Loneliness Giving Birth to UX Algorithms

How UX based algorithms in various applications are affecting the youth and their perspective

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Background

Started with observing the people around us, this project entails how being lonely does not just alter our psychological process (on a sub-conscious level as well) but also how UX algorithms are using this as a leverage, and tranforming old UX algorithms into new ones.

Challenge

Already experiencing the changes in the lifestyle, the user set that we worked upon (who are in their 20s) is quite dynamic in terms of what they feel, how they interpret and express it; taking in account the on-going pandemic, these users are some of the badly affected lot in terms of psychological needs.
Observing their usage patterns on phones was quite a journey.

The **Roadmap**

Observation

- Observing people around us and their interactions with people and their devices

Literature Review

- Studied articles and research papers based on loneliness, user experience algorithms, FOMO, personality tests, etc.
- Studied statistical data based on user trends and usage of social media, e-commerce, necessities.

Tests & Experiments

- We conducted few personality tests and studied the responses of the same.
- We also conducted user experience based experiments and observed their responses to the same.

Analysis

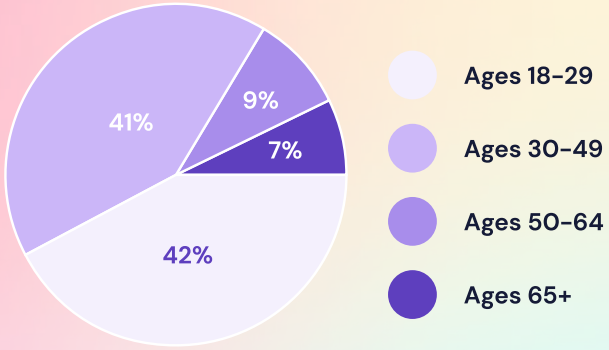
- After completing all of the experiments, tests and observations - we analysed the data in terms of finding patterns in behaviours and reactions.
- We also looked into co-relating their responses of personality tests with user experience.

Ideation

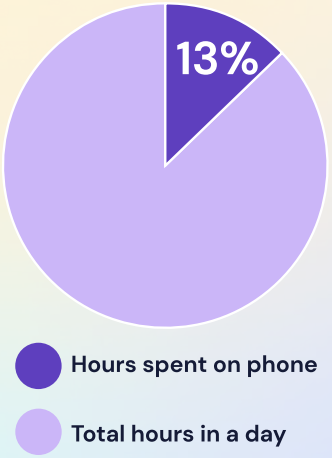
- Using the analysed data - we started to ideate on building new experience architecture - user experience algorithm.

Statistically speaking,

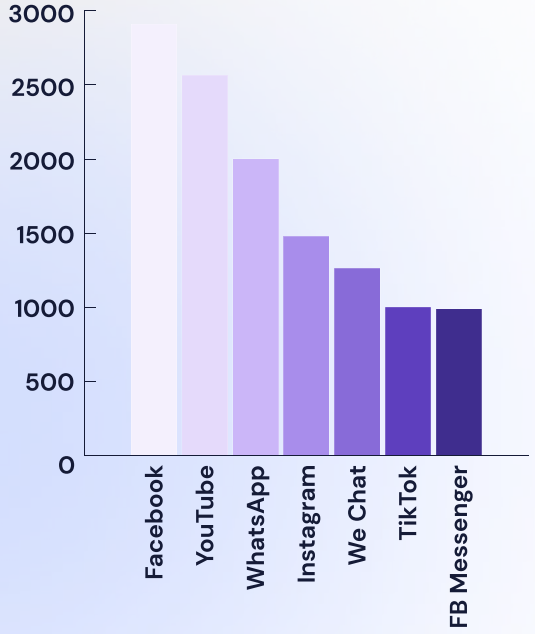
Among US adults, 91 per cent of those aged 18–29, 89 per cent of those aged 30–49, 20 per cent of those aged 60–64, and 15 per cent of those aged 65 and above are active social media users.



