MoMove Modern Movement and Infrastructure

Contributions to the Docomomo virtual exhibition - momove

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momove

Detmold School at Bauhaus Dessau
Contributions to the Docomomo
virtual exhibition - momove 2021

Modern Movement and Infrastructure

Uta Pottgiesser, Anica Dragutinovic, Marzia Loddo (Eds.)

momove

Modern Movement and Infrastructure

Contributions to the
Docomomo virtual exhibition - momove

in collaboration with the
18th Docomomo Germany Conference 2021
Online from the Bauhaus Dessau
26th February 2021

TH OWL TECHNISCHE HOCHSCHULE OSTWESTFALEN-LIPPE UNIVERSITY OF APPLIED SCIENCES AND ARTS

do.co.mo.mo_de

do.co.mo.mo virtual exhibition

Bauhaus
Dessau

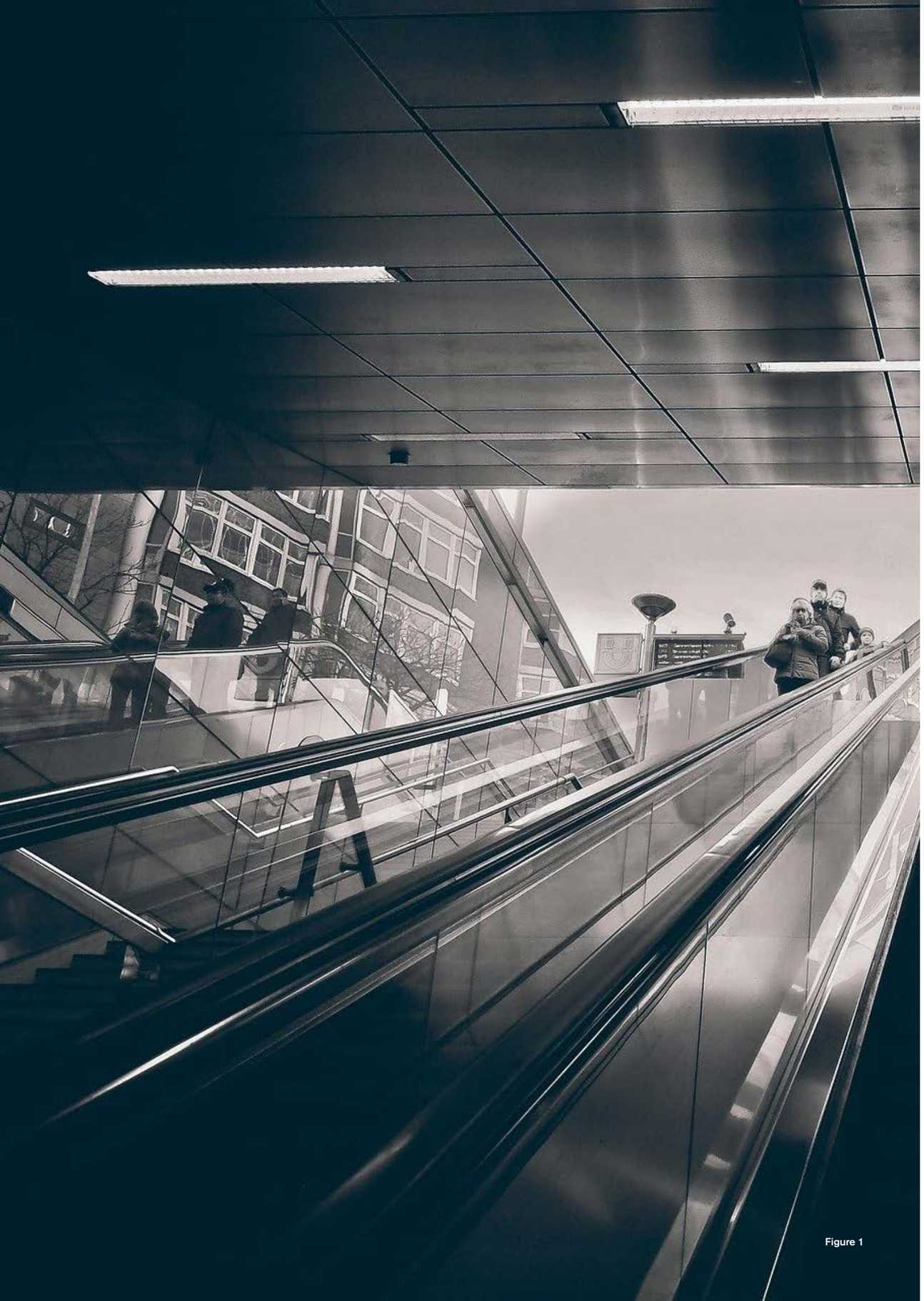

Figure 1

PREFACE

UTA POTTGIESSER, ANICA DRAGUTINOVIC & MARZIA LODDO

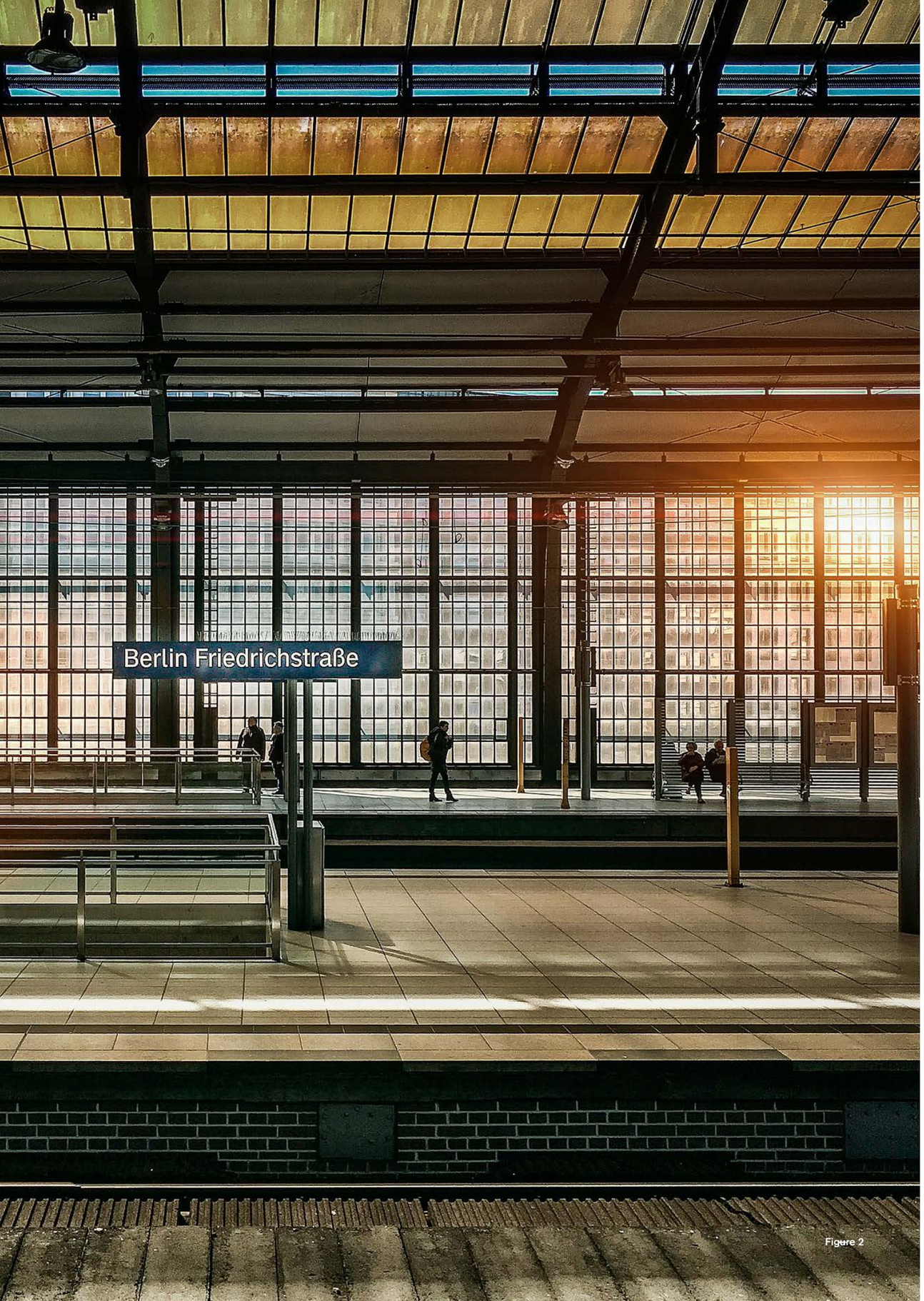

Figure 2

Since its foundation in 1990, Docomomo International has been dedicated to the documentation and conservation of buildings, sites and neighborhoods of the Modern Movement. It has devoted thirty years to study and protect the architectural heritage of the Modern Movement through academic and professional practise, case-studies and best-practises, and the dissemination of knowledge. Facing the rapid digital developments and globalisation, Docomomo fostered its role as an international platform by offering new services, by making the knowledge and information available online, and by creating the new Docomomo virtual exhibition - MoMove. This was created by Docomomo International, Lisbon Headquarters, in 2015: http://exhibition.docomomo.com/.

Since 2014, the Detmold School of Architecture and Interior Architecture is an institutional member of Docomomo Germany and Docomomo International. It seeks to contribute to this mission with different contributions. As a co-organizer of the Docomomo Germany Conferences since 2019, the Detmold School was able to connect research and educational projects to the events, often exploring novel forms of ideation, documentation, design and dissemination. All this was conceived to fully exploit the creative and newly gained digital potentials, for the reuse and safeguard of the recent built heritage.

This year's contribution aimed to create new contents for the MoMove produced by students of the master's programs of Integrated Architectural Design (MIAD) and Integrated Design (MID). The goal has been to further develop MoMove into a strong dissemination and knowledge exchange platform. Being part of the first digital Docomomo conference, these exhibits showcase and apply current digital visualization, and communication technologies. The exhibition, also, demonstrates the students' reflections and concerns towards the future design of the built environment, inspired by the lessons learnt from Modern Movement. This small publication collects the students' exhibits and puts them in the current context of open science and scientific communication. We hope to inspire you as a reader and visitor.

Figure 1
Escalator. Michael Gaida, accessed 22 March 2021, <https://pixabay.com/images/id-3863163/>

Figure 2
Berlin Friedrichstraße. Thomas Ulrich, accessed 22 March 2021, < https://pixabay.com/images/id-2193193/ >

INTERVIEW/ Q&A

QUESTIONS TO REGINA BITTNER, STIFTUNG BAUHAUS DESSAU

Q:

Regina Bittner, congratulations to your newest achievement. The Bauhaus Museum Dessau has been elected “Museum of the Year 2020”. What is your concept?

A:

The exhibition Versuchsstätte Bauhaus: The Collection at the Bauhaus Museum Dessau presents the extensive collection of the Bauhaus Dessau Foundation to the public for the first time. With examples of original furniture, everyday objects, photographs, design drawings, and works of art, the Versuchsstätte Bauhaus exhibition tells us about the daily life of learning and teaching between free design and industrial prototype, artistic experiment and economic pressure, community and masters at the College of Design in Dessau.

In Dessau, the Bauhaus — which had been founded in Weimar in 1919 — experienced its heyday: The school built a building for itself there, established a bridge to industry, and constructed experimental residential and community buildings. Die Hochschule für Gestaltung in Dessau was working on an “industrial culture of practical life” (Ernst Kállai). That contributed to many of the things from the Bauhaus that are a self-evident part of our lives today, whether typefaces, furniture, lamps, textiles, wallpapers, or architecture. Like few other cultural phenomena, the design ideas of the Bauhaus have become part of everyday life in the 21st century. They seem so familiar that the historical circumstances, the crises and constraints under which this epochal school struggled for its existence have almost been forgotten.

Q:

How is the exhibition Versuchsstätte Bauhaus: The Collection designed?

A:

In the exhibition Versuchsstätte Bauhaus: The Collection, thematic chapters show how teaching, designing, and building at the Bauhaus were intended to change, improve, and design society. The concern of this exhibition is not to present design icons but rather to convey pedagogical, conceptual, and design approaches, manufacturing methods, processes and practices of design as materialized in the objects. Above all, to focus on the radical pedagogical endeavour, the Bauhaus school stands for.

And the exhibition is designed like a study collection, inviting our visitors to engage with the artefacts in multiple ways. Insofar we tell stories about less known figures, invite our visitors to trace personal careers and destinies, that show, how important this experience of an experimental learning community was for their further life paths.

Q:

How do you engage visitors in the exhibition?

A:

From the beginning we were struggling with the idea of a permanent exhibition that seemed for us rather inappropriate for a contemporary Bauhaus Museum. Insofar, the presentation of the collection in Versuchsstätte Bauhaus is designed to be an “exhibition in motion.” Three changing Intermezzi expand the presentation of the collection. Hands-on stations developed for the exhibition as part of the Bauhaus Agents programme invite visitors to engage in sensory and practical ways with the learning and design experiments of the Bauhaus.

Figure 1

Figure 1
Meyer, Thomas (2019). Kunst am Bau, Lucy Raven: Lichtspielhaus. Bauhaus Museum Dessau.
Figure 2
Meyer, Thomas (2019). Bauhaus Museum Dessau, Außenansicht. Bauhaus Museum Dessau.
Figure 3
Meyer, Thomas (2019). Ausstellung „Versuchsstätte Bauhaus. Die Sammlung“. Bauhaus Museum Dessau. © (Püschel, Konrad) Erbengemeinschaft nach Konrad Püschel.

Q:

But before all the Bauhaus was not a museum but a school. How do you follow up as a foundation on the ideas from back then today?

A:

The Bauhaus Dessau Foundation — established in the turbulent times of the 1990s — was set up from its beginning not as a museum, but as a hybrid cultural institution, that also integrated elements of the East German Bauhaus institution that operated here before 1989. The founders insisted that the institution should be active in the fields of education, design and research. The non-university situation in which we find ourselves also allows us to try out different postgraduate formats in which research and design, reflection and experimentation can intertwine.

Q:

Which groups and formats do you address in your educational programs?

A:

While the Bauhaus Open Studios program invites universities, art academies and their students, the Master's program Coop Design Research, a cooperation with our neighbouring university the Hochschule Anhalt and the Humboldt University in Berlin, is aimed at young graduates who are departing from their design education — either as architects, designers or artists — to explore the knowledge cultures of design, were different sorts of knowledge- tangible, non cognitive, practical modes of knowing are equally important. Despite the fact that the program results in written masterthesis, our approach towards design research is very postdisciplinary and experimental.

The Bauhaus Lab, a three-month postgraduate program for young professionals from the fields of architecture, design, exhibition practice as well as art- and design history follows objects from Bauhaus and modernist history on their global migratory routes, exploring their interconnections, material interventions and cultural resonances, and revealing the exciting history of transcultural conversations in experimental exhibitions in the Bauhaus building.

Q:

Is there common concept behind the programs?

A:

What the programs makes unique is first its collaborative character — the participants literally live and work together, and second, design and research, academic expertise and curating are going hand in hand. Insofar, when we try to find a common thread, it is probably the collaborative and postdisciplinary approach: and the conviction that the Bauhaus legacy is not a homogenous cultural phenomenon of a glorious past, but rather an invitation to multiple, heterogenous and transcultural encounters, stimulated by our present days concerns.

Q:

How much are these programs still influenced by the original educational concept of the Bauhaus?

A:

The reform pedagogical ideas of the Bauhaus were a reaction to an epistemic crisis at the beginning of the 20th century; traditional models of academic teaching and learning proved to be useless in the face of the historical situation, and sensual and material experience was to take the place of predetermined knowledge. As different as today's challenges for design education are, pedagogical approaches such as workshop learning, which elevates the continuous confrontation with material, materiality, tactile and haptic knowledge, different cultures of making to a principle, are gaining relevance again today.

Why: because it also confronts us with questions of resource flows, material and environmental cycles and the most diverse practices of making and producing, which, in view of the threats to the planet, designers of our material environment must address in a much more complex way. And secondly: the Bauhaus School was not about training professions but about developing personalities, not about degrees but about knowledge and critical creative thinking. If we succeed with our postgraduate programs in facilitating such collaborative spaces of critical thinking and creative testing, then we could speak of a legacy of the Bauhaus.

Q:

You offer English speaking programs and address aninternational audience. What do your students know and associate with the Bauhaus today?

A:

Certainly, the Bauhaus brand — a rather diffuse association that was formed in the course of the 20th century out of myth-making, commercialisation and the most diverse historiographies — still has a strong appeal for students: I would assert that we observe among our participants a certain scepticism towards the „myth", but at the same time a curiosity for alternative approaches to this heritage. Our exhibition in the new museum is designed like a study collection, and part of the beginning of any semester or studio is to access one of these artefacts of the collection in object biographies.

For us, the objects in the collection are carriers of knowledge, and in their principled lack of closure, they are also open to new narratives. In the Bauhaus Lab, this approach becomes a principle - and it is so surprising how today's questions, for example, about the decolonisation of the history of architecture and design, or an approach to design that no longer understands nature as a silent, exploitable resource, are then brought to a concrete historical object and negotiated.

Q:

What will be next steps ?

A:

First of all, we all very much hope that we can return to our presence activities. We have planned the second edition of the Bauhaus Study Rooms for June this year 2021. This is where alumni and students of today's Bauhaus school and their different programs come together every year. They meet scholars, practitioners and activists and put the spaces of the Bauhaus building, which is basically a built manifestation of the historic curriculum, in the context of their own creative search movements and questions: Our annual theme „Infrastructure" provides the content framework for workshops, roundtables, sit-ins and assemblies.

The idea of establishing the Bauhaus as a platform for international initiatives and schools in the field of an emancipatory design education has been taken up from the Bauhaus Centenary Festival "School Fundamental". The Bauhaus Study Rooms built on that meanwhile global network and offer a space of conversations and dialogues were our alumnis are actively engaged. If new forms of collaborative learning and design emerge from these encounters and conversations in different places around the world, and the model of the Bauhaus Study Rooms continues in other constellations, then that would be a great impetus.

Figure 2


Figure 3

Figure 1

Figure 2

AR AND VR IN CULTURAL INSTITUTIONS

MARZIA LODDO

The use of augmented, virtual and mixed reality (AR/VR/MR) to experience and perceive cultural heritage is less adopted by museums, libraries, archives and cultural institutions than other fields. There may be concerns that AR/VR have the potential to stop visitors from attending in person (Coates, 2020). However, in 2020, many museums have started to offer virtual tours of their collections during the global COVID-19 pandemic. This, in fact, has forced in different moments the closure of most museums and institutions. In the following reading, the difference between those digital technologies and why cultural institutions are using them now will be described.

Every day, many museums and libraries make available some of their digitised artworks and items through their websites and other platforms (e.g., Google Arts&Culture, 2011; Wikimedia, 2004). One thing is giving access to the traditional art in digital format, another is displaying digital art (i.e., artists use digital technologies to produce art). Only a few museums had done this and some have expressed no interest in showing digital art (Pokel, 2018). However, just like the use of certain technologies has characterised many different aspects of our lives, they have also slowly entered into the museum sector. The global pandemic has, through necessity, changed the way people access the heritage. Therefore, museums and cultural institutions have demonstrated a strong interest in finding engaging and interactive ways for showing the digitised collection to a wider audience. Hopefully, this will slowly happen for digital art as well. Nonetheless a few years before the COVID-19 pandemic, especially after 2014, technologies, such as VR, AR, MR, three-dimensional (3D) modelling, 3D capture techniques have become increasingly common tools in higher education and research (Lischer-Katz, Golubiewski-Davis, Grayburn and Ikeshoji-Orlati, 2019; Milgram and Kishino, 1994). It is not a coincidence that in 2014, the Google Cardboard VR viewer was released and made VR extremely accessible. Same as in the following years a series of fully functional VR headsets made possible to experiment VR in various academic fields such as architecture and design, humanities classes, etc. (Figueroa, 2018). Not to mention smartphones (used to access AR), which have become more and more available for everyone.

VR/AR/MR technologies have been used in museums for reconstructing historical environment and rooms (Modigliani VR, 2017; Rembrandthuis, 2017), for interacting with one or more objects of the collection (Skin and Bone, 2017; Hills-Duty, 2018; ViveArts, 2019), for creating interactive and immersive experience in the museum (Grande Galerie de l'Évolution, 2018) and as a virtual museum collection (The Kremer museum, 2019).

This new digital way of showing art, has destabilised the standard and traditional curatorial practices and, created new dynamics in storytelling and content creation (Kargas, Karitsioti and Loumos, 2020). Different museums had been investing in virtual reality for many years and interesting results can be shown. Moreover, following the launch of the Oculus Quest 2 VR headset (October 2020), many people think that VR could quickly become mainstream, especially in 2021 (Coates, 2020).

Figure 1
Bone Hall. (2017). A hall through new eyes. Smithsonian Museum, Washington D.C. https://naturalhistory.si.edu/exhibits/bone-hall. (Retrieved 14 March 2020).
Figure 2
Force Field. (2017). Meeting Rembrandt: Master of Reality. Oculus Studios. https://www.oculus.com/experiences/gearvr/1297352360374984/?locale=en_US. (Retrieved 20 March 2020).
Figure 3
VOMA: The World's First Entirely Online Art Museum. https://voma.space/about-us/. (Retrieved 7 January 2021).
Figure 4
Frame of the virtual storage facility of the Collection Centre Netherlands, Amersfoort, DIPOT, TU Delft, (see more on the project at: https://dipot.altervista.org/)
Figure 5
Frame of the virtual archive of the National Library of the Netherlands-KB, DIPOT, TU Delft (see more on the project at: https://dipot.altervista.org/)
Figure 6,7&8
The cabinet of virtual reality. Grande Galerie de l'Evolution. (2018). A permanent room dedicated to virtual reality housed in the gallery of evolution. https://www.mnhn.fr/en/visit/lieux/cabinet-realite-virtuelle-cabinet-virtual-reality. (Retrieved 3 April 2020).

