

RE-IMAGINING BRUTALISM

Transformation of a brutalist structure for contemporary use while integrating its architectural aesthetics

Research Plan

Architectural Engineering Graduation Studio
Faculty of Architecture and the Built Environment
Delft University of Technology

Lucas Hartog
5000440

Design Tutor: Anne Snijders
Research Tutor: Wido Quist

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ARGUMENTATIONS OF CHOICE OF THE STUDIO

What really appealed to me about Architectural Engineering as a graduate studio is that each student was able to shape their own project. This gave me the opportunity to focus my graduation on one of my passions within architecture: brutalism and specifically its preservation. My fascination with this architectural style, combined with my rather activist mindset when it comes to preservation and reuse as a solution, made it exciting to express this passion within the freedom of Architectural Engineering.

Besides this freedom the studio offers in defining your own project, the technical side also really appealed to me. What I already discovered during my bachelor's and master's studies, and what was confirmed during my internship at cepezed, is that my passion within architecture lies in the technical development of a building. Coming up with a concept is fun, but figuring out how to actually make it work is, for me, even more interesting. Architectural Engineering gave me the most opportunities to explore that side of architecture.

Finally, I also really appreciated the structure of the studio, where research and design are mostly separated across the two semesters. Since the research is largely academic and takes the form of a research paper, it provides a solid academic foundation for the design process. In my view, this strengthens the overall quality

KEY WORDS

Brutalism, Adaptive Reuse, Restoration, Preservation, Transformation, Heritage, Makeability, Materiality, Architectural Aesthetics, Detailing, Identity

GLOSSARY OF TERMS

Brutalism

Brutalism is a style with an emphasis on materials, textures and construction, producing highly expressive forms. (Royal Institute of British Architects, 2024).

Restoration

Restoration is the process of returning a building to its old conditions and modern upgrade. In architecture, restoration is a pathway to preserve a high-value building for the future and preserve the country's glory (Kumar, M. G., 2024).

Preservation

The keeping in existence, unchanged, of natural resources and buildings that have been inherited from the past. To sustain the existing form, integrity, and material of a building or structure, and the existing form and vegetative cover of a site (Burden, E, 2004).

Transformation

In architecture, transformation is the ability to change the architectural concept, structure, or organization in response to a particular context or set of conditions, through a series of different manipulations and permutations, without loss of identity or concept (Kayili, M. T., 2022)

Architectural Aesthetics

The aesthetics of a building is one of the principal aspects considered in architecture. The appeal of a building covers the combined effects of a building's shape, size, texture, colour, balance, unity, movement, emphasis, contrast, symmetry, proportion, space, alignment, pattern, decoration, culture and context (Sandak, A. et. al, 2020)

Makeability

Various types of construction methods, building techniques, types of work (brickwork, plumbing, carpentering), etc., which can be used as an aid in the design of a building (Bax, M. F. T. et. al, 1996)

Adaptive Reuse

To re-use a building or structure for the purpose of giving it new life through a new function (ODASA, 2014)

GENERAL PROBLEM STATEMENT

Brutalist architecture, or brutalism, appeared in the postwar years, between the 1950s and 1970s as a reaction to modernism. The term comes from the French “béton brut”, meaning “raw concrete,” which stands as a manifestation for the rough, unfinished look of many of these buildings. Further defined by its bold geometric forms (Bittoni, M., 2023), brutalist structures have always stood out: sometimes admired, often misunderstood.

For me, the fascination with brutalism goes beyond just the aesthetics. Next to its distinctive heaviness and the textures in the concrete, there's something highly interesting about the way these buildings divide opinion: people tend to either love them or hate them, with very little middle ground (Holleran, M., 2021). It's not only architects who have these conversations; brutalism sparks reactions in the general public too (Hopkins, O, 2023). That, in itself, says something about the power of the style.

Many brutalist buildings have been demolished over recent decades and they continue to face threats (Van Mead, N., 2019). This trend is fueled by brutalism's association with social ideals, its raw concrete design, high maintenance costs and public disapproval. People often perceive brutalism's simple forms, large scale, and grey exteriors as dehumanizing and oppressive (Waddoups, 2022). An example of this is the former Koninklijk Conservatorium in The Hague, which was demolished in 2023 (Figure 1).



Figure 1: Koninklijk Conservatorium. Source: Bart van Hoek

However, in recent years, there has been a renewed appreciation for this architectural style. An increasing number of brutalist buildings are being recognized as monuments (Bailey, T., 2024), for example the TU Delft Aula (Figure 2). This revival is also reflected culturally, with a growing number of books, such as *Atlas of Brutalist Architecture* by Phaidon Editors, social media pages, and films like *The Brutalist*, all honoring the style (Krupa, P., 2023).

