

1

HYBRID COMMUNICATOR

TUDelft_Complex Project Graduation Studio 2023-2024

Project Booklet

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CONTENT

01_BACKGROUND	04
02_DIGITALISATION APPLICATION	10
03_DESIGN BRIEF	18
04_CONCEPT	36
05_DESIGN IMPLEMENTATION	44
06_MATERIALIZATION	56
07_EXPERIENCE OF HYBRID COMMUNICATION	64
08_REFLECTION	76

Research Questions:

How hybrid communication can generate a more inclusive discussion environment in a district parliament?

01_BACKGROUND

BACKGROUND



After reunification of Germany and Berlin in 1990, democratic development has become one of the key visions for Berlin in which the development of parliamentarism, which is the main democratically legitimized constitutional body for the public, has to respond accordingly. There are three levels of parliament located in Berlin: while the Bundestag and the House of Representatives are responsible for making big decisions in different aspects for Germany and Berlin respectively, district council halls in 12 districts of Berlin take care of daily life matters such as urban planning, cultural and educational infrastructure and social welfare. Meanwhile, the ongoing challenges of Berlin, incorporating influx of migrants and housing demands, raises political tension and stresses the importance of democratic engagement. With the governmental visions of "citizens' participation in democratic decisions in every day", the operation of district council halls, which have rarely been renovated after their construction mainly in early-to-mid 1900s, should be also reconsidered to meet the modern requirement of democracy. At the same time, the emergence of digital technology brings new opportunities for citizens' political engagement. The European e-parliament report indicates that digital technology encourages citizens' political involvement, while the Chief Digital Officer (CDO) of Berlin also initiated the strategy, Gemeinsam Digital: Berlin (GD:B), to promote equal opportunities for citizens' political participation through digital transformation. Therefore, with the governmental visions of promoting democracy with digitalisation, this project focuses on how to re-define functions of district parliament(district council hall) with digital technology.



BACKGROUND





District parliament



02_DIGITALISATION APPLICATION





Hybrid Communication



1. **Coordination** and **dissemination** unorganized mass opinions from the public



2. **Mobilize** and increase exposure of opinions of different perspectives



3. **Break boundaries** and stimulate communication





1. Exert strong influence on decision



2. Form strong bond between people for collective action



3. Effective communication



Open data strategy

Make invisible data infrastructure visible for data awareness and education

9 projects in the group work together to influence Berlin through digitalisation





Traditional parliament workflow

DIGITALISATION APPLICATION



Proposed parliament workflow with hybrid communication

03_DESIGN BRIEF







Country level

District level



Media Center Hilversum Advanced digital museum with several digital devices for interactions and education



Shenzhen Plan Exhibition Digital exhibition center with different arrangements of digital screens



Archive dream Installations for users to experience extensiveness of digital archive



In The Air, Tonight Digital facade interact with visitors activities on twitter



Room of negotiation Dicussion spaces enhanced with interactive digital technologies



Immersive digital gallery A small history museum with individual spaces for VR experience



l'Atelier des Lumieres Immersive digital graphic museum



German film festival Film museum with small scale movie booth



Agora phobia Worldwide private booth to communicate with different users



Gallery MA exhibition Outdoor digital display exhibition



M+ museum Whole facade as digital art broadcast screen



Digital facade responding to activities of users inside



The key to downtown Projection on plain building facade



Urban arte conecta Projection on plain building facade



Kipnes Lantern Translucent digital facade

DESIGN BRIEF

Digital communication (Education)		1	f f		Physical communication (Exert influence)
Individual digital device	Information digital display	Individual digital communication	Public digital communication	Public physical communication	Plenary discussion
B Mobile phone	Digital screen	Personal learning booth	Interactive booth X 20	Public seating \$ x 5-9	Plenary hall
or computer	(a) (a) (b) (b) (b) (b) (b) (b) (b) (b) (b) (b	High tech learning booth	Collaborative booth \$ X 5-9	e transformed and the second s	Public gallery X 70
R device	region of the second se	ng i i i i i i i i i i i i i i i i i i i	Interactive device		
	(man)				

Communication tool box, with tool dimensions decided according to the number of people for most effective communication









"Data box"





Visual connection (facade)





Visual connection (basement)





