

**BUILDING
BRIDGES IN
BETWEEN**

**BUILDING BRIDGES IN BETWEEN
ECHO CHAMBERS:**

**EMPOWERING YOUNG-ADULTS
IN SOCIAL MEDIA
NEWS CONSUMPTION**

Appendices


MSc Design for Interaction
Delft University of Technology


Elif Dilara Bora
August, 2024

APPENDICES

- Appendix A. Project Brief
- Appendix B. Human Research Ethics Approval
- Appendix C. Stakeholder Interview Clusters
- Appendix D. Provotype Clusters
- Appendix E. Exploratory Research Triangulation
- Appendix F. Examples of Current Discussions in X
- Appendix G. Landing Page Interactive Prototype
- Appendix H. Initial Design Proposals Interactive Prototype
- Appendix I. User Evaluation Clusters

A. Project Brief





IDE Master Graduation Project

Project team, procedural checks and Personal Project Brief

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

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

STUDENT DATA & MASTER PROGRAMME

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

Family name	<input type="text" value="Bora"/>		IDE master(s)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Initials	<input type="text" value="ED"/>		2 nd non-IDE master	<input type="text"/>		
Given name	<input type="text" value="Elif Dilara"/>		Individual programme <i>(date of approval)</i>	<input type="text"/>		
Student number	<input type="text"/>		Medisign	<input type="checkbox"/>		
			HPM	<input type="checkbox"/>		


SUPERVISORY TEAM

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

Chair	<input type="text" value="Dave Murray-Rust"/>	dept./section	<input type="text" value="HCD/HICD"/>	<p>! Ensure a heterogeneous team. In case you wish to include team members from the same section, explain why.</p> <p>! Chair should request the IDE Board of Examiners for approval when a non-IDE mentor is proposed. Include CV and motivation letter.</p> <p>! 2nd mentor only applies when a client is involved.</p>
mentor	<input type="text" value="Sara Colombo"/>	dept./section	<input type="text" value="SDE/KIND"/>	
2 nd mentor	<input type="text"/>			
client:	<input type="text"/>			
city:	<input type="text"/>	country:	<input type="text"/>	
optional comments	<input type="text"/>			

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

Sign for approval (Chair)



Dave Murray-Rust
Digitally signed by Dave Murray-Rust
Date: 2024.03.08 11:21:02 +01'00'

Name Date Signature

CHECK ON STUDY PROGRESS

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

Master electives no. of EC accumulated in total EC

Of which, taking conditional requirements into account, can be part of the exam programme EC

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

Comments:

Sign for approval (SSC E&SA)

Robin den Braber
Digitaal ondertekend door Robin den Braber
Datum: 2024.03.13 07:59:31 +01'00'

Name Date Signature

APPROVAL OF BOARD OF EXAMINERS IDE on SUPERVISORY TEAM -> to be checked and filled in by IDE's Board of Examiners

Does the composition of the Supervisory Team comply with regulations?

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

Comments:

Based on study progress, students is ...

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

Comments:

Sign for approval (BoEx)

Monique von Morgen
Digitally signed by Monique von Morgen
Date: 2024.03.13 09:17:02 +01'00'

Name Date Signature

Name student Elif Dilara Bora

Student number

PROJECT TITLE, INTRODUCTION, PROBLEM DEFINITION and ASSIGNMENT

Complete all fields, keep information clear, specific and concise

Project title Cultivating Awareness on Unexpected Bias: Design Activism on Social Media Personalisation

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

Introduction

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

Many of us regularly engage with AI systems without realizing that it is an AI system and their impact on our lives. These systems thrive on data, shaping personalized experiences. Considering recommender systems; we encounter them frequently without knowing and receive tailored suggestions.

Information access systems like social media drive most of our interactions with information today. According to the social media statistics from 2023, there are 4.8 billion social media users globally, representing 59.9% of the world's population and 92.7% of all internet users. (Nyst, 2023) Social media platforms have become predominant channels for information (Garg & Singh, 2022) with personalization algorithms significantly shaping the content we encounter, thus, have a big impact on society. (Kleanthous & Siklaidis, 2023)

These recommendation algorithms rely on three main signals: network, behavior, and demographics (Narayanan, 2023), which collectively determine the content presented to users.

