

Rhizome

Exploring the Repository of Transformation

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Abstract

The Repository of Transformation is a concept of a learning and participation platform. This report describes a design project to explore how this concept can be further developed in the d.center | EU and Transforming Practices community and how such a platform can facilitate learning and work towards societal transformations.

The project first reflects on previous work on the Repository of Transformation. It reveals the need for a better understanding of the values of the d.center | EU and broader perspectives on designing for Transforming Practices. A literature review and benchmark analysis are then described as part of a design approach. Based on the results, a manifesto was written to further guide the Repository of Transformation's development. Consequently, a prototype was made to provide a basis for further experimentation for the Repository of Transformation.

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Report structure

In this report, you will read about my most recent design project, which is part of the ongoing effort to design a *Repository of Transformation* (hereafter: 'repository'). This repository is a vision for a participation platform that can transform the Transforming Practices community, and it is something I have been working on for the last two semesters.

Last semester, during my M2.1 project, I collaborated with four other students to define and explore what is needed to create a Repository of Transformation. These combined efforts further improved our understanding of what the repository could be. This semester, I aimed to further realize such a platform by focusing on the structuring of content, exploring values and concepts essential for the platform and its context, and delivering a scalable, high-fidelity prototype.

During my project, I discovered the value of rhizomatic knowledge structures, and, like my prototype, this report takes elements from this structure. I will delve into rhizomes later in this report; for now, it suffices to understand rhizomatic structures as providing a way to make creative and unexpected associations within knowledge or information structures in a way that would be impossible in a hierarchical structure. As such, it allows for a more open-ended and creative way to process data and form unexpected connections. While valuable in its ability to facilitate an open landscape for learning through exploring, a rhizomatic structure is not the best way to get a single, predefined message across, as much of the meaning of the rhizome is determined by the reader and, although this is a great way to comprehend content, for the reader it is a relatively slow process (and I know you are all rather busy). To accommodate this, I opted for a hybrid approach for this report. Although this PDF version is a complete description of my project, I recommend reading the rhizomatic version instead. This version can be found inside my prototype at <https://rhizome.vercel.app>. This format attempts to overcome the limitations of linear, hierarchical structures and aims to showcase

some of the qualities of thinking in terms of rhizomes. It is an experiment, but I enjoy learning through (patient, Ingoldian) experimentation; I hope you like it.

As usual, I will proceed by introducing the topic of this project. I will explain what the d.center | EU and the Repository of Transformation are and why I consider working on this topic relevant. Afterward, I will reflect on my past project, which was also done in this context, and discuss the lessons we learned as a community from last semester's collaboration. I will then explore some of the values and concepts essential to understanding this project and explain my approach this semester. Afterward, I will discuss some of the steps in my design process, such as the benchmark analysis of existing community platforms and the literature review. Then, I will present a manifesto for the repository and introduce the prototype I made based on this. Finally, I will reflect on the result of this project and discuss the future direction of the repository. The report will end with a conclusion.

Introduction

As global challenges rock our planet, it becomes increasingly apparent that our predominant ways of living are no longer sustainable. The structures and systems that we have relied on as a society are revealing themselves as unsustainable, and we seem insufficiently equipped to address our contemporary crises within the boundaries of our capitalist and neoliberal ways of thinking. We often look at science and technological innovation for solutions - or rather as 'fixes' - as these promise to resolve the issues we face that fit within our current, techno-optimistic ways of thinking. Nevertheless, the solutions that come from these domains are more often than not from the same problematic ways of thinking as what caused these problems in the first place. To make matters even worse, it has become clear that we cannot expect much from our governing institutions; they are ill-equipped to address these complex issues since they are relatively unpredictable and cannot be contained in a spatiotemporal sense. Climate change, for instance, does not stay within the borders of a polluting country, and neither can the effects of pollution

be noticed instantaneously; they are a result of pollution accumulating for many years. Our political system is much better equipped to address short-term problems adhering to a clear cause-and-effect structure that can be dealt with through a 'free-market' solution with minimal risks. More radical proposals that address the root causes of our contemporary problems, the status quo, are often dismissed because they are deemed too risky. Our contemporary political system can be described as one in which change and experimentation are considered risks that are not worth taking.

Within this setting, Transforming Practices is establishing itself as a design discipline aiming to address contemporary global issues by facilitating the design of local solutions that cumulatively can dissolve societal challenges. This is done in several ways, for example, through creating methods and approaches that make designing for transformation more accessible and facilitating collaboration between different stakeholders on different levels of society. Other examples include creating experiences that showcase possible alternative futures to open up our conception of how we can shape our society and the world around us.

Although its potentials for positive societal impact are clear, Transforming Practices is not yet very well established and a European design center is being set up to spread the discipline of Transforming Practices further. This semester, I have worked on designing a web platform for this center and evaluated the values and concepts at the base of the center's identity.

Transforming Practices and d.center | EU

Within the Transforming Practices community, we acknowledge the transformational qualities of design and seek to understand how design for societal transformations can become a widespread practice. Inspired by the grand societal issues we face, we consider our societies' transformations by creating local solutions that contribute to the larger whole.

The Transforming Practices vision can also be found in the realization of the d.center | EU, which is the context in which this project is done. The d.center | EU is a design competence and excellence center that is currently being set up by the Research Institute of Sweden (RISE) and the TU/e as a part of a European Knowledge and Innovation Community for the Cultural and Creative sector (Research Institute of Sweden (RISE), n.d.).

The d.center | EU is a design-driven platform that aims to empower creatives around Europe and catalyze societal transformation towards sustainable futures. The center should become a community where meaningful collaborations can flourish through open sharing and promoting diversity and inclusion.

The approach of d.center | EU is future-oriented and aims to create visions of alternative futures through collaboration and experimentation. This approach aims to discuss, communicate, imagine, evaluate, direct and concretize directions for societal transformations, with the ultimate goal of working towards a horizon of collective thriving.

Exploring the Repository of Transformation

The Repository of Transformation is integral to the learning ecosystem of the d.center | EU. It is a vision and concept for a participation and knowledge platform for creatives around Europe. It aims to facilitate social and sustainable transformation by providing a digital space to learn and collaborate. To make this more concrete: you could say that the platform is similar to other platforms that have a social aspect and are centered around navigating information, such as Discord, Facebook, Wikipedia, and OpenStreetMaps. With the repository, however, we aim to find out how we can shape this platform to get a grip on transformation and build a community around societal transformation design.

Several challenges central to this process were discovered during last semester's collaborative effort to explore the concept of a Repository of Transformation. I

would like to briefly describe these challenges as they were leading in moving forward during this semester.

How can we build an open platform where people can share their knowledge and experiences in a way that does justice to the richness of this knowledge and experiences? How can we capture the essence of the transformational qualities of this content? Furthermore, how can we overcome the limitations of the web platform as a medium in this regard?

How do we structure complex networks of information where one subject often has many rich relations with other subjects? What content should have a place on the platform, and how can we shape this experience to facilitate learning?

How do we make the knowledge and the relation between knowledge on the platform navigable to facilitate learning and stimulate the social connections between users?

How do we get people to use this platform? What is in it for users to use it? What is our value proposition?

How can we as a community learn more about (the transformation of) Transforming Practices through the data on the platform? Can we use the data of the platform to see patterns in transformative behavior and

How can we foster reflection on the transforming qualities of users' experiences in and outside of the platform?

I already explored some of these questions during my previous semester's M2.1 project (Van der Heide, 2022). In that project, I created a series of mid-fidelity prototypes that each explored different aspects of the Repository of Transformation. The first prototype was a way to upload content to the platform.

