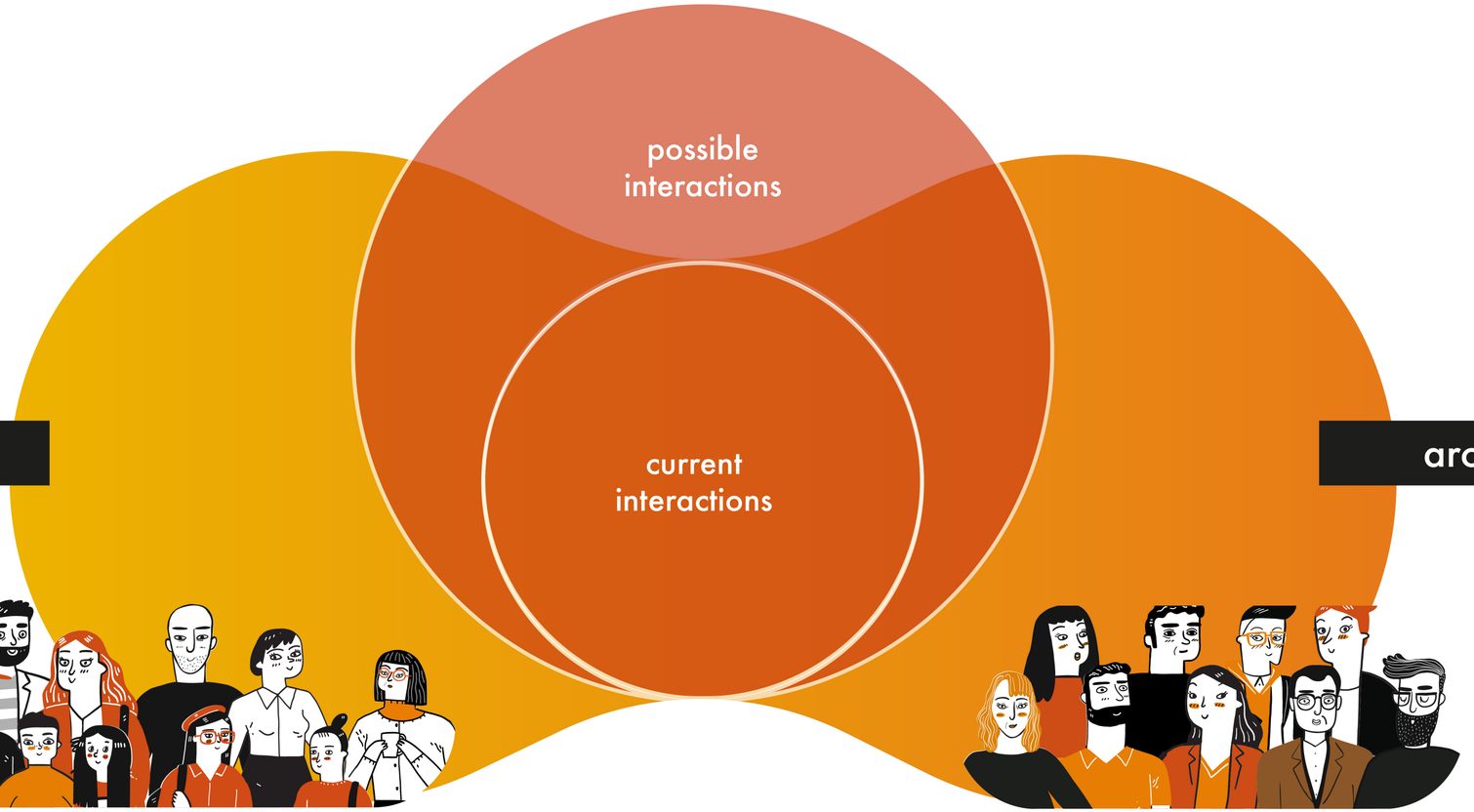
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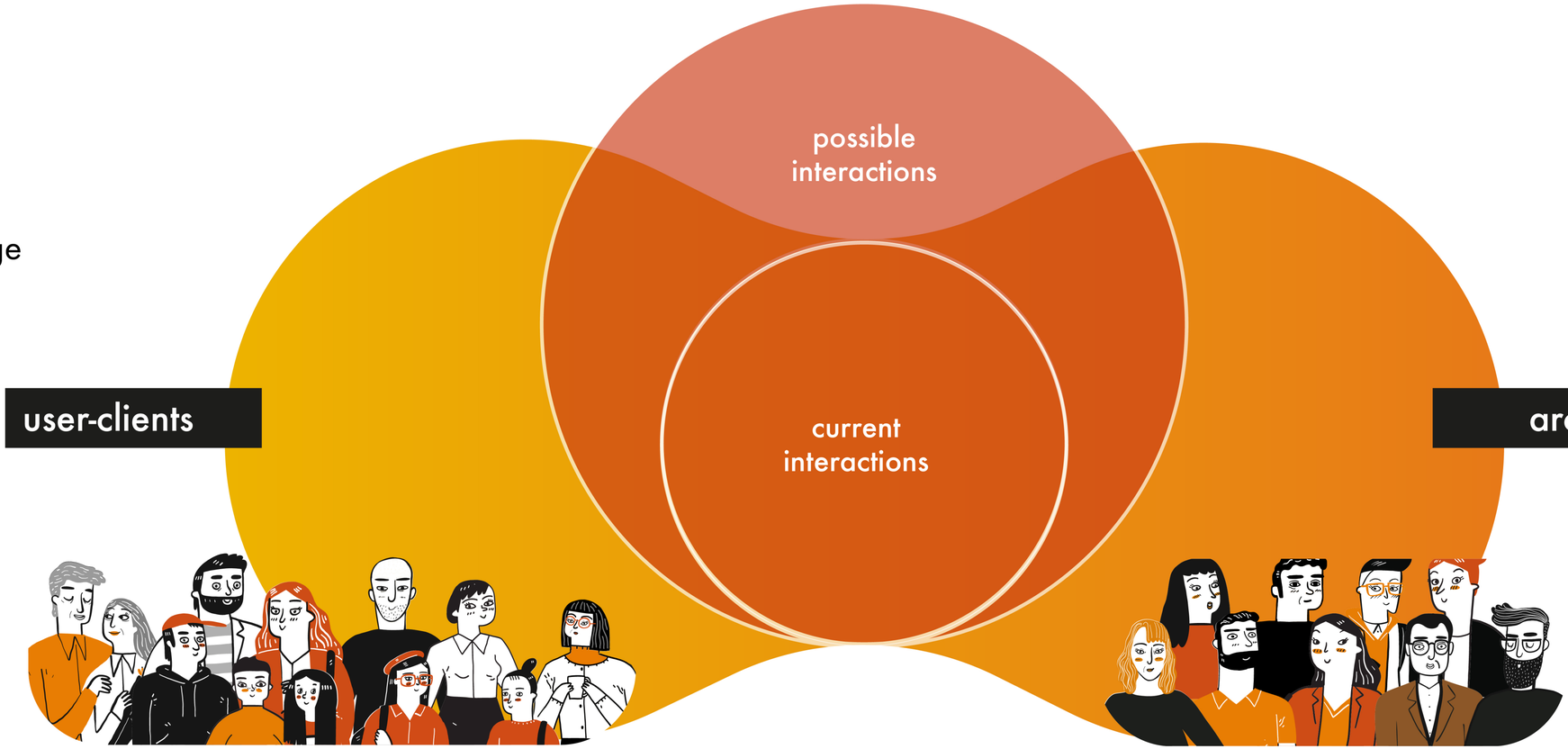
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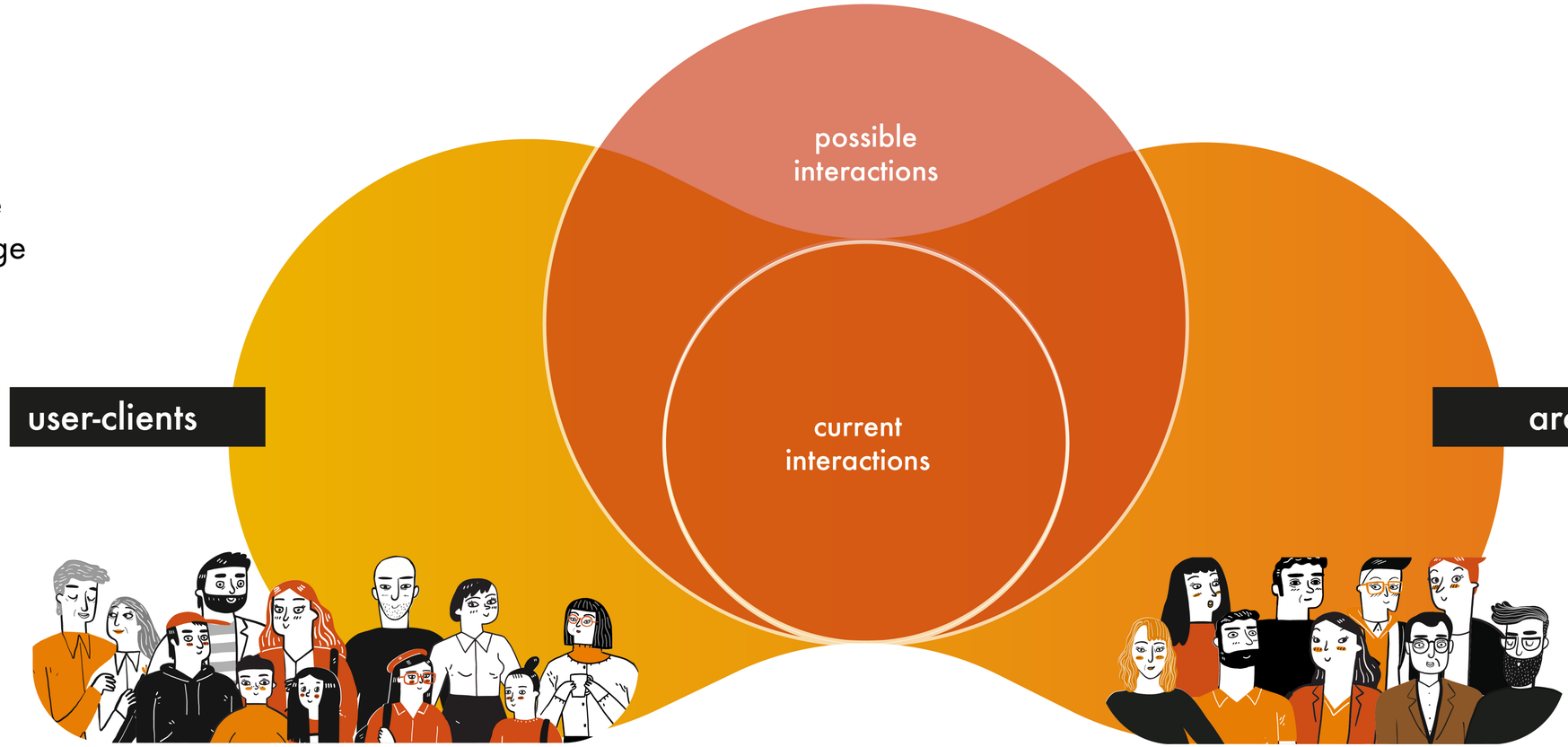
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architects wish to be user-centered, they face some limitations given the lack of related methodologies, models, and tools specifically adapted to the architectural field

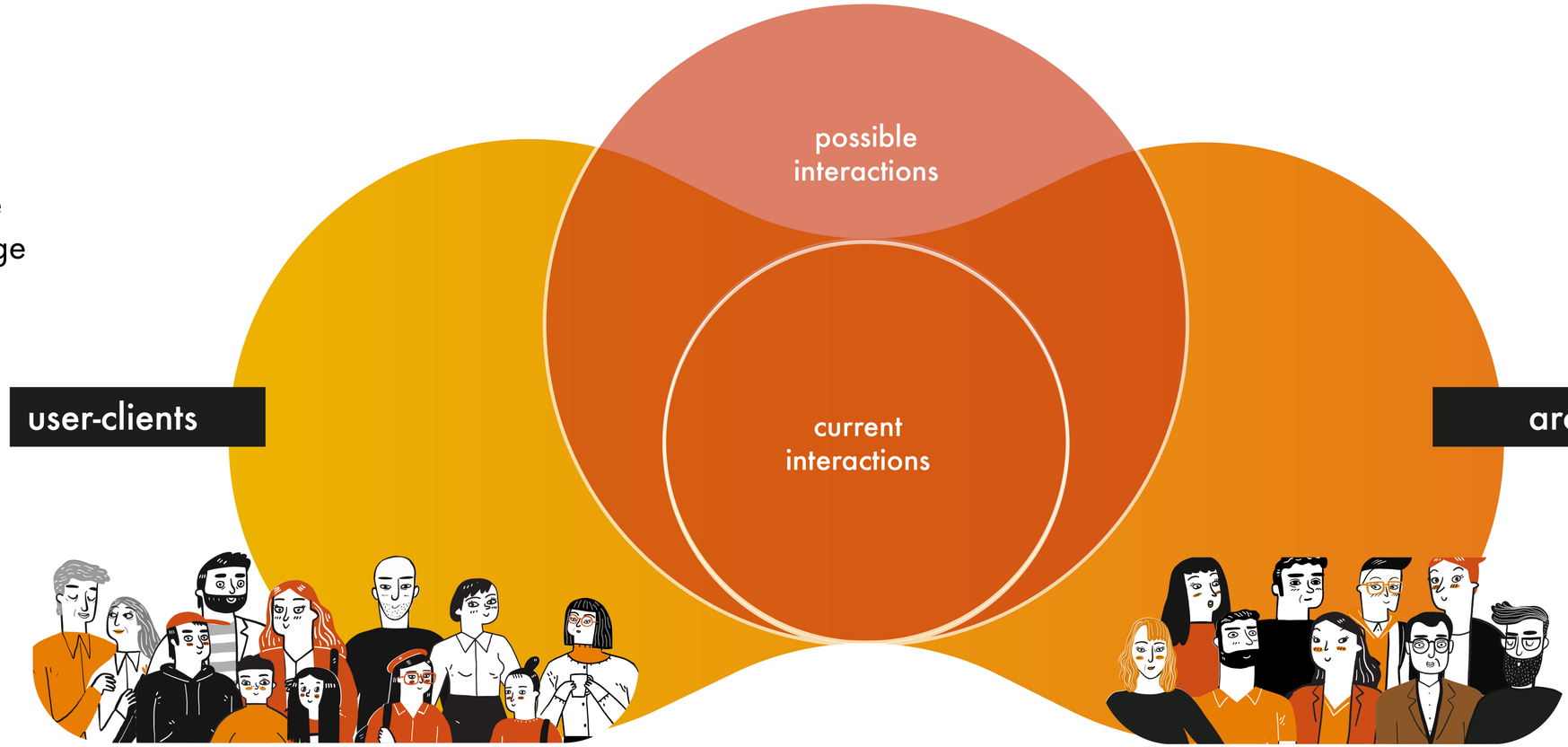
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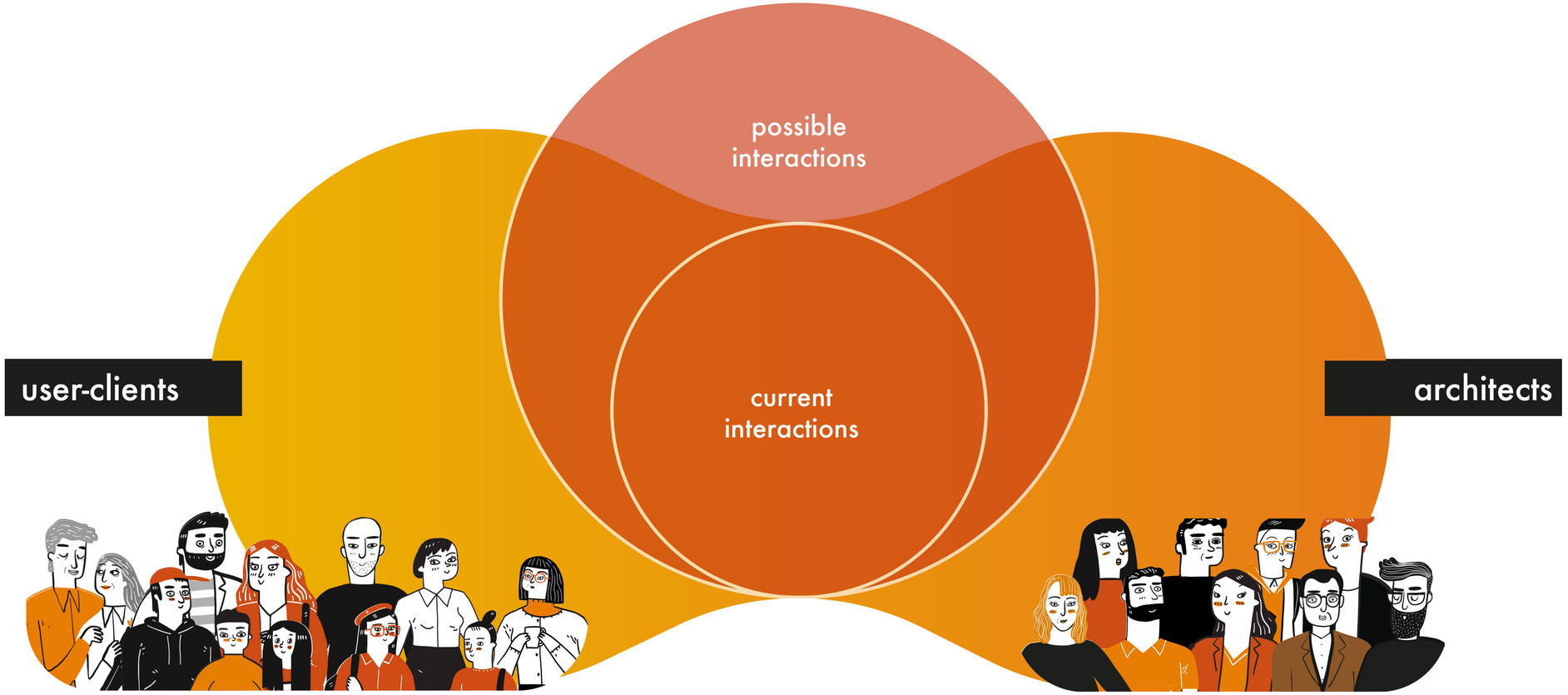
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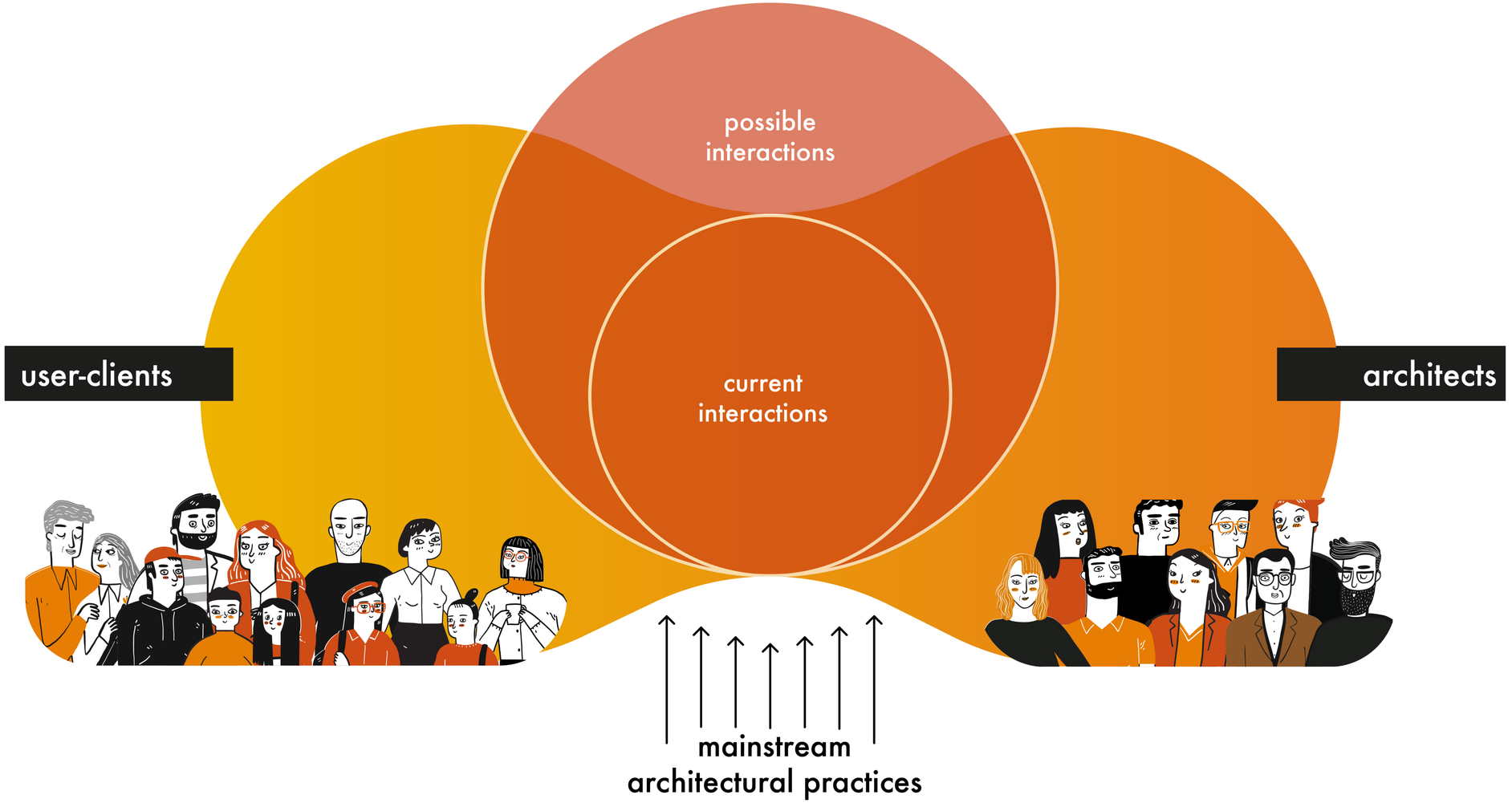
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possible
interactions
current
interactions
user-clients
architects