Racks as exhibits

Technologie





Automated data center



Data in silica glass



Data in plant DNA



Requirement



Typical size of data racks



Maximum 10 racks in a row



Spacing and raised floor for heat cycling



1.5km apart from existing and future data storages



2. Display 1km from train station for high visibility and exposure



3. Decarbonization

Within area near water or cold air flow. Passively reduce energy consumption and utilize waste energy

Parliament criteria



Central district location and next to main traffic axis for accessibility for citizens



2. Mixed-use neighborhood

In area of diverse function to encourage citizens of different background for political discussions



3. Adaquate green spaces

Site with at least 15000m² of green for officer's well-being, and as gathering spaces for public activities





DESIGN BRIEF





As an ornamental garden for ice block extraction



Construction of some villa began, people started to visit the park for leisure activities



The park became one of the ice skating rink in Berlin



Under planning visions of GDR, high-rise development began around the park



The site becomes a memorial spot for cultural activities, including art, sport and music







CLIENT







DESIGN BRIEF



Summaries of proposed architectural responses

04_CONCEPT


The concept of a motherboard is chosen for the architectural design for two reasons. Firstly it acts as a statement of application of digitalisation in parliament. Secondly it is a method to coordinate and unify components of different architectural languages, such as that of the plenary hall, digital gallery and discussion spaces







The motherboard in the site



Physical Communciation

CONCEPT







Office tower in gap position to minimize visual impact to neighborhoods, maximize office views and display the tower

Digital components along the street while maintaining visual and circulation corridor between urban and green



Physical discussion component on the park side to provide comfortable views for discussion activities



A plinth to connect physical and digital components



Outcome of the massing development





To further develop the motherboard, more spatial strategies are considered. For example, digital and physical communication components are closedly arranged together to facilities the changing mode of communication; while the office, data hall and people's voices gallery are visually interacting with each other while keeping a private access





Short section



























06_MATERLIZATION

MATERLIZATION



The materialization strategies involves interaction of 3 concept: a digital machine, transparency and green. Aluminum panels and artificial light are used to provide a sense of digital machine, curtain walls are used in tower to display the discussion environment to the public; while green louvers and balconies are added for sunshading and to echo the green park





Discussion tube

Facade





Digital gallery box

Tower



MATERLIZATION





18 Vapour barrier 19 Cross steel cable

D7

3 4

5

6 7

8

2 Exhaust pipe

CRAC

9 Data rack

14 Grill

20 500*200 Steel I-beam

21 Window shutter



Material overview

07_EXPERIENCE OF HYBRID COMMUNICATION

EXPERIENCE OF HYBRID COMMUNICATION





This part illustrates the experience of hybrid communication through visualization of 1 outdoor space and 7 key spaces in the building, in which physical and digital communication spaces will be continuously visited



The discussion machine serving for Lichtenburg citizens

EXPERIENCE OF HYBRID COMMUNICATION





The public space where digital communication, physical communication and events happen













cussion cluster

oof garden

7. Offi

Space 02 - Citizen's entrance hall

The entrance space where citizens have their first experience of hybrid communication

68

EXPERIENCE OF HYBRID COMMUNICATION







3. Digital gallery

Space 03 - Digital gallery

The digital learning space where citizens receive public opinions and related knowledge







4. Discussion cluster

Space 04 - Discussion cluster

The discussion space where citizens discuss and influence each other

70







5. Plenary hall

Space 05 - Plenary hall

The discussion space where representatives and citizens disucss in front of the data power of the public









4. Discussion cluster

luster 5.

5. Plenary hall

6. Roof garden

7. 0

7. Office

Space 06 - Rooftop garden

The resting space where people enjoy view, green and breeze
EXPERIENCE OF HYBRID COMMUNICATION







7. Office

Space 07 - Committee office

The office space where committee officers work with technology, park view and green

08_REFLECTION

Reflections of relationships between research, research methods and design:

Firstly, the research framework, including extensive research of program, site and client, was oriented according to the intersection of assigned themes and the proposed research question. In this project, the research phase includes analysis of parliament in Berlin, with the perspective of digitalisation lens. With this method, the assigned theme actually formed a lens for us to evaluate and identify the insufficiency of the existing architecture, and think of a way of how to improve the design with the theme of digitalisation. For example, in the research session of the program, the researches of existing parliaments have shown that although parliaments are defined as democratic architectures, those in Berlin are rather introverted architectures exclusive to the public, especially the parliaments in district levels. With the digitalisation visions, the people's voices digital gallery which broadcasts public opinions, can then be introduced as a response to enhance both the publicness and level of democracy of a parliament. This way of assigning the building type with a new theme helps me to explore new possibilities of a building. However, although the assigned theme of digitalisation was proven to be highly relevant to a parliament design according to the research, an exploration of themes, which might have the potential to be better than digitalisation, is also a task that I would like to achieve further.

Secondly, the research framework of complex studio is highly related to its theme of complexity, which guides us to implement extensive researches in diverse aspects, and to coordinate the researched products as the design brief which shapes the design. For example, the program research identified the existing conditions and spatial requirements of district parliament, digital galleries, discussion facilities and data centers; the site research identified the different aspects (history, urban, architecture, social, culture, etc) of the chosen site Fennpfuhlpark; while the client research identified future ambitions of clients and needs of users. Complex research resulted in complex design conditions, including both opportunities and constraints, and this constructed the challenges of how to coordinate all the information gathered, and to orientate the design strategies to seize most of the opportunities under the constraints. To me, this guite structured research and design approach is more of an extensive, rather than an intensive approach. Compared to an intensive approach, which spends most of the time concentrating on a few specific directions to create highly specific, or even extreme design; the value of this extensive approach is to create a more balanced design which can respond to extensive conditions, while to inject new ideas (e.g. the gallery) with a more adaptable and realistic thinking. Both approaches have their own strength, but how to enable more room for in-depth research and design specificity within an extensive design framework is something that could be further explored.

Thirdly, this studio focuses on designing with constraints, in which several design requirements are defined according to the individual and group research. For example, the site plot and building program bar are defined as individual requirements, while to

install a data storage hall within the all building designs within the digitalisation group is a group requirement. In the design process, I realized that overlapping several requirements from diverse perspectives construct both opportunities and burdens. For examples, when I tried to link introduce the data hall within the parliament according to the group strategies, it was an opportunities as the data hall can be identified as a democratic symbol of display of public opinions in digital age; while it was an burden as the privacy and presence of data hall limits the possibilities of language and circulation within the public design, which made me reflect on were the group requirements rather benefits or limit the design more. I think this exercise of defining requirements could be regarded as an experiment, which reflects that building design without any requirements could be highly irrelevant to the context; while setting too many requirements could easily limit design possibilities and functions in an unnecessary way. Before defining any requirements, how to appropriately define requirements should be firstly considered.

Relationships between graduation project topic with societal and ethical values:

This project, hybrid communicator, which combines traditional building types with new vision of digitalisation, reminds me to be explorative and keep my design attitude to be up-to-date with the latest innovations of society. The lifestyle of people is changing drastically from the modern era to the current digital era, as from the classical era to modern era. In this way, architects should be responsive to negotiate the architectural design according to the social living mode under the digital era. In this project, the aspects of high accessibility and mobility of digital communication methods, such as social media, are taken into account, in which the people's voices gallery proposed allows the users' opinions to be easily uploaded and broadcasted. The threshold of political engagement of citizens is therefore lowered through digitalisation. However, we should also avoid applying every technology without having understood the context and users' needs. For example, remote meetings, which reduce needs of physical spaces, were firstly considered in this project, while the later research revealed that although usage of remote meetings were on the rise, parliamentarians still prefer to have physical communications.

Digitalisation is a controversial topic which raises ethical issues. For instance, while digitalisation strengthens and mobilizes public opinions, it also raises social conflicts. After the study of theories of digital ethics, my position is that the benefits and drawbacks of a tool (architecture) do not depend on the tool itself, but how we use it. In this project, even with the risks of conflicts, the people's voices gallery was firstly proposed to stimulate the discussion environment, then measures such as separated private-public circulation and security check were proposed to reduce conflicts, in which the protections would also depend on the management of the parliament. Ultimately, the development of parliamentary democracy should be more about creating a more inclusive and rational discussion environment, but not to burden discussions by reducing conflicts.

REFLECTION