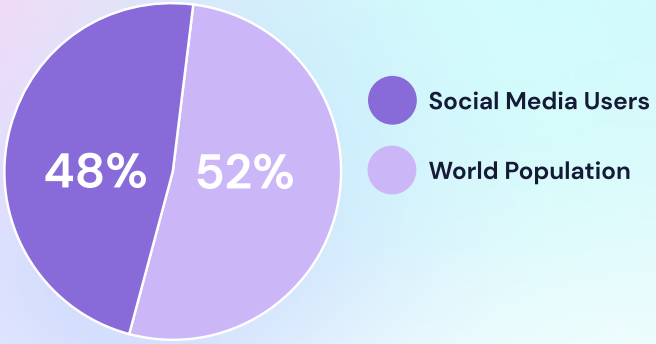
Users spend an average of 3 hours and 35 minutes per day on social media



Ranking of Social Media Platforms by Global Active User Figures (in million)



There are about 3.78 billion social media users, which equates to about 48% of the population



500 million

daily active Instagram stories are uploaded worldwide

Problem Statement

With the rise in the use of phones and social media, **higher levels of dissatisfaction** (with respect to various aspects of life) were recorded in people of ages 18-25.

The pandemic has also proven to be a kind of catalyst in this context and has caused a major shift in the perspective of these adults and has affected not only their thinking and behavioural patterns, but also their personalities as a result.

With this premise, we boiled down to -

What can we add something at a very fundamental level in user experience to cater to this change ?

Interviews

to validate the Problem Statement

"I am doing this because I want to do this, not because of anyone or anything. Please don't judge me..or actually, do that, I don't care"

Anuradha

"Am I doing this right? Is this correct? What if they do this?"

Kshitij

"Oh I actually don't really care about social media or my phone. Although I have a photo dump account but I post for personal satisfaction only"

Durga

"I use social media only for YouTube and Reddit since I am never going to get a girlfriend, because girls only life good looking people and I am not that good-looking"

Ram

"I think of social media more like a journal. I am quite an outgoing person so I post quite frequently. I don't care what anyone thinks of me, since I am my own favourite"

Anushka

"I use social media only for the fun of it. My phone usually remains in some corner of my room because I just don't use it as much as everyone else"

Gaurav

"Ooh, I don't use it as much as I use my iPad. I am an artist, I'd rather draw all day than spend a minute on my phone. Though I like to click photos of pretty skies and send it across my whatsapp groups sometimes."

Kanta

"I am where not a lot of my friends are; I like Twitter better"

Lizzie

"I post so that people don't think that I don't like social media - basically, I only post for the sake of it"

Venkat

" For me, my phone is only a medium to connect to people and take photos - I like to live in the moment and just let things flow."

Aditya

"I am not on my phone a lot though when I do I use social media for art. I like to look at what is new and what is up and coming so that I can add my twist to it"

Aarti

"I like to meet new people, go out and party - I start overthinking the moment I am alone so I am always surrounded by some person or the other always."

Isha

"I don't use my phone I think..I have work so I am mostly absorbed in that only. I post occasionally only to be very honest."

Neil

" I feel alone most of the times - being online and conversing with people makes me feel comfortable in my own skin and not ponder over my insecurities."

Nitya

"I am more of someone who likes to experience things properly, so essentially I don't use phone a lot. Only for class updates and presentation dates though. Also, I use browser version of applications so that the algorithm doesn't get to me"

Madhur

Experiments

1

Conducting personality test in our own transformed way

Imagine you are having a fall-out with xyz. Under what circumstances do you think that you would be ready to loose that particular bond? How do you prefer to work on an - say assignment?

2

FOMO Test

You tend to be not invited to some gatherings in a large group of friends - how do you react to not being invited and reaction to seeing it on social media - also there reason to why they weren't invited

3

Shafowing and Fly on the Wall

We observed the subjects of this study as closely as possible without letting them be aware to keep the results as natural and unbiased as possible

Tested and Analysed

1

Studying what type of reactions they have when some plans are cancelled - how rigid they are

2

How straightforward and direct they are with their opinions?

3

How high they hold themselves over others?

4

How critical are they of themselves?

5

How do they see the world - morally black and white or grey?

6

Do they perceive emotions as negative and if so then do they seek to repress it?

7

Do they tend to supress their desires as they seem to think of it as a form of weakness?

8

Do they use white lies to spare people from hurt?

