

GRADUATION REPORT APPENDIX

P4 / GRADUATION REPORT / DIMITRIJE MILIC / 5109507

Public Building: MUSIC MARVEL

Music & Popular Culture Re-Wired

AR3AP100 MSc3/4 2021-22

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FINAL REFLECTION

ASPECT 1 ARCHITECTURE -> STUDIO -> PROJECT

This is a reflection on the graduation thesis project The Music Marvel, a part of the Public Building studio at the TU Delft - Faculty of Architecture, Urbanism and Building Sciences under Track: Architecture and summarizes the design process and results achieved thanks to the tutorings of Ir. Henk Bultstra and Ir. Florian Eckardt. Additional consultations with experts and professors have proven beneficial in the early stages of the concept design.

The Public Building studio studies the importance of the public domain within the built environment and the atmospheres formed around the relations between individuals and/or groups and the designed building. The task is to design architecture for music, and these atmospheres will now include a very important cultural factor in the determination of their value. Architects will assume the position that is defined by participation in the revitalization of culture for all users of the space. Individuals' understandings of culture will be detached from their biological nature and patterns of emotional behavior through the use of virtual technologies that will help each person explore their own external consciousness. One that is independent of previous knowledge and experience and reacting only to a manifestation of isolated synesthetic experiences.

This design is embodied through the ephemeral architectural form that challenges subjectivity in design by including all users of the space in the never-ending process that provides this building with an ever-changing appearance. The architect stops acting as a sculptor of that which is built. Instead he creates a mechanism that shapes the building based on the data collected from all users. The users are participants in architectural expression and the public building is now made by the public.

ASPECT 2 RESEARCH <-> DESIGN

The first step in research that serves as a foundation to the produced design of The Music Marvel, starts with understanding of the location for which it is planned. In the first site visit, all were introduced to the factual reality of Binckhorst. Its historical value, position within, and connection to the rest of the city and the country, industrial significance and cultural characteristics. All students were familiarized with plans for future developments and the idea of contemporary living according to sustainable behaviour that this place will encourage. The commitment to pursue an environmentally responsible design was acquired before the intuitive spatial exploration of the location. Observations of the space, form, activity, the built and natural environment at the location had come after. This had caused retroactive disassembly of experiences created at the site into components that allowed for pragmatic exploration of the location. From this moment these components were also perceived as elements that could affect the design.

The theme of the thesis is music. I have made a decision to fully commit to music as an abstraction to be used both as an cause for and as a result of my project. Music was going to create architecture, and this architecture was going to be in service of music. The result was meant to be used by humans and humans know music only as the experience caused by noise organized in a rhythmic patten with unpredictable changes that cause arousal. Therefore, my ambition revolves around the human experience of music in relation to the quality of spaces where it is happening.

The part of this research was to analyse spaces created for experiencing music. Many different types of musical venues promise ideal conditions for the audience and the most valuable tend to adapt to the type of the musical performance and the frequencies of the sound. Most of the venues examine the ways to ameliorate the space based on these factors, which reside in reality. However, reality is a projection of consciousness and for this reason, my design examines personal experiences of each one of the audience members in relation to their awareness. Previous to this, research about neuro-oscillations and new technologies that are capable in deciphering them served as a necessary foundation for the produced architecture.

ASPECT 3 METHODOLOGY IN RESEARCH AND DESIGN

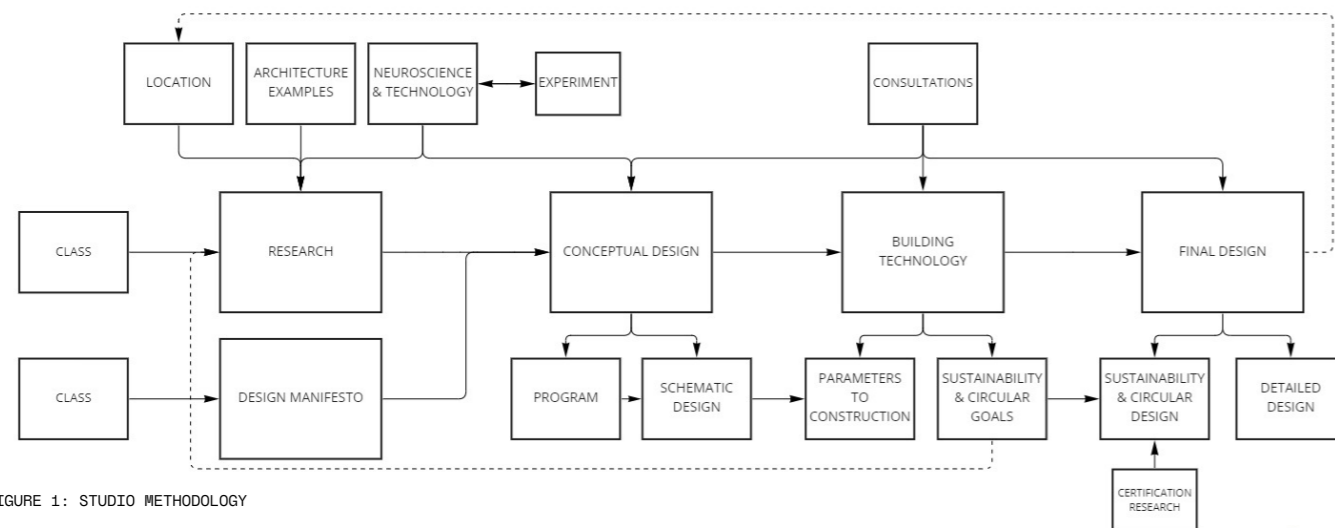


FIGURE 1: STUDIO METHODOLOGY

ASPECT 4 SOCIAL, PROFESSIONAL AND SCIENTIFIC RELEVANCE

The architecture of the Music Marvel depends on the changing data that ensures its relevance as the time passes. This means that the architecture itself changes based on the renewal of input parameters. This ephemeral characteristic is reflected in the changing shapes of the interior and the façade which depend on the movement and illumination of their many parts and their combinations. Together these changes can produce a nearly-infinite number of variations when it comes to the appearance of The Music Marvel.

