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## GRADUATION PLAN

SHARED HERITAGE LAB, SEMARANG

CHAIR OF HERITAGE AND ARCHITECTURE

MASTER OF SCIENCE ARCHITECTURE, URBANISM  
AND BUILDING SCIENCES | TU DELFT

TRACK: ARCHITECTURE

THILINI WARNAKULASURIYA | 4505239

## GRADUATION STUDIO

AR3AH110 Heritage and Architecture Revitalising  
Heritage - Semarang Indonesia

ir. Lidy Meijers  
ir. Nicholas Clarke  
ir. Paddy Thomesen

### WHY I CHOSE THIS GRADUATION STUDIO

The cross-cultural and interdisciplinary aspect of this graduation studio peaked my interest in understanding the political, social and technological challenges heritage and architecture face in keeping up with the ever-changing global dynamics; not just within the built environment but society as a whole.

This studio provides an oppourtunity for me to explore these ideas in Indonesia, which has a relatable history to where I come from - Sri Lanka.

The challenges heritage architecture face in risks such as flooding and poor water management in Semarang provide a platform for experimenting with design that suits the current socio-economic conditions of the area. This fascinates my interests in bridging the gap between the global industry and local needs as well as intangible factors such as politics and socioeconomics.

The studio provides an excellent platform for multi-disciplinary interaction within the TUD faculty and also in Indonesia with ITB and other stakeholders. The studio also gives the opportunity to tackle issues that people and Asian cities face on a daily basis.

## GRADUATION PROJECT

### Scenography of heritage: an urban think tank

#### PROBLEM STATEMENT

The current situation of lack of accessibility to drinking water, bad waste management, land subsidence and flooding that results from a multitude of problems (poor governance/ implementation, local informal practices by the people etc) cause a serious threat to the existing city and architectural fabric of Semarang. Aside from this, Semarang and Indonesia are constantly evolving from its rich and turbulent past; traces of which, to date, govern decisions that the archipelago take in matters of governance, built environment and daily life.

The issues at hand are much larger than the authorities alone can handle - change must come from bottom up but facilitating these face a number of social and economical issues where lack of education and awareness play a significant role. The importance that Kali Semarang once had is no longer present - it is riddled with waste and its status lost throughout time. This contributes to the tumultuous relationship the community has with water - negligence leading to acceptance and normalisation. Where do we then begin to implement changes and rebuild the lost relationship with water?

In a nation wide aim to fit within the global trends of the 'Smart City Movement', the plans for Semarang to be a smart city (first phase city) have yet to be implemented. Within the current structure that is set out, the criteria is not suitable for the local conditions in a typical 'smart city' sense. What does it mean to be 'smart' in city like Semarang where change needs to start from a grassroot level? How do we bridge the gap; community to global?

#### IDENTIFICATION

*lack of a positive relationship with river, therefore water  
high flooding risk  
high risk of land subsidence  
poor water, waste and sewage managment  
lack of accessibility to water - drinking and other  
technology implementation challenges  
lack of awareness and education  
lack of management plans*

#### PROPOSITION

*educating and creating awareness to the role of the water  
cleaning Kali Semarang  
re-establishing a relationship with the environment  
understanding the potentials and faciliating waste  
management  
re-linking the cycles of knowledge, waste and water  
facilitating community engagement through urban injections  
improving accessibility to clean water  
contextualising the smart city/smart semarang*

## DESIGN QUESTION

How can we re-establish the lost relationship with the river and what can be done to address accessibility to water and improve waste management?

### PROJECT OBJECTIVE

Realizing that any attempt at alleviating at least one of the number of problems that the city of Semarang face requires a bottom up approach considering not only the architectural and environmental issues, but especially the social issues prevalent in the city. The large educational gap present in the community need to be addressed in order for the city to survive in the future as change comes from within.