Enneagram of Personality

We analysed the basic fear and basic desire

Anuradha
Enthusiast, Epicure
Basic Fear - Being unfulfilled, trapped, deprived
Basic Desire - To be satisfied and content

Kshitij
Reformer, Perfectionist
Basic Fear - Corruptness, Imbalance, Being bad
Basic Desire - Goodness, Integrity and Balance

Durga
Investigator, Observer
Basic Fear - Helplessness, incapability, incompetence
Basic Desire - Mastery, understanding

Ram
Achiever Performer
Basic Fear - Worthlessness
Basic Desire - To feel valuable

Anushka
Loyalist, Loyal Skeptic
Basic Fear - Being without support or guidance
Basic Desire - To have support and guidance

Gaurav
Challenger, Protector
Basic Fear - Being controlled, harmed, violated
Basic Desire - To gain influence and be self-suffiecient

Kanta
Helper, Giver
Basic Fear - Being unloved
Basic Desire - To feel love

Lizzie
Helper, Giver
Basic Fear - Being unloved
Basic Desire - To feel love

Venkat
Challenger, Protector
Basic Fear - Being controlled, harmed, violated
Basic Desire - To gain influence and be self-suffiecient

Aditya
Peacemaker, Mediator
Basic Fear - Loss, fragmentation, separation
Basic Desire - Wholeness, peace of mind

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Neil
Reformer, Perfectionist
Basic Fear - Corruptness, Imbalance, Being bad
Basic Desire - Goodness, Integrity and Balance

Nitya
Individualist, Romantic
Basic Fear - Having no identity or significance
Basic Desire - To be uniquely themselves

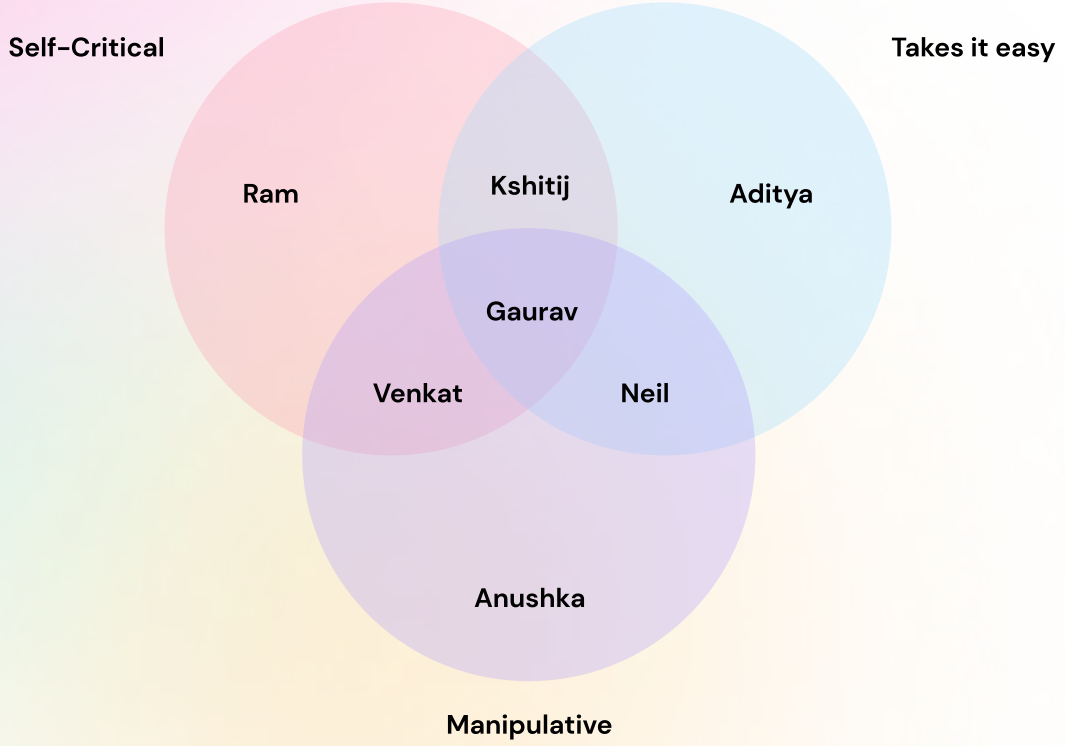
Madhur
Peacemaker, Mediator
Basic Fear - Loss, fragmentation, separation
Basic Desire - Wholeness, peace of mind