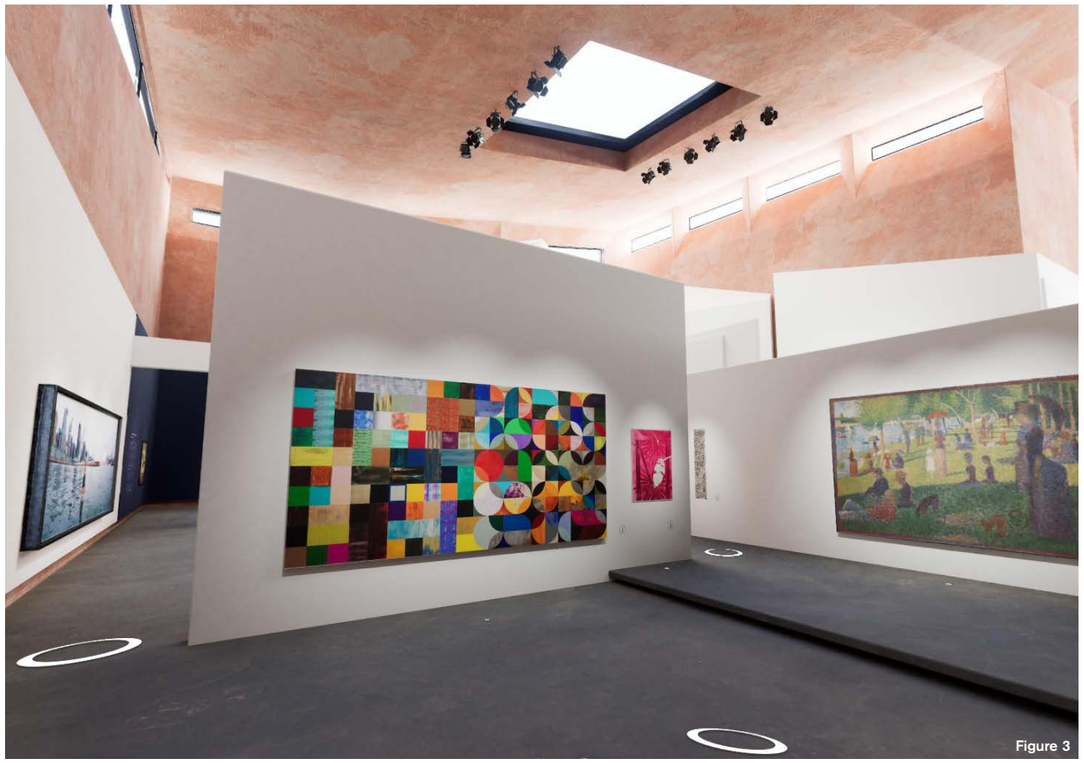
Figure 3

Initiated as a Kickstarter project, the Virtual Online Museum of Art-VOMA opened its virtual door in late 2020. It is the world's first virtual museum, which offers free access to the collection without the limitations of a physical location. VOMA aims to become a hub for debate and discussion around innovation through the digital, to the end of expanding access and enabling new approaches (VOMA 2020).

At the end of 2019, the project DIPOT: Digital Depot, has started at the Delft University of Technology, Faculty of Architecture and the Built Environment (Section Heritage and Architecture). This regards the creation of a 360° and VR tour of a museum storage facility. This area, which could be on-site or off-site the museum, is hosting approximately 90% of the collection and it is usually accessible to employees only. Therefore, the aim has been to show to the general public the storage area, and to launch educational projects together with the museums selected as case studies. Another aim, has been to teach students from architecture universities through the VR tools to improve the museum's design. During the first lock down (March 2020), ICOM Belgium Flanders took advantage of the peculiar museum closure and offered support for museums interested in making their collections more digitally accessible. The Museum Turnhout, therefore, decided to 3D scan the storage facility and to create a VR tour (usable with Oculus Quest) with the aim of making the storage area of the museum visible to everyone (Depot Turnhout, 2020).

Over the past 30 years, also libraries, archives and documentation centres have been involved in the digitisation of books, periodicals and newspapers on a large-scale. They make their digitised items available through their website and other platforms (e.g., Microsoft Live Search Books project, Google Books Library Project, Open Content Alliance). Some interesting projects have taken place already, for instance, VR/AR/MR technologies have been used in libraries for different educational projects in various fields (Gravbox in the wild, 2018; Dar M, 2018). Sometimes, they can provide space and services to develop projects and collaborate with other institutions, as universities and private companies.

The KB, National Library of the Netherlands, for instance, is testing the applicability of 360^0 imaging to support virtual access to the special collections storage, which will become less visible if plans to a new ASRS-Automated Storage and Retrieval System for the preservation of the entire physical KB collection will be executed (Loddo, 2020). They are also experimenting with VR interface and created virtual pop-up books. Novelty books are usually quite fragile and tend to become damaged or worn out when used frequently, particularly when they are children's books (Loddo, Boersma, Kleppe and Vingerhoets, 2021).

As described, the reasons why cultural institutions are implementing digital technologies are different. Mainly, they are striving to digitize the cultural heritage to make it accessible for as many people as possible. The choice between one media and another is often dictated by the budget. VR/AR have different costs and creation times. Cultural institutions have always struggled with limited budget, so by nature they tend to direct it on priorities. However, the numerous examples of VR/AR that are becoming more and more popular every day in the field of cultural heritage, given the opportunity to be more cautious and to choose the medium more easily according with the need. In fact, VR and AR are very different. The first offers a total immersion in a virtual reality, while the AR shows reality and an altered digital version one next to the other. For instance, in the case of the KB, VR replaces the pop-up book in an alternate reality. A choice made by the library to avoid the risk of compromising the state of a delicate book. AR adds to

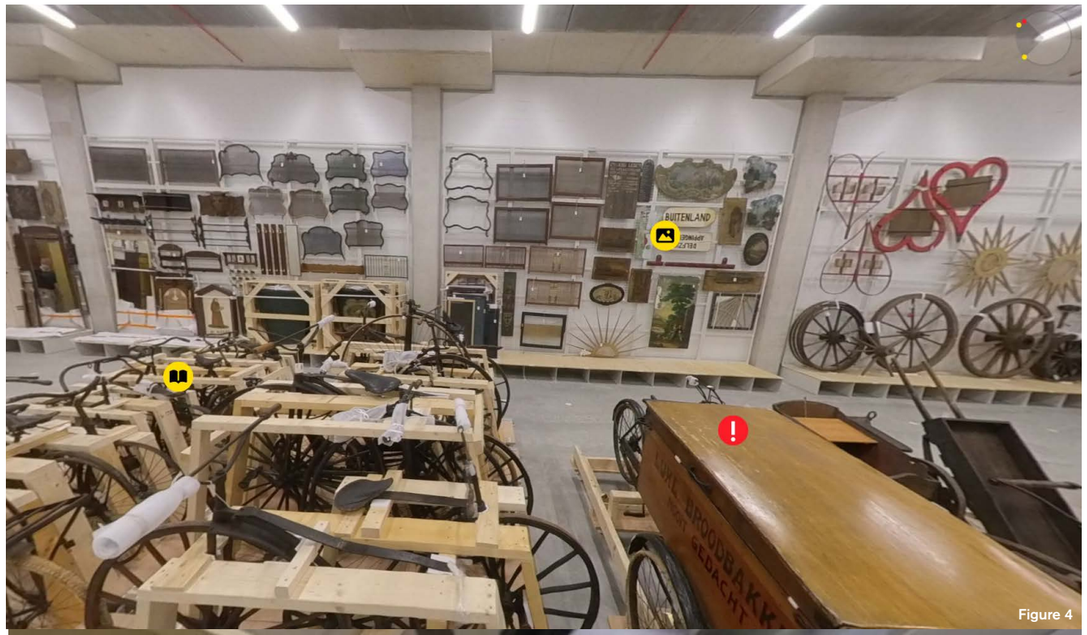

Figure 4


Figure 5

what the user can already see. At the museum's Bone Hall (The Smithsonian Institution, Washington D.C.) some skeletons can be "brought back to life" by using AR (through the app Skin and Bone, 2017), which overlaps images of the animals. This can help visitors understand new concepts and help contextualise history by blending the old and the new (Coates, 2020). To do so, one need a smartphone or tablet and to download the apps. For the VR, one requires special tools, such as headsets, controllers and sensors, that's why is still costly, so prohibitively in some cases. While VR capture completely the visitor attention and bring him/her in another reality, AR can capture people's attention and keep their focus on exhibitions for longer. For this exhibition, students were asked to choose one of the digital tools, which could better describe his/her project. Students applied storytelling to films, implemented with the use of AR, VR and mixed arts. Each of these students' choice, help visitors to immediately connect with the stories and to be virtually transported into some of their projects' locations around the world such as Jordan, Lebanon, Kosovo, Algeria and Iran. This young generations of students have worked with these media remarkably spontaneously and naturally, which makes one wonder if, in a relative short period of time, these media would be completely accessible and easy to use to everyone, included to cultural institutions.

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Figure 6

Figure 7

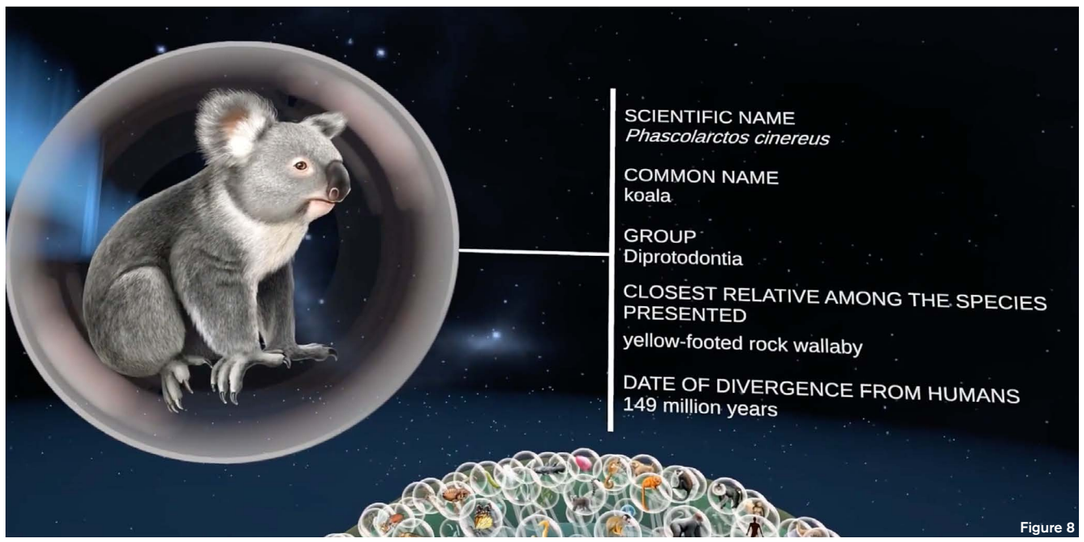

Figure 8

ARTDIVE. INVESTIGATING ART PERCEPTION IN REAL AND VIRTUAL MUSEUMS

EVA JÖRG

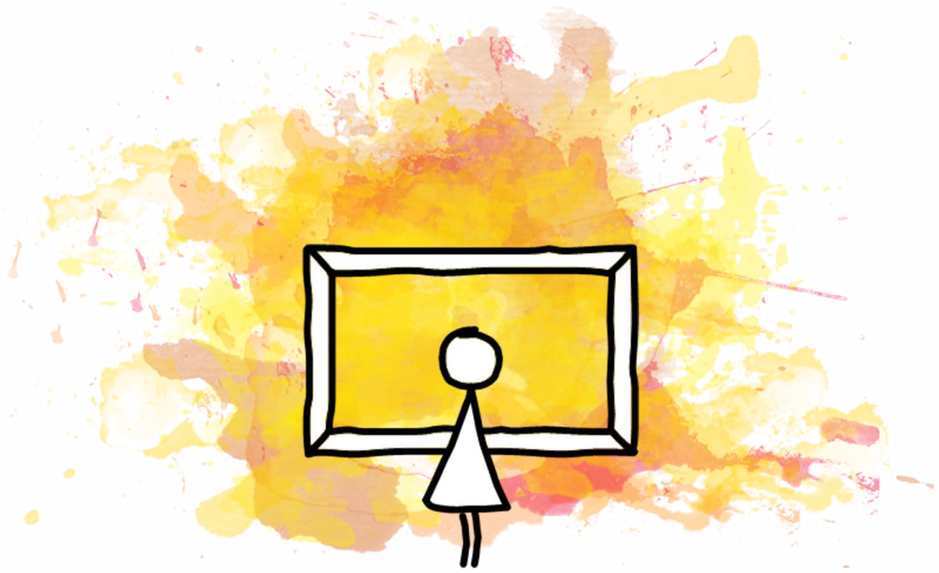

Figure 1

„ […] too many paintings competing for too much attention and too little space. “
Semir Zeki (Graf and Müller, 2005, p.174)

How can the experience of perceiving art from paintings in museums be translated into a virtual museum?

Abstract

In the age of digitalization, museums are looking for a way to share their collections online. Due to the COVID-19 pandemic and the resulting closure of cultural institutions such as museums, the implementation of the virtual museum became more relevant. Museums all over the world are offering different online presences, a popular format: the virtual 3D tour in which the visitor can virtually walk through the museum.

In this essay, a concept for a virtual museum with the focus on visitor perception in art museums will be presented. To this end, first the main advantages and disadvantages of virtual museum tours and the essence of visiting a real museum will be briefly summarized. This will be followed by the theoretical concept and its realization in a website.

Introduction

The biggest advantage of virtual museums is the easy access. The internet enables visiting the museum regardless of location and opening hours. Most art museums can be found in big cities, whereby a big part of the society does not have the possibility to visit a museum on a regular base. In virtual museums, the visitor is self-determined and has access to exhibitions all over the world, all the time. The result is an extended range of users and audience to which virtual museums need to be adapted. Furthermore, the internet offers unlimited exhibition space. Regarding the overflowing museum archives and depots, this could be a chance to present the huge amount of unseen stored art works to online visitors. The main disadvantage is the lack of spatial context and atmosphere. Even good monitors cannot compete with experiencing an original artwork within the architecture of a museum. How did existing virtual museums deal with these aspects and in which way could they translate the essence of a museum into the virtual room?

The essence of a museum consists of three parts: education, spatial perception, and communication (see table 1). On the one hand, the educational side of a museum visit is already well represented using different formats in existing virtual museums. On the other hand, the aspects of spatial experience and communication are mainly left aside in virtual tours.

Education		Spatial Experiences		Communication	
	Art:		Perception:		Social interaction:
✗	- Original artworks	✗	- Atmosphere	/	- Free thinking
✓	- Authenticity	✗	- Sensual Experiences	✗	- Interdisciplinary events
✗	- Material properties		Heterotopia:		
✓	- Rethinking artworks in a new context	/	- Encounter with the foreign	✗	- Exchange with other visitors
✓	- Intellectual realization				
	Knowledge:				
✓	- Medial preparation				

Figure 1
Person with picture - author
Figure 2
First screen - author
Figure 3
Selection of exhibitions - author
Figure 4
First screen of horizontal scrolling - author
Figure 5
First screen of horizontal scrolling - author
Figure 6
Choosing a painting - author
Figure 7
Choosing a painting - author
Figure 8
Detail of the painting - author
Figure 9
Total painting - author
Figure 10
Overview of audioguides - author
Figure 11
Exemplary audioguide - author
Figure 12
Intuitive search - author
Figure 13
Person with snorkel on springboard - author

Existing virtual 3D tours try to imitate the real museum, ignoring the fact, that users cannot perceive the three dimensional space on their end devices in the same way. Most of the users are experiencing the museum on a 2D surface e.g., a notebook screen. Thereby the spatiality is only copied, creating a "virtual twin". In the following, this essay will present a concept for a virtual museum, focussing on the spatial experiences and how to translate them into the virtual room.

During a museum visit the visitor's spatial experience is mainly influenced by the dimensions of art perception: space (size and colour), artwork (position and hanging) and light. Together they change the impression of the artwork and thereby the perception of the user.

The concept developed in this research, named *Artdive*, aims to create a platform which is independent from the real museum, avoiding a virtual twin. This is achieved by not copying the museum's space but analysing the visitor's perception in the different states of a museum visit. The concept is based on three points:

1. Essence of a museum experience
    a. Following the structure and content of a real museum.
2. Translating the visitor's perception into the virtual room
    a. Which aspects can be translated and how?
    b. Important: You cannot perceive spatiality in the virtual room.
3. Using the potentials of the internet
    a. Creating an independent extension, not a virtual twin.
    b. Using the infinite space of the internet to present unseen archive paintings.

User

Museums currently aim to address new user groups and to be more inclusive than before. Most visitors are tourists, schools, or locals with higher educational background. The easy access given by the internet enables the museums to open up for new audiences, especially younger ones but also those with lower educational background. The virtual museum could function as a place to familiarise with museums, reducing the so called "Schwellenangst" (fear of experiencing something new, being low threshold). For this new range of users, different depths of information are required. Thus, the users can choose the amount and the content according to their individual interests, they are self-determined. Thereby the users are challenged neither not enough nor too much.

Slow-art

Referring to the quote of Semir Zeki: „[…] too many paintings competing for too much attention and too little space." (Graf and Müller, 2005, p.174), this concept aims to slow down the users who are surfing in the fast-moving internet and guide them into the unhurried world we know from museums. For this reason, the principle of "exemplary guides" is used. This means that the users are offered a small selection of paintings which stands for e.g., an artist or a period and users are not overwhelmed by the number of paintings. They have the possibility to intensively get to know a painting, instead of seeing many paintings superficially, but only remembering a few. Furthermore, a high number of paintings is creating a concurrence between them. Factors like famous artists or the position in a museum would influence the visitor's preferences, letting them ignore other paintings.

Balance of education and emotional experience

To create an adequate user experience, a balance of education and emotional experience needs to be found. A bridge is created between the offer of the museum and the visitor's ability to perceive it. This is achieved by encouraging the user to engage deeply and critically with the work. By experiencing the paintings intensively, the user is given a new approach to the work. An emotional connection is established, which reinforces the learning process.

Clear design

To ensure this pure art experience, the user surface is designed as reduced as possible. The paintings are presented with multimedia content, whereby the focus needs to remain on the artwork. The intuitive interface and as few distractions as possible allow the users to immerse themselves in the world of colours. The structure of the museum is based on the AID(A)-principle: Attention, Interest, Desire (and Action). Because the human perception primarily reacts to visual stimuli (Dech, 2003, pp.33), initially the attention of the user will be attracted optically. As the secondary perception is linguistic, the next step is to arouse the user's interest with well portioned contents. The combination of both increases the desire to finally experience the artworks.

In the following, the website *Artdive* will be presented "screen by screen", explaining the contents and the aspects of perception they are based on. The website is currently only a concept and cannot be found on the internet.

Platform:

- Cooperation of museums and private collectors
    - All museums regardless their location and popularity can reach a big audience
    - Diverse range of artworks
- Unseen and unknown archive paintings are exhibited

Figure 2

Starting page:

(content)
- A new exhibition with three paintings every month
- Current exhibition on top
- Collection of all exhibitions of the year below, smaller

(perception)
- User only sees details of the painting
    - Blurred and grey → focussed and coloured by hovering over it
- User decision is based on colour and shape, not on popularity of the artist or museum
    - Intuitive
    - No prior knowledge needed

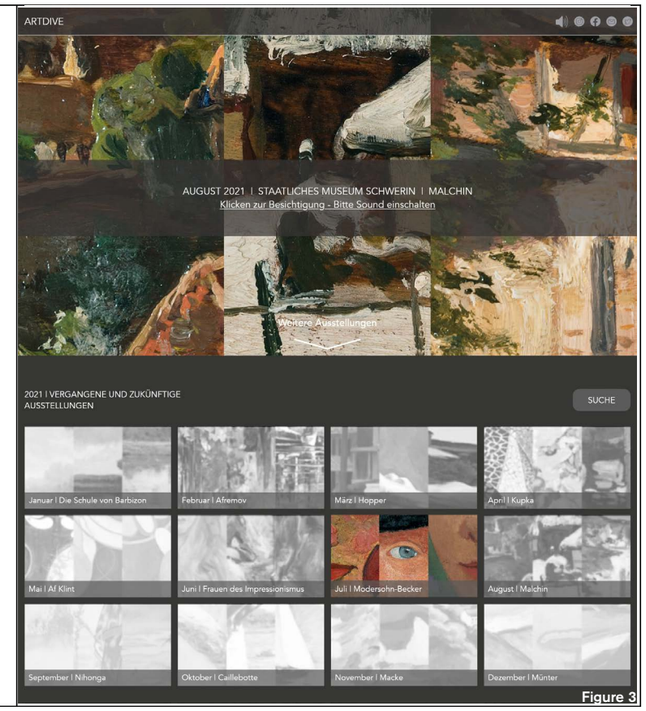

Figure 3

Entrée (content):

- Equivalent to the text information close to the exhibition entrance in real museums
- Use of different short formats (texts, videos, quotes, pictures…)
- No painting related to the exhibition is shown

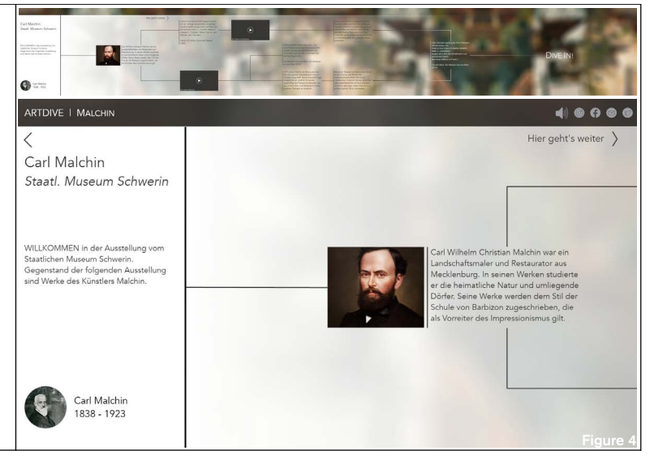

Figure 4

Entrée (perception):

- Gradient background from white to colourful details
    - Slowly Diving into the world of colours
- The user is only given a hint of the paintings
    - Enhancing curiosity

Figure 5

Main hall (content):

- User can choose a painting
- User sees the (small) paintings for the first time
- Paintings are “hanging” equally next to each other
- Half of the painting is covered by a “column of light” (= stripe of the already shown detail)

Figure 6

Main hall (perception):

- Columns of light
  - Imitating entering an exhibition room for the first time
  - User can only see colours and shapes, not the whole painting
  - User chooses intuitively by colours
- Human scale for imparting the actual size of the artworks

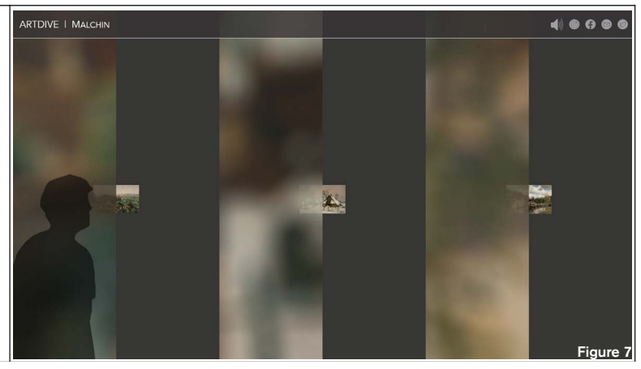

Figure 7

Animation (content):

