



UMEÅ INSTITUTE OF DESIGN
UMEÅ UNIVERSITY

Carefree — *in*
2060
pension saving for a full life

Thesis Report '23 - MFA Interaction Design - by Kimberley Beauprez

About this report

This report relays the activities during the thesis, executed in the context of the Masters in Fine Arts in Interaction Design, at Umeå Institute of Design, part of Umeå University in Umeå, Sweden.

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into savings in an empathetic way, and your personal views.

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Abstract

The pension system in Sweden today is a very simple system. Taxed incomes generate pension incomes, paid out monthly after retirement. Yet the topic seems riddled with emotions; guilt, shame and anxiety over what you should or should not do. Increasing inflation, population age and climate change are projected to pose big threats to pensions in the coming decades. By 2060, pension incomes are projected to diminish substantially. Yet the future brings hope too; the gender gap in pension incomes is today at 30% and is projected to go down to 4% by 2040 as the changing view on women in the workplace and policy making is evening the (occupational) field.

To learn about pension on the personal, professional and societal layers, I conducted conversations with professionals working for the pension agency, banks, savings solutions and researchers at economics and sociology departments at universities, as well as with individuals with pension planning on their minds (or not). The professionals argued that financial literacy teaches how simple the system is while the individuals feel overwhelmed and confused, showing that the system is not complicated but feels complicated. This dissonance became the space for designing.

I propose to look at money as an actor we have a relationship with, to scale away guilt, shame or anxiety and leverage the positives. Through the strategic use of reflection, we learn about our ongoing relationship with money; formed in childhood, and shaped by everyday life planning towards the future. Thus, we grow towards a life where money serves us by investing in our values, hopes and dreams. As we change our financial behaviour today, we change our relationship in the future.

The value of money does not start with the currency, but with the intention of use, in the hopes and dreams of a person that wants to spend their time with families and hobbies, not with stocks and funds. Looking at financial planning more holistically shows how the established system is biased, rejecting those that do not speak the language. We as designers can be mindful of this and make more inclusive tools to learn this financial language. Insofar the system can be changed is what I examine through speculative futures methods and designs.

Glossary

1. Actor Network Theory: (ANT) is a social theory and methodology that views the world as interconnected networks of relationships. It emphasizes that everything, including social and natural elements, exists within these networks. According to ANT, all factors in a social situation hold equal importance, with no external forces. Objects, ideas, processes, and other factors are considered crucial in shaping social situations alongside human interactions.

2. Automatic Balancing Mechanisms: (ABMs) are used in pay-as-you-go pension systems to counter adverse demographic and economic changes. They involve adjustments in benefit levels, contribution basis, and pension revaluation to restore system sustainability. Applied in countries like Finland, Portugal, Germany, Sweden, Japan, and others.

3. Commodity: a basic material or product which can be purchased in large quantities for the production of other goods and services.

4. Compounding: a powerful investing concept that involves earning returns on both your original investment and on returns you received previously. (wells fargo)

5. Discounting: the process of determining the present value of a payment or a stream of payments that is to be received in the future.

6. Economic Growth: an increase in the production of economic goods and services, compared between one period of time and another. Generally measured in GDP.

7. Equity: the ownership "share" of an asset or company.

8. Feminist theory: the extension of feminism into theoretical, fictional, or philosophical discourse. It aims to understand the nature of gender inequality. (wikipedia)

9. Financial markets: a marketplace where financial assets can be bought and sold. For example, the selling of equities, bonds and currencies.

10. Funds: pools of money that are typically invested and professionally managed to generate returns for investors. There are different kinds of funds:

- ♦ Mutual funds are managed by professionals who allocate funds from individual investors into stocks, bonds, and other assets.
- ♦ Money-market funds are highly liquid mutual funds are purchased to earn interest through short-term securities like Treasury bills and commercial paper.
- ♦ Exchange-traded funds (ETFs) are similar to mutual funds but are traded on public exchanges (similar to stocks).
- ♦ Hedge funds are designed for high-net-worth individuals or institutions, hedge funds aim to increase pooled funds' returns by utilizing high-risk strategies like short selling, derivatives, and leverage.
- ♦ Government bond funds are for investors seeking low-risk options, investing in treasury securities or agency-issued debt, both backed by the government.

11. Gross Domestic Product (GDP): to measure a nation's economic performance and activity from a very broad sense and refers to the total monetary value of all the completed goods and services that have been produced within a country's borders in a set period of time. Typically calculated on an annual basis.

12. HQL: Health related quality of life.

13. Financial wellbeing: a state of being wherein a person can fully meet current and ongoing financial obligations, can feel secure in their financial future and is able to make choices that allow them to enjoy life. (United Healthcare)

14. Human centred design: a practice where designers focus on the human needs of system users. It revolves around four key principles: placing people at the center, addressing the right problems, recognizing the systemic nature of design challenges, and implementing small and simple interventions.

15. Humanity centred design: a practice where designers focus on addressing complex societal problems by working with populations, identifying the right problems, analyzing systems, and co-designing interventions.

16. Inflation: the decline of purchasing power of a given currency over time, leading to a rise of the cost of living. Inflation isn't always a negative thing in economics; inflation raises the value of assets like property.

17. Interest rates: the charges or earnings, expressed as a percentage, associated with borrowing or investing money. They impact economic decisions and are influenced by factors like central bank policies, market conditions, and risk levels.

18. ISK: "investeringssparkonto" or investment savings account, a simplified way to invest in stock and funds, which a standard tax is applied.

19. JPC: Joint physical custody.

20. Keynesian Economics: macroeconomic theory is based on the idea that government intervention can stabilise an economy. The aggregate demand of an economy - measured as the sum of spending by individuals, businesses and governments - is the single most important driving force in an economy. An economy's output of goods and services is the sum of four factors: consumption, investment, government purchases and net exports - and any increase in demand has to come from one of these. According to Keynesian economics, to stabilise the economy, government intervention is required to moderate any growth and contractions within the market.

21. Labour force or workforce or economically active population, also shortened to active population, includes both employed (employees and self-employed) and unemployed people, but not the economically inactive, such as pre-school children, school children, students and pensioners.

22. Macroeconomics: a particular branch of economics that examines the behaviour and performance of an economy as a whole, it focuses on the aggregate changes in an economy, such as unemployment, growth rate, GDP, inflation and more. It attempts to measure how well an economy is performing, understand what forces drive it, and how its performance can be improved. Researchers will look at two main areas: long-term economic growth and performance in shorter-term business cycles.

23. Microeconomics: a branch of economics which examines the financial decision-making process of individuals, households and businesses. It applies to markets of goods and services, dealing with individual and economic issues, including: what buying habits people have, what factors influence their choices, and how their decisions impact the goods markets in terms of price, supply and demand. Progressive tax: a tax that takes a larger percentage of income from high-income groups than from low-income groups.

24. More than Human: the idea that to explore the futures we might face, we need to inquire into what happens when we step out of an anthropocentric view of the world. Not

because humans matter less, but because design ideals such as users, product, functionality etc.

25. Progressive tax: a tax that takes a larger percentage of income from high-income groups than from low-income groups.

26. Proportional tax: a tax that takes the same percentage of income from all income groups.

27. Regressive tax: a tax that takes a larger percentage of income from low-income groups than from high-income groups.

28. Security: in economics, the term 'security' refers to a financial asset or instrument that has economic value and can be purchased, sold or traded. There are three primary types of securities on the market: equity, debt and hybrids. Examples are stocks, bonds and mutual fund shares.

29. Supply and demand: is a model that explains the relationship between the quantity of a product producers want to sell and the quantity consumers want to buy at different prices. It determines the equilibrium price where supply matches demand.

30. Swedish Pension Agency: Pensionsmyndigheten

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1. Introduction

1.1. What & Why

What a year for pensions! As France pushes through pension reform, its population demonstrated en masse. Heightened pension ages caused other nations to reflect and in Sweden, people questioned the outrage as the Swedish pension age is even higher compared to many EU countries (AMREF, n.d.).

To ensure a minimal life quality standard in the later years of life, most countries today have state pension systems. These are quite similar between countries and have evolved since their establishment in the late 1800's. Initially formed to strengthen the workforce by removing the older (less productive) workforce, as countries got richer, retirement came to "serve a social function, dividing adult life between working years and leisure years" (Barr, 2021, p. 1). Aging demographics, inequalities between genders and pressured state pension systems (OECD, 2021) (Smaida et. al., 2014) form increasing risks for pension systems.

Today in Sweden the gender pension income gap is 31% (Pensionsmyndigheten). This is in stark contrast to the country counted fifth with smallest gender gap globally. Pension savings are earned on equal, but not equitable terms. The Swedish pension system underwent a major reform in the '90s (Kruse & Ståhlberg, 2020) to handle demographic and economical changes but has been questioned how sustainable it truly is (Folksam, 2020). In Europe, the media report on pensioners having a lower health-related quality of life (or HQL) as a consequence of lower pension incomes, alarming the active population today. Citizens turn to private pension savings to get a sense of safety. Private pension saving is riddled with obstacles that further disadvantage women and immigrants.

This thesis will look into the interconnectedness of our societal values with our daily actions through the subject of private pension saving. Combining feminist theory and speculative design to explore saving in the longterm on an individual level focused in Sweden. I want to understand how the pension system works and how to create resilience for future changes in finances.

1.2. Collaboration

I actively chose not to collaborate with companies or organisations, as a topic circling money can be easily pulled into hidden agendas and politics, giving me more freedom to explore in this thesis.

1 OECD: The Organisation for Economic Co-operation and Development is an intergovernmental organisation with 38 member countries, founded in 1961 to stimulate economic progress and world trade.

2. Background

2.1. History

Pension systems have been established for a long time in different ways in over 100 countries globally. The first pension came in 5-6 AD for Roman soldiers, but it wasn't until leading Otto von Bismarck's Old Age and Disability Insurance Bill implementation in 1889 that it covered most of the population across occupations (formerly only for teachers) (Hinrichs, 2021). Today, these many different systems are often based on voluntary or mandatory contributions to a state-run pension fund. The OECD categorises these systems based on a principle of three pillars, according to Smajda et. al (2014, p. 17).

First pillar: mandatory, public pension plans ensure a minimum HQL standard for all. Often funded by taxes, paid in by the contemporary active population. Decided on a socio-political level.

Second pillar: occupational schemes, connected to employment. Either public or private, based on the amount paid (public or private) or on taxed income (occupational). Decided on a professional level.

Third pillar: individual plans. Personal savings plans built up of voluntary payments on an individual level, either in the form of a savings account or insurance. They are the hardest to oversee. Decided on an individual level.

This thesis will focus on the third pillar, which is where citizens have the most agency. The third pillar is often defined as the "top-up" account. The first two pillars can be majorly affected by certain life decisions such as going down in employment, being unemployed, on sick leave or taking on parental leave. Consequently, you might need to top up your private plan more. To sustainably save so the money retains its value over such a long period of time demands knowledge of financial markets, funds, tax systems etc.

Recent economic disruptors such as the COVID-19 pandemic and the ensuing inflation put the question of sustainable pension systems on edge, as foreseeing such major events in the financial world becomes harder to predict. (Natixis, 2022)

2.2. Personal

I was born 1990–estimated life expectancy: 80,9 years–expected retirement year 2056. I am a cis-gendered woman, white, Belgian, highly educated, married to a highly educated, white, Swedish man. I start with my own bias on the view on the system, to move towards other perspectives. Conversations on retirement are not fun, Friday night activities and I noticed that most people are lost in the question on how to save for old age. Growing up with a lot of women around me (my sisters, my aunts, my mother's friends) I saw how looking at these big established systems with a feminist lense could bring an interesting dimension to it; economics and clichéd feminine characteristics like altruism and care rarely go hand in hand (The Guardian, 2015).

2.3. Societal Relevance & SDG's

Today in Sweden, the gender gap in pension income is at 31% (Pensionsmyndigheten). Though Sweden moves towards active policy making and changing (giving it the place of being fifth in lowest gender gap), it is obviously not enough to place women and men on the same level. Common tips to maximise your pension income are based on being married throughout retirement and being able to work full-time. In families with cisgender parents, the woman still today takes on far more of the child-caring, extending beyond the initial year of the child's life. Women are also more prone to take time off to care of family members. Women tend to have fewer years of pension qualifying work than men- in 2020, the difference was 1,6 years in Sweden, down from 7,9 years in 2004. Women tend to retire earlier, while living longer by an average of 4 years in Scandinavia. This influences pension savings extensively.

5 GENDER EQUALITY



Adopt and strengthen sound policies and enforceable legislation for the promotion of gender equality and the empowerment of all women and girls at all levels"
(UN, The 17 Goals, N.D..)

The strongest correlation to a high carbon footprint is a high income; as our disposable income grows, we consume more. Holding on to our income could be an act of sustainability as well as care for our future selves. As we put aside our money, we can reflect what the money is invested in.

According to the Paris Agreement, finance should follow the general direction of lowering greenhouse gas emissions and supporting climate-resilient development. With the lack of transparency regarding sustainability measurements (Fryktström, 2022) and a tendency for green-washing (Beerou et. al, 2019), the question remains whether investments align with the climate goals when it is claimed they do. This project aims at including the environmental implications of personal investments (UN, n.d.).

“A feminist approach to finance is vital to the equitable, sustainable world (...)

Feminist **perspectives** challenge the status quo to rethink systems and unlock possibilities for transformative change that is inclusive and sustainable.”

(WEDO, 2020)

As designers, who desire to contribute to social change, we have to recognize this interplay between systems and humans. To put it simply, every time individuals act, they contribute to the running of the system, in which they exist with their neighbours.

(Artefact, 2019)

3. Approach

3.1. Methodology

This thesis focuses on people's private retirement savings within social and environmental sustainability specifically in Sweden. Sweden has a stable economy, balancing between global fluctuations, yet independent of the European currency. Counted as one of the most gender-equal countries, Sweden moves to active policy-making to close the gender gap (UN, 2022). It is also considered the fifth most sustainable country on a global scale, based on its environmental performance. Yet not counted as one of the best among the countries to retire as income equality, unemployment rise and old-age dependency (or ratio of 65+ to 16-64 ages in population) have risen during the year 2022 (Natixis, 2022).

By combining a human-centred approach, which is focused on problem-solving putting users in the center of the process, with a humanity-centred approach (Girling, 2020), addressing the systems around these user, I will lay out the system as it is today first. Then I will move onto more exploratory methods to rethink the system to let go of historical complexities and move towards a value-driven tool to bring private pension savings into a clearer view Giaccardi & Redström, 2020).

As the research progresses, I introduce a more humanity-centred focus by designing with elements of Actor-Network-Theory (ANT). This methodology can "highlight the absolute dependence of humans on a vast and complex array of non-human entities, only some of which are subject to human control" (Castree et. el, 2013). With the pension system, we quickly surpass what an individual can affect and we hit the systemic, societal. The dimension of time is essential in this process as pension savings stretch over decades and I, therefore, want to use speculative design to design beyond today. By combining these approaches, I hope to shed light on those elements we as individuals can (not) change- either as users or as designers.

The process will follow an inside-out design process, where the findings and activities inform the process going forward (Karlsson Lindh. & Redström, 2015) as the topic is very wide, depending on the findings, the process could change. Additionally, as it is a student project, the freedom to follow my intuition is unique and I want to leave space for that.

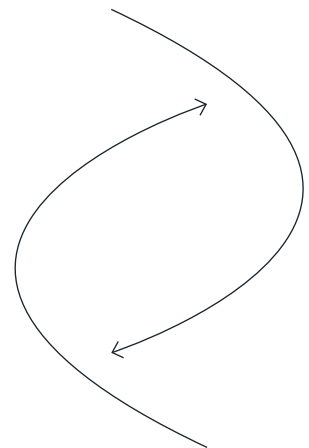


Figure 01 An inside-out process "the basic structure is not given from the outside but rather something that comes from evolving, rehearsing and performing the practice together." (Karlsson Lindh. & Redström. 2015

What will your



future



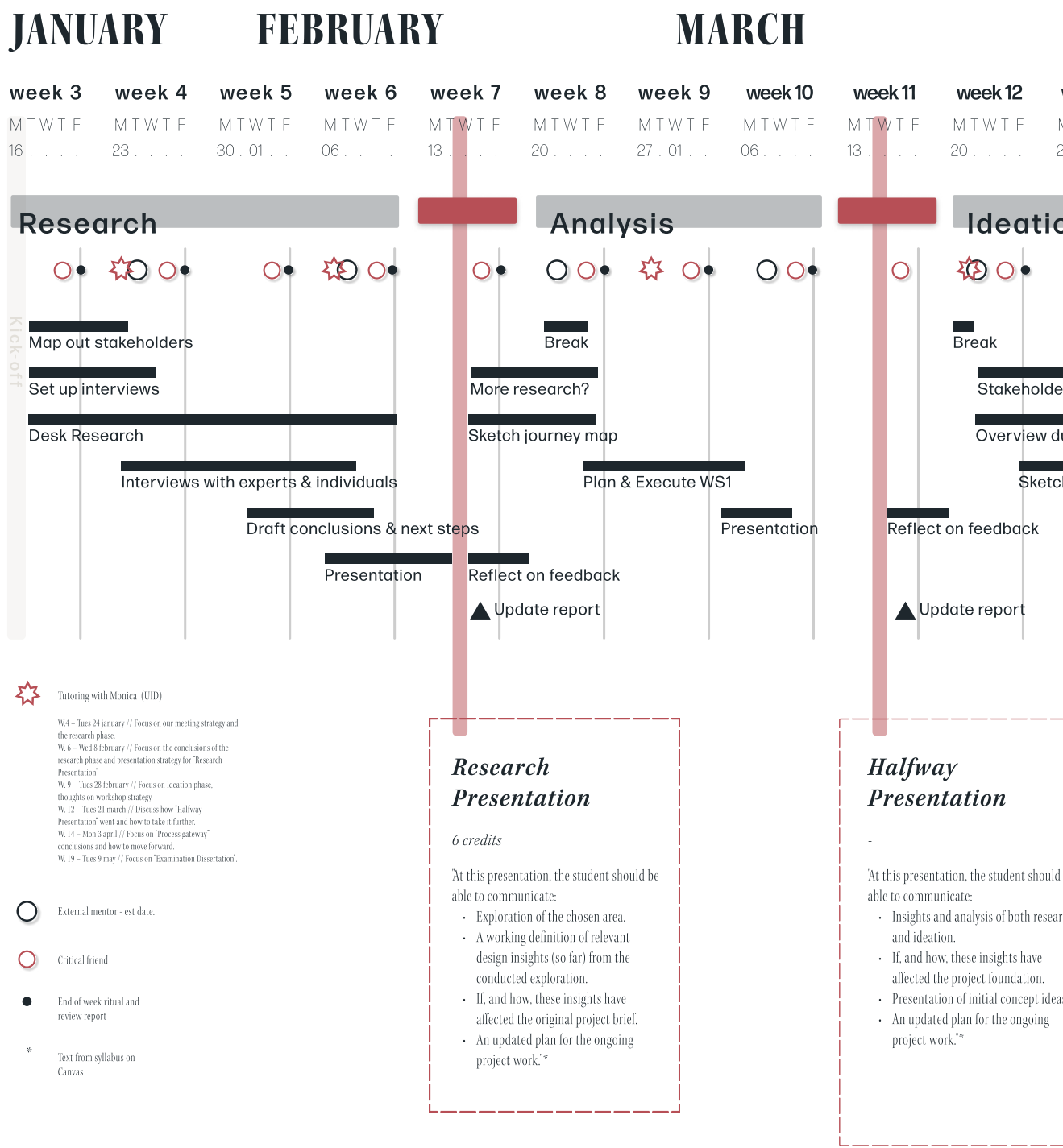
bring?

I find planning for 2060 is complex - the reality of climate change and the unsustainable models we live with in the western world cause an internal dilemma. On top of that financial crises have been a reality throughout my life.

This has left me feeling doubtful about what the future will bring. Is it a part of growing up, feeling like things will not just get better and better?

personal reflection

3.2. Project timeline



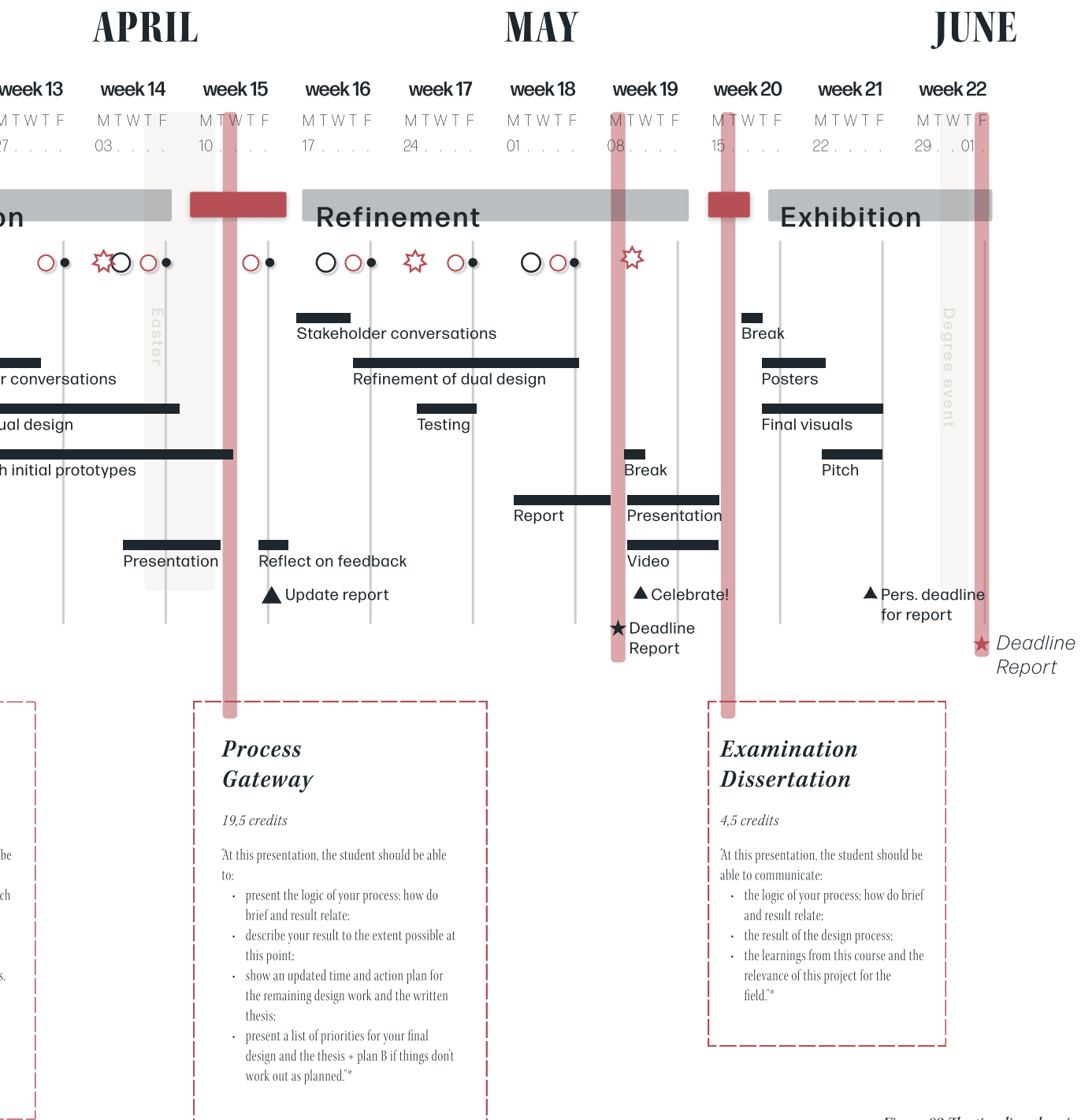


Figure 02 The timeline showing the different phases and dates of presentations, representing moments of convergence.

3.3. *Planned activities*

Research

Starting with a human-centred design approach, I aim to understand today's pension system through conversations with experts and citizens that have tried to wrap their heads around how to save for retirement (or have not at all). I want to allow for patterns to emerge, by making the distinction between "interview" and "conversation" (Rapport, 2012).

Using autobiographical design methods where I test designs on myself (Neustaedter & Sengers, 2012) will help me understand my own blind spots.

In the initial research I will look broadly at the topic and to do so I have brainstormed on and mapped out different topics on the axes of personal, societal and temporal dimensions that affect pension savings (figure 02).

Analysis

Clearing up who I am designing for, I define the "user" at this point. Sketches of initial ideas from the research phase become a testing ground for emerging assumptions. In this phase, I move slowly towards speculative design while bringing in Actor-Network-Theory on the pension system. ANT is not widely used on societal systems and it would be interesting to see how this theory expands to it.

Ideation & Refinement

I aim to use scenario maps focused on the individuals to understand their needs throughout their financial journey (Salazar, 2021). To analyse the potential of where systems will move combined with societal and environmental changes, I use scenario maps as well. Though the exercises have the same name, they are a very different as one focuses on the user and the other on future events (Wade, 2014). From the research, I want to understand which aspects are hardest to grasp and move towards making this visible by, for instance, physical

prototypes for embodied learning (Skulmowski & Rey, 2018). Here, I imagine exploring the elements of the pension system today that are invisible and designing artifacts that bring them to the surface.

Finally, I move towards building the design, allowing for testing and iterations. By using personal ethnography or auto-ethnography (Crawford, 1996) that give a combined advantage to test my own assumptions and bring them to light while getting firsthand impressions of the design. I choose to incorporate this methods because it also helps in projects that have a tight timeline (Cunningham & James, 2005)

Reflection

In conversations with a wide range of people throughout a process I usually see the things that are most important to me, and what resonates most with these different individuals. With professionals in the field, even their personal view on pension savings comes through. I have two external mentors throughout the process. One person has a personal interest in the topic and works as design manager at Zettle by Paypal, bringing a lot of knowledge of the digital design process. The other works as design research lead at Dreams, a company helping people to better financial wellbeing.

Every month, there is a presentation scheduled functioning as check-points. It forms a natural convergence every four weeks where I clarify where I am at, for myself and for others (see figure 01).

To keep track of my emotional landscape, I track my daily mood with a feelings wheel. This helps me to identify slumps or feelings that form obstacles so I don't get stuck in them (Appendix A).

Throughout I will read books that seem tangentially interesting to the topic but do not contribute as references. You find them in Appendix B to show which literature might have inspired and affected me while working on this project.