possible
interactions
current
interactions
user-clients
architects
mainstream
architectural practices

human-centered and participatory practices
applied in close design fields

possible
interactions

current
interactions

user-clients

architects





mainstream
architectural practices

human-centered and participatory practices
applied in close design fields

tools
techniques
methods
strategies

possible
interactions

current
interactions

user-clients

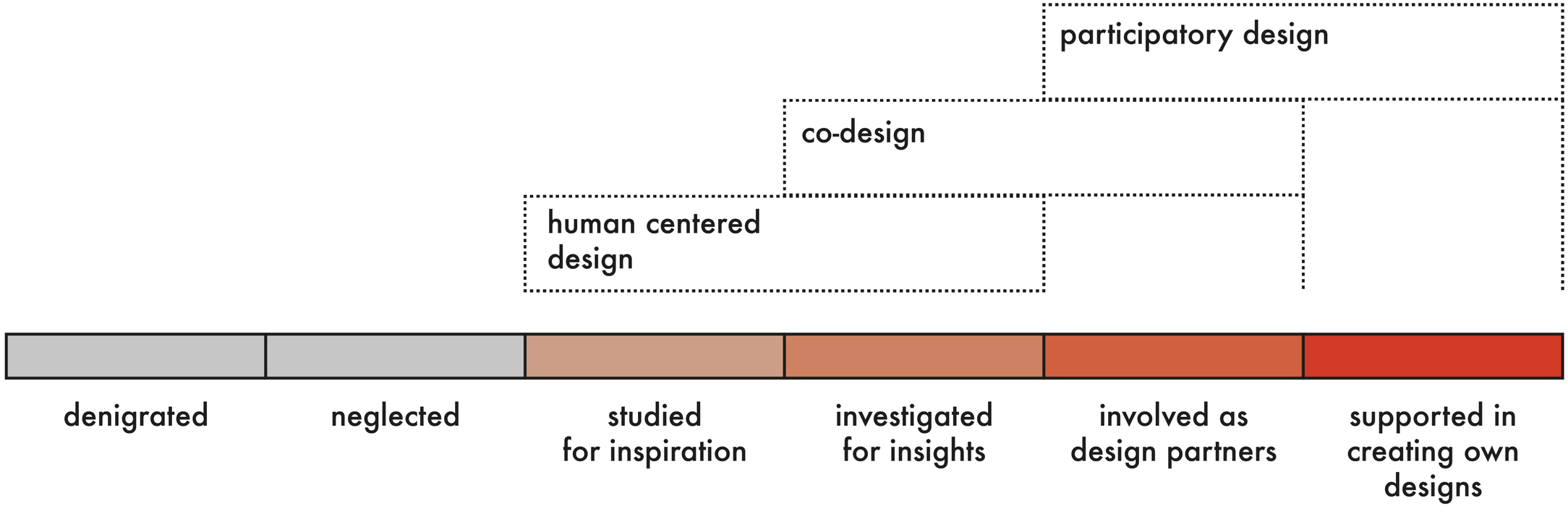
architects





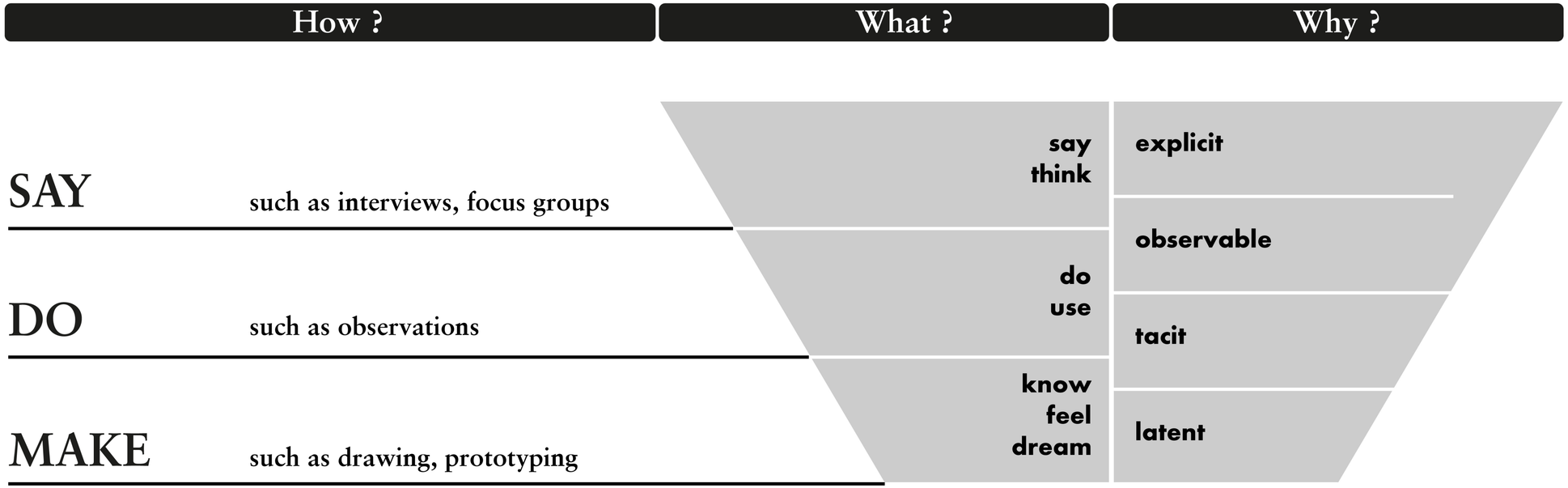
mainstream
architectural practices

Spectrum of non-designer involvement in design processes



Veselova and Gaziulusoy (2019), re-illustrated and approaches superimposed by the author.

Methodological perspectives on non-designer involvement



Sanders and Dandavate (1999), re-illustrated by the author.

(design inquiry)

“What could be” ?

How can we improve interactions between architects and user-clients in the single-family housing design context through contextually adapted or designed tools, techniques, methods, or strategies?

My Architect & I

(design inquiry)

“What could be”
?

How can we improve interactions between architects and user-clients in the single-family housing design context through contextually adapted or designed tools, techniques, methods, or strategies?

(research inquiry)

“What is”
?

What are the expectations, involvement, interactions, and experiences of architects and user-clients in single family housing design context?

My Architect & I

(design inquiry)

“What could be” ?

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Thesis specific

(design inquiry)

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research question 1

“What is”
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What are the perspectives and methodologies on involving non-designers in the design process?

Thesis specific

(design inquiry)

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R.Q.1.1.

Designers

Thesis specific

(design inquiry)

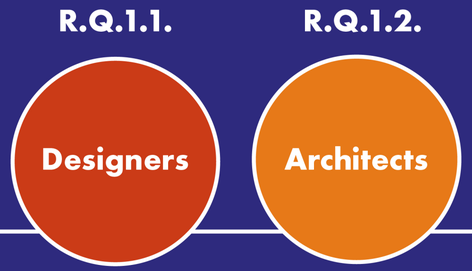
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Thesis specific

(design inquiry)

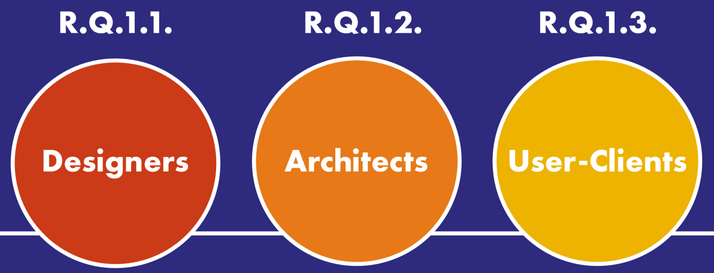
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Thesis specific

(design inquiry)

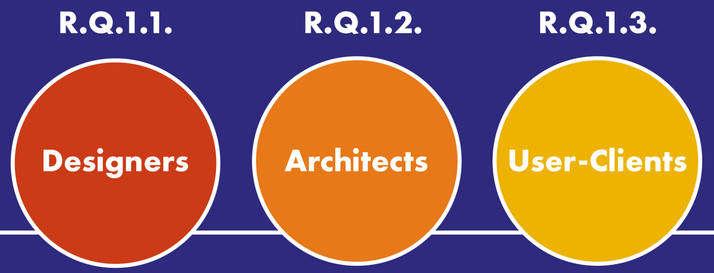
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research question 1

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research question 2

“What is” ?

What are the matters of knowledge in co-design?

Thesis specific

(design inquiry)

“What could be”
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Thesis specific

research question 1

“What is”
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What are the perspectives and methodologies on involving non-designers in the design process?

R.Q.1.1. Designers

R.Q.1.2. Architects

R.Q.1.3. User-Clients

research question 2

“What is”
?

What are the matters of knowledge in co-design?

R.Q.2.1. “My Architect & I”

(design inquiry)

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R.Q.2.1. “My Architect & I”

R.Q.2.2. Tool

Thesis specific

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R.Q.1.1. Designers

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Diagnostic

“What is” ?

What are the matters of knowledge in co-design?

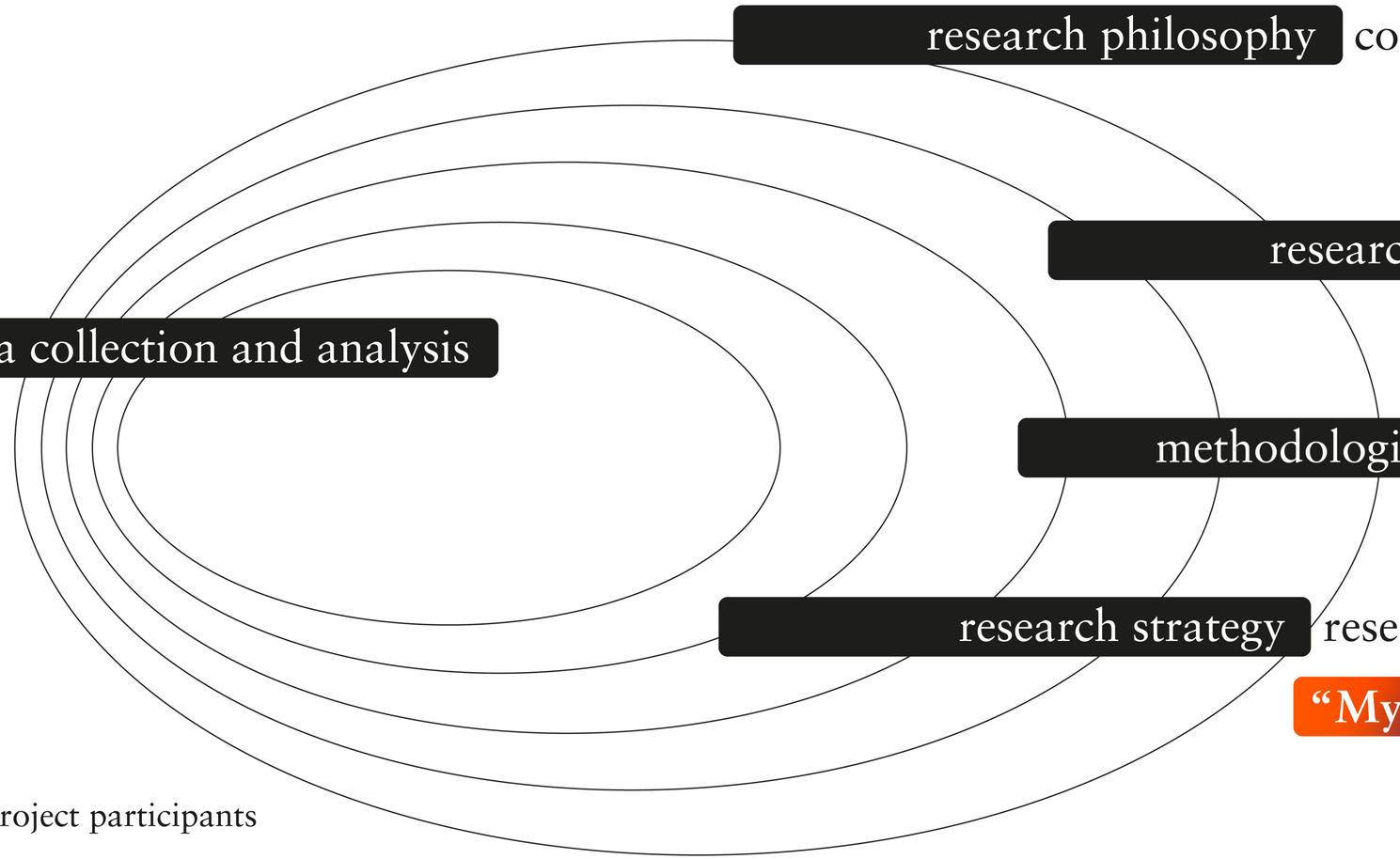
R.Q.2.1. “My Architect & I”

