P5 Reflection

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Date: 29 June 2018

Studio: Hyperbody

Site Location: Netherlands, The Hague, Scheveningen Harbor

Problem:

The relevancy of cinema architecture is being questioned again and again as screen technology becomes more accessible. The same screen appears in our televisions, computer monitors, smart phones and other devices. Architects became aware of the emerging urban problems caused by huge multiplex and detached architecture – which is the result of the interpretation of the cinema medium. Yet in our contemporary city media is integral, it is also productive and artistic part of society. Central locations within the city can use this medium as an urban generator, to attract people and engage with them.

Research questions:

How an urban cinema can relates to its surroundings? What is the physical or the visual connectivity?

What is the relationship between an interactive media-architecture and visitors or observers?

Project concept:

The design of a multi-functional urbanic cinema, which creates a network of attractions and functions. By using an interactive media facade the architecture can communicate in different scales.
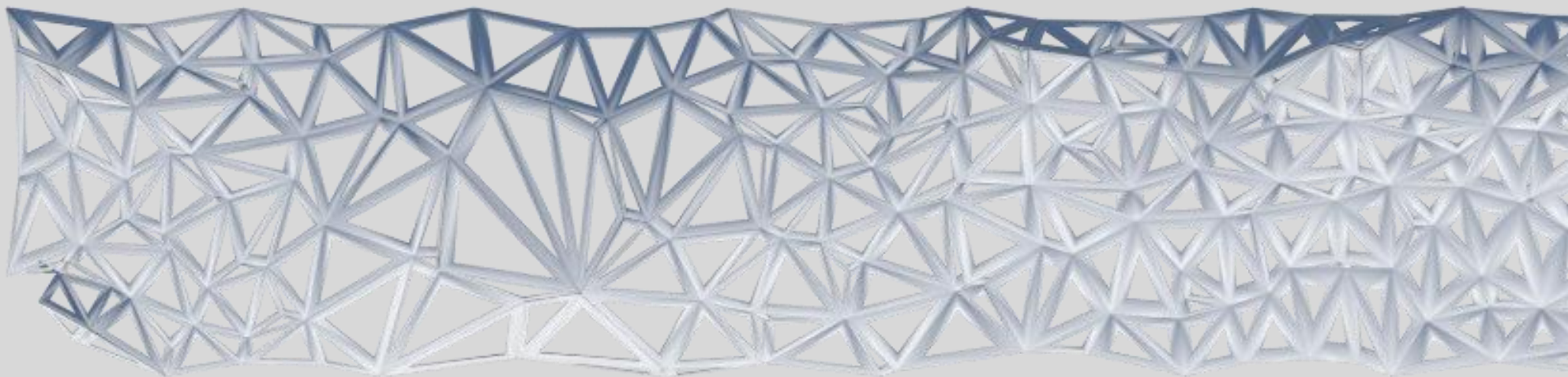
Method, techniques and Parametric design implication:

The design process was developed using a combination of parametric approach and site-thematic analysis from the strategic diagram to the structural details.