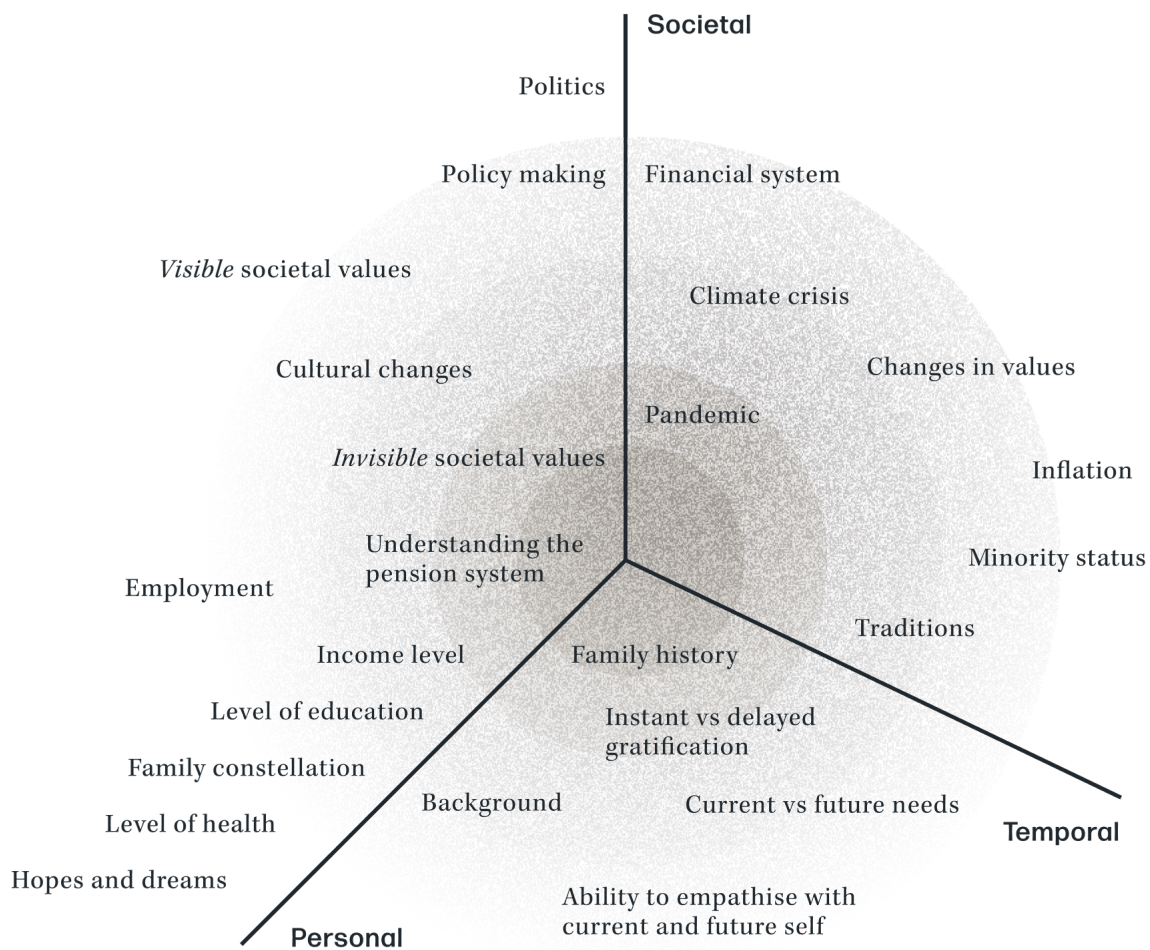
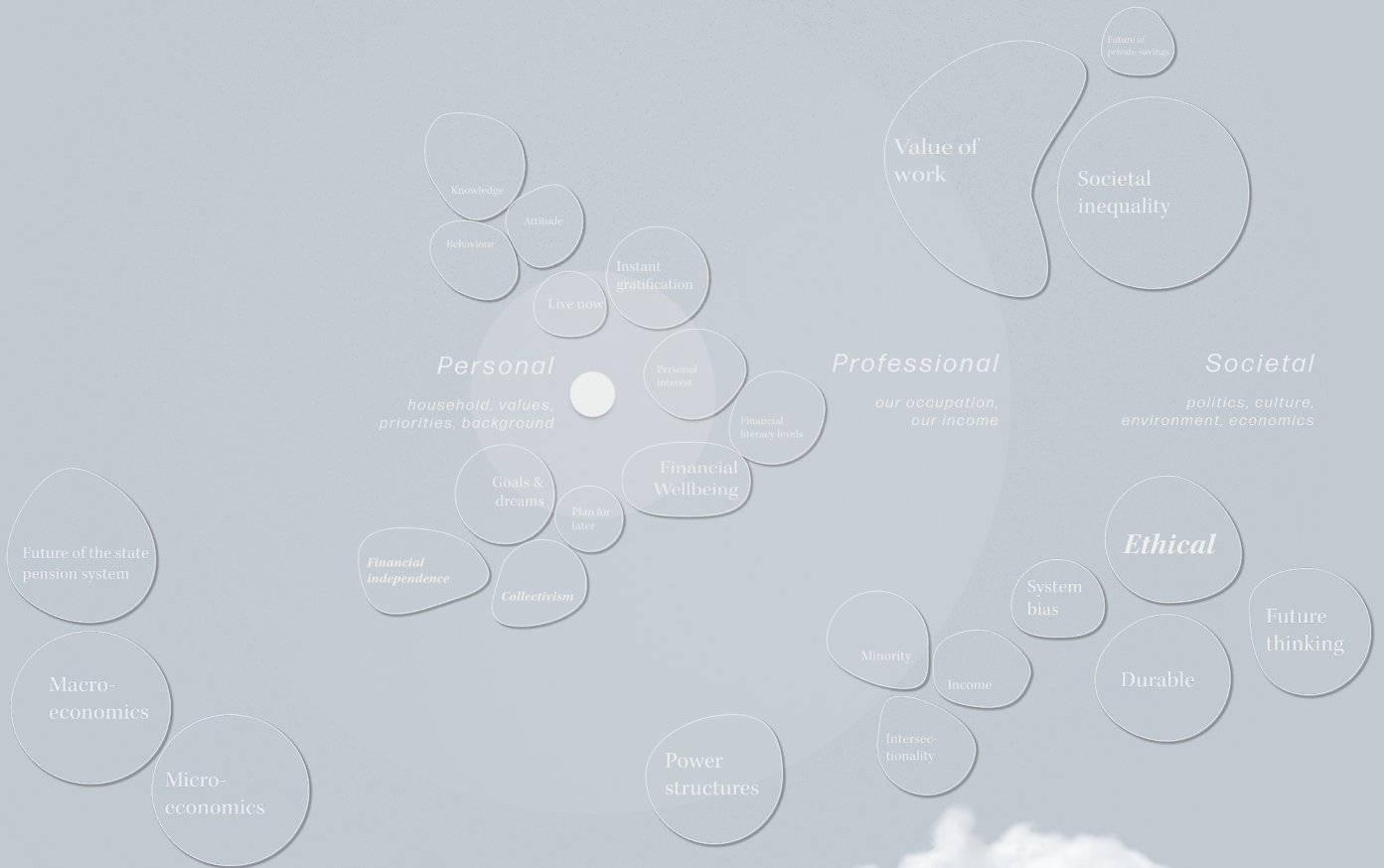


Figure 02 Axes of complexity mapping out the areas that might affect our pension savings.

spheres of influence

Figure 03 Spheres of influence
and research areas.



RESILIENCE

Our pension is affected by different elements, realms of values and events. When placed on what I call "spheres of influence" we see how some things are outside our power and control. These can be detrimental for your financial wellbeing, by decreasing your income unexpectedly. Having resilient finances is about knowing what you can affect.

Focusing on the elements in our personal sphere of influence, these can be the way towards resilience against the changes coming from professional or societal spheres.

4. Research

1.

*interviews with
individuals*

***to understand
everyday
struggles to think
of the future***



2.

*interviews with
experts*

***to understand
systems and
underlying
patterns***



3.

desktop research

***to validate with
statistics and
academic
experiments***



4.

*self-reflection &
assessment of pov*

***to embrace my
own bias and
awareness***



4.1. Mind the gap

In four parallel activities, I set out to learn more about the pension system and what comes into play about saving for retirement. This is a wide start of the project as I want to make sure to cover those parts that I might not have thought of when writing the brief. These activities cover three layers in this topic, identified as “spheres of influence” putting the individual in the centre: personal, professional and societal, coinciding with the three pillars of pension.

In this phase, I aim out to understand the pension system and the individual to find where the gap is; what is working and what isn't in the pension system so that individuals find themselves lost.

Self-reflection & assessment of my point of view:

I write a lot about my own doubts and feelings coming up when talking to people or when reading. The people I reach out to have a wide range of origin but are all higher educated, and have secure jobs. To get out of my bubble, I spend an afternoon at Skatteverket, the tax agency, where I talked to people of completely different backgrounds.

Research questions

Initially I made an overview of the different areas I would like to explore by placing them on axes that showcase the complexity of the question. Linking these areas and layering them on the spheres of influence (see figure 03) brought a clear focus to start the research phase as the pension system is very broad.

Conversations with individuals:

As set out to work with a human-centred design focus, I place the individual in the centre through conversations with 15 individuals at different stages of adult life. Many insightful stories come up in these meetings, both first-hand and second-hand accounts. The conversation starts with direct questions to give my conversation partner a sense of direction. Then move towards conversational; we find our way to stories together, insights hiding under the palpable surface. Personal knowledge guides us, rather than my own roadmap, thinking I know the way. Talking about your financial situation is very intimate and I share personal experiences or sentiments to empathise and reassure my conversation partner. By minimising the amount of material to interact with such as digital whiteboards,

I hope to have my conversational partner focus on themselves and their experiences.

From here on out when I mention "a person", I am referencing a conversation (as defined above) from the research phase. This is rather vague but as mentioned earlier, talking about money is an intimate affair and I want to very careful to protect these individual's privacy as this report will be published in a public database.

Interviews with experts:

Broadening the context to the system(s) behind pensions, I talked to 13 experts representing different aspects of the system: from people at the state pension agency, Pensionsmyndigheten, to those studying the effects on society and the national economy. Finally, the perspectives of those connecting the first two areas. A sociologist, a UX designer at a bank, a behavioural psychologist, a sustainability officer and a UX researcher with an anthropological background.

I will reference these experts in this report as "the sociologist" etc according to their field of expertise or job title.

Desktop research:

Academic papers analysing the pension system, gender roles in society and the role of economics in state-run programs gave a wider look at how the system works. I also have access to a lot of research Pensionsmyndigheten has done towards their target audience, which gives a lot of insights into where people experience friction when interacting with the state pension agency and sheds light on what the agency sees as its core function. Existing solutions showing or guiding pension savings give an immediate look into how we usually talk about longterm savings.

Insights

Nearing the first moment of presentation, I find myself with a lot of information. This is obviously the downside of opening the research areas so wide as I set out. I transfer all the little bits of information to post-its and cluster them (figure 06). Through this exercise, four hot spots emerge.

"The pension system is very simple; it is involuntary saving for the future through taxes, where the contribution you make through your professional life is then distributed over the expected remainder of your life in retirement."

–Interview with Andreas Bergh, Associate Professor in economics at Lund university

Death and Taxes

And then there is the pension system itself. In essence a simple system that ticks on as you have a taxable income. Other forms of income such as sickness benefit, parental allowance and even study grants in Sweden can contribute to your pension income from the state in the future. As the taxes in Sweden are a progressive kind, the pension follows suit; the higher your income, the higher share goes to taxes.

The Swedish pension system changed in the early 2000's to an auto-balancing system be more resilient towards an aging demographic (Bovenberg & Van Ewijk, 2012). This change also brought the option to actively place your pension funds if you want to. 12% of your state pension savings are called "premium pension" which you can choose to invest in other funds than the general fund (see figure 04). The general fund is managed by the Swedish Pension Agency (Pensionsmyndigheten), and is based on your age group. This is because the closer you are to retirement, the lower the risk on the investments should be. Earlier in life, risk can be higher. If the investment would lose worth it can bounce back in time. This evens out over time as some periods the funds will gain in worth more (Pensionsmyndigheten, n.d.).

So if it is so simple, why are so many so confused?

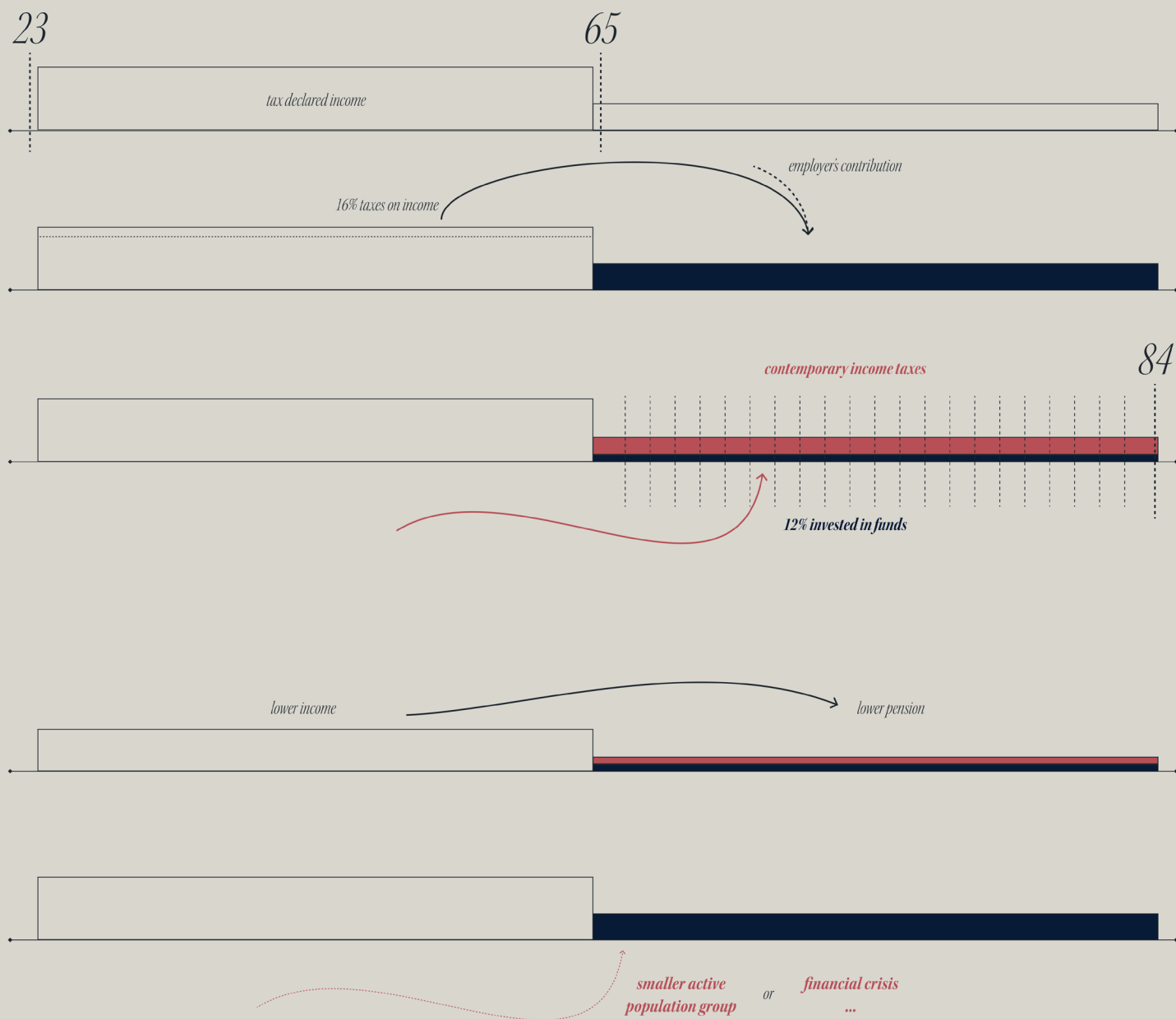
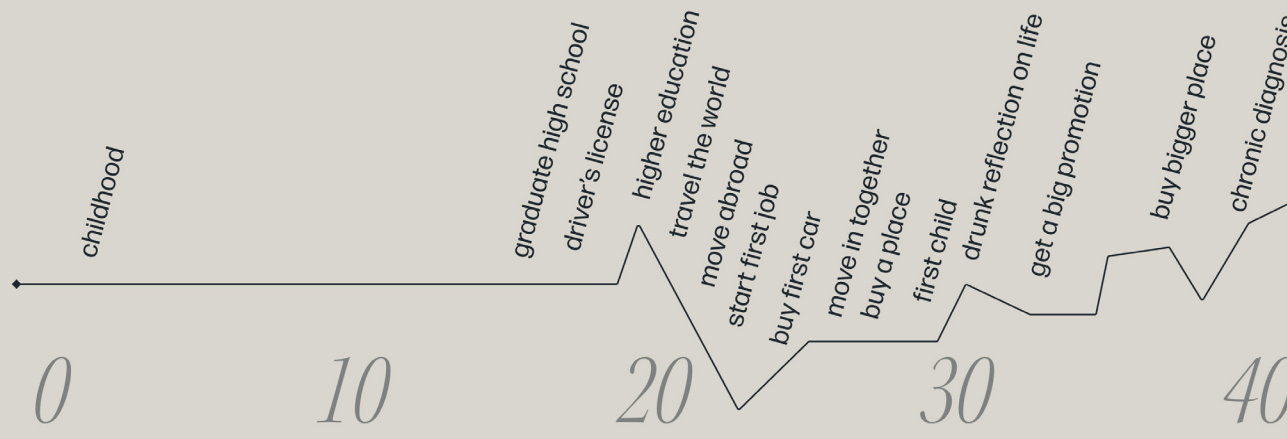


Figure 04 Changes in state provided pension income.





making care of
savings & bills
I'm not so
engaged.

situation
"This is what I can save
and that is enough"

in finances to
create trust in
experts.
1 of the 87

ndy
y
dy
s

Letting go
of consumerism
trying to impress,
made me feel
free
(Anna)

Short term
savings
with incremental
amounts -
1st couch 3rd car
2nd Bedroom

Scared of
"messing" with
money if I'm
too engaged.
Ant

Continuity
in life
quality
One

Dad got it early
don't want to end
that situation
on 1

Figure 06 Pictures of the
clustering exercise.

Transparency to feel secure.

57 by keeping everything strictly \$0/\$0.

Unifying information. How should I spend my money - order to maximise my utility?

Don't define who you are by what you're doing.

Get advice from my dad.

Learn through IG - podcasts & course.

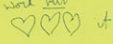
"If you don't spend money you don't have, you're always rich." NO! - to have.

Active saver because it's not a "shopper" - automatically.

Digitalisation can help be more familiar with dealing with handling money.

Set it & forget it. yearly contribution for dividend of money.

Not dealing with it leads to lack of confidence & familiarity. And you don't get good at it.

Earned little with much unpaid work but it! 

I do not want to fall into the woman's trap of financial dependence.

Transparency in system also takes pressure off the state system.

The bank is in it for themselves! - don't trust.

Automagical systems - safety & trust

Being anti-capitalist & avoiding the system doesn't help - but use it to support your values.

What's life about? NEVER THOUGHT of going to bed early but enjoy tomorrow.

Parents separating & talking about me as a cost.

And pension because it's all secured anyway.

System incentives awareness!


Cause-effect of choices made in engineering.

Impact - making money to get causes usually of motivation!

Feel bad about taking care of savings & bills! Spends not so engaged.

Acceptance as financial situation. This is what I can see and that is enough.

Complicated & complicated language in finances to create trust in experts - often.

 Marshallian test

Saving smartly takes knowledge & willingness to take risks. retired early.

Living now or Plus out? The end of this month - a question to start a budget - requiring budget switches.


Started saving when steady job came - late 30's.

Letting go of consumerism. Trying to - pers. made me feel free.

Short term saving with incremental amounts - 1st car, 1st car, 1st car.

Ellie, 3, jumping on her mom. Life is happening right now!

Unequal society = unequal pensions

Digest correlation with a higher  is a high income.

Scared of "messing" with money if I'm too engaged.

Working as long as possible. Or physical health - no pain.

Important couples, it is still the man deciding on financial issues.

Digitalisation opens up ways to violate the other's financial integrity.

Female independence is important. Women take care of the little economy (working and work). Men take care of the big economy (long term).

Women take care of the little economy (working and work). Men take care of the big economy (long term).

"I don't go after getting married" - do the same minimum in future with figure about.

Don't get it early don't want to end up in that situation struggling on it.

Continuity in life quality.

Best day of work 

Men are more into financial questions without advice?

My mom, girlfriend - know nothing about finances. Dad, brother, girlfriend - do!

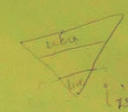
Use array of INFORMATION given to make decisions.

Should've started earlier - if I have kids I would start.

Started thinking of people that are in the world of retirement.

End-of-life. I want to save so I have enough to be taken care of.

Democrat's pension system based on residence, not so much income - more equal.



(cis) male, white, heterosexual, "able-bodied", literate, higher educated, not a young child or elderly with broadband internet access, with a smartphone. "average person".

Heteropatriarchal like/culture that pushes others out. How - checked, high-income men, slightly homophobic.

Takes care of today today. No have a higher quality of life later - save a little today for a good life later.

the four hot spots

1.

*the marshmallow
test for adults*

***gratification,
trust & values***



2.

an unequal society =

***an unequal
pension***



3.

*independence or
collectivism*

***power &
trust***



4.

*automagical system
set it and forget it*

***safety &
trust***



4.2. *An unequal society equates to an unequal pension* – *about income and gender inequality at different moments of life*

Women generally have a lower pension income than men. They more often work part-time and in industries essential for society, yet with lower wages. In Sweden, double the number of women works part-time (69,5%) than men (30,5%). The reason to work part-time is mostly involuntary as no full-time employment is offered or available. For women, the second most common reason is to take care of children. For men, the second most common reason is to study.

Women earn on average less, partially explained by part-time work, partially by generally working more in essential occupations less valued in monetary terms such as care or education. These occupations historically stem from outsourced household work to the market sector and have thus become less valued (Biffi, 2007). This lower income is hard to explain in other ways as women are generally more highly educated than men (52% vs 39%, minimum three years after secondary education*) and are highly represented in work life at 81%, ranking near the top in the OECD (United Nations, 2022).

Since 1980, Sweden pushes divorced and separated couples to take on shared custody over the children- yet today, 43 years later, it is only 30% of those children who live 50/50 with each parent (Castrén, 2021). The other 70% live overwhelmingly with their mother (SCB, 2021). Changing views of the woman's role in family life are on the way- in Sweden 70% of the public believes in a dual-earner & dual-carer ideal where both men and women share the load of earning and caring in the household. Compare this to Denmark, Finland, Germany and Poland, where 50,6 - 33,5% believe this to be ideal (Edlund, 2016). These numbers show the slow move towards a more equal way of looking at the role of women in society- yet we are still far away from true equality. And it shows in the pension as the amount of care for children; initial parental leave, care of sick children, part-time work, ... all affect your future pension income so much that the Swedish pension agency presses upon the importance to try and make it as equally divided as possible.

The Swedish pension agency looks into offsetting these inequalities and published a report about it. These measures focus on pension rights transferred from one spouse to the other. It is a form of equality standing on the shoulders of empathy from the advantaged person. This however has the risk of locking people in wedlock, going against one of the cornerstones of individual freedom in Sweden: divorce. Extra pension rights during parental leave for the parent with the lowest income can offset some of the loss if you've earned a basic income for at least 5 years. Which excludes many young parents and/or newly migrated residents. Most countries have a tax-rebated system where private savings are partially tax deductible (Andersen et. al., 2022)(Hadi et. al. 2022). In Sweden this option was cancelled, most likely to increase tax earnings according to the economist I interviewed. This lowers the incentive to save privately to offset lower pension incomes, especially for those who already have little wiggle room in their income.

Inequality also happens in the form of intergenerational wealth, usually investments in real estate. It is a hidden form of inequality as it only shows up much later in life when parents pass. Those with parents with long-term financial plans are usually more comfortable with talking about money and have a greater insight into how money can serve you both today and can be leveraged in the long term. Talking about money in this way is closely related to financial literacy. From different sources, inequality shows itself in another form: the way we talk about finances and who is usually respected and represented in these conversations. They feel men are more knowledgeable, expected to know and addressed when money comes up. Women are less seen in these settings, whether that is their mothers, non-male friends or partners who are involved in the finances and are asked for advice.

* Source: <https://www.scb.se/hitta-statistik/sverige-i-siffror/utbildning-jobb-och-pengar/utbildningsnivan-i-sverige/>

4.3. The Marshmallow Test for Adults

– about instant/delayed gratification, self-control and trust (or not)

Whether we live life in the now or plan for the future sets us up for a different relationship with the money we earn every day. The marshmallow test has notoriously been used to understand a person's ability to sustain instant gratification to be rewarded with a higher-value gift in the future. I use this analogy here to highlight how we oversimplify saving for the future by (wrongfully) (Falk & Kosse, 2019) explaining it solely on the level of discipline each individual has.

The marshmallow test doesn't only represent the ability of self-control. Trust plays a big part in it as well (Calarco, 2018). The kids that trusted the adults to give them two marshmallows were also more likely to wait (Michaelson & Munakata, 2016). But trust can be hard. One person reminisced on working as a nurse and seeing people die at 40... So maybe I can't trust to make it until retirement. Another example is how we are advised to place money in funds which hold a risk to lose it all (but wait- even state pensions are placed in funds!), even though we would have the benefit of compound interest. What about major crises and inflation? The current inflation reminds us how our economic situation doesn't always improve and our money might hold less value in periods of economic downturn. If I can't trust I will get two marshmallows in the future, I might just want to eat one now.

Needless to say, 40 years is a long time to wait. Live now or miss out, to plan for the future Should we allow for moments of instant gratification or plan for delayed gratification? Our ability to empathise with our future selves poses a major obstacle to consider the benefits to delay gratification (Spasova & Lee, 2013); as with taking care of our bodies by doing sports or avoiding cigarettes, saving for the future is a hard case to argue for (Bryan & Herschfield, 2011).

Our future selves might as well be strangers as we have so little to base empathy on (Biju, 2017).

Finally, when we spend our money, what do we use it for? Different people talked about their life philosophy and their understanding of what life is about. To never take loans, to pretend to earn less to save more. Deep thoughts come up on what is meaningful and should be prioritised in life. Is it consumerism to impress, to feel value in life, to fill a void? Strive for values we don't actually want to prioritise? Our consumption goes up as our income goes up. By delaying our gratification a secondary advantage is that we can invest in a future for ourselves and others.

Sustainable investments are rarely the primary reason to set aside money, but for many, it forms a valid secondary reason. Sweden's state pension funds hold about 5,5 trillion SEK. This money is partially invested in public projects and the growth of infrastructure. Globally, pension funds hold 550 trillion dollars; imagine if a part of that were invested in ethical and sustainable projects.

There are a number of sustainable and ethical standards in the financial world such as Morningstar. The issue with several parallel international standards is that the lack of transparency leads to confusion on the requirements (Frykström, 2022). Time and again organisations attributed with a high sustainability standard are later on exposed to fall short to meet the requirements of these standards (Berrou et al 2015). Moreover, it would clear many issues with greenwashing where organisations take advantage of the lack of clarity in requirements. For private long term savings, sustainable investing in environmental, social and governance funds (also called ESG) has been proven to perform as well as conventional funds (Owadally et al. 2021).

4.4. Individual independence and cultural collectivism

– *financial independence: a building block to individual freedom*

"A British study showed that talking about money is more intimate than talking about sex. Cultural differences aside, this says something about how we handle money in our close relationships"

- Charlotte Nyman,
sociologist at Umeå
University

Once I let go of trying to impress everyone with what I bought, I felt so free! I stopped buying things to live more sustainably, and this feeling was such a nice bonus!

- from an interview
with a 40 yo woman

In Scandinavia, individualism is the norm, yet we cannot deny being part of a collective; whether it is our birth family, our chosen family, or our romantic relationships. Several first- and second-hand accounts told of those locked in a relationship for lack of funds, hindering the path to freedom. This highlights the role of money in relationships as a coin with two sides: on the one hand it is a way to control, exert authority and dominate the other, on the other, it is a way to grow trust and commitment, and express love (Evertsson & Nyman, 2021).

A sociologist I talked to highlighted that digital tools enable the exploitation of another, eg by signing up for loans through their digital id. Easier access does not always mean better and can be used for coercive control (Khaled et. al, 2006) and calls for ethical design (Hadjiosif, 2018)

In relationships, talking about money can be more intimate than talking about sex. This highlights how much money means to us and how individual it can be. Most people I talked to do not consider their inheritance from their parents as something they count on to enhance their financial situation, now or in the future. This is in stark contrast to those that do. This is a major part of what is defined as our "money script" or "money story" (City National Bank, n.d.). It sets our idea of what money can do for us in life and can form a major obstacle to leveraging it for our core values. When we emotionally fight with the value of money, we fight with our idea of using money to give value. When we are part of a constellation with others, e.g. a partnership, our money stories can be at odds with each other. How do we resolve this? For some, it sets their value of themselves in relationships.

Finding the balance between trusting the collective we belong to and being resilient in our independence is challenged even on the systemic level. Pensionsmyndigheten aims to inform people about their pensions and give them a sense of ease. Yet people also feel vulnerable being completely dependent on a state system for their income. It goes against the notion that we work for our worth. Not working has a stigma of being useless for society, which muddles planning for retirement as it becomes stigmatised. Here again, we set our value through money in our relationship with others.

4.5. Automagical systems

– about safety and trust

The Swedish pension system is rigged to encourage work. When people work longer than the set pension age of 65, it offsets the risks of an ageing population on the pension system by increasing the active population size. The Swedish pension agency told me they want to alleviate worry for people, ensuring them they will live a comfortable life during retirement. It will take care of you, which makes it successful as no one accidentally opts out (Gollwitzer, 1999). Yet to accommodate for adjustments for the resilience you need to prepare in advance and be aware of the system's shortcomings if you don't. The state pension agency is very transparent with your pension income through yearly updates (in the form of an orange envelope- this became iconic in the Swedish population through clever branding) addressed to you, aimed to inform, not to incite action. The incentives change as the system matures in the reform from the '90s and it makes people weary. To avoid this weariness, some people check out mentally. But not being aware of these changes or incentives can make the system's future development falter (Elinder, 2022).

Knowing about the pension system can help avoid disappointment as a private pension advisor who is active in public media witnessed. The advisor attended an event where they talked about lower pension income because of childcare on public tv. Afterwards, many women reached out saying they had no idea and felt betrayed by the system. Others reacted to these responses by claiming that "women should take responsibility and educate themselves".