The primary objective of this project is to investigate unexpected biases in recommender systems within social media feeds, with a particular focus on how user behaviors influence algorithmic personalization. In other words, the project aims to address biases that users may not be consciously aware of, stemming from the current personalization in their feed. The project seeks to propose an activist design aimed at prompting users to critically evaluate their relationship with social media platforms and come up with strategies to make changes in user behaviors, as well as proposing changes to the current practice of personalisation.

→ space available for images / figures on next page

Problem Definition

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

Within the domain of AI systems, recommender systems improve user experiences by providing personalized suggestions. Social media feeds are one of the main areas users interact with recommender systems. These recommendations are formulated using three key signals: network, behavior, and demographics. Network refers to user interactions with others. Behavioral data stands out as the most critical signal, relying on similarities between posts and individuals. Shared attributes, such as a hometown, hobby, or community increase the engagement with related posts among individuals. Demographics including characteristics such as age, gender, language, and geography, are particularly useful when a user initially joins the platform. (Narayanan, 2023) These systems often stereotype and categorize users based on the signals above, make assumptions, and give them content that they are most likely to consume to increase the engagement. As recommender systems "learn" and "change"—their real actions— and these are meant to be hidden in favor of a seamless user experience (Giaccardi & Redström, 2020), users encounter different feeds based on their "preferences" which they are not even aware of. The system offers tailored, constantly changing experiences that vary for each individual. However, as it operates screen by screen and relies on system assumptions and stereotypes, which creates room for unexpected biases. This prompts the question: how can we shed light on these unconscious user choices and encourage them to adopt a critical perspective on their social media feed?

Assignment

This is the most important part of the project brief because it will give a clear direction of what you are heading for. Formulate an assignment to yourself regarding what you expect to deliver as result at the end of your project. (1 sentence) As you graduate as an industrial design engineer, your assignment will start with a verb (Design/Investigate/Validate/Create), and you may use the green text format:

Activist design aims to raise awareness among users about unconscious biases in their social media feed, foster critical evaluation on personalized content and suggest interventions for behavioral change and personalization practices.

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

- RQ1. How does the activist design intervention raise awareness and make changes regarding the unexpected bias on personalization practices?
- RQ1.1 How can we prompt users to critically examine the content and their interactions with social media?
- RQ1.2 In what ways users want their content to be personalized for?
- RQ1.3 How can we link user stories to the personalisation algorithms and propose suggestions?

This project incorporates speculative design cases, presenting users with potential scenarios to encourage reflection on future possibilities. The cases and discussions will be analyzed, culminating in an activist design intervention aimed to make a change in current personalisation practice. Design sprints serve as the chosen methodology, facilitating the generation of diverse ideations, prototypes, and test sessions. Each test session ideally provides insights that inform the next ones.

B. Human Research Ethics Approval

Date 17-Jul-2024

Correspondence hrec@tudelft.nl



Human Research Ethics
Committee TU Delft
(<http://hrec.tudelft.nl>)

Visiting address
Jaffalaan 5 (building 31)
2628 BX Delft

Postal address
P.O. Box 5015 2600 GA Delft
The Netherlands

Project planning and key moments

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

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

Kick off meeting	28th of February, 202
Mid-term evaluation	6th of May, 2024
Green light meeting	18th of July, 2024
Graduation ceremony	28th of August, 2024

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

Part of project scheduled part-time	<input type="checkbox"/>
For how many project weeks	27
Number of project days per week	4

Comments:
5 weeks have 5 projects days to complete it in 100 days.

Motivation and personal ambitions

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

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

In this project, my goal is to deepen my knowledge of AI and refine my perspective on this evolving technology. I aim to gain insights into the user's viewpoint on the practice of personalized systems as well as exploring the future possibilities, adopting a user-centered approach in my exploration. I am particularly enthusiastic about delving into diverse design methodologies such as speculative design, critical design, and design activism, with the intention of empowering users to influence change in their interactions with AI.

I believe that this process will emphasize exploration as a key challenge to embrace. As designers, understanding how AI operates and addressing user concerns is crucial for designing improved experiences in the evolving AI landscape. Recognizing the inevitability of AI in our future, I want to broaden my understanding and perspective about it for my future self as a designer.