- The stripe of the detail extends to the screen
- Zooming out slowly to the whole picture
- User sees more and more details and finally the whole painting for the first time

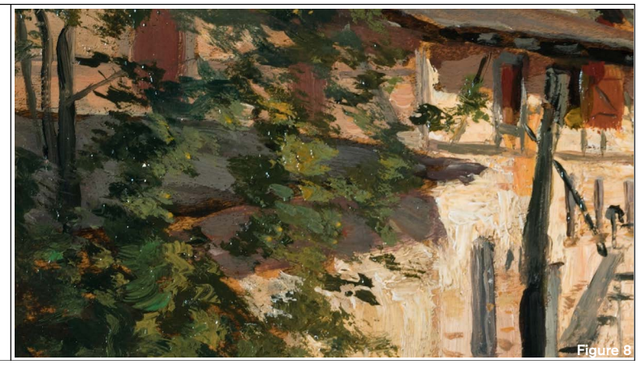

Figure 8

Animation (perception):

- User gets to know the painting as it was painted
  - from the detail to the total artwork
- focussing on the brush strokes and subtleties
- This way of approaching would not be possible in a museum

Figure 9

Painting (content):

- Audio guide with introduction
- Five topics
  - Each 1 basic audio guide
  - Each 2 deeper audio guides
- Different depths of information

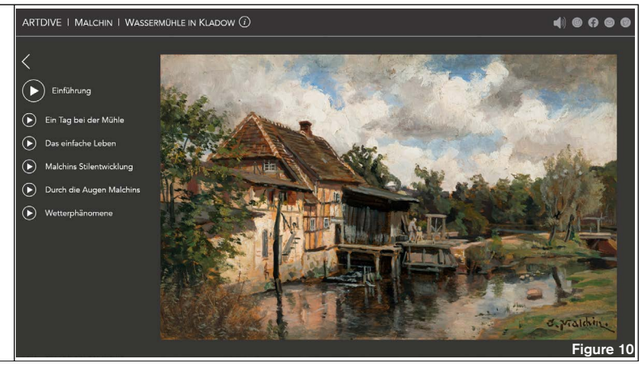

Figure 10

Painting (perception):

- Background is varying from topic to topic
- Background colours change the impression of the artwork
  - would not be possible in a museum
- Choose of colours by Itten’s colour contrasts
- Only own colours of the painting are used

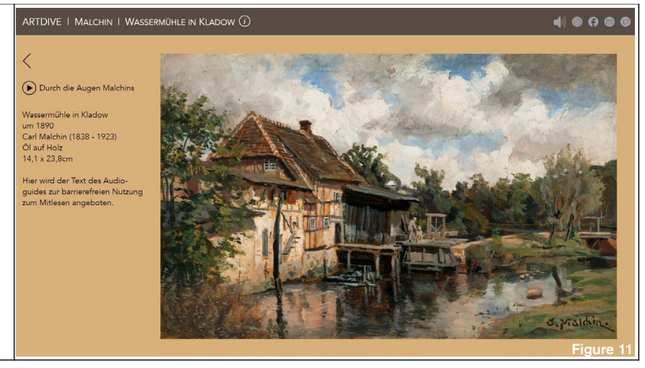

Figure 11

Search:

- Search for exhibitions of the past years
- Keyword search<
- Chronological Order
- Order of periods
- Intuitive Search
  - Search for colours and shapes
  - No prior knowledge needed

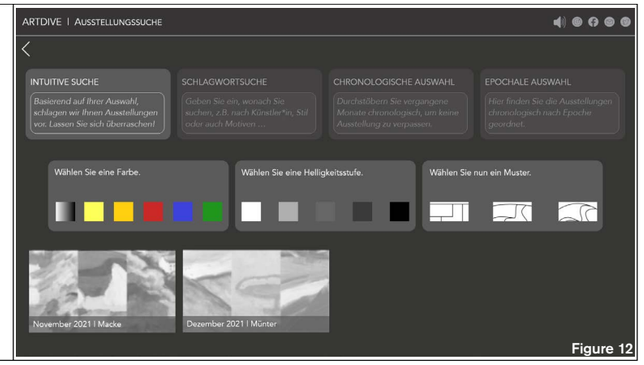

Figure 12

Conclusion

To conclude this concept, a look back to the analysis on how the essence of virtual museums is translated in the virtual room is taken (s. table 1). It comes to notice that after dealing with the spatial experience, the aspect of communication is still left open. The internet as most popular communication platform enables the chance to further develop the concept. Basic ideas like chats and calls can be extended to formats like online guided tours or online intercultural events. Especially schools could include “online trips” into their curriculum during the COVID-19 pandemic. Furthermore, a network of websites consisting of a forum, a collaborative art wiki and *Artdive* could be created.

The vision of this concept is to design a museum that is constantly evolving. Possibilities such as new technologies are to be used to illuminate other perspectives of art perception. It is important that the core concept of *Artdive* as slow-art is maintained.

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The photographs of the artworks were provided by the Staatliches Museum Schwerin, for which I would like to express my gratitude.

Images

The copyright of the paintings used in this concept for an exhibition do not belong to me. The artworks are three oil paintings by Carl Malchin from the collection of the Staatliches Museum Schwerin:

- Rothenburg ob der Tauber
- Motiv bei Ruthenbeck bei Crivitz (Winter Landscape)
- Wassermühle in Kladow

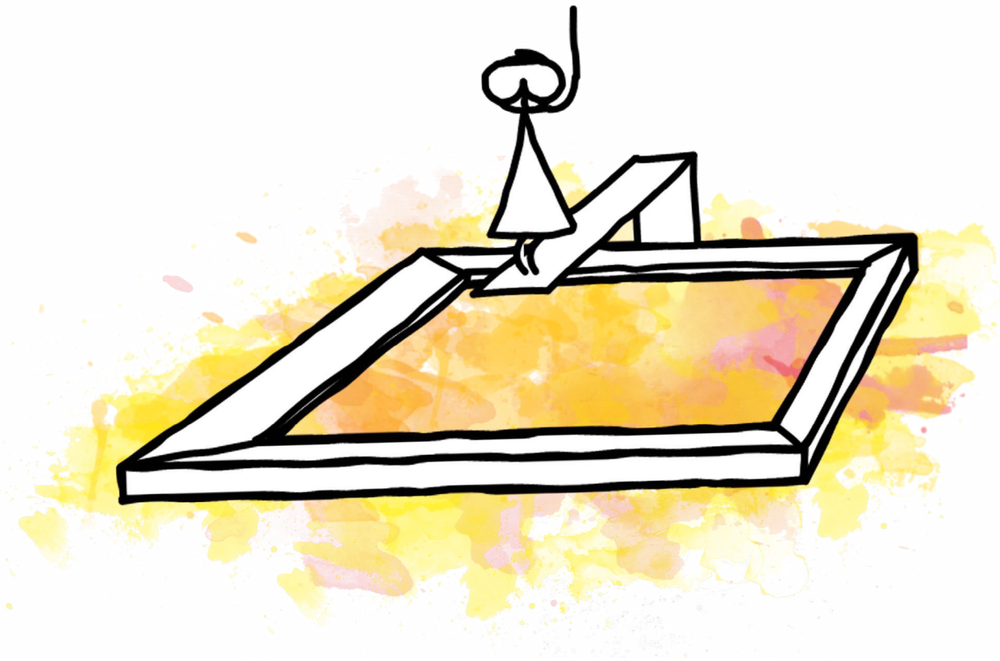

Figure 13

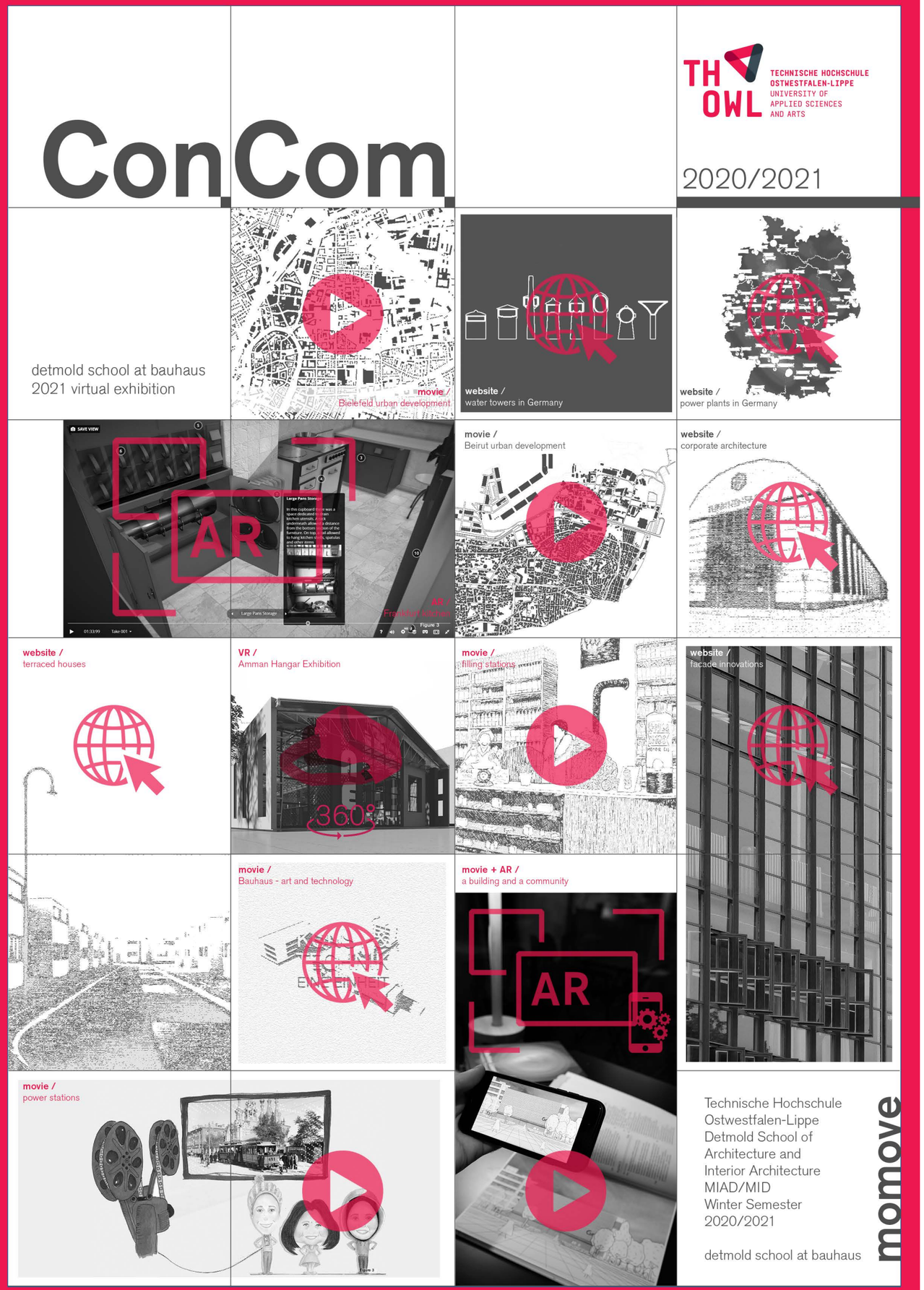

Figure 1

CONCOM AND MOMOVE CONTRIBUTING TO OPEN SCIENCE AND EDUCATION

UTA POTTGIESSER & ANICA DRAGUTINOVIC

Abstract

The Conference and Communication (ConCom) course at the Detmold School of Architecture and Interior Design (TH OWL) introduces students in the master's program to scientific work and pursues the goal of establishing a correlation between teaching and research. In particular, it is about conveying current knowledge and new findings in the form of the so-called non-written output (NWO) or non-traditional research output (NTRO). This diverse and low-threshold form of presentation increases the visibility of research findings and promotes their inclusive communication.

In the academic year 2020/21, the ConCom course took up the topic of the 18th Docomomo Germany Conference "Modern Movement and Infrastructure". The students were asked to interpret the previously researched topic of infrastructure (e.g. building services, water towers, power plants, electricity, cinemas, gas stations, kitchens, ...) for an exhibition accompanying the conference at the Bauhaus Dessau and to prepare it as multimedia exhibits – different from the usual poster presentations and papers. Complementing the contributions in the conference, ConCom served as a platform for students to explore Modern Movement's (MoMo) achievements around the world, but also to explore digital tools and their applicability for communicating research results. On display are websites, apps, films as well as applications of 360 degree images, augmented and virtual reality and as such they are aiming to contribute to the Docomomo Virtual Exhibition - MoMove.

Building on a literature review in the pre-semester, specific topics are selected and worked on in the context of scientific conferences. ConCom tests innovative teaching and learning formats at the intersection of scholarly research and outreach in the field of the built environment, with a particular focus on cultural heritage, digital technology, and their societal impact. This has enabled students to conduct cross-cultural and cross-sectoral research in interdisciplinary and international teams.

Docomomo meets Open Science

As a non-profit organization Docomomo International is dedicated to the documentation and conservation of buildings, sites and neighborhoods of the Modern Movement (Docomomo International, 2021). Since its foundation in 1990 it has devoted thirty years to the study, documentation and conservation of the architectural heritage of the Modern Movement, and today enjoys widespread recognition and prestige on the part of the academic world in general and of architectural heritage in particular. The organization has created an international network of academics, professionals and supporters, currently structured in over 70 national or regional chapters located on the five continents.

Facing the rapid digital developments and globalisation Docomomo fostered its role as an international platform by offering new services through its website by making the knowledge and information available online and by creating the new Docomomo virtual exhibition (MoMove 2021). With these achievements the basis is set to further digitize the existing research and publications and extend the virtual exhibition by including the homework, case studies and new content and media and make them "openly accessible, comprehensible and reusable via the Internet" as part of Open Science (Open Science AG, 2021) and Open Scholarship (Tennant at al., 2020).

Figure 1:
Collage of student works in the ConCon course and media used. - Authors.
Figure 2:
Amman Virtual Exhibition. Simulation by Adel Abdel Jabar and Abdullah Abujraiban.
Figure 3:
Blooms Taxonomy. According to the original diagram: Blooms Taxonomy, Vanderbilt University Center for Teaching, source: https://cft.vanderbilt.edu/guides-sub-pages/blooms-taxonomy/ - Authors
Figure 4:
Augmented Reality to partially immerse into the history of places. Illustration by Diellza Kolegci.
Figure 5:
Figure ground plans of Bielefeld (1895, 1978, 2020) and Kaunitz (1891, 1970, 2020). Illustration by Louis Wanders & Marvin Düsterhus.

Figure 2

According to Open Science AG (2021) this is “intended to open up new possibilities for science, society and industry in dealing with scientific findings” by applying the following six principles of open science (OpenscienceASAP, 2021; Open Research Glossary, 2015):

- Open methodology
- Open source
- Open data
- Open access (OA) Publications
- Open peer review -
- Open educational resources (OER)

Since the early 2000s and the publication of the Budapest Open Access Initiative (BOAI, 2002) open access publishing has developed into a movement undertaken by academia, professional publishers and non-governmental institutions to promote work types (images, text, audio, video, data, databases, source code, etc.). By publishing its policy guidelines on open access UNESCO supports the goal of giving “universal access to information and knowledge, focusing particularly on two global priorities: Africa and Gender equality.” (Swan, 2012):

> *What Open Access does is to maximise audience size so that articles that are worthy of citing stand the maximum chance of being seen by anyone who might have reason to cite them.*
> *(Swan, 2012, 29)*

As a result of these statements and along with the rapid development of digital technologies and the growth in undergraduate and graduate students over the past two decades, the world encountered a significant increase in the number of scholars and data-intensive research outputs (European Commission, 2014). The STM Report counted “28,100 … scholarly peer-reviewed English-language journals in late 2014 (…further 6450 non-English-language journals), … publishing about 2.5 million articles a year.” (STM 2015, 6) in science, technology and medicine and emphasized the “increasingly data-centric nature” of research outputs (STM 2015, 157). This huge amount of data and information justified the need for new digital infrastructures and management and thus gave rise to digital repositories and the new professions of data-stewards but also to guidelines on how to use and manage the data according the FAIR Data principles (Wilkinson et al., 2016 and 2019). And finally, the new open science policy created new target groups besides the academia and specific scientific communities, namely the general public and lay people – which opened science to society and has coined the term of Citizen Science (CS). This fact also raises the question on how to communicate research results to different target audiences, an aspect we have just experienced in the context of the ongoing COVID-19 pandemic.

Further, and with regard to the specific focus of the design disciplines and the goals of Docomomo to contribute to documentation and conservation of our recent built environment and heritage (landscapes, cities, buildings and interiors), it is a long-lasting scholarly discussion on how to deal with and assess research outputs in general and in particular beyond written data. The increasing pressure in academic systems and the dominating quantitative metrics of measuring research output has led to criticism and to the search for alternatives (Wilsdon, J., et al., 2015). In their report the authors elaborated on the “potential uses and limitations of research metrics and indicators”, the “use of metrics across different disciplines” and on the “development of research excellence and impact.” They looked at research management and assessment internationally and in particular in the UK where the Research Excellence Framework (REF) is the national reference. This report reflects the general skepticism that is put forward in the research community towards the dominant use of indicators such as journal impact factors (JIFs) and expressed in the San Francisco Declaration on Research Assessment (DORA, 2013) and the Leiden Manifesto (Hicks et al., 2015).

Since then, Anglo-Saxon and Australian universities in particular have changed their policies and included alternative categories and qualitative indicators into their policies. The University of Dublin included the categories of “Design”, “Exhibition”, “Media”, and “Performances” into their guidelines (UCD, 2018). In their Excellence in Research Assessment (ERA) the Australian Government takes into account research outputs that are not in the “form of published books, book chapters, journal articles or conference publications” and refers to them as “non-traditional research outputs (NTROs)” which include (Australian Research Council, 2019):

- original creative works,
- live performance of creative works,
- recorded/rendered creative works,
- curated or produced substantial public exhibitions and events,
- research reports for an external body,
- portfolio,

and the University of the Sunshine Coast lists the following examples of creative works (USC, 2021):

- an artwork, a diagram or map, a photography, a sculpture or an installation,
- a building or a design project,
- a public exhibition or a live or recorded performance such as a play or a film.
- a novel, an exhibition catalogue or an entry in an exhibition catalogue.

RMIT, as one of the world’s leading universities in the field of Art, Design and Architecture has included the category of “Non-academic publications” into their library guidelines “to reach a broader audience beyond academia” and considers this as “one way to show research impact or engagement.” (RMIT, 2021). The University of Sydney has published detailed criteria and output weightings for the NTRO for their assessment (University of Sydney, 2015).

So far, most European and American institutions have not yet formalized these categories and indicators, but discussions are starting in many places (University of Guelph, 2019) and funding bodies are including the DORA-Declaration into their funding calls. This tendency is further confirmed by new documents that aim to” valuing a diversity of types of research; and recognizing all contributions to research and scholarly activity.”, known as The Hong Kong Principles (Moher et al., 2020).

Exploring Education for MoMove and Dissemination

Complementing the contributions in the conference, ConCom served as a platform for students to explore MoMo‘s achievements around the world, but also to explore digital tools and technologies and their applicability for communicating research results. Students were asked to think about how they can communicate academic results (resulting from their literature research in the semester before) and how they can contribute to society. Finally, the results are also expression of the university’s approach to research and education. A series of non-written output was generated showing experimental works of the master students representing the master course of Integrated Architectural Design (MIAD) and of Integrated Design (MID) with the two specifications of facade design and computational design.

In introductory sessions, students were analyzing the state of the art of digital archives, depots, exhibitions and museums in order to evaluate the positive and negative aspects and formulating pros and cons. They were also asked to identify the used technologies, software and sources and to understand the potentials and limits of each. Different approaches are described in the articles of Marzia Loddo (potentials and initiatives) and Eva-Lucia Jörg (restrictions and limits) always related to the specific needs of each institution: great for archives and depots, maybe for Museums, depending on their size and a potential for artists who can present themselves and their work online.

Tools and technologies identified by the students were: websites, apps, short movies, films, as well as applications of 360-degree images, augmented and virtual reality and online platforms to display their exhibits. The first conception included the idea to have a hybrid setting with an on-site exhibition complemented by virtual exhibits. Due to ongoing pandemic restrictions the exhibition was completely turned into a virtual exhibition, aiming to contribute to the conference experience and finally to the Docomomo Virtual Exhibition MoMove.

The student’s works are offering an advanced experience of the MoMo achievements through in-depth virtual and visual representation and interpretation. The approaches and outputs have been diverse and mostly been developed in teams and in an iterative process of individual docent’s and peer group’s feedback, completely based on online teaching in video conferences. Based on Bloom’s investigations related to group instruction compared to one-to-one tutoring (Bloom, 1984), the course applied a mixed but strict methodology based on the semester schedule with different deadlines for input and presentations. The course structure also referred to the updated Blooms taxonomy (Armstrong, 2010) represented in Fig. 3. In combination with the literature review and an extended abstract produced in the semester before, the students started with remembering and understanding. Applying and analyzing was divided into two steps, starting with the written extended abstract and the further development of the visualized exhibits. Evaluating and creating were the main process steps in the ConCom course.

The ConCom approach was allowing a great variety of subjects to be investigated and tools to be applied, also depending on the students educational and cultural backgrounds and interests. This also reflected indirectly the idea of five different schools of thoughts within the Open Science community as described by Fecher and Friesike (2014) who distinguish between:

- The “infrastructure school” (concerned with the technological architecture),
- the public school (concerned with the accessibility of knowledge creation),
- the „measurement school“ (concerned with alternative impact measurement),
- the „democratic school“(concerned with access to knowledge) and
- the „pragmatic school“ (concerned with collaborative research).