R.Q.2.2. Tool

Process

Tool

Research Approach



research philosophy constructivist

research approach abductive

methodological choice qualitative

research strategy research through *co*-design

"My Architect & I" project

data collection and analysis

interviews
designers
architects*
user-clients*

workshops
restitution & sharing
ideation & design
test & iteration

focus groups
"My Architect & I" project participants

**These two data collected by other researchers in the "My Architect & I" project*

The Case of
“My Architect & I”



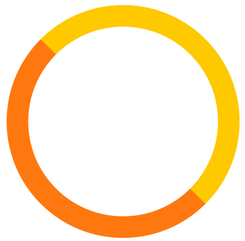
Inter'Act Lab

interviews with
15 architects, 14 user-clients
& 17 designers
+
literature reviews

STARTED IN 15 JUIN '20

RESEARCH

Research & Planning



Online
in Wallonia-Brussels

duration: 2h
with 16 architects
8 user-clients

27 JANUARY '22

WORKSHOP

Restitution & Sharing



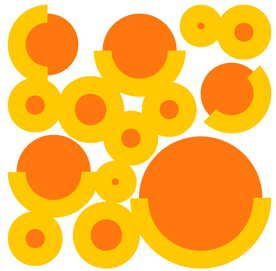
5 workshops in four
cities in Wallonia-Brussels

duration: 2h x5
with 12 architects
9 user-clients

FEBRUARY- MARS '22

WORKSHOPS

Ideation & Design



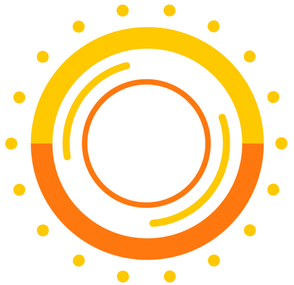
In architectural agencies
In a design conference
In the event of 31 mai

duration: 2h x5 and 1,5h x 4
with 25 architects
11 user-clients
8 designers/researchers

MAI - JUIN '22

WORKSHOPS

Tests & Iterations



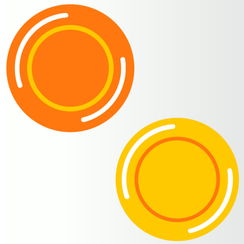
With the actors from
architectural sector in Wallonia
and general public

31 MAI '22

WORKSHOPS

SEMINARS

Diffusion & Implementation



duration: 1,5h x 2

3 architects
4 user-clients

OCTOBER 22

FOCUS GROUPS

Evaluation & Feedback

Inter'Act Lab

interviews with
15 architects, 14 user-clients
& 17 designers
+
literature reviews

STARTED IN 15 JUIN '20

RESEARCH

Research & Planning

Online
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27 JANUARY '22

WORKSHOP

Restitution & Sharing

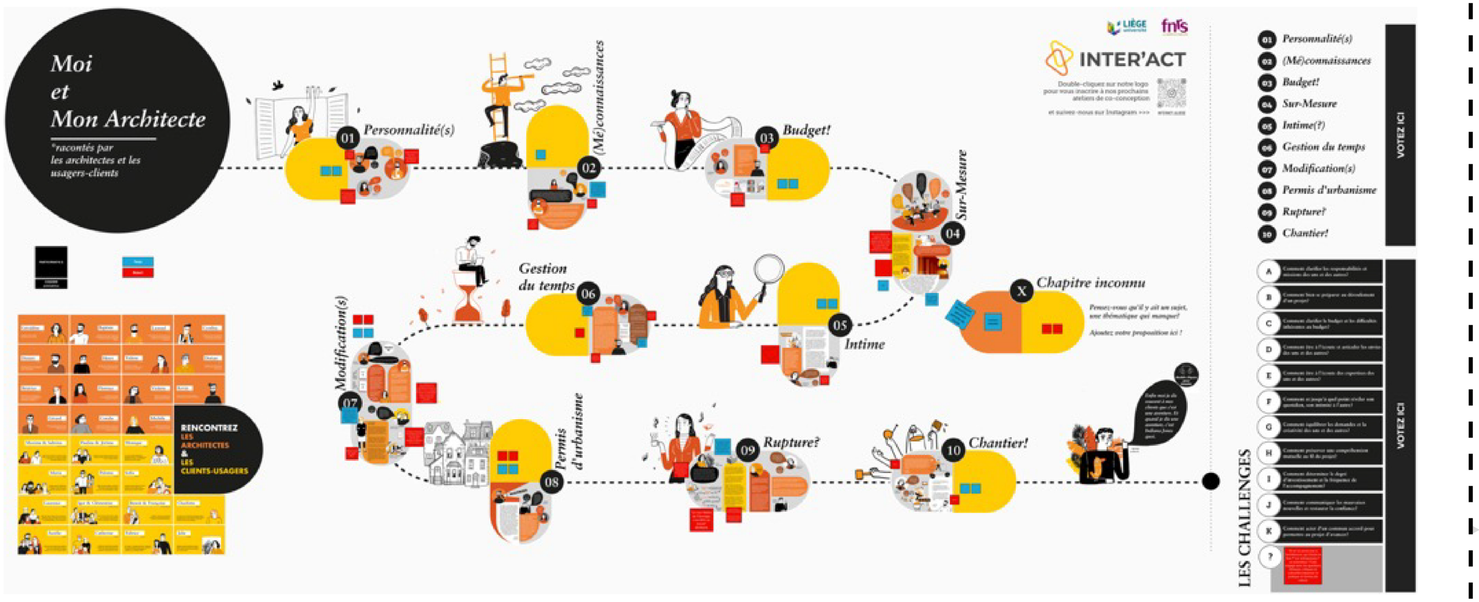
5 w
cities in
w

FEBR

W

Id

Design



Iterations

Implementation

Feedback

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Research & Planning

Online
in Wallonia-Brussels

duration: 2h
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27 JANUARY '22

WORKSHOP

Restitution & Sharing

5 workshops in four cities in Wallonia-Brussels

duration: 2h x5
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FEBRUARY- MARS '22

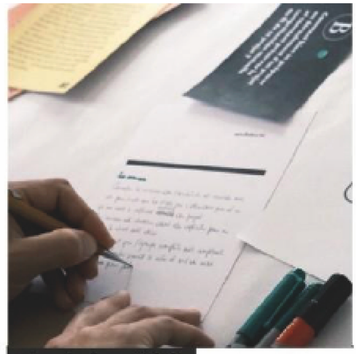
WORKSHOPS

Ideation & Design



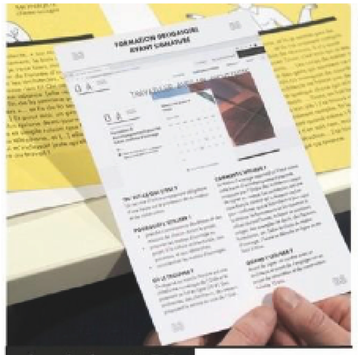
Activity #01

Selection of challenge



Activity #02

Discovering and sharing experiences



Activity #03

Discovering and analysing tools



Activity #04

Creation of a tool

duration: 1,5h x 2

3 architects
4 user-clients

OCTOBER 22

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FEBRUARY- MARS '22

WORKSHOPS

Ideation & Design



#01 Questionnaire



#02 Journey Map + Guide



#03 Budget Quiz



#01 Project Management

duration: 1,5h x 2

3 architects
4 user-clients

OCTOBER 22

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Evaluation & Feedback

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Restitution & Sharing

5 workshops in four
cities in Wallonia-Brussels

duration: 2h x5
with 12 architects
9 user-clients

FEBRUARY- MARS '22

WORKSHOPS

Ideation & Design

In architectural agencies
In a design conference
In the event of 31 mai

duration: 2h x5 and 1,5h x 4
with 25 architects
11 user-clients
8 designers/researchers

MAI - JUIN '22

WORKSHOPS

Tests & Iterations

ar







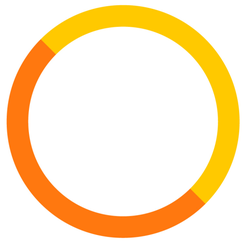
Inter'Act Lab

interviews with
15 architects, 14 user-clients
& 17 designers
+
literature reviews

STARTED IN 15 JUIN '20

RESEARCH

Research & Planning



Online
in Wallonia-Brussels

duration: 2h
with 16 architects
8 user-clients

27 JANUARY '22

WORKSHOP

Restitution & Sharing



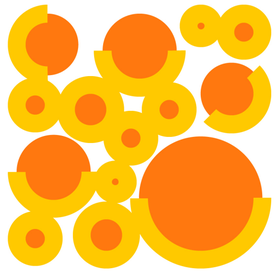
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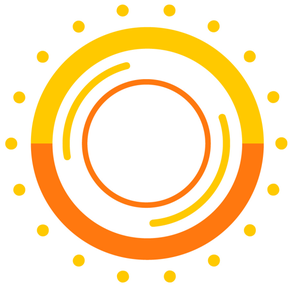
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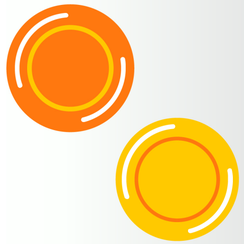
With the actors from
architectural sector in Wallonia
and general public

31 MAI '22

WORKSHOPS

SEMINARS

Diffusion & Implementation



duration: 1,5h x 2

3 architects
4 user-clients

OCTOBER 22

FOCUS GROUPS

Evaluation & Feedback

Results

The Diagnostic

Research question 1:

What are the perspectives and methodologies on involving non-designers in the design process?

R.Q.1.1. Designers

R.Q.1.2. Architects

R.Q.1.3. User-Clients

It takes more than the tools !

It takes more than the tools !



“We did not choose the tools ... we created the tools ... for a specific situation.”

Frank / Strategic Design

It takes more than the tools !



“We did not choose the tools ... we created the tools ... for a specific situation.”

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“Sometimes it works just as well without tools.”

Sylvia / Social Design



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“While we may use certain tools or methodologies that others also use (...) in design tools, there is such a wide scope of how you use them and design them.”

Jack / Service-Social Design

It takes more than the tools !



"We did not choose the tools ... we created the tools ... for a specific situation."

Frank / Strategic Design



"Sometimes it works just as well without tools."

Sylvia / Social Design



"While we may use certain tools or methodologies that others also use (...) in design tools, there is such a wide scope of how you use them and design them."

Jack / Service-Social Design



"Facilitation is also as important (...) I think maybe it is even more important (than the tools), (...) How are you interested in? How do you make people feel safe? How will you make people feel that everything they do is okay? That is like... it is all these kinds of more social skills..."
Eva / Service-Social Design

What about roles and soft skills ?

It takes more than the tools !



"We did not choose the tools ... we created the tools ... for a specific situation."

Frank / Strategic Design



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Sylvia / Social Design



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Jack / Service-Social Design

Okay. I think it's my role of making people enthusiastic.

Wendy / Social Design





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Eva / Service-Social Design

What about roles and soft skills ?

It takes more than the tools !



"We did not choose the tools ... we created the tools ... for a specific situation."

Frank / Strategic Design



I think every week there was a mental breakdown with someone like, what are we doing? (...) that is also part of your role as a designer is to take a step and then learn from it and not to not be sure beforehand. And I think for a lot of other people, that is always, scary (...) So, that was also part of the the role as to ease those kinds of fears."

Jack / Service-Social Design



"Sometimes it works just as well without tools."

Sylvia / Social Design

Okay. I think it's my role of making people enthusiastic.

Wendy / Social Design





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Eva / Service-Social Design

What about roles and soft skills ?

Designers roles in human-centered and participatory design contexts

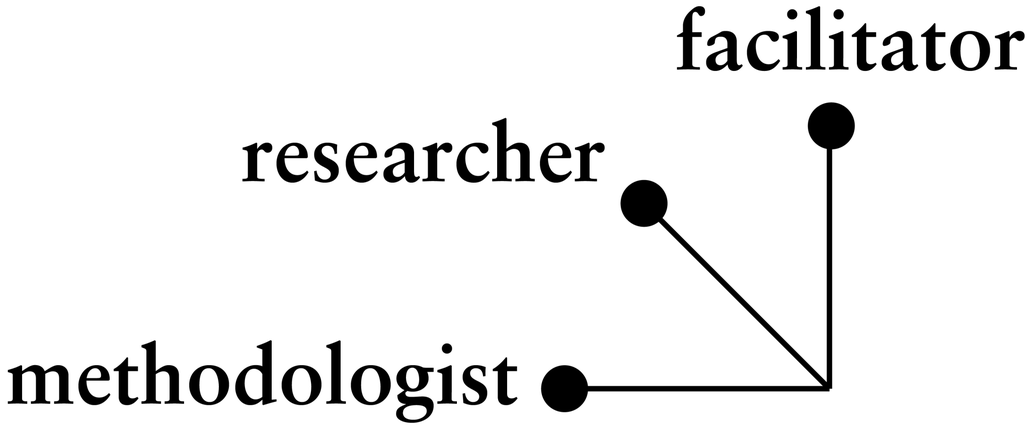
Designers roles in human-centered and participatory design contexts

methodologist

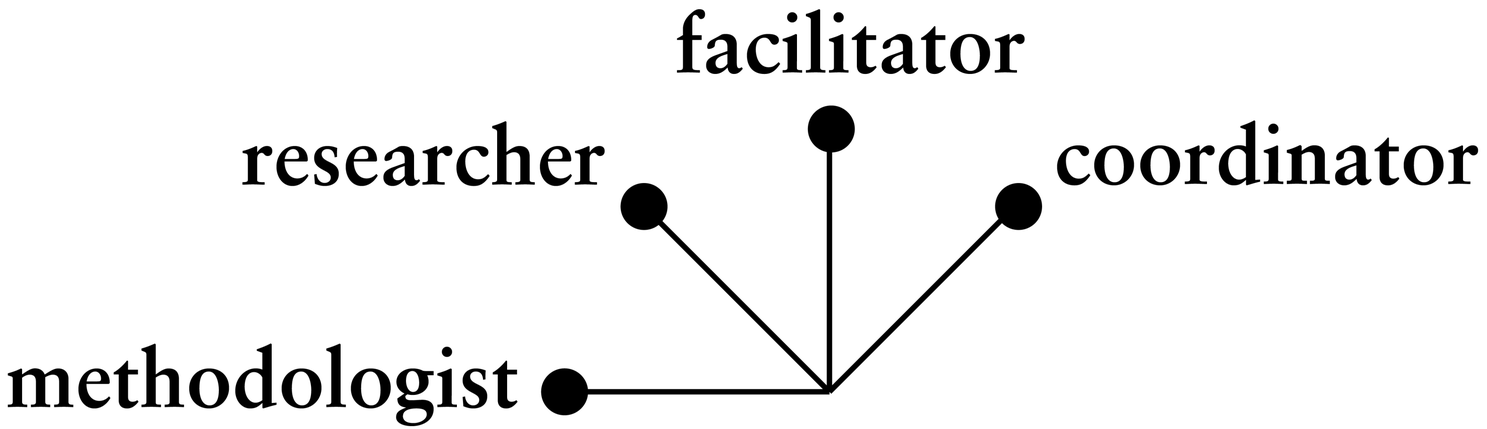
Designers roles in human-centered and participatory design contexts



