REFLECTION DOCUMENT

INFORMATION

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HOME-MADE®

A bottom-up redevelopment strategy of (structurally) vacant office space in mass-customized housing solutions by using the potential of digital fabrication techniques.

REFLECTION

This reflection document will follow the general aspects as provided in the Graduation Manual to look in retrospect to the project in order to assess if the ambitions are achieved and the research and design are an integrated whole.

The relationship between research and design

The research of this project has been divided in to a context, programme and technique part in relation to the initial fascination and the problem and research question proposed. This research overview – including envisioned design outcomes – is visualized in the next figure.

The research regarding context mainly focussed on the choice and classification of given vacant office buildings. Proposed is a general methodology, including several tools present in literature to evaluate a given case study building on its potential for redevelopment in housing solutions. This part of the research therefore mainly focussed on making a reasoned choice for a case study building and selecting important factors in the evaluation for vacant properties. The context research is therefore mainly an anchor for the chosen case study but also provided a methodology in assessing and redesigning a vacant building in order to become a base building for a personalized fit-out; the next research component.

The programme part of the research mainly focussed on the initial fascination of the informal vertical communities and the creation of own personal space by the user, in general the mass customization of a building/house. How do these customization processes look like? How do they function? And what do people actually would like to customize? The outcome of this research presented me with the anchors on which my design needed to focus on. Which parts can be generic and which parts need to be specific, as well as the scale and amount of modularity on the design of a construction. The results were used to design a set of rules in the form of an internal zoning plan in where customization and a certain degree of freedom is given to the end user of the space.

The technique research mainly focussed on several case studies in order to assess the simplicity of manufacturing, assembly and disassembly. These case studies, in combination with the outcome of the customization research have proven to be very helpful in designing a construction system that was able to facilitate the desired level of freedom. Connection studies, degrees of freedom, grids and facilitation of structural and climatic components were integrated in the design of this construction system in relation to ease of manufacturing, construction and foremost the (dis)assembly to facilitate change and adaptation for a sustainable but moreover durable building concept.

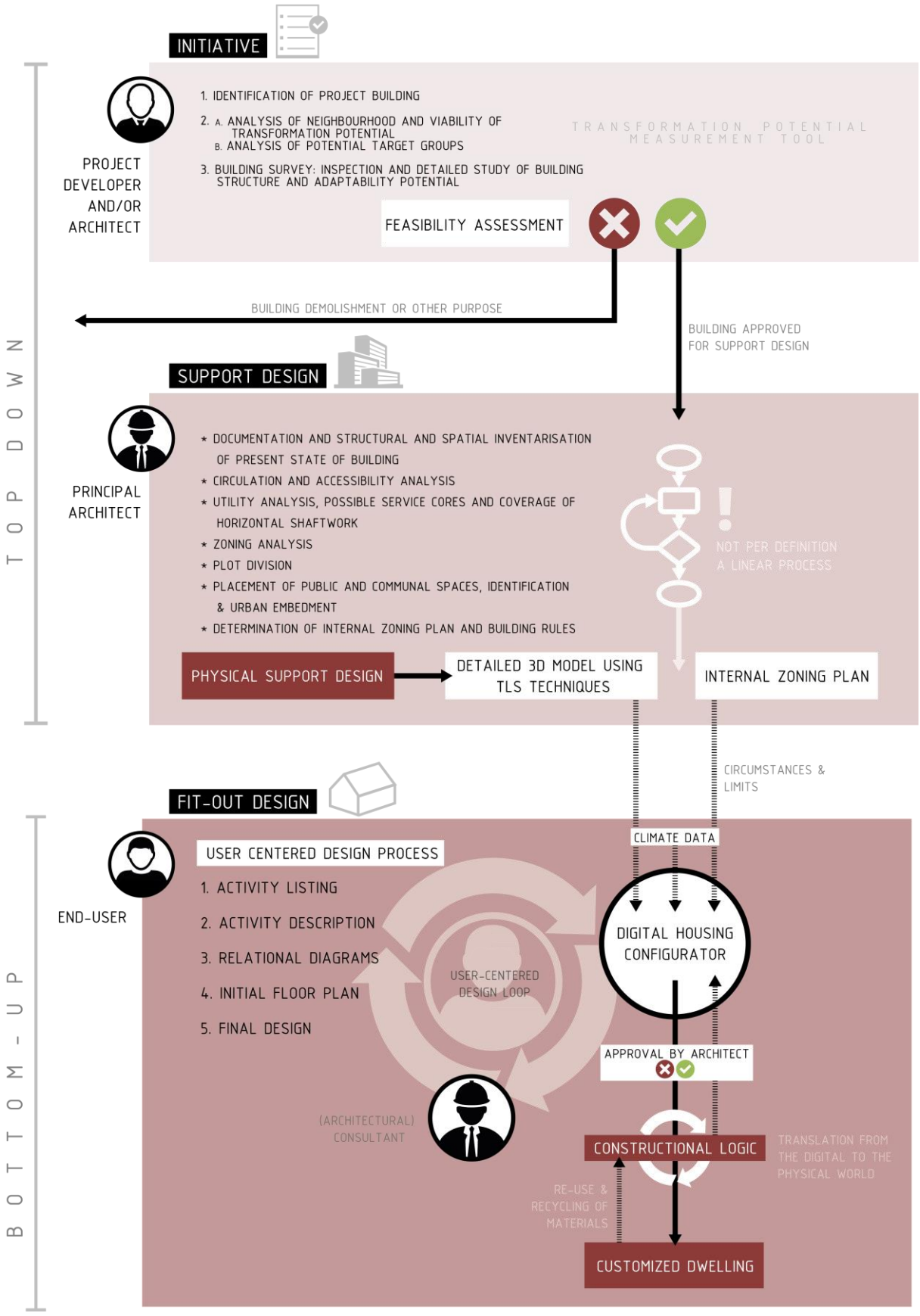
The theme of the studio and the subject/case study chosen