The second prototype explored how lenses (~ taking different perspectives) can be used to navigate the quantity and complexity of information on the platform. The third prototype focused on how filtering can make information within the repository more accessible and navigable. The fourth prototype was the first step towards building a high-quality demonstrator that gave people a first impression of what working with the repository could look like. This demonstrator also gained insight into the qualities needed for adding new content to the repository. During this project, we learned several lessons on the repository's structure, interaction, and navigation, which I would like to discuss briefly in the following section. It also further emphasized some of the difficulties in designing a repository of transformation, which I will describe below:

Documenting information

To capture the transformational qualities of the content on the platform, we must grasp people's knowledge, experiences, ways of working, and relations. This process should be done in a way that benefits their personal conception of these qualities, requiring an element that facilitates reflection in their interaction with the platform. In order to communicate these qualities to the community, a focus on the transferability of these knowledges and experiences to different contexts is essential. Capturing these knowledges proved challenging on a web platform, as this type of medium is already associated with a specific type of use, and a dependency on web technology and screens also limit the possibilities from a designerly perspective.

Navigating the repository

To create an effective learning environment, users should be able to make sense of information structures, which is especially hard to design for a diverse group of users with different goals and different expertise in the transforming practices field. Due to the amount of information, it is hard to

keep an overview of all the data on the platform, and both the structure in which information is ordered and how this can be navigated needs to be further explored. Filters and lenses could provide a way of doing this.

Lenses and guiding people's perspectives

Lenses, or filters that show a subsection of the information in the repository can prove fruitful in guiding people to take on alternative perspectives in navigating the platform and shaping users' mental model of connecting these pieces of information.

Linking recommendations

Most of the time, societal transformation happens due to combined efforts between multiple stakeholders through an accumulation of case studies and using different methods and approaches. As such, learning about how these transformations come about is not some isolated knowledge but something that can only be learned by paying attention to the relationships between all of these factors. To accommodate this, the repository should have a way of showing these relations. Based on this, we could learn more about how transformations are constituted, and recommendations for unexplored links that might be possible could be given.

Showing impact, or the effect of transformations

The field of Transforming Practices is relatively new, and a lot still needs to be clarified about how we, as designers, can make the societal transformations we want to work toward a reality. With the repository, there is an opportunity to demonstrate the development of the Transforming Practices field, which could lead to new insights on how to design for transformations.

These points provided me with several interesting starting directions for this semesters' project. Most importantly, two main issues must be addressed before

further developing the Repository of Transformation. On the one hand, there needs to be a better understanding of how the values of the d.center | EU and the Transforming Practices community will explicitly take shape in the repository. Furthermore, an initial basis of the repository is needed for user testing, which can be extended with features over time. With these challenges and possible directions in mind, I started my FMP design project. My aim for this project is to realize a clear vision for the repository's development direction and a high-quality prototype that can serve as a basis for future user testing.

Design process

In this project, I have taken a design approach that relied on extensive literature research on values and concepts, as well as benchmarking. First, I have conducted a literature analysis aiming to explore the values relevant to the d.center | EU and the repository and discover relevant concepts that can guide making these values concrete. Then, I did a benchmark to see if and how these values are already implemented in other places. I looked at existing initiatives in a.o. social interaction, learning and knowledge navigation. These ranged from web platforms to art projects and from prominent platforms to small projects. I looked at these initiatives through the lenses of the values defined at the beginning of this project. I then did an extensive literature study on philosophical literature to see if I could extend my vision for the repository to better fit the values of the d.center | EU. Specifically, I read the works of Ingold (2017), Stengers (2015), and a compendium of the work of Deleuze & Guattari (Romein et al., 2009). I used their ideas to reflect on my earlier benchmark, which led to several inciting concepts summarized in a manifest for the Repository of Transformation. I researched the technological requirements for creating a Repository of Transformation to communicate my findings and lay a basis for the repository. I wanted to develop a prototype that could be further built upon in the future and that was fluent in its user experience while at the same time being easily scalable and future-proof.

Finally, based on this research, a high-fidelity prototype was built to serve as a basis for further experimentation for the Repository of Transformation.

Values and concepts for the repository

The previous semester was my first semester in the Transforming Practices squad. Because of this, I initially found it difficult to do justice to the intricate and well-thought-through values and ideas around the d.center | EU. By studying the values on which d.center | EU is built. I have gained a much more thorough understanding of Transforming Practices. I also have become more sensitive in my thinking about Transforming Practices and more nuanced in my communication.

At the start of the semester, I sat together with my fellow students Wesley Hartogs and Jeroen Brattinga - who are also working in the context of the d.center | EU - and our project coaches Caroline Hummels and Ambra Trotto to discuss the values and concepts that the d.center | EU is based on. Within the Transforming Practices, these values and concepts are deemed critical to design for societal transformation, and as such, they should be embedded throughout the platform.

The terms below are fundamental values and concepts that were discussed. It is essential to explain my understanding of these values and my initial thoughts on how these could find a place in the functioning of the repository. Through discussing these terms with fellow students, a literature review, and a discourse analysis, I furthered my understanding of the following concepts:

Minor key

When arguing against education as transmission, social anthropologist Tim Ingold (2017) distinguishes between the dominant paradigm of education (major key) and his suggestion for the more humble minor key. Where education is often thought of as the instilling of facts, of learning 'how the world is,' we might argue that education is actually (or perhaps: should be)

a much more hesitant path of exploration, of uncertainty and different perspectives that change the way we think of ourselves and the world.

Co-respondence

It is crucial to think of the activities on the repository as being transformative to people. A concept that can help us understand how interactions change and shape us as persons is Ingold's (2017) notion of co-respondence. At the basis of co-respondence lays a shared experience, something that overlaps between people and is, therefore, deeply transformative for all sharing parties. It is the idea that we can only grow individually by being with others and sharing experiences with others.

Attitude

It is vital to have the right attitude to facilitate cooperation and innovation for Transformative Practices and to realize transformations on any level. This attitude has to do with some of the other values in this list and will be further explained below. It is, moreover, something that can only be acquired over time, for example, through design education. The repository should also implicitly or explicitly promote this attitude through, for example, its aesthetics, how information is represented, or the interaction between users.

Open-ended

Societal transformation is an ongoing process that will never be finished, and this open-endedness is part of the attitude of designing for Transforming Practices. There are no quick fixes, and we must shape our world in an ongoing, open-ended effort.

Being-change

Being-change (Hummels et al., 2019) represents an attitude of embodying change that goes beyond the notion of 'practice what

you preach.’ It is both an attitude of enabling the people we are designing for to be changed, as well as a responsibility of the designer to live and act according to the values underlying the transformation they aim to accomplish.

Distance

Via a web platform, we shorten the distance between people, but in a much more limited way than when we physically close the distance (for example, through a conference or another in-person social event). It is crucial to explore how we can achieve as much richness from the online shortening of distance or consider a hybrid approach to a repository of transformation.

Kairos

Kairos is a Greek word roughly translated as *deep time* (Towels, n.d.). Kairos represents a slowing down of time as a counter-reaction to the fast-paced efficiency prevalent in our contemporary society, resulting in a nonlinear notion of time, where there is full attention for the moment. These moments can lead to a connection of the dots or a moment of epiphany; as such, we want to facilitate these moments in the repository.

Aesthetics

The aesthetics of an experience are central to communicating values and intentions. To communicate the vision of the d.center | EU well and stimulate the attitude described above, a fitting aesthetic has to be developed for the repository.

Making

Making is fundamental in envisioning and experiencing the world from new perspectives. Through how technology mediates our experience of the world, creating new manifestations produces new perceptions, understandings, and perspectives that we might need to change our ways.

Failing

As I discussed before, an approach rooted in open experimentation is needed to work on transformation. Adopting such an approach will inevitably lead to moments of failure. We must learn to embrace this failure if we want to transform. Failing might not be the right word for this, but it is the best term for explaining this coming from contemporary western norms.

Literature review

I did extensive literature research, mainly philosophical literature, to further shape my understanding of the d.center | EU's vision and explore multiple perspectives on what the repository could look like. In this section, I want to summarize the three primary works that inspired me and discuss their relevance for the repository.

Anthropology and/as Education - Tim Ingold

Tim Ingold is a social anthropologist whose work has significantly inspired Transforming Practices' perspective on learning. To further my understanding of how I could design the repository as a learning platform, I was inspired by Ingold's work *Anthropology and/as Education* (2017).