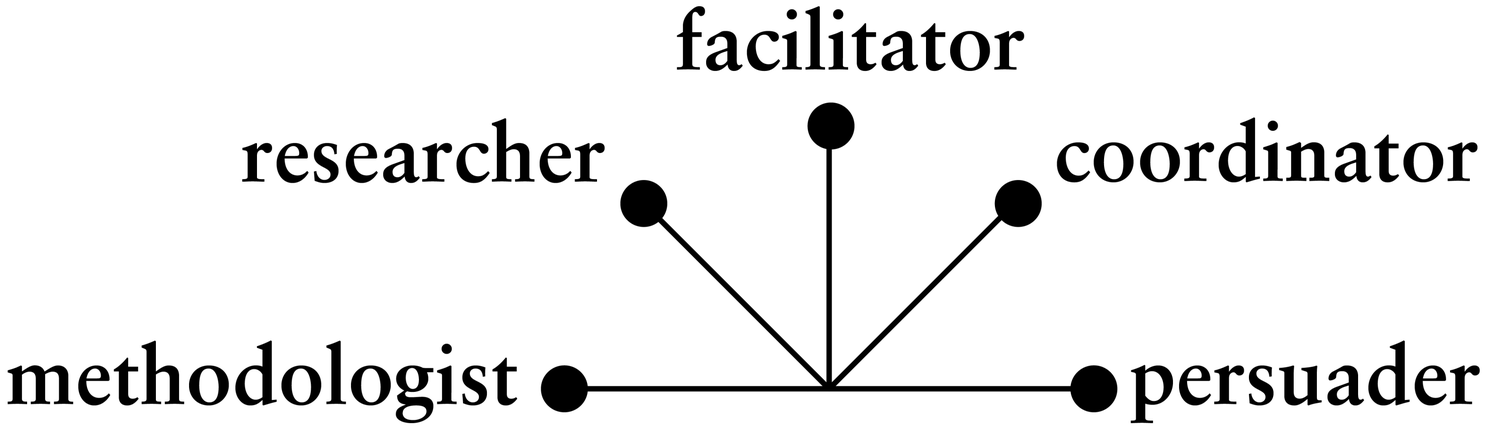
Designers roles in human-centered and participatory design contexts



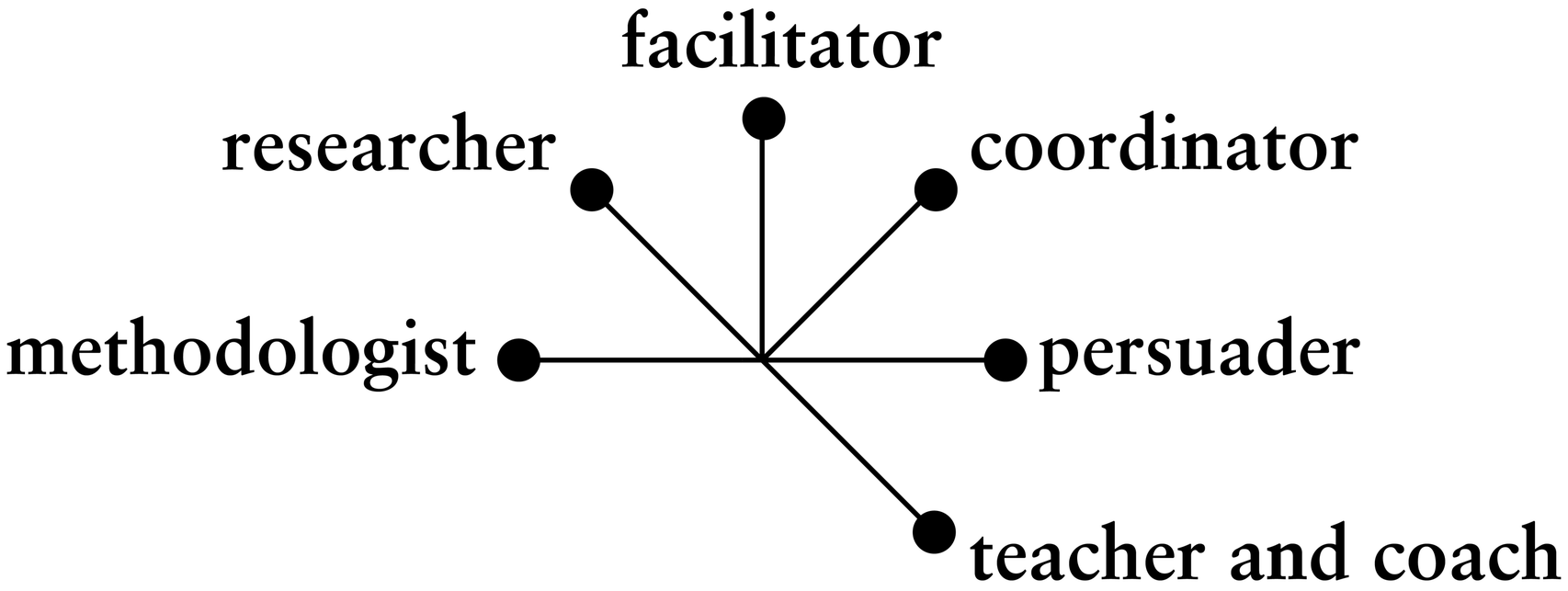
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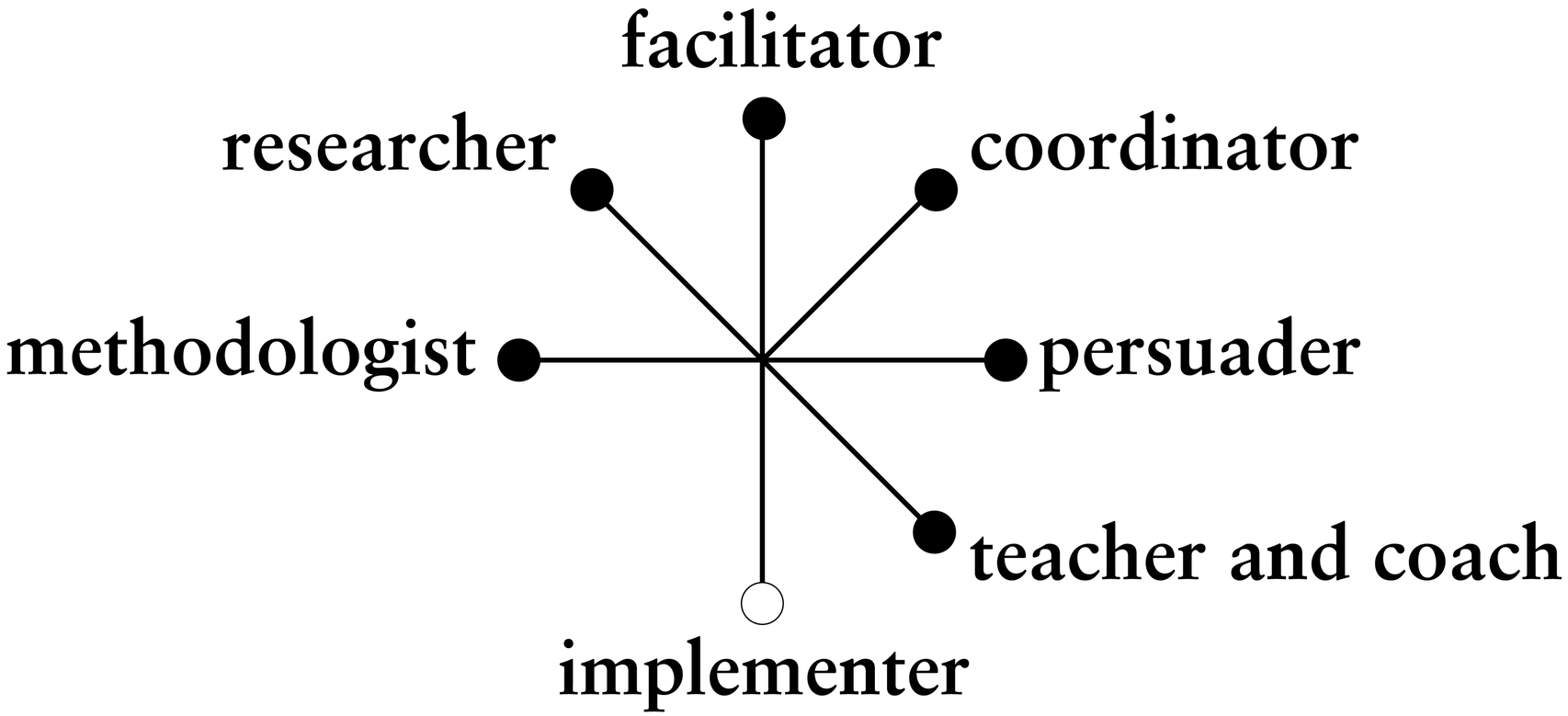
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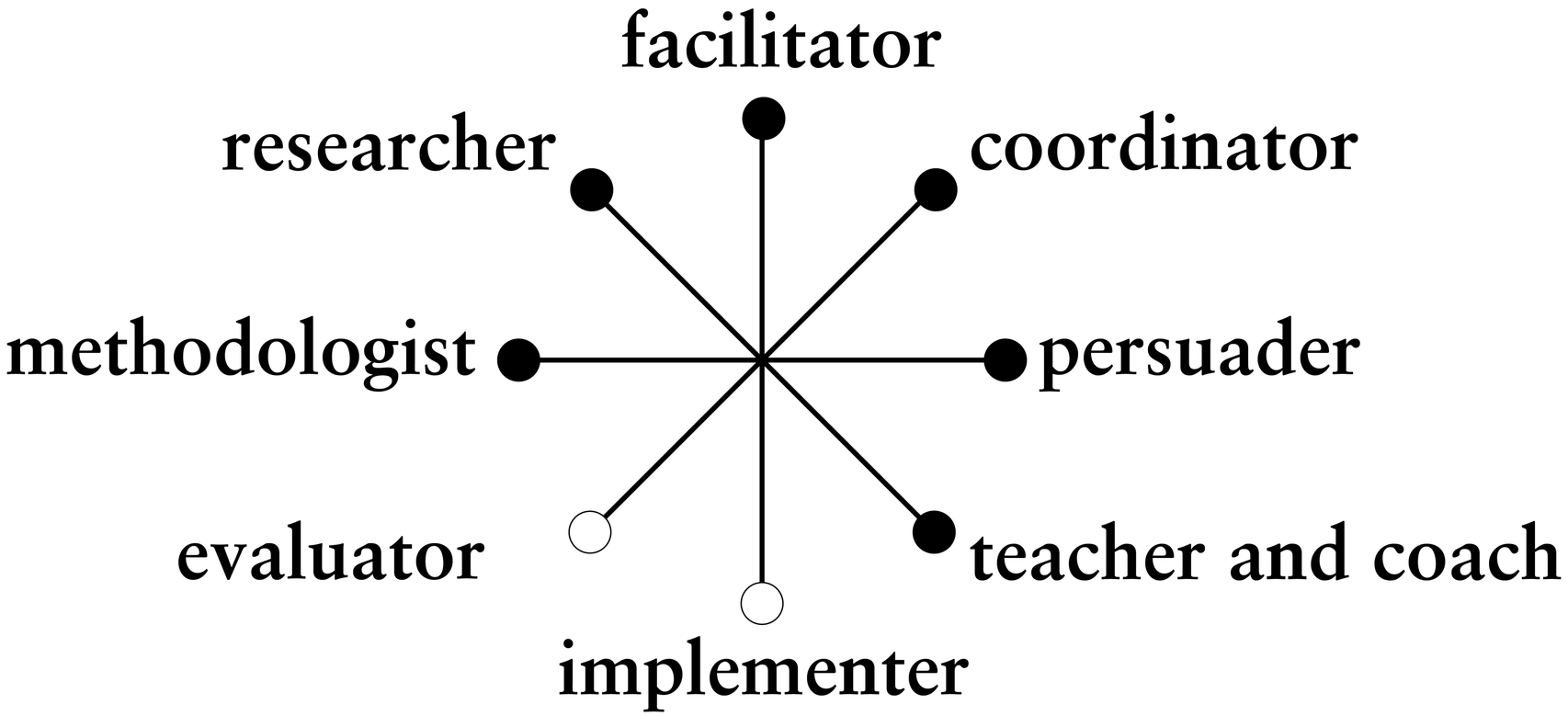
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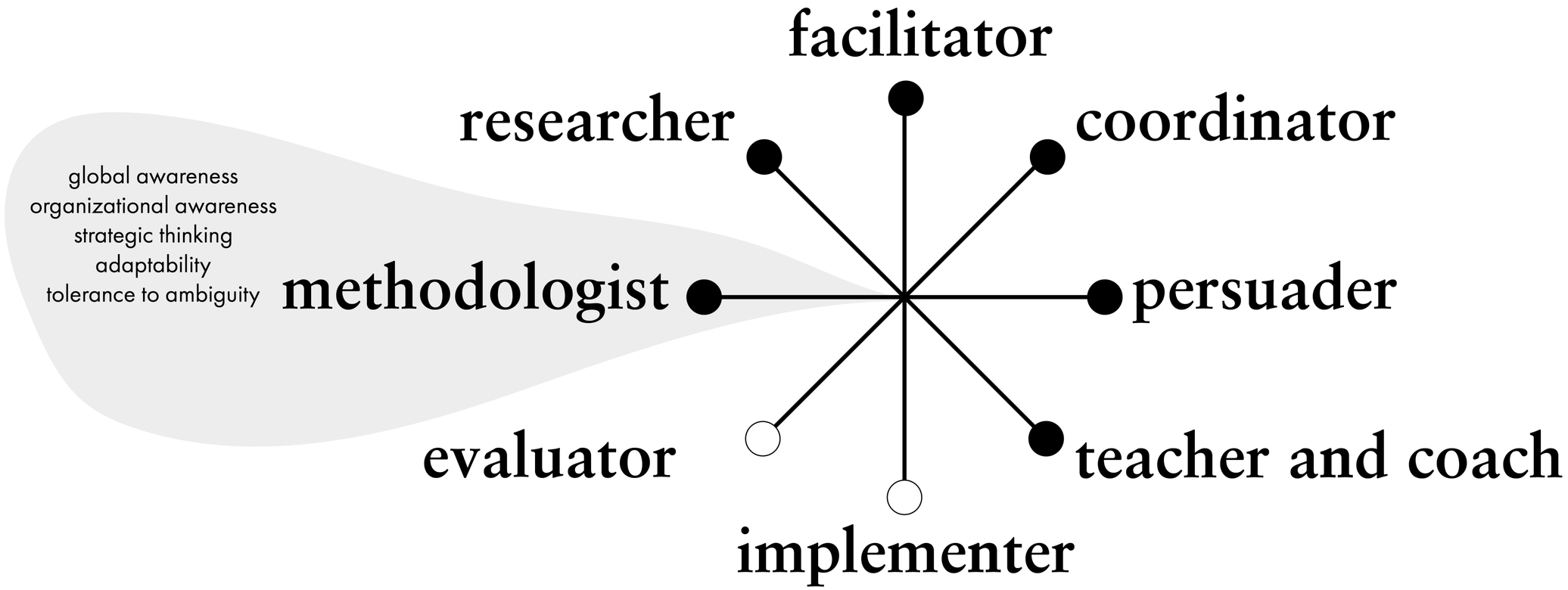
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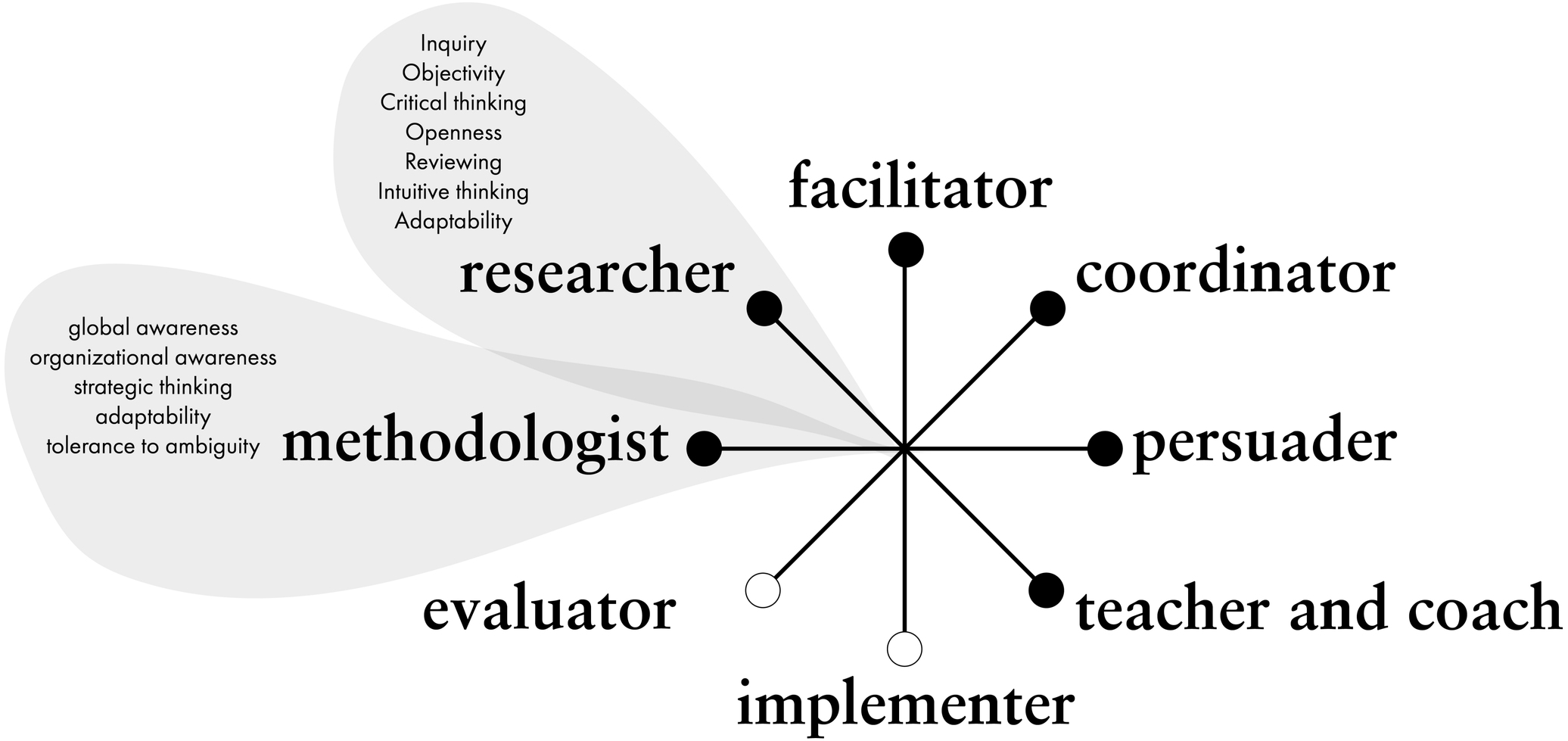
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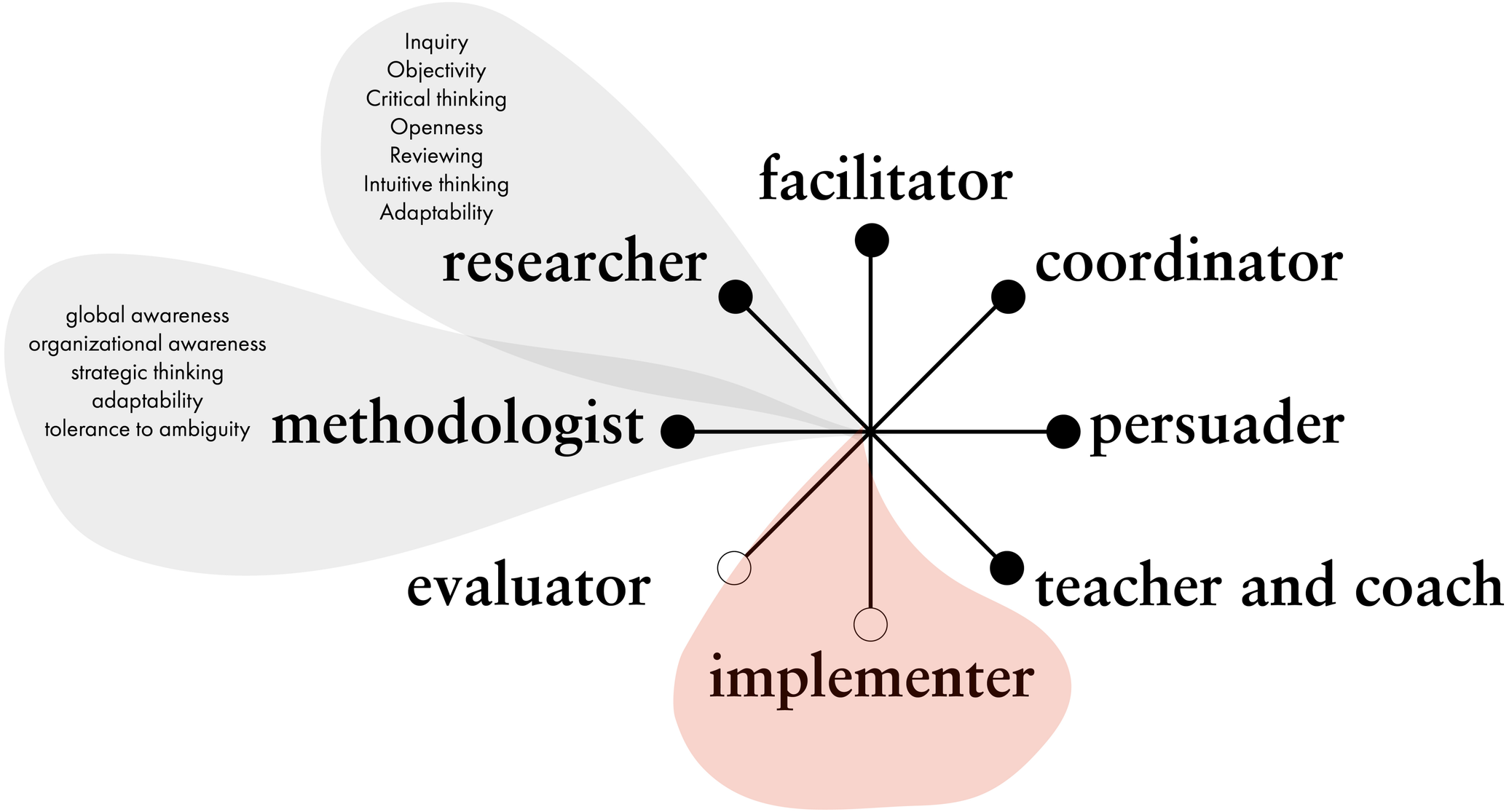
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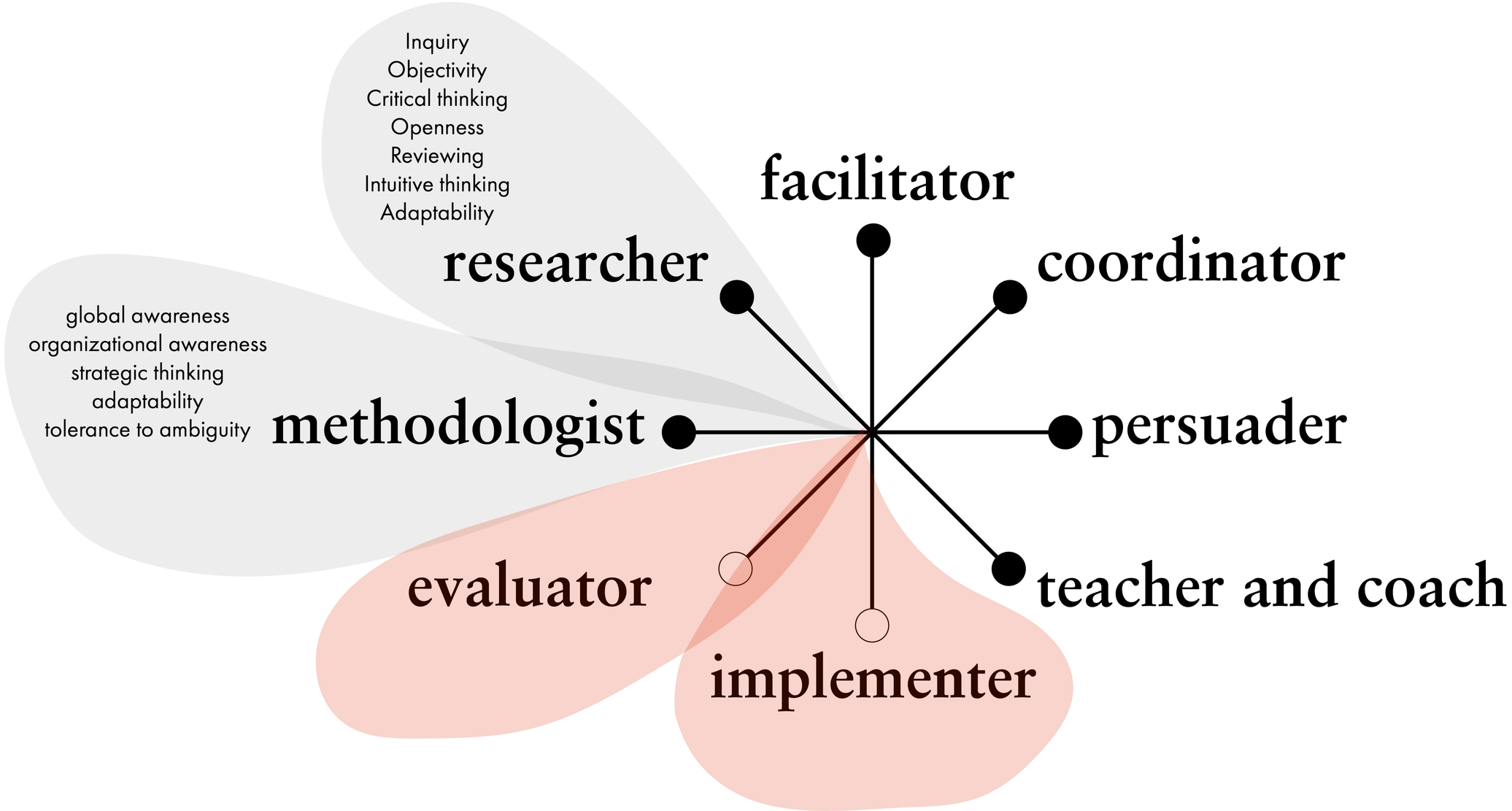
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Designers roles in human-centered and participatory design contexts