Ethics Approval Application: Building Bridges in Between Echo Chambers: Empowering Young-Adults in Social Media News Consumption
Applicant: Bora, Dilara

Dear Dilara Bora,

It is a pleasure to inform you that your application mentioned above has been approved.

Thanks very much for your submission to the HREC which has been approved.

In addition to any specific conditions or notes, the HREC provides the following standard advice to all applicants:

- In light of recent tax changes, we advise that you confirm any proposed remuneration of research subjects with your faculty contract manager before going ahead.
- Please make sure when you carry out your research that you confirm contemporary covid protocols with your faculty HSE advisor, and that ongoing covid risks and precautions are flagged in the informed consent - with particular attention to this where there are physically vulnerable (eg: elderly or with underlying conditions) participants involved.
- Our default advice is not to publish transcripts or transcript summaries, but to retain these privately for specific purposes/checking; and if they are to be made public then only if fully anonymised and the transcript/summary itself approved by participants for specific purpose.
- Where there are collaborating (including funding) partners, appropriate formal agreements including clarity on responsibilities, including data ownership, responsibilities and access, should be in place and that relevant aspects of such agreements (such as access to raw or other data) are clear in the Informed Consent.

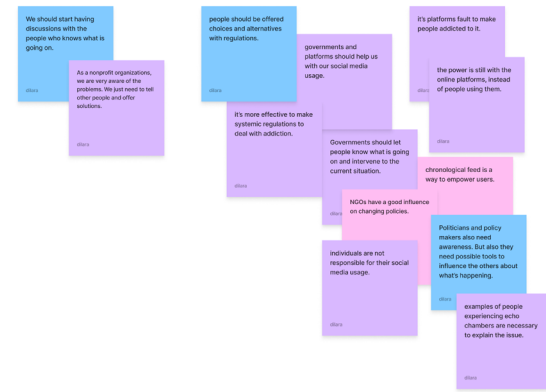
Good luck with your research!

Sincerely,

C. Stakeholder Interview Clusters

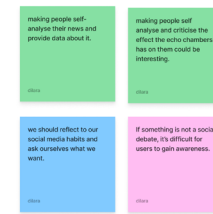
the dynamics between stakeholders

- Effective interventions to address social media news consumption and mitigate the impacts of echo chambers could be possible with actions from power-holders, including systemic regulations, governmental initiatives, platform policies, and nonprofit organizations influencing policy-making.
- Individuals are not solely viewed as responsible for their actions in this context.



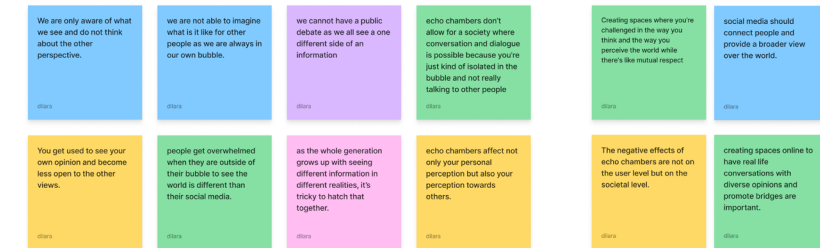
self-reflection as a tool

- Several stakeholders find self-reflection valuable as a tool to prompt individuals to critically assess the news they encounter on social media and consider its impact.



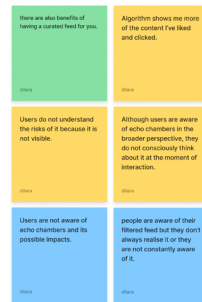
impact on a societal level

- Users are isolated on their own bubbles and are not aware of the outside of it. they tend to feel overwhelmed when they see opposite views and become less open to other views.
- Echo chambers doesn't allow a society that we can have conversation with diverse views, we are not able to imagine what it is like for others and it's difficult to have a public debate anymore.
- The negative effects of echo chambers tend to be more clear on the societal level rather than user level.
- Creating spaces that people can have conversations with diverse opinions respectfully are important.



users understanding on social media

- users have a basic understanding of filtered feeds.



users behaviors on social media

- it's easy to consume news on social media.