In *Anthropology and/as Education*, Tim Ingold argues that anthropology and education are based on the same principles; they are both ways of studying *with* others, and both share the same defining characteristics, namely generosity, open-endedness, comparison, and criticality (p. 93). Ingold argues against the common understanding of education as the process of transmitting authorized knowledge. Instead, he argues that it is an active way of attending to things. It is a process of leading out instead of taking in. By paying attention, knowledge is generated and perpetuated (p. 16).

In order to argue against the idea of education as transmission, Ingold uses the work of pragmatist philosopher John Dewey. According to Dewey, every life aims to ensure the continuity of life itself; it is tasked with bringing forward and sustaining new life. This means that the continuity of the life cycle is a deeply social process. For Dewey, education is the means to carry out this sustaining of life. This is why “[w]herever and whenever life is going on, so too is education” (p. 17).

Another critical idea of Dewey that inspires Ingold’s thinking is Dewey’s conception of communication. He does not understand communication in the traditional sense of conveying information, but instead, by noting the relationship between the words ‘communication,’ ‘community,’ and ‘common,’ Dewey aims to understand how people with different experiences of life can reach a common understanding that allows them to live together. We can use this conception as a verb: to communicate would become ‘to common,’ which, in the context of education, is an act conducted by people belonging to different generations or life experiences. Another essential difference between commoning and the traditional understanding of communication is the idea that information is not transmitted without distortion: “*For sharing to be educative, I have to make an imaginative effort to cast my experience in ways that can join with yours, so that we can – in a sense – travel the same paths and, in so doing, make meaning together*” (p. 18). In this sense, education is a transformative act for all participants.

When we leave behind the idea of education as transmission, we can begin to understand that education is not the production of general and abstract knowledge that can be transferred to anyone. It is not the production of anonymity but the production of difference. It is the ways we collectively organize our lives in our own ways (p. 35-36). This kind of knowledge is not merely theoretical but deeply rooted in skill. It is based on our own prior experiences that cannot be transmitted but only brought about by doing: “*Just as my knowledge of the landscape is gained by walking through it, following various signposted routes, so my knowledge of cookery comes*

from following the several recipes of the book. This is not knowledge that has been transmitted to me; it is the knowledge that has grown in me as I have followed the same paths as my predecessors and under their direction” (p. 28).

Another key concept for Ingold is the idea of education as correspondence. As he understands it, we come into our own as persons in correspondence with others. Corresponding with others fundamentally differs from merely being at the receiving end of a transmission. It is instead an active answering to each other, a shared experience that overlaps with that of the other, and yet is not identical to that of the other; it is unique to each individual (p. 20). We must understand it as the literal idea of co-responding, of answering to each other and exchanging experiences. In sharing with others, in this intimate social process, “*every being finds its singular voice*” (p. 48).

In line with Deleuze & Guattari’s distinction between science in the major and in the minor, Ingold distinguishes between education in the major and in a minor key and argues in favor of reorienting our perspective on education towards the minor key. Education in the major key consists of the (supposed) transmission of grand, powerful statements of neutral facts about our world. Education in the minor, in contrast, consists of much more hesitance, of winding roads and deviations that “*pull us out of certainty, out of our defensive positions and standpoints – that disarm us*” (p. 63). It is an education that leads out instead of instills in. This also requires a different perspective on the role of the educator, who is there to inspire and guide their students instead of explaining bits of knowledge to students who are assumed ignorant (p. 9).

In line with education in the minor key, an essential part of education is patient experimentation. With this, Ingold means that learning should not be about testing preconceived hypotheses; it should truly be an open process with no predetermined outcomes or goals. The results of patient experimentation will always be unexpected. It is about following where your intuition takes you. This

takes patience: “*We have to allow things to come into presence, in their own time: they cannot be forced*” (p. 69).

Similarly, as researchers, we must understand our own task as one of curiosity and care. Research should sprout from a sensation of indebtedness, of care, as a sort of obligation to the earth, humanity, and every other being on our planet. Research should not be thought of as amoral or apolitical; what we research and why we research it is based on curiosity and care for our environment: “*We care about the past because it helps us to better know ourselves and where we have come from. And we care about the future because when we are gone, we want to leave behind a habitable world for the generations that come after us. In short, curiosity and care are two sides of the same coin. That coin is truth. Research, then, is the pursuit of truth through the practices of curiosity and care*” (p. 110).

Ingold’s perspective on education proves to be a fruitful source of inspiration when designing a repository as a learning platform. In what follows, I would like to highlight the main takeaways from Ingold for the repository:

Care and curiosity

We can understand the repository as a place that should encourage the flourishing of care and curiosity. It is a place that aims to go beyond the transmission of facts but instead accommodates a lively place for patient experimentation, where ideas are carefully and hesitantly shared, making them come alive within the research community. In the current scientific landscape, there is insufficient room for this attitude, and science is all too often seen as something neutral, as amoral, and apolitical. This attitude has led to a scientific paradigm in which societal issues are identified but not addressed. In this paradigm, the role of scientists is merely disinterested ‘fact finders,’ and the actual addressing of issues is the role of politics. For Ingold, this major key notion of science is problematic as any form of care is absent. We need to strive for a research community that cares about itself

and the work that is done, which adds an ethical dimension to such a community. In this setting, people will feel a duty to take care of the world through their research, which is sparked by curiosity. It is a central challenge to facilitate this attitude of care and curiosity in the repository.

Commoning and co-responsence

The main message of *Anthropology and/as Education* is that education is something interpersonal. Education can only be achieved through interaction and communication between people with a shared stake in this practice. It requires an active and attentive attitude to come to a shared understanding. This means the repository is essential in connecting people and facilitating a digital representation of commoning. It should be a place where people meet, interact and share experiences in a way that provides a richness that is as close as possible to sharing life experiences.

Attention

Ingold argues that attention is not merely a cognitive ability but a mode of being in the world. Attention is a way of engaging with the environment in a way that can be trained and developed. It is not just about focusing on specific objects or information but about being attuned to the environment. This means paying attention to the relationships and connections between different things and the broader context in which they are situated. In the context of education, attention is not just about acquiring knowledge but about developing a way of being in the world that is open and responsive to the environment. For the repository, this means finding a format for facilitating experiences that help people engage with the world in a meaningful way.

Experimentation

Ingold describes patient experimentation as essential for education in the minor key. The lack of efficiency or progress opens up the moment (kairos),

and this is essential for letting go of all previous views, opening up for new views, and letting understanding grow over time. We must dare to shift towards following our intuition and shifting to a paradigm of experimentation rooted in curiosity. We can only do so with an open attitude and without an end goal in mind. For the repository, this asks for an open information structure where unexpected connections can be made. It also requires a certain slowness in the platform to let ideas unfold over time.

In Catastrophic Times - Isabelle Stengers

Isabelle Stengers' *In Catastrophic Times* (2015) should be read as an intervention, a "brief moment in which time is frozen that might touch those that are listening" (p. 15). Stenger's aim with this intervention is twofold. The first part of the book describes our current time as an impasse in which we cannot respond to the catastrophes we are facing. In the second part of the book, Stengers hopes to get us out of this impasse by describing the first steps towards rethinking our relation to the catastrophic times that we live in by exploring new grounds for "*experimenting with the possibilities of manners of living and cooperating that have been destroyed in the name of progress*" (p. 12).

Ingold and Stengers both critique the current dominant paradigm of science, which they see as reductionist, and focused on controlling nature. They also suggest an open-ended approach to experimentation as a way of escaping our current predicament. What Stengers adds to this perspective is, on the one hand, a notion of urgency: we need to act now, and we have to change our ways of living permanently; there is no way back. Additionally, she puts Ingold's notion of risk in a new light: although our experimental attitude can lead to both good and bad scenarios, there is no choice. Taking the risk is the only option we have left. Finally, she highlights the need for stories that move us beyond the deeply

problematic narrative patterns that belong to the thinking that got us in this trouble in the first place.