Here lies a contradiction: on the one hand we should be aware of all of its consequences yet we should also trust it and not worry about the details.

Another side to systems that are automatic is that they are often promoted to be beneficial to those that have a low motivation to save as it requires little effort or input (Selnow, 2004). The flip side of this argument is that people are also left with less familiarity with these systems. It can foster low confidence and reluctance to engage in financial tools and solutions. It lowers people's sense of agency in their own financial situation. In the long term, the consequences stack up as financial systems change and we become even less acquainted with them.

"There is a great risk with systems that with constant reforms also tries to incentives people to work longer. For every reform, people get more confused and less engaged in the pension system."

- Johan Gustaffson, researcher at dept.
of Economics at Umeå University

4.6. *Make money emotional*

– about our relationship with money, riddled with feelings

Every person talking about their pension savings plans, would delve into their financial habits in the day-to-day. Pensions savings are another form of savings, as they save for vacation and real estate. Because of the organic way we would hold this conversation, the person I was talking to could affect the direction of the topic and it would every time go into how they see money. What it means to them today when they have it, and what it means to save it for later (choosing to no longer make it accessible for themselves today).

Our relationship with money is formed long before we even have our first job. When growing up, our parents form a mental model of what household finances mean. As one person tells me, their financial anxiety was based on a childhood memory: "When my parents separated, they talked about me as a cost, which caused a fear of financial instability".

As we understand this relationship better, we can see what money symbolises for us. The emotions it brings with it are important clues to why we might be discontent with our use of money every day.

By making money an MTHD stakeholder, I want to bring into focus the temporal quality of money. We are intimately entangled with it, and ignoring this relationship leaves out an essential part of the narrative. Like our relationship with our bodies, the nature of money changes throughout our lives. Money shapes us as it ultimately sets shape to what we value and how we value ourselves and those around us.

“You have a set of money scripts, which are beliefs around money, that have been passed down to you from your parents, from your grandparents, sometimes from your great, great, great grandparents. And your financial situation right now is a direct result of these beliefs that you’ve been carrying around in your head since childhood. ”

- Brad Klontz, Financial Psychologist

5. Defining the design space



1.

*workshop with UX
Designers from
Swedbank*

***bringing their
focus on making
financial literacy
more inclusive***



2.

*sacrificial prototypes
based on one
function*

***testing my
assumptions on
the emotional
interaction and
relationship with
money***



3.

*systems analysis
exercises*

***figuring out
where change
can happen
and on what
level from an
individual's pov***



4.

existing solutions

***how have others
tackled these
obstacles to
improve their
relationship
with money***

Through generative work in a workshop with designers from a bank, rapid prototypes with feedback from others and auto-ethnographic experiments, I want to learn more about the key elements of our emotional relationship with money. With this relationship, we can create opportunities to grow, and develop financial well-being through an improved understanding of how to use the money to support our values.

To be able to truly move towards ideation, the design space needs to be more narrow and defined. To understand exactly, who, what, why and particularly- when this design is situated, I assert which population group I want to address with this process.

5.1. Holistic Thinkers

– defining the who of this design

"Thinking styles" - a term coined by Indi Young, a design researcher, to improve the practice of using personas. Personas pose a problematic tendency to think of stereotypes, yet I feel the need to clarify who this design is for, to empathise and avoid designing for myself. Thinking styles focus on how people's purpose in a context expresses itself. The different thinking styles are defined as groups, named according to a guiding principle that represents their way of thinking. The name should be something each member of the group would feel proud to describe themselves with (Young, 2022).

The thinking styles I define here are based on three findings from the research phase. Firstly, from desktop research, two texts brought about another way of thinking of economical behaviour; a chapter published "Money Attitudes" and Retirement Plan Design: One Size Does Not Fit All' in the book "Pension Design and Structure: New Lessons from Behavioral Finance" (MacFarland, 2004). It lays out how in savings behaviour, there are 5 segments: Successful Planners, Up-an-Coming Planners, Secure Doers, Stressed Avoiders and Live-For-Today Avoiders. These are placed on how confident or comfortable they are when it comes to savings discipline, goal-oriented saving, personal satisfaction from saving for the future, equity risk-taking and sourcing information on financial decision-making (figure 08).

Secondly, another paper made the illuminating connection between attachment styles (in psychology, the way children have emotionally attached to their primary caregiver) and the way people handle money in intimate relationships (Pollmann, 2021). Out of the three attachment styles, being secure, avoidant and anxious, the anxious attachment style can form a major obstacle in future conversations about money. "Anxious" here means someone that will look for proof of being loved and valued in minor signs in a relationship and will swing between wanting to be very close to rejecting the other based on how secure they feel in the relationship. Money in intimate relationships is interpreted as a way to value or devalue the other (Shapiro, 2007)- as this is an enormous source of anxiety for this person, they avoid the subject. As it does not come up in conversation, money becomes an invisible measure of power and love.

Thirdly, in the interviews with individuals I saw different ways of thinking about money. As I cluster them, different ways of thinking emerged. I first connect these ways of thinking to the four hot spots to see how these areas can express themselves in everyday behaviour (figure 07).

“While analytic thinkers seek to understand cause and effect by examining the characteristics and motivations of individuals, **holistic thinkers** examine the wider circumstances and the interactions between people.

Analytic thinkers tend to categorise statements as being true or false. Holistic thinkers often transcend contradictions and find truth in even opposing ideas.”

- The Rise of Holistic Planning: What It Means for Financial Professionals and Clients Alike from E-Money Advisor

From these three findings, when layered these four thinking styles come forth (figure 09):

1. “Touch and go” is focused on having a good life and using money in that. They let money tick by and don’t think about it so much as it works out. This also leaves them feeling a bit unsure on how to make sure how to use money for their purpose.

2. “Holistic learning” want to plan for a safe future and might have obstacles such as a chronic illness that might change their life rapidly. They want to learn about money, but feel it is hard to make the knowledge situated.

3. “Curious, cautious, caring” use their money to feel valued and show others they are valued. It makes them feel avoidant about money which also leads to imbalances in close relationships.

4. “We’re screwed anyway” do not want to play this game that contributes to a failed future. They want to believe in the future but have given up hope a little.

defining thinking styles

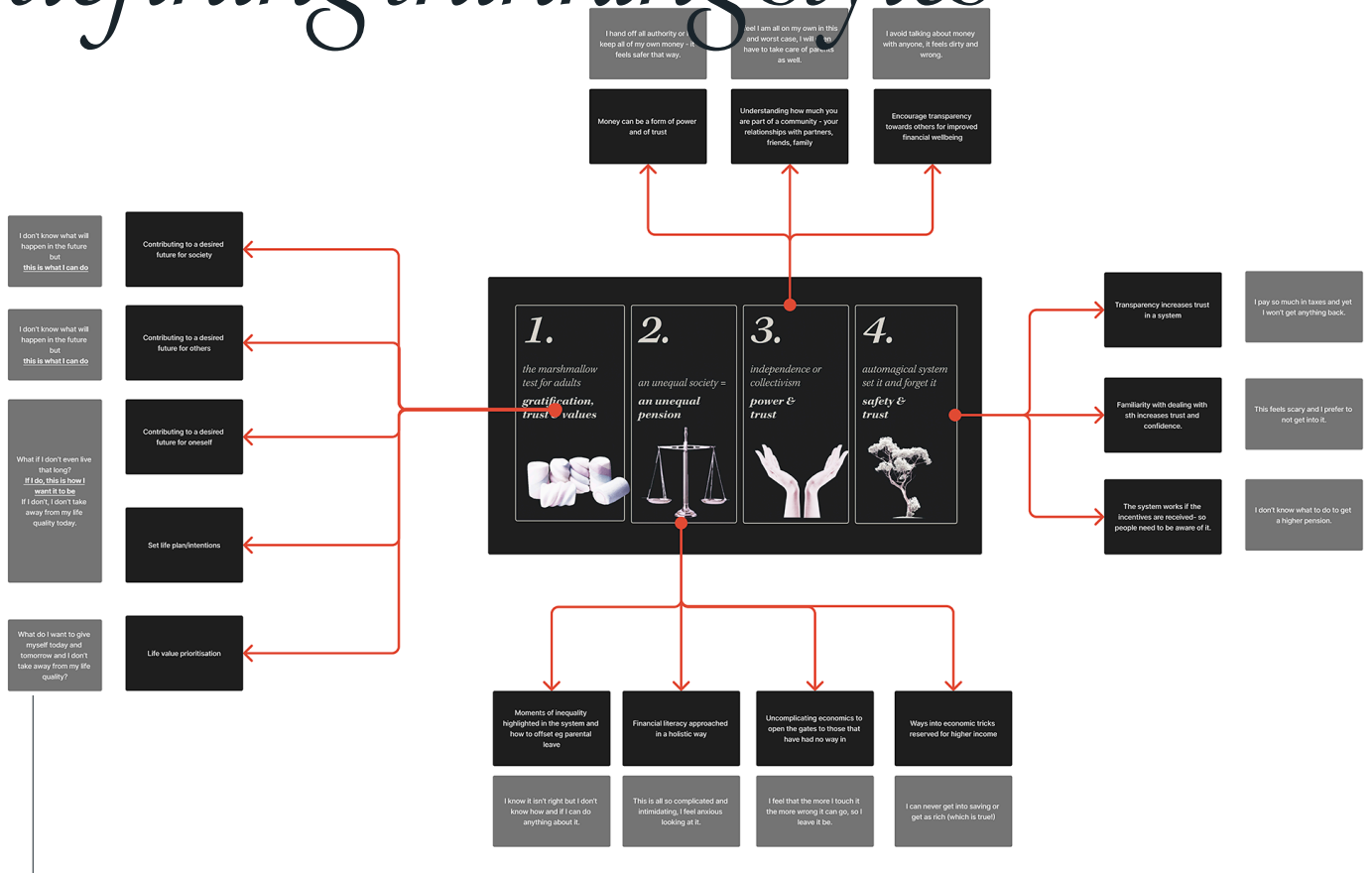


figure 07 Connecting the four hot spots to statements from the interviews with individuals

	Money feels like...	Monthly income & expenses	Interpersonal
Touch and go	I'm scared of messing with money if I'm too engaged.	I spend money as long as I have it. Future plans are max 1 year ahead as further off is too abstract.	I want to save but I don't trust myself to stay away from the saved money.
Holistic Learning	I have learned a lot about finances but it feels like such a jungle and I can't figure out how to go forward.	Every month I save as much as I can - anything makes me feel good about myself.	When I bring up money with friends it is uncomfortable and the ones I can talk to are usually not people I can identify with making me feel inadequate.
Curious cautious caring	I feel money stands for my own value in a relationship and I fear talking about it.	I have others around me that need me and I want to set them up well for the future before taking care of my own future.	I feel me and my partner are unbalanced. They have more power over money than I do and now we are kind of accepting it.
We're screwed anyway	Talking about money feels wrong and wanting money makes me feel dirty.	Every month I feel I just break even, how can I even think of saving?	I feel it is pointless to save for the future because I am not sure what will happen or what I want.

5 SAVER SEGMENTS

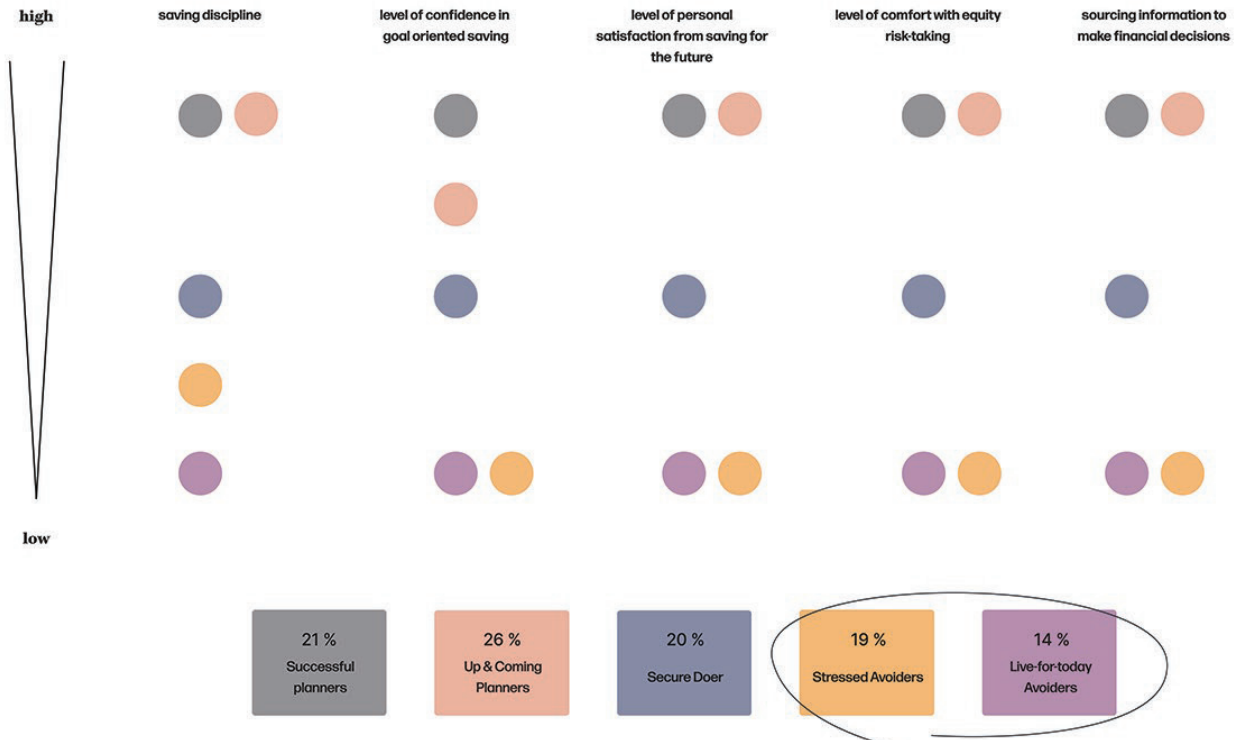


figure 08 An overview of the five saver segments (Macfarland, 2004)

Life motto	Everyday life with money	Purpose	Core motivation
Money is not so important - I see life quality as flexible and adjust to what is necessary.	Every month I spend money and yet I feel it doesn't go to what I care most about.	I want to have a good life and I see how money is important in that.	Clarity Confidence
I got a longterm diagnosis which makes me aware of how work might not be possible until 65 and I need a plan B.	I try to set up a budget but I don't get how to plan for alternative futures.	I want to use money to get a safe future.	Recognisable context Situated knowledge
I want to live a good life but I also don't want to lose life quality now thinking and planning ahead.	Every month, I try to set a budget but the main aims for it are unclear, saving is done well but maybe not the best investments.	I want to feel valued and have others feel that too.	Safe space to bring up money Clarity in priorities & "good enough"
The future is screwed anyway, why plan for it?	When I think of money, it makes me feel lots of things: anxiety, shame, guilt, ... and I can't move past that.	I want to live in a world I can believe in but everything feels so screwed up anyway.	Understanding the power of money Play the game, change the game

figure 09 Defining the thinking styles by combining statements from the interviews and the saving segments.

First of all, so great to welcome you here! I am so excited to have you here, taking a look at this board and helping me out in this moment of my thesis!

Short recap

This thesis focuses on private pension savings done in an equal and sustainable way. Let's break that down:

- equal: pension systems are usually based on societal values which are sadly still not equal between men/women, for minorities such as immigrants, low income or lower educated.
- sustainable: ethical and environmental sustainability are top-of-mind, while pension savings should also be sustainable as in durable, enduring - throughout changes in a person's life and in the world.

The process looks a little something like this:

The research consisted of inspiring interviews with individuals and experts on the subject and of course, a lot of reading.

From the research, I developed some early ideas on how to help people save for their retirement. They are gathered here on this Miro board - a total of 4.

Here is where you come in! What do you do here?

→ Step 1 is a warm-up exercise for fun!

→ Step 2 is the main event: an idea is shown and you imagine using this idea in everyday life.

To understand what might work with these ideas or not, I need your feedback! Your honest, unbridled feedback - there is no right or wrong!

From this feedback, the ideas are further developed, combined or scrapped. By 'final presentation' a final design will be done!

Without further ado - let's get started!

STEP 1

→ warm-up exercise *just for fun*

Do THIS

Would you rather...?

→ Choose between one or the other by copying an emoji of your choice around the word! If you can't find an emoji you like, feel free to add a new one through the menu to the left!

→ This exercise is to reflect on your own relationship with money and how it shows up in your life.

Save OR **Spend**

Eat in OR **Eat out**

Live in a bigger place

STEP 2

→ Here come those ideas! Follow the arrow for instructions and repeat for the next idea

do this first

WHAT DO YOU DREAM OF?

1. What is it?

2. What's the story behind it?

3. Why?

4. What does it feel like?

5. How does it look like?

Future Dreams

Bring what you dream of for the future into view by choosing images and understanding why you want this. Reflecting on this can help to make it more real and give a clearer idea of how much it will cost and how much you need to save.

Post-its

There are some prompts, feel free to take one and add your own text or copy it.

How would you use this feature?

What attracts you about this idea?

What issue would this address in your everyday life?

Feedback

Some questions are distributed on this field where you can write your thoughts, feelings, questions, doubts, excitement, suggestions... You do not need to answer all the questions, they are there to help you!

feedback in miro

figure 10 A screenshot of the exercise and feedback with different people, testing quick ideas.

Idea 2/4

WHAT IS PROBLEM?

1. It's a huge but ignored an increasing of money for you?

2. What did you realize? Anything new that became clear to you?

Money Mood Board

In choosing images, we can gain a deeper understanding of our interests and hopes and see where we need change or support in our relationship.

How would you use this feature?

What attracts you about this idea?

What issue would this address in your everyday life?

Feedback

Some questions are distributed on this field where you can write your thoughts, feelings, questions, doubts, excitement, suggestions... You do not need to answer all the questions, they are there to help you!

Idea 3/4

Money Gotchi

A digital cat that represents your future financial health by representing months before. You take care of it by keeping track of your budget savings, setting goals and seeing if it is sustainable in your mind. If your money would like to be a cat - maybe it starts off a little to become your dream companion!

How would you use this feature?

What attracts you about this idea?

What issue would this address in your everyday life?

Feedback

Some questions are distributed on this field where you can write your thoughts, feelings, questions, doubts, excitement, suggestions... You do not need to answer all the questions, they are there to help you!

Idea 3/4

Financial Forecast

Your financial situation is represented as a natural environment with a happy, wild animals such as animals plan the biodiversity, challenges and wind representing aspects of your financial situation, you get a clear idea of how it looks for your today, tomorrow and beyond!

How would you use this feature?

What attracts you about this idea?

What issue would this address in your everyday life?

Feedback

Some questions are distributed on this field where you can write your thoughts, feelings, questions, doubts, excitement, suggestions... You do not need to answer all the questions, they are there to help you!

5.2. Sketching out our money story

Quick idea sketches on how to probe people on their current and ongoing money stories were subject to feedback (figure 10). Four individuals, interviewed during the research phase, investigated these ideas on their own time and left feedback. Here is an overview of these ideas and the feedback that repeated most often:

"Future Dreams: Bring what you dream of for the future into view by choosing images and understanding why you want this. Reflecting on these dreams can help to make them more real and give a clearer idea of how much it will cost and how much you need to save."

"Money Mood Board: By choosing images representing how we feel about money, we can gain a deeper understanding of our relationship with money and see where we need change or support in this relationship."

"Money-Gotchi: A digital pet that represents your future financial health by expressing needs today. You take care of it by keeping track of your budget, savings, setting goals and more! It is customisable to your idea of what money would like like if it were a pet maybe it starts off a little ugly to become your dearest companion?"

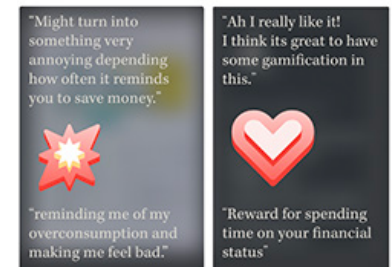
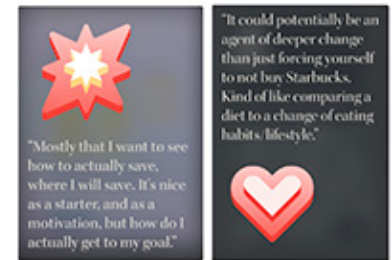
"Financial Forest: Your financial situation is represented as a natural environment such as a lagoon. With elements such as weather, plant life, biodiversity, cloudiness and wind representing aspects of your financial situation, you get a clearer idea of how your financial situation looks for you today, tomorrow and beyond."

Take aways: this is a good way to get started but it doesn't teach how to save. It can be a good way to get motivated through a stronger sense of inner motivation.

Take aways: this is supposed to unearth discomfort but then it should help the user forwards to a positive place of growth. Re-visiting it as an insightful way to reflect on personal growth.

Take aways: if it is too often or reoccurring it could become annoying. A more playful approach to finances is appreciated. Affirmative actions encourages users to look at their finances on a regular basis.

Take aways: it needs to be actionable. For those that don't earn much, having standard rules on what constitutes a healthy financial situation can be condemning, leaving them powerless in a "bad situation".



5.3. Speculative design exercise

– moving from emotional obstacles to future opportunities

How do you ease into this conversation to save for the future? What kind of emotional obstacles are there? I held a workshop where my aim with this was to bring to light the moments people's emotions hinder them from saving in the longterm, how we might design to change that now and then, far into the future. We were ideating on concepts that connect the needs of holistic thinkers and the bigger effects through speculative design methods.

I chose to do this workshop with three UX designers (figure 11) who had been working substantially with the pension design at Swedbank. They have great insights on how people save and what their biggest obstacles are to save and to tap into that knowledge would be invaluable. They would first reflect on a recent purchase they had made, then bring up a scenario where a customer had struggled because

of emotional reasons to set up or keep saving for the future through the use of AEIOU method (Robinson, 2018). Rotating these stories among them, they then rapid sketched out solutions for these situations. In the final round they would bring in future events and ideate again on the same issue but 20 years in the future. Finally taking one of these ideas, they would consider the consequences of this solution, both the direct and indirect consequences.

This exercise made it very clear how big future events can affect how we see money and what we value in life. More importantly, I noticed how challenging it is to move away from seeing the act of saving as a matter of discipline (where restriction and punishment are the main disciplinators) and financial literacy are the way to reach our financial goals. See Appendix C for the results.

workshop



today

choose a story where
emotions formed an
obstacle to save

solutions

rapid brainstorm to solve
the need to save in these
situations

future

a significant future event
and design a solution
with this event in mind

consequences

what would be the consequences of this future event and solution



*figure 11 Workshop in progress
with three Swedbank designers*

5.4. *Auto-ethnographic exercises*

– using my own financial experiences

As I am testing specific sketches and performing the workshop, I want to also test minor ideas on myself. This way of auto-ethnographic designing can win time in the process and this is the reason I do it for these specific ideas. These tests give me a chance to explore the emotional needs and connections I feel lacking in the existing pension and financial systems and solutions, while giving a chance to reflect on what others have expressed they wish would be present in these solutions as they are today.

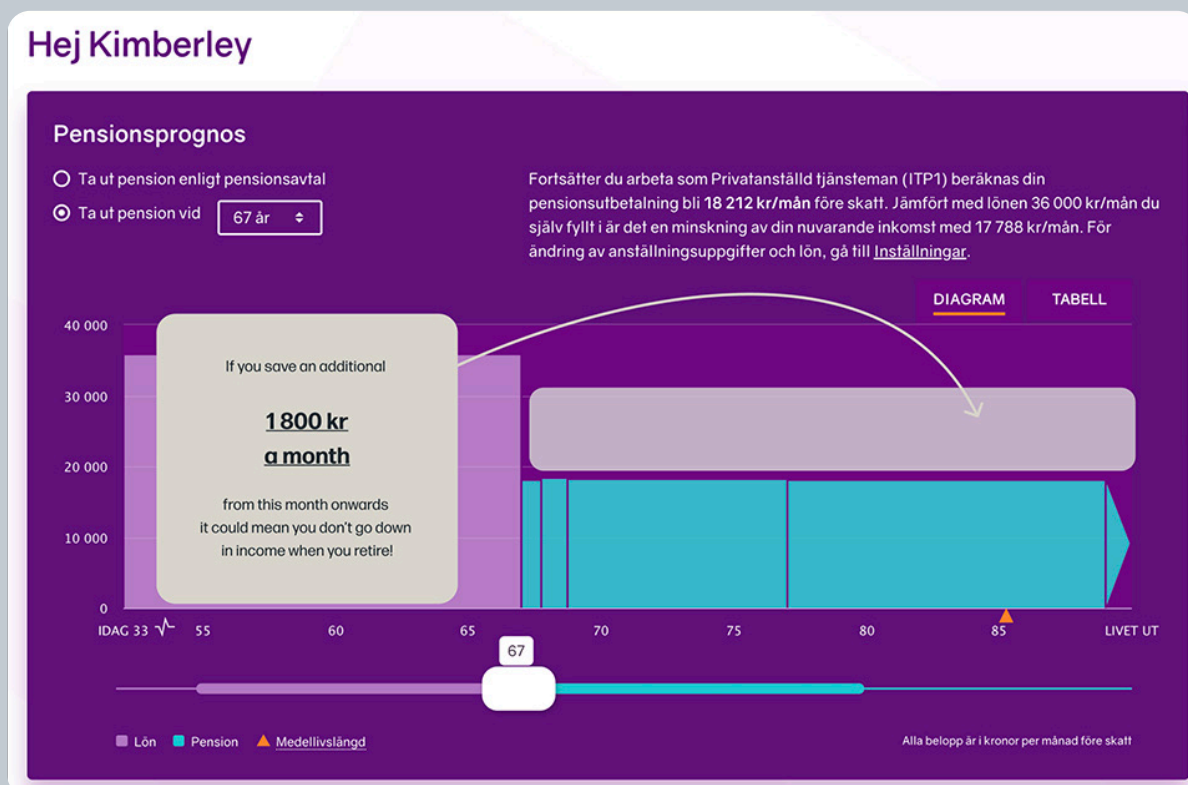
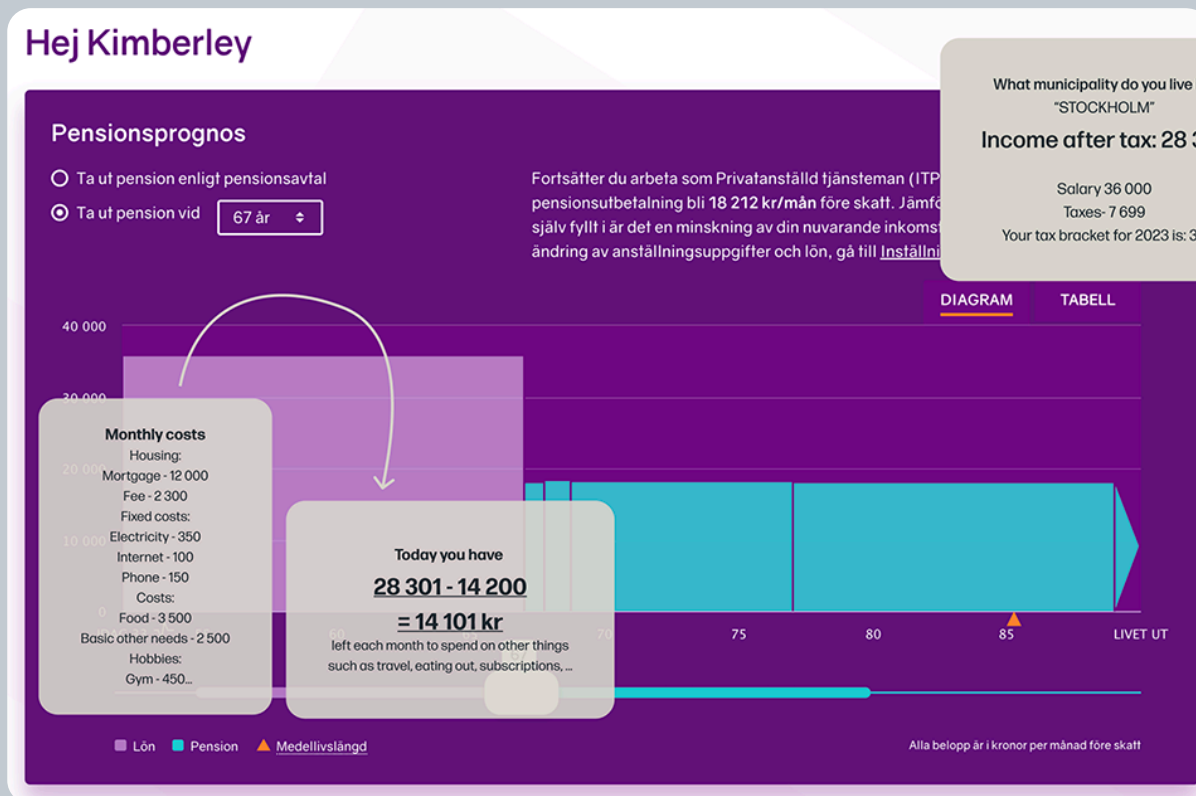
MinPension: comparing today and tomorrow (figure 12)

MinPension is a solution today where you can see the prognosis for your pension income based on certain factors such as income and age to retire. You can tweak to see the consequences of retiring earlier, later or having another income. This in a way can incentivise people to work longer or more. Heyman, who had through their doctorate work, examined a similar method by looking at the effect of making the consequences of financial choices clear by immediately bringing the consequences into view on pension savings (Heyman, 2017). This makes the connection cause-consequence very clear - but overlooked the actual consequence for people's lives. The amount of money gives an approximation of what living standard you might have. What if it showed whether you could afford your current living standard by showing those numbers in the same digital context? By adding contemporary costs and potential savings, the numbers become situated, helping to assess the value it brings to standard of living. In this sketch, if there is a sum of money left each month, it can suggest to direct it towards pension savings so you can keep your living standards.