For the layout of the architecture within the site I used a growing algorithm (in Python) to produce several alternatives. I designed the script so the building could spread into the site – avoiding open spaces and growing over obstacles and topography. I used evolutionary script in order to optimize the diagrams, I decided to include sun exposure time and climate information as parameters. From several optimized diagrams I choose the one which provides a decent volumetric building which doesn't exhaust the open area, instead it connects to other buildings in its surrounding. From the Curve diagram I initiated a base geometry generator – the generator takes into account the function intensity and the length of the guiding curve – and shape the building into larger or smaller parts as well as differentiation of spaces and corridors.
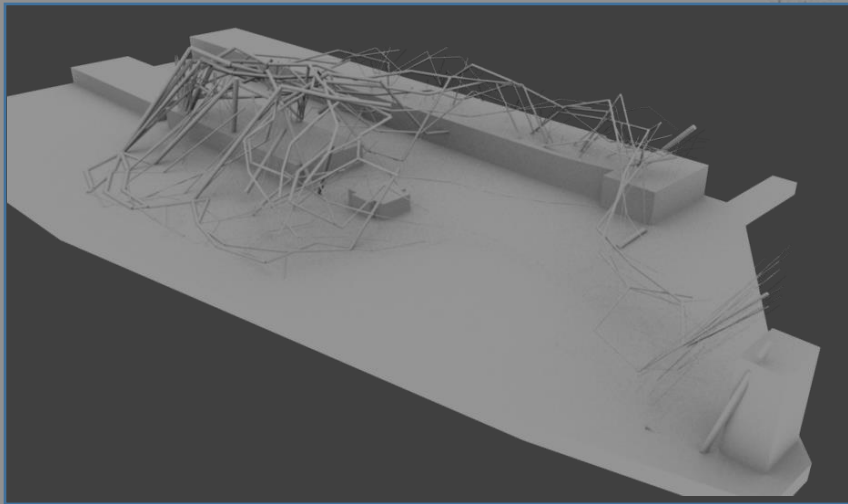
After the generating of the general volume I focused on a specific part of the building – a media center. My concept was to shape an architecture according to visual perception and to make full use of media façade as an urban screen. The façade was designed as a focal element which draws the visitors to look towards different locations within the city and the surroundings. I mapped existing iconic or important buildings, checked lines of vision and panoramic view. Those parameters create variation in the outer panels and physical distort of the structure. To enhance the experience I used a code to form a "topographical playground" within and use it as stages and places of gathering.
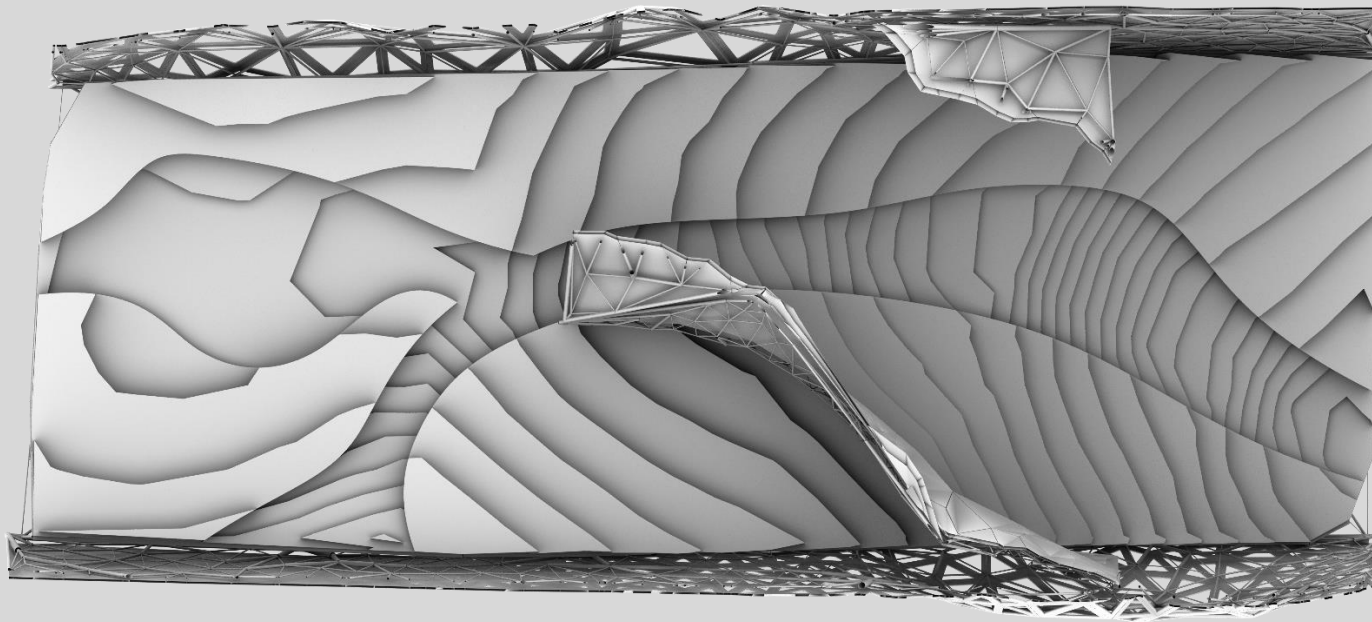
For the construction details I used an optimization process to differentiate the elements and create an organic-like mesh structure with a range of elements. The mesh and the smart adaptation allows the building to span across large distances and reduce the material cost as well as creating an elegant architecture. Each unique joint is 3D metal printed, using a mesh relaxation for smooth force passages.
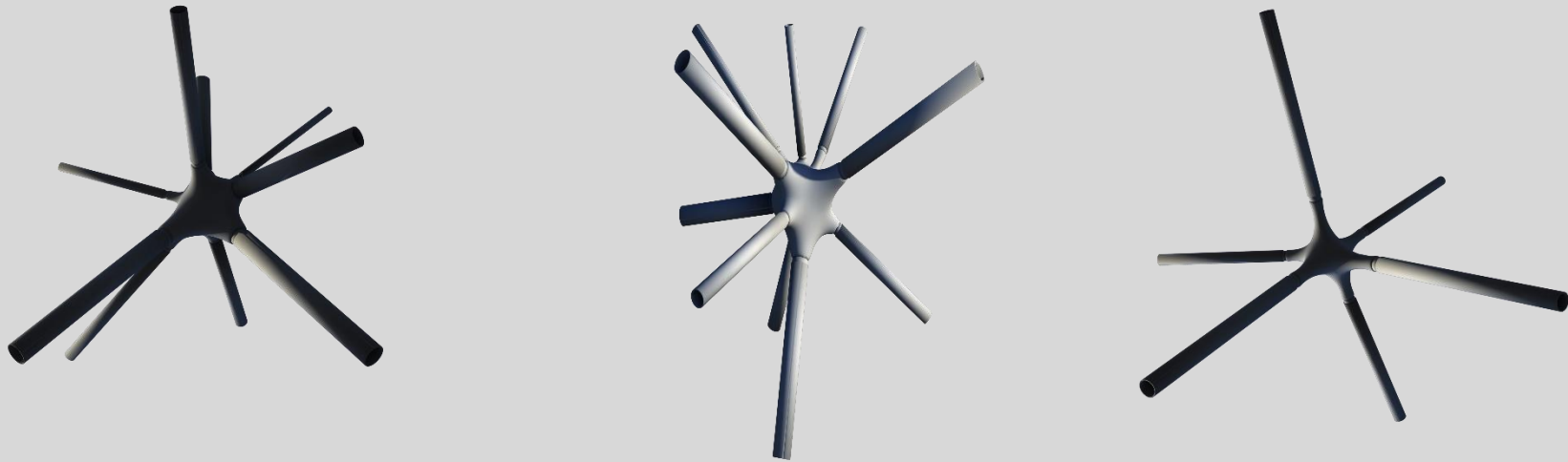
Tools I used: Rhino, Grasshopper, Galapagos (optimizing base diagram), Kangaroo (façade transforming and mesh joint relaxation), Python (branching code), Karambla (structure optimization), Ladybug (climate analysis), Maya (rendering). The knowledge provided by the numerous workshops in hyperbody studio was cardinal for most of them.