The Diagnostic

Research question 1:

What are the perspectives and methodologies on involving non-designers in the design process?

R.Q.1.1. Designers

R.Q.1.2. Architects

R.Q.1.3. User-Clients

What do you mean by participation ?

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“Participatory approaches? No, that doesn't ring a bell for me. (…) I'll open a small parenthesis because I'm not necessarily looking for more client interaction.”

Dorian



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“For me, it evokes the idea of asking people for their opinion. In Belgium, I'm not sure if it works so well because the people who participate are those who have nothing else to do, who have the time. Or else they're extremists and all that.”

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“But yes, it can be a bit challenging. In private sector work, with a lot of self-construction, the client participates in building their own house. There are significant stakes in seeing how things come together and discussing details or making adjustments on the construction site itself.”
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Geraldine



“I’m not very convinced by it, thinking that enlightened despotism is still better.”

Violette

“The richness of our understanding of architecture is necessarily linked to knowledge of architecture in order to understand what proportion is. (…) So, everyone keeps their role. And that’s why I think it’s important that the Order of Architects follows your work a bit, hoping that one day it will help to clearly explain everyone’s roles.”

Henri



The Diagnostic

Research question 1:

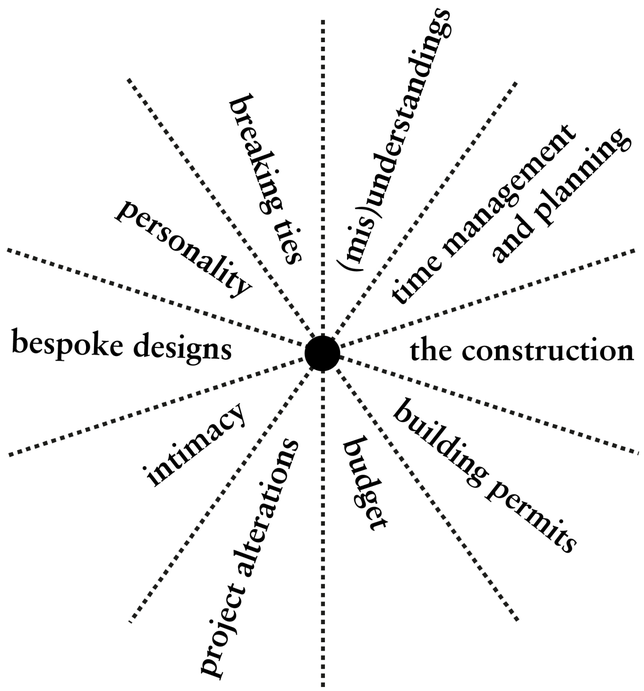
What are the perspectives and methodologies on involving non-designers in the design process?

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R.Q.1.2. Architects

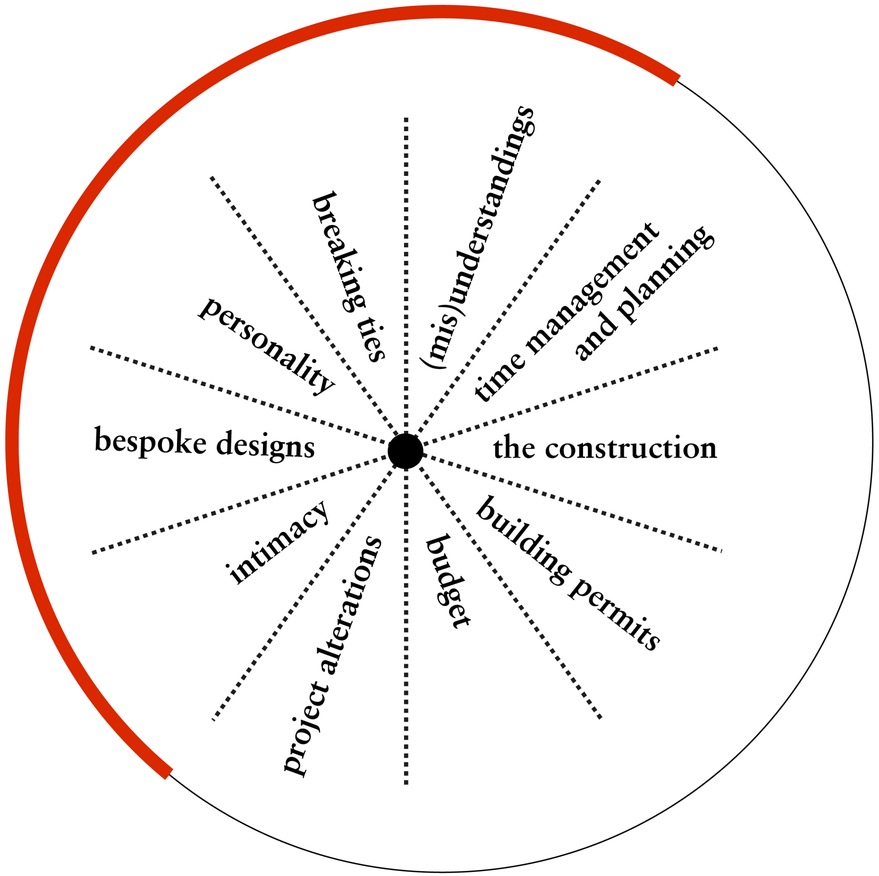
R.Q.1.3. User-Clients

What are the major elements of architect user-client relationship ?



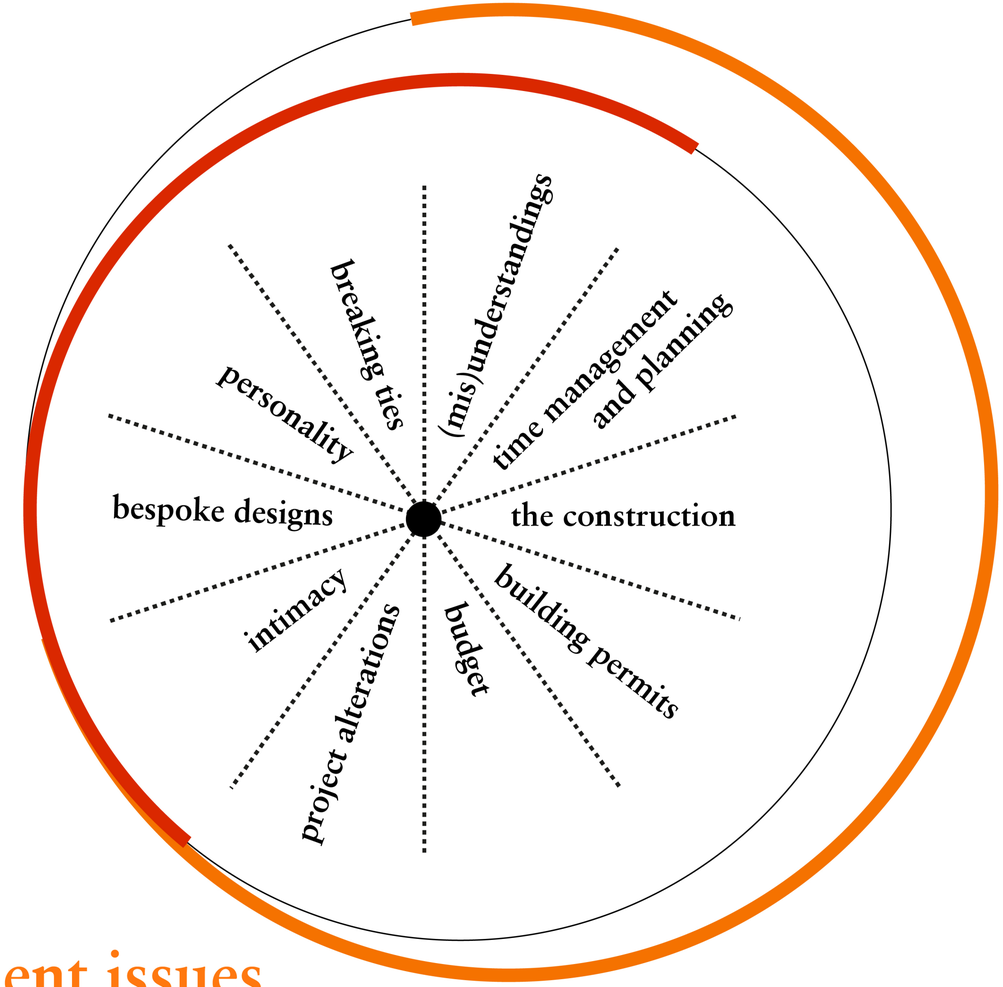
What are the major elements of architect user-client relationship ?