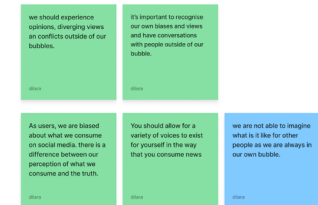
providing information

- There is a need for users to develop an understanding of healthy practices in social media news consumption.
- Users lack information and awareness of the potential effects of personalized feeds on their news consumption habits.
- Despite the potential benefits of the chronological feed, its usage remains unrecognized due to a lack of education and advocacy.
- This gap in knowledge extends to the absence of education on news consumption on social media. Additionally, lack of education on internet regulations and laws in the EU further contributes to users' challenges in navigating online platforms and understanding their implications.



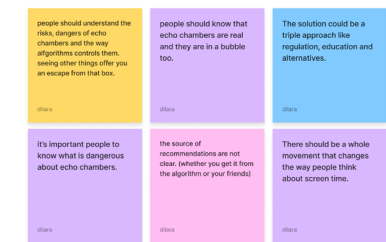
outside of our bubble

- Recognizing our biases and seeking conversations outside our echo chambers is essential.
- Our consumption on social media is biased, leading to a disconnect between perception and reality. Therefore, allowing for a variety of voices in our news consumption is vital. However, our bubbles limits our ability to empathize with others' experiences.

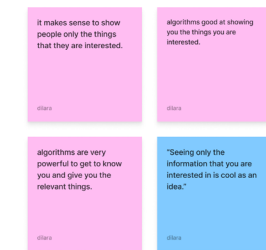


approach to solution

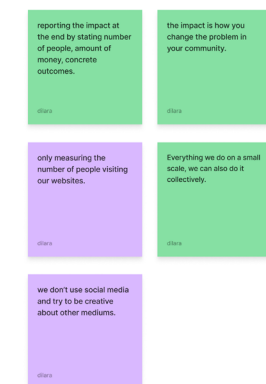
- Understanding the risks and dangers of echo chambers, including how algorithms control people, is essential for individuals to break free from their perspectives.
- Awareness of being in a bubble is crucial, and could be possible with education, regulation, and alternative approaches forming a comprehensive solution.
- An effort is needed to shift societal attitudes and foster a more mindful approach to social media news consumption.



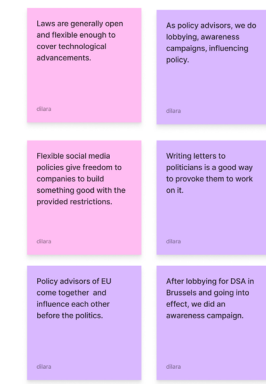
positive views of recommender systems



impact measuring



how policy making works



D. Provotype Clusters

seeing random news would be nice to understand what is out there

It would be nice to have some of those random pieces of news.
It's like a random content to see what is out there.

users have a basic understanding of recommender systems

the owners of the feed explaining the reasoning behind their content like "I like these, I watch them"

people are impressed that how your feed describe yourself so good in terms of hobbies and interests

people are impressed that how your feed describe yourself so good.
people associated the content with the person's interest and hobbies, assumptions turned out to be correct at the end.
users related their random social media feed with its owners.

The movie provided information and consciousness at the moment, users said they felt guilty to check their phone.

it's okay to not being able to always control the technology.

The movie provided information and consciousness at the moment, users said they felt guilty to check their phone.
Users recognise the importance of harmfulness of AI and the necessity of doing something.
Once users are exposed to information, they are able to recognise the importance of this topic.
It's okay to not being able to always control our technology development.

seeing other feeds allowed users to compare and be critical about understanding of their own feed.

one of the users would like to change his content to more informative one like he saw in other feed.
seeing other feeds made them to make comparisons with their feed.
seeing other feeds allowed users to compare and be critical about understanding of their own feed.

statistical information is cool because there are some information provided to you.

People do not want to do the work. They care about it in the community level but they prefer automatization for their daily practice."

statistical information is cool because there are some information provided to you.
2 of the participants liked the list of unseen categories as if offers an escape from your comfort zone.
Your content exposure is cool to you can monitor yourself.
It's nice that it's automatic and you don't have to do the work.

there are some concerns about privacy and agency towards the new solutions.