In *In Catastrophic Times*, Stengers argues that we must understand our contemporary time as “*suspended between two histories*” (p. 17). The first is the history of competition and economic growth. This is a narrative that we are all very familiar with, albeit perhaps subconsciously; we know what this narrative requires, and we know the outcomes of this narrative. The second history, however, is much less familiar; it is the path forward, out of this impasse, that we cannot yet see: our first history is lacking, it can no longer get us out of trouble, it is ill-equipped at responding to the challenges ahead. Through these catastrophes, it has become clear that we need to find a way to respond to our environment, but we have not yet found a way to answer to it on new terms (p. 20). Our inability to respond is partly caused by our seemingly desperate situation that lacks options. This is a political problem: Stengers describes the people in charge, the responsible authorities, as our ‘guardians.’ They are the ones that aim to maintain the status quo of free market capitalism (p. 29). They are unable to imagine a future that would operate on different terms than our narrative of economic growth and competition; they cannot help but think of our catastrophic times as a chance to further the prevalent realm of capitalist exploitation (p. 54). Stengers understands this lack of political power as an effect of the shift from politics to governance. Through this shift, we lost a feeling of collective responsibility for our future. With governance comes the idea of ‘management,’ managing crises, managing the status quo, and, most importantly, “*the management of a population that must not meddle with what concerns it*” (p. 54).

Stengers wants to explore how we can rethink our practices and our relation to our planet (p. 24). For this, the first step lies in naming Gaia, which means: “*the one who intrudes.*” Gaia is fundamentally disinterested: she is not interested in who is responsible for this situation; she is entirely indifferent to us. And still, she is

intruding; she is responding to what we have done: “*a bit like a shrugging of the shoulder provoked when one is briefly touched by a midge*” (p. 46). The intrusion of Gaia cannot, although our guardians seem to frame it this way, be reduced to a simple problem that needs fixing. We cannot overcome Gaia’s intrusion; it will not disappear (p. 41). Therefore, we must find a response to the intrusion of Gaia. This is a response not to Gaia itself but to the things that have made her intrude, the things that have provoked her, and to the consequences of her intrusion, for example, in terms of natural disasters or ecological damage. We must understand that this intrusion of Gaia is not temporary and, therefore, must learn to live with this intrusion. We must find an adequate response to the damage that we have caused (p. 57).

A fundamental concept in *In Catastrophic Times* is composing *with*. We must learn to compose with Gaia and find new ways to live with Gaia’s intrusion by making new compositions and reassembling the relations between actants. Stengers stresses that this is not something she can do alone. Composing is a collaborative practice; it is a strategy that can only be effective if the voices of many people are heard. A genuinely new response to Gaia’s intrusion can only result from heterogeneous collaboration (p. 50). We must fiercely resist the status quo leading us straight into climate disaster. However, we can only do so in a collaborative, composing manner, with attention to diversity and inclusion (p. 53). In order to compose, we must understand that the planet is not ours to use and exploit, and neither are we the stewards that should protect it. We must assume a much more humble position: by naming Gaia and by her intrusion, it has become clear that we are not in control. Only when we realize this does compose become a possibility.

In Catastrophic Times is a critique of critique. It is highly suspicious of the Enlightenment thinking and critique that leaves no room for anything outside of the rationality paradigm, everything that does not contribute to the path to enlightenment and progress.

Instead of the destructive enlightenment critique, we need to learn more constructive strategies and learn to act together in collaboration. In order to do this, we must learn the art of paying attention. It is important to note two things about ‘learning the art of attention.’ Firstly, it is not something we are born with; it is a skill that is learned; secondly, by denoting it as an art, it becomes clear that this practice should be perfected and requires creativity and cultivation. Paying attention is a skill that can help us find a new way to engage with science. Science needs to be opened up to the public; it needs to become a practice of commoning, of coming together over shared concerns. In this way, we can learn to engage with the environmental issues that are so prevalent today (p. 131). In this Stengerian reading of paying attention, the concept gains political power, as it is a questioning of political and technoscientific authority and a way of commoning over matters of concern. This allows us to see the crises and catastrophes of our times in a new light. No longer are they being reduced to distant technoscientific ‘problems’ that need fixing, controlling, or managing so as not to disturb the status quo. By actively coming together over these issues, we can begin to form new relations and new compositions with Gaia. The role of new narratives is fundamental to Stenger’s suggestions for a new way forward. We need stories that allow us to fantasize about new futures, bold and daring stories that take us beyond the limits of capitalism. We need “*stories recounting how situations can be transformed when thinking they can be, achieved together by those who undergo them*” (p. 132). We need to detoxify our narratives and remove from them the assumption that the earth is ours to exploit and is here to be in service of us and our history (p. 152). Instead, we must have a newfound joy in open experimentation and imagination as something that we do together, that we can unite over. We must see what works and what ideas and experiments we can cultivate in the ruins of the Anthropocene.

Although arguably a promising way forward, Stengers adds a word of caution: her proposal is risky. At the basis of open experimentation, where all outcomes are truly options, also lies its risk. Since we do not know our outcomes, our new

compositions and relations might ultimately still be too little too late. This is why Stengers refers to her proposed intervention as a *pharmakon* as both a remedy and a poison.

Although Stengers' *In Catastrophic Times* has many parallels to Ingold's *Anthropology and/as Education*, it adds some valuable nuances, new concepts, and political power to our exploration so far. Let us now discuss the most critical additions Stengers has to offer to our repository:

A political perspective

Stengers shares similar worries to Ingold regarding the need for a paradigm change, but her message is a much more political one. As she makes clear, the challenges of our time must be addressed in a manner that is entirely different from the detached managerial expert culture that we are used to. It requires a new engagement with societal issues and a new understanding of politics.

In this idea, we can find an essential role for the repository as a platform that allows for experimentation with radical new forms of knowledge, societal engagement, and organization. It must be a breeding ground for new ideas, ways of relating to each other, and the issues we care about. With Stengers, a sense of urgency is added to our repository. The only way we can get out of this trouble, out of our catastrophic times, is if we experiment with new ways of commoning, of coming together over shared concerns.

Collective responsibility

According to Stengers, we have become detached from the big questions of our time. We have accepted and normalized that scientific experts and political managers should resolve societal issues and that these are things

that we, the people, should not meddle with. This is why we have lost a collective sense of responsibility.

For Stengers, the research community needs to be open to everyone; it does not hold a monopoly on knowledge, experiments, or truth. With the repository, we should aim to create a sense of openness, accountability, and shared responsibility. Experimentation should become something communal, where all options are on the table, every outcome is possible, and everyone is able to engage in the production of knowledge.

Composing with Gaia

Stengers' concept of composing with Gaia greatly overlaps Ingold's *living-with* idea of our relationship with the environment. Although both share a deep engagement with nature, Ingold's notion of commoning focuses on the collective and collaborative aspect of our environmental relationships. It describes a collaborative practice in which the voices and knowledge of many people are brought together. At the same time, composing-*with* emphasizes the importance of working with nature to create new forms of co-existence. For the repository, this means explicitly encouraging deep engagement with nature, as living-with should go beyond a sense of care for the natural world. We must understand that we are not the stewards of the planet, nor can we exploit our planet relentlessly. We are simply one node in a complex network of actors, and we must learn to become better cohabitants of this planet, to understand that we are not in charge, but that we must find a new way to compose with Gaia.

Role of stories

Stengers explains a need for stories to imagine futures beyond the 'first history' of economic growth and competition. Stories can play an essential role in shaping our understanding of the world and its possibilities. They can help us to imagine and explore alternative realities and to see the world

in new and different ways. In this way, stories can be a powerful tool for exploring possible futures that would otherwise be hard to grasp or communicate. Specifically, Stengers sees a need for stories recounting how things can be transformed; these stories must go beyond the narrative of linear progress and enlightenment rationality. For the repository, this means there should be a prominent place for the ‘success stories’ of societal transformation. These stories will inspire the community and show how we can transform our practices. The repository needs to become a place for imagination, for experimentation with stories and life forms that go beyond the thinking that has gotten us into our current predicaments.