Traits vs. UX Behaviour

	Traits	UX Behaviour
ANURADHA	Overly critical and nitpicky	Need to know things of the hour, keeping tabs on people
KSHITIJ	Takes it easy, but is overly self-critical	Likes to know gossip but is not on screen all that much
DURGA	Doesn't trust anybody	Cares a lot about data security and privacy
RAM	Very self degrading, don't want to change	Around, but not communicating; is on reddit a lot
ANUSHKA	Never takes any blame on herself, very intrusive	Extremely active
GAURAV	Manipulative	Constantly on screen but not talking to anyone
KANTA	Tries to know-it-all	Is not on social media a lot, but is constantly communicating
LIZZIE	Pushes people away	Constantly into Twitter
VENKAT	Inflated sense of self	Not on his phone all that much, but posts stories at least once a day
ADITYA	Happy go lucky	Not a lot
AARTI	Knows what she wants	Not a lot
ISHA	Minds her own business	Active when she's supposed
NEIL	Controlling	Constantly on his phone
NITYA	Overly cynical	Constantly on his phone
MADHUR	Runs away from grave situations	Only uses phone for communicating

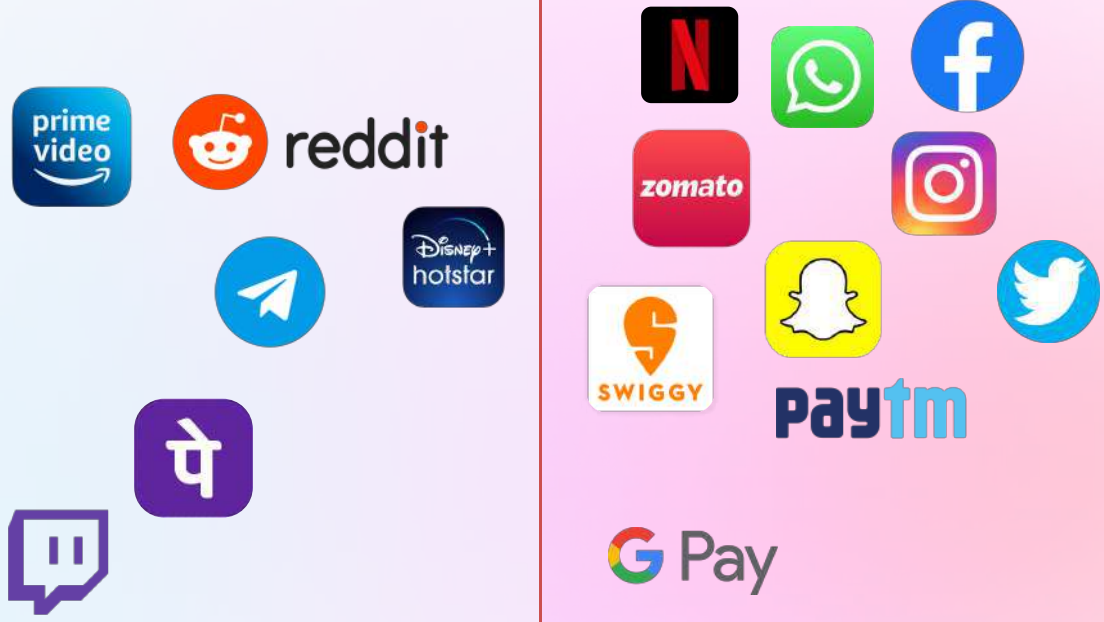
Mapping of Personality

Co-relating the personalities based on our findings and experiments



High Popularity

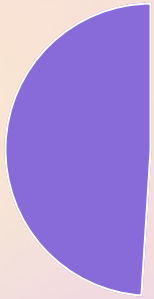
Low Crowd



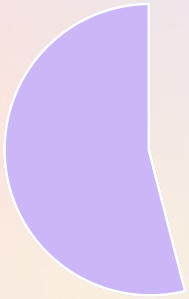
High Crowd

Low Popularity

According to stats,



49% of consumers depend on influencer recommendations on social media.



