

# IDE Master Graduation Project

## Project team, procedural checks and Personal Project Brief

In this document the agreements made between student and supervisory team about the student's IDE Master Graduation Project are set out. This document may also include involvement of an external client, however does not cover any legal matters student and client (might) agree upon. Next to that, this document facilitates the required procedural checks:

- Student defines the team, what the student is going to do/deliver and how that will come about
- Chair of the supervisory team signs, to formally approve the project's setup / Project brief
- SSC E&SA (Shared Service Centre, Education & Student Affairs) report on the student's registration and study progress
- IDE's Board of Examiners confirms the proposed supervisory team on their eligibility, and whether the student is allowed to start the Graduation Project

### STUDENT DATA & MASTER PROGRAMME

Complete all fields and indicate which master(s) you are in

Family name	Brouwer	6907	IDE master(s)	IPD	Dfi	SPD
Initials	L.B.E.		2 <sup>nd</sup> non-IDE master		<input checked="" type="checkbox"/>	
Given name	Lucie		Individual programme (date of approval)			
Student number	4650220		Medisign			
			HPM			

### SUPERVISORY TEAM

Fill in the required information of supervisory team members. If applicable, company mentor is added as 2<sup>nd</sup> mentor

Chair	Nazli Cila	dept./section	Human-Centered Design
mentor	Vera van der Burg	dept./section	Design Intelligence
2 <sup>nd</sup> mentor			
client:			
city:		country:	
optional comments			

- ! Ensure a heterogeneous team. In case you wish to include team members from the same section, explain why.
- ! Chair should request the IDE Board of Examiners for approval when a non-IDE mentor is proposed. Include CV and motivation letter.
- ! 2<sup>nd</sup> mentor only applies when a client is involved.

### APPROVAL OF CHAIR on PROJECT PROPOSAL / PROJECT BRIEF -> to be filled in by the Chair of the supervisory team

Sign for approval (Chair)

Name	Nazli Cila	Date	20 Nov 2023	Signature	Nazli Cila
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## CHECK ON STUDY PROGRESS

To be filled in by SSC E&SA (Shared Service Centre, Education & Student Affairs), after approval of the project brief by the chair.  
The study progress will be checked for a 2<sup>nd</sup> time just before the green light meeting.

Master electives no. of EC accumulated in total	<input type="text"/>	EC
Of which, taking conditional requirements into account, can be part of the exam programme	<input type="text"/>	EC

<input checked="" type="checkbox"/>	YES	all 1 <sup>st</sup> year master courses passed
<input type="checkbox"/>	NO	missing 1 <sup>st</sup> year courses

Comments:

Sign for approval (SSC E&SA)

Name	<input type="text" value="K. Veldman"/>	Date	<input type="text" value="4 Dec 2023"/>	Signature	<input type="text"/>
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## APPROVAL OF BOARD OF EXAMINERS IDE on SUPERVISORY TEAM -> to be checked and filled in by IDE's Board of Examiners

Does the composition of the Supervisory Team comply with regulations?

YES	<input checked="" type="checkbox"/>	Supervisory Team approved
NO	<input type="checkbox"/>	Supervisory Team not approved

Based on study progress, students is ...

<input checked="" type="checkbox"/>	ALLOWED to start the graduation project
<input type="checkbox"/>	NOT allowed to start the graduation project

Comments:

Comments:

Sign for approval (BoEx)

Monique  
von Morgen  
Digitally signed by  
Monique von Morgen  
Date: 2023.12.05  
10:57:05 +01'00'

Name	<input type="text" value="Monique von Morgen"/>	Date	<input type="text" value="5 Dec 2023"/>	Signature	<input type="text"/>
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## Personal Project Brief – IDE Master Graduation Project

Name student **Lucie Brouwer**

Student number **4,650,220**

### PROJECT TITLE, INTRODUCTION, PROBLEM DEFINITION and ASSIGNMENT

Complete all fields, keep information clear, specific and concise

#### Project title

Ecology of generative AI

*Please state the title of your graduation project (above). Keep the title compact and simple. Do not use abbreviations. The remainder of this document allows you to define and clarify your graduation project.*

#### Introduction

*Describe the context of your project here; What is the domain in which your project takes place? Who are the main stakeholders and what interests are at stake? Describe the opportunities (and limitations) in this domain to better serve the stakeholder interests. (max 250 words)*

Generative AI interfaces, like Midjourney or ChatGPT, are a user's only grip on an AI tool. AI in general and Generative AI tools are complex to understand and too big to comprehend. Nevertheless, our lives get more and more entangled with AI tools increasing the need to understand its costs and consequences (Crawford, 2018).