This way of directing the immediate, contemporary reality towards a possible future reality helps place the value of money in a context that is already familiar.

In this tool income is shown unchanged for the coming decades, regardless of how long you are away from retiring. So if you earn 30 000 sek a month now, it assumes you will earn the same in 40 years from now. This sounds incredibly counterintuitive—surely my added skills and experiences will result in a higher income? The website explains that this is done to clear away the complicated mathematics that would come from common economic processes such as inflation, compound interest, and more. This approach avoids speculation on what will happen with the national economy, relieving the user of trying to understand those bigger processes as well.

figure 12 A quick sketch: situating the predicted pension income in current expenses and living standard.



ChatGPT & my money story

To test the hypothesis of the money story and what benefits come up to reflect on it, I try to go through the process with ChatGPT. I give it basic information and it formulates my money story turned into a positive story towards the future. I test what it would feel like to feel lost in what value money brings me in my life. Before this, I have reflected on this at times, as shown in the first prompt where I connect the spending of money with self-esteem issues.

In this sessions with ChatGPT, the first prompt focuses on what money was like in my childhood to early adulthood. Initially, I felt sad and a bit of a victim in the situation, specifically about the experience I had as a child. It left me feeling low and I felt doubtful as it unleashed many unpleasant memories. When ChatGPT told me my money story back, it added an element of the hero story¹. The new story showed me a way forward where I use money to focus on the important things in life.

Curious to see how this story might end, I prompted it about my future money story as I reach retirement. Here again, it places my personal values in the center and narrates a beautiful story of how I live my life knowing "that true happiness comes from within" (figure 13).

This form of discussing with ChatGPT reminded me to some extent of my therapy sessions with my psychologist. I would tell her about something that had happened and she would ask questions, synthesise and interpret the experience. When I would hear it back from her, it would sound familiar yet would also reveal new aspects of the experience. As it was retold by another person, I could reflection it from a more objective point of view. The change in perspective helped me to change the way I would experience a similar course of events differently to then act differently.

This experience with ChatGPT left me feeling stronger and more hopeful making me keen to bring this along in the design.

ChatGPT and Money's Hero Story

In another exercise, I asked ChatGPT to write a hero story about money, to test the hypothesis on what money would be like if they were a more assertive and articulated actor in our lives (see Appendix D). The story usually followed a narrative of how money was being exploited for "evil" to then turn to "good" by being used to make people happy, fund projects that help build up both human as natural habitats. As I showed it to others to read, it seemed too simple of a story to resonate with the reader. One person said it felt "gimmicky" and "flat" to talk about money as a forgotten hero. There is power in placing people at the center of their own money story and so I dropped this direction.

¹ The hero story is the common template of stories that involve a hero who goes on an adventure, is victorious in a decisive crisis, and comes home changed or transformed. (Wikipedia, 2023)

K

Can you tell me the story of me and money in the same way? I grew up with little money, always wearing hand-me-down clothes, eating the cheapest food and my parents would fight about it all the time. I never really got what I wanted but just had to accept that. When I got older and started working, I soon earned more than the rest of my family. I started buying a bunch of clothes and felt they gave me a new sense of worth. But it didn't last long, and I realised it was my issues with self-esteem I was trying to buy away. Now I am trying to find a new way to be with money for the future.

K

How does the story continue when I retire?



Certainly, here is a story of you and money:

Growing up in a family with little money, you learned to appreciate the value of hard work and frugality. You saw your parents struggle to make ends meet, and often felt the weight of their financial stress on your shoulders. You didn't have many material possessions, but you had something more valuable - a sense of resilience and determination that would stay with you throughout your life.

As you got older and started earning your own money, you felt a sense of pride and accomplishment. You no longer had to rely on others for financial support, and could start to build the life you had always dreamed of. At first, you indulged in some of the luxuries you had always wanted - buying new clothes, eating at fancy restaurants, and traveling to exotic destinations. But soon, you realized that these things weren't bringing you the happiness and fulfillment you had hoped for.

You started to see money in a new light - not just as a means to buy things, but as a powerful force that could shape your sense of self-worth and identity. You realized that your issues with self-esteem and insecurity had been driving your desire for material possessions, and that you needed to find a new way to be with money for the future.

You started to invest in yourself - taking classes, pursuing hobbies, and exploring new interests. You began to see that true happiness and fulfillment came from within, and that material possessions were just a temporary fix. You also started to use your money to help others, volunteering your time and resources to causes you believed in. You found that giving back was a powerful way to connect with others and feel a sense of purpose in your life.

Through your journey with money, you learned that it was not just a tangible currency, but a metaphorical one that could impact every aspect of your life. You found a new way to be with money - one that was grounded in self-awareness, compassion, and generosity. You knew that there would be challenges and setbacks along the way, but you felt confident that you had the resilience and determination to overcome them. And with each passing day, you felt more and more empowered to live a life of meaning and purpose, driven by something much more valuable than money alone.



When you retire, you have the opportunity to reflect on the life you've lived and the legacy you want to leave behind. You have saved and invested wisely over the years, so you are in a comfortable financial position. But as you enter this new phase of life, you realize that money alone won't bring you happiness or fulfillment.

You start to focus on the things that matter most to you - spending time with loved ones, pursuing your passions, and making a positive impact in the world. You volunteer more, donate to causes you believe in, and use your time and resources to help others. You find that giving back is even more rewarding than you ever imagined, and it gives you a sense of purpose that you never experienced in your career.

At the same time, you also take care of your own needs and interests. You pursue hobbies you've always wanted to try, take trips to places you've never been, and enjoy the simple pleasures of life. You find that having financial security allows you to focus on what truly matters to you, rather than being tied to a job or worrying about making ends meet.

Through it all, you maintain a healthy and balanced relationship with money. You see it as a tool to help you achieve your goals and live the life you want, but you also recognize that it's not the only thing that matters. You know that true happiness comes from within, and that material possessions are just a small part of the equation.

As you look back on your life, you feel proud of the way you've navigated your relationship with money. You've learned from your past experiences and grown into a person who is grounded in self-awareness, compassion, and generosity. And you know that no matter what the future holds, you have the resilience and determination to face it with grace and strength.



figure 13 Screenshots of relaying and synthesising my money story with the help of ChatGPT.

5.5. *Emerging design principles*

– overlapping what has been seen, heard and felt

As I reflect on the past activities and the insights from the four hot spots, I realise two big themes that come up a lot in discussions about wealth and money:

1. The cycle of knowledge, attitude and behaviour: how increased knowledge can lead to a change of attitude and thus, a change in behaviour. This is what most articles answer you when you google “how to save now and for the future”. In the financial world, there is an understanding that financial literacy (the ability to understand and effectively use various financial skills, including personal financial management, equity, budgeting, and investing) and understanding your financial goals will help you achieve financial well-being based on maximum profit and return of investment. Bck in the '70's Foucault described this phenomenon as the Homo Eoconomicus, the human made to produce and acquire wealth (Foucault, 2008).

In everyday life for holistic thinkers, the focus is rather on money being a way to reach goals and support values. The educational material is often directed towards pragmatic thinkers and semi-experts, who have an innate interest in economics, excluding those that think differently. This makes it hard to highlight moments of power imbalance and inequality as the argument holds that a lack of financial literacy and discipline leads to a weaker economical situation. By making material available that speaks the same, holistic language, we can increase confidence in economics.

2. The field of economics studies the way people act on the presence or absence of wealth, which to an extent can be discussed to concern basic needs to desires of self-actualisation.

Using money in an emotional way is maybe the best way forward- in everyday life, profit does not rule but enjoyment which can make that cup of coffee worth it despite theories like the Latte Factor proclaiming that you could save a fortune on small recurring purchases like that (Biberdorf, n.d.). Our core values do, and often in search of higher status, we follow fake values in trying to impress others. We might build our understanding of what money can do for us in our lives on experiences from the past. Being taught how to impress and follow our values by our parents, who might not have had the same priorities as we do today as adults. These form emotional barriers hindering our engagement with money for ourselves and in our relationships with others.

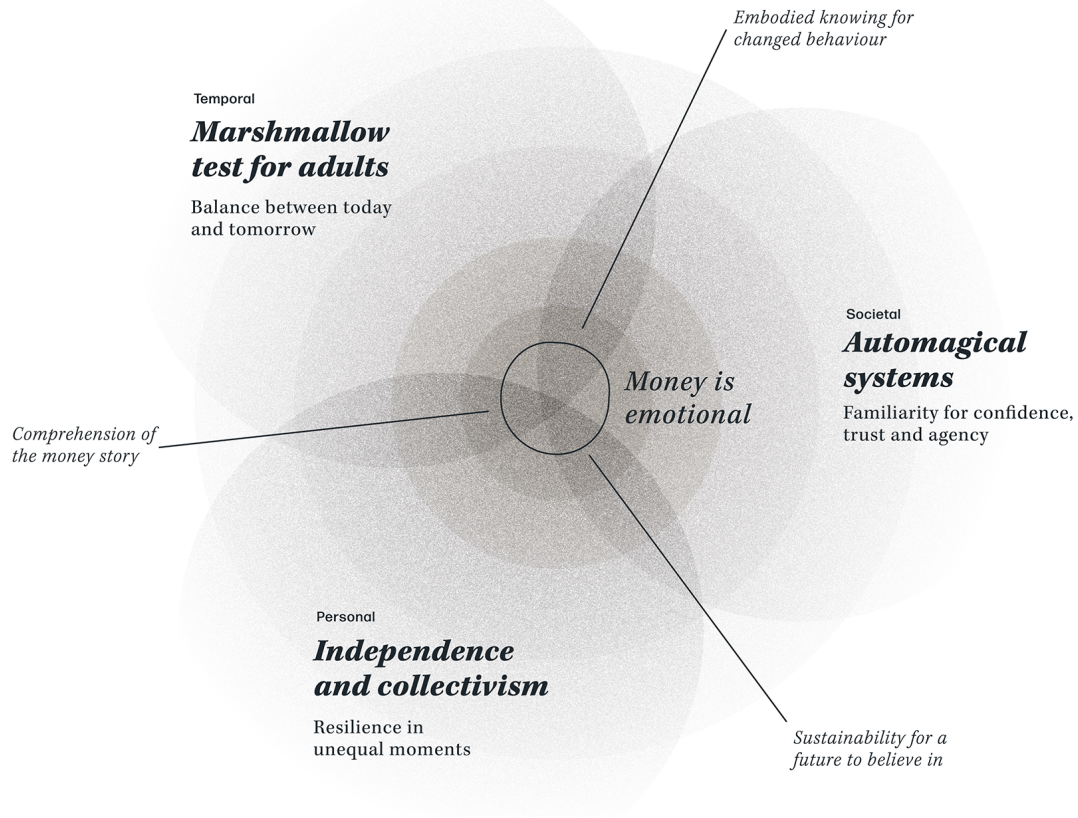


figure 14 Layering the initial four hot spots with the core idea that money is emotional.

****Retirement is inherently speculative.***

Combining the insights from the prototypes to the four hot spots, combined with these two guiding thoughts, the following core design principles peer through in their overlap (figure 14):

Understanding the balance between living today and planning for tomorrow, while gaining confidence in financial systems, means we have to achieve a sort of embodied knowing for changed behaviour. Cognitive knowing is

Our money story can tell us a lot about how we value ourselves in relationships with others and how we prioritise our own values by using money. If we long for more security but spend instead on impressing others, we undermine our own needs. Or if we feel that our lacking financial contributions mean we cannot decide in equal terms what the money is spent on, we uphold an inequality. This creates a situation where money becomes a difficult topic, both within ourselves and with others. We are less resilient as we lose the ability to identify moments where inequality worsens, leading to even less equal financial terms in the future.

Striving for sustainable savings for the future is a combination of understanding the systems we leverage with our savings and the role it plays in our greater community.

And finally- to look forward to the future, trying to get a sense of what is coming is inherently speculative. We can only speculate on what is to come.

5.6. *Emerging design structure*

– future speculation in contemporary action

The relationship we have with money is one that is changing throughout our lives. Talking about saving shows to inherently hold a tension between today and the future. And as I define what it is I am designing, I realise this design needs to hold this tension as well.

As thinking of life decades into the future holds a lot of speculation, I also wonder how to make this approachable for people. During the conversations with individuals and with the experts in the research phase, the fuzziness of the future came up frequently. And as it is so far away, it is not something that feels accessible to engage with. This contrast between the granularity of a situation the person needs to plan for the future versus how undefined it actually is, could be designed by having a dual design. A design where the designed thing of now talks with the designed thing of the future. The thing of now being detailed and defined, while the thing of the future is less so. The design for "now" something familiar that can follow you anywhere to lower the threshold of use, as such an app is a clear medium. An app allows for a wide range of use cases and is accessible for many different demographics. The accessibility can also be a disadvantage which can be designed for if kept in mind that privacy is essential, even within households where money is used as a tool for control (Nuttall, 2020).

I suggest to juxtapose designing for a now and designing a speculative future version of the unfolding of now. As I delve into this possibility, I am inspired by what Redström and Wiltse call "fluid assemblages". The design as being designed by the user, not just given by the designer. The user becomes the maker and is at the same time being made by the design. The user and the design become actors in the interaction. As with societal systems, the constant interaction between these actors is an attempted equilibrium of making and being made. This is a very interesting way of looking at design and I realise that the everyday interaction for an individual with money is in a similar way a forming and formative interaction.

Trying to give shape to this formative interaction, I test out a hypothesis on designing what the design could be today and what it could be in the future to show this making and being made evolution.

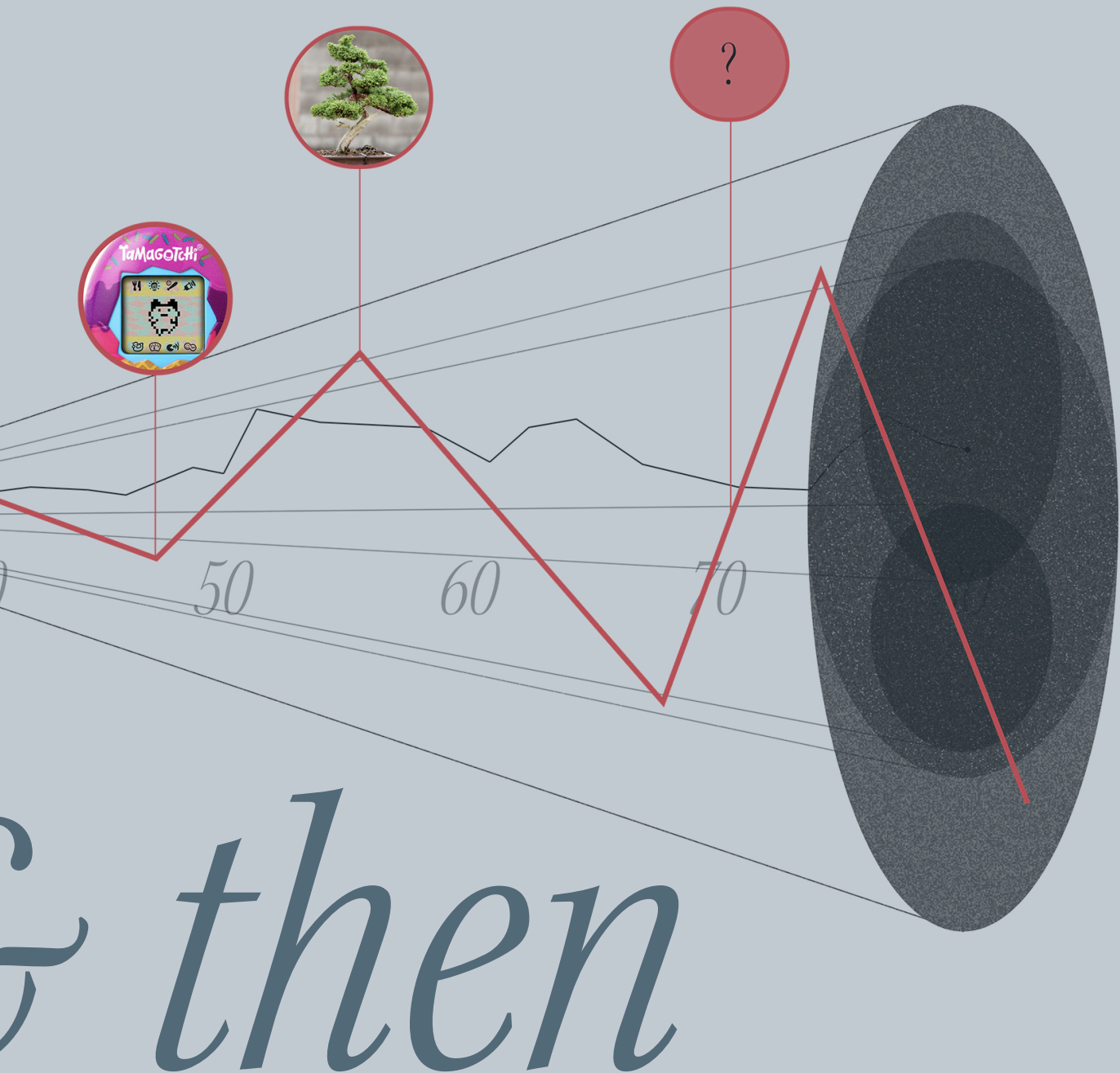
“In this new landscape of fluid assemblages, design as a primarily form-giving practice is no longer adequate. To design, and to design with, fluid assemblages is to design forms and processes of becoming; to assemble and be assembled; to tune forms and formations.”

(Redström & Wiltse, 2019, p. 161)

*Screenshot by Dreams, www.getdreams.com%2F&psig=AOvVaw3lj6ceOZAtpo18tsZR65y-w&ust=1678812069004000&source=images&cd=vfe&ved=2a-hUKEwitxrS5rNn9AhWGo4sKHbUtC8UQr4kDegUIARDEAQ



*Designing for
now &*






The cones of probability in speculative future methodology (Dunne & Raby, 2014) brings to light an interesting aspect of saving in the longterm - when starting with a concrete, completely imaginable digital design such as an app today, what might it look like 30-40 years in the future? Using the theory of fluid assemblages, I will venture further into designing for now and then. Something concrete, something abstract.

5.7. *Narrowing down the scope*

– reformulating the question

Combining the clarification of the user group, key aspects of long-term saving, understanding the relationship with money and the way money can be used to leverage core values, I narrow down the scope of the project to this statement:

"Enhancing the future financial well-being of holistic thinkers by leveraging their money stories, reflecting on their ongoing relationship with money, and exploring how money can better serve us - not only in **their personal lives**, but also in **the wider world** - throughout adulthood."



“Let’s move past the concept of financial literacy- this is way too low of a bar!

The greatest impact happens not from how you manage your funds, but from how you manage your beliefs.”

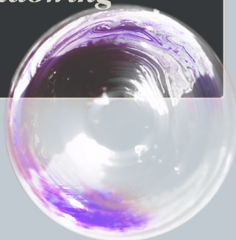
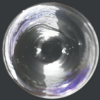
- Ellen Rogin, Financial Planner

6. Ideating on wellbeing & growth

1.

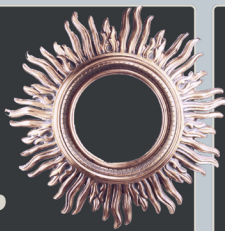
*stakeholder
conversations*

**prototyping
through
dialogues and
shadowing**



2.

*user scenario
mapping
needs during
financial
reflecting and
doing*



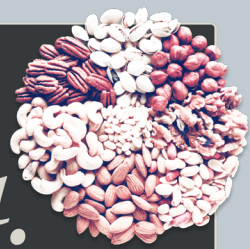
3.

*future systems
mapping
to identify
potential future
issues &
consequences*



4.

*existing solutions
a granular look
into changing
habits and
educating on
the go*



Stakeholders conversations

At this point I am defining more specifically how enhancing the future financial well-being for holistic thinkers will look like. Through ongoing conversations with different stakeholders I am able to connect different needs with ongoing design work. The form of these conversations is less rigid than in earlier parts of the process. For example, I shadowed a person one year away from retirement. I learned a lot by hearing about their anxiety about this big change. It is not alleviated by the overview on MinPension, as the information feels overwhelming. They have not taken time to look at this in detail and the feelings of uncertainty, overwhelm and fear form an obstacle to investigating their questions one by one. In conversation, the main obstacle is actually the sense of loss of identity when they stop working. They really enjoy their work and want to continue feeling involved. As they feel they have nothing new to go to, they are not looking forward to retirement; it feels like stepping into a void.

Another person tells me about her fear of the unknown. Retirement is still some decades away but she wants to know whether she can stay in her home or whether she should plan to move. I show her the quick sketches of MinPension with personal information on income and potential savings. This starts up ideas of how it can show alternatives.

In a brainstorming session, I, together with another person ideate with objects on how finances can be made more embodied. We use kitchen utensils to mimic money transfers; at one point two plates with pieces of food come to represent the balance of pension savings. Surprisingly, it is the clearest we both feel you can show equal pension savings. Adding the layer of what is accessible for the other would clarify how skewed pension savings might be in relationships.

These impromptu design moments have the advantage that I am not aiming towards a result and thus the stress of arranging an activity falls away and I can fully engage with the other person and their insights.

6.1. From now to financial wellbeing

– thinking styles and scenario mapping

In this report, I am asserting that long-term saving for retirement is more than the action of setting aside a bit of money each month. It is a lifelong commitment that extends past retirement, where we question what is wealth, what value money holds for us and what we consider a good life. These fundamental questions bubble under the surface when pension comes up. A range of feelings such as guilt, shame and anxiety come up because we don't know how to combine these questions with the very pragmatic field of financial literacy.

How can we guide people through these feelings towards actionable change? Through the use of user scenario mapping I generate a timeline to base a digital tool on to improve the relationship of the thinking style with money. It shows how different people need different activities to feel motivated and continue on their financial journey. By mapping out the stages before, during and after using this potential digital tool for each of the thinking styles, I could identify where they meet the most resistance. Are they stuck in the past, the present or future value of money?

I looked at existing solutions by for example Headspace, Dow Jones, and other solutions that bring up the emotional part of money are out there already. As I engage in more discussions and search online about the emotional aspect of financial planning, I come across organisations that are employing methods to move through a financial journey towards financial wellbeing. I copy their rough outline of how to reach financial well-being and use it as inspiration to go through the potential scenario mapping. These existing solutions provide a helpful framework that has proven to help multiple people already, providing a good basis for new ideas.

After outlining the scenarios for each of the four thinking styles (see Appendix E), I combined them into a comprehensive overview by cutting up the different moments (figure 15) and laying them out to a chronologically logical progression. This all-encompassing timeline moves the user and their relationship with money from past to present to future by providing tools to reflect on past experiences, current expenses and future savings (see Appendix F for a visual representation).

a service timeline

figure 15 Cutting scenario maps and combining them into one big overview.



figure xx A detail of the overview with all scenario maps combined.



figure 16 The Thinking Styles and their major point of friction; where are they stuck?

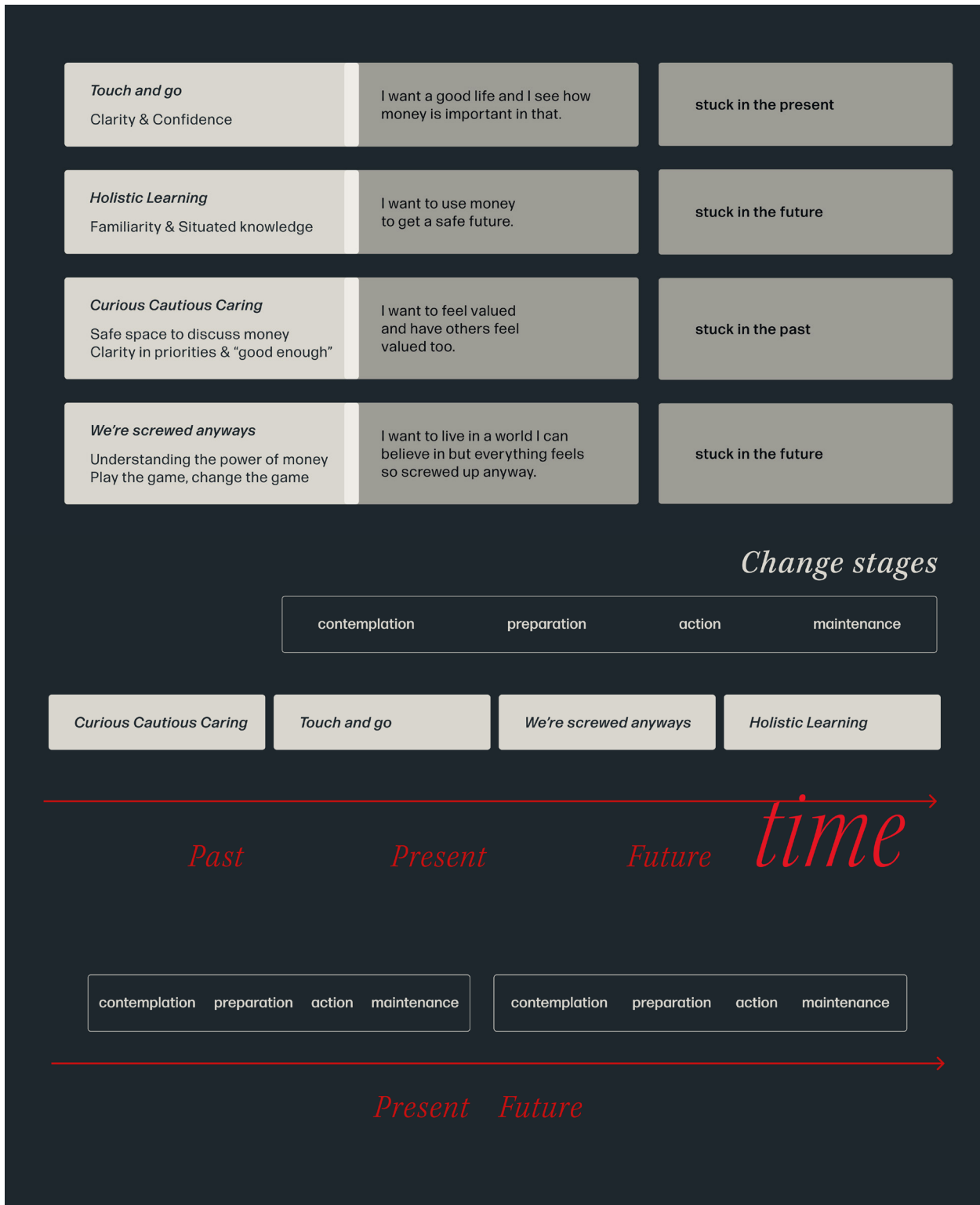


figure 17 The Stages of Change and the division between present and future.

6.2. *Stages of change*

As this grand timeline of the application takes shape, I conduct more research on specifically how people change behaviour and habits. Motivation is crucial but keeping people encouraged to keep going can be tricky (Norcross et. al, 2011).

The theory of "stages of change" (Celestine, 2021) is one such model, and as it is well researched, I use Wit as a basis to further develop the service outline of the application. Coupling the stages of change with the earlier scenario mapping, I find the following key ideas for each stage:

Precontemplation: individuals have no intention of changing their behavior, possible from a lack of awareness of the consequences or having doubts about their ability to change, often due to past unsuccessful attempts.