Relevance:

Urban city centers are growing to be more and more multifunctional, flexible and innovative. With emerging technologies parametric design and site-personalized architecture becoming more feasible and even required. By harnessing contemporary media architecture may develop to be more engaging, accessible and attractive – becoming a stronger urban generator. By designing an urban cinema I not only wish for it to become an iconic building – but a network of places, activities and social meeting in a developing site of the city.

Literature references:

David Atwell, *Cathedrals of the Movies*, The Architectural Press: London, London, 1980

Jean Chollet & Marcel Freydefont, *Fabre et Perrottet Architectes se theatre*, Norma Editions, Paris, 2005

Johnathan Crary, Techniques of the observer, MIT press, Cambridge Massachusetts, 1992

Anne Friedberg, The Virtual Window: From Alberti to Microsoft, MIT Press, Cambridge Massachusetts, London, 2006

Maria Adriana Giusti and Susanna Caccina, *Cinema in Italy*, Maschietto Editore, Firenze, 2007

Byeong Joon Kang, *Busan Cinema Complex International Invited Competition*, BIAFOC, Korea, 2006

Stephan Kowal, LAbook catalogue de l'exposition Architecture Cinema, Ecole d'architecture, Universite de Montreal, 2008

Peter Lord and Duncan Templeton, *The Architecture of Sound*, The Architectural Press: London, London, 1986

Haeusler M.H., Media Façades: History, Technology and media content, AVEdition, 2009

Manovich L., The language of New Media, MIT Press, 2001

http://www.mediaarchitecture.org/flare-kinetic-membrane-facade/

https://www.archdaily.com/89408/bix-light-and-media-facade-at-moma

https://www.stylepark.com/en/news/all-facades-are-essentially-media-facades

http://onlinelibrary.wiley.com/doi/10.1002/ad.20/pdf