A Thousand Plateaus - Deleuze & Guattari

In *A Thousand Plateaus* (1980), philosopher Gilles Deleuze and political activist and psychoanalyst Félix Guattari describe a ‘rhizomatic’ structure that can provide the open-ended, flexible, and inherently interconnected format needed for designing a Repository of Transformation. This summary is based on a compendium of their work by Romein, Schuilenburg, and Tuinen (2009).

A Thousand Plateaus is written as a ‘rhizome,’ meaning it is an open-ended structure that allows connections between any of its points. Because of this rhizomatic structure, a traditional summary of the *A Thousand Plateaus* is either impossible or, at best, would be much too complex to attempt in this report. There is no single way to understand this work, and one can only follow the winding roads that constitute the network of *A Thousand Plateaus*. From a very general point, it can be seen as a philosophy of the rhizome, multiplicity, and nomadism. It argues that human society and the individual are not formed by a rigid structure but rather by a fluid process of becoming that is constantly in motion.

The concept of the rhizome has its roots in botany, with examples of rhizomes being ginger roots, potatoes, and grass roots. These are underground, creeping root systems with no beginning or end that send out roots and shoots from their

nodes. In a rhizome, new nodes and shoots can pop up in any place, and at any time, they can branch out in any direction.

It is important to emphasize that the rhizome is not merely a metaphor, it is not simply a blueprint of the structures in the world, but it is also an idea that gives a specific shape to the world. We must understand the rhizome as an idea that gives interactions in the world cohesion and direction (p. 188). Considering the structure of the rhizome moves you away from linear thought and your current understanding of reality. The perspective of the rhizome instead embraces a more fluid and open-ended concept of reality where open associations can be made, and unexpected links can be made.

To illustrate the power of rhizomatic thinking, we can contrast it to our current arboretic ('tree-like) thinking. Whereas a tree has a centered root system with a single stem, the rhizome moves in every direction, shooting out nodes in any direction. Thinking and thought processes in this format are not linear. Thoughts do not have a distinct end goal; it is not like drawing a line. Thoughts can move in any direction and “*are always immanent, always amidst what it is trying to grasp*” (p. 191).

Thinking about the way we express our ideas about the media we use is crucial to Deleuze and Guattari. In *A Thousand Plateaus*, there is no difference between the things the book discusses and how it discusses them (p. 197). It is written as a rhizome in order to discuss and illustrate what a rhizome is and what value it has.

Thinking about form

The concept of the rhizome shows that thinking about form is essential in creating a Repository of Transformation. The goal of the platform and what the platform discusses should be embodied in how the platform is designed and what is communicated through its aesthetics. Different forms, and different media, bring open up different possibilities while at the same time

excluding others. The same message takes on a radically different shape in an art exhibition, book, podcast, or documentary. It is essential to be sensitive to these differences in form when designing a platform such as a repository.

The value of rhizomatic structures

Stenger shows us how we must shed all of the problematic ways of thinking that have brought us here and reach a new paradigm of open exploration, we must undo ourselves from every speck of (arboretic) progression-thinking. Deleuze and Guattari's concept of rhizomatic thinking facilitates this through a structure that discourages thinking in terms of linear and hierarchical structures and encourages us to think in open-ended terms and new connections. For the repository, a rhizomatic structure can encourage the open exploration and experimentation that Stengers and Ingold find so crucial while also steering away from the problematic progression thinking.

Benchmarking

A benchmark analysis was done to evaluate if and how the values described above are currently present on online platforms. An additional goal for this analysis was to identify any exciting functionalities, user experiences, or aesthetics, that fit within the vision of the repository. I like to be adventurous in my methods during a design process, which does not always yield the expected results. Benchmarking is usually done in a business setting to analyze performance. This non-traditional use of benchmarking has evaluated concepts from a value-based approach and through several philosophical concepts. Using this approach in the repository context has yielded excellent results, as it has proven to be very helpful in connecting abstract values and concepts to concretely implemented functionalities.

The analysis was done in two stages, the first after the initial value identification at the start of this project and the second after the literature review. In this section, I

will explain my findings after the second stage. A complete overview of the platforms and initiatives that were included can be found in Appendix A.

Because of the broad setup of the repository and the multitude of intended functionalities, several categories of platforms and initiatives were analyzed:

Databases

Platforms that store information and have developed ways to navigate large quantities of information. These platforms could inspire the navigation of the repository. Examples include Wikipedia, GitHub, and YouTube.

Collaboration

Platforms that facilitate multiple people to work together and exchange knowledge. These platforms could inspire communication between users of the repository and ways to learn together. Examples include Wonder, Miro, and Notion.

Learning

Platforms that focus on the sharing of knowledge and skills. These platforms could help to design the learning environment of the repository. Examples include Wikihow, Instructables, and public libraries.

Social

Platforms that focus on relationships between people and building a community. These platforms could help us foster engagement and build a (partly) digital community. Examples include LinkedIn, Instagram, and Discord.

Other

Anything that falls outside the previously described categories. Examples ranged from the art pieces Library of Babel and Print Wikipedia and the book reading platform WebNovel to the worldwide Repair Café movement.

Based on the benchmark analysis, several insights were acquired that have contributed to the current form of the repository:

Rhizomatic structure and open exploration

In the repository context, a rhizomatic structure can be used to organize and present information to emphasize its interconnectedness and allow for multiple perspectives and approaches. The structure of the content should be flexible, allowing for a multiplicity of connections and possible paths; it also allows for changes and unexpected discoveries, as the information is not fixed and can change over time or even differ from user to user. This can facilitate a deeper understanding of the subject matter and encourage the exploration of new connections and relationships. It is also essential to step away from the associations and ways of thinking that have proven so problematic in our society.

Several web platforms adopt a (semi-)rhizomatic structure, such as Wikipedia, Obsidian, and the Library of Babel. Wikipedia uses a hierarchical framework of categorization on top of this, while Obsidian leaves any kind of sensemaking to the user. The Library of Babel provides a visual way of navigating that I experienced as helpful in identifying the structure of content relations.

For the repository, an approach like Obsidian seems most promising since it provides the most open experience. Since Obsidian is meant to be used by a single user, some adaptations would have to be made, especially regarding unique perspectives between users and facilitating other vital concepts such as commoning. A more visual approach is also required to make the rhizomatic nature of the platform more immediately visible and to identify the bigger picture of how this structure is made up.

Relating information

In a setting of open exploration, multiplicity, and connections, how connections are made and experienced is essential for the proper working of Rhizome. The aesthetics, user interaction, and technical implementation must be considered here, as the role connections play on the platform.

Several platforms, such as Notion and Obsidian, provide ways of linking elements to provide a user-determined information model. Obsidian offers the most complete implementation, where user-determined linking and categorization are possible, and recommendations for links are given based on text content. Other platforms, such as Miro, offer a more flexible approach that depends on users' interpretations.

For the repository, a visual model that matches the rhizomatic structure would make the most sense, given the requirement for the rhizome as described above. For the user, creating new connections should be a flexible process. However, the meaning of the connection should not be discarded, and an explicit explanation of how the connection connects the two contexts is essential.

Rich content

Rich ways of providing content are vital in stretching people's attention, sparking curiosity, and providing rich communication that could lead to commoning. It is a more open-ended way to organize and showcase information compared to traditional web content that will better portray reality than more fixed formats. To make a solid visual argument, a flexible content system is required.

Platforms such as Miro and Wonder can provide a richer way for content creation and communication, but these still seem lacking compared to the real-life encounters that lead to commoning. Upcoming technologies such

as AR and VR could provide a way to accommodate this. They can provide new ways to overcome distances and interact with digital materials differently.

Commoning online

Current platforms cannot approach the richness of commoning in real life in a virtual format. Open ways to create and share content can contribute to making communication richer, but we need other ways to interact with each other.

Hybrid platforms that have online and offline spaces, such as libraries or the Repair Café movement, allow for a more natural way of commoning. Other platforms, such as Wikipedia, organize get-togethers in their community as a way to overcome the deficiencies of online communication and enrich the relations and interaction within the community in this way.