Despite the renewed interest in brutalism, many brutalist structures still face an uncertain future. Buildings that do not qualify for monumental status often fail to meet preservation criteria due to their lack of distinguishing characteristics or historical or cultural significance (Waddoups, 2022; Rijksdienst voor het Cultureel Erfgoed, 2024). Consequently, demolition and replacement with new construction is a frequent outcome for many of these buildings.

However, demolition is increasingly perceived as a less viable option as there is a growing movement to preserve existing buildings rather than engage in the unsustainable cycle of construction and demolition. This shift is driven by environmental and cultural considerations and is supported by architects and government entities (Van Rijs, J., 2023; Rijksdienst voor het Cultureel Erfgoed, 2024).



Figure 2: TU Delft Aula. Source: Oostblog

So, what should be done with these brutalist buildings then? Next to less feasible option of demolition, preserving or restoring may be ineffective as well because it would leave the buildings with the same inherent issues and level of public polarization. Therefore, transformation and adaptive reuse seems to be the only way forward.

Some brutalist buildings, like PI59 in Amsterdam by V8 Architects (Figures 3 & 4), have been transformed in the past. Architect Michiel Raaphorst describes his approach to the transformation as 'elegant brutalism' in which he wanted to maintain the solid look of the property, but at the same time soften it (Raaphorst, 2024).

However, Raaphorst's approach may be subject to critique, as the utilization of large glass elements and a transparent, lightweight design appear to contradict the heavy core definitions and characteristics associated with brutalism.

PI59 is not the only example of such an approach, as more transformations choose to undermine the brutalist character and replace it with light, glass constructs, such as 0115 Roozemaai in Antwerp (Figure 5) and the Ministry of Finance in The Hague (Figure 6).

Overall, there is significant uncertainty within the architectural field regarding the appropriate approach to brutalist structures that do not qualify for monumental status. It is becoming increasingly clear that these structures should not be demolished and that transformation is the appropriate course of action. Nonetheless, there seems to be no definitive agreement on how to incorporate the architectural aesthetics of brutalism into the redesigned structures. This presents a critical crossroad on how we can preserve their distinct brutalist character while also ensuring their long-term survival.



Figure 3 & 4: PI59 before and after. Source: V8 Architects



Figure 5: 0115 Roozemaai Housing. Source: Kempe Thill



Figure 6: Ministry of Finance. Source: Imre Csany

OVERALL DESIGN OBJECTIVE

The primary objective of this project is to promote the transformation and adaptive reuse of generic brutalist buildings, highlighting their potential value despite the ongoing threat of demolition. It argues for preserving these structures by considering both their strengths and weaknesses, to avoid losing architectural and cultural heritage. This is important because demolishing such buildings would eliminate a reflection of historical perspectives.

Another objective of this project is to investigate how brutalist elements can be incorporated into a contemporary, sustainable design, maintaining their original character while adapting to current requirements, balancing innovation with preservation. The intention is not to remove the brutalist identity but also not to maintain its heaviness and rawness to the extent that it impedes long-term use. It requires a careful balance: preserving what contributes to these buildings' character, while eliminating elements that hinder their suitability for the future. This balance will be refined throughout the design process, with ongoing evaluation of how specific interventions may modify yet also enhance the brutalist character.

Another objective is to challenge the negative perception of brutalism by highlighting its unique qualities. This project aims to demonstrate how brutalist features can be modernized and more generally aesthetically pleasing. The goal is to create an example of how this building style can be rehabilitated and what value it can add to the city, with the hope that it will gain broader public acceptance.

Besides, the aim is to develop a practical framework for thoughtfully transforming generic brutalist buildings, one that can lay the groundwork for future projects. This framework won't just highlight successful adaptation; it's also meant to offer clear guidance. The hope is that it becomes a useful resource for other architects, designers or students working on transformation and adaptive reuse with this specific building type.

OVERALL DESIGN QUESTION

Based on the overall design objective, the central design question is formulated as follows:

“How can a brutalist structure be transformed into a mixed-use building that meets modern and future needs while integrating its architectural aesthetics?”