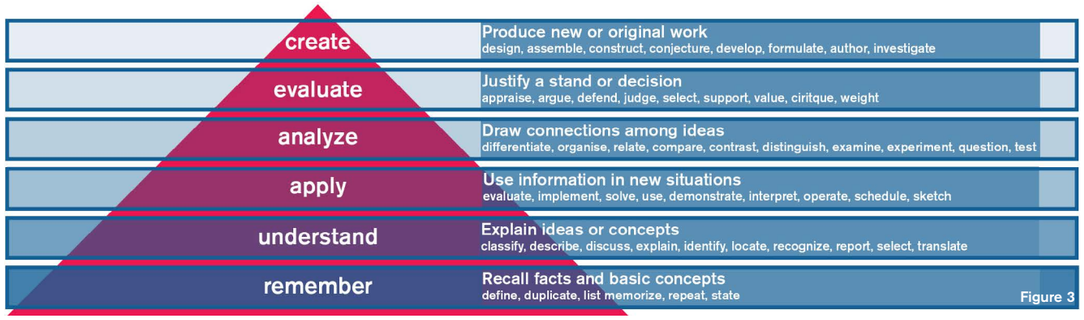

Figure 3

On display are websites, apps, short movies, films, as well as applications of 360-degree images, augmented and virtual reality. Many students aimed to raise public awareness based on their research findings: e.g. the health impact energy production (Kraftwerke), the reuse potential of power stations (Adaptive Reuse), water towers (Convertible Supply Architecture), and industrial plants and buildings (Bielefeld, Kaunitz and Amman) or the societal impact buildings (Building and Community) and sites for the collective memory (Beirut). Others were exploring the features of digital tools for visualization and exhibition: e.g. the VR Amman Hangars (Jordan), the Bauhaus App (Dessau) and the AR for the Frankfurt Kitchen (Detmold, Frankfurt) and the Building and Community (Algiers, Pristina, Kandovan). And another group was rather focusing on historical facts and developments related to certain typologies and infrastructures: e.g. history of the gas station (Germany), the facade developments and ventilation (International), the town houses from 1910-2010 (Germany) and the Corporate Architecture of AEG and Siemens (Berlin).

With regard to the target audience the students have made different choices and focus, but all of them were apt to communicate their new knowledge to a wider and non-expert audience. This can be seen as the attempt to reach any societal and practical impact on how to deal with the recent built heritage in order to achieve a healthy and sustainable development of the built environment with the support of many different stakeholders. Still the design and impact of such open dissemination (Heise, 2018) needs to be further investigated.

At the same time the ConCom course has also raised the awareness of the students for their responsibility as future designers and engineers to shape the livability of our cities, sites and buildings and it allowed for interdisciplinary, international and cross-cultural research.

Outlook

The results highlight the importance of creative and innovative research outputs that would increase diversity and visibility of academic research and therefore have the potential of having higher impact to professional audiences, lay people and the society.

Docomomo International and its national working parties are to strengthen the international academic collaborative network that has already been established in projects where Docomomo International converges with museums, universities, foundations and, in general, any kind of public or private, international or local, institution with which it shares objectives. Education in all its' facets including teaching, lobbying and protesting, ranging from academia to architectural professionals, politicians and layman was and will continue to be one of the pillars of Docomomo. Digitization in form of Open Access (OA), Free and Open Software and Source (FOSS) and Open Educational Resources (OER) will be of great help and is also part of the proposed educational agenda that addresses the ideas of Modern Movement on different levels for different audiences.

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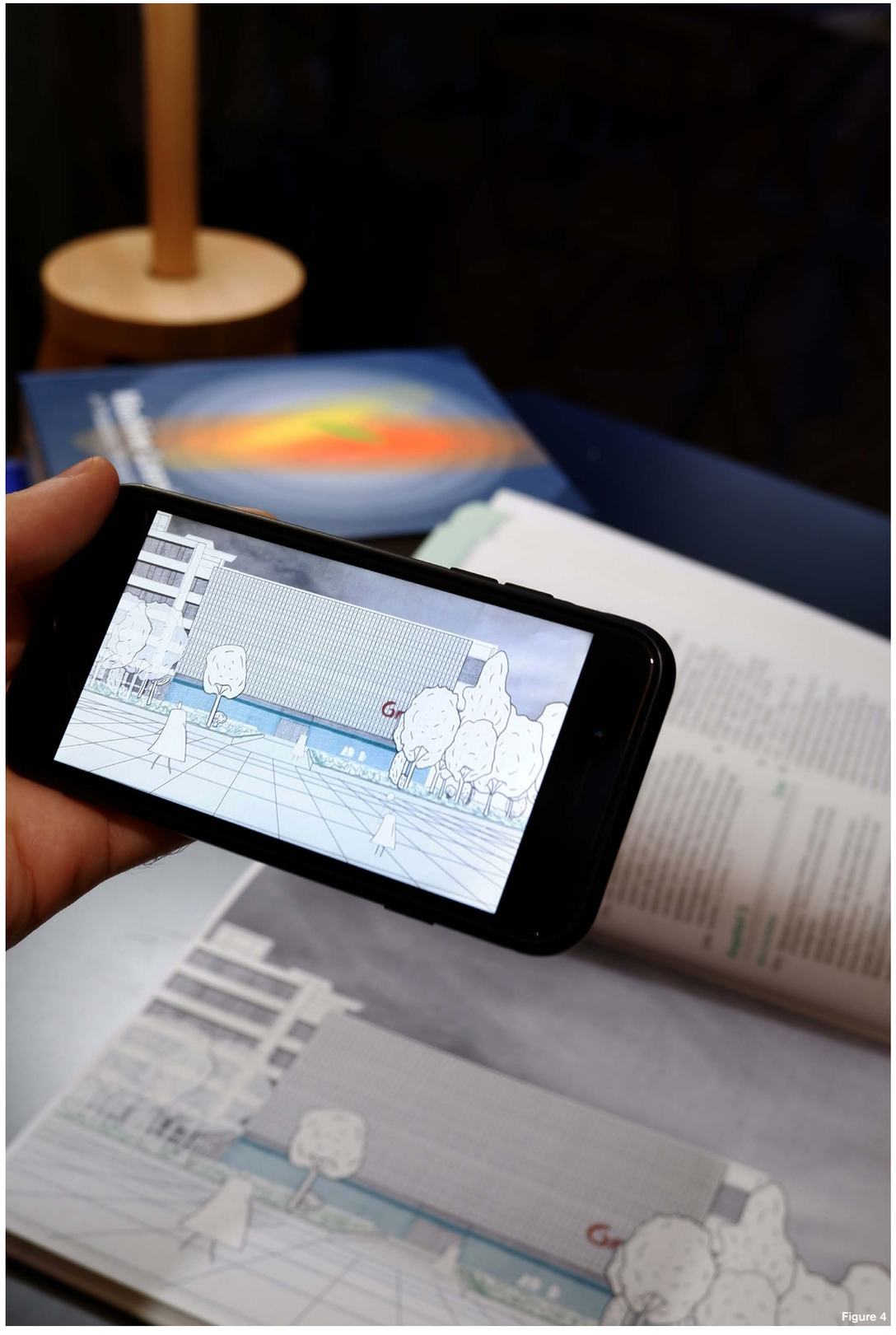
Figure 4

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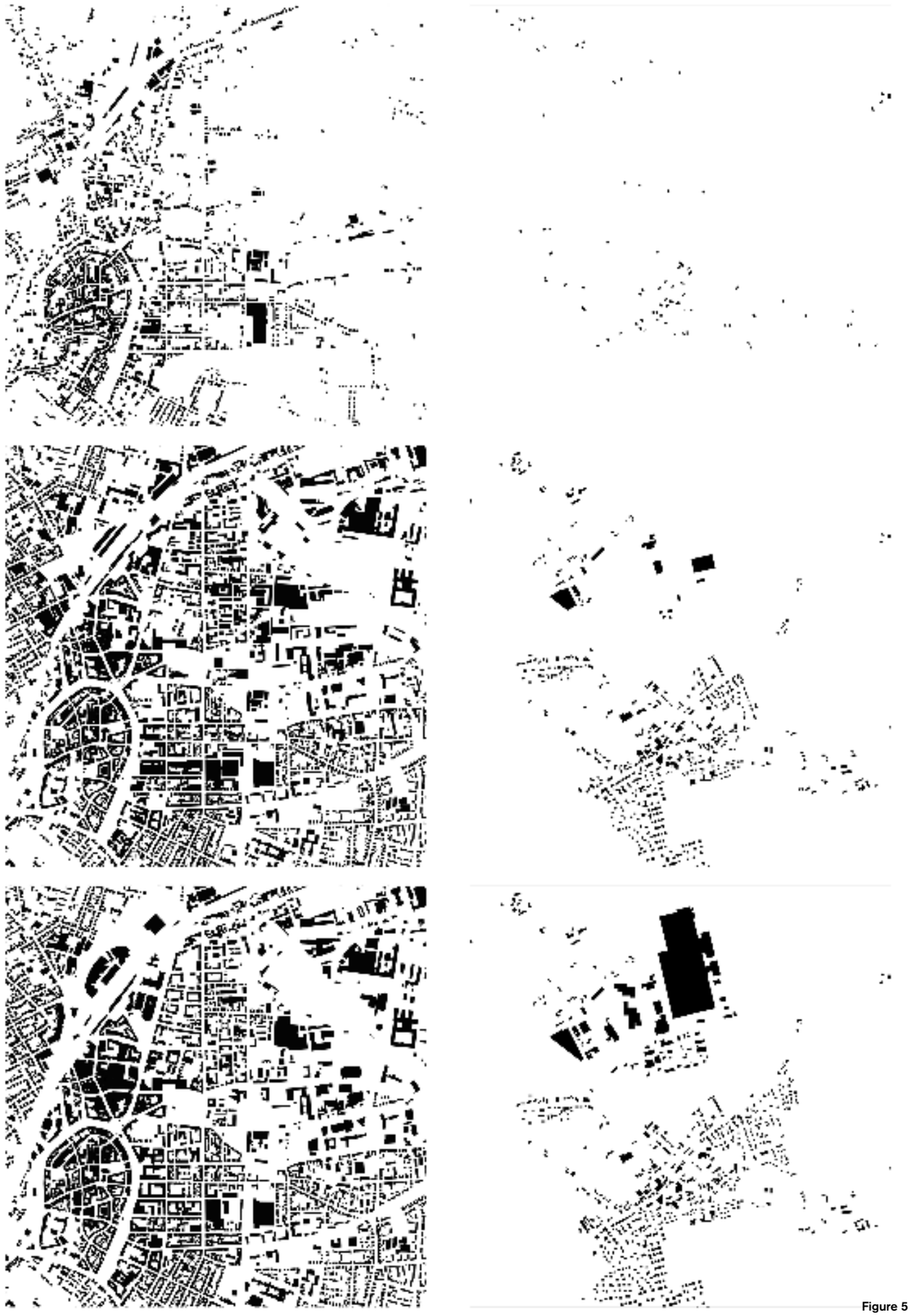

Figure 5

WATER TOWERS CONVERTIBLE SUPPLY ARCHITECTURE IN GERMANY

KIRA GRUNDLER, ALEXANDER BUMBKE,
PATRICIA HINDER & PETRA KLEIST

Figure 1

Idea

They can be recognized from a distance and are unique in the cityscape. They stand out due to their distinctive shape and their extraordinary architectural appearance. Many people are unaware of their former purpose. What is meant are water towers which cannot be overlooked due to their location and appearance and which were of great importance in the 19th and 20th centuries for water supply and thus for social and economic development. But nowadays they are more and more often abandoned and ignored in the environment [1]. We have made it our goal to give an overview of how many water towers there are in Germany and how they are currently used. At the same time, this architecture should be brought closer to the people and sharpen their view of these towers so that they do not deteriorate further and gain in importance again.

Methods and Tools

We achieved our goal by creating a website that is accessible to everyone without, for example, having to install an app first. When creating it, the main focus was on using lots of pictures and pictograms to illustrate the towers. Large blocks of text are avoided in order not to bore the reader or even scare them off with texts that are too long. The structure of the website consists of three main elements: the start page with pictograms of the container typologies and general information on the function of a water tower, the page for each container type and the profiles for the individual water towers. The guide through the website is the container typologies that are built into the towers. They arrange the towers into eight categories and can be found on every page as a menu that can be clicked on. For each type of container there is a page with further information, a map of Germany with the locations and a gallery with the towers in this category. The gallery uses a color change when the mouse is moved to indicate whether the tower is an example of one in operation or one out of operation or whether it is a converted tower. The page of the respective featured water towers contains a photo, a compressed profile and a short story about the tower.

The first challenge to create a website was the choice of the appropriate program, especially since the majority of the group participants had never created a website before and the programs were therefore largely unknown. This is also the case with WIX, which we opted for due to its flexible design freedom and its good ratings, even if it was completely new to all of us. Within the program it was now necessary to clarify whether predefined components are used or a separate layout is to be developed. The decision fell on the latter. During the entire creation process, it was important to have an iterative change of perspective from the perspective of the user as a non-specialist in order to clarify questions such as how he is guided through the website or when he could use which information.

Outlook

So far, eight representative examples of water towers have been created for each type of container. That corresponds to 72 of around 2,000 water towers in Germany. We see the website as the beginning of a documentation that can possibly be supplemented by people outside the creators group.

Online
https://docomomowatertowers.wixsite.com/wassertuerme

Figure 1:
Water tower with Intze tank still in operation in Mittweida, Saxony - Günter Bötel
Figure 2:
Functional schemes of a water tower - authors
Figure 3:
Pictograms of the eight container typologies - authors
Figure 4:
Modern water tower, converted, in Rottweil, Baden-Württemberg - Günter Bötel

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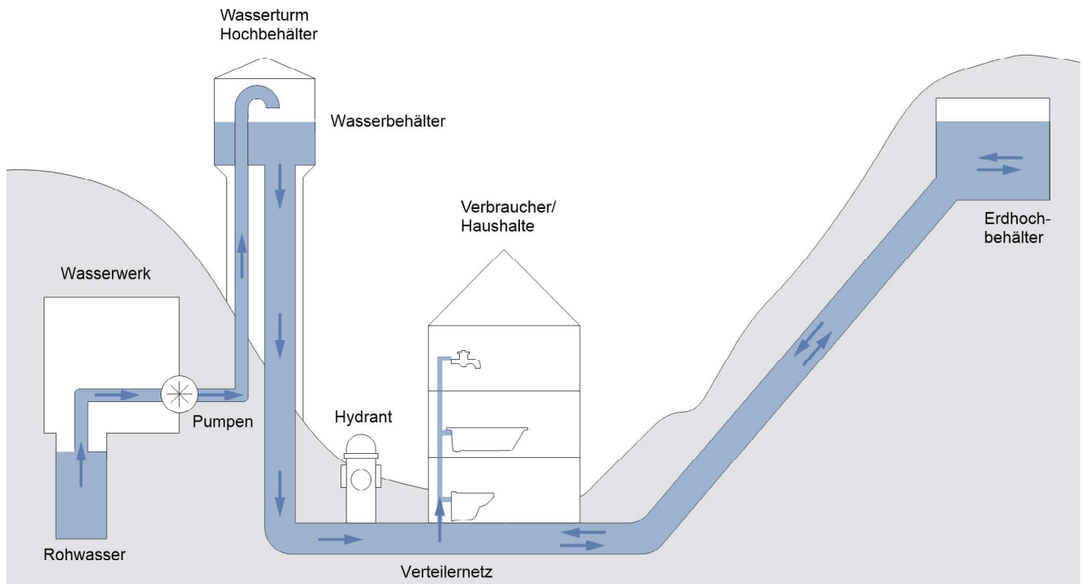

Figure 2

Figure 3

Figure 4

TOWNHOUSES 1910-2010
THE FUTURE LIES IN THE PAST

EVIN KAR & BETÜL KILIC

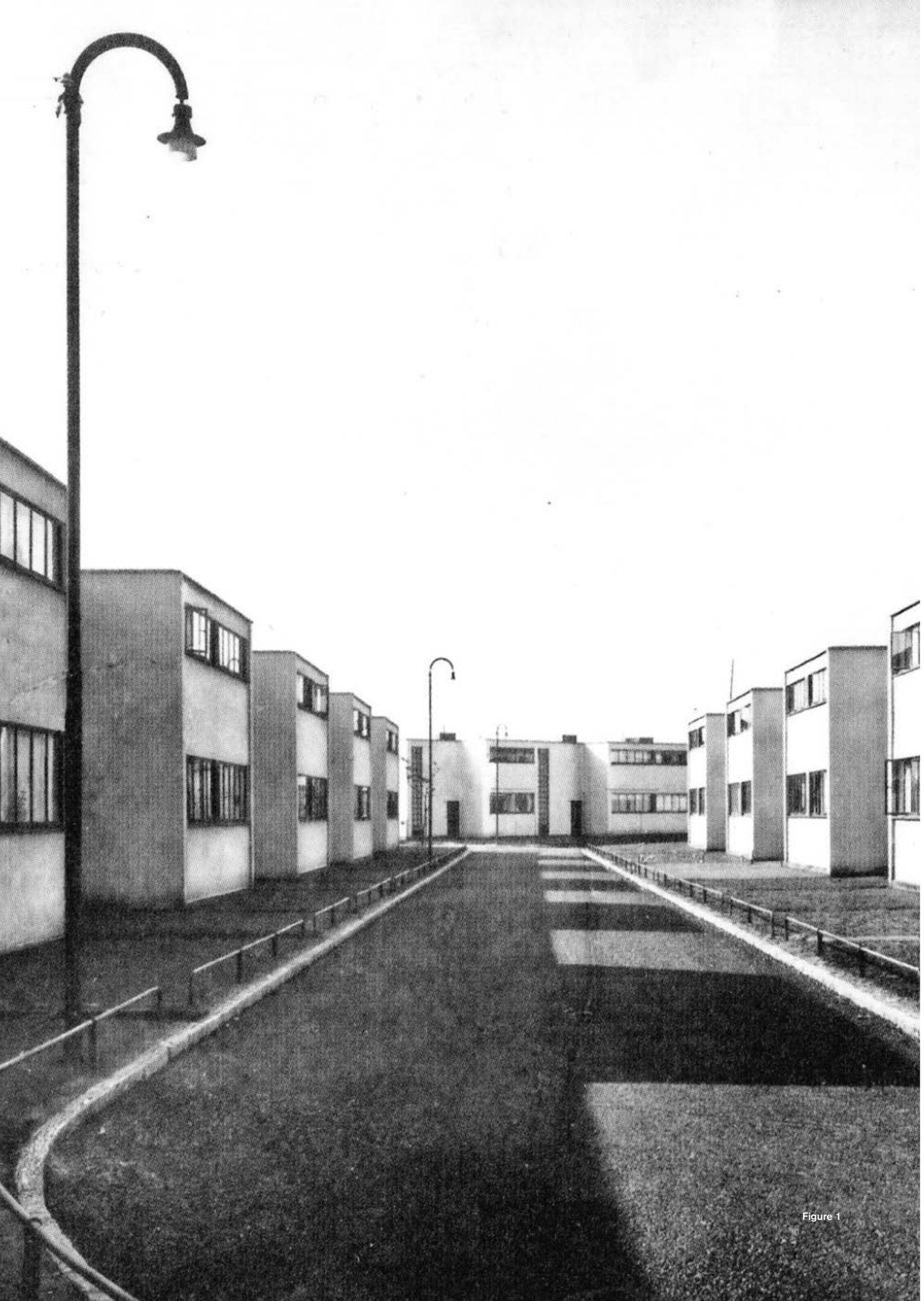

Figure 1

Idea

According to some surveys the term townhouse is often associated with a half-fledged dwelling compared to detached homes - away from being something whole. Still townhouses have a long tradition and are dating back to medieval times in some countries. They are expression of an efficient solution that provide certain privacy and individuality. Thus, the idea of townhouses can create the balancing act between enjoying your own garden and city life. Many townhouses were successfully implemented in the 1920s and 1930s in popular residential areas and conurbations, when inner-city building land had become more expensive and rare and housing was needed. In these times they aimed for affordability and often used prefabrication and modularity. Due to their space-saving construction, these houses are returning to their original popularity in the 1950s and 1960s. Over history townhouses have proven to be more than a monotonous line of blocks. With the possibility to tailor the rooms and facades to the personal needs of the families, they have increased in adaptability and flexibility. These variations and creative designs allow current townhouses to stand out from the crowd.

In this study townhouses from 1910 to 2010 were considered. This comparison aimed to identify similarities and differences of design, size, layout and program. The townhouse architecture has evolved from simple functional plans into more individual solutions and applying open plan and split level ideas and thus showcasing that this typology can be used as a minimum dwelling as well as exclusive urban residence.

Methods and tools

In order to find out what has happened to the townhouses in the past and how they have evolved, it was necessary to identify houses and floor plans from 1910 to 2010 which have remained unchanged.

To do so, we have applied two research methods: in the library of OWL, University of Applied Sciences, and on the Internet. In the library we scored 40 hits on the topic of „townhouses“. Because we limited our search for buildings in Germany, we could only use three to four sources of literature for our research. Our search on the Internet was mainly limited to real estate sites, as only there floor plans were available to us. We noticed that many terraced houses were being rebuilt. Most of the time modernization and enlargement was the goal. Walls were demolished to create larger rooms or new rooms were added with an extension. These changes made it difficult for us to find contemporary townhouses that were not changed.

We have summarized the evolution of the townhouses in the period from 1910 to 2010 in a website. Each year of construction has its own tab on the website, where the most important information has been summarized. On the rider‘ view – comparisons 1910-2010 you can learn at how the townhouses have evolved and changed over the years.

Conclusion

Due to the lack of building land in urban and central residential areas, the demand for townhouses is increasing. In 2010, increased demand was noted, which increased again in 2018 and over the years. With the increase after the desire to own a town house, prices also rose sharply. According to the market research of the Landesbausparkasse, about the period from 2004-2020, it can be seen that 2010 was a turning point for the townhouses. From 2010 onwards, a comeback of the townhouses is evident.