For the repository, a hybrid approach in which the online platform is paired with real-life events, experiments, and/or locations seems the best route to reach online commoning, which is also better in line with the values of d.center | EU.

Aesthetics and the need for stories

Stengers has explained the need for stories to show the possibilities of patient exploration toward alternative futures. An example of how this can be done on an online platform can be found on the blog “*Low-tech magazine*.” This site promotes an appreciation for low-tech solutions to address high-tech problems and does so through stories in the first place and aesthetics in the second place. The website is solar-powered, and because of this, the aesthetics are optimized for efficiency to make resource use as small as possible. In this way, Low-tech magazine offers an

alternative to the dominant mode of thinking of high-tech fixes and combating the issues at hand with more and more technology.

For the repository, a similar approach can be taken, where stories are central in the rhizomatic structure, and the aesthetics of the platform are optimized to match this prominence.

Manifesto for the Repository of Transformation

To declare my intentions for the repository and share my views on what it should look like, I have written a short manifesto:

“We must break with our linear ways of thinking if we want to transform our practices. And Transforming Practices offers a way to work towards a horizon of collective thriving.

We must learn an attitude of being open to failure and experimentation and pay attention to the world around us.

If we want to learn to see the world in new ways and work toward transforming it.

We must adopt the principles of rhizomatic thinking if we want to facilitate open exploration and learning.

Which will bring us closer to a constantly evolving way of navigating transformation.

We must actively engage in exchanging ideas and creating shared experiences.

To learn and develop ourselves as a community that shares responsibility and care for our surroundings.

We must create stories of alternative futures together

That will inspire and teach a collective of creatives to work toward horizons of collective thriving.”

Prototyping Rhizome

As mentioned in “Exploring the Repository of Transformation,” my aim for this prototype was to create a foundation for the repository that can be easily extended with new functionalities and showcase my vision of what the repository could be. To do this, I wanted to use industry-standard open-source software and adhere to best practices in web development to ensure that if someone in the future would like to further this project, they can easily find enough resources.

I first want to establish what this prototype is and is not: it is not a finished product that takes into account all the values and concepts described in this report, and it also does not do justice to the manifesto described in the decision above. Instead, it can be seen as a basis for further developing the repository that considers a subsection of the values and concepts essential in creating a successful Repository of Transformation. Specifically, it takes the concept of rhizomes and implements Stengers’ notion of the importance of stories in this concept. It also provides a first interpretation of rich content through the implementation of the Markdown format for its content, which still needs further development in the future. Also, the community and communication aspects are not implemented in this prototype, which should be the next step in making the Repository of Transformation a reality.

In developing the platform, I first chose a back-end framework since this will power most of the platform’s functionality. As such, it determines most of the possibilities and limitations function-wise. I chose Next.js (Vercel, n.d.) for this project for its flexible way of data fetching and scalability. Next.js is an open-source JavaScript framework for creating server-rendered and static page React applications which have become very popular recently. Some benefits of using Next.js is that applications based on this framework are highly scalable and rely heavily on local (component) caching, allowing resources to be reused, resulting in less data traffic, faster loading times, and less energy usage. Next.js is built on

React, a front-end development framework that uses JavaScript to render web pages from reusable components. In my experience during this project, this is a great way to make websites, as dynamic or often used parts of a webpage (such as the navigation bar or the footer) can be programmed only once and are then rendered on each page. In short, React has made it more efficient and flexible to create web pages. This version introduces support for server-side React components and asynchronous data fetching, which together allow much of the platform's rendering of dynamic items to be done by the server instead of the client, resulting in a better user experience while also providing an, in my opinion, excellent developer experience, and easy project deployment. Traditionally, such JavaScript-powered applications are rendered in the client's browser, but this has several deficiencies, such as extended page loading times, security issues, and compatibility issues. Next.js aims to overcome these issues by rendering the pages on the server side, resulting in a 'static' webpage that consists of regular HTML. For this prototype, I used the latest beta version of Next.js.

Next, I have considered the ways to store and access data most suitable for the repository. To ensure the future scalability of the project, a modern database that can be easily manipulated and scaled is essential. Because of this factor and its convenient integration with Next.js, I have chosen Prisma ORM (Prisma, n.d.). Prisma is not technically a database but an ORM (Object-Relational Mapping). This interface sits between a database and a back-end and can mediate the interaction between the two. Concretely, it makes communication with the database easier by providing a readable and object-oriented database schema that is much more convenient to use than manually writing database queries. This functionality is especially beneficial since the database schema of this prototype can be expected to change significantly in the future, and Prisma makes it a seamless experience to make these kinds of changes. Under the hood, Prisma can use several database types. I have chosen PostgreSQL (PostgreSQL, 2022), an open-source relational database. Together with Prisma, it supports many-to-many

relationships required to make the complex and intertwined relations of content in the repository workable.

I needed a way to authenticate users conveniently to provide an open platform that is easy to access by anyone who wants to contribute yet is still secure. I used NextAuth (NextAuth, n.d.), a popular library that manages OAuth verification on Next.js sites and is open-source. NextAuth can verify individual user accounts via the open authentication standard OAuth and provides support for many providers of this service, such as Google, Facebook, and GitHub. It also supports the creation of user accounts via email and works well with Prisma and Next.js. In the prototype, I only implemented OAuth support via GitHub, but further extending this is quickly done.

For the design of the user experience, I extended my design with several libraries. I used the immensely popular CSS framework Tailwind (Tailwind CSS, n.d.) for the common navigational elements. Tailwind is the industry standard for designing user experiences for the web and makes working with CSS as convenient as writing HTML. CSS files dictate how an HTML page is visually stylized; traditionally, it is written in a separate file. This makes it necessary to manually link the CSS for each HTML element, which could be more efficient and make it easier to communicate between developers what element is styled in which way. With the rise of CSS frameworks, this changed, as they provided developers with pre-made CSS for common elements, making it possible to style web pages without leaving the HTML file. There were, however, significant limitations; as for any custom design, one still had to manually write the CSS. Tailwind changed that by capturing the same flexibility of native CSS in a framework. This has made it possible to design custom elements with the same convenience as pre-made elements, and it has become possible to do so without ever having to leave the HTML file. Moreover, Tailwind is universally adopted, extensively documented, and easy to pick up, making it an excellent choice for this project.

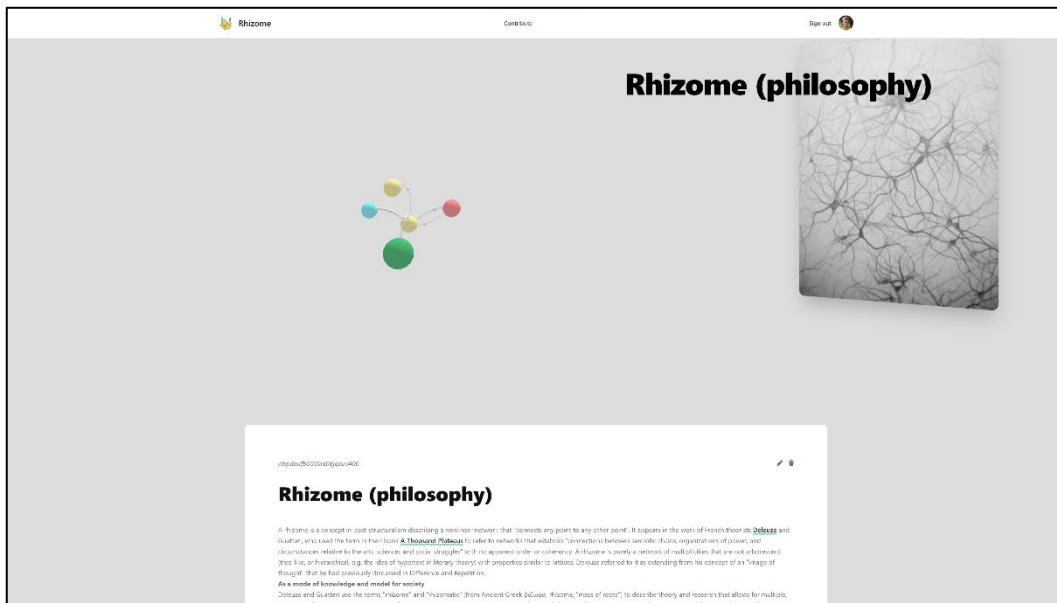
To make the project easy to extend and scalable, I used TypeScript (TypeScript, n.d.) in this project. Instead of the usual go-to programming language for this technology stack, JavaScript. TypeScript is a strict syntactical superset of JavaScript that adds static typing. This means it adds syntax on top of JavaScript that allows the use of types. Traditional JavaScript needs to be fixed, meaning it can be hard to grasp the type of data passed around. Especially in database queries or communication between components on a page (ex., typing in a search bar shows search results in the box below), it is essential to know what type of data is needed to handle it programmatically. TypeScript makes it possible to explicitly mention the type of data sent around. It can notify developers when there is a mismatch in the types of the sender and the receiver of the data.