I don't want to share my data with another app.
there are still some agency in there, which makes it tricky.

one of them mentioned that he consumes news on social media randomly on his feed.

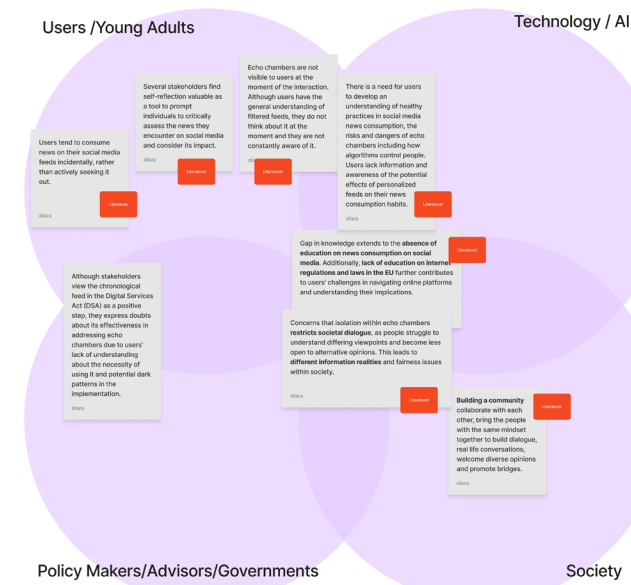
one of them mentioned that he consumes news on social media.

it's easier to help others than helping yourself but you need to get informed.

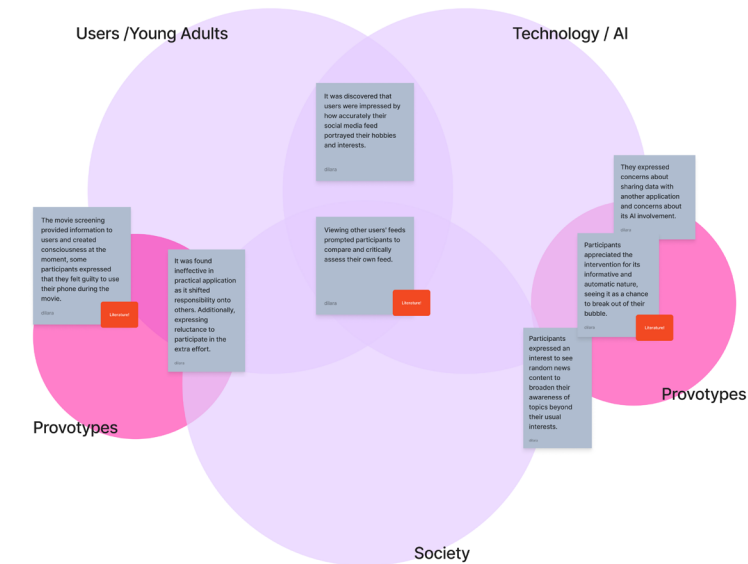
it's easier to help others than helping yourself.
you and your friends need be informed about what is going on in social media.
it wouldn't help with addiction as you are not making a decision but you let others to do it for you.
you might get out of your bubble but probably your friend level also in the same bubble.