Online
https://th-owl.wixsite.com/reihenhaus

Figure 1:
Haustyp Sietö II -1928, Foto Musche Dessau ca. 1928
Figure 2:
Haustyp Sietö II -1928, Foto ca.1930
Figure 3:
Haustyp Sietö II -1928, Foto Fritz Levedag ca.1930
Figure 4:
Haustyp Sietö II -1928, Grundriss

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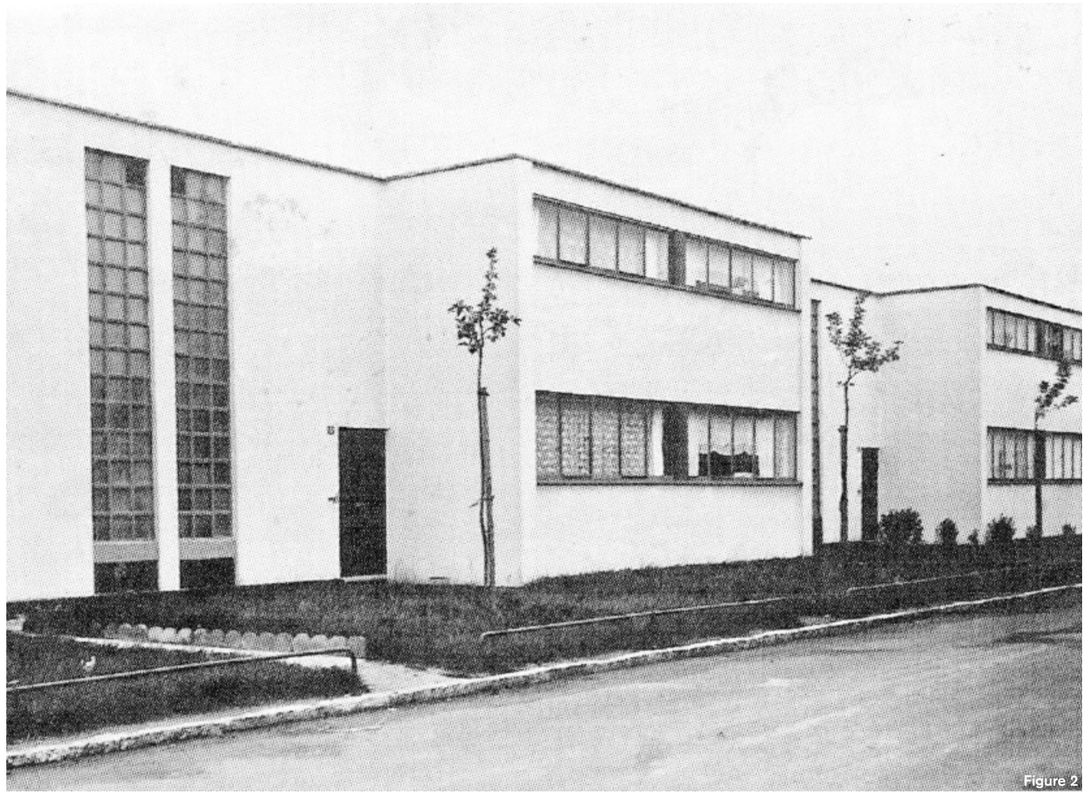

Figure 2

Figure 3

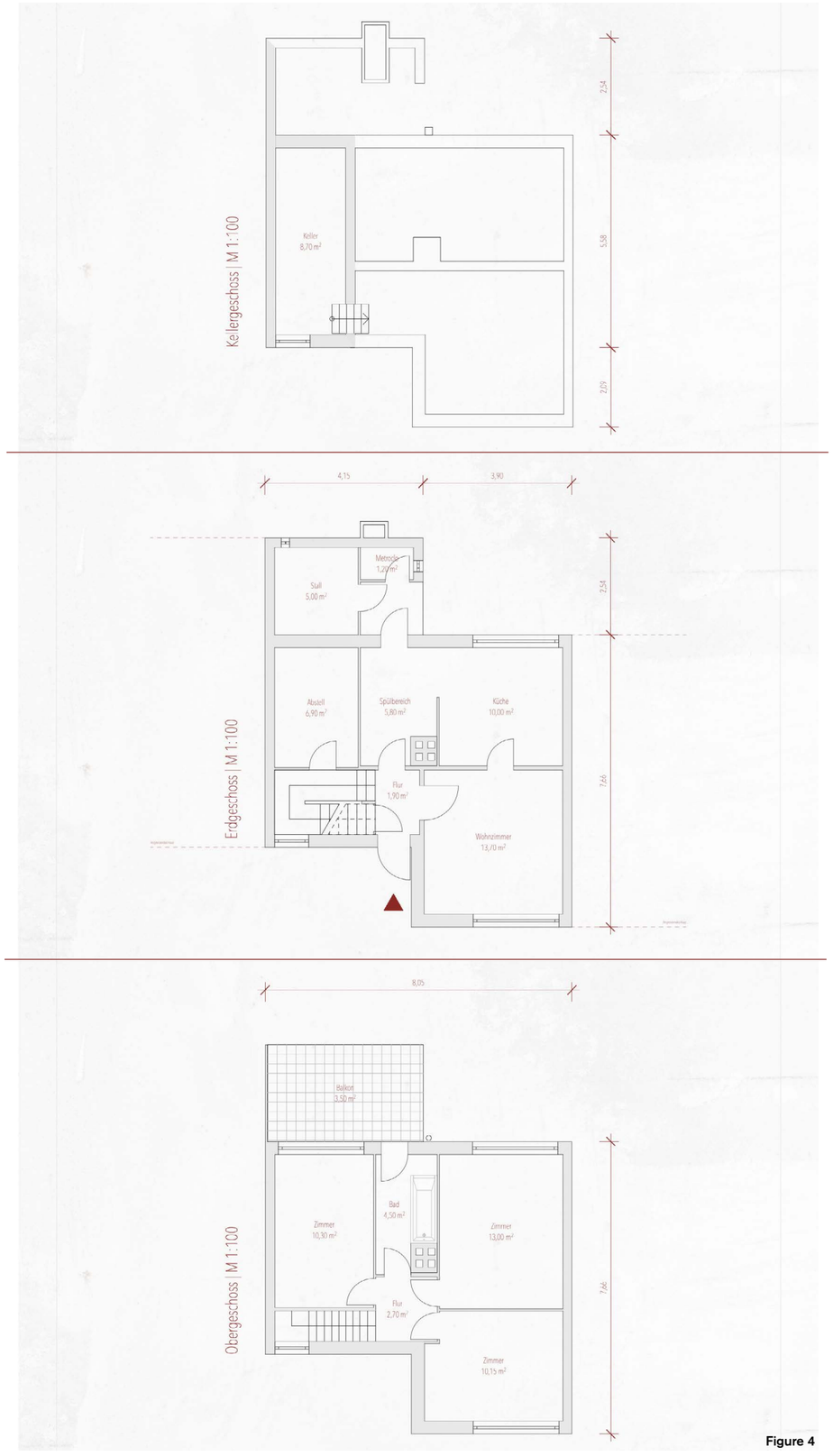

Figure 4

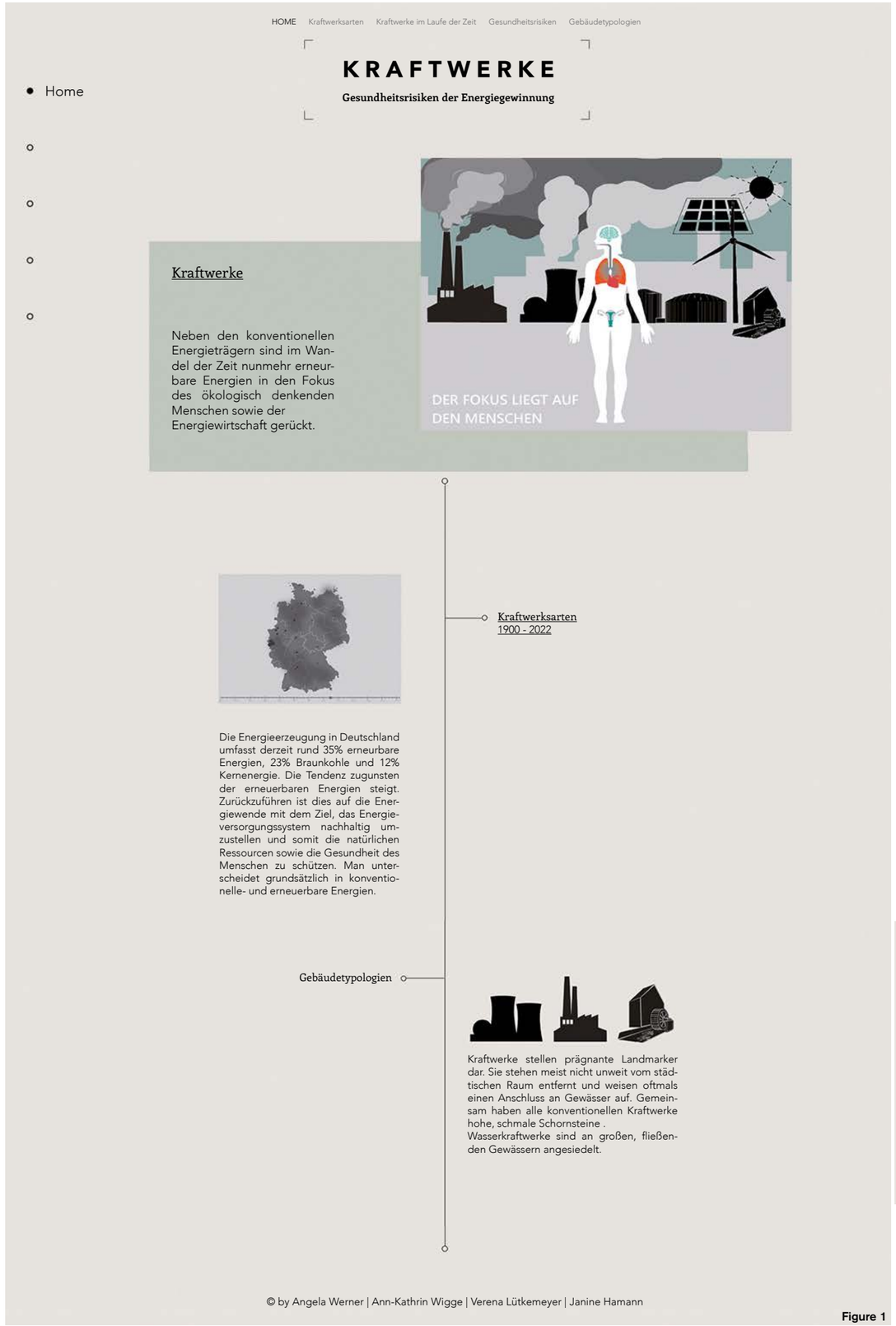

Figure 1

POWER PLANTS. HEALTH RISKS OF ENERGY PRODUCTION

ANGELA WERNER, ANN-KATHRIN WIGGE, VERENA LÜTKEMEYER & JANINE HAMANN

Idea

For decades, power plants have shaped the landscape of many regions by their building typology and the required infrastructure. In view of the energy turnaround energy production is undergoing a transformation. It is a goal to sustainably transform the energy supply system and thus protecting natural resources as well as human health. This elaboration's focus is on the impact of power plants on the health of people and to illustrate the importance of the visual and architectural appearance in the landscape context over time.

Methods and tools

In order to be able to clarify these questions, first of all a general information base had to be established. What are power plants, what types of energy sources are there, how is the energy produced in the respective power plants, how has the energy production and the landscape context changed over time, what are the causes of the changes?

In order to get a clear overview of these topics and to reach as many people as possible, a website was created. The respective topics are visually presented by means of pictograms and animations as well as small by textual explanations. The structure always provides for a main page with an introduction to the subject matter, followed by specific sub-pages. The user can thus decide whether he/she wants to delve deeper into the topic without being directly flooded with too much detailed information. Animations, videos, maps and images can be opened in full-screen mode or zoomed in. The content was edited with common Adobe programs like Photoshop or Illustrator, which were then transformed into moving graphics with Animate. The website itself was created with the platform WIX.de.

Conclusion

In summary, a website was created that provides a clear, quick view of power plants, their mode of operation, plant typologies and their associated health risk factors in a bundled form. The particular challenge was to collect and present the huge amount of information in a compact, condensed and targeted manner. The long-term goal was to create awareness about conventional and renewable energies and their health risks for humans and the environment.

Online
https://docomomothowl.wixsite.com/kraftwerke

Figure 1:
Homeseite Website - authors
Figure 2:
Standbild Zeitraffervideo - Kraftwerke im Laufe der Zeit - authors
Figure 3:
Übersichtskarte aller Kraftwerke im Jahre 2000 - authors
Figure 4:
Übersicht - Gesundheitsrisiken durch Kohlekraftwerke - authors
Figure 5:
Übersicht - Gesundheitsrisiken durch erneuerbare Energien - authors
Figure 6:
Piktogramme Kraftwerke - authors

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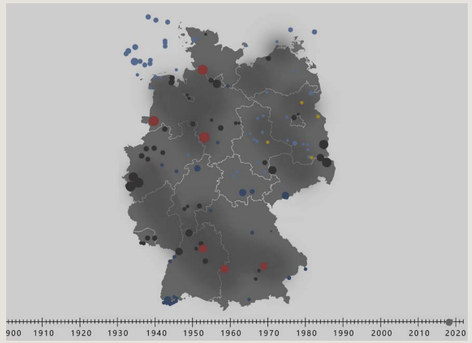


Figure 2

Power plants over time

Overview of all power plants 2000

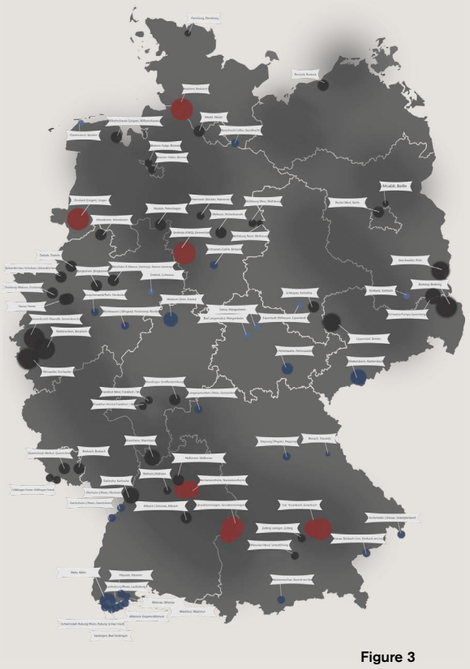


Figure 3

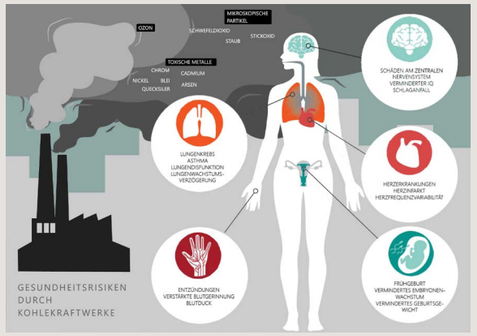


Figure 4

Health risks from coal-fired power plants

Health risks from renewable energies

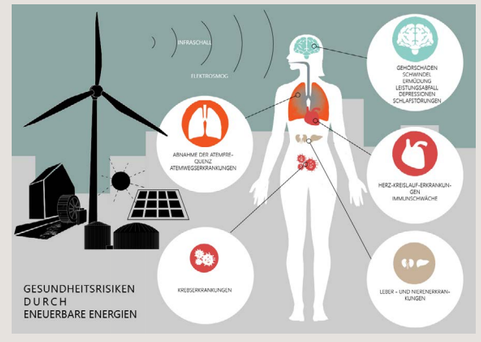


Figure 5

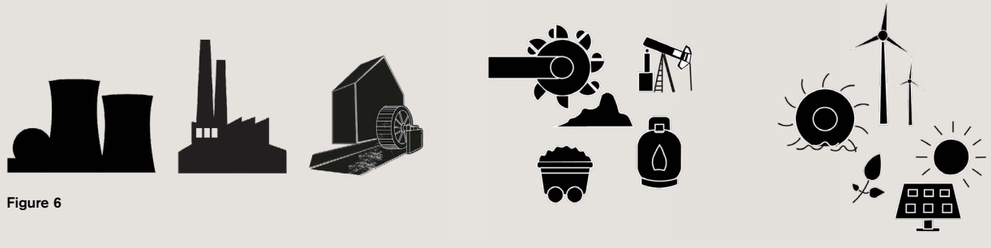
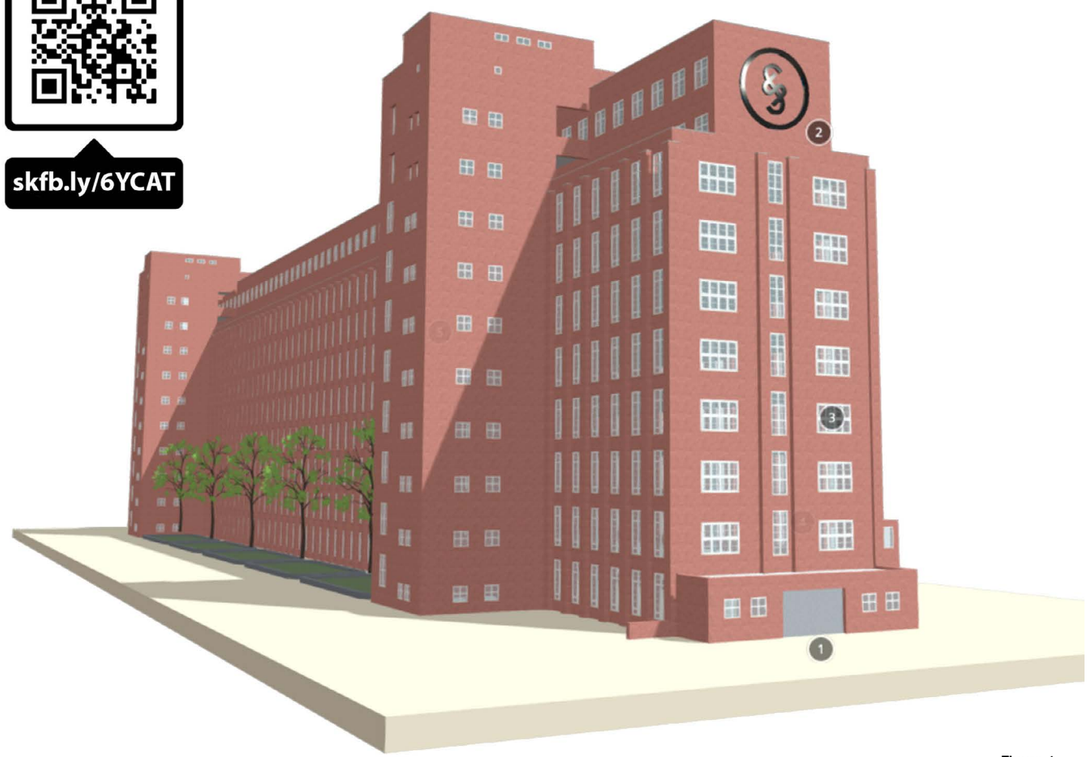


Figure 6

CORPORATE ARCHITECTURE

MANUEL HARDER, ANGELINA OBERWITTLER
& TATIANA ZUCHOWSKA

skfb.ly/6YCAn



skfb.ly/6YCAT

Figure 1

Idea

In the course of industrialization and rapid electrification, identity-creating, concisely designed buildings were created with clear design principles and a high recognition value. For example, the names „Siemens“ or „AEG“ have long been associated not only with technology companies, but also with impressive factory buildings and representative administrative buildings. For the digital exhibition presented at the 18th Docomomo conference 2021 with the theme „Modern Movement: Infrastructure“, selected aspects of corporate architecture - i.e. the communication of a brand message via architecture - will be analyzed. The preceding scientific contributions about continuity of use of modern buildings in Berlin [1] and the development of electricity in Germany [2] served as the basis to determine the focus of this exhibit.

Methods and tools

Based on the book „Elektropolis Berlin“ [3] and architectural planning documents [4-6], two historic buildings, the “AEG Turbinenfabrik” (turbine factory hall) and the “Siemens Schaltwerk-Hochhaus” (high-rise factory for switching devices), were compared. Both factory buildings were built almost simultaneously in Berlin in the years 1909 and 1926 and can be seen as examples for the architectural identities of Siemens and AEG.

The exhibition on this topic takes place exclusively digitally, in the form of an interactive website (WIX). Through different presentation techniques the visitor of the website can decide for himself how much he wants to deal with the topic. This is why we work not only with simple images and texts, but also with architectural plans. Furthermore, the buildings are available as 3D models (Sketchfab), which were recreated based on historical images using CAD software (Archicad). For a better understanding of the outer shape and construction, they can be considered individually. Corporate architecture is by no means a phenomenon of modernity. Identity-creating buildings have been designed for thousands of years and the communication and control of external and internal perception will continue to be relevant in the future. It is obvious or sign-like and subtle.

Outlook

The digital exhibition offers both laymen and architects an introduction to this highly complex topic. In view of the global pandemic and the associated limitations, the preparation of the exhibition became a challenge on the one hand, on the other hand, new options for dealing with digital techniques were opened up. The digital processing of architectural content, in the form of websites, Apps, films or VR, is an enrichment thanks to its versatile presentation possibilities as well as worldwide access.