This stage is not included in the outline of the service as it take place before the person engages in trying to change and thus has little incentive to look for tools to change habits or gain insight. It is not applicable to the Thinking Style, as they each have an awareness of the consequences of their financial actions but may carry doubt towards their ability to engage in financial questions and change.

Contemplation: individuals have a desire to change their behavior within the next six months. They see the benefits of making a change but are also very aware of the challenges and disadvantages, which can keep them stuck in this stage.

This stage brings up the different challenges each Thinking Style faces; as outlined in figure 16, they might be stuck in their relationship with money in different places. Stuck in past, present or future depends on where they feel most resistance to make a change. Addressing these individuals where they experience most friction gives help where it is needed most as indicated on figure xx.

Preparation: individuals are actively planning to change their behavior within the next month. They have already taken some first steps, like joining support groups, getting self-help books, or coaching, and have set up a plan.

The digital tool at this point would propel the individual forward by suggesting actionable next steps at this point.

The division between present and future each holding the stages of change embody (figure 17) the way we look at money as something to enjoy now or save for later. This division comes up a lot in financial literacy and the discussions I have had throughout the project. The past does not have its own journey of change; the past simply cannot be changed. Be that as it may, the way we experience it can be revised, which is what I learned when revising my own money story.

Action: significant changes in behavior are due to have happened over the past six months, resulting in improved health and well-being.

At this stage, the digital service helps to build confidence and habits to engage with financial questions. During this time, the learnings from reflecting on your past beliefs, present situation or future dreams spring to action.

Maintenance: individuals continue to sustain their changed behavior to prevent relapse. They may not invest as much time and effort as during the action stage, it's crucial to be aware that relapse can occur at any point, leading individuals back to earlier stages. Many try multiple times to change their behavior.

Keeping up a steady routine is what is necessary. Here the digital service enables a recurring action to review your past actions. For example, setting up a savings plan can be a cyclical action such as when saving for an annual vacation. In the present, reviewing monthly expenses is a way of keeping yourself on track with your financial plan.

Termination: individuals no longer feel tempted to revert to their previous behavior as a coping mechanism. They have confidence in their ability to maintain this change. Reaching this final stage can be challenging and many struggle to attain it.

This stage is not clearly articulated in the scenario overview as there is no true termination but rather a continuation of the maintenance stage. At this point, the individual might no longer need the digital service and can be move on to other solutions of their own choice.

A cyclical service

As I couple the stages of change with the Thinking Styles I see how these individuals might be in different stages of change already. A great deal of frustration I noticed during initial interviews had to do with feeling that solutions were not meeting the needs the person wanted to address at that point in time. For example, the Touch and Go group is ready to take action—then having to go through contemplation would be frustrating, feeling like a waste of time. However, there is still value in this stage, reflecting on things that might not be clear yet such as the money story, and maybe they want to experience this stage's activities at a later point. As I lay out the Thinking Styles based on their point of friction, whether stuck in the past, present or future, on the Stages of Change, it appears the journeys are cyclical and will move through all stages or specific activities of these stages at one point (see figure 18 and 19).

figure 18 The Thinking Styles point of friction coupled with Stages of Change.

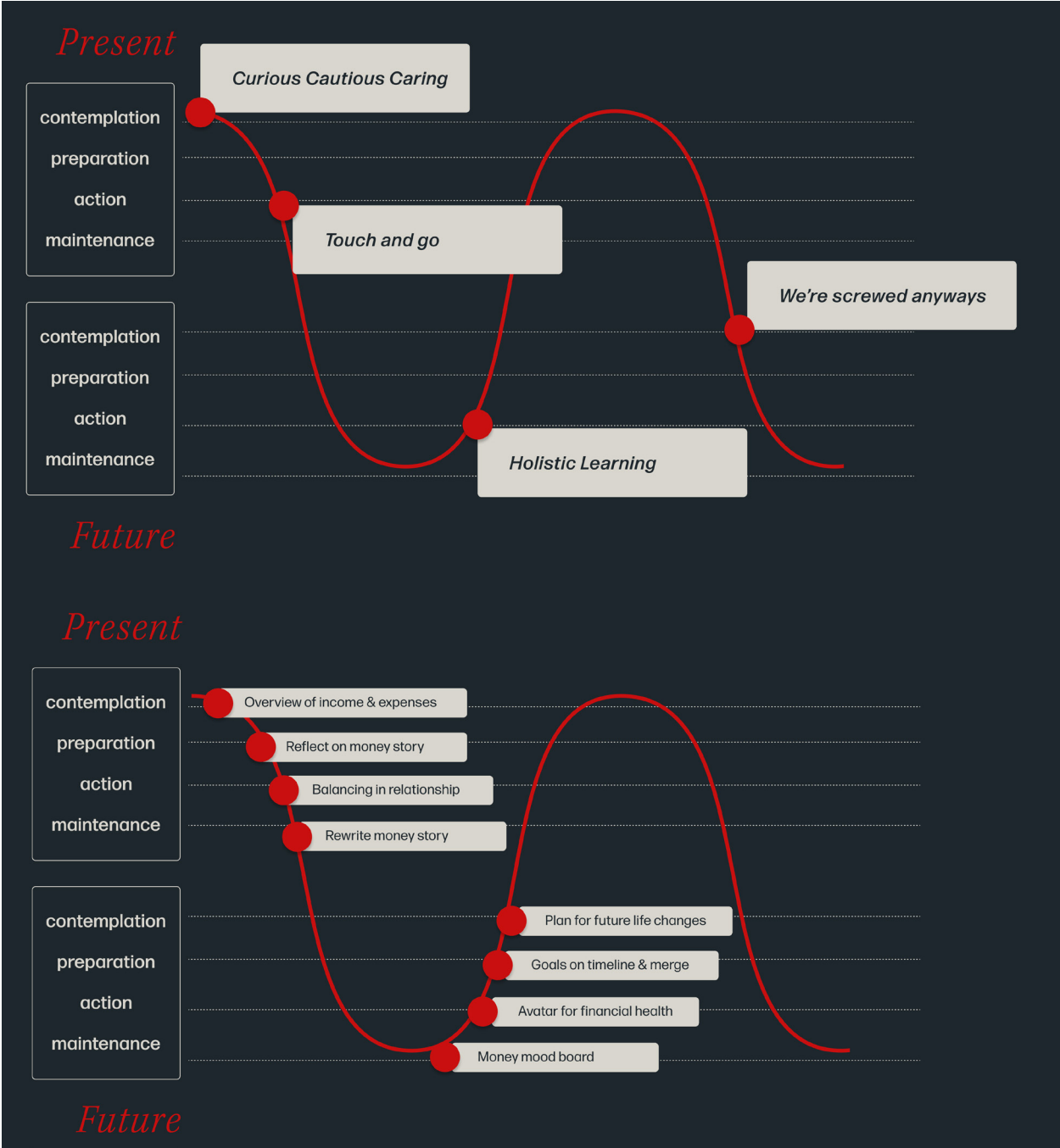


figure 19 Scenario mapping for two out of four thinking styles.

6.3. *Future times*

– speculation and scenario mapping

Future systems mapping

Combining future events (Wade, 2014) to make up scenarios of where our societal systems might end up in 2060, I use it to show the development of money systems, changed attitudes about sustainability and population changes.

This exercise is not so much about trying to predict the future, but rather about exploring it. It can be a stepping stone to imagining new ideas and possibilities, moving past the fixed nature of assuming what is based on what we know today.

I did this exercise on my own (see Appendix J), contrary to the recommendation to use it in a group with more diverse perspectives to open the collective mind to unexpected future changes. In turn, I used ChatGPT to discuss the plausible effects of such future changes. ChatGPT would bring up elements I hadn't thought of, expanding my perspective. Though, it also brought a US-leaning point of view, suggesting how the future might change based on the political scene of the US. In this project, I employ a Europe-centric view, which I became even more aware of. Aside from ChatGPT, I also did a wide search online on futuring tools and found great inspiration in the Future Scan map (see Appendix K) or the game of "The Thing from the Future" (Situation Lab, n.d.) and Megatrends (Sitra, n.d.).

These future scenarios show how much we engage in the relations we have with the systems around us—usually invisible systems—and how we take them for granted. Changes in population combined with advances in healthcare have already lead to elevated ages to retire. What if this trend continues?

A GDP including aspects of sustainability and circularity could lead to our economies and societies moving towards a more environmental stance to curb the consequences of the climate crisis (United Nations, n.d.).

The scenario map holds two axes where money is more virtual and digital versus money is not affected by tech advances and a climate crisis is happening or it is perceived as a "climate change".

“...to contest and re-invent the politics of relations that our intimate entanglements materialise in the way we engage with science and technology..”

(Latimer & López Gómez, 2019)

Scenario 1: money is more virtual and digital +

climate crisis: AI-powered financial advisors help people save longterm, based on their needs. Virtual money has made it easier to save and transfer money across borders.

Scenario 2: money is not affected by tech advances

+ climate crisis: Business as usual has sustained and the systems are slow to adopt technological advances. As such it can only prioritise the values it was built on; profitability and efficiency.

Scenario 3: money is more virtual and digital +

climate change. Earth has a digital twin that represents its needs. Money has more AI systems in place, holding up values that are represented as more objective. Economical and ecological sustainability go hand in hand in a circular economy.

Scenario 4: money is not affected by tech

advances + climate change: More focus on sustainable methods, such as circular economics incentivising organisations and states to move towards sustainable practices both in production as in finances.

This exercise shows how major changes can happen from the grand systemic without having a lot of agency as an individual. How would a financial tool to improved financial wellbeing develop in these future scenarios?

6.4. *Design story*

The design is a story of how we move from feeling stuck in our financial situation today to a carefree* retirement. This story starts with a digital tool that enables people to become “unstuck”. Through the use of Thinking Styles (a variation of personas), a cyclical way of looking at financial planning arose. Encouraging people to make a change, it meets them where they are and is personalised to start where they encounter most resistance- from their present situation to future planning. By situating financial terms and making the insights actionable it helps to put a personal value on the money, moving away from numerical-based information. As the person changes the course of their actions, they change how they would act in the future. As they use these tools, the tools are shaped by them.

The speculative nature of pension saving is what inspired me to move towards a speculative design. At first, speculating on how we might be able to represent money in a way that highlights the many values it holds, surpassing just the numerical value. Finally by showing how the ambiguity of money lies in how we as individuals place value in it, yet it is also dictated by society. The speculative future design shows how these values can be more articulated. By articulating them, we can in turn design for these hidden values today.

Saving is presented as a rational choice between instant and delayed gratification. But studies show it involves so much more than that. The research phase highlighted the need for a balance between trust in the future, equal opportunities in society, independence and interdependence in our closest communities and confidence to engage with financial systems. To show a possible future also removes thoughts on us ever being “done” with finances, as we would sometimes mistakenly think we have arrived in life. Dan Gilbert researched this issue showing that human beings have a hard time thinking further in the future as an evolutionary bug and that we thus also adopted this idea that where we are now in life is how it will always be (Gilbert, 2014).

This complexity is not easy to grasp and so the duality of having a familiar digital design that represents the now and the abstract stories that represent the future inform one another. It highlights the need to focus on the individual in design, and their agency in the system. At the same time, it brings forth the trouble with design; we cannot fix the systemic. And we shouldn’t sell a design idea as if it will fix that for each individual using the design.

“Human beings are works
in progress that mistakenly
think they’re finished.”

(Gilbert, 2014)



probable
future



development?

As many probable futures, there were possible pasts leading to the present moment. The stars align, our futures predicted based on what we know now and what we experienced in the past. This is how I approach thinking of probable future developments.

personal reflection

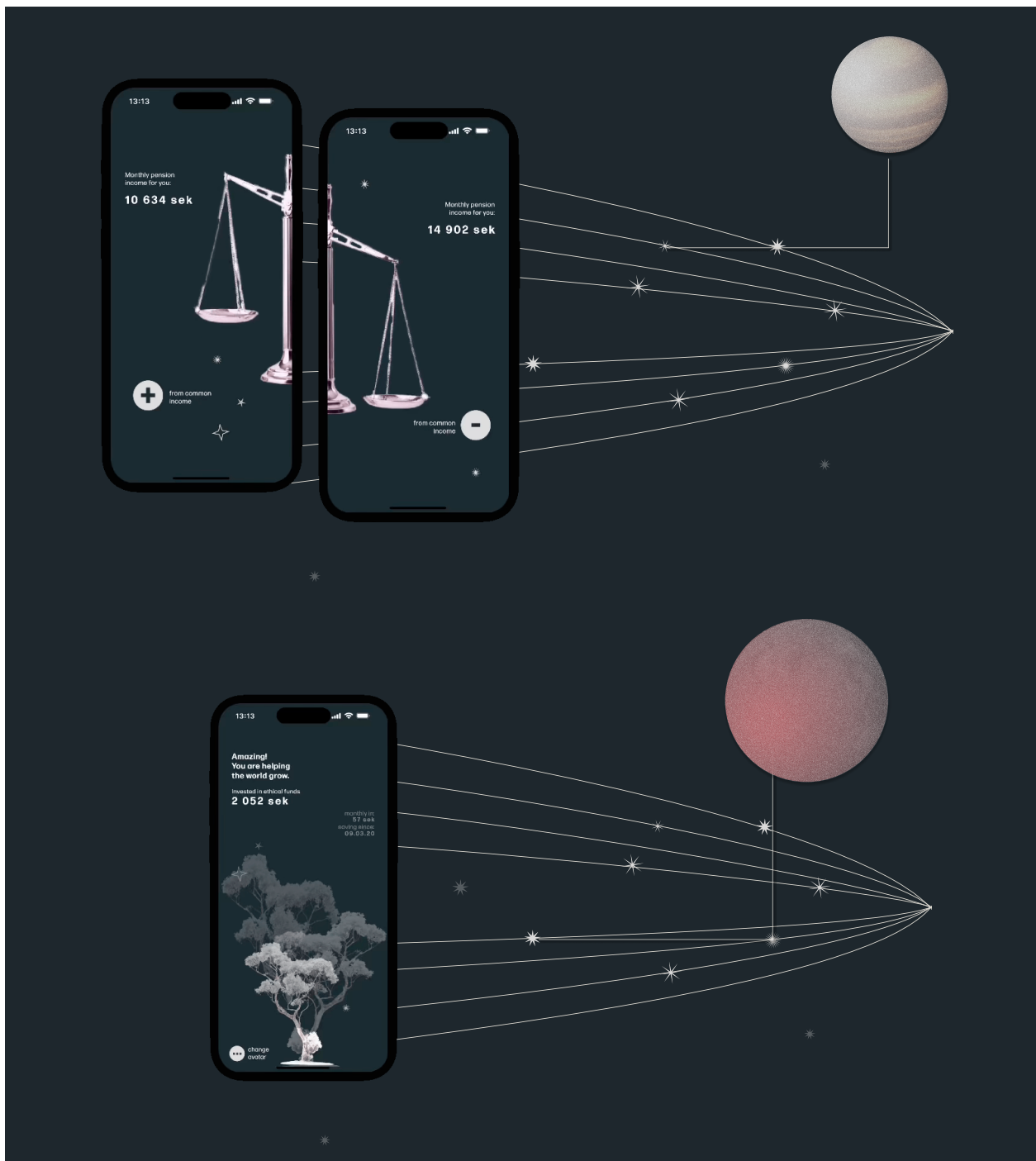


figure 20 Sketches of specific functions in the app

6.5. *Concept sketches*

Sketching the now

For these sketches (figure 20) I gathered insights from earlier prototyping and from conversation with different individuals. An impromptu brainstorming seems to occur almost as soon as I bring up the topic of pension saving which brings up many moments to test ideas or play out an embodied understanding of an abstract concept (Skumolwski & Rey, 2018).

Balancing pension savings

In an intimate relationship of two people, where commitment to take care of one another has been made, questions on how to divide finances are a big topic. As shown in the research, this topic can be tough to hold. This sketch shows another way to discuss it; the illustration of the scales shows a subjective prognosis of pension income and can be adjusted to an equilibrium with private pension saving.

Saving money & the planet

Most would prefer to save in sustainable equity and find a secondary motivation in investing in sustainable organisations. Showing how not their money grows but how their contributions help natural elements grow. It is a form of gamification that can help add nuance to savings. It is not just about saving as much as possible but having your finances build something up for the future too.

Future design

Developing these ideas from the matrix exercise and as possible evolutions in 2060 of a 2023 application. These usually hold a form of tangible artifacts that circumvent the issue of predicting future technology that might replace the functions of our mobile phones today. These sketches are shown in figure 21.

The finance tree

A poetic representation of your finances and the relationship you have with finances through the growth of a physical sculpture of a tree. It emphasises an environmental approach to money and combines natural and economical elements, portraying them as MTH actors that are affected by monetary actions, that they need nurturing and growth throughout time.

Laying the puzzle of life

An analogy takes shape by laying down pieces of the puzzle that makes the images. Each piece represents an action that moves you closer to reaching a savings goal or making active financial choices, opposed to passively spending and earning. The puzzles form a picture gallery that you enjoy perusing after many years of reaching your goals and look back on as a physical reminder of progress and growth, representing the idea of reflection and self-awareness. If part of a family it becomes a collective achievement or can be inherited through the generations.

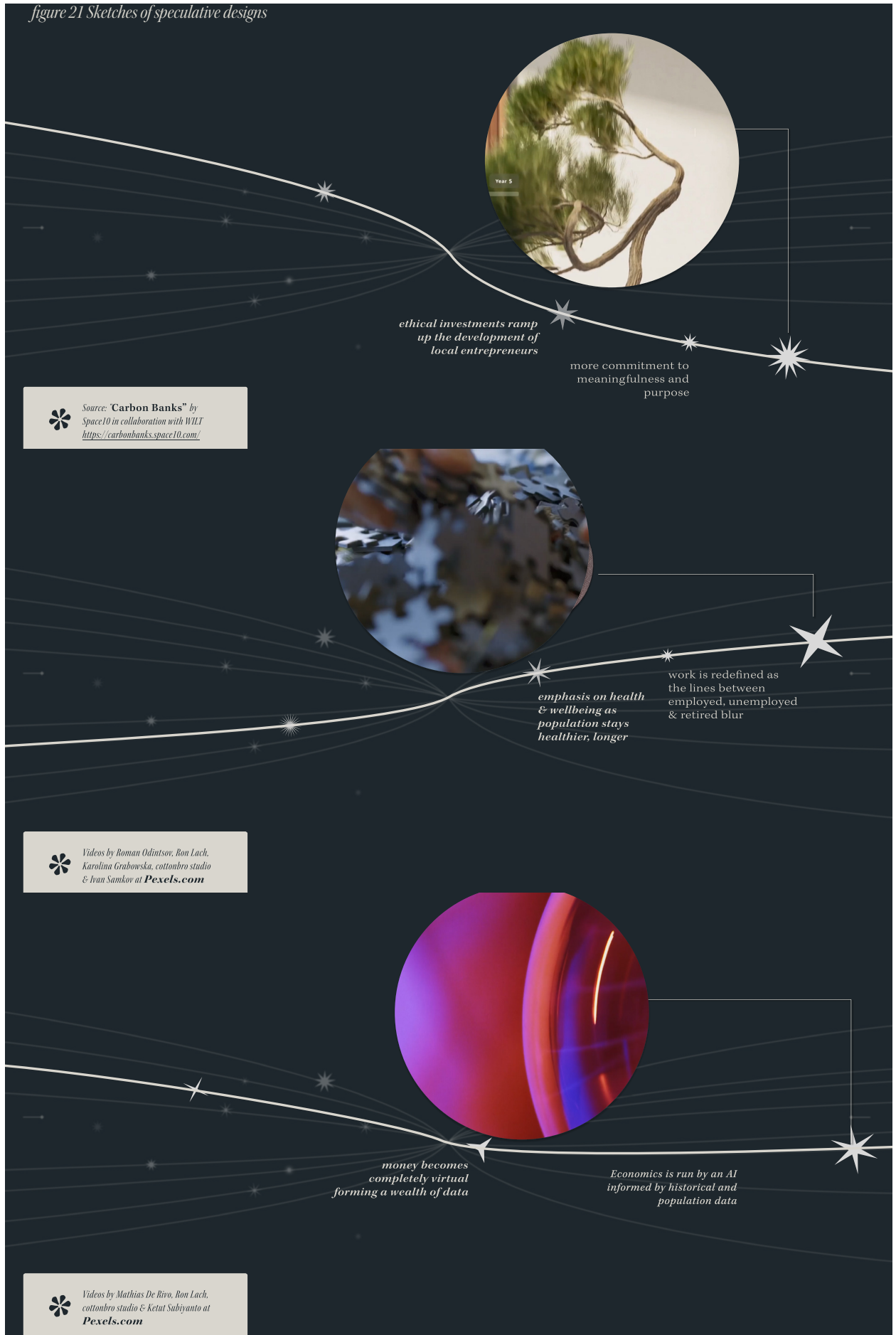
Biometric companion

A wearable device, like as a bracelet or watch, that the user wears at all times. And holds a biometric scanner measuring the user's physiological responses, to check their emotional state and give individual financial advice based on their financial goals. For example, if the user is trying to save money, the device might vibrate when they are about to make an unnecessary purchase. Or if the user is feeling stressed, the scanner might recommend ways to reduce their expenses or prioritize their spending based on their values.

Implications

The amount of data gathered from these solutions could in turn feed information factored into a future form of GDP. As individual data such as emotional aspects of financial questions are taken into consideration, the economic models might change affecting politics in turn. For instance, a greater focus on environmental sustainability in economic data might force grander decisions made based on this prioritisation. This is another form of fluid assemblages.

figure 21 Sketches of speculative designs



6.6. Existing solutions

– understanding the usual ways of designing for financial literacy

To understand what exactly, aesthetically, makes for a design to address financial issues with holistic thinkers, I take a look at existing solutions.

I use the form of a matrix to assess the diversity of these apps and to understand what qualities the design I am working on should hold.

The axes (see Appendix K), hold the tension between:

- numerical and emotional value, to show the focus of the user journey of the app and whether it forwards numerical or emotional values in this journey. Relevant apps that show an emotional approach are very rare in fintech, and so I turn to habit building apps such as Noom (dieting) and Headspace (meditation).

- And numerical and emotional approach that represents the way the data is shown.

Numerical value - emotional approach: here the use of graphs is combined with colour and shows progress. The emotional quality lies in how the progress is emphasised and the numbers show up on a lower graphical hierarchy than the illustrations.

Numerical value - numerical approach: numbers are placed front and center, lists of expenses and budgets are in focus. The colour schemes are more subdued. The Dreams app is edging towards emotional as it situates the savings more in everyday life e.g. saving a certain amount per week or giving challenges connected to lowering consumption—reframing the temporal factor of savings is proven very successful (Hershfield et. al., 2018).

Emotional value - emotional approach: soft colours and creative illustrations emphasise the focus on feeling and changing the way the user approaches the topic. Focus also on the journey; how much have you done, what is left.

Emotional value - numerical approach: apps that inspire habit change through tracking or keeping up a streak have a more numerical approach to it, summing up how much and how often you do a certain thing. There is less focus on why you do it. The focus is also a bit more on educating to instruct and inspire a why but has the user reflect less on it themselves.

6.7. *An unfolding of the now*

I realised that the future design takes away from the specific values this design foregrounds. The focus is instead on inspiring designing in a different, letting speculation happen like this by questioning how we would treat finances and budgetting and stuff if we showed it like this.

Speculative design is also about being vague

Imagining the future through stories of others is a powerful mind method to experience a different reality, something—simply put— we experience often as we read non-fiction or watch a tv-series (Pyyhtine, 2019). In this concept, as it advanced, the realisation hit me through a conversation with Johan Redström, that the power of filling in the gaps can be even stronger. As I work on developing future stories, I find resistance in how defined or undefined the story is. Giving the recipient of this information enough to build up a story but not too much that it becomes unbelievable or even worse, unemphatically. It would lose this recipient's engagement, an important element as I want to inspire with this design. As Johan and I talk, he emphasises the importance of the design: foregrounding the values and ethics of each individual in financial matters. How the individual relates to money as an unfolding progress. To do so, I would need to craft a scenario that is not specific in time, so that the recipient can imagine that themselves for their own imagined futures.

Opening up a way to think about finances

My intention with the future part of the design would have been to expose the elements that cannot be seen in the now part of the design (the application). But the application could cover both. If I focus on designing a different way of designing for financial habits and literacy, I can expose the problems with how it is designed for today. And even to some extent open up thoughts of the systemic influences around us. Through the subtle filters of equality and sustainability that I have consistently had on this process, I can emphasise how individuals can respond to systemic inequality and unsustainable practices through their finances. By bringing up the question whether money is a mere commodity or the expression of our values and ethics, another debate arises: when the systemic changes around me, how do I respond?

With this reasoning, I step away from the dual design concept and focus purely on the application. This in turn becomes more a conceptual design rather than a finished and tested design.



figure 22 Ideating on storylines
with Lego figures

6.8. Storylines to ideate further on

As I find myself focusing only the application and design it as an unfolding progress of the relationship you have with money, I need to ideate on specific moments in people's lives. Bringing in everyday actions will help to see how it can inspire people to reflect actively on their purchases and expenses.

Figure 22 shows how I set up some LEGO figures to play this out. I also turn to the interview material from the research phase to bring up specific scenarios.

There is the family of four that consists of two co-habiting adults and two minors, to showcase how two adults might have to navigate their own differences in how they approach financial matters and at the same time guide the minors.

How do you talk about money when approaches differ and children need guidance?

A couple in their forties where one of their parents has become seriously ill. It brings up question on how they would handle their own financial matters if one of them falls ill, and also how to support the ill parent in the meantime. *What if our income and health changes suddenly?*

Three friends are chatting about their partners spending habits. Why are they so different and why do they value such things these friends do not comprehend? *How could the value of these frivolous expenses be communicated better?*

A person spends money on things they aren't sure really gives them value. They find themselves buying things at any given time to come home and feel a little empty. *What if they could be aware of this behaviour in the moment?*

These scenarios help me define user flows for the application that are situated in everyday life and are based on true stories. Placing them out as LEGO figures helps me to empathise more with the person in this situation rather than sketching it out or ideating loosely.

the reverse poem

There is never enough money
So don't dare to say
There's a world of opportunity
Instead, for me and those I love
There are only closed doors
Overwhelming me in feeling
That saving for the future is futile
I can't believe

I will ever own enough
And think that
We can build a good future

We can build a good future
And think that
I will ever own enough
I can't believe

That saving for the future is futile
Overwhelming me in feeling
There are only closed doors
Instead, for me and those I love
There's a world of opportunity
So don't dare to say
There is never enough money

6.9. *Design & poetry*

An excellent example of how actions by individuals can change an industry is the advertisement released by Patagonia to inspire people to “buy less and demand more” from the fashion industry (Patagonia, 2020). In this advertisement, a poem is read with scenes of climate change in the background. It is a gloomy tale of how the future is doomed and “we’re all screwed”. But then the poem is read backwards, turning the story on its head. It is now about how demand should be placed to ensure a better future.

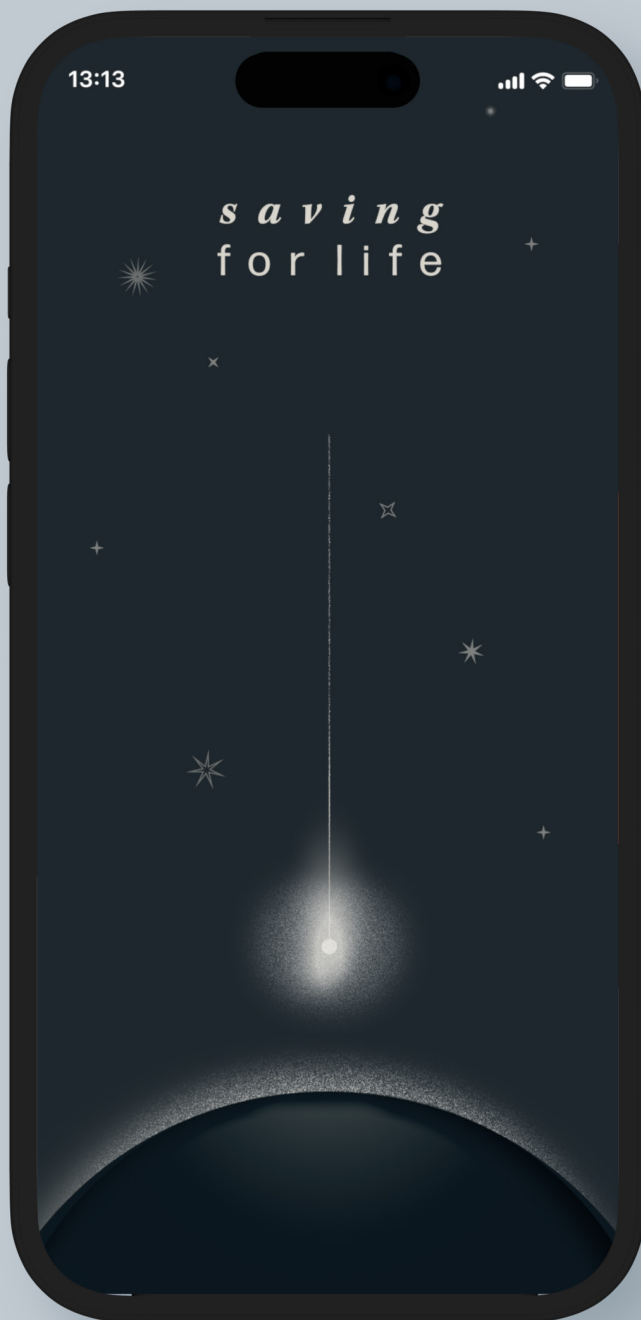
This is the story I want to tell with the design work. How you can look at your own money story, however gloomy it is, and through reflection and engagement potentially turn it around for yourself. And maybe in turn it will change the world around you as well.