For the content on the platform, I used the open Markdown format, a syntax language to format primarily text-based content with rich features such as headings, lists, images, links, video, code blocks, and other content.

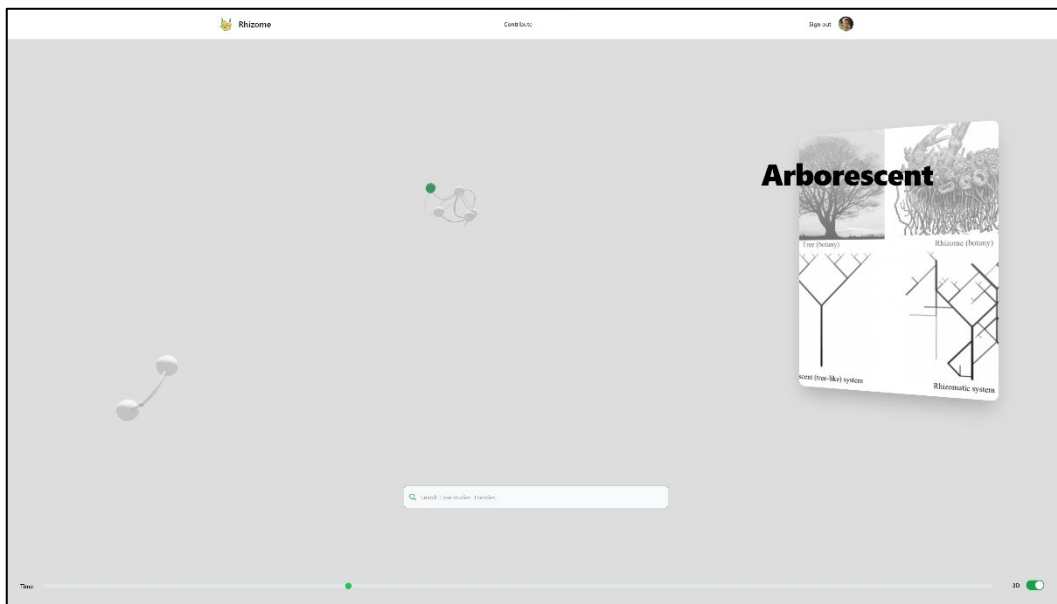
Result

The prototype I created, 'Rhizome,' is named after the rhizomatic structure that lies at its roots (no pun intended) and can be visited here: <http://rhizome.vercel.app>. I chose an aesthetics centered around the ginger root as a playful nod to this origin and a reminder of our responsibility to nature. Rhizome is a web platform that allows anyone to browse content via a hypertext model with visual navigation aids and explore the relations between content nodes and content groups. It also provides a genealogical overview of how the content on the platform has transformed over time as a means to gain further insight into the development of the Transforming Practices field. Exploring and creating connections between different content nodes is done via a link panel that gives recommendations for possible links. Additionally, anyone can log in to the platform using a GitHub account, and logged-in users can add, remove, edit, or connect content to their liking.

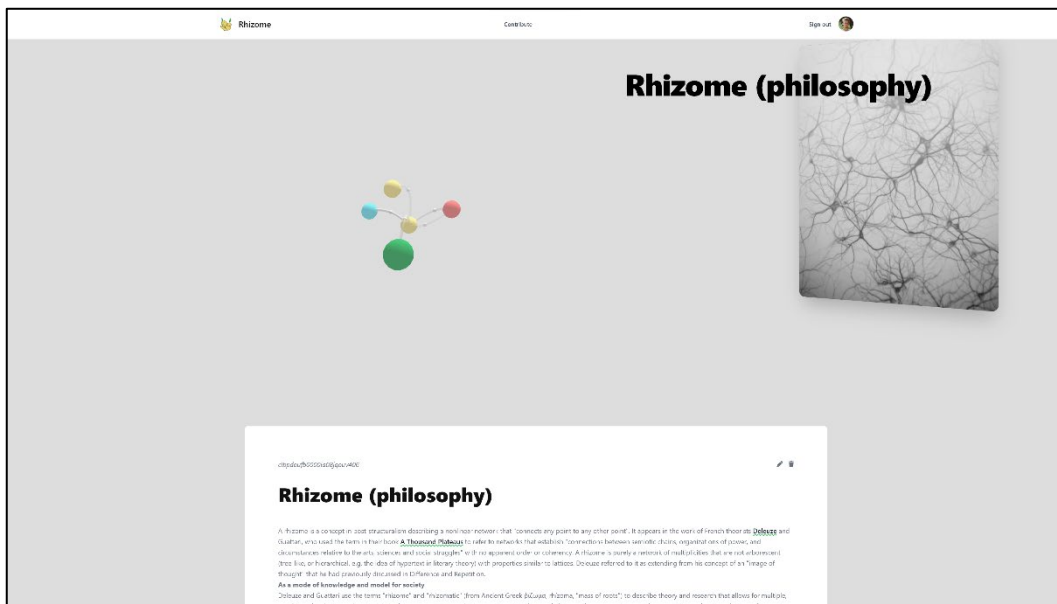
I will give a short explanation of the prototype and its features through the screenshots below. You can also visit this project's live website and the GitHub page via the links in Appendix B.



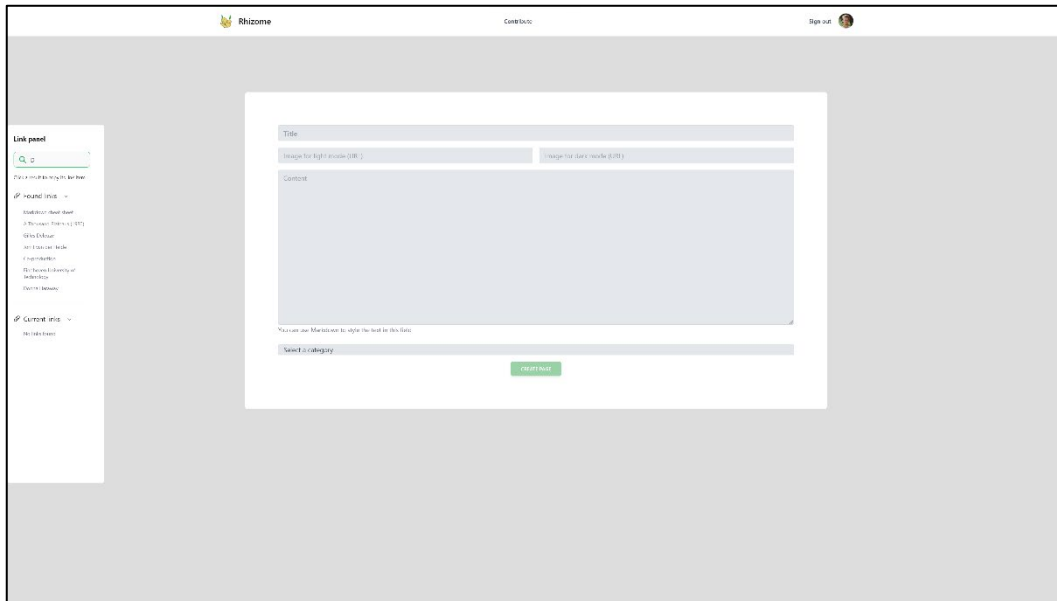
The page's user interface is the following: In the top right is a button to log in. In the left half of the screen, you see an interconnected web of 'nodes,' which represent information. In the right half of the screen, a preview of the information in these nodes is shown, which is updated on mouse hover. In the central bottom, a search bar can filter nodes based on their title. Along the lower length of the screen, a slider and a toggle are visible. The slider is used for the genealogical view of the rhizome over time, while the toggle switches between 2D and 3D modes. The nodes are color-coded based on the content category, and case studies are more prominently shown through a larger node size. The nodes are connected via tubes, representing a connection between their content. Particles travel through these tubes to show this connection's direction(s). Clicking any node will bring you to a separate page on which the full node content can be viewed.