REFLECTION ON THE RELEVANCE

This design task is relevant not just in architectural terms, but also in a broader societal context. It handles the growing question of what to do with our aging stock of generic brutalist buildings. Instead of writing them off as ugly and outdated, the project explores their potential for adaptive reuse, which is an approach that aligns with today's sustainability goals and the shift towards a circular world. By creating a strong example of how these structures can be transformed with care and intention, the project aims to preserve architectural heritage while still meeting the evolving needs of the future.

From the user's perspective, it also shows how brutalist buildings can become more functional, accessible and inviting. By doing this, the project challenges the often negative perception surrounding brutalism, opening space for a renewed appreciation of not only the building, but also the architectural style as a whole.

THEMATIC RESEARCH OBJECTIVE

The primary objective of the research is to develop a thorough understanding of brutalist architecture through the perspective of makeability. It will examine how construction techniques and materiality contribute to the architectural aesthetics of brutalism. The focus is on understanding the nature of these aesthetics, their origins and the processes involved in their creation.

The goal of the research is to create a definition that will serve as the basis for developing a design approach for the design phase of the project. This design approach addresses how to handle the balance between preservation and innovation and how the brutalist character can be applied in a modern way during the transformation.

Alongside the main objectives, several sub-goals will support the achievement of the overall goal. First, this study has the objective to trace the evolution of brutalist architecture from the 1950s to the 1970s, with a particular focus on the development of its manufacturing methods. This will include an exploration of how construction techniques evolved and the impact of technological advancements on building practices.

Furthermore, the aim of this research is to investigate the relationship between makeability and the architectural aesthetics of brutalism, with a focus on how both materiality and manufacturing processes. Special attention will be given to concrete as the primary material, looking at how its unique characteristics influence the form and detailing of brutalist buildings. The study will also explore how the manufacturing processes behind these structures leave a mark on brutalism's overall expression.

The research aims to evaluate the current status of brutalist buildings in the Netherlands that may face demolition and determine their potential for transformation. It will identify the challenges and opportunities associated with transforming these structures, taking into account the influence of their origins on this process. Furthermore, the study will analyze how previous transformations of brutalist buildings have addressed these themes.

THEMATIC RESEARCH QUESTIONS

Based on the overall research objective, the main research question is formulated as follows:

“How can brutalist architecture be understood through its makeability and how does this understanding influence the potential for transformation?”

To gain insight into the main research question, the study is divided into five sub-questions:

- 1) *“How has brutalist architecture evolved from the 50s to the 70s in relation to its makeability?”*
- 2) *“How does the materiality of brutalist architecture contribute to its aesthetics?”*
- 3) *“How do manufacturing processes contribute to the aesthetics of brutalist architecture?”*
- 4) *“What is the status of brutalist architecture in The Netherlands and what are the key challenges and potential opportunities in the transformation of these buildings?”*
- 5) *“How have brutalist buildings been transformed and what effects have these transformations had on the brutalist architectural expression?”*

Only sub-question 1, 2 & 3 will be included in the research paper, as they offer a theoretical and technical basis for the definition of brutalism.

Sub-questions 5&6 will not appear in the research paper and act as a buffer between the research and the design, in which they can clarify which brutalist buildings at risk of demolition in the Netherlands are suitable for a possible transformation. A final design site will be determined from these sub-questions, marking the beginning of the design phase.

REFLECTION ON THE RELEVANCE

From an academic perspective, this study contributes to architectural research by offering a focused analysis of brutalism's aesthetic foundations. It connects the subjective nature of aesthetics with the technical principles of architecture, providing a clearer theoretical framework for understanding the distinctive qualities of brutalism: where they originate and what sets them apart from other architectural styles. In doing so, it adds to the broader database of architectural theory. The insights gained will be valuable to architects and designers, offering a stronger foundation for interpreting and applying brutalist principles in their own work.

THEMATIC RESEARCH METHODOLOGY

This research is structured around five sub-questions, each with its own methodology.

To answer the first question, *“How has brutalist architecture evolved from the 50s to the 70s in relation to makeability?”*, a literature review accompanied by case studies will be conducted. This review aims to provide historical context and detail the advancements in construction methods specific to each of the three decades (the 1950s, 1960s, and 1970s), gathered from academic papers. Furthermore, each decade will be analyzed through one notable case study representative for the period, examining the construction techniques employed in the creation of these structures.

To address the second sub-question, *“How does the materiality of brutalist architecture contribute to its aesthetics?”*, analysis of concrete will be undertaken. This will involve a technical examination of the material's properties, focusing on aspects such as surface, texture, and form. Existing literature will be reviewed and compared and a case study of a representative brutalist building will be conducted to examine how these material qualities are expressed in practice.