54% of social browsers use social media to research products

71% of consumers who have had a positive experience with a brand on social media are likely to recommend the brand to their friends and family

73% of marketers believe that social media marketing has been “somewhat effective” or “very effective” for their business

Persona Mapping

Name: Anuradha

Traits: Overly critical and nitpicky

How do they cope up with lonliness: Try to know everything about everyone, even if it is the smallest detail; is on platforms to meet new people

Actions:
- Overthinks even the smallest detail of something very minute
- Sometimes says things that might be hurtful
- Over-justification of every action
- Doesn't want to be judged or hated
- Can't take the truth

Does:
- Unconscious People-pleasing
- Uses people to validate her feelings
- Wants people to take care of her while not reciprocating the same

Says:
- "I am doing this because I want to do this, not because of anyone or anything"
- "Please don't judge me..or actually, do that, I don't care"

Social Media Behaviour
- Posts things to validate her idea of herself
- Uses it as a means of stalking

Name: Kshitij

Traits: Takes it easy, but is overly self-critical

How do they cope up with lonliness: Tries to have a very strict ruoutine, rarely does anything outside of it; is on platforms to meet new people

Actions:
- Wants to make the right decision
- Uses work as a coping mechanism to escape thoughts
- Obsessive behaviour
- Likes to follow strict routine
- Planned plans

Does:
- Extremely busy days
- Aware and conscious realisations

Says:
- "Am I doing this right? Is this correct?"
- "What if they do this?"

Social Media Behaviour
- Uses it for the fun of it, posts pictures that he has taken

Name: Ram

Traits: Very self degrading, don't want to change,

How do they cope up with lonliness: Is very active on social media, makes 'cool and hip' comments and loves it when people like and reply to their comment

Actions:
- Talks all the time
- Narcissist
- Talks without thinking
- Self degrading talk
- Unconfident
- Only talks about certain topics, very oftenly
- Never listens or pays attention to what others have to say

Does:
- Extreme social media indulgence
- Conscious denial

Says:
- "I am never going to get a girlfriend, because girls only life good looking people and I am not that good-looking"
- "My only mistake is that I am fat, my parents hate me because I am fat"

Social Media Behaviour
- Keeps up with the things that are cool at that moment
- Posts comments and gloat when it gets loads of reactions

Name: Anushka

Traits: Never takes any blame on herself, very intrusive

How do they cope up with lonliness: Is always up for a social interaction, always knows everything about others but rarely let anyone in to their life.

Actions:
- Excessive promotion of self love
- Sensitive
- Very attached to friends
- Food binge
- Puts efforts into organisation while being chaotic
- Controlling
- Emotionally vulnerable/weak

Does:
- Be the centre of the group
- Know everything that is happening

Says:
- "I don't care, I am my favorite"

Social Media Behaviour
- Posts a lot about her life
- Posts about things that are happening at that time

Name: Gaurav

Traits: Extreme, and extremely diplomatic

How do they cope up with lonliness: shut people out, ghosts when things get hard

Actions:
- Control
- Indecisive
- Pushes people away
- Unorganised
- Future gives anxiety
- Self-sabotaging behaviour

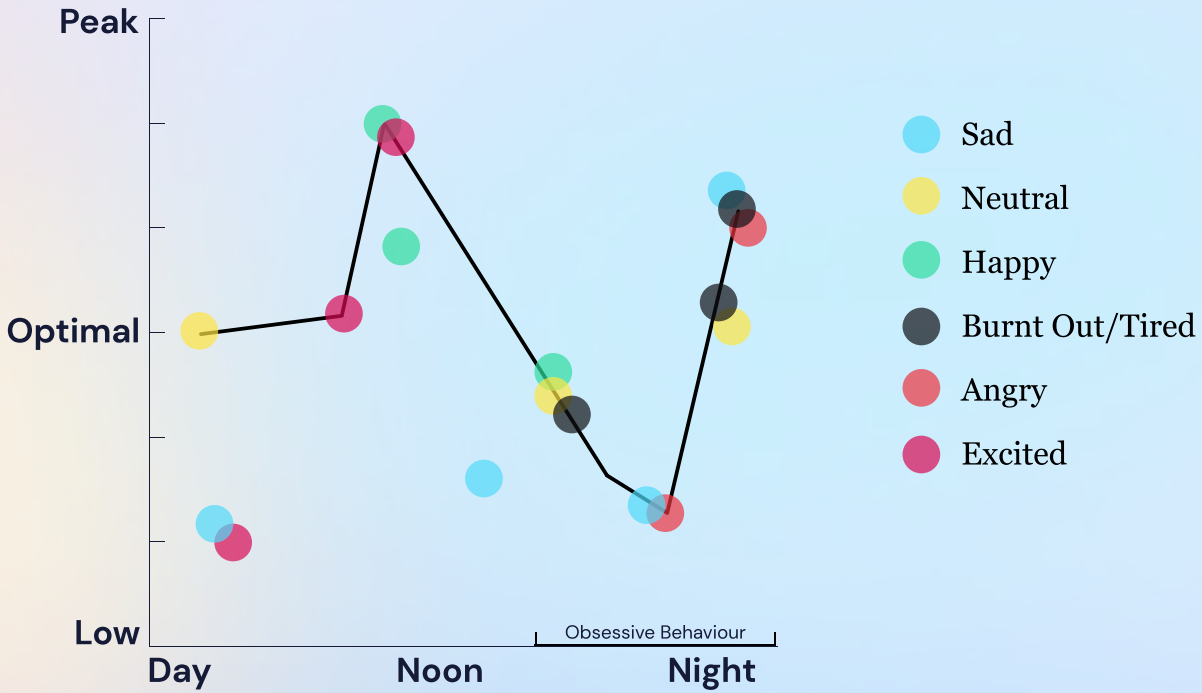
Does:
- pushes people away
- impulsive decision, then justify the same