Online
https://docomomofactories.wixsite.com/corporate

Figure 1:
Interactive 3D-models - authors
Figure 2:
AEG Turbinenfabrik, plans - authors
Figure 3:
Siemens Schwaltwerk-Hochhaus, plans - authors

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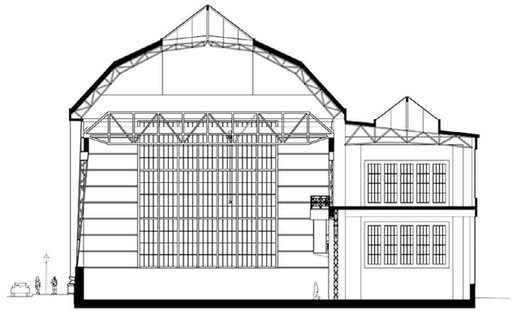
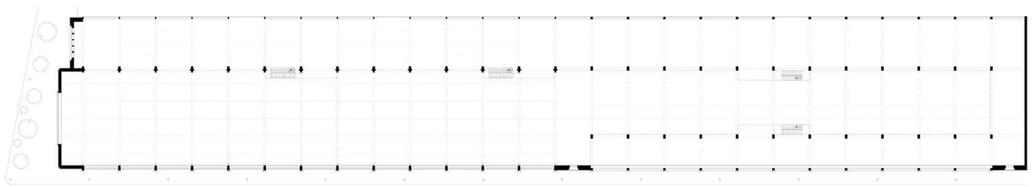




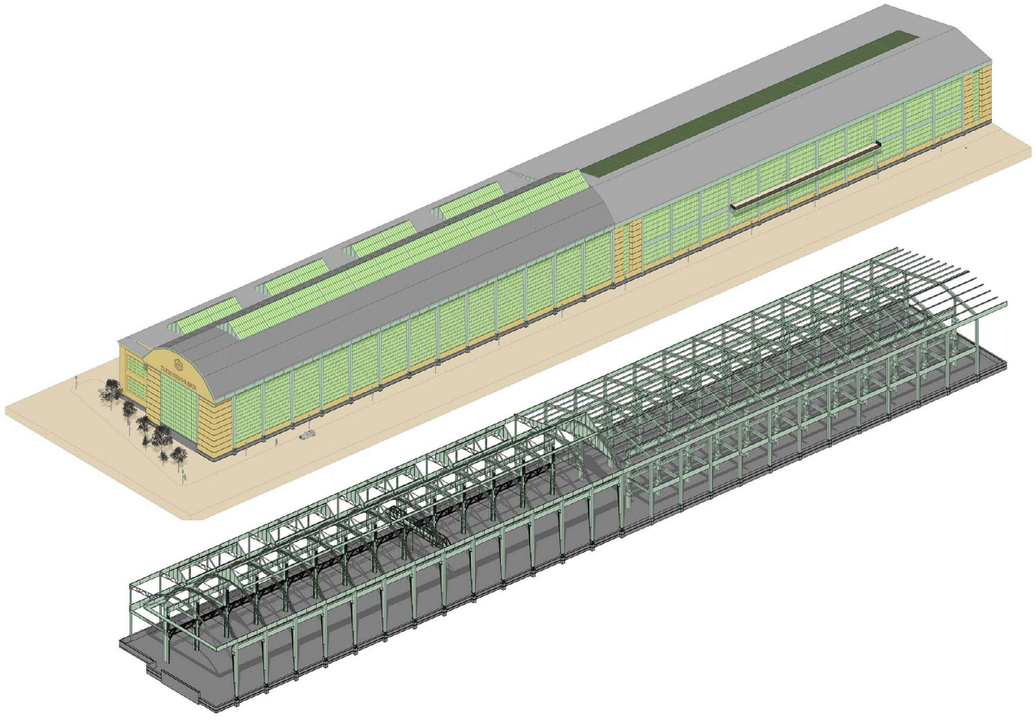
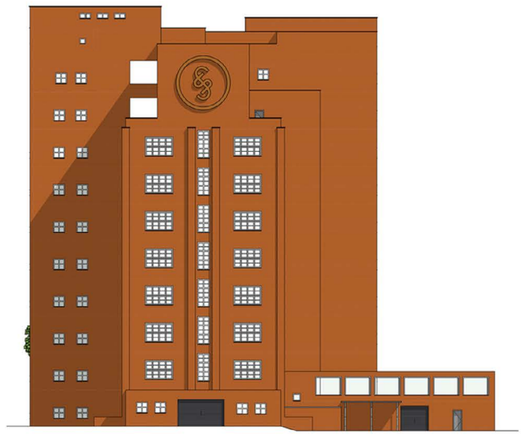
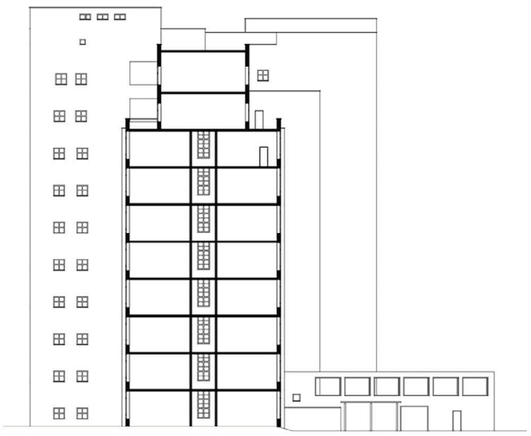


Figure 2





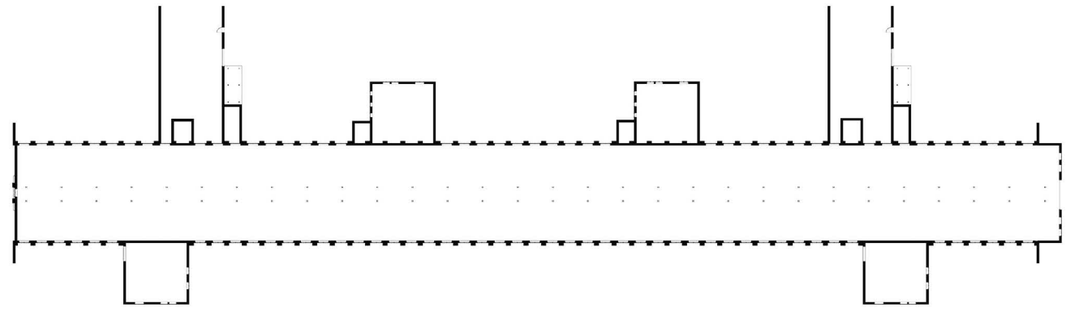


Figure 3

Kitchen in Detmold

SCAN ME

https://skfb.ly/6XuDN

Kitchen in Frankfurt

SCAN ME

https://skfb.ly/6XuDN

Figure 1

THE FRANKFURT KITCHEN VIRTUAL EXPERIENCE

CHRISTIAN SIEBJE, FERNANDA GRACIANO & YASSMEEN SAKR

Idea

The Frankfurt kitchen is the „Mother" of fitted kitchens! As early as 1926, Its "inventor" Margarete Schütte-Lihotzky (1897-2000), the Viennese architect, was appointed by the city planner Ernst May in the "Typisierung" department of the city's building construction office to optimize work processes in the kitchen. [2] The kitchen is one of the most famous types of kitchen in cultural history and is one of the key representatives of the pioneering life reform of classic modernism. [3] The history of design finds the first implementation of an ergonomically designed interior concept in the Frankfurt kitchen.

Methods and Tools

In the context of Integrating the well-known Frankfurt Kitchen for an immersive AR or VR experience, our Group was inspired by presential visits to both the only restored copy at its original location the ‚Ernst- May- Haus Frankfurt am Main', and the Installation of the Frankfurt kitchen at the Technische Hochschule Ostwestfalen-Lippe, Detmold campus. Detmold campus was where the notation and measurements were taken to model the kitchen´s layout in a 3D environment, allowing users virtual access to explore the kitchen and its features.

The user's experience starts with a link or QR code, where the user can open on the PC or phone and the kitchen appears automatically on the screen. For computers and mobile users, the kitchen can be explored freely by moving and clicking the cursor. While the user interacts with the model, he/she can click on the 10 annotations at disposal, to see real images/animations of the kitchen working and some more in-depth explanations of the features. For an even more immersive and sensorial experience, a soundtrack is provided along with the animation of moving kitchen parts, which can help the user to find all the hidden features and explore it in a sequence (which for each one takes no longer than 2 minutes).

Moreover, for mobile users an additional feature is embedded in the hosting site. The whole experience can be done in AR or VR, with the use of glasses or even just using the camera of the mobile device and its screen while exploring the kitchen.

Outlook

The Frankfurt Kitchen was innovative in all aspects. The models showed the consistency of spatial and functional ergonomic by integrating and remodeling the kitchen layout dimensions and details in a 3D environment. Our Group is offering users the ability to move freely around or inside the Frankfurt kitchen 3D scene using mouse, touch manipulation, also where viewers can enable the VR mode to see the model in Virtual Reality headsets or the AR mode to insert the model within the real world via a mobile device.

Online
Kitchen in Detmold
https://skfb.ly/6XuDN

Online
Kitchen in Frankfurt
https://skfb.ly/6YCyt

Figure 1:
AR visualization of the Frankfurt Kitchen in Detmold - authors
Figure 2:
SketchFab frame showing the upper cupboard from the Frankfurt Kitchen in Detmold - authors
Figure 3:
3Ds Max frame showing the animation process of the cupboard from the Frankfurt Kitchen in Detmold - authors
Figure 4:
Sketchfab frame showing the ironing board pop up from the Frankfurt Kitchen in Detmold - authors
Figure 5:
Sketchfab frame with pop up from the wood drawers from the Frankfurt Kitchen at the Ersnt-May House - authors
Figure 6:
3Ds Max frame showing the animation process of the Schütten from the Frankfurt Kitchen at the Ersnt-May House - authors
Figure 7: Sketchfab frame with pop up from the large cupboard from the Frankfurt Kitchen at the Ersnt-May House - authors

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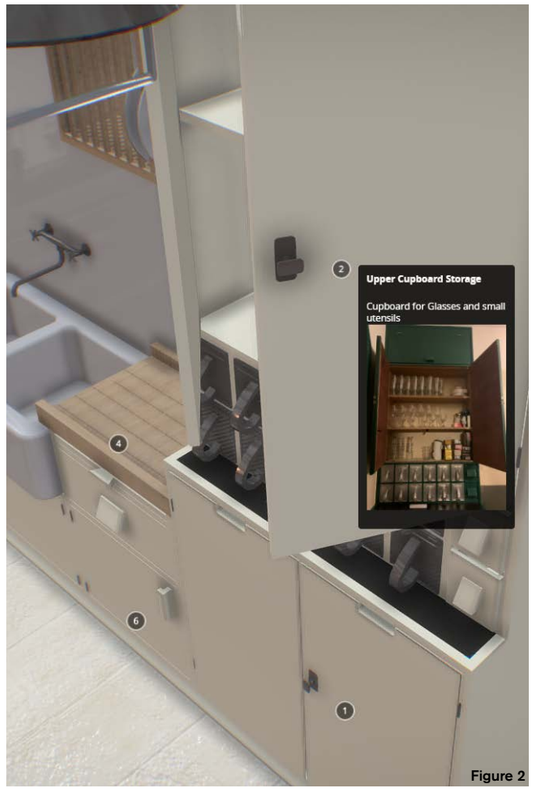

Figure 2

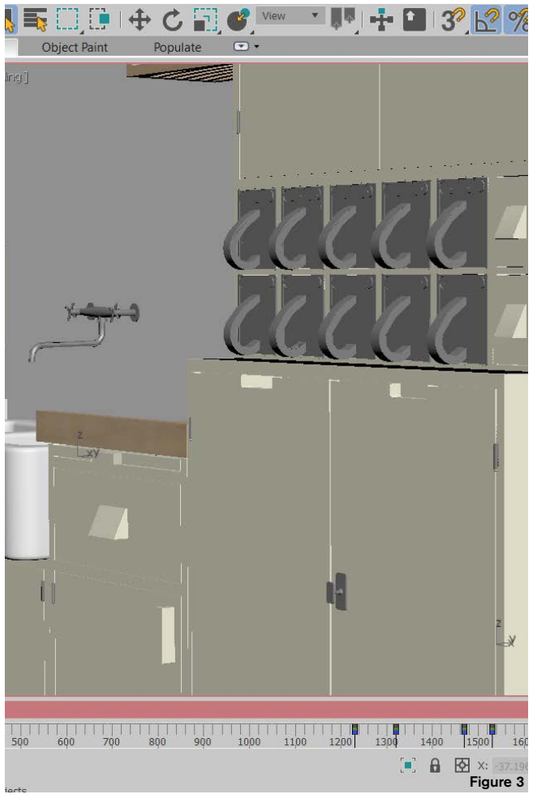

Figure 3

Figure 5

Figure 6

Figure 4

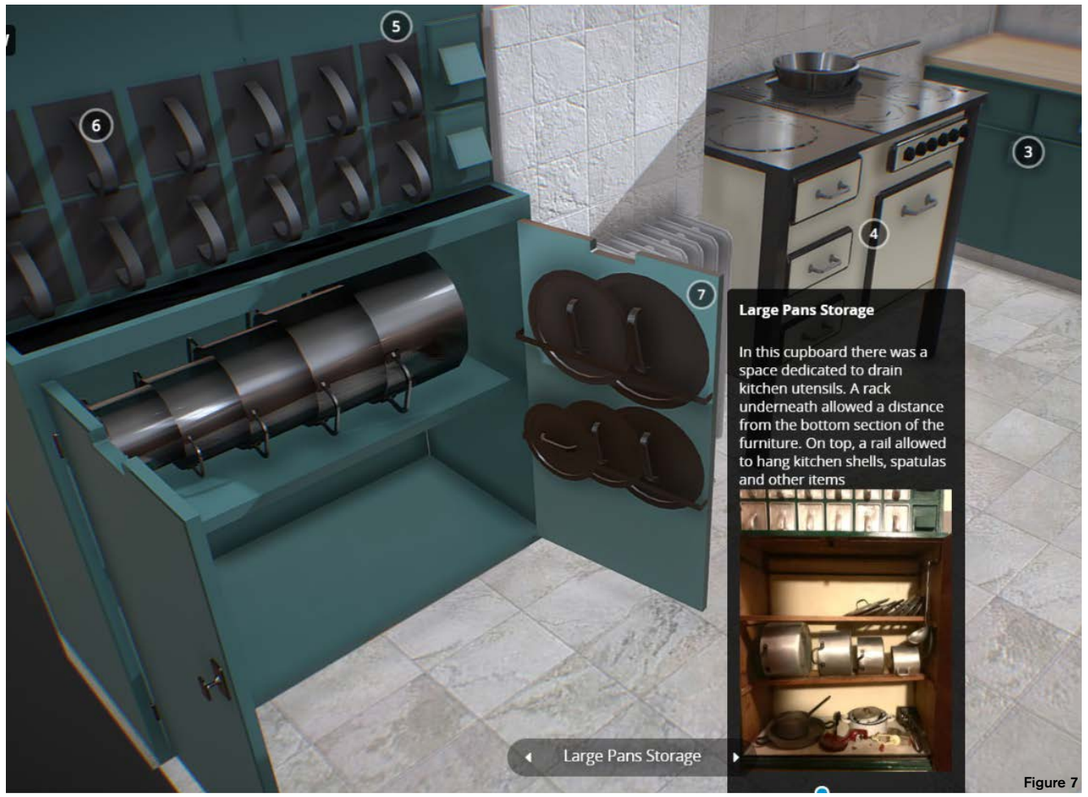

Figure 7

Figure 1

ADAPTIVE REUSE OF OLD ELECTRICITY AMMAN HANGAR EXHIBITION (VR)

ABDULLAH ABUJRAIBAN & ADEL ABDEL JABAR

Idea

Amman Exhibition has started as a students' projects collaboration between Jordan and Germany, within the Detmold Campus (MID & MIAD). The idea was to create a virtual reality museum, which users can control and chose to have a new experience by using two different options: 360° and 3D representations. By reusing one of the historical hangars, in Amman -Jordan, we enhanced an old building, which was not in use anymore.

The VR exhibition revives Amman's heritage and modernity with its industrial facilities and architecture. It will express Amman's heritage from the modern period (1917-1956) to contemporary days. Also, will allow to have new and diverse experiences in modern and contemporary arts and designs. The aims of the project are, to preserve the Amman Electricity Hangar and to adapt it into a contemporary public space. Amman hangar can also host socio-cultural and art-related events that can cover various projects by using new technologies. This will preserve old structures, which are structurally unsafe and usually abandoned.

Methods and Tools

From the practice in building virtual worlds, the hangar was first modelled on 3DsMax. The posters, diagrams, images and details of the students' projects from Detmold and Amman, were then inserted as geometrical shapes inside the model. This allows to represent their work in the form of a digital exhibition. Therefore, the user can have the feeling of being inside a real exhibition with the use of Virtual Reality (VR). Afterwards, the complete file was exported as a different format that was later imported onto the VR software SimLab.

SimLab is a VR software that was provided by a Jordanian company. This software has many features that can help integrate the 3D model from 3DsMax according to the standards of VR.

In addition to that, this VR software provides a link to explore the exhibition and create an interaction between the users and the exhibition's environment that could be controlled through the application. Moreover, users can leave their written or recorded comments for each project so that an interaction can be made.

Outlook

It is expected for Virtual Reality to become one of the technologies with the highest growth potential in future. The way in which users interact with VR has changed after the global pandemic crisis. This provides an overview on how VR can revive the old and heritage buildings virtually which can indirectly give people a new vision on how those buildings should be maintained and renovated instead of being abandoned.

Lastly, it is believed to have an interactive environment that can be created through the progress of the VR. In the future, this may develop to include the five senses of human.

Online
https://cutt.ly/UkpHTcP
https://cutt.ly/IkpHLGP

Figure 1:
Amman hangar exhibition (VR) - authors
Figure 2:
Ground floor plan of Amman hangar exhibition - authors
Figure 3:
Perspective of Amman hangar exhibition - authors
Figure 4:
Main elevation of Amman hangar exhibition - authors
Figure 5:
Electricity hangar in Amman before the renovation – TURATH
Figure 6:
Collage of projects presented at the exhibition – Besan Abu Dayah and MIAD

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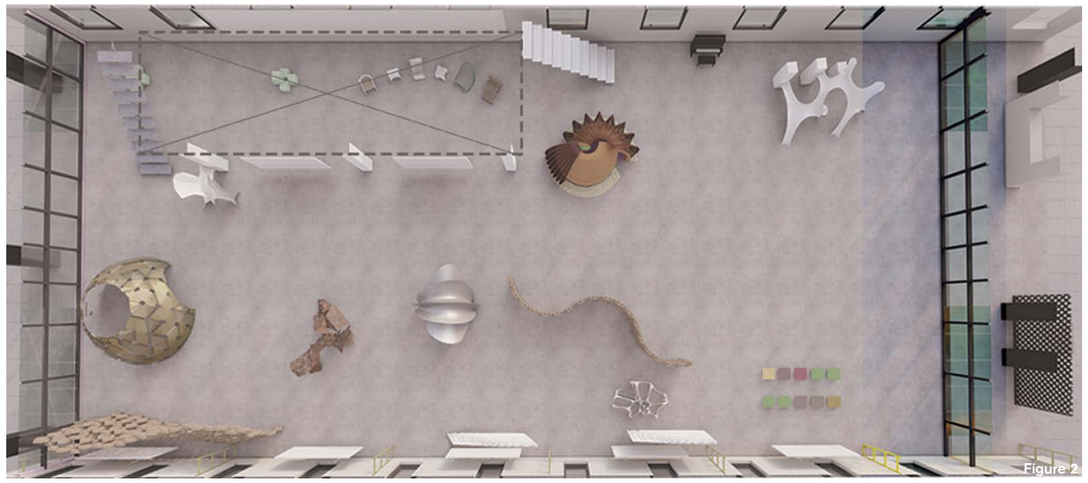
Figure 2


Figure 3


Figure 4


Figure 5

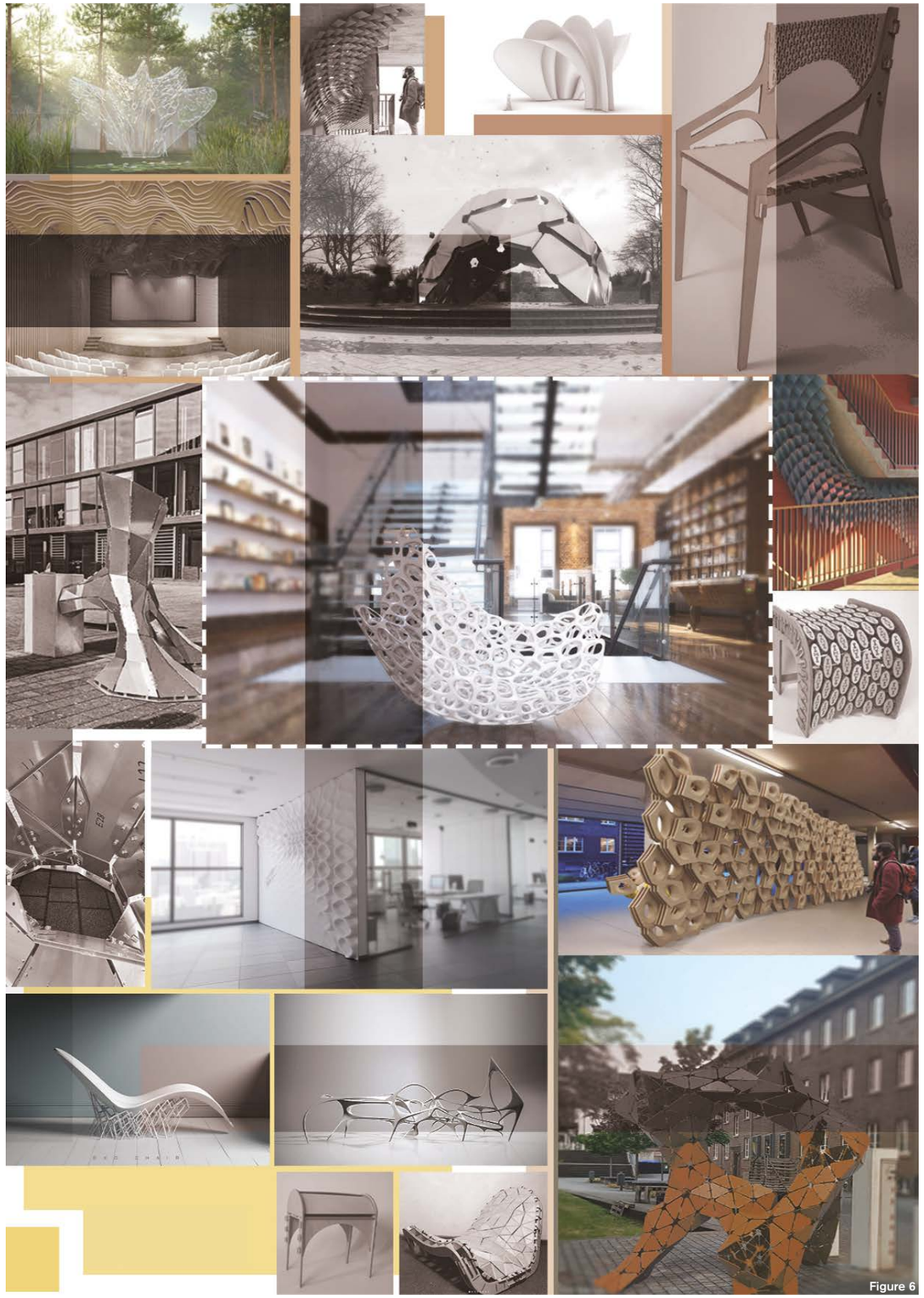
Figure 6

Figure 1

ART & TECHNOLOGY
ONE UNIT BAUHAUS WITH A DIFFERENCE

SARAH BORGSTEDT, KIMBERLY WILDHAGE & JULA JASPER

Idea

„Art and technology - a new unit" describes the concept introduced by Walter Gropius at the Bauhaus. This motto can be found in many points: light fixtures, heaters and other technical installations are presented as art objects. As part of the master module C5 Conference and Communication and the Docomomo Germany conference on the topic of „Modern Architecture and Infrastructure", we took a closer look at the supply technology in the Bauhaus Dessau and developed an App that informs visitors about this in a tangible way.

Methods and Tools

In the previous master module C4 Theory, Research and Scientific Work, the authors dealt with three different and individual topics: the construction system „Dom-Ino", transferred to residential construction and supply technology, a comparison of air curtain systems and vestibules in terms of efficiency and influencing factors, and a comparison of biomass and wind energy systems. We have retained this variation of the examined aspects in the developed App. Aspects of lighting and heating systems, windows and pipes have been examined.

Since the Docomomo conference takes place in the Bauhaus Dessau, it made sense for us to look at the supply technologies there and to involve the visitor directly. A total of eight QR codes are distributed throughout the Bauhaus building. To call up information on the aforementioned aspects via a mobile device, the QR code is scanned and the visitor is taken directly to the page with the relevant information on this topic. There is also a comparison between then and now. Since the construction of the Bauhaus in 1925/26, there have been several small and big changes: in 1930 the studios were converted into classrooms, in 1945 the building was partially burned down after air raids and only rebuilt in a simplified manner. In 1976, the first attempt was made to restore the original appearance, until the Bauhaus was repaired and restored from 1996 to 2006 based on plans and findings from the 1920s. The last repair work was completed in 2009, including the new electrification of the building. The effects of changing times on supply technology are illustrated in a graphic way. The information is supplemented by current floor plans from 1926, as well as plans for the current lighting and radiators.