With this project I hope to raise questions about the lifecycle of Artificial Intelligence. And also create awareness about what plays a role in the creation of Generative AI tools. To reach these goals I will make use of a comparison between a seed of a plant and a seed in a GAN.

The comparison with a seed came to mind when I engaged with AI image generator tools, and tried to understand what a seed number meant in the generating process. A seed in an image generator is a number which sets the visual noise. This number is random by default, and therefore different for every image.

Looking at plant seeds, the number might be compared with the seeds DNA. If two plant seeds have different DNA, they will be non-identical to differing extents. Having the same DNA, they could be identical, if their environment allows it. When a seed number is set and the same prompt is run twice with this number, the same or identical image comes out.

If this comparison is taken further, what might natural systems teach us about Generative AI? How do they interact with the world? What are similarities and what are differences? What do these differences mean? Do these point out where a Generative AI might be harmful?

Nature is studied by humans and for this we use the term ecology defined as "the whole science of relations of the organism to the environment including, in the broad sense, all the conditions of existence"(Ernst Haeckel, Generale Morphologie). As John Muir put it in 1911: "When we try to pick out anything by itself, we find it hitched to everything else in the universe".

Artificial Intelligence (what's in the name) is presented as artificial, the opposite of natural. This project focuses on the Ecology of Technology: the interrelationships between technology and the world, its meaning and materiality, its impact and uses, beyond the everyday, deterministic fact of its own existence (James Bridle, 2022, p.14).