Says:
- "How can I be wrong, I did nothing."

Social Media Behaviour
- Random
- Just for the sake of it

Emotion Mapping

Mapping emotions keeping the time of the day and the intensity of emotions - marking their unusual behaviour and energy levels



Consolidation

After observing, conducting personality tests and experiments on users keeping user experience in mind - we found out that there are several changes when it comes to how the users are reacting to the interfaces now. Their triggers of usage have also changed. These users are more aware but still vulnerable to the user experience triggers.

The users have inhabited the feeling of loneliness which can be seen in varied ways based on their personalities. Although, the way the symptoms vary - **their user experience follows a pattern.**

We have also discovered several underlying elements which directly affect how the user percieves these digital platforms and modify their behaviour.

Solution Validation

As designers, we have to think about balance.

Despite all of these complications, our designs rely on algorithms more and more.
Why?
Because algorithms promise to simplify our experience of technology—maybe even to the point of having no user interface at all. Personalized experiences, conversational apps, and chat bots all have algorithms at their foundation. As experience designers try to resolve the algorithm and the user interface, it's important to understand the limitations of algorithms.

How we design an experience can counteract some of the negative effects of algorithms.

Limitations

Algorithms are not neutral or objective.

Algorithms have a point of view just like humans and interfaces. To cater to the business goals of organisations and to create a better experience, personalization algorithms are built. As the algorithms are built by humans, their point of view is also embedded. Sometimes that point of view is obvious—for example, an ad that appears based on some of your personal data. Sometimes it's less obvious, until we encounter a flaw.

Algorithms rely on a data ownership—or the lack of it.

Most of us have only the vaguest sense of what data we are leaving behind and who is using it. The right to have control over your data is a big part of the conversation around algorithms. Hopefully, we will move toward more individual control. For now, there are big differences in privacy among the sites, organizations, and countries that shape algorithms.

Algorithms don't understand you as a complex individual.

Algorithms generalize and simplify, filtering out things they consider to be irrelevant. Whether you call it the uncanny valley of personalization or your data double, you can sometimes be confronted with a frighteningly accurate picture of yourself. But, most of the time, it's a little off base. Different sites serve different interests, so they capture different preferences. (Amazon is quite different from OkCupid, for instance.) Algorithms generalize and simplify, filtering out things they consider to be irrelevant. In many cases, algorithms use other people's data to fill in missing bits and pieces. The end result is that algorithms don't reflect the ever-changing, complicated person you are.

Limitations

Algorithms are opaque.

As much as we rely on algorithms, it's not always clear how they work or why they work the way they do. Machine-learning algorithms can become so complex that the people who write them don't fully understand how they work. In other words, personalization is not transparent. As much as people try to understand and change personalization algorithms, that is not easy to accomplish.

Algorithms may end up automating our lives excessively.

Algorithms increasingly take over tasks that we once performed on our own—for example, planning our route on a drive or walk. This may leave us with only narrowly circumscribed routines. Algorithms increasingly take over tasks that we once performed on our own—for example, planning our route on a drive