The third sub-question, *“How do manufacturing processes contribute to the aesthetics of brutalist architecture?”* will be addressed by connecting the construction techniques identified in the first sub-question to specific case studies, with each technique illustrated through a representative example.

The sub-question, *“What is the current status of brutalist architecture in the Netherlands, and what are the key challenges and potential opportunities in the adaptive reuse and preservation of these buildings?”* will be addressed by examining existing brutalist buildings in the Netherlands. Information will be gathered from sources such as the book BRUUT and online platforms like Oostblog. These buildings will then be evaluated for their potential for transformation, with a focus on factors such as structural systems (e.g., load-bearing facades), construction methods, original function and adaptability to new uses.

The final sub-question, *“How have brutalist buildings been transformed and what effects have these transformations had on the brutalist architectural expression?”* will be explored through three contrasting case studies. Each case represents a different approach to transformation: one in which the brutalist character has been fully preserved (primarily a renovation), another where it has been partially retained and a third where it has been entirely neglected. Together, these examples will illustrate the impact of the different approaches on the brutalist aesthetics after the transformation.

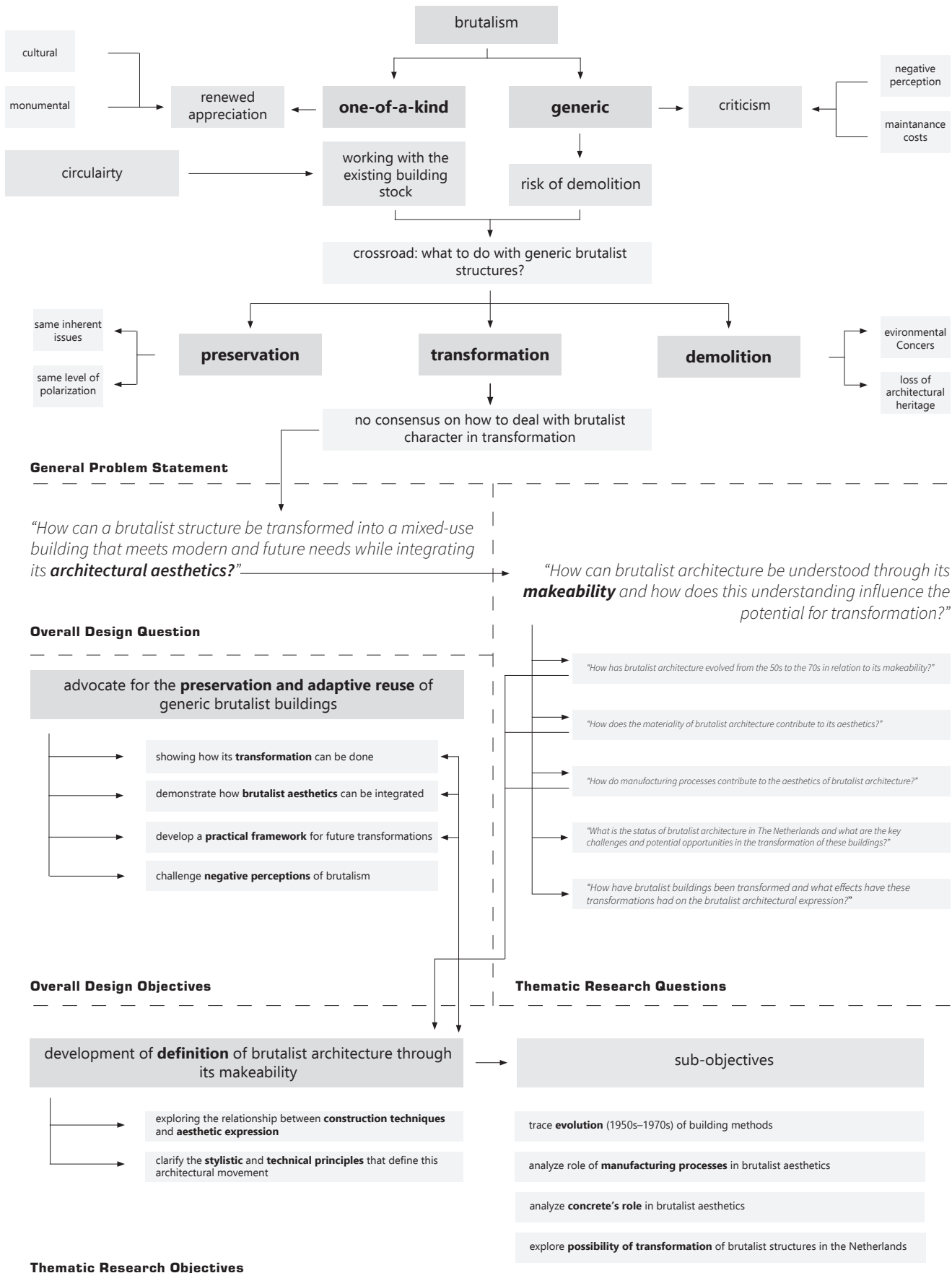
EXPECTED RESULTS

I expect that the outcomes of the thematic research will, first and foremost, deepen my understanding of brutalism, clarifying what makes it unique and distinct and what sets it apart from other architectural styles. This understanding will support making more grounded design decisions throughout my design process in a later stage of the project, including choices related to material selection and the degree to which existing brutalist structures can be preserved or modified. The research findings, along with a refined definition of brutalism, can also contribute to a broader understanding of how to respectfully deal with the heritage in our cities.

As for the design implementation, I believe it's important to explore ways to honor brutalism within a modern context. What this new interpretation will look like depends on the outcomes of the thematic research, combined with the research-by-design process that will begin in a later phase of the project. I expect it to strike a balance between the heaviness of brutalism and the openness and flexibility needed for a future-proof adaptation. That vision is still taking shape and will become clearer as the project progresses.