introduction (continued): space for images

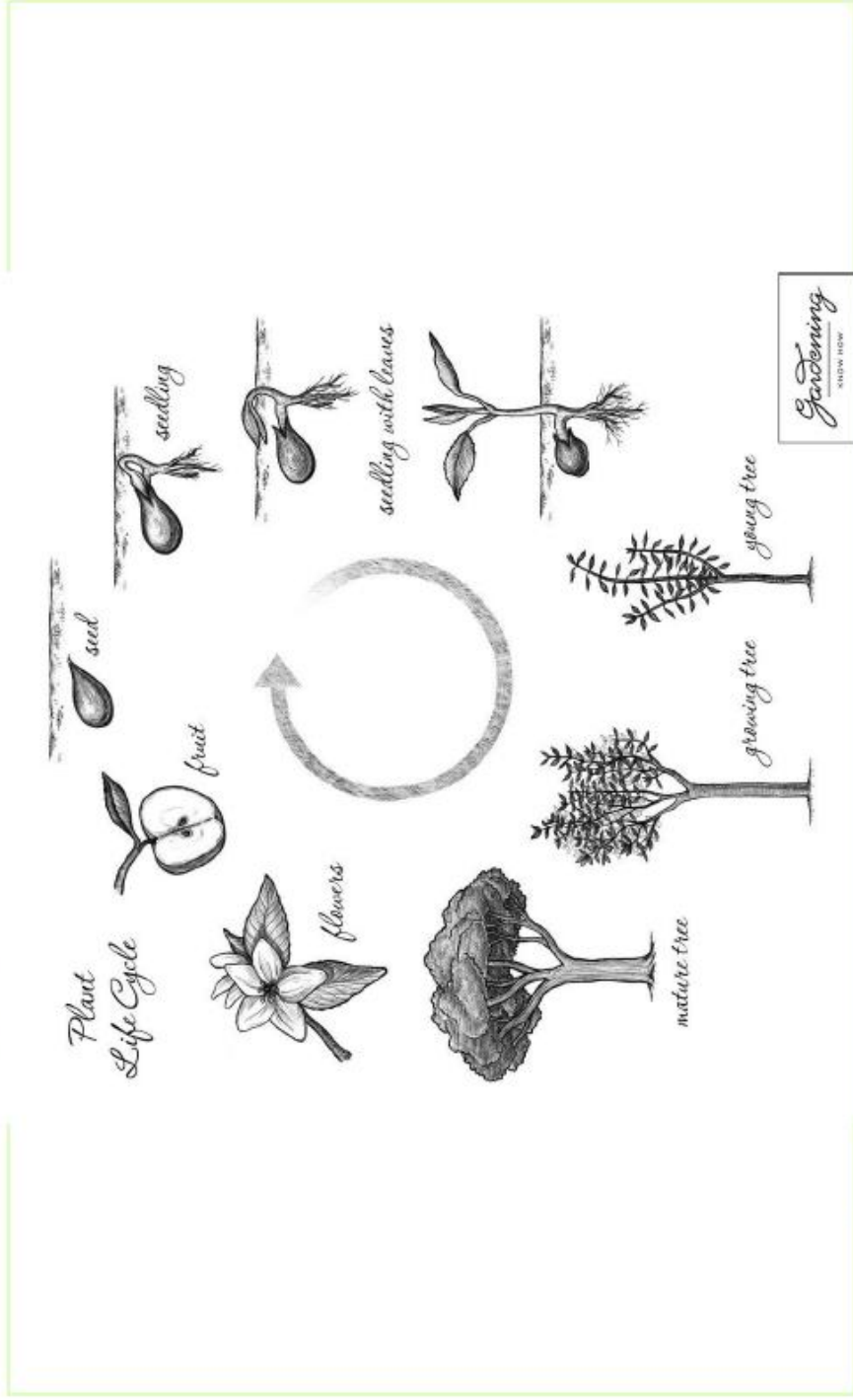


image / figure 1 Seed/plant lifecycle, Garden Know How 2021

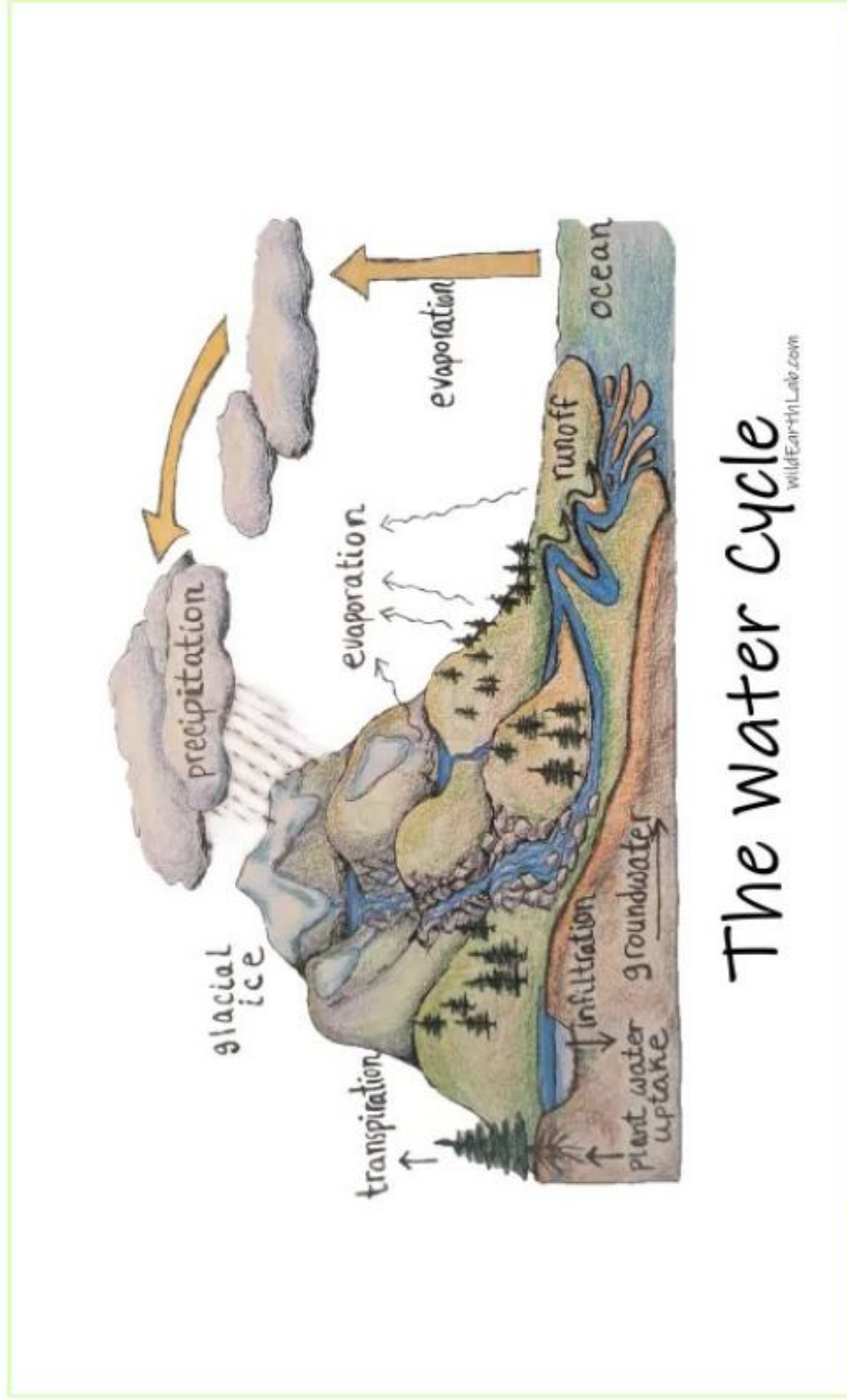


image / figure 2 Watercycle, Wild Earth Lab 2021

## Personal Project Brief – IDE Master Graduation Project

### Problem Definition

*What problem do you want to solve in the context described in the introduction, and within the available time frame of 100 working days? (= Master Graduation Project of 30 EC). What opportunities do you see to create added value for the described stakeholders? Substantiate your choice.  
(max 200 words)*

With this project I hope to increase the understanding of Generative AI. Even more so, I want to increase awareness of the cost of AI and trigger critical thinking about this technology.

With the comparison I aim to make something so big and complex more tangible and understandable. But, also, the comparison is made to create another context to think about generative AI, bringing it into relation with the natural world. I want to do so to give users some insight into the tools they use, and allow them to form their own opinion.

### Assignment

*This is the most important part of the project brief because it will give a clear direction of what you are heading for.*

*Formulate an assignment to yourself regarding what you expect to deliver as result at the end of your project. (1 sentence)  
As you graduate as an industrial design engineer, your assignment will start with a verb (Design/Investigate/Validate/Create), and you may use the green text format:*

*Investigate the ecology of Generative AI by mapping it over a natural ecology to create a concept to trigger critical thinking about our interaction with and the cost of this technology, for the general public.*

*Then explain your project approach to carrying out your graduation project and what research and design methods you plan to use to generate your design solution (max 150 words)*

In this project I will explore the ecology of Generative AI. By mapping the ecology of a generative AI, firstly, hope to gain insight into the whole process behind the image generator interface. What are the resources for computers used and for their computation power? How and by whom is data gathered and processed? What happens to the output once it finds its way into the world?

Second, by mapping over a natural process or ecology, I want to find a way to talk about abstract concepts in a language humans understand.

And third, through the mapping I want to shine light on parts where Generative AI is harmful. And through the comparison I hope to inspire thought on how we would like the ecosystem to be. How might the ecosystem be healthy, and what is healthy?