Interpersonal relations



What are the major elements of architect user-client relationship ?

Interpersonal relations

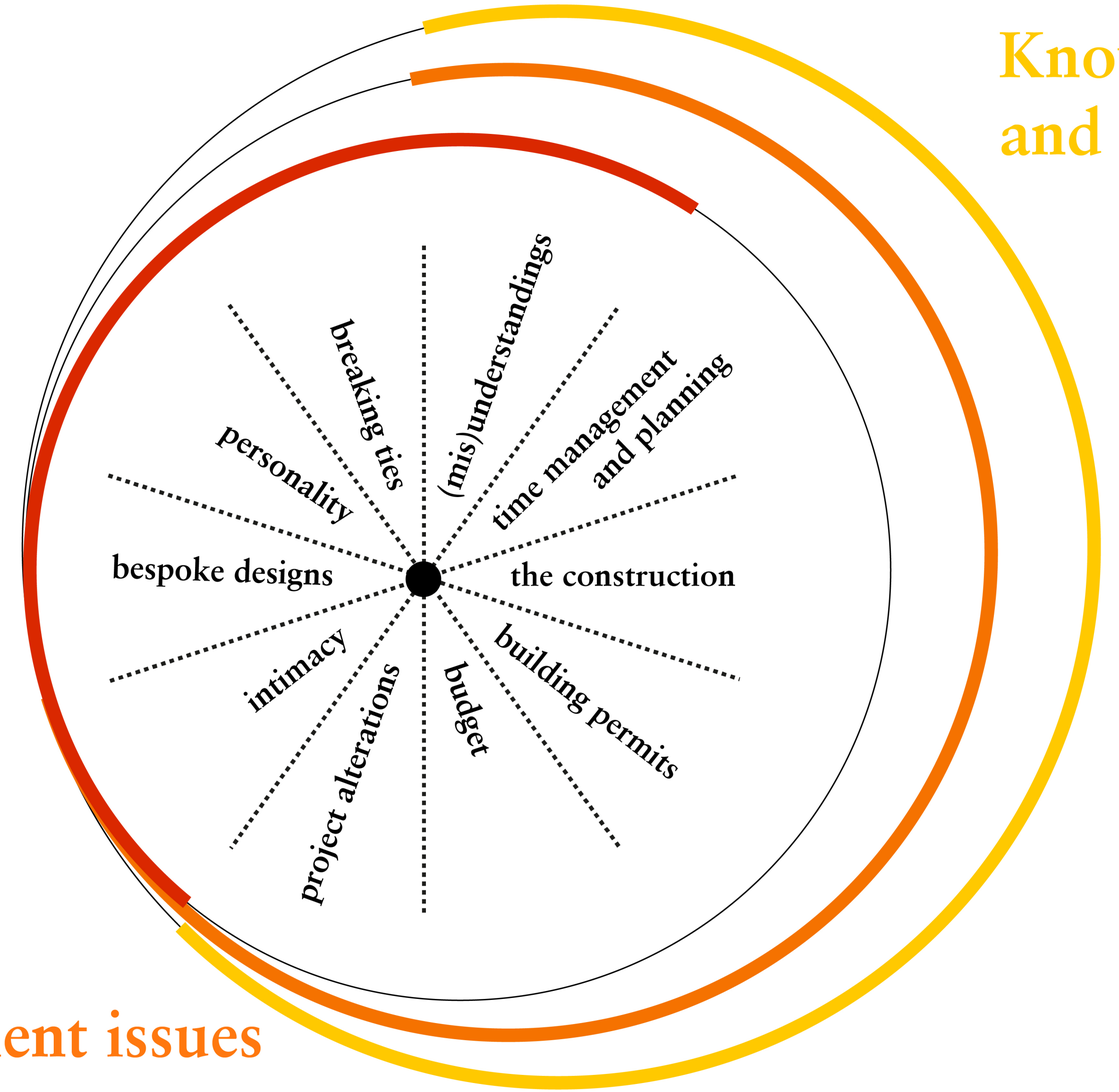


Management issues

What are the major elements of architect user-client relationship ?

Knowledge disparities and misunderstandings

Interpersonal relations

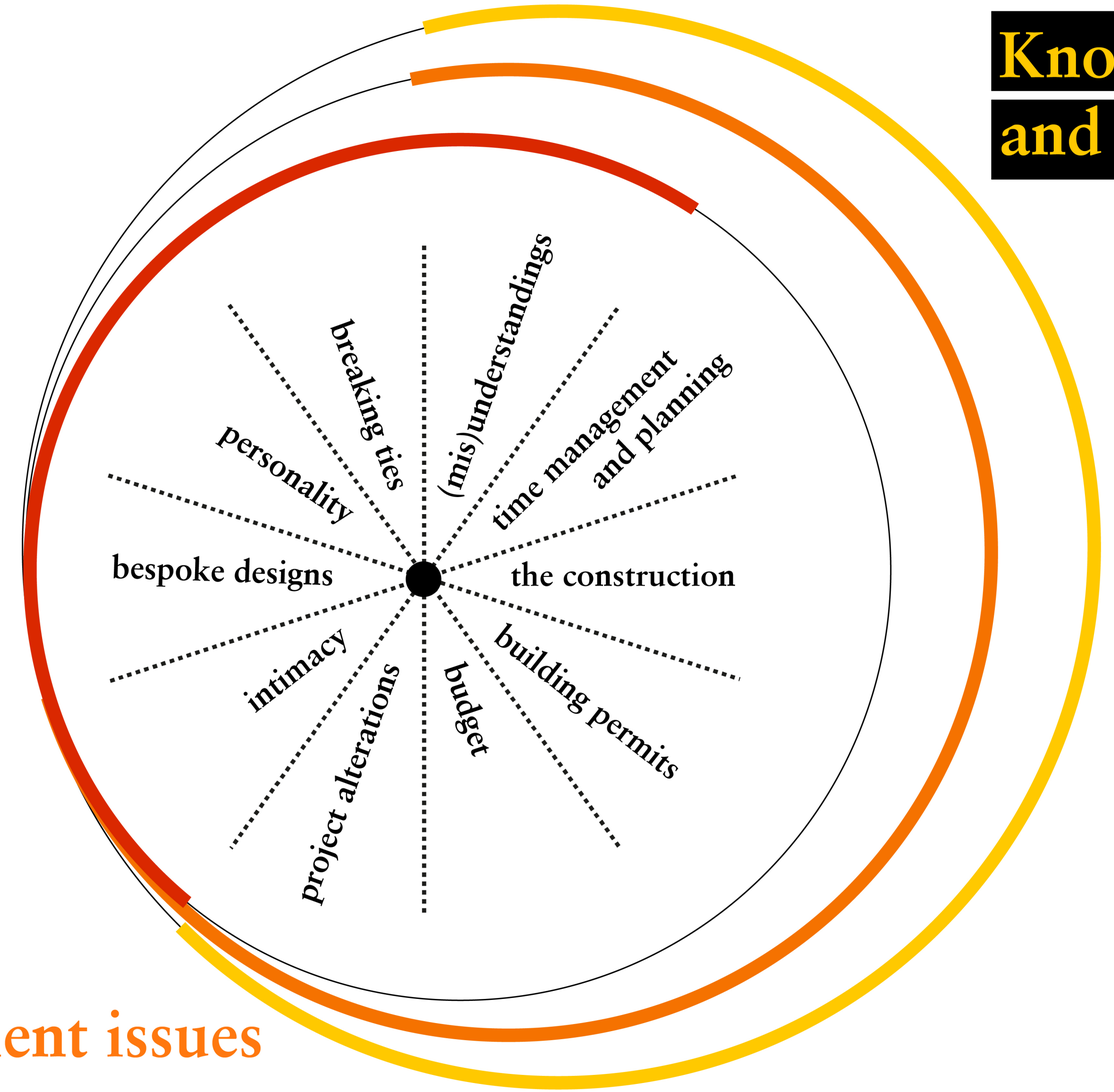


Management issues

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Interpersonal relations



Management issues

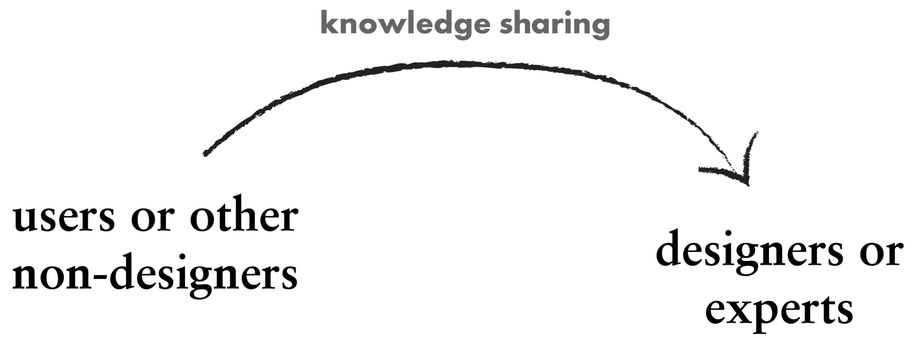
- (A) clarifying responsibilities and missions
- (B) preparing for project progress and maintaining mutual understanding
- (C) clarifying the budget and its challenges
- (D) listening to and articulating each other’s desires and expertise
- (E) determining the level of investment and support frequency

The Process

Research question 2:

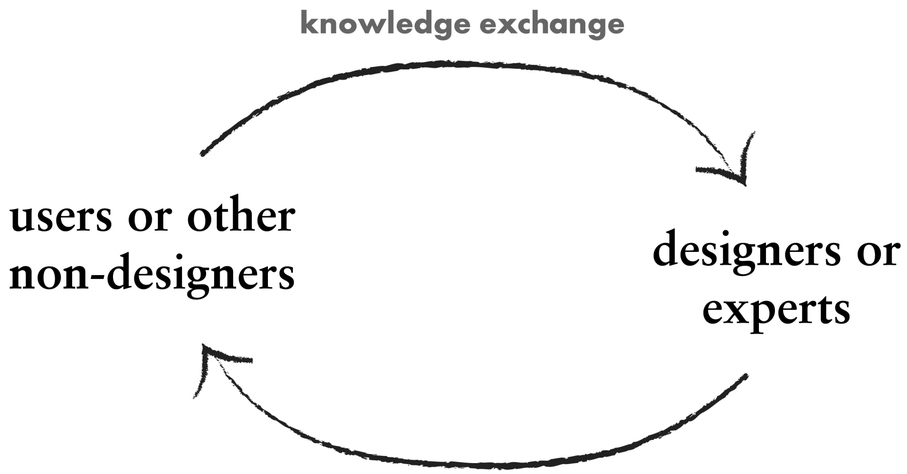
What are the matters of knowledge in co-design?

Knowledge sharing



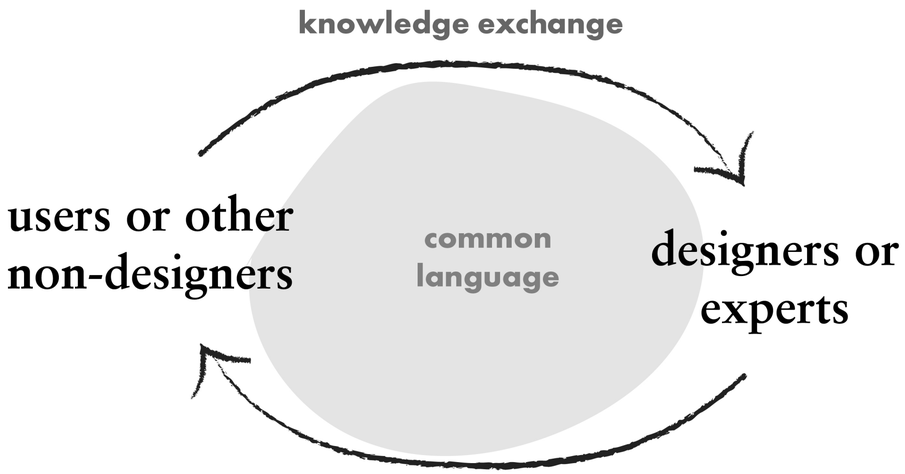
for eg. see : Taffe and Kelly, 2020; Foverskov and Binder, 2011; Corcoran et al., 2018; Garde and Van Der Voort, 2012; Heenop et al., 2019; Villalba et al., 2021; Kankainen et al., 2012; Vaajakallio and Mattelmäki, 2014

Knowledge sharing to knowledge exchange



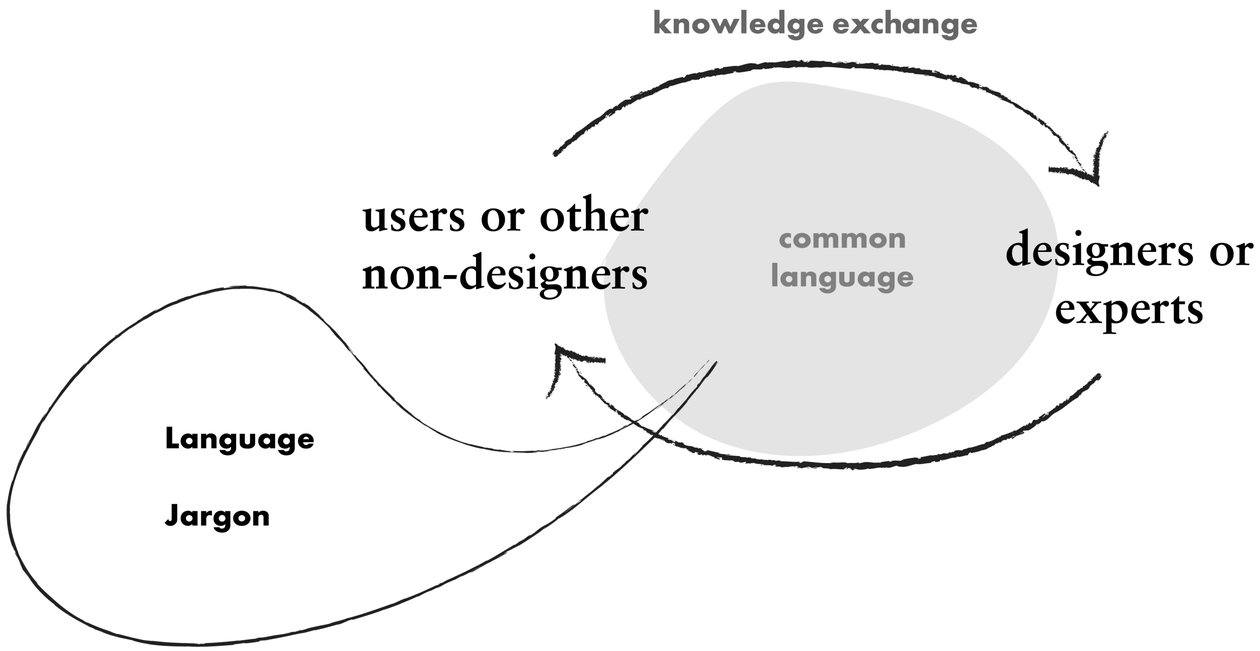
for eg. see : Winschiers-Theophilus et al., 2012; Alvarez et al., 2020; Steen et al., 2013; Bowen et al., 2013b; White and van Koten, 2016