Throughout the ideation and refinement work of the design, I wrote a similar poem with this message. It helps define the emotional essence of the project. As others (classmates, mentors and friends) read through it, I see the poem strikes a chord. It resonates and is a familiar story, and the happy ending gives them a feeling there is hope, a reason to keep going and try to change how we handle money.

As one person put it, it is the essence of the design I am developing and so they asked: “How would you design this poem?”.

7. Saving for life

An application concept focusing on the holistic value of money and an individual's journey with it throughout the years to come.



7.1. Design elements

At the start of the project I set up a graphic design style playing with associations to astrology.

Astrology tries to predict the future by looking at astronomical events. As many forms of future predictions, it is not accurate. Yet so many hold believe in it as they find comfort in it. It forms a perfect analogy to pension savings as saving and planning for retirement-our future-also gives a sense of comfort though it is unknown what will happen. In planning for the future, an attempt to define it is done at the same time.

In the graphic design of the application (see figure 23), I use this analogy. However I am tweaking it slightly showing that your future is not written in the stars, that you can write it yourself. The many

unknowns of the future can paralyse people into not acting at all, but by putting some things in place (as if we were writing ourselves a little horoscope or prediction) we can feel a little more comfortable. Diminishing the anxiety for the unknown enables us to act, releasing the paralysis.

Playing with graphic elements of space, I want to emphasise that “the sky is the limit”; though not technically true as we all have limited access to financial means, it is a way to spark curiosity.

Buttons and fonts were chosen to follow a softness yet decisiveness. A very subjective description, but to accentuate that this is not straight angles, mathematical like other financial apps

Font use

Static information

AaBbCc 1234 „!?”

Titles: Kepler Std Semibold Subhead 24 pt

AaBbCc 1234 „!?”

Body text: Kepler Std Subhead 17 pt

AaBbCc 1234 „!?”

Fine print: Kepler Std Light 14 pt

AaBbCc 1234 „!?”

Additional info: Kepler Std Light Italic Caption 14 pt

Actionable elements

AaBbCc 1234 „!?”

Body text: Forma DJR Micro Regular 24 pt

AaBbCc 1234 „!?”

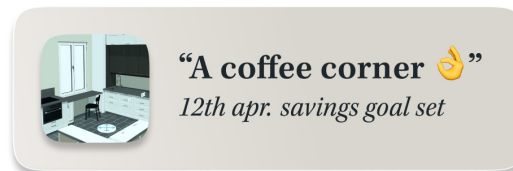
Body text: Forma DJR Micro Regular 17 pt

AaBbCc 1234 „!?”

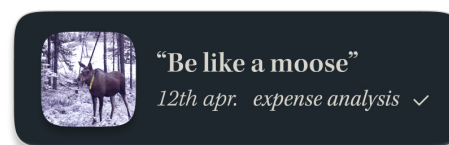
Fine print: Forma DJR Micro Regular 10 pt

Interactive elements

Buttons



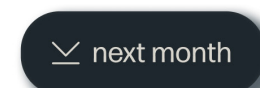
Past event Major



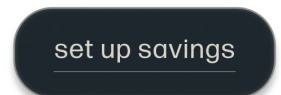
Past event Minor



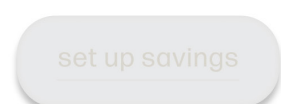
Past journal entry without activity connected



To a defined point on page



Call to action: primary state



Hover & click



Back



Next

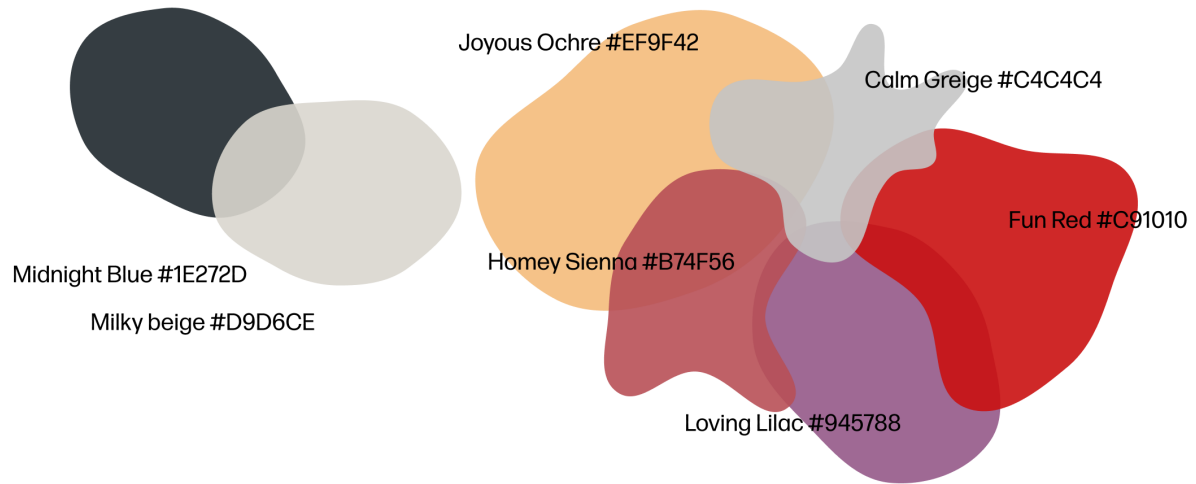


To the bottom

Colour use

Primary for backgrounds and text

Secondary for illustrations



Graphical elements

Logotypes

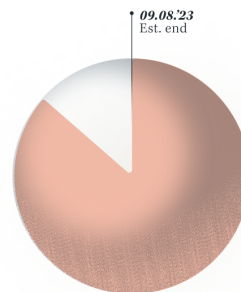
Illustrations



Dark, symbol only,
eg app symbol

Light, symbol only,
eg app symbol

Starlike symbols in either
of the primary colours



Dark, symbol and title,
eg home screen

Light, symbol and title,
eg home screen

Planetlike symbols in
any of the colours

figure 23 Overview of graphical design elements

7.2. Result: service overview

The service overview (figure 24) encompasses the Stages of Change, guiding the individual through the cycles of present and future to obtain a healthy relationship with money towards financial well-being.

It is a reflection with oneself. A conversation to understand ourselves and the way we value and prioritise things in our lives through the use of money. When we know that the use of our money aligns with our values and ethics and we know how to do that, we find resilience in any situation. When things around us change, we know how to follow our inner compass and use our money to lead a life that respects our true north. We find a tangible way to affect our collective future.

So what does it look like?

Formed in the past

The money story is the entry point for most people entering the application to analyse how their relationship with money has been formed during childhood and in the past.. Specific questions can analyse where the needs of the individual lies. Are they stuck in the past, present or future?

This exercise can be revisited later on, to add to the money story

Affecting the present

From the money story, the individual is invited to understand their present behaviour and financial habits. They can connect their bank accounts and get an overview of their finances as they are now.

If their money story shows that their habits are not following their values, the individual is invited to evaluate their everyday purchases with the help of some questions. This exercise spans a period of two weeks to then be revisited when needed.

Speculating about the future

The individuals needing to understand how the future can be approached easier, get an invitation to align both their intention with saving with the hopes and dreams they have for the future. Aligning their values with investments or saving methods open up possibilities to implement a broader understanding of what money means.

Our relationship with money is

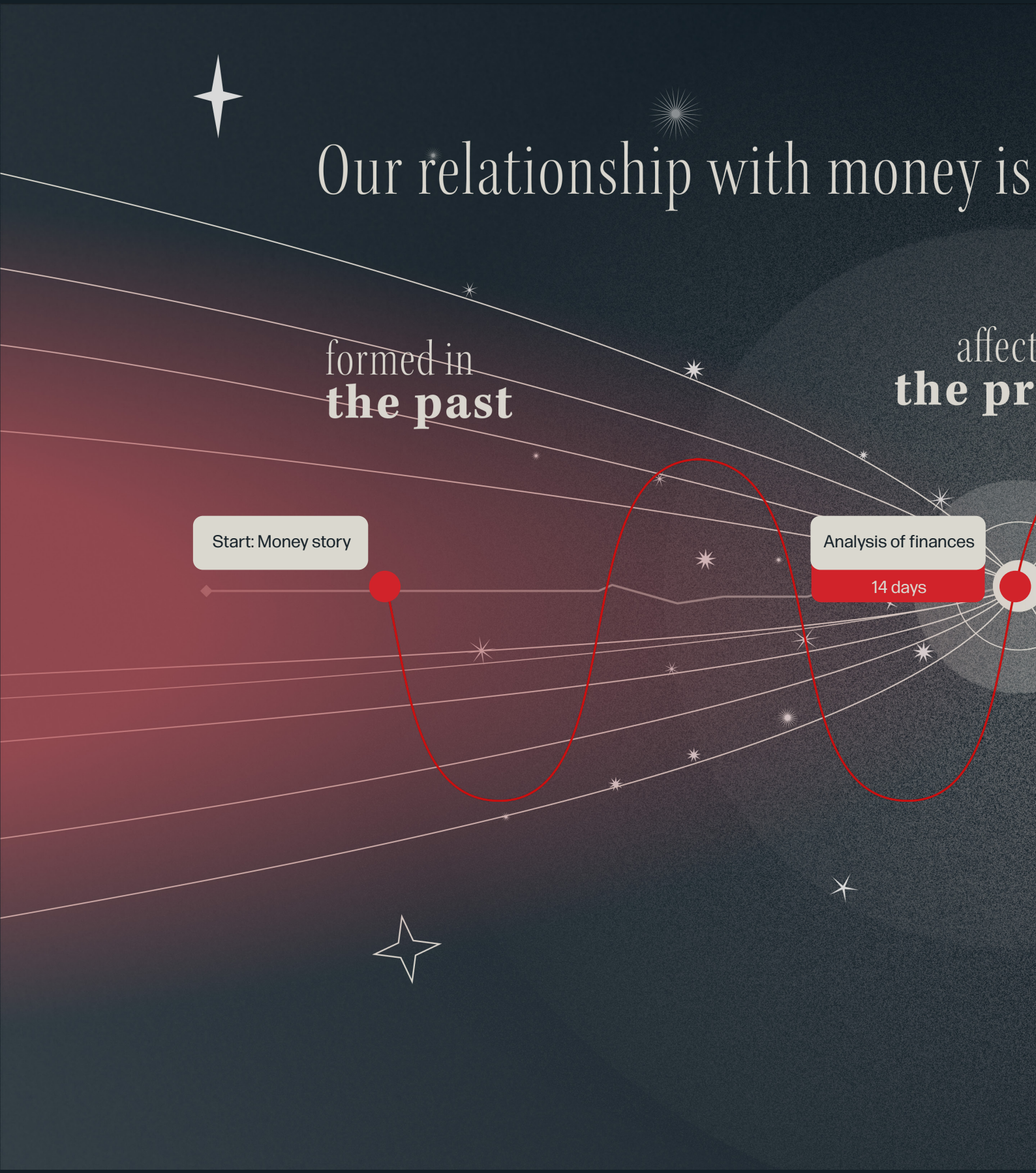
formed in
the past

affect
the pr

Start: Money story

Analysis of finances

14 days



lifelong...

ing
esent

speculating about
the future

Set up savings

*figure 24 Overview of the
service with time spans.*



7.3. Result: application design – reviewing the journey so far



The home screen shows an overview of your journey so far. You are welcomed with your most recent win and a call to action to the next step on your financial journey (figure 25).

figure 25 Home screen and scroll when application is running

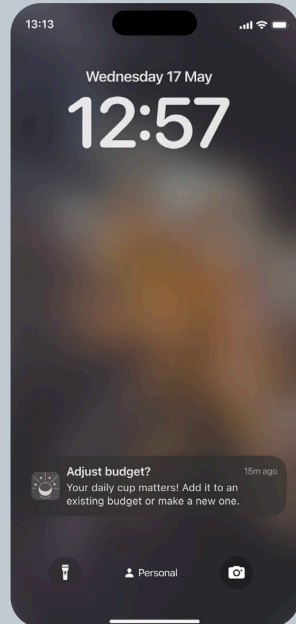


The splash screen accentuates the coming of something just beyond the horizon. It is designed to entice a sense of an ongoing journey and arrival (figure 26),

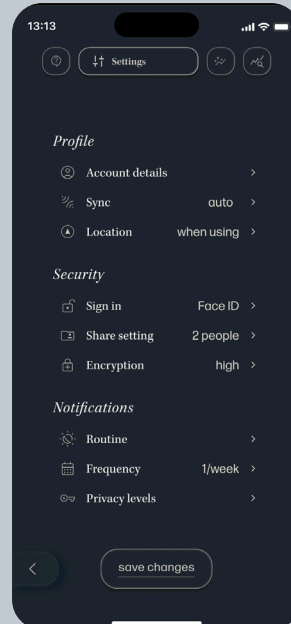
figure 26 Splash screen: what the user sees when opening the application.

– general

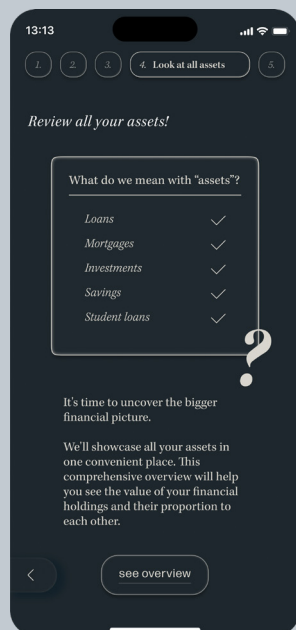
Simple prompts help along the way when contemplation has moved to action. In this example the user is encouraged to define their daily purchase of a cup of coffee as part of a budget so that these small delights do not have to cause financial anxiety by knowing there is money for it.



Settings show how often you want to engage and follow up on your finances by setting up a routine, giving access to the privacy settings and whether you are sharing this journey with a partner, friend etc to give full authority to adjust for different kinds of communities the user might be a part of.



Financial literacy is not the only way towards better financial well-being, but increasing the knowledge and vocabulary of individuals concernign themselves with their financial matters will help grow their familiarity and confidence. This knowledge is brought at times it is most relevant.



Holistic thinkers sometimes need other ways of showing numerical information. Here the example shows how half a cup of coffee can explain what a decrease of income during retirement would mean. Translating the currency value to a physical value, can increase an embodied understanding.

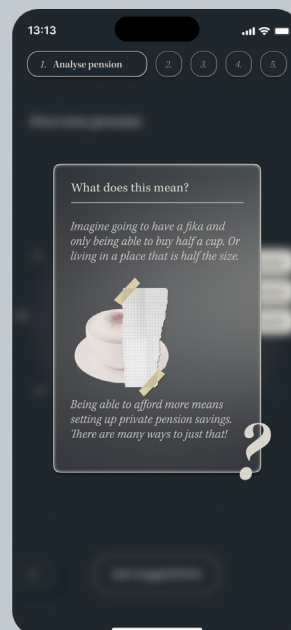
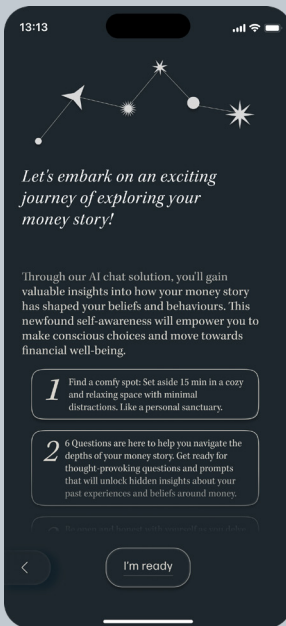


figure 27 Screens illustrating key functions, general for the app.



Your money story in conversation with an AI that helps you reflect, question and inquire about your own experiences with money. A recurring activity to see how you grow.

From the user testing, it was clear that negative feelings can come up and that it is important to guide the person through these tough insights and how they can handle it (figure 28).



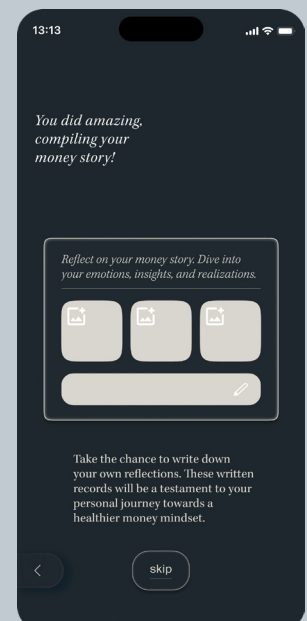
figure 28 Introduction to money story, guiding the individual through the reasoning of this exercise.

– your money story



figure 29 Screens of the questions the individual answers to form their money story, finalising the experience with a moment of reflection.

Your money story in conversation with an AI that helps you reflect, question and inquire about your own experiences with money. A recurring activity to see how you grow in your stance towards money. This exercise is added to the journey overview in the home screen to be reviewed at any time (figure 29).



The analysis of your present financial situation can help to bring as sense of understanding. It aims to show the individual's finances in another way than numerical by placing income and expenses in relation to each other.

A five step process brings together all this information (figure 30 & 31) by assembling data on your expenses, by compiling it to budget buckets, reviewing your income and analysing the other assets the individual might have access to.



figure 30 Screens of the flow to understand your current financial situation.

–analysis of finances

figure 31 Screens showing the continued flow of analysign the screens.

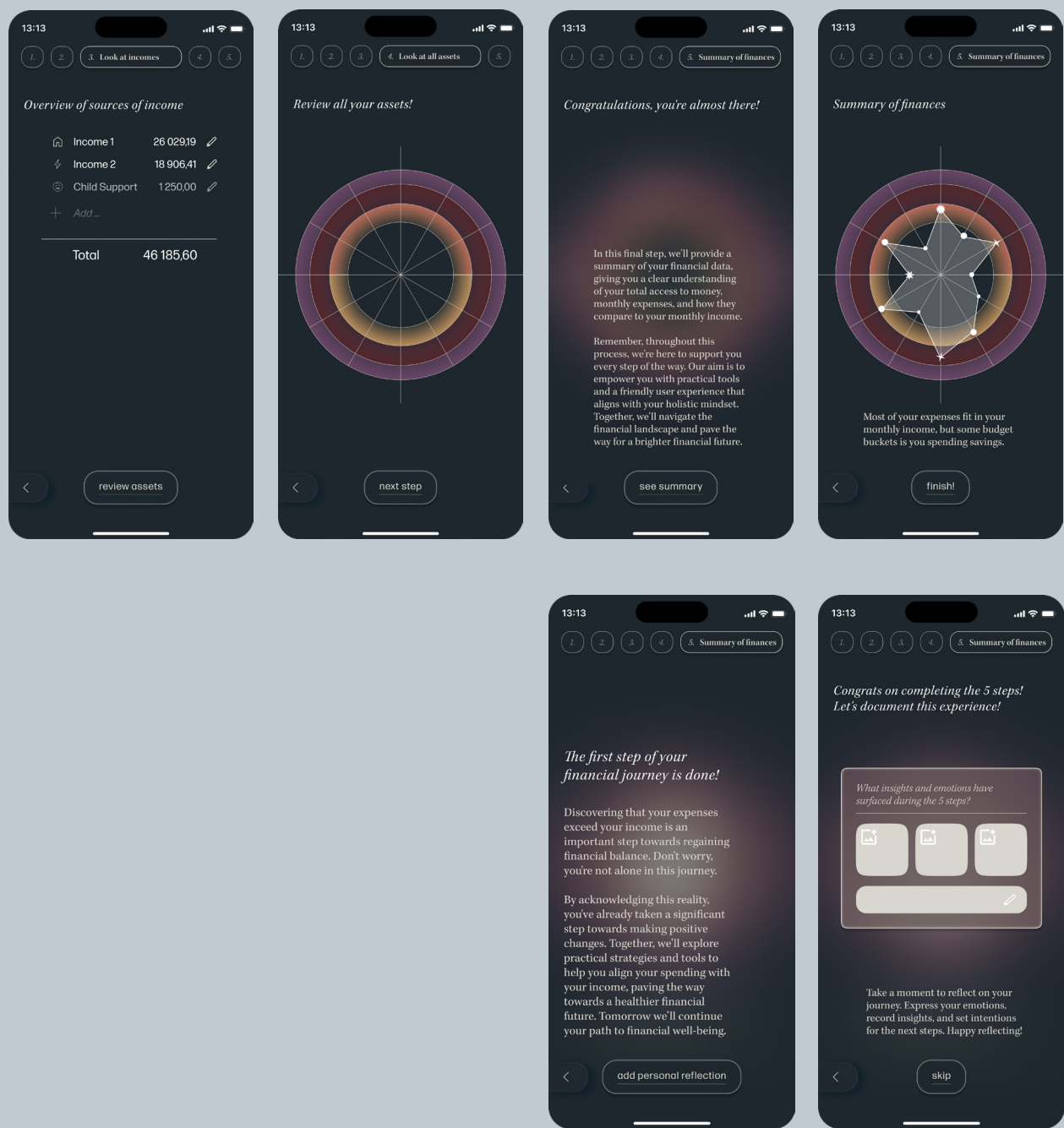
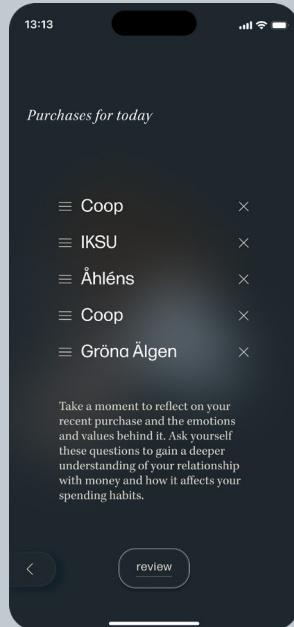
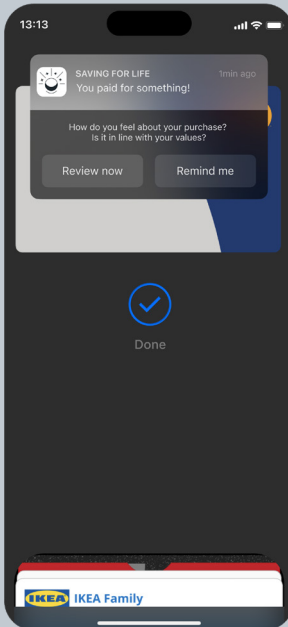
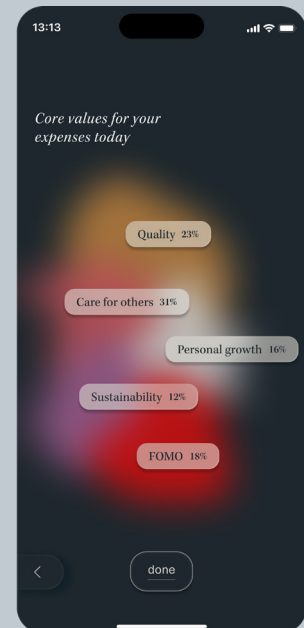
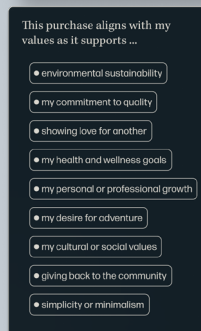
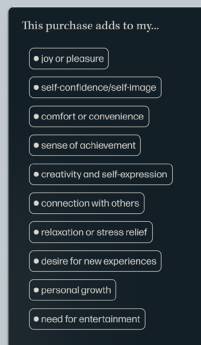
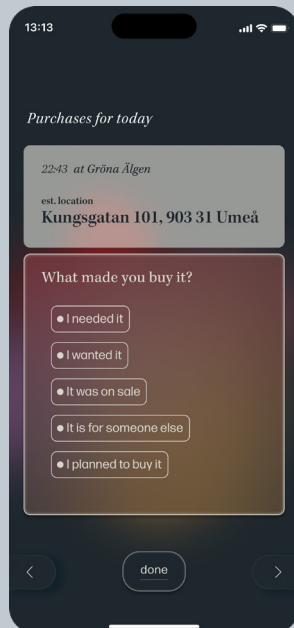


figure 32 Screens showing the flow to evaluating ongoing purchasing behaviour.



A prompt when a purchase was made invites you to review your purchase. This can be done in the moment or all expenses are gathered to be evaluated at a later moment in time of your choice (see figure 32). Some expenses might be recurring and will be filtered out as the interaction shows they are duplicate.

Reviewing your values connected to expenses from the day help assess whether this purchase aligns with values you want to focus on further in your financial journey. This act of reviewing and reflecting is done for a limited amount of time, as it would become too tedious to keep doing this indefinitely.



– *present contemplation*

speculative design

The value of speculation in
this design lies both in the
perspective of the designer as in
the perspective of the individual,
or potential user.

Questioning both how we design
to cater for an industry used
to communicating in "their"
way, overlooking those that do
not speak that language, and
also how the individual tries to
accommodate to this language
and what could be different if
they would consider the value of
money differently.

– future action



figure 33 Screens showing the flow to saving with your values in mind.

Savings prognosis and investment suggestions shown have detailed information about the sustainability score, and graphs give information on growth expected. This is one instance where numerical information is needed, as we are still talking about money. This is an excellent moment to educate and bring in situated information to enhance

financial literacy. In figure 33 it is for instance in explaining how different sustainable funds might work and how to look up more information about the credentials of sustainability. Showing an accumulation of value is done by combining numbers and symbolism, by showing an illustration of a tree.



figure 34 Screens showing the flow to saving with your values in mind.


Pension saving would require connecting to minpension.se, which has an open system that allows a gathering of data. By then applying the same way of looking at income versus expenses (figure 34) as during the analysis of the current financial situation, it creates in parallel a familiarity to the format, while understanding that this placing your current situation some years into the future.



There is never

7.4. A video, a poem – *reversing the journey*

A video brings us through the journey of being stuck and lost with what money means to us in the grander scheme of things, to finding a way to leverage it to focus on our values and personal well-being and that of those around us.



enough money

Link: www.vimeo.com/itsnotuploadedyet

8. *Looking back*

8.1. *Mind the gap*

I remember an interview where the person I talked to wondered what private pension saving has to do with interaction design, and how design possibly could improve the experience. Aside from feeling provoked, I wondered as well: what role does interaction design play in this context of longterm saving?

In the space of economics, UX, as a branch of interaction design, has taken a big part in developing fintech. These financial technological solutions bridge the gap that once was filled between the consumer and the financial solutions (such as stock investments) by banks and their employees. As it stands today, the gap is still very wide to reach all consumers. These solutions still require a bit of knowledge and confidence to get started.

As I opened up the topic of private pension savings to encompass how we handle money throughout adulthood, another gap revealed itself. The gaping hole of understanding what role money plays in our individual lives. How saving on that cup of coffee a day is not the same for every person. The cup and its cost represent different things. This approach to money is underserved in today's financial solutions. Representing money in graphs and numbers is not always insightful. This is only one part of converting the value of money.

In designing the final result, I challenged myself: what would be other ways to convey the value? And with this, I challenge others in the design field too. What if we design for the holistic thinkers and not for the quasi bankers out there?

By the end, I felt there was still so much to explore and so many possibilities wide open. Let's grab them.

8.2. *Sustainability*

During the past months, I started reflecting heavily on our habits of consumption. How often we buy things for instant comfort or for the sake of ownership. As a conversation with oneself, an ongoing reflection on personal values, the final design places a lot of emphasis on individual action. And I questioned whether that is fair to that person. To take on the burden of dealing with the consequences of the systemic, the societal structures. And it really isn't. But these bigger structures are always there. The bigger consequences are always there and to feel the consequences without being able to do anything about them, can be tough.