The program Adobe XD was used to design the App and to generate the QR codes. At this point we would also like to thank Monika Markgraf, research assistant for building research and monument preservation at the Bauhaus Dessau. Thanks to joint discussions, we obtained a great deal of information.

Outlook

Find out more about the supply technology at the Bauhaus Dessau in our „Art and technology - a new unit" App. Even if you are not on site, you can use the current floor plans to get to the individual points. Simply scan the QR code or use the link below. Enjoy!

For copyright reasons the link to the app cannot be shared.

Figure 1:
Cover Page of our App - authors
Figure 2:
Instruction of our App, QR Code leads to our App - authors

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Figure 2

Figure 3

Figure 1

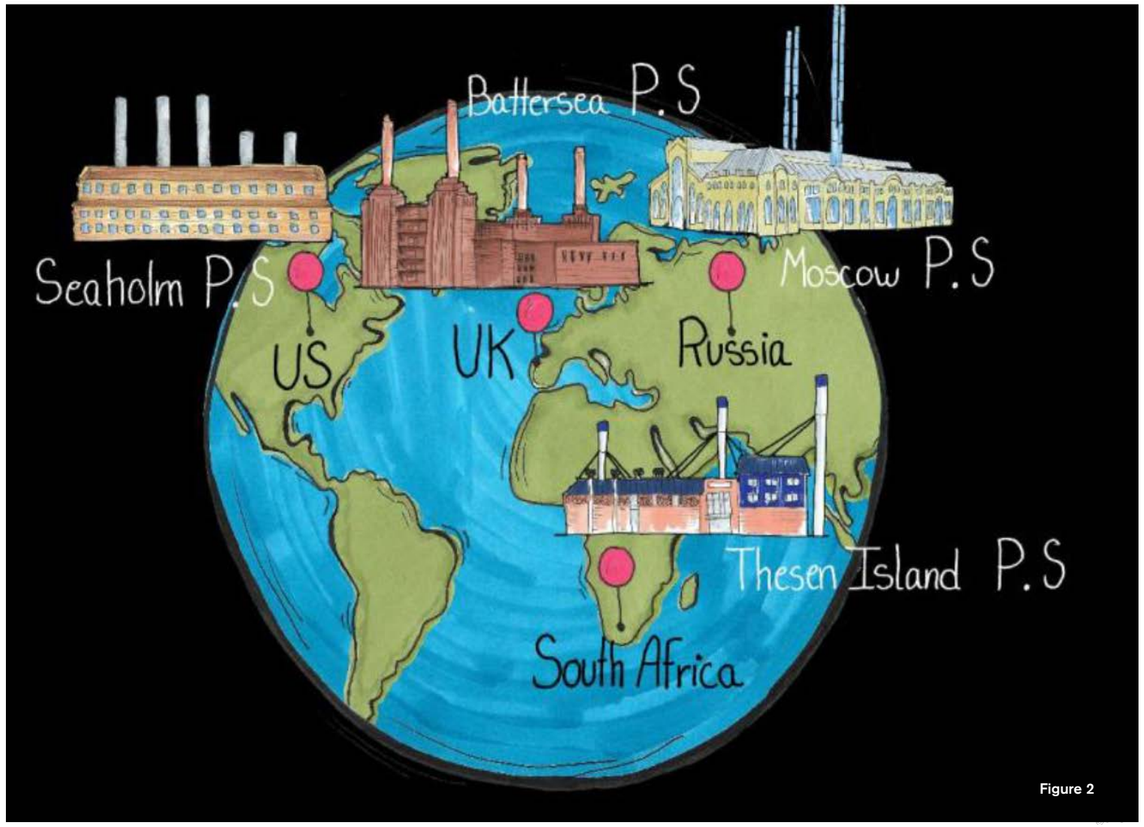

Figure 2

THE ADAPTIVE REUSE OF POWER STATIONS AS A PART OF THE 2030 GREEN NEW DEAL

DIMA OTHMAN, RANIM ISMAIL & OJASVEE KHARE

Idea

In the race for new development, the rich architectural history of our cities is being forgotten. Buildings should be considered as having more than a single life span attached to their original purpose, and not as redundant. The adaptive reuse, as a part of the '2030 Green New Deal', combines three topics previously studied in the theory and scientific methods module: adaptive reuse of the power stations, material reuse and geothermal energy use. The topic was narrowed down by focusing on the adaptive reuse of power stations, which combines reusing materials and geothermal system integrating. The research shows the previous role of these power stations in cities, the development of these buildings, and the reason of leaving them behind with no function. Adaptive reuse could take a part in the '2030 Green New Deal' by extending a facility's life and reducing its carbon footprint. Simultaneously, it could also help preserve important heritage values that define our cultural development over time, thereby achieving the main pillars of this deal.

Methods and Tools

To achieve our goal, a qualitative research approach was conducted. First, we investigate the concepts of, Green New Deal pillars, the role of power stations in electrification, and historical power station adaptive reuse through a literature review. Secondly, three case studies were analysed to explain the role of adaptive reuse towards achieving the main pillars of the '2030 Green New Deal'. The results show a clear comparison between three LEED certified case studies located in the US (Ambler boiler station, baily power plant, and Seaholm power plant). We chose to graphically represent this comparison in a poster (designed with Adobe Photoshop software). Moreover, we created a short stop motion animation with hand-drawing to present the importance of adaptive reuse and its role in achieving the 2030 Green New Deal [1].

Almost 2000 images and drawings were used to create the stop motion animation, using the software 'Video Editor' and 'Wondershare Video Editor'. The team developed and wrote the storyline with the help of different scientific resources. The goal was to clarify four main points: 1) The role of the power stations adaptive reuse in the Green New Deal main pillars, 2) The history of power stations development, 3) The importance of these power stations during the 18th century, 4) The main reasons for leaving these buildings abandoned and demonstrating a successful case study which received LEED Certification for adaptive reuse. The hand-drawings were created as a series of frames in 'Photoshop' and finally combined altogether in the video editor software.

Outlook

As young architects we will continue our path and make the sustainable reuse of power stations a key aspect for the '2030 Green New Deal'. We hope other architects will see this as a future goal, respecting these buildings' social, cultural and environmental role.

Online
https://vimeo.com/515228790/37b2c5f41c

Figure 1:
Animation Hand sketches - authors
Figure 2:
Adaptively reused power stations - authors
Figure 3:
First Electrical Railyway - authors
Figure 4:
Electrical grid extension 1930 - authors
Figure 5:
Ambler Boiler House - authors
Figure 6:
Ambler Boiler House - authors

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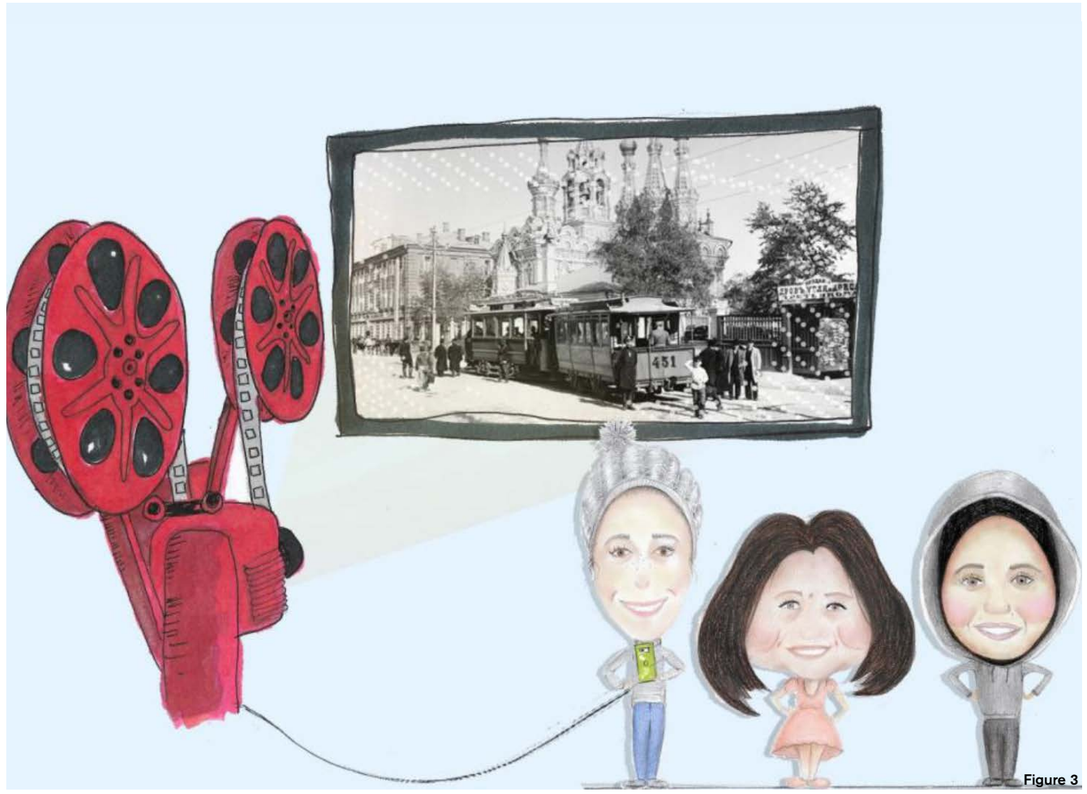

Figure 3

Figure 4

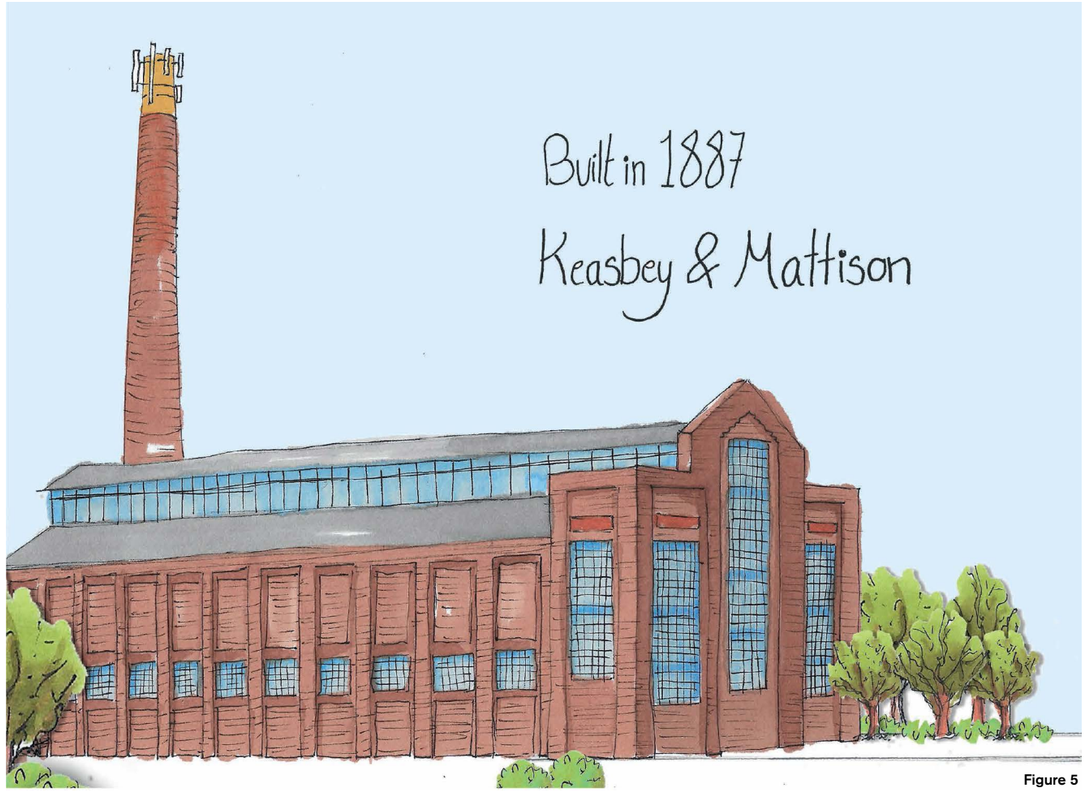

Figure 5

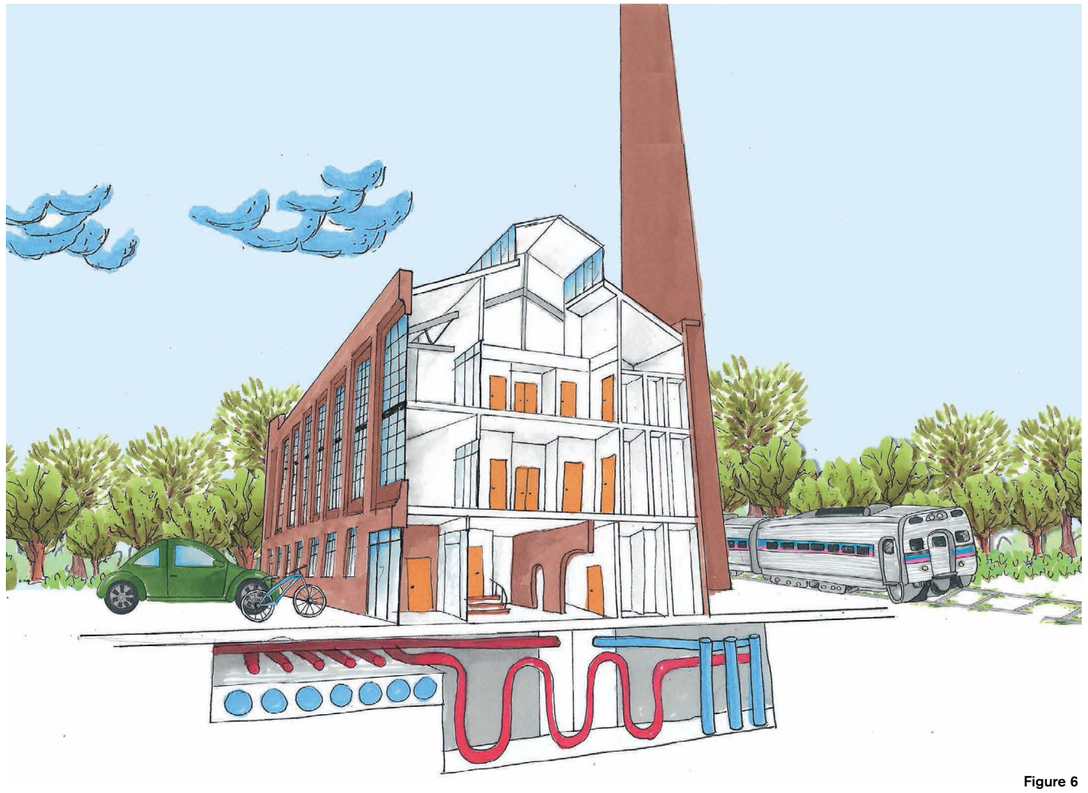

Figure 6

THE LITTLE STORY OF THE GAS STATION

RUTH VON BORSTEL

Figure 1

Idea

In August 1888 Bertha Benz undertook the first long-distance journey in the world with the invention of her husband Carl Benz, thus initiating the triumphal march of the automobile. As a result of the increasing number of cars, the supply logistic also played an ever-increasing role. Initially, gasoline was sold in gasoline cans by pharmacies and colonial goods dealers. The first pumping stations soon followed, later also tank kiosks. But only 40 years after Bertha Benz's long-distance journey the gas station took the shape we know today, equipped with an entrance and exit, and a small building for the tank attendant and the customers, a tank island with fuel pumps and a roof mounted on pillars. It was conspicuously illuminated and offered space for large advertising elements. But how did this happen and what influenced the typology of the gas station?

Methods and tools

During my research on gas stations, it was noticeable how little attention these utilities received and how unpopular they are with many people today, even though we visit them so often. That is why I am concerned to convey the subject in a way that is as accessible as possible for many people and target groups. The exhibit is intended to arouse interest and best address people who are not interested in petrol stations. Based on these specifications, I decided to make a cartoon about the evolution of the gas station. Not only own drawings with motifs from selected decades, but also photos of the building fabric were used. To create fine and flowing movements in images, I used Adobe After Effects. Before the creation phase several videos which used Adobe After Effects to create moving images with a certain depth were analyzed. Other video programs evaluated before have not offered this option. The depth can be created by working on different levels and gives the drawings a touch of three-dimensionality. Drawn persons get a charming character through movements that they can now make. Pictures of buildings come alive through passing clouds in the background.

Conclusion

Choosing the scenes and reducing the evolution to a few film sequences was probably one of the biggest challenges. Editing the pictures was not always easy. But it gave me so much pleasure to look at a new scene and perfect small details that I rarely noticed how time passed. I think therein lies also the potential of the film, it is supposed to generate joy and almost by the way show a short version of the evolution. In addition, the deliberately open end of the film should make the audience think: What will the gas station of tomorrow look like? In times of energy transition, it is hard to rely on the typology of the gas station to remain the same.

Online
https://vimeo.com/515219581/05fab4fbd0

Figure 1:
Photograph of the Olex Tankkiosk at Raschplatz in Hanover (1923) https://upload.wikimedia.org/wikip edia/com¬mons/8/80/Conti_echo_2 3_olex_ers-te_tankstelle_hannover.jpg
Figure 2:
Petrol sale in a pharmacy around 1915. Image of the product
Figure 3:
The first brand-bound large filling station in Germany in Hamburg around 1927 - author
Figure 4:
Aerial view of the Rhynern motorway rest area around 1948. Hamm City Archives.
Figure 5:
Self-service filling station of the 1970s https://upload.wikimedia.org/wikipedia/commons/2/23/ Shell-Tankstelle_Franz_Lachmuth_ am_Knooper_Weg_Ecke_Olshausens¬tra%C3%9Fe_%28Kiel_51.253%29.jpg

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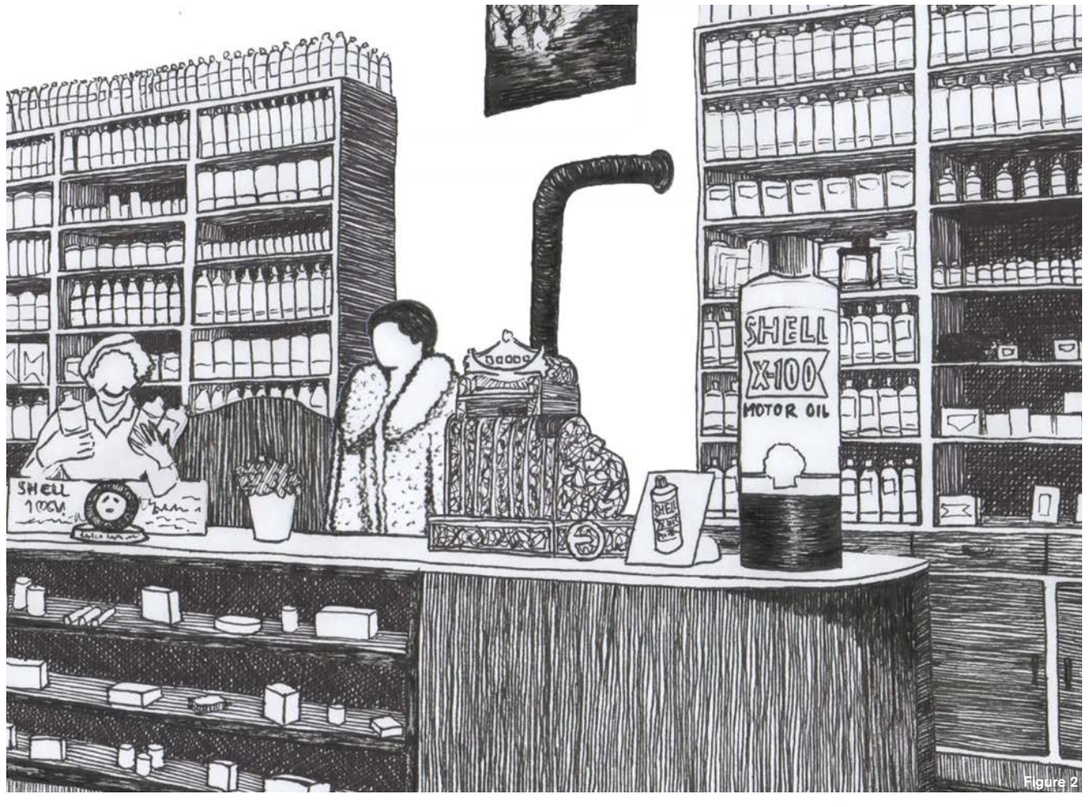

Figure 2

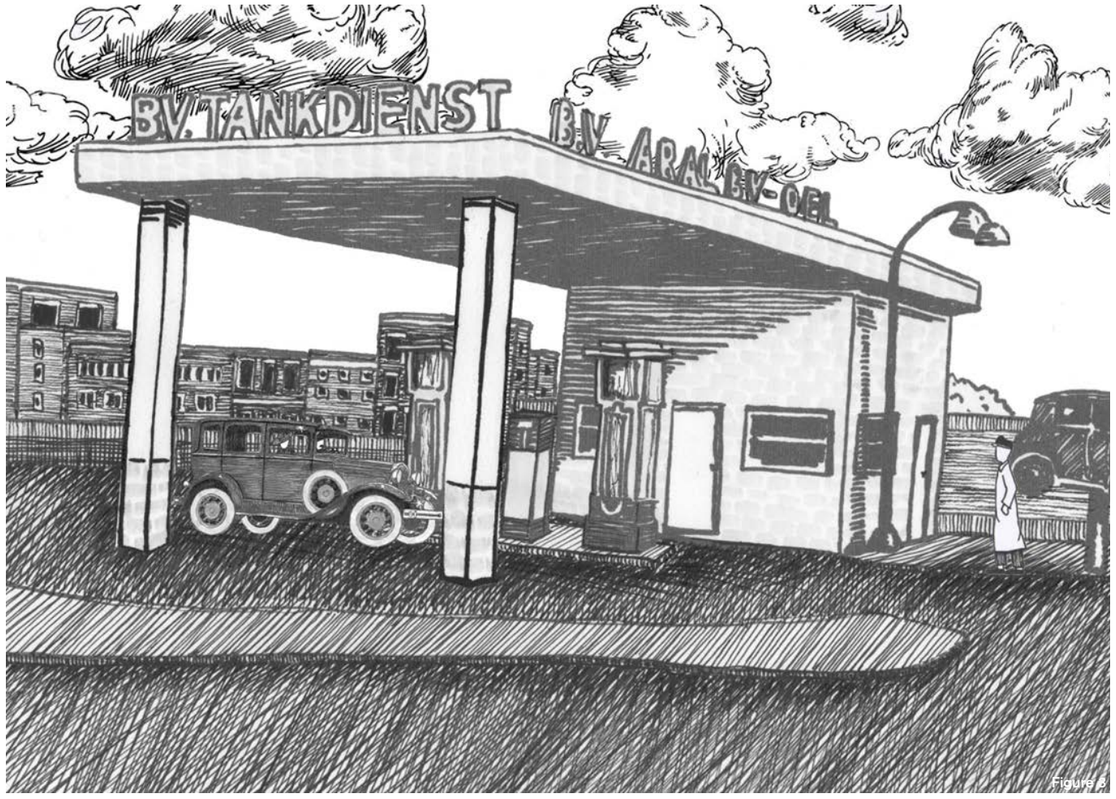

Figure 3

Figure 4

Figure 5

CITY COUNTRY INDUSTRY

LOUIS WANDERS & MARVIN DÜSTERHUS

Figure 1

Idea

Ostwestfalen-Lippe is an economically strong region, which is characterized above all by medium-sized companies. Urban development shows clear differences between the city and the countryside. In Bielefeld, the textile industry has settled in the inner city, while the kitchen production in the Verl district of Kaunitz has grown outside of the village center. The first film shows the interaction of industry with the city, respectively the countryside and infrastructure over decades in the macro perspective. A second film deals with the possibilities of industrial architecture to contribute to the society in a micro perspective. Here a historical factory building acts as positive example of re-use and appropriation by the citizens, while an existing industrial hall is examined for the potential of secondary use as a producer of renewable energies.