Knowledge exchange and common language



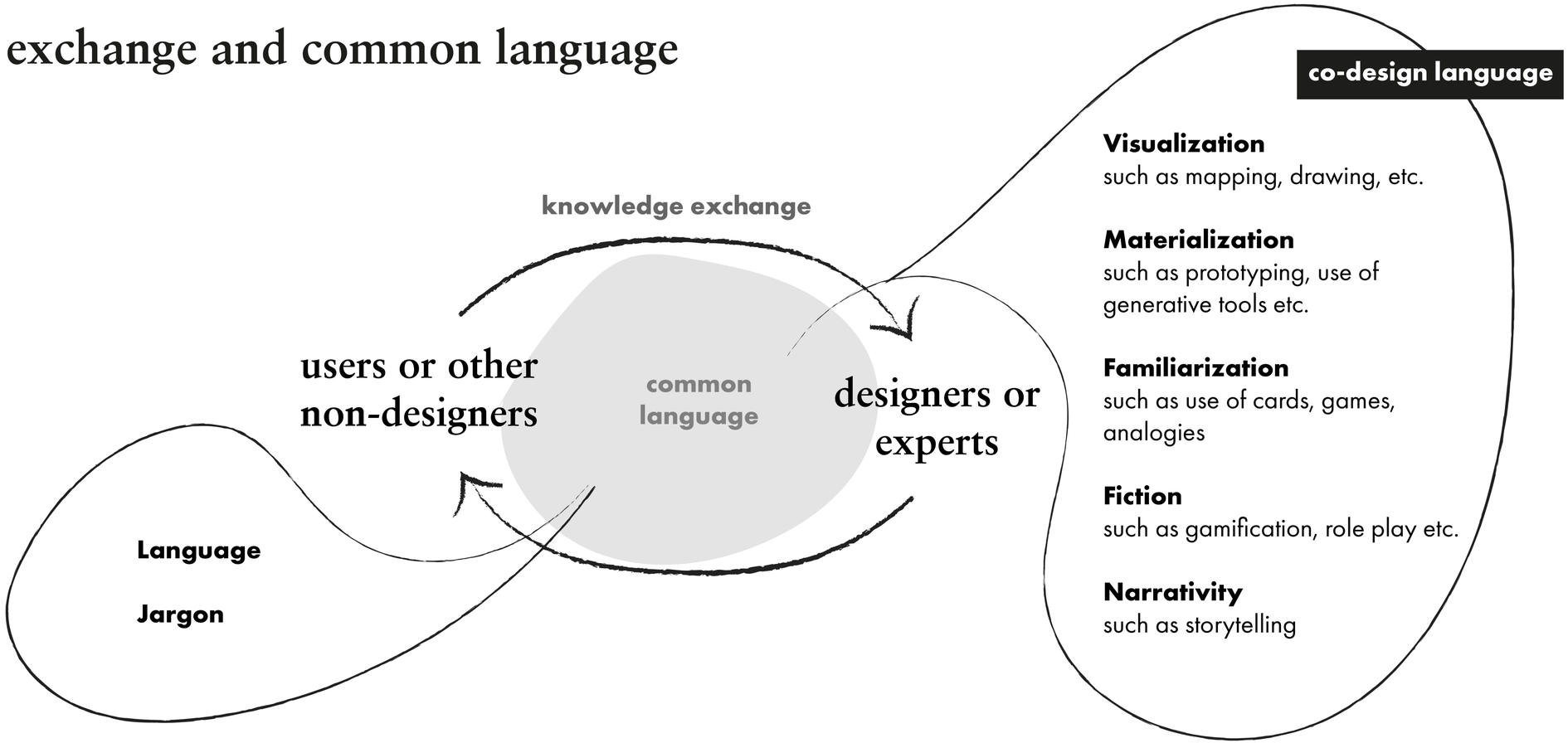
for eg. see : Van Boeijen, 2015; Langley et al., 2018; Yang et al., 2021

Knowledge exchange and common language

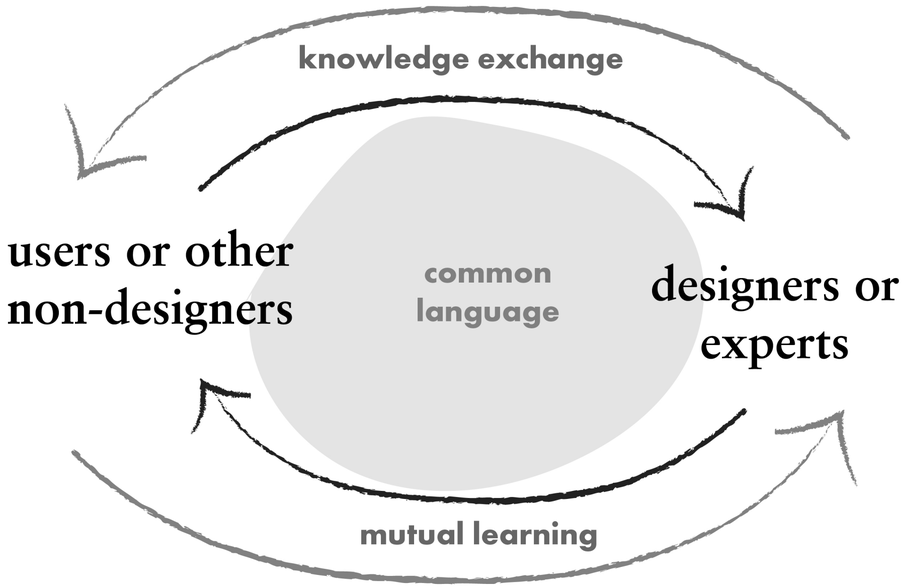


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Knowledge exchange and common language

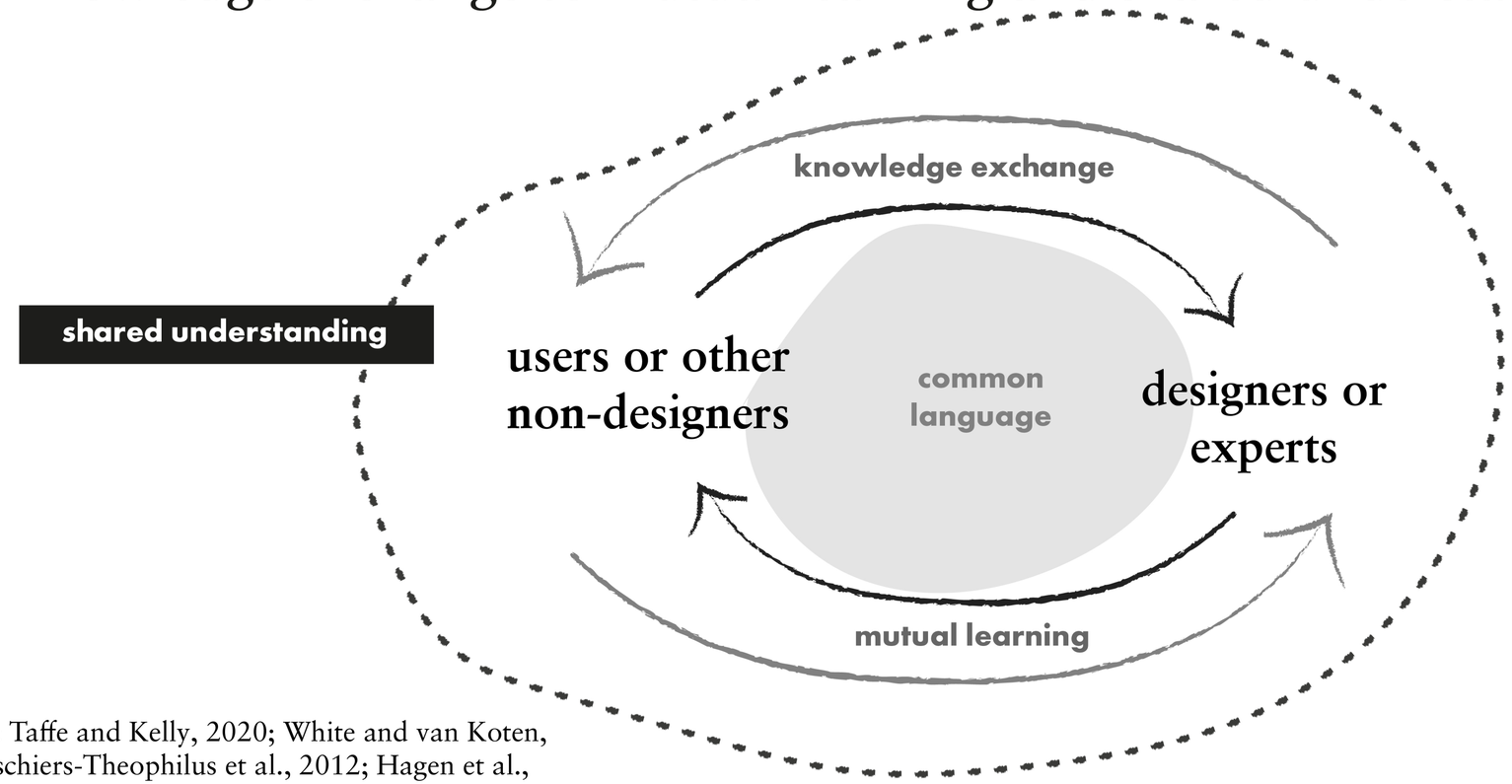


Knowledge exchange to mutual learning



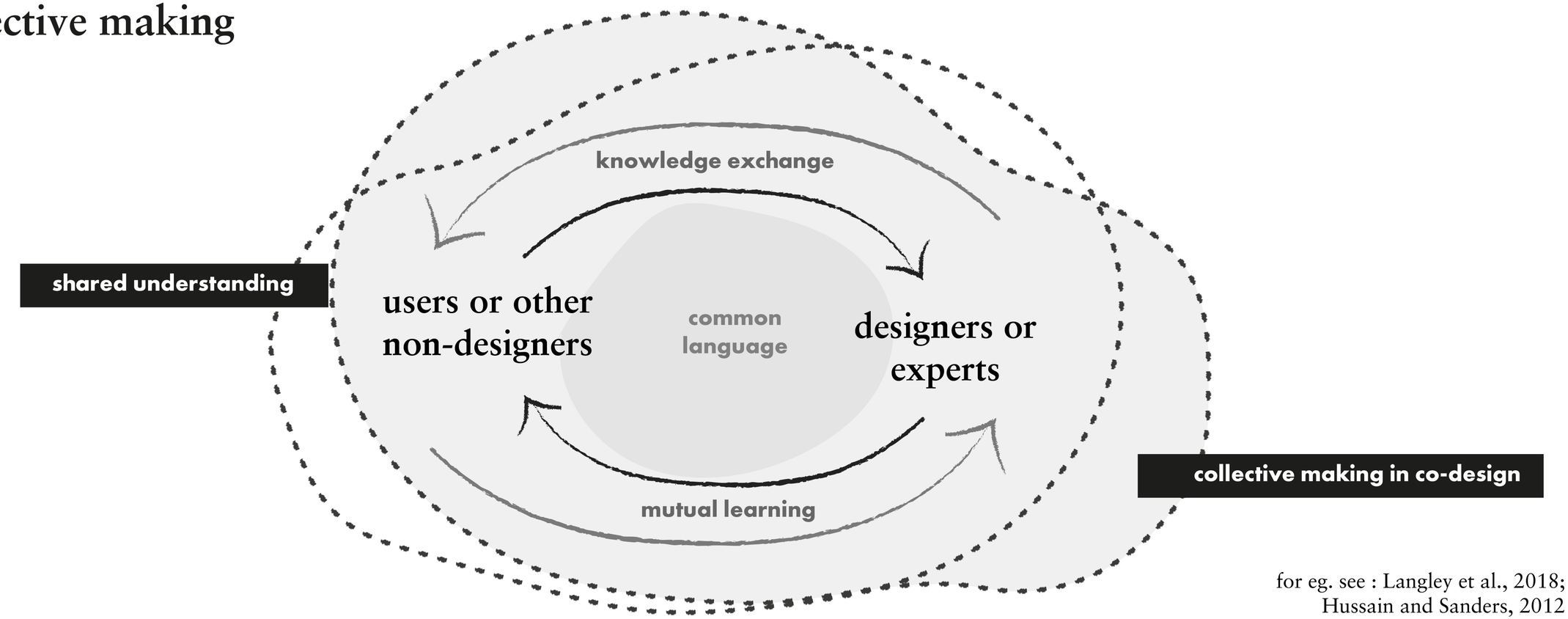
for eg. see : Taffe and Kelly, 2020; White and van Koten, 2016; Winschiers-Theophilus et al., 2012; Hagen et al., 2018

From knowledge exchange to mutual learning and shared understanding



for eg. see : Taffe and Kelly, 2020; White and van Koten, 2016; Winschiers-Theophilus et al., 2012; Hagen et al., 2018

Collective making



for eg. see : Langley et al., 2018;
Hussain and Sanders, 2012

What kind of knowledge do experts share?

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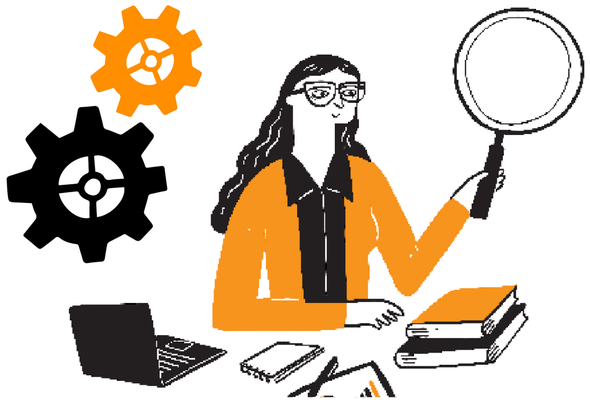


Domain Knowledge

Conceptual & technical elements

for eg. see : Khaled and Vasalou, 2014; Tobar-Munoz et al., 2016; Cullen and Metatla, 2019; Alvarez et al., 2020

What kind of knowledge do experts share?



Domain Knowledge

Conceptual & technical elements



Scientific Knowledge

Prior literature & field research

for eg. see : Ey and Spears, 2020; Noring et al., 2019; Yang et al. , 2021

What kind of knowledge do experts share?



Domain Knowledge

Conceptual & technical elements



Scientific Knowledge

Prior literature & field research



Procedural Knowledge

Design process, tools and techniques, and design culture

for eg. see : Bowen, et al., 2013b; Brondino et al., 2015

The Tool

“What could be” ?

How can we improve interactions between architects and user-clients in the single-family housing design context through contextually adapted or designed tools, techniques, methods, or strategies?

Research question 2:

What are the matters of knowledge in co-design?