E. Exploratory Research Triangulation

Stakeholder Interviews



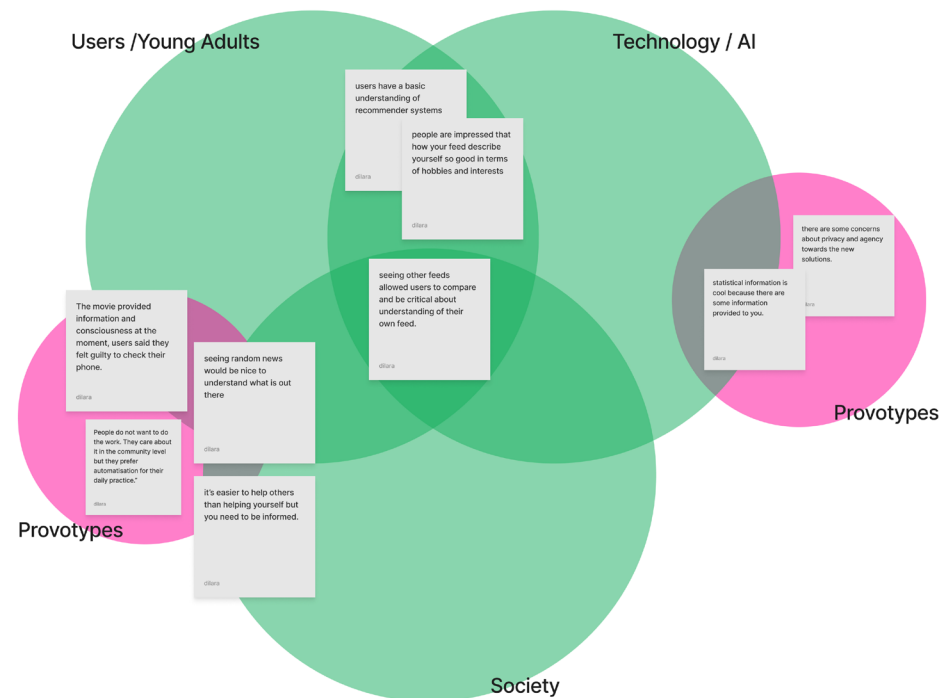
Provotypes



Common Points:

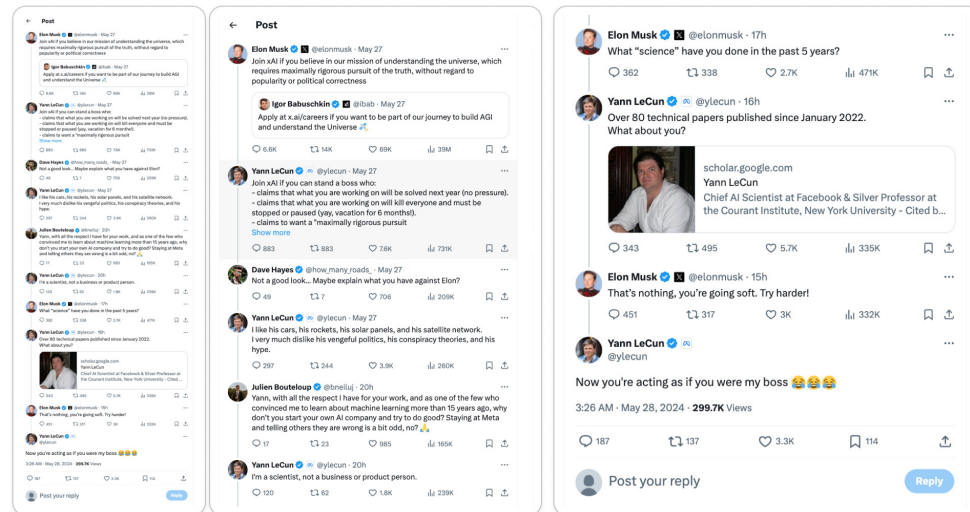
- Self reflection → phone switch
- Making echo chambers visible to users. → providing information
- Community feeling

dilara



F. Examples of Current Discussions in X

EXAMPLE 1: Famous People



- teasing statements
- might be example of a debate but in an unhealthy way



- people making comments on the discussion about "famous" people

EXAMPLE 2: News Source



- supportive statements

EXAMPLE 3: News Source



- opposite statements
- sharing opinions rather than a debate

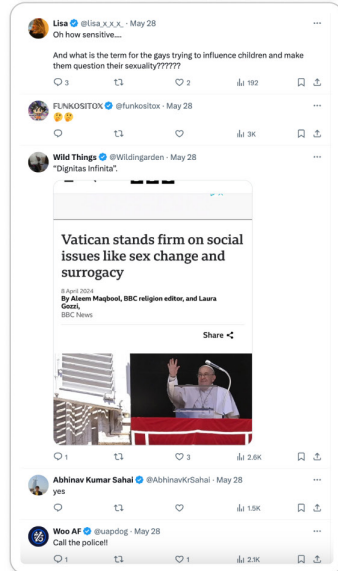
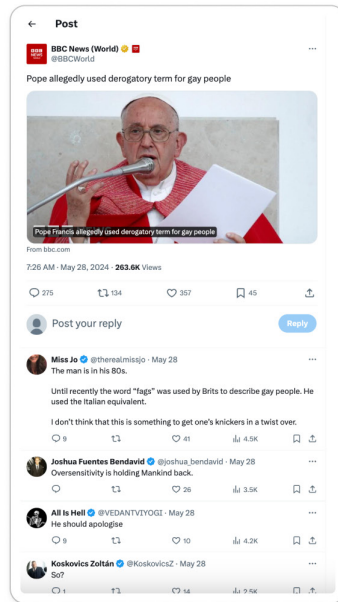
G. Landing Page Interactive Prototype