This unpredictable nature of The Music Marvel was inspired by the Design Manifesto where I question subjectivity in architectural design. I ask a question: 'How important is the architect's intuitive and calculated nature in the aesthetical outcome of a public building?' and argue that public buildings, as they are made for all users equally, need to reflect their neutrality towards all (including the architect) by not favouring one's taste before the others'.

The changing design reduces the architect's unnecessary influence and demands of him a mechanism that will create a design for him as an indistinguishable member of the community. In the case of The Music Marvel the mechanism changes the building in accordance to the parameters collected from all users by recognizing their reactions to music – the essence of this design.

All human reactions can be traced through the measuring of neuro-oscillations by available, and very simple, devices. By eliminating perception of all unwanted elements in our surroundings during a musical performance, and by diminishing emotions related to individual realities that exist before and after the musical performance The Music Marvel ensures that only thought occupying the brains of the audience members is their current perception of music. This stimulus causes changes in everyone's brainwaves through shifts of awareness that are measured (with EEG devices) and translated into numerical values to be instantly used as parameters for the changing architecture.

This mechanism uses the musical performance to affect the brain that causes the architecture. From there on, the music and the architecture together form new experiences that cause this process to be repeated as a loop.

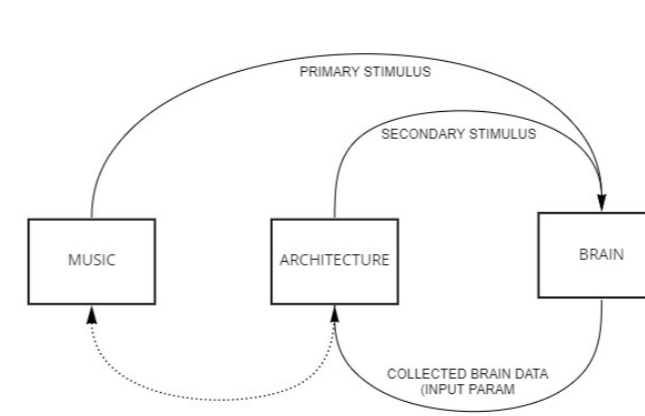


FIGURE 2: MUSIC - PRIMARY STIMULUS
BRAIN DATA - INPUT PARAMETES
ARCHITECTURE - RESULT / SECONDARY STIMULUS

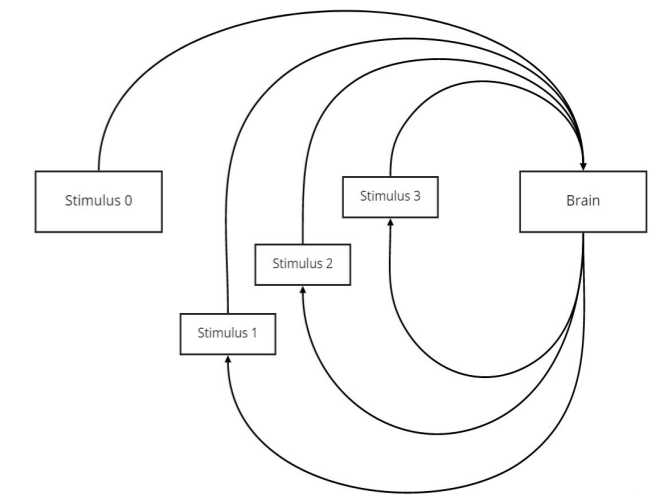


FIGURE 3: LOOP MECHANISM

ASPECT 5 ETHICS [RESEARCH -> DESING PROCESS -> DESIGN APPLICATION]

The Music Marvel eventually becomes a built structure and its design, as much as it is socially inclusive, must be equally aware when it comes to environmental responsibility. The last step of the design process was the implementation of the research on sustainable design and circularity. Without sacrifices to the concept, many changes have been introduced in the late stages of the design process in order to create a healthy and ethical architecture. This is noticeable in the hybrid structure that mostly relies on sustainable timber and less on recycled concrete that is responsible for less CO2 emission than is produced by regular concrete. Solar panels have been included where possible to maximize energy efficiency and a large green surface covers all supporting places in order to invite people to approach the architecture of the accented performance hall. This green roof is also capable of rain-water collection that may be reused for various purposes within the building. Lastly, the kinetic façade proves it double significance as it serves as a tool for the ephemeral architecture and as a second layer of the façade that creates a climatic buffer zone between the outsides and the performance hall. This buffer zone reduces heating from the outside thanks to its natural ventilation and minimizes the wind effects. The underground garage is designed to provide parking for the public when The Music Marvel is not working. But its limited amount of parking spots for regular cars and well designed biking lanes in the landscape encourages visitors to use more sustainable modes of transport. These and other sustainable and circular solutions have been implemented as a result of useful consultations with the tutors and experts as well as with public information from organizations like UNDP and LEED.