RQ.2.2. Tool

Journey Map



Liege1_T1
Liege1_T2
Bruxelles_T1
Liege2_T1
Namur

Architectural Consultation



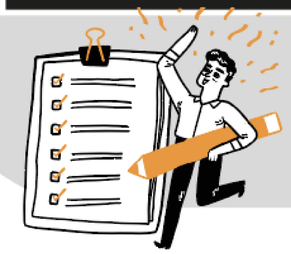
Arlon

Digital Tool for Budget



Liege2_T2

A Notebook for User-clients



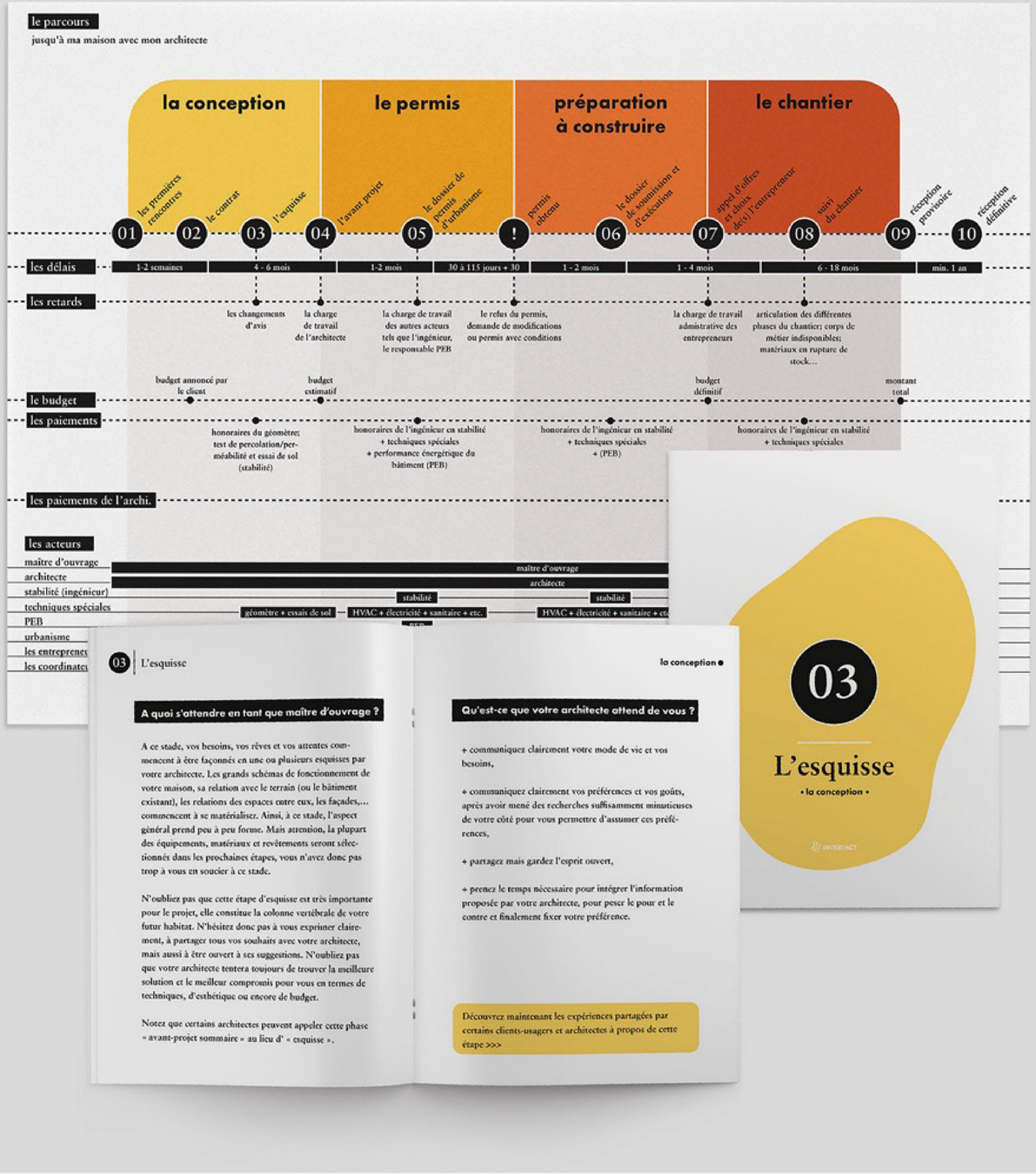
Liege1_T2
Bruxelles_T2

A Mobile App

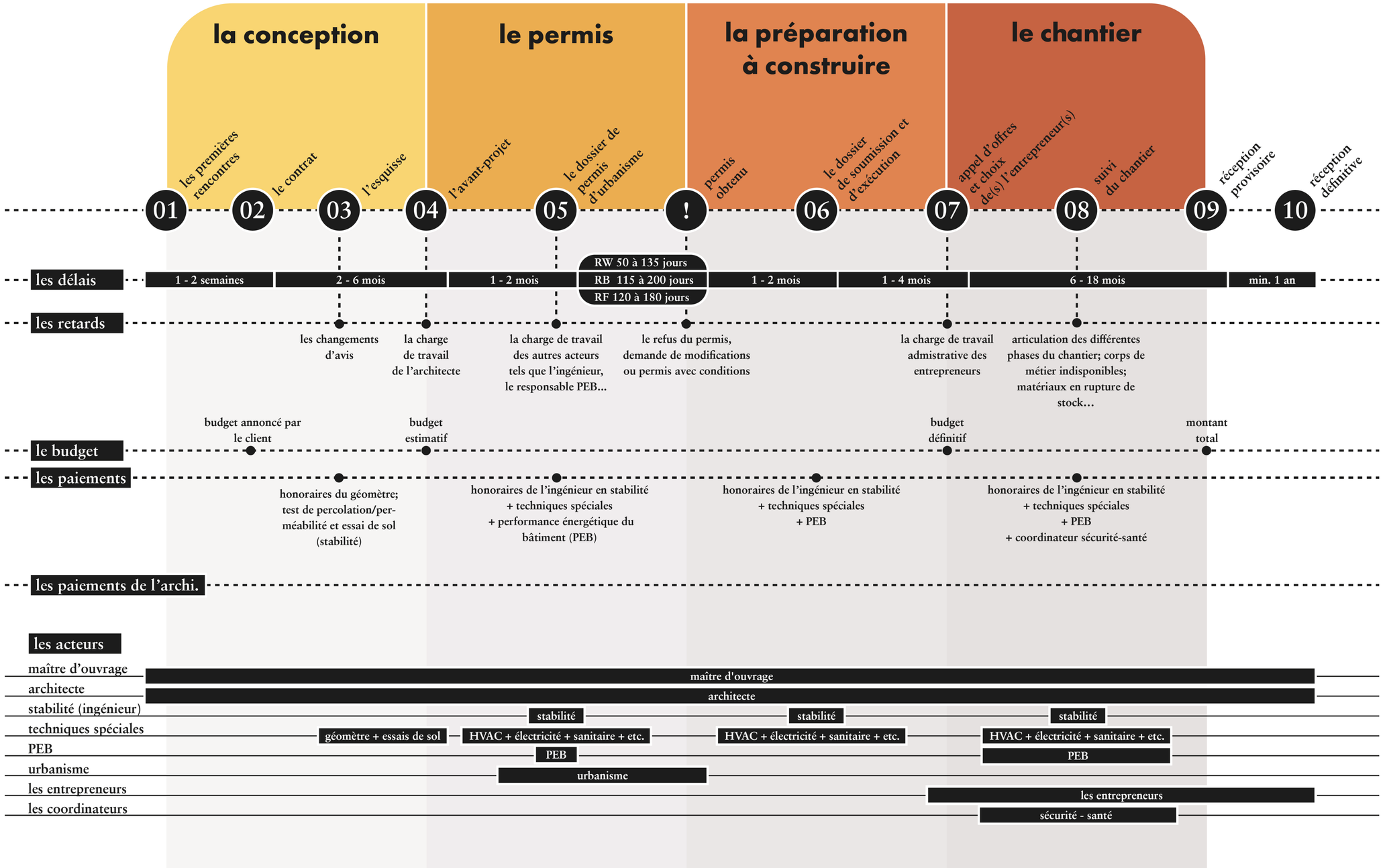


Liege2_T1

Five groups of ideas from eight tables of “Ideation & Design” workshops



To download the architectural journey map and informative booklets, please scan the QR code!


la conception
le permis
la préparation à construire
le chantier
01 les premières rencontres
02 le contrat
03 l'esquisse
04 l'avant-projet
05 le dossier de permis d'urbanisme
! permis obtenu
06 le dossier de soumission et d'exécution
07 appel d'offres et choix de(s) l'entrepreneur(s)
08 suivi du chantier
09 réception provisoire
10 réception définitive
les délais
1 - 2 semaines
2 - 6 mois
1 - 2 mois
RW 50 à 135 jours
RB 115 à 200 jours
RF 120 à 180 jours
1 - 2 mois
1 - 4 mois
6 - 18 mois
min. 1 an
les retards
les changements d'avis
la charge de travail de l'architecte
la charge de travail des autres acteurs tels que l'ingénieur, le responsable PEB...
le refus du permis, demande de modifications ou permis avec conditions
la charge de travail admistrative des entrepreneurs
articulation des différentes phases du chantier; corps de métier indisponibles; matériaux en rupture de stock...
le budget
budget annoncé par le client
budget estimatif
budget définitif
montant total
les paiements
honoraires du géomètre; test de percolation/perméabilité et essai de sol (stabilité)
honoraires de l'ingénieur en stabilité + techniques spéciales + performance énergétique du bâtiment (PEB)
honoraires de l'ingénieur en stabilité + techniques spéciales + PEB
honoraires de l'ingénieur en stabilité + techniques spéciales + PEB + coordinateur sécurité-santé
les paiements de l'archi.
les acteurs
maître d'ouvrage
architecte
stabilité (ingénieur)
techniques spéciales
PEB
urbanisme
les entrepreneurs
les coordinateurs
maître d'ouvrage
architecte
stabilité
stabilité
stabilité
géomètre + essais de sol
HVAC + électricité + sanitaire + etc.
HVAC + électricité + sanitaire + etc.
HVAC + électricité + sanitaire + etc.
PEB
PEB
urbanisme
les entrepreneurs
sécurité - santé

Concluding Remarks

Limitations

Limitations

Context and case specific

Limitations

Context and case specific

The representativeness of the sample of participants

Limitations

Context and case specific

The representativeness of the sample of participants

Triangulation as much as possible, but not always

Limitations

Context and case specific

The representativeness of the sample of participants

Triangulation as much as possible, but not always

The inspirational tools bias // the journey map

Limitations



B1 **CARTOGRAPHIE DU PARCOURS CLIENT** B1

Design Thinkers Academy, 2019

3 | 4 restaurant case » customer journey map

QU'EST-CE QUE C'EST ?
Un technique qui permet d'avoir une vue globale d'un service en relation avec l'expérience des usagers.

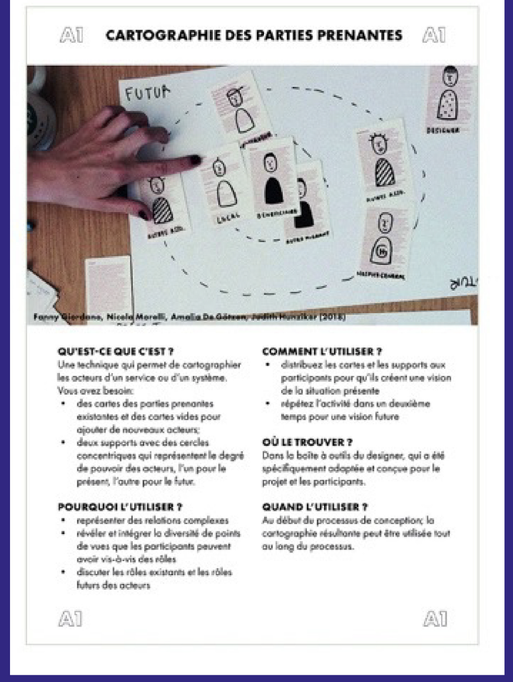
POURQUOI L'UTILISER ?
- rentrer en empathie avec les usagers
- révéler les "points de contact" du service associé
- identifier d'éventuelles pistes d'amélioration du service ou de nouveaux concepts

COMMENT L'UTILISER ?
- faites quelques recherches sur l'expérience usager (via des observations, des entretiens, des sondes culturelles...)
- visualisez les activités vécues par les usagers au cours de leur parcours / de leur expérience;
- définissez les opportunités d'amélioration.

OÙ LE TROUVER ?
Trouvez-le dans la boîte à outils du DesignThinkers Academy

QUAND L'UTILISER ?
Au début du processus de conception; la cartographie résultante peut être utilisée tout au long du processus.

B1 B1



A1 **CARTOGRAPHIE DES PARTIES PRENANTES** A1

Fanny Giordano, Nicola Morelli, Amalia De Götzen, Judith Hunziker (2018)

QU'EST-CE QUE C'EST ?
Une technique qui permet de cartographier les acteurs d'un service ou d'un système.
Vous avez besoin:
- des cartes des parties prenantes existantes et des cartes vides pour ajouter de nouveaux acteurs;
- deux supports avec des cercles concentriques qui représentent le degré de pouvoir des acteurs, l'un pour le présent, l'autre pour le futur.

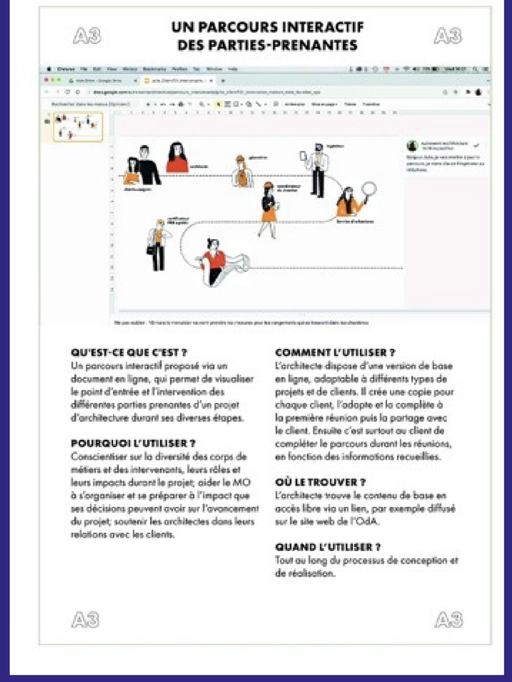
POURQUOI L'UTILISER ?
- représenter des relations complexes
- révéler et intégrer la diversité de points de vues que les participants peuvent avoir vis-à-vis des rôles
- discuter les rôles existants et les rôles futurs des acteurs

COMMENT L'UTILISER ?
- distribuez les cartes et les supports aux participants pour qu'ils créent une vision de la situation présente
- répétez l'activité dans un deuxième temps pour une vision future

OÙ LE TROUVER ?
Dans la boîte à outils du designer, qui a été spécifiquement adaptée et conçue pour le projet et les participants.

QUAND L'UTILISER ?
Au début du processus de conception; la cartographie résultante peut être utilisée tout au long du processus.

A1 A1



A3 **UN PARCOURS INTERACTIF DES PARTIES-PRENANTES** A3

QU'EST-CE QUE C'EST ?
Un parcours interactif proposé via un document en ligne, qui permet de visualiser le point d'entrée et l'intervention des différentes parties prenantes d'un projet d'architecture durant ses diverses étapes.

POURQUOI L'UTILISER ?
Conscientiser sur la diversité des corps de métiers et des intervenants, leurs rôles et leurs impacts durant le projet; aider le MO à s'organiser et se préparer à l'impact que ses décisions peuvent avoir sur l'avancement du projet; soutenir les architectes dans leurs relations avec les clients.

COMMENT L'UTILISER ?
L'architecte dispose d'une version de base en ligne, adaptable à différents types de projets et de clients. Il crée une copie pour chaque client, l'adapte et la complète à la première réunion puis la partage avec le client. Ensuite c'est surtout au client de compléter le parcours durant les réunions, en fonction des informations recueillies.

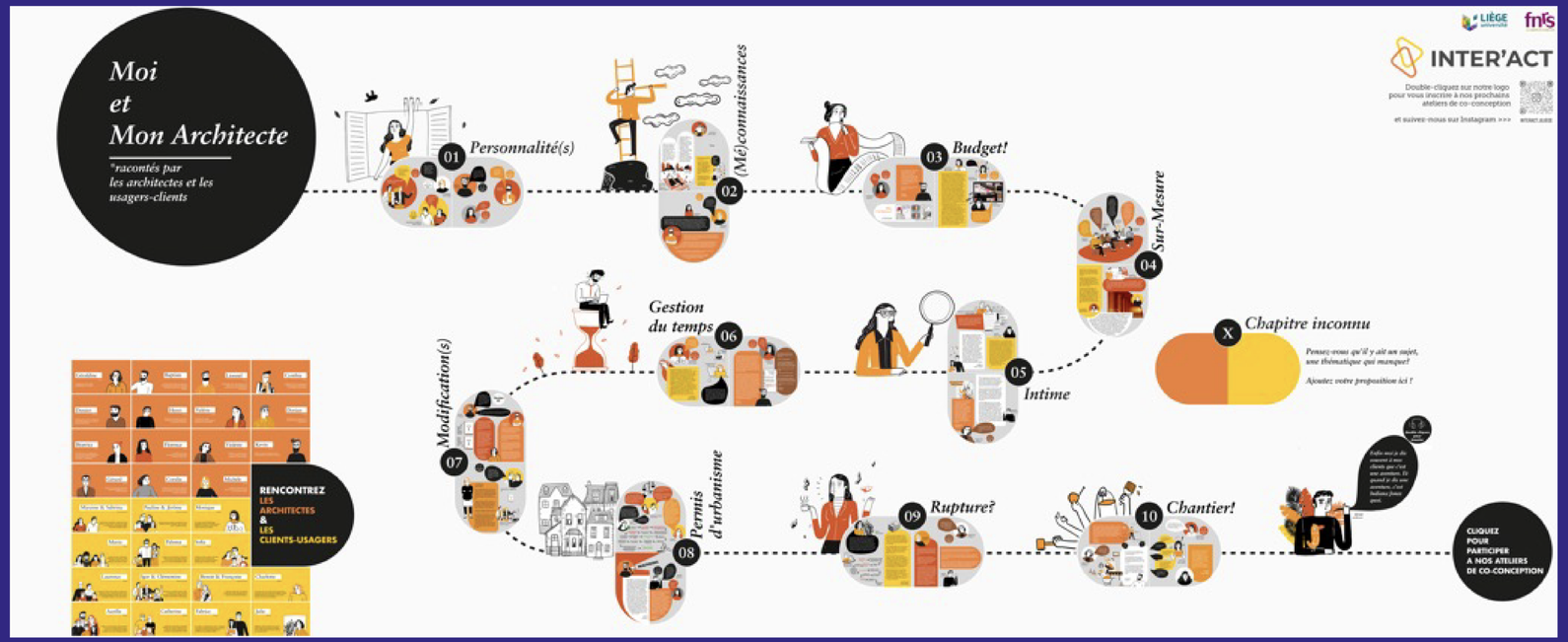
OÙ LE TROUVER ?
L'architecte trouve le contenu de base en accès libre via un lien, par exemple diffusé sur le site web de l'OdA.

QUAND L'UTILISER ?
Tout au long du processus de conception et de réalisation.

A3 A3

The inspirational tools bias // the journey map

Limitations



The inspirational tools bias // the journey map

Rethinking architectural practices for co-design

Rethinking co-design practices beyond tools and methods

Rethinking architectural practices for co-design

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Importance of sharing process knowledge

Rethinking architectural practices for co-design

Importance of sharing process knowledge

Better explaining the value and possibilities of co-design to architects and architects in training

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Making the inherently social nature of architectural practices more visible, and better support architects throughout this process

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Being mindful of power dynamics

Rethinking co-design practices beyond tools and methods

Rethinking co-design practices beyond tools and methods

From tools and methods to relations

Rethinking co-design practices beyond tools and methods

From tools and methods to relations

Writing “stories” of practices

Rethinking co-design practices beyond tools and methods

From tools and methods to relations

Writing “stories” of practices

Problematizing core arguments of co-design around knowledge

Theoretical

Empirical

Methodological

Practical

Theoretical

A knowledge framework for co-design

A tripartite framework for co-design dimensions

Empirical

Methodological

Practical

Theoretical

A knowledge framework for co-design

A tripartite framework for co-design dimensions

Empirical

Importance of soft skills and interpersonal relations in co-design

Importance of multidirectional knowledge exchange

Methodological

Practical

Theoretical

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A tripartite framework for co-design dimensions

Empirical

Importance of soft skills and interpersonal relations in co-design

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A visual data collection tool for interviews

Co-design as a research strategy

Practical

Theoretical

A knowledge framework for co-design

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Practical

The Tool: A Guide for your architectural adventure

Research dissemination for the general public

Thank you !