The general theme of the Architectural Engineering studio is an architectural design, funded by a technical fascination. My technical fascination of designing a digitally fabricated construction system to facilitate the design freedom found in informal vertical communities was combined with a given topic of the office vacancy which is becoming a bigger issue ever year. The technical component in my project is evidently present, and might even be to dominant. The technical discovery of the construction system dominated the design process, where the overall architecture on a bigger scale was left unattended for quite a long time. Regarding this process, it did help to start with the smaller scale in order to find answers on the bigger scale level and thereby the architectural component of the project. The facilitation of freedom found in the construction system designed helped to find anchors in designing the internal zoning plan and the overall appearance of the base building.

The methodical line of approach

As for the method being used throughout the project, the general outcome of the research paper in the methodology found on the next page was used as a guiding tool in the design. The chosen case study, the Torenhove tower in Delft, used the methodology as proposed as the outcome in the research paper. The constructional logic found in the methodology is a generic design and can be applied to any vacant office building, or even any vacant building or given property to build a house or any other programme with. The base building and internal zoning plan are case specific designs in order to give a proof of concept of the whole proposal. By deciding to design a methodology as main outcome of the research paper – with the technical research component as a side anchor for the proposed constructional logic – the design semester could be well organized and structured. This methodology helped to quickly change in scale level when designing, without losing an overview of the whole.

OPEN BUILDING METHODOLOGY



The project in a wider social context

Office vacancy is an ever dominant problem in the Netherlands and abroad. While there are still a lot of issues unresolved, we might be overwhelmed with ideas, concepts and suggestions on how to tackle this vacancy. This graduation project tried to give a different perspective on this vacancy by changing the whole concept of building. As emeritus professor John Habraken wrote in his book 'Supports' (1972): "We should not try to forecast what will happen, but try to make provision for what cannot be foreseen". The rapid digitalization of our society makes forecasting even more difficult than it already was and keeps this quote contemporary. In the light of the problem of the office vacancy and the rise of the private commissioning (as demand to private commissions is still growing) this project tries to give a solution for both. By changing an office building to a base building, a basic skeleton with utilities including plug & play units, able to work for a longer period of time than regular build buildings and able to adapt and even facilitate change in appearance, space, and function. By giving people their own plots in a vertical building, communities arise and the building functions as a vertical extension of the streetscape. This way, the project addresses several social problems found in our built environment and tries to combine a problem and a chance in a sustainable (economical, ecological and social) but moreover durable proposal.