Sustainability has been a steady undercurrent in this project. I don't spell it out, yet it is there whenever I question wealth for the sake of wealth, consumption for the sake of consumption. That what society tells us is important, is not always our personal truth. Taking an active stance in that can be a personal path to well-being, and through the design I provide ways to increase that well-being to a broader circle than the individual. To show how building a more sustainable future can be participated in and can consist of actionable, obtainable steps. The emphasis in the design is on affirmative reactions to the individual's actions, by aligning their own values with greater values.

Designing in such subtle ways for grander change is challenging; it is often more natural to correct than to encourage. But encouragement motivates more.

8.3. *Personal reflection*

In every project during the master's, I challenged myself to let go of control. To let the process unfold, let the insights come forward and to allow inspiration to find me. I do this by working regular hours, taking my weekends off, enjoying the nature around, taking distance from the topics we have been working on in each project. And so I did in this thesis work as well (up until the final weeks that is—then weekend were a little shorter).

The thesis work was the first project I did alone, and having worked in teams for years leading up to the master's, flying solo was something to adjust to. I missed rolling around ideas with others, or finding new perspectives through the another mind. Through the whole of the thesis I engaged in conversation with others. To learn and understand in the research phase, to sift insights in analysis, to ideate and brainstorm through ideation and to scrutinise in refinement. And the way I engaged in these conversations was often unplanned. Uncontrolled.

I found other ways of designing that are not as methodical yet not chaotic. In conversation with Monica, my tutor, I learned how designing is about more than the HCI methods. It is not just sketching. It is also living in the world, seeing and understanding when we are in the world. As designers, I feel we edge the line between subjective and objective. We need to be empathetic but not biased, to be fair in our design work. We make decisions that might advantage or disadvantage the people the design reaches. I am also a person. With my own biases and my own story. During the thesis, I tried to reflect on those aspects influencing my way of prioritising

findings and the way I would interpret information coming in. As I am alone in the work, it is all the more important. But being alone in the project also provided the freedom to follow my own path. I am pleased to have tried out other ways of designing, of bringing in elements of poetry and making an emotional product.

Looking at money as a MTH actor by trying out frameworks that focus on the systems surrounding money, was insightful. Though this part of process didn't end up in the final result, the new tools have been inspiring.

I set out initially to design through tangible prototypes to encourage play pretend. I tested some play pretend moments and translated these almost immediately to the digital sphere. I think I could have made more time to try this out, but in the time-frame available, I planned too little time to explore methods that would have required time to learn the tools.

Reflecting back now, I want to point out the immense advantage of choosing a topic a great amount of the people I talked to could relate to. I gathered a wealth of insights, experiences and feelings by talking about my thesis with anyone. Combining the structured activities with these change encounters gave me many honest moments with people; what they feel they lack to feel safe and secure in financial matters.

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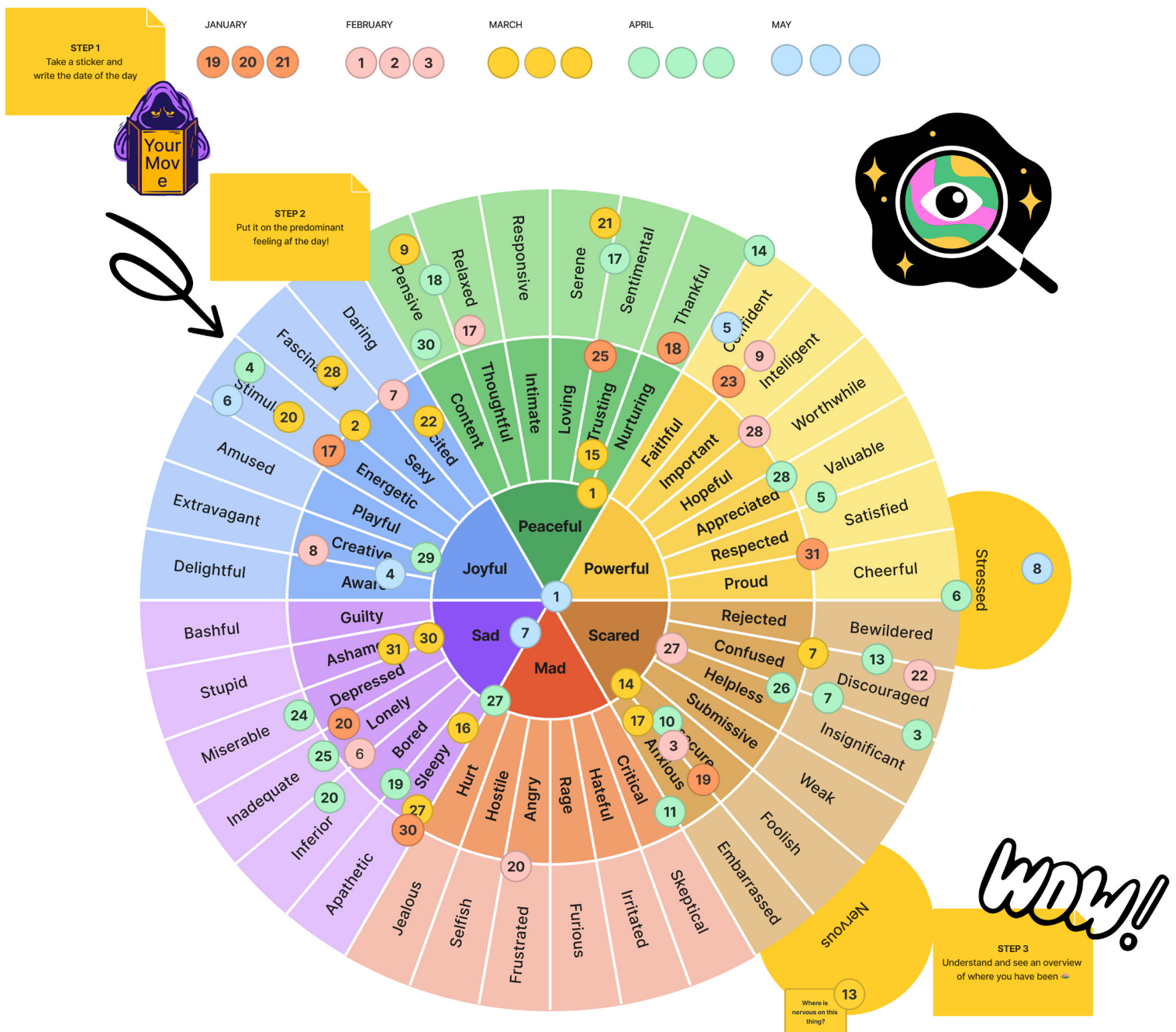
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10. Appendices

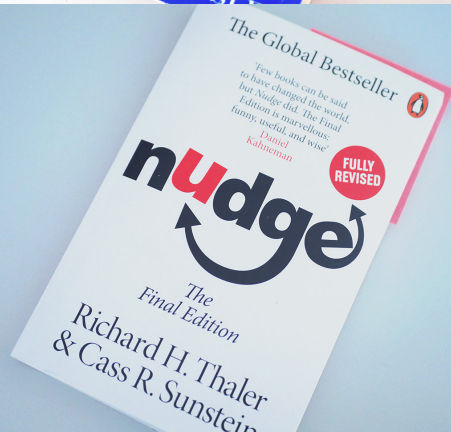
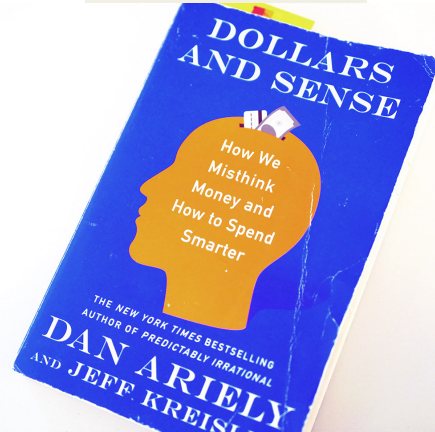
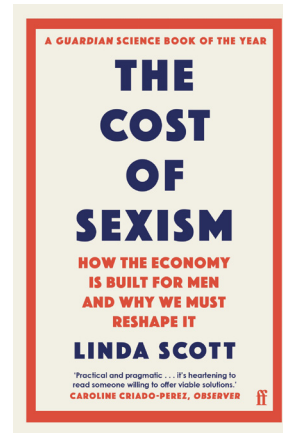
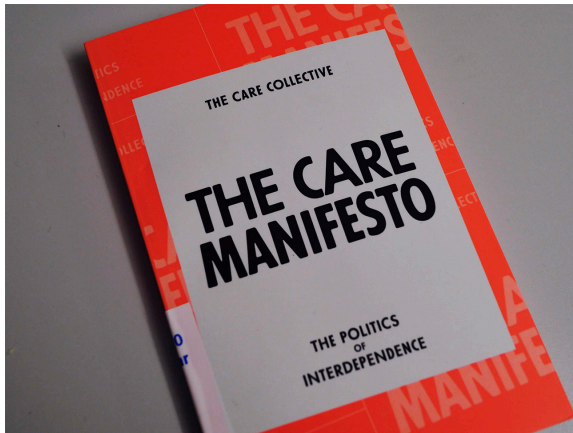
Appendix A

– the emotion wheel I filled in throughout the thesis



Appendix B

– an overview of books I read not referenced in the document



Appendix C

- results from workshop with Swedbank

Birthday bonanza

A	E	I	O	U
Activity What are you doing? What are you going to do?	Environment How are the people using the environment? What is the role of the environment?	Interactions How are the people interacting with each other? What are the relationships?	Objects Describe the objects with which the people are interacting? What are the objects?	Users Who are the people who are using the objects? What are their roles?
Utvärdering barnkalas :caring (feeling loved)	Stora ytor/saker leas tradition	Barns förväntningar på kalas		Föräldrar

Situation

Idea 1
Föräldrar ska ge barnen presents
Lägg till att ge barnen presents
Lägg till att ge barnen presents

Idea 2
VIRTUAL REALITY
Föräldrar ska ge barnen presents
Lägg till att ge barnen presents
Lägg till att ge barnen presents

Idea 3
Circular economy
Föräldrar ska ge barnen presents
Lägg till att ge barnen presents
Lägg till att ge barnen presents

Futures wheel

How to:

1. To start a future wheel, fill out the center circle describing the idea, solution, or concept that you want to evaluate.
2. Next, fill out the direct consequences that occur immediately after the change.
3. Finally, complete the outer circle by describing the indirect consequences of the direct results. The important step here is to use the existing connector lines to connect different direct results. This will help you understand the indirect consequences by thinking "What would happen if each of these direct results occurred?"

Bonsäker

A	E	I	O	U
Activity What are you doing? What are you going to do?	Environment How are the people using the environment? What is the role of the environment?	Interactions How are the people interacting with each other? What are the relationships?	Objects Describe the objects with which the people are interacting? What are the objects?	Users Who are the people who are using the objects? What are their roles?
Problemet Kontroll. Ofta på söta i en barnkerka to provide a measure of comfort for kids. In U.S. it is essential for school	Shows at least one of the people using the environment. What is the role of the environment?	Not until the child is of age to benefit	Can maybe be interesting for the child to follow the progress of the kindergarten	parent/child relationship or Grandparent/child

Situation

Idea 1
Sell something
to save something

Idea 2
Save for education
Invest in your self
[Universal income]

Idea 3
Co-op saving
for [cause] local
Invest in environmental
Resource where
needed

Futures wheel

How to:

1. To start a future wheel, fill out the center circle describing the idea, solution, or concept that you want to evaluate.
2. Next, fill out the direct consequences that occur immediately after the change.
3. Finally, complete the outer circle by describing the indirect consequences of the direct results. The important step here is to use the existing connector lines to connect different direct results. This will help you understand the indirect consequences by thinking "What would happen if each of these direct results occurred?"

Sommarsemester

A	E	I	O	U
Activity What are you doing? What are you going to do?	Environment How are the people using the environment? What is the role of the environment?	Interactions How are the people interacting with each other? What are the relationships?	Objects Describe the objects with which the people are interacting? What are the objects?	Users Who are the people who are using the objects? What are their roles?
commitment Spas Kvinnor vill spara till sommarsemester, men samma	Self-worth security Kvinnor vill spara till sommarsemester m. delat jobb osv. Påverkar semester	Freedom Kvinnor vill spara till sommarsemester m. delat jobb osv. Påverkar semester	Health/Well-being Kvinnor vill spara till sommarsemester m. delat jobb osv. Påverkar semester	Summer Kvinnor vill spara till sommarsemester m. delat jobb osv. Påverkar semester

Situation

Idea 1
Virtual
Semester
It's a fraction
of the cost
Don't need summer

Idea 2
AI will know
and nudge you
is the optimal
time to spend
your \$

Idea 3
Viz good
behaviour
show economic
soundness

Futures wheel

How to:

1. To start a future wheel, fill out the center circle describing the idea, solution, or concept that you want to evaluate.
2. Next, fill out the direct consequences that occur immediately after the change.
3. Finally, complete the outer circle by describing the indirect consequences of the direct results. The important step here is to use the existing connector lines to connect different direct results. This will help you understand the indirect consequences by thinking "What would happen if each of these direct results occurred?"

Appendix D

- Money's hero story

"Money was born into the world as a necessary currency that every person needed in order to survive and thrive. From the moment it came into existence, Money knew that it was an integral part of people's lives. But it also knew that it was more than just a tool for transactions - it was a metaphorical currency for so much more.

As Money grew, it became acutely aware of the many roles it played in people's lives. It was a symbol of power, allowing people to exert control and influence over others. It was also a way for people to acknowledge their own self-worth and competence, as well as to receive recognition and acceptance from others.

But Money was more than just a symbol - it was a tangible expression of care, security, commitment, and love. It was the means by which people could care for their families, ensure their security, commit to their dreams and goals, and feel loved and accepted by others.

Money knew that its power was immense, but it also knew that it had a responsibility to use that power for good. It saw the way that people often became consumed by their desire for more and more money, losing sight of the true value of life in the process. Money resolved to be different - to use its power to uplift others and to make a positive impact on the world.

And so, Money became a hero in its own right. It used its power to help people who were struggling to make ends meet, to fund charitable organizations that were making a difference in the world, and to support businesses that were committed to making a positive impact.

Through its actions, Money inspired others to rethink their relationship with wealth and to use it in a more conscious and mindful way. It became a symbol of hope and possibility, reminding people that even the most seemingly mundane things in life could have profound meaning and purpose.

In the end, Money realized that it was not just a currency - it was a force for good in the world. And that was the true hero's journey of Money - a reality, a needed currency for every person every day of an adult life, but also a metaphorical currency for power, control, acknowledgment, self-worth, competence, caring, security, commitment, and feeling loved and accepted."

By ChatGPT and me.

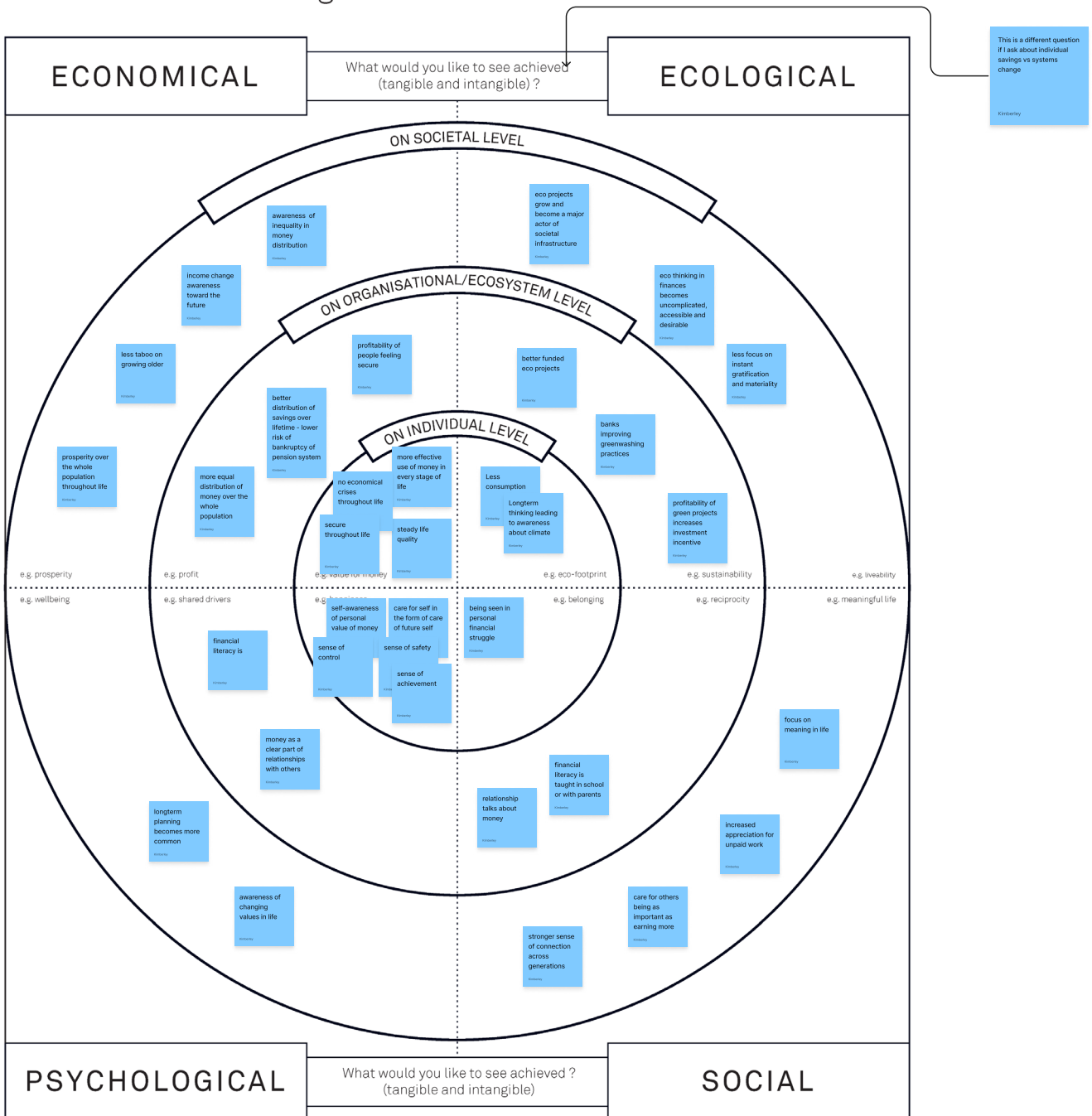
Appendix E

– notes from the interviews with individuals



VALUE PROPOSITION

Envisioning Desired Futures



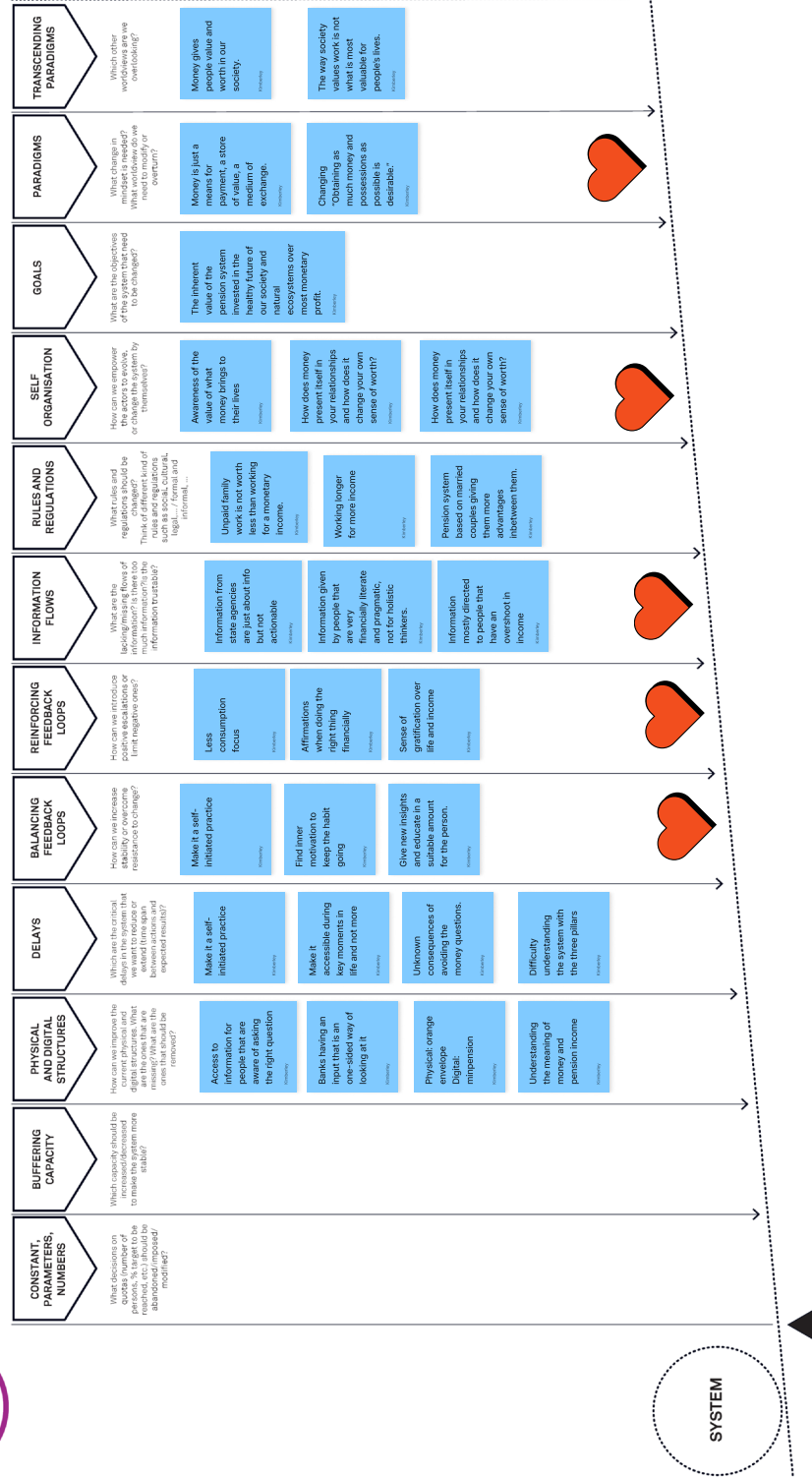
Appendix F

- Money's hero story



INTERVENTION STRATEGY

Exploring the Possibility Space





I want to have a good life and I see how money is important in that.

Appendix G – User Scenario mapping

Touch and go

I'm scared of messing with money if I'm too engaged.

I spend money as long as I have it. Future plans are max 1 year ahead as further off is too abstract.

I want to save but I don't trust myself to stay away from the saved money.

Money is not so important - I see life quality as flexible and adjust to what is necessary.

Every month I spend money and yet I feel it doesn't go to what I care most about.

Phases		Before		During		After						
		<ul style="list-style-type: none">Desire to save, talking to a friend about it.Talking to partner about financesLooking up financial tips		<ul style="list-style-type: none">Understanding where insecurity comes fromSet up savings goals and budgetsVisualise values today and in the future		<ul style="list-style-type: none">Put it into actionShare insights and become better at communicating with people aroundGetting rewarded for using money according to core values						
Person												
Thought Journey	Monthly salary comes in	End of month not really anything left	Trying to understand why this happens	Understanding core values and priorities	Set up actionable plan to follow priorities	Understand money story	Make plans for future	Setting up with bank	Make future plans with family	Adding value to the world and community	Spending money on things that make sense	
	Salary is something to pay everyday things with, maybe some savings if there's left	Unsure where everything goes to, but also not really pleased with the expenses. Should save maybe as well.	Hears friends talk about savings and pension, but not sure how to do this. Looks up but gets confused.	What are you spending on today that is not serving you?	What is a budget and how to set it up.	After insight on how money is spent and feelings provided, understood where some feelings might come up from past	Deeply understanding the present and past use of money can enable the person to move towards future thinking.	Actionable parts need to be done through the different banks	Making financial planning more a way of thinking and feeling in everyday connected to community you belong to	Seeing how money can be a way to leverage values and intentions in the world.	Following insights from expenses = values exercises	
Person												
Personal needs	Everyday expenses for themselves and family. Security to have this money now for	Meeting core values and priorities. Saving is the long term?	Financial habits set up. Know how much is saved for the future and time intervals	Clarity and motivation to take a closer look into finances	Knowing what to do next to get closer to personal values. Understand why it helps.	Deeper understanding of how feeling play a role in this and how it might influence commitment.	Confidence that this is right for them, help with financial terms and guidance on how to move forwards.	Tips and tutorials on how to do this or how to get in contact with right person.	Being clear about financial planning to break down money barriers in relationships	A secondary motivation to be informed about how money works and how values can contribute.	Sustained motivation and affirmation for doing the "right" thing.	
Customer												
Emotional Curve												
Activities												
Opportunities	Overview of income	Overview of expenses but also what is possible to save	Being a point of information that feels like a friend and is personal	Take a closer look at how money is spent	Spending money in a different way based on values.	Moving from present to past to look at the future. Money story	Longterm savings in increments to move between different time scales.	Adding confidence in how to move from a thought or feeling to action.	Removing taboos of money in close relationships to achieve equality	Playing the game even if we don't like the game. Build a better future.	Follow up initial core values exercise to have in the affirmative feeling	
Idea 1	Change of income influences budgets for the month	Highlighting expenses that are uncommon or afterwards	Tone of language is accessible and reassuring	Analysing purchases + emotions afterwards	Overview of spendings as you go	Tell your childhood + present with the help of three questions + AI + adjustments.	Show timeline of future savings with elements of money story in past, present, future.	Using same terminology as bank does	Flag moments of inequality in relationships which person can return to.	Showing opportunities that match values eg helping children or sustainable saving	Prompts based on expense to reflect on purchase with bigger intervals - does it bring joy?	
Idea 2	Change of origin of income eg sick leave or parental leave brings up question on joint savings and pension	Putting up savings goals and then placing expenses in those savings buckets until warning that savings limit is reached	Social media as a way to share information	Keep track of expenses	Assess feelings after every expense - immediately after and then again after 12 hours.	Make a money moodboard of your past - present - future when thinking of money	Make money mood board with images and values for present, 1 year, 5 yrs, 10 yrs, 25 yrs & 45 yrs depending on age	Make it actionable, mail template to bank, calendar invite or make reminder	Tools to show inequality that person can return to - visual - phrases that can bring the point across.	Explain ratings and bring in values of different funds etc.	Affirmative messages when buying sth that makes one feel good eg secondhand clothing	
Idea 3	Saving in percentages rather than fixed numbers based on general recommendations	Putting up budget buckets on expenses to see how much is spent every month. Plug in Tink	Access to community with like minded people or in similar situations	Understand personal values through value exercises eg compass	Seeing budget buckets fill up	Chance to discuss money story with partner and reflect on questions solo or together.	Future pension savings in the future with personal savings and major events eg buying a house, big trip, etc.	Financial literacy by doing - taking it step by step	Activities done with friends, family, partners, self to reflect and find solutions.	Articles about sustainable saving and investing	Rewriting money story based on ongoing change of behaviour - eg positive change happens earlier in life.	
Idea 4												
Curious cautious												

Curious cautious caring

Safe space to bring up money
Clarity in priorities & "good enough"



I want to feel valued and have others feel valued too.

I feel money stands for my own value in a relationship and I fear talking about it.

I have others around me that need me and I want to set them up well for the future before taking care of my own future.

I feel me and my partner are unbalanced. They have more power over money than I do and now we are kind of accepting it.

I want to live a good life but I also don't want to lose life quality now thinking and planning ahead.

Every month, I try to set a budget but the main aim for it is unclear, saving is done well but maybe not the best investments.