Success will be measured by how effectively the definition established during the research is reflected in the final design. Evaluating the design against the research outcomes and the set guidelines will serve as a strong indicator of whether the transformation can be considered successful.

RESEARCH PLAN DIAGRAM



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Figure 3&4:

©Parallel, (2024), PI59. V8 Architects.

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Figure 5

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PLANNING

week	TU week	dates	deadlines	Research Plan	Research Paper	Design	planning	
7	3.1	10 - 16 feb '25	collect information and data: literature, case studies, possible design locations, etc.					
8	3.2	17 - 23 feb '25		devise graduation project				
9	3.3	24 - 2 mar '25			concept research plan v1			
10	3.4	3 - 9 mar '25				frame graduation theme		
11	3.5	10 - 16 mar '25						
12	3.6	17 - 23 mar '25						
13	3.7	24 - 30 mar '25						
14	3.8	31 - 6 apr '25				concept research plan v2		
15	3.9	7 - 13 apr '25					finish research plan	
16	3.10	14 - 20 apr '25		P1				PRESENT P1
17	4.1	21 - 27 apr '25		Concept Design		sub-question 1		
18	4.2	28 - 4 may '25					sub-question 2&3	
19	4.3	5 - 11 may '25					sub-question 4&5	
20	4.4	12 - 18 may '25				definitive design location	concept research paper	
21	4.5	19 - 25 may '25						improve research paper, write conclusions etc.
22	4.6	26 - 1 jun '25						
23	4.7	2 - 8 jun '25				write graduation plan	finalize research paper	
24	4.8	9 - 15 jun '25	P2					PRESENT P2
25	4.9	16 - 22 jun '25						
26	4.10	23 - 29 jun '25			Sketch Design			Reflection
			<i>m s c 3</i>					
27	5.1	30 - 6 jul '25						
35	5.9	25 - 31 aug '25					<i>summer break</i>	
36	1.1	1 - 7 sep '25	Provisional Design					
37	1.2	8 - 14 sep '25			Sketch Design			
38	1.3	15 - 21 sep '25						
39	1.4	22 - 28 sep '25						
40	1.5	29 - 5 oct '25						
41	1.6	6 - 12 oct '25						
42	1.7	13 - 19 oct '25						
43	1.8	20 - 26 oct '25						
44	1.9	27 - 2 nov '25		P3				prepare for P3
45	1.10	3 - 9 nov '25						PRESENT P3
							Reflection	
46	2.1	10 - 16 nov '25	Final Design			model		
47	2.2	17 - 23 nov '25						
48	2.3	24 - 30 nov '25					details	prepare for P4
49	2.4	1 - 7 dec '25		P4				PRESENT P4
50	2.5	8 - 14 dec '25						
51	2.6	15 - 21 dec '25					impressions	Reflection
52		22 - 28 dec '25						
1		29 - 4 jan '26					<i>christmas break</i>	
2	2.7	5 - 11 jan '26				final model	prepare for P5	
3	2.8	12 - 18 jan '26	P5					
4	2.9	19 - 25 jan '26						PRESENT P5
5	2.10	26 - 1 feb '26						
			<i>m s c 4</i>					