Graduation Plan

Master of Science Architecture, Urbanism & Building Sciences



Graduation Plan: All tracks

The graduation plan consists of at least the following data/segments:

Personal information		
Name	Willard van der Velden	
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Studio			
Name / Theme	Urban Metabolism		
Teachers / tutors	Nico Tillie, Roberto Rocco		
Argumentation of choice	The subject matter, namely water and waste, fits very		
of the studio	well with UM: by identifying the different systems, you		
	can find where the best possibilities for improvement are.		
	The UM approach is complementary to my education at		
	the TU: it builds on my design capabilities and expands it.		
	And the UM approach is a quite new approach for my		
	type of location a slum. This expands the way we can		
	look at improving slums and how to do so.		

Graduation project				
Title of the graduation	Using Water and Waste Management to Spatially Improve			
project	the Informal Neighbourhood of Paraisópolis, São Paulo,			
	Brazil			
Goal				
Location:		Paraisópolis, São Paulo, Brazil		
The posed problem,		The situation in Paraisópolis concerning		
		waste and water management requires		
		a spatial strategy to improve the quality		
		of life.		
research questions and		What is an effective spatial strategy to		
		improve local waste management and		
		quality of life in Paraisópolis?		
design assignment in which these result.		A spatial strategy for Paraisópolis,		
		containing maps and schedules.		

The research will be composed of a general thesis on water and waste management in informal neighbourhoods. Then a case study on a project in Paraisópolis in which the elements of the thesis are implemented. This will result in recommendations to the thesis and to practice.

Specifically it means a written report, a list of options for water and waste management, with drawn explanations per option and an overall design for Paraisópolis.

Process Method description

To find an effective spatial strategy, it is necessary to know both about spatial strategies and about Paraisópolis. This means mapping, drawing, possibly modelling of the existing situation. For mapping there is a distinction between mapping existing data on the area and mapping what the possible connections are between different sets of data.

Quality of life is described by influential organisations, amongst others UN Habitat and in the ISO 37120: Sustainable development in communities. With literature research I will research wat quality of life in Paraisópolis means and how good it is. When I have made a design and spatial strategy for the neighbourhood, I will investigate the possible ways in which quality of live has improved.

For spatial strategies different ones for other locations must be compared: what was their aim, how long did they take, what did it do? This comparison is both spatial and in time.

Further, it is important to know what the residents of Paraisópolis find relevant and important, both on how the project should develop (e.g. involvement from government officials or foreigners) and on what their preferred outcome and participation is. Through contacts with local people I might find specific data, but maybe I must go on existing studies, not truly on Paraisópolis, and extrapolate the findings to the neighbourhood.

And to find a good spatial strategy, with all the complexity of the location and project, I must make a design and alternatives. The design is done through mapping, drawing and planning. For each reference project found for improving waste and water management, I will make a map in which I identify where the solution might be implemented. All the maps of all the projects together will create a map with a patchwork of solutions. This map has to be transformed into a design. The areas might overlap or have gaps. Through a cycle of drawing, designing and revising, the map will change into the design. Together with the process plan for directing the actors involved, this will result in a spatial strategy.

Both the water and waste management systems must be analysed. This means mapping the processes and infrastructure. To find what is and what isn't working, the systems must also be compared to other (good) management systems elsewhere. This will give an array of practical, technical solutions to water and waste management issues in Paraisópolis. Together, these solutions will contribute in a new system, described by a schedule based on the Urban Metabolism theory.

Literature and general practical preference

The theories of Flavio Janches (2011) concerning integration of informal neighbourhoods in the city.

The conclusion of McFarlane (2008) on the connection between infrastructure and governance.

The theory of Jaffe, Klaufus and Colombijn (2012) on the combined perspective on the urban fabric of informal neighbourhoods, named: the 'mobility turn'.

SEHAB Municipality of São Paulo and IABR: TESTSITE Paraisópolis. Urban Metabolism approach to a spatial design

Reflection

Relevance

Last year, UN HABITAT published a report saying there are now over one billion people worldwide living in informal or squatted neighbourhoods. The impact of these cities on economics, politics, demography and heath are still lacking thorough research.

If my research were to give definitive results on how to disclose an informal neighbourhood to the rest of the city, this could be used to strengthen the efforts to improve informal neighbourhoods worldwide. It can contribute to a better living condition for the residents of these neighbourhoods.

Also, the research field of Urban Metabolism, is relative new, especially so in case on its view on informal neighbourhoods. This research expands the experience of urban metabolism in the working field of informal neighbourhoods and contributes to the body of practical 'pulleys and levers'

Time planning

Remarks P1 already done on November 20 2014 P2: January 20 2016