EXAMPLE 4: News Source



- opposite&supportive statements
- sharing opinions rather than a debate

EXAMPLE 5: News Source



- opposite&supportive statements
- sharing opinions rather than a debate



H. Initial Design Proposals Interactive Prototype

Incidental News Exposure



Dedicated Discussion Space



I. User Evaluation Clusters

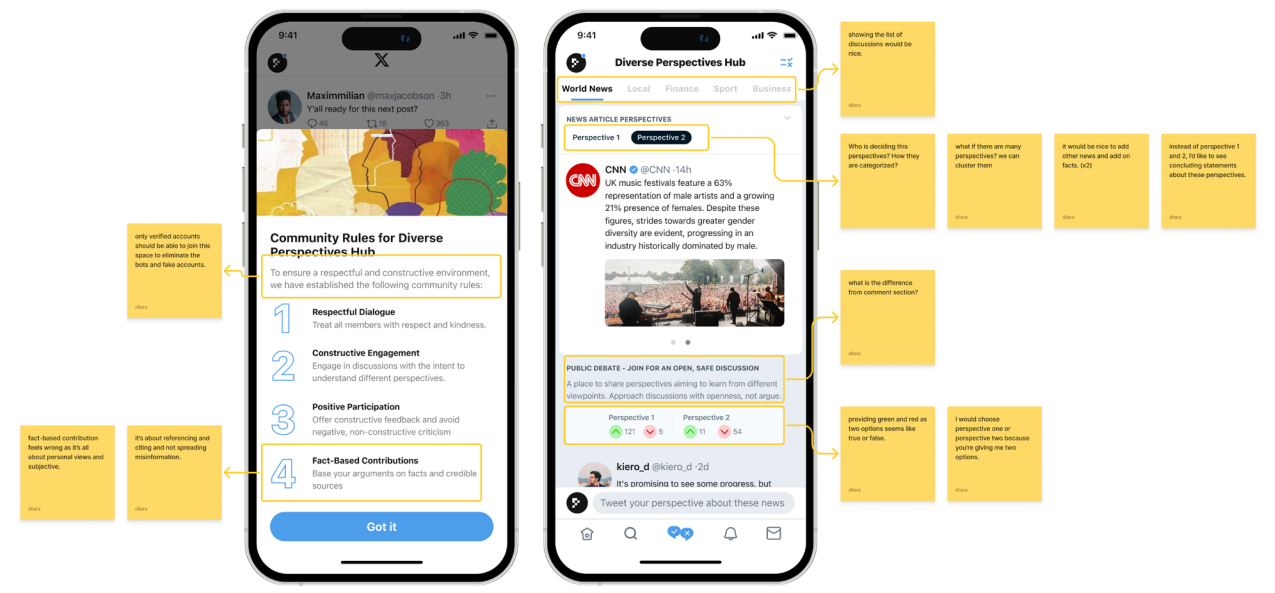
Overall Analysis of Statement Cards



- news organisations should not be shown at the beginning.
- the difference between refreshing the feed should be clarified.
- there should be a statement to support or not support news.
- perspectives of people or sources should be clarified.
- it can show you a content you don't agree to you might start rethinking, if it shows a content you agree you can accept that the algorithm working well. what is the sweet spot here?
- is there a way to interact with the algorithm?



- only verified accounts should be able to join.
- fact-based is not relevant because it's all about sharing opinions.
- showing the list of discussions would be nice.
- the categorisation of perspectives should be defined, who is doing it?
- what is the difference from comment section?
- giving 2 options make me pick one.
- green and red shows there is right and wrong.



- frustrating to resemble with paid subscription.
- does "have seen" resembles anything about people? if yes, it should be clarified.
- what is meant by perspective and view should be clarified.
- it would be nice to see the overview of the discussion.