Re-establishing a relationship with water to the community starts with cleaning Kali Semarang and revitalising the riverbank. By centering Semarang as a global think tank for water, the project aims to educate, train and monitor water and waste related issues. It also aims to bridge the segregation gap present through years of colonisation by linking Kota Lama, Pecinan and Melayu through a network of knowledge, water and waste lines. Each phase of the project aims to bring Semarang close to three of the smart city movement pillars; smart environment, smart society and smart economy.

Aims:

- 1: Clean Kali Semarang by providing low tech solutions that the community can engage with.
- 2: Revitalise the river bank by active engagement with water and waste through the community - urban injections to facilitate different cycles of water and waste.
- 3: Educate and train the community on water and waste related matters through active participation and cross border/cross cultural knowledge exchange.

### RESEARCH QUESTIONS

*What relationship did Semarang and the community have with Kali Semarang over time - in an urban scale, across the building site, along Kota Lama, Pecinan and Melayu?*

*What significance does the Kali Semarang and water play throughout history in Semarang?*

*What are the existing low-tech 'informal' approaches to existing urban issues in Semarang?*

*How does Semarang approach urban and heritage decay - through beautification or adaptation?*

*How do the water and waste networks work in Semarang?*

*What are the current/future 'smart city' systems introduced in Indonesia and what are the future plans set out for a 'Smart Semarang' by the government?*

### Design research:

*How can we revitalise the river bank by engaging with water and waste directly?*

*What kind of urban injections can contribute to alleviating accessibility to water and waste management by facilitating active engagement from the community and the authorities?*

*How can abandoned heritage contribute towards educating the community?*

*How can we use existing technology and innovations in a low tech manner to assist research and design - monitor, model, predict, prevent and mitigate through different networks?*

### REFLECTION

*Graduation to Heritage relevance*

Adaptive re-use of buildings often tackle the relevance of history to current needs within the context of the project and in the case of Semarang, it is especially relevant due to the environmental and social issues that the city faces on a daily basis. The role of built heritage is questioned, where its responsibilities and contributions (both environmentally and socially) to the current time becomes a focus in order for there to be a future. The graduation project aims to understand and question what values attributed to the building (PTPN XV) matter in the context it is in today and its future. Understanding that heritage is not just buildings is key to the project - water is a heritage at risk (ICOMOS) and in the context, the relationship with water and heritage is a vital point to address - this is where the graduation project becomes relevant to heritage.

*Larger context*

The project aspires to position heritage in a global perspective involving various technical/social disciplines, global practices and trends. The topic of cultural/colonial sensitivity will be addressed through programs that are from a perspective beyond tourism - this hopes to shift the global perspectives on heritage becoming mere tourist/economical attractions and bring it closer to contributors of society; not just to the economy of a city but to the locals directly. In the larger context of heritage, the project touches upon the relationship between water and heritage - by focusing on water within the chosen built heritage and addressing Kali Semarang as a heritage in decay, the perspectives of the people maybe shifted to view water as a valuable source and heritage that requires just as much care.

## METHODOLOGY

### Literature Study

*A look at colonial and local history*

A thorough understanding of the history of Indonesia and Semarang in the pre-colonial, colonial and post colonial setting is vital to this project. Through researching the history from written literature and archival material, the political and socioeconomical setting of the archipelago throughout time will provide insight into the country's sensitivity to heritage from a colonial and cultural perspective as well as the urban changes throughout time.

### Visual/Archival Study

*Spatial planning, typologies and existing solutions to water and waste*

On-site research through photo documentation and analysis will provide an understanding of the social and ethnic structure present in Semarang today. Comparing this to old maps and knowledge of its history will give some insight into the evolution of the midset of the people there. This is vital to understand future trends and where Semarang is leaning towards in terms of social development. A look into how the community deals with water and waste, what cycles are present already as a base for future perspectives.