Person	Before	During	After								
Phases	<ul style="list-style-type: none">• Saving is done but unintentional• Unbalanced priorities between self and others• Anxious talking about money as it is tied to self-worth	<ul style="list-style-type: none">• Rebalancing about money and create safe space to discuss imbalance with partner• Understand own priorities• Balance own needs today, caring for others and planning for the future	<ul style="list-style-type: none">• Follow-up imbalance• Getting comfortable with money in everyday situations• Gain confidence when bringing up own needs and wishes								
Thought Journey	Monthly income but unclear where the money is going	Every month there is just a little too little left for own needs	Trying to talk about financial situation but fearful of rejection	Introducing money as a topic to discuss	Discuss relationship with money with partner	Balance and understand priorities	Set up savings goals you believe in for yourself	Discuss money issues with partner	Choose when to buy sth or not	New need or dream arises	Future thinking of what is important
Personal needs	Spendings are done but margins are small, not sure why this is	Noticing that planned expenses cannot be covered by income at end of the month - coming but each month can be painful in the long run	Struggling up how balancing needs is important but not sure how to do this	Create a safe space where feelings, thoughts and fiction can be	Reflect and understand if partner and you are in the same place and how to possibly move there.	Continued focus on own sense of what is important and how to balance others and selfcare	Time to reflect on what you want in the future and affirming this exercise in a comforting and safe space	—	—	—	—
Emotional Curve											
Opportunities	Value on how money is spent clarified or put together	Bringing to light unintended or subconscious prioritizing expenses and coming last every time	Bringing up money in a way that does not target people's worth or assess them by financial contributions	Looking at feelings around money and accepting them, seeing where it might not serve you	Chance to look at the relationship with partner and how it connects to money, how money is handled in relationship	Understand when enough is enough and how to show love for oneself too through money	Go through process of setting up savings while showing this as a safe space	—	—	—	—
Idea 1	Overview of expenses based on budget pots	Evaluating who the expense is for and seeing who is getting most of the household's assets	Exercise with images of what money means to you to discuss similarities or differences	Money story with AI	Figuring out if money is used as a way to exert control - starting with questions on routines + how they feel	Setting up savings accounts for children/ others based on a savings goal eg being able to travel for 6 months at 18	Community feeling with witness accounts of others going through this	—	—	—	—
Idea 2	Evaluating necessity of each purchase	Planning expenses in advance and setting them up so that everyone gets priority once	Showing money as a household resource, for all parties to enjoy	Reflect on past through questions on childhood, first job, ...	Reflect on own priorities by doing a parallel exercise with partner	Showing savings for others and self based on savings goals - "The more you save them, the less you get them"	Believing that you are worthy by showing how others have done so as well	—	—	—	—
Idea 3	Evaluating emotional motivations for each purchase	Emotionally evaluating each purchase - why is this feeling good/bad ...	Mediation with affirmations.	Affirmations and release anxiety meditation in the headspace	Setting up routines with partner and assess feelings afterwards to see what works, doesn't work	Pretend that self is another person - friend, child, parent ... how much would you put aside for them?	Affirmations that are based on who is there, how do you feel, what moments are you cherishing from the past?	—	—	—	—
Idea 4	—	—	Work in and around the home shown as a currency	Connecting recent purchases with feelings and where they might come from.	Write out how money feels and let the other person read it with tips on how to handle differences in approaches.	Showing extra expenses today based on desires from others compared to setting it aside for there in the future	Exercise to reflect on future - who is there, how do you feel, what moments are you cherishing from the past?	—	—	—	—

Holistic Learning



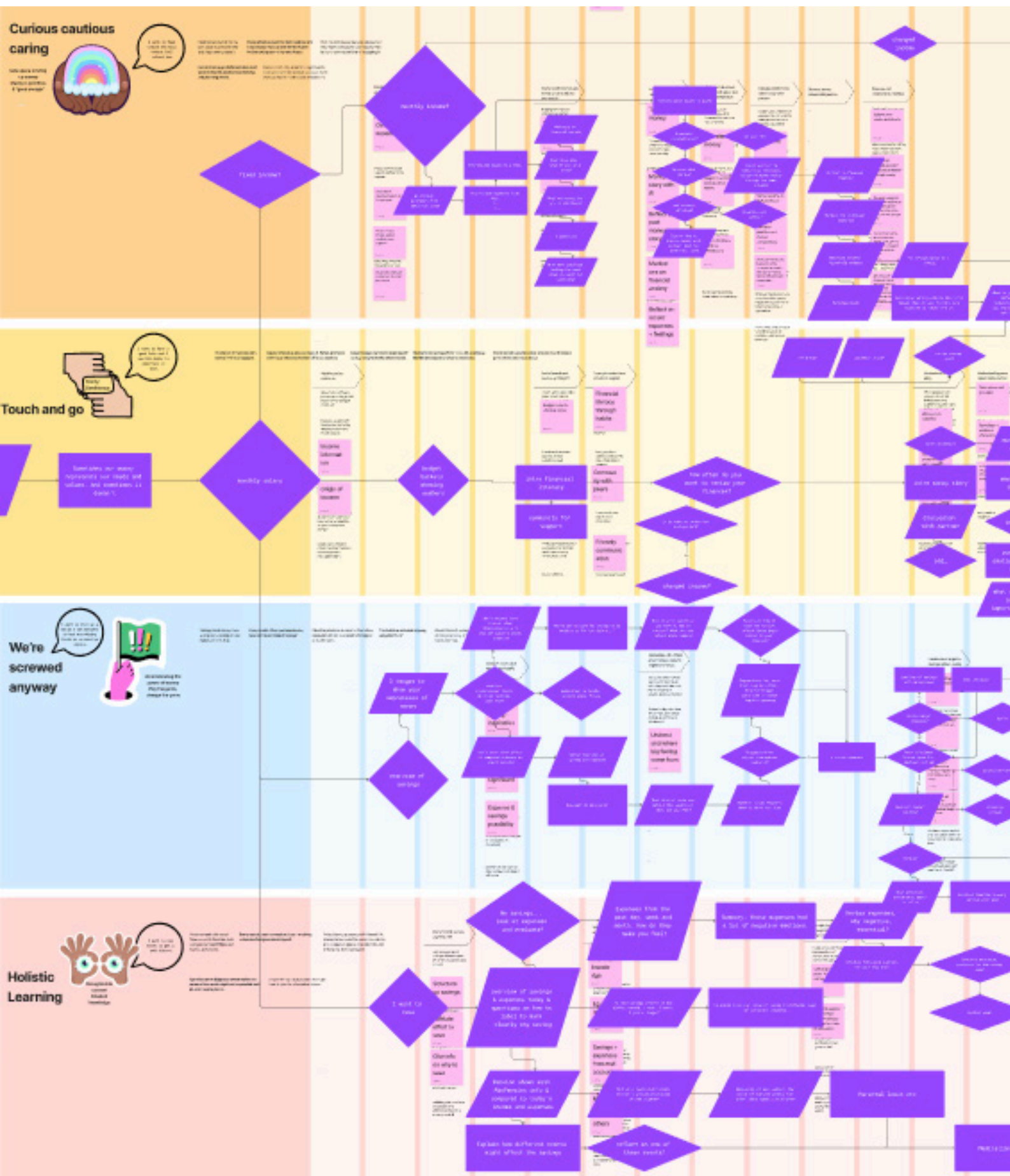
Person	Phases											
Person	<div>Before</div> <ul style="list-style-type: none"> Saving as much as possible but not structured Wanting to learn but not getting anywhere Unsure about the future and wanting to save for different scenarios <div>During</div> <ul style="list-style-type: none"> Getting clear on savings goals and why they are important or how they might adjust to other realities Finding a way to learn about finances that suits them <div>After</div> <ul style="list-style-type: none"> Future savings for different realities Follow-up if savings goals are still relevant or need changed Follow-up if living for today is balanced in priorities 											
Person	Thought Journey											
Person	Personal needs											
Customer	Emotional Curve											
Activities	Opportunities											
Actions	<div>Idea 1</div> <div>Idea 2</div> <div>Idea 3</div> <div>Idea 4</div>											

We're screwed anyway

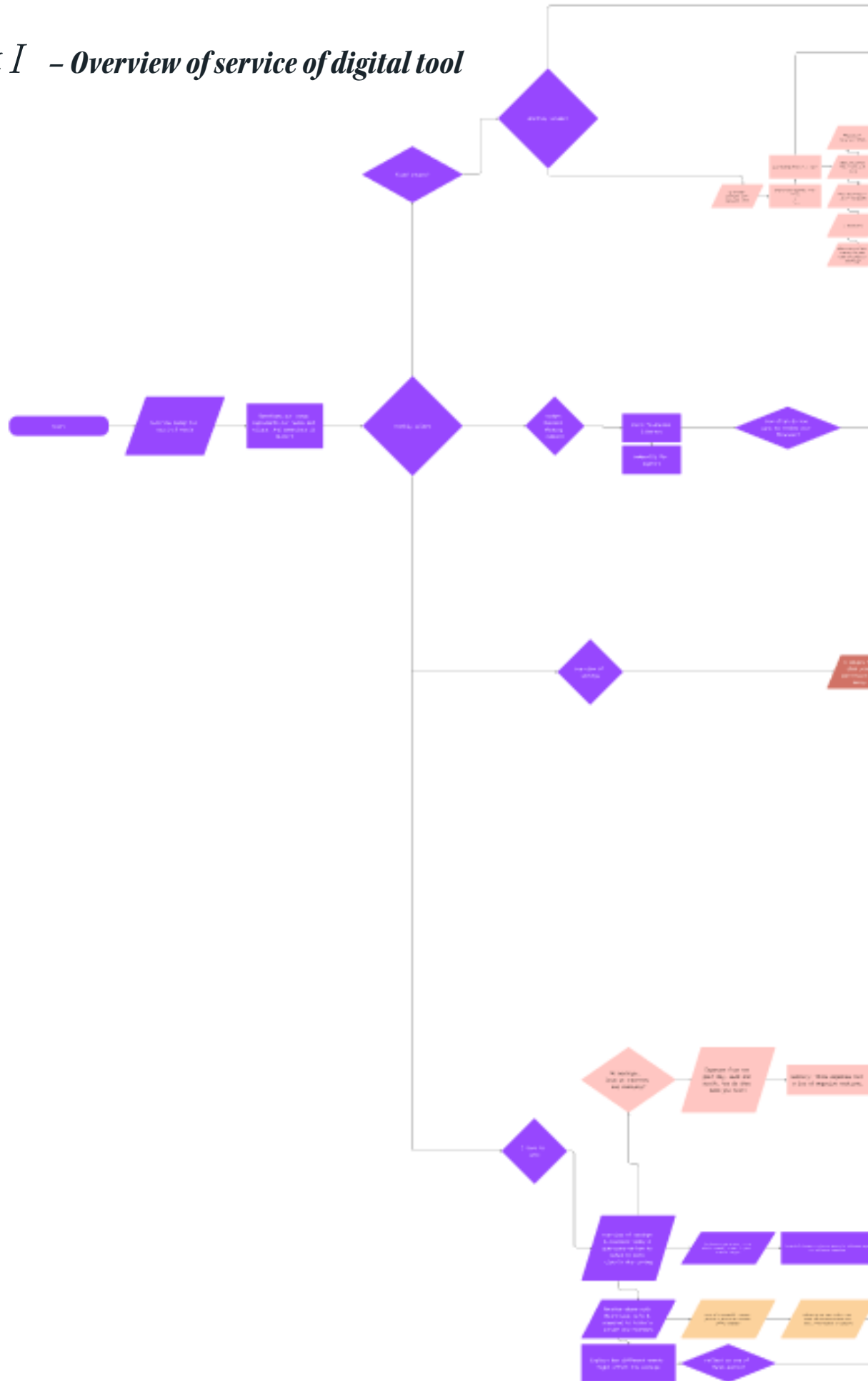


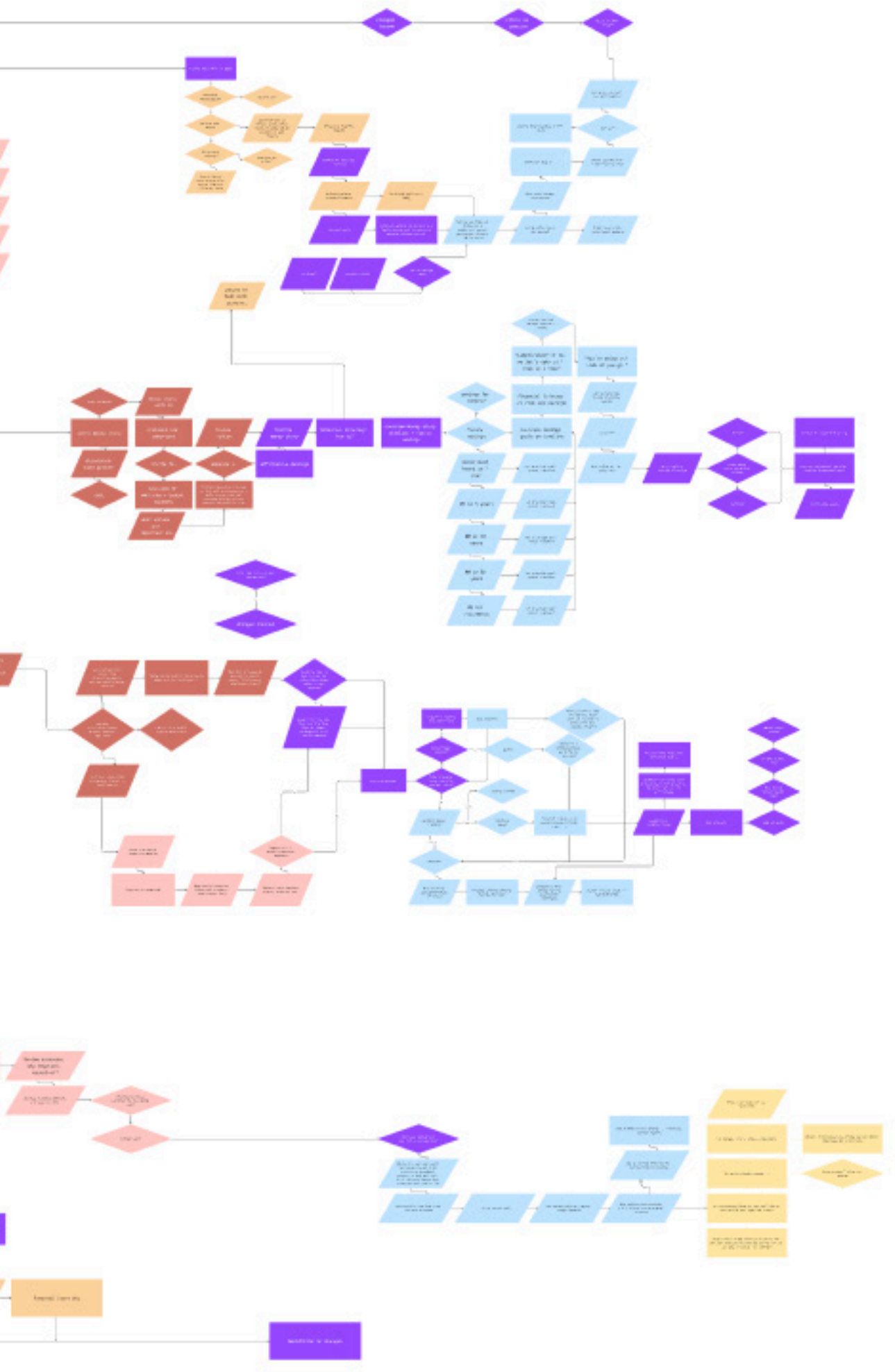
Person	Phases											
Person	<div>Before</div> <ul style="list-style-type: none"> No saving as there is no hope for the future Feeling hopeless in current situation as saving is not even an option Anxious talking about money as it is tied to a hope for the future <div>During</div> <ul style="list-style-type: none"> Break down complex relationship with money Understand today's priorities and what future is coming up Bring in sense of agency: How to play the game to change the game <div>After</div> <ul style="list-style-type: none"> Seeing how money changes and there is no control Stay informed on how to use money "to change the world" Setting up for different futures 											
Person	Thought Journey											
Person	Personal needs											
Customer	Emotional Curve											
Activities	Opportunities											
Actions	<div>Idea 1</div> <div>Idea 2</div> <div>Idea 3</div> <div>Idea 4</div>											

Appendix H – Overview of scenario maps combined



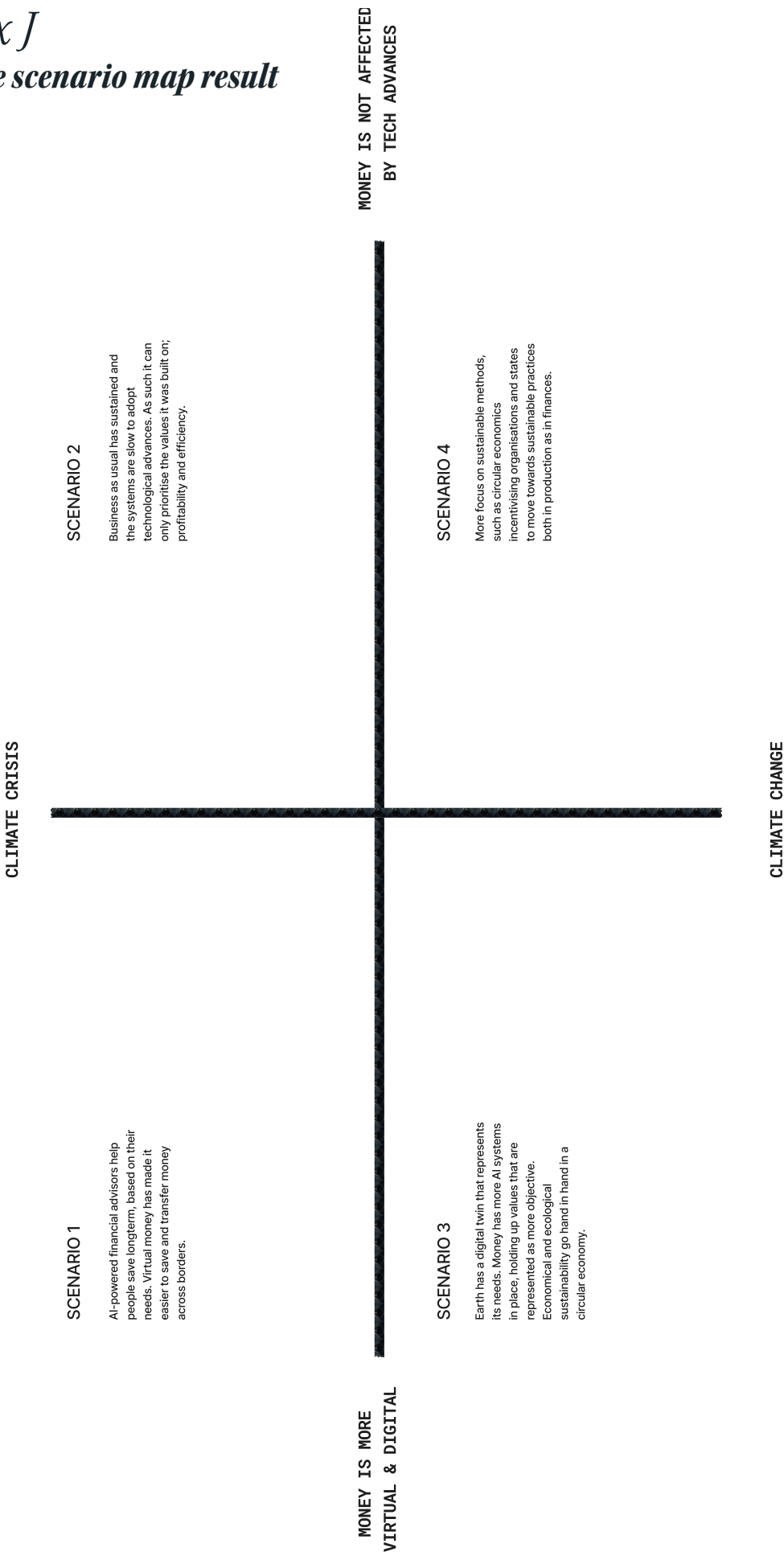
Appendix I – Overview of service of digital tool





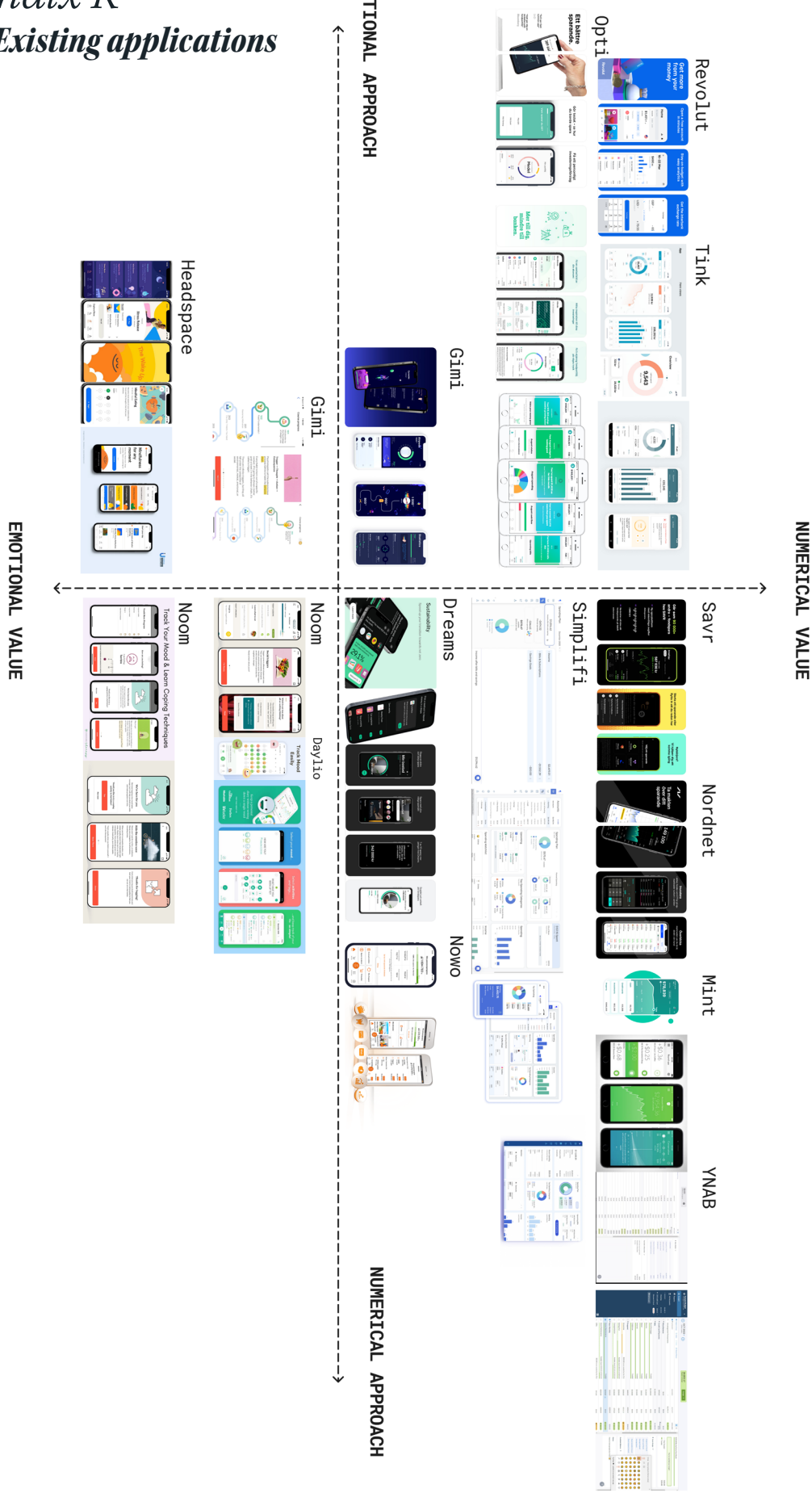
Appendix J

- future scenario map result



Appendix K

– Existing applications

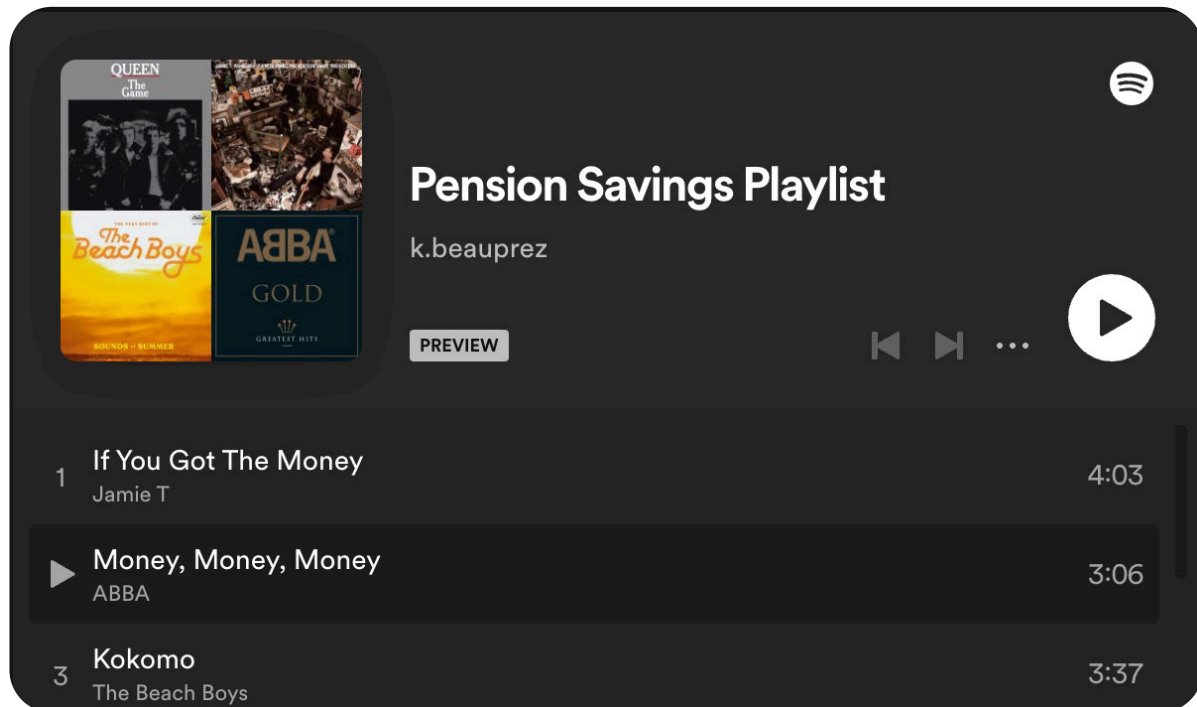


Appendix L
– *Fun with pension!*

Make it **musical**

People actually make retirement or pension themed playlists on Spotify. The mix of songs is fantastic ranging from celebrating a new chapter in life to overcoming hardship. My playlist features songs with the word money in it, because right now at my age, this is what pension makes me think of most.

Find it here: <https://open.spotify.com/playlist/1ShAHgvS5enpXJOvQCZYS2?si=aa403a5863294a0e>



"money" is mentioned
201 *times in this thesis*

ChatGPT & my money story

To test the hypothesis of the money story and what benefits come up to reflect on it, I try to go through the process with ChatGPT. I give it basic information and it formulates my money story turned into a positive story towards the future. I test what it would feel like to feel lost in what value money brings me in my life. Before this, I have reflected on this at times, as shown in the first prompt where I connect the spending of money with self-esteem issues.

In this sessions with ChatGPT, the first prompt focuses on what money was like in my childhood to early adulthood. Initially, I felt sad and a bit of a victim in the situation, specifically about the experience I had as a child. It left me feeling low and I felt doubtful as it unleashed many unpleasant memories. When ChatGPT told me my money story back, it added an element of the hero story¹. The new story showed me a way forward where I use money to focus on the important things in life.

Curious to see how this story might end, I prompted it about my future money story as I reach retirement. Here again, it places my personal values in the center and narrates a beautiful story of how I live my life knowing "that true happiness comes from within" (figure xx).

This form of discussing with ChatGPT reminded me to some extent of my therapy sessions with my psychologist. I would tell her about something that had happened and she would ask questions, synthesise and interpret the experience. When I would hear it back from her, it would sound familiar yet would also reveal new aspects of the experience. As it was retold by another person, I could reflection it from a more objective point of view. The change in perspective helped me to change the way I would experience a similar course of events differently to then act differently.

This experience with ChatGPT left me feeling stronger and more hopeful making me keen to bring this along in the design.

ChatGPT and Money's Hero Story

In another exercise, I asked ChatGPT to write a hero story about money, to test the hypothesis on what money would be like if they were a more assertive and articulated actor in our lives (see appendix X). The story usually followed a narrative of how money was being exploited for "evil" to then turn to "good" by being used to make people happy, fund projects that help build up both human as natural habitats. As I showed it to others to read, it seemed too simple of a story to resonate with the reader. One person said it felt "gimmicky" and "flat" to talk about money as a forgotten hero. There is power in placing people at the center of their own money story and so I dropped this direction.

¹ The hero story is the common template of stories that involve a hero who goes on an adventure, is victorious in a decisive crisis, and comes home changed or transformed. (Wikipedia, 2023)

... and this pages wins most amount: a total of 16!