## Project planning and key moments

To make visible how you plan to spend your time, you must make a planning for the full project. You are advised to use a Gantt chart format to show the different phases of your project, deliverables you have in mind, meetings and in-between deadlines. Keep in mind that all activities should fit within the given run time of 100 working days. Your planning should include a kick-off meeting, mid-term evaluation meeting, green light meeting and graduation ceremony. Please indicate periods of part-time activities and/or periods of not-spending time on your graduation project, if any (for instance because of holidays or parallel course activities).

Make sure to attach the full plan to this project brief.  
The four key moment dates must be filled in below

Kick off meeting	14 Nov 2023
Mid-term evaluation	31 Jan 2024
Green light meeting	10 Apr 2024
Graduation ceremony	8 May 2024

In exceptional cases (part of) the Graduation Project may need to be scheduled part-time.  
Indicate here if such applies to your project

Part of project scheduled part-time	<input checked="" type="checkbox"/>
For how many project weeks	15
Number of project days per week	4,0

Comments:

## Motivation and personal ambitions

Explain why you wish to start this project, what competencies you want to prove or develop (e.g. competencies acquired in your MSc programme, electives, extra-curricular activities or other).

Optionally, describe whether you have some personal learning ambitions which you explicitly want to address in this project, on top of the learning objectives of the Graduation Project itself. You might think of e.g. acquiring in depth knowledge on a specific subject, broadening your competencies or experimenting with a specific tool or methodology. Personal learning ambitions are limited to a maximum number of five.  
(200 words max)

With this project I hope to show my analytic thinking. I greatly enjoy questioning and investigating. I want to work on questioning my own beliefs, so develop a more critical attitude towards my own thinking.

Also, I see this project as a challenge when it comes to planning. I want to distribute my time over the research and also the development, knowing when to stop digging deeper.

AI in general fascinates me, and I hope to develop my understanding of it. I hope to come to a point where I am able to explain generative AI and be able to formulate an educated opinion about it.  
I am very excited to expand my knowledge on ecology. My personal interest in and love for nature motivates me to explore this new territory. As does my interest in our (de)connection with the natural world. I think this will be very interesting and useful to be able to combine the natural and technological world.