Methods and Tools

In order to gain a basic understanding of the development of Bielefeld's industry and infrastructure, historical aerial photographs, city maps and literature on Bielefeld's history were used. An interview was conducted with the company of Nobilia, who also provides plan material about the site development in Kaunitz, a district of Verl.

On the basis of this preparatory work, figure ground plans for the macro perspective were drawn in order to show the territorial developments and shifts within the urban, respectively village area. Analytically, the development of industry and infrastructure is revealed and correlations are shown. The frequency of the figure ground plans in the video depends on the available plan material on the one hand and on the scope of changes on the other. Periods of time during which only minor changes occured were therefore not taken into account. The figure ground plans were lined up and important locations were highlighted. This procedure was carried out first for the inner-city area of Bielefeld and then for the Verl district of Kaunitz. The different developments were compared and evaluated in one conclusion. The slides were finally put together and provided with a voice-over and music.

In the micro perspective, the Bielefeld industrial site of the Ravensberger Spinnerei was first analyzed and historical and structural developments were presented. The changes were followed and commented on in parallel in the site plan and perspective drawings. The information was retrieved from books on the history of the city Bielefeld as well as from websites about the city of Bielefeld and the Ravensberger Park. In a second step, the same procedure was carried out for the company site of Nobilia in Kaunitz. On the basis of the plans provided by Nobilia, the development of the company site was documented and presented in a scale comparison with the village center of Kaunitz. In the end, it was investigated whether the plant is suitable for a secondary use as a producer of renewable energies. In conclusion, the two industrial typologies examined were compared and evaluated for social value and sustainability. The slides were finally put together in a film and provided with a voice-over and music.

Outlook

This study is aimed at city planners, architects, companies and society to show that one can learn from historical urban industries. It encourages industrial areas to be integrated into the urban context as multifunctional urban elements, because when industry is multifunctional, it is sustainable and of social value.

Online
https://vimeo.com/515644757/6659e917e8

Online
https://vimeo.com/515644508

Figure 1:
Figure ground plans of Bielefeld and Kaunitz (2020) - authors
Figure 2:
Figure ground plans of Bielefeld (1895, 1978, 2020) and Kaunitz (1891, 1970, 2020) - authors
Figure 3:
Sketch of the Ravensberger Spinnerei - authors
Figure 4:
Sketch of the Nobilia plant II - authors

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Figure 2

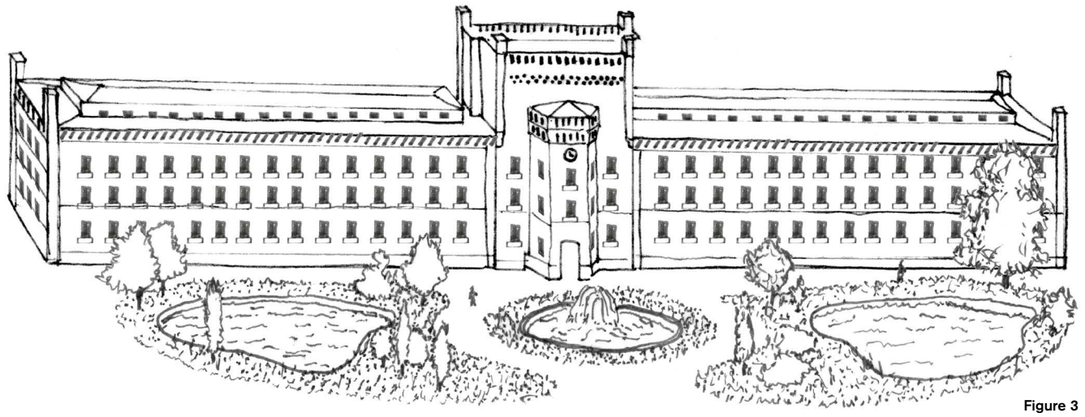

Figure 3

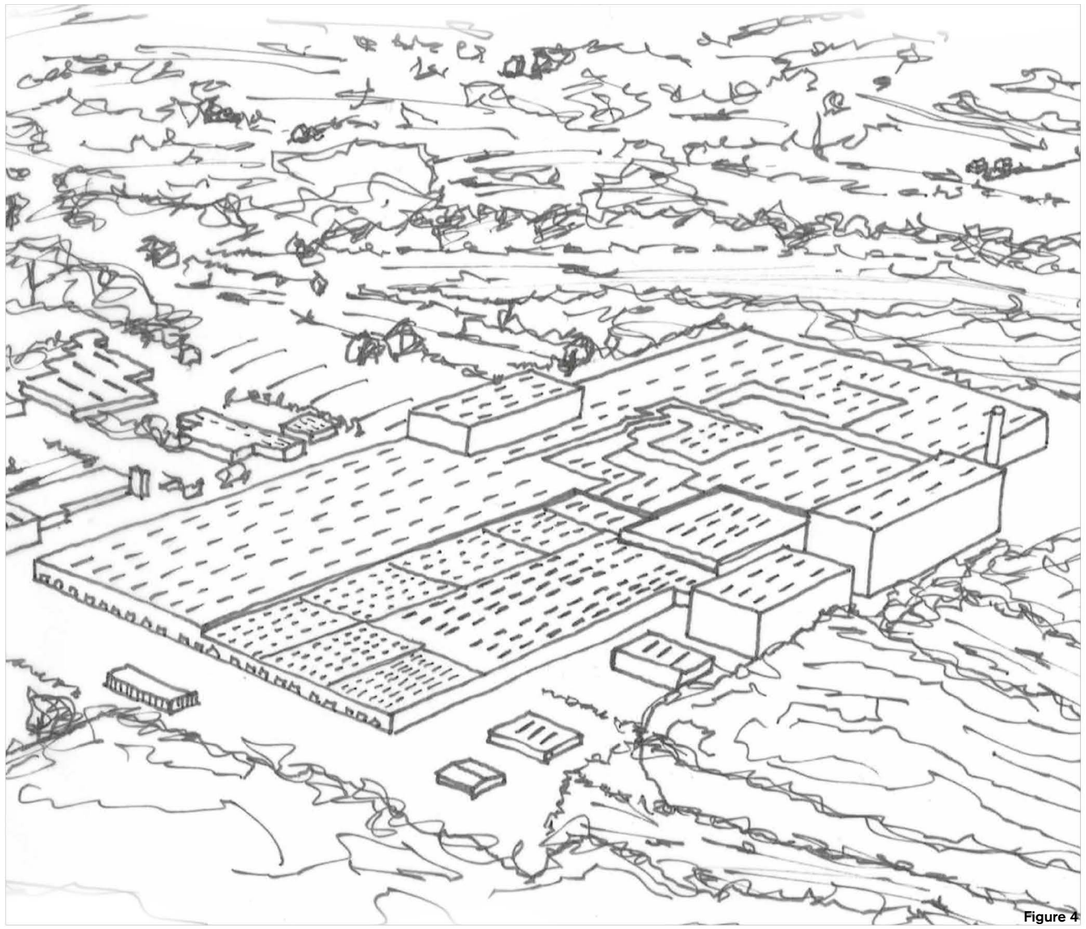

Figure 4

BEIRUT URBAN DEVELOPMENT

TAREK ELOROM

Figure 1

Beirut History

Beirut, the capital of Lebanon, is one of the oldest cities in the world and has been inhabited by different civilizations throughout history which led to a unique cultural diversity.

Beirut was home to the Phoenicians, Hellenistic, Romans, Byzantines, Arabs, Crusaders, Ottomans and French. Lebanon gained its independence in 1943 from the French and Beirut remained a regional intellectual capital and became a major touristic destination.

The train station in Beirut was a result of the industrial revolution where it was first used in 1895. Moreover, the port area started to expand gradually over the years creating a link between the port and the train station. This generated different job opportunities and people started to move to the city. In 1916, Armenian refugees were seeking shelter in this area and consequently, they started to develop their new lives which led to bigger Armenian generations over time. All those factors affected the area and consequently, it started to develop over the years as indicated in the maps. The Lebanese Civil War (1975-1990) resulted in severe damages and demolishing of many heritage and cultural buildings. Subsequently, the rebuilding of Beirut began which resulted in modern and contemporary architecture in Beirut. In August 2020, the explosion that hit Beirut destroyed several cultural buildings which were already preserved from the previous wars. This explosion was one of th biggest in history and had a severe impact on many architectural heritages and cultural landmarks in Beirut.

Methods and Tools

Video was used as a tool to explore the urban development of Beirut over the time. The video is composed of the maps that were drawn in AutoCAD and exported as PDF. The material was further edited in Adobe Photoshop. The final maps were then animated using Adobe After Effects to create the timeline history explaining the events that have happened over each interval.

The second part of the video shows the explosion's devastating effects over Beirut´s port and its surrounding areas through a professional drone pilot´s eyes in addition to satellite Images (Before and After) by © European Space Imaging

Outlook

Each interval of Beirut's history shaped what it is nowadays. Every civilization left an imprint whether it is social, architectural, or cultural. Even the explosion that destroyed the port and severely damaged the surrounding areas in August 2020 will have an impact on future urban development. The key for Beirut's urban development over the years lies between the layers of history which carry a rich and diverse impact. Whether it is a constructive event or a deconstructive one, this opens a different path for a new development in the future years. So, the questions that ought to be asked here are: How will Beirut grow in the future? And how will this explosion affect the existing urban fabric over the years?

Online
https://vimeo.com/515223237/73b5e98e9c

Figure 1:
Beirut Aerial View - Wikimeadia
Figure 2:
Beirut Maps in 1864, 1916, 1922, 1945, 1990 & 2003 - author
Figure 3:
Traditional Building in Mar Mikhael - author
Figure 4:
Part of the Urban Fabric in Mar Mikhael - author

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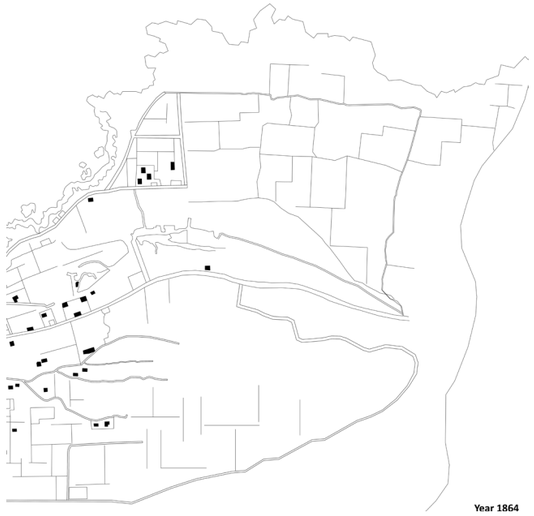
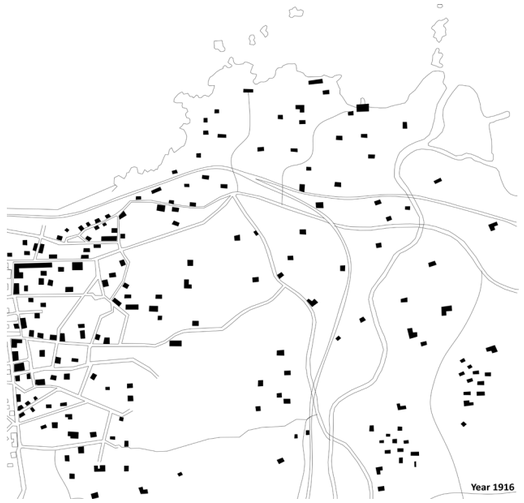


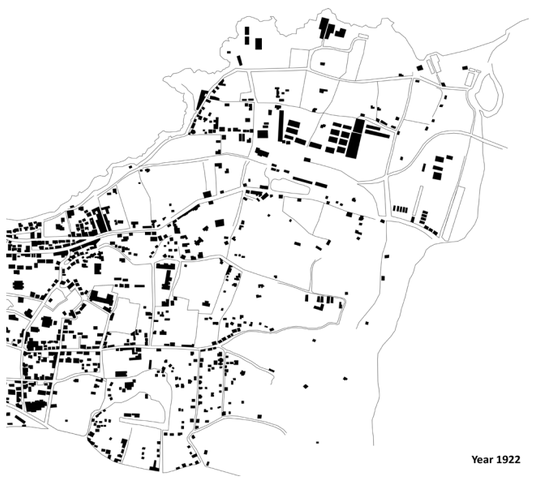
Year 1864

Year 1945



Year 1916

Year 1990



Year 1922

Year 2003

Figure 2

Figure 3

Figure 4

Figure 1

A BUILDING AND A COMMUNITY

DIELLZA KOLGECI, ESRA SADAGHIANI & ILYAS ABDELMOULA

Idea

The advent of electrical infrastructure, in early 20th century, introduced new typologies, while presented an adaptation challenge for other pre-existing ones. After our first individual research step, in which three case studies in distinct sites worldwide were explored (Kondovan troglodyte village, Iran; Cinema Nedjma, Casbah of Algiers, Algeria; Germia department store, Pristina, Kosovo), a thematic link started to emerge, paving the way to build a common exhibit.

All cases managed to fulfill a strong social role within their respective communities. Germia brought the department store and consumer culture in Pristina, while Cinema Nedjma established a popular cinephilia in the Casbah. As for Kandovan Village, its dwellers carried on centuries of unique lifestyle carved into the rock.

However, coming into today the image differs drastically, with Germia serving as an administrative asset, Nedjma being completely deserted, and Kandovan losing gradually its population. The persistent traits, in all cases, are both a lack of recognition of their unique values, and a weakened will to preserve their legacy. Hence the aim of the exhibit, which attempts to shade light on the former social roles of those cases. In the hope of raising awareness about them as a sample of a wider spectrum requiring urgent action.

Methods and Tools

The best media to tell our stories is short films. However, finding the balance between a compelling and an informative experience for the audience guided us towards the implementation of our videos with Augmented Reality. This animation has the feature of spatial depth, which can be explored using smartphones or tablets.

Among several platforms, 'Artivive' has presented the perfect tool for us since it is aimed at augmenting still objects. Pointing a device at an artwork launches its augmented reality associated animation.

We built our exhibit as a series of three short films, each with its associated scannable illustration. For that, conventional video editing tools were used (e.g., Premiere Pro, DaVinci Resolve), while considering that a timeline is no more a two-dimensional sequence, but rather one with several spatial depth layers, which will grant it its three-dimensional appearance.

To visualize the films, please refer to figure 1 (QR codes) in order to install the app 'Artivive'. Once you launch the app, point your smartphone/tablet at each of the figures 2, 3 and 4. The full experience of the online exhibit can also be accessed through the link bellow.

Outlook

For this exhibit, we tried to use a nostalgic tone to convey the message. However, from a practical standpoint, raising awareness is only a step to bring these issues into the open. As official recognition and effective action should be the ultimate target. From a research perspective, while the chosen cases demonstrate the struggle to keep the relevance of their former social role, a further step would be to investigate reuse strategies adapted to their local context.

Storytelling through Augmented Reality films can indeed be used in heritage context, however its reliance on external resources and devices makes its usage limited in terms of content duration, which should remain short.

Online
https://prezi.com/view/C8CZGiSoYBc21QfUReIn/

Figure 1:
Caption and source. Demonstration of Artivive app - Diellza Kolgeci
Figure 2:
'Germia, A Fading Memory' [film length: 02:37] - Diellza Kolgeci
Figure 3:
'Kandovan Village' [film length: 2:34] - Esra Sadaghiani
Figure 4:
'Cinema, The Forgotten Cinema' [film length: 3:13] - Ilyas Abdelmoula

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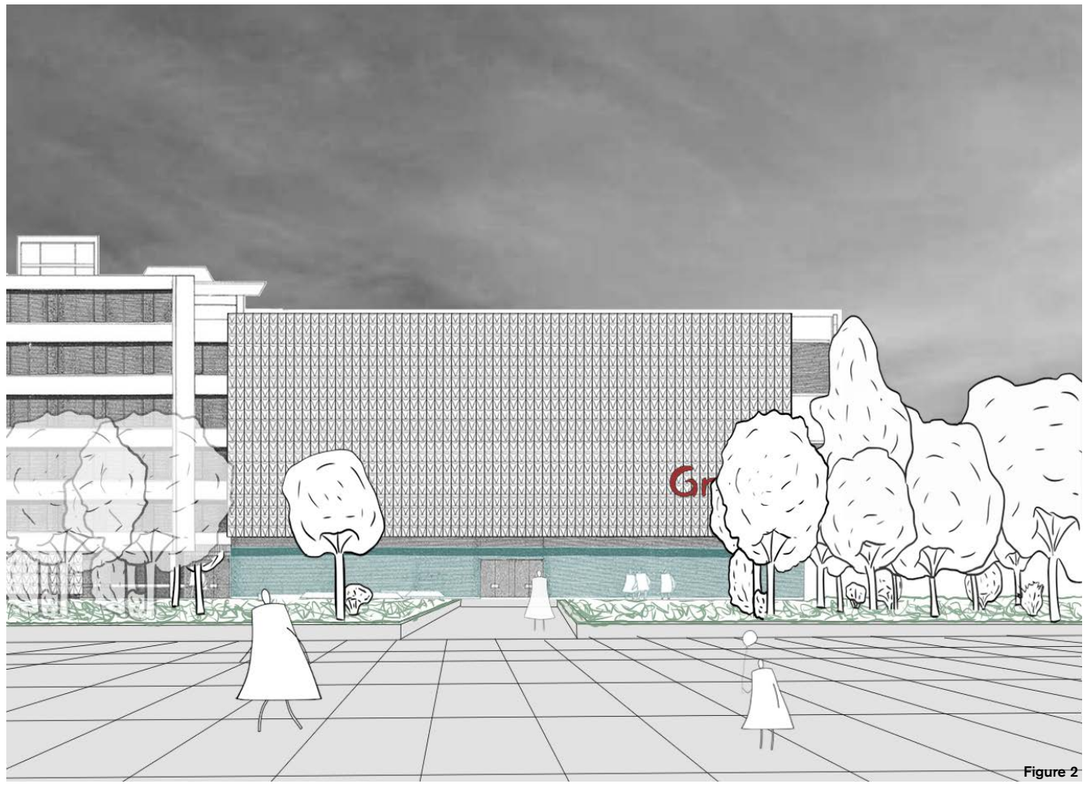

Figure 2

Figure 3

Figure 4

FACADE INNOVATIONS FABRICATION AND FUNCTION

AVINASH NAIR, ABHINAY KUMAR, VINAY TIRUVEEDULA & ENRIQUE ANGULO

Figure 1

Idea

The process of globalization allows a cultural exchange between the diversity of modern movement architecture all over the world, especially when it comes to building facades. This exhibit, focuses on the facade innovation of the 20th century aiming to show their resilience and adaptability.

The 20th century was a period of many developments that shaped modern architecture, among those the development of assembly lines and HVAC systems. These innovations quickly spread globally and changed the way facades were designed and fabricated. [1]

However, these innovations bring problems, the use of mechanical air conditioning increase the number of hermetic and isolated buildings, that consumes a lot of energy. Since the energy crisis of the 1970s, a sustainable architecture movement dominated architect's thought, realizing that buildings should be environmentally relevant to their regions. [2]

Methods and Tools

The exhibit is targeting Students, Architects, and Developers. It consists of different chapters that show the different architectural developments, especially focus on façades, around the world and their own process of modernity.

To present the content, a web page was developed, which compiles the information by texts, images, and narrated videos, linked all together with the location (World map). The themes analyze the background of design and fabrication of façades in different time periods and their application on relevant buildings.

Outlook

New architecture has a lot to learn from heritage, but purely traditional solutions seem quite difficult to apply and be accepted by contemporary architects.

Therefore, it is necessary to combine traditional knowledge and advanced technology.

The lack of properly documented and represented innovations and concepts, as well as their global exchange, hinters further development based on these techniques. Giving an insight to such examples in different parts of the world, provides a starting point for further research on practical guidelines for facade design. [3]

In the future, these basic concepts will allow expanding this first results, creating models and simulations where these different techniques will be evaluated together in different contexts, allowing to optimize the design and fabrication processes of facades, suitable for each context.

Online
https://docomomofacade.wixsite.com/exhibit

Figure 1:
Bauhaus Dessau may refer to window - Pixabay
Figure 3:
Bauhaus Dessau college, facade - Pixabay
Figure 4:
Windows Bauhaus Dessau Germany - Pixabay
Figure 5:
Rectorate building, shutters - authors

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Figure 3

Figure 4

Figure 5

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Regina Bittner (Dr. phil.) is head of the Academy of the Bauhaus Dessau Foundation (Germany) and responsible for the conception and teaching of the postgraduate programs for design, Bauhaus and architecture research. She has curated numerous exhibitions on the Bauhaus and the cultural history of modernism. Her main areas of work include: international architectural and urban research, modernism and migration, cultural history of modernism and heritage studies. The results of her research and teaching have been published in numerous publications. She studied cultural studies and art history at the University of Leipzig (Germany) and completed her doctorate at the Institute for European Ethnology at Humboldt University in Berlin (Germany). Since 2019 she has been Honorary Professor at the Institute for European Art History and Archaeologies at Martin Luther University Halle-Wittenberg (Germany).

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Evin Kar holds a Bachelor in Architecture and has completed further training as an energy consultant at TH OWL (Germany). She is studying in the Master of Integrated Architectural Design (MIAD) at TH OWL. She has been working as a student trainee at Goldbeck in Bielefeld for two years and is familiar with several departments. In the departments Goldbeck Public Partner, BIM, Integral Planning and the Bielefeld branch, she was able to gain insights into various topics of the construction company — from project management and design planning to execution planning.

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