While using the genealogical view, the usual functionality for navigating and showing nodes is still present. The slider will default to one of the outermost positions, representing the rhizome's current state. By sliding the slider from left to right, the changes in the rhizome over time are shown. In this overview, the green nodes are the most recent change in the network, while the white nodes are already present.



After clicking any node, you will enter a separate page. On this page, you can view information about the node content, such as its unique id, title, and markdown-based content. Additionally, a rhizomatic overview is shown of all the connections between the selected node and other nodes, via which users can navigate to related pages. These connections are also textually described in the node content, and any connection is shown in-text as a hyperlink. Users can also see buttons to edit or delete the page if they are logged in.



When clicking the ‘contribute’ button in the navigation bar, users enter a screen on which they can add a new node to the platform. To do so, they must add at least a title, an image, a textual description, and a category. In the linking panel on the left of the page, users can search the database of rhizome for the content they think is related to their newly created node. Clicking on related content creates a new connection and copies an in-text hyperlink in the node description to the users’ clipboard.

Discussion

In this section, I want to discuss some of the design decisions made in this project and reflect on my design process as well as the final prototype that was made:

On the implementation of theory in the prototype

Due to time constraints and this project’s scope, not all theoretical findings were implemented in the prototype. Specifically, the social and communal aspects need to be included in the current prototype. This was a deliberate design decision, and I want to explain and reflect on this choice. The starting point for the prototype has instead been the structuring of

information: how do we create an open structure that facilitates the ways of thinking and doing that we aim for in the repository? This, however, seems to go against Ingold's notion of learning as a social process. No real learning will occur, even if the structure is there, without providing a shared experience with another person where everyone has a stake. I still chose to work from the perspective of the content's structure because an approach centered around commoning would require an environment to interact on the scale of a community. It was, therefore, a specific desire and goal to work on a basic prototype first that could serve as a sandbox for further experimentation. In the future, we can use it to learn more about how we can create meaningful interactions between people in an online or hybrid setting.

The crux of transformation

A goal for the repository from a community perspective is to come closer to the crux of transformation. This raises the question if the current prototype is merely a library or if it can also teach us more about how transformation comes about. The prototype has a distinct value beyond visualizing a rhizomatic structure of content. Although it does not 'show' transformation at a glance, analyzing a community's sustained use of the platform should lead to a better understanding of how the relations between content come about. Something can only transform through its relation with others, and the platform can give a better understanding of how this works on a higher level. Additionally, the function to genealogically see the transformation of the platform, the community, can also aid in learning more about how transformation moves and behaves.

Rich content and meaningful interaction

A more rich and more free way to add content should be developed to facilitate the open-ended content to the platform. The current prototype

uses the open Markdown format, which allows for using many different *types* of content, but the *structure* in which this can be added is still very rigid. Moreover, how content is added and experienced is also essential in determining how people share this content and share an experience on the platform. Because of this, a focus on designing for open content is fundamental to making the repository a community platform. Other platforms, such as Miro, can serve as an inspiration in working towards this.

Commoning and designing hybrid platforms

Besides rich content, more is needed to facilitate commoning in the community of the repository. After reviewing how other platforms achieve this, a hybrid approach where real-life experiences strengthen digital experiences seems most effective. It is also worth mentioning that more than a shared experience is needed. To learn and experiment together, a mutual stake or intention is needed. This raises the question of why people would use this platform, which is a question that the d.center | EU should explore further.

Limits of the rhizome

A rhizomatic structure has the benefit of providing a non-hierarchical and open-ended structure. However, it also has drawbacks: from a user experience perspective, using a rhizomatic structure can make navigation unclear and the platform hard to use. Specifically, it is crucial for users to use the platform's open structure to create meanings from the connections of content, which could prove difficult in a rhizomatic structure. For example, in an extreme case, how could we derive meaning if everything is connected to everything? To see if this poses a difficulty for sensemaking in the repository, further use of the prototype by a community is needed.

A decentralized repository

To do justice to the repository, a decentralized format for the online platform seems more appropriate than the current centralized design. Decentralized web design is, however, still not widespread and would require more investment both technologically- and time-wise. However, I want to express that I see the future of the repository as a community-driven effort, and a decentralized format would start making this possible.

To end this discussion, I want to express my attitude in approaching the Repository of Transformation as a project. In starting this project, the end result was very unclear, and I see the process of designing this platform as an experiment. The more questions are answered, the more new opportunities arise.

Conclusion

In conclusion, this report has provided a detailed account of my design project for creating a Repository of Transformation. Through my research and design process, I aimed to create and explore a platform to help the d.center | EU and Transforming Practices community learn about and work towards transformation.

The project began with a reflection on my previous project and the lessons learned from it. I realized that to design for the repository, I needed to better understand the values of the d.center | EU and broaden my perspectives of designing for Transforming Practices. I then set out to address this through a design process rooted in literature research on values and concepts and benchmarking.

Throughout this process, I outlined the steps of my approach in depth and presented a manifesto that I wrote as a result of this process. Additionally, I explained the technical decisions that were made in creating a prototype for the Repository of Transformation. This manifesto serves as a guide for developing and maintaining a Repository of Transformation.

In the discussion section, I delved into the design decisions made during this project and their reasoning. I also discussed the potential impact and future directions for the Repository of Transformation. Overall, this project has been an exciting and fulfilling journey. I am confident that the Repository of Transformation will serve as a valuable resource for the D.center and Transforming Practices community.

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Appendices

Appendix A: Benchmark analysis

Aa Name	☰ Tags	☰ Description
 aWWwards	Database Social	A web design and -development awards platform.
 Bibliotheken	Social Learning Other	A platform finding knowledge and social interactions.
 Discord	Social Collaboration	A communication platform with a focus on audio chat targeting gamers.
 Facebook	Social	A social media platform for sharing messages and images.
 GitHub	Database Collaboration	A code collaboration platform.
 Instagram	Social	A social media platform for sharing images.
 Instructables	Learning Database	A learning platform for learning new skills.
 Library of Babel		An art project for a digital library.
 LinkedIn	Social	A social media platform for professionals.
 Low Tech Magazine	Other	A blog promoting low-tech solutions for high-tech problems.
 Miro	Collaboration	A visual organization and collaboration tool.
 Notion	Collaboration Database	A database/organization and collaboration tool.
 Obsidian	Database	A personal database and notetaking tool.
 OpenStreetMap	Collaboration Database	A non-profit open-source and community focused geographical mapping platform.
 Print Wikipedia	Other	An art project on the topic of Wikipedia
 Repair Café's	Other	A global movement and community.
 Twitter	Social	A social media platform for sharing short messages and images.
 Webnovel	Other	A book-reading platform.
 Wikihow	Learning	A platform for online how-to's.
 Wikipedia	Database	A free and non-profit online encyclopedia that is run by volunteers.
 Wonder	Collaboration	A virtual workspace for team collaboration.
 YouTube	Social Learning Database	A video sharing platform.

Appendix B: Rhizome prototype

Link to the website: <http://rhizome.vercel.app>

Link to the GitHub page: <https://github.com/jorritvanderheide/rhizome-of-transformation>