### Field Work - Interviews/Ethnographic Praxeology

*Community potential, willingness, relationships and history*

Social behaviours, neighborhood and community structures, local needs and future aspirations are important indicators for a 'resilient' response and thus need to be researched through interviewing locals and understanding their readiness to contribute to alleviate existing problems in Semarang.

### Literature/Comparative Case Study

#### *Water as heritage*

By reading on existing plans set up globally to tackle the issue of water as a heritage at risk and analysing proposals set up worldwide will give an understanding of the feasibility of future proposals, what is possible and what are the existing and future tech that could aid in creating solutions to identified problems.

#### *Low tech solutions*

A technical understanding of the local building culture (study of vernacular architecture), not just in Semarang, but in other cities of Indonesia will be useful to come up with suitable low-tech solutions that fit the climate but also provide community engagement and education. Case study comparisons of built projects in Indonesia using low-tech solutions for climate related issues will be vital.

#### *Programmatic appropriation*

Research on existing adaptive re-use projects and comparing projects to understand the spatial concepts and programmatic appropriation in relation to the urban conditions present. Through research into the volumetric and spatial requirements of the proposed program and implementation urbanistically and spatially through a comparative case study.

## LITERATURE

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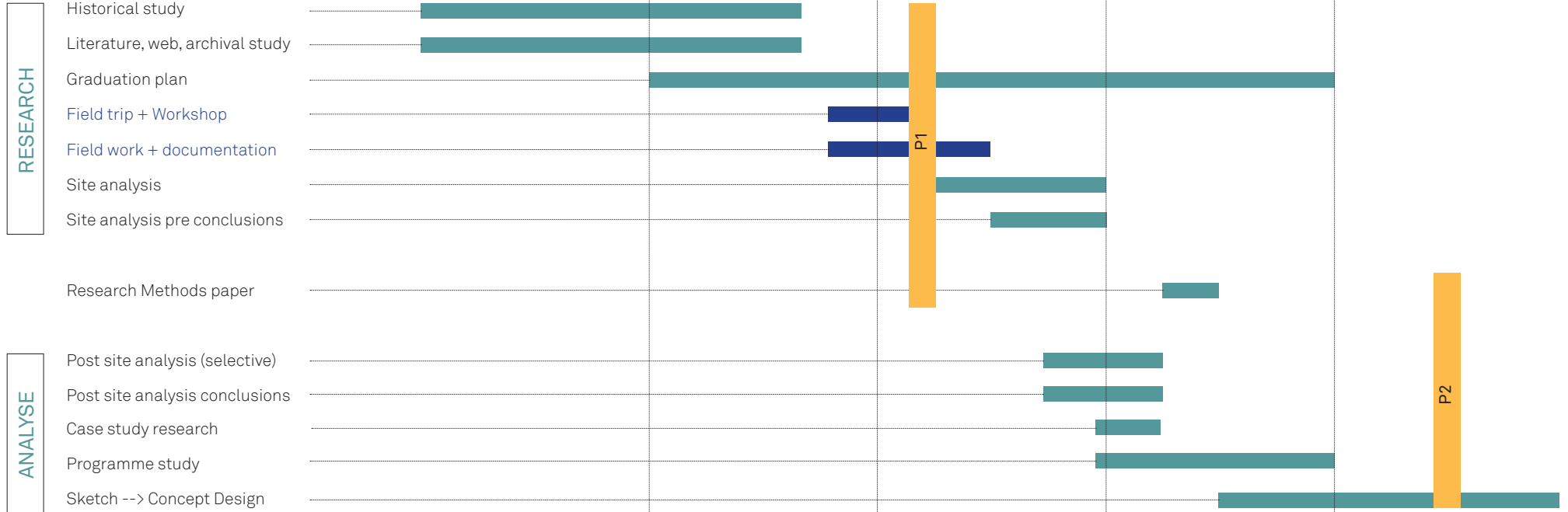
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## GRADUATION PLAN

### MSC 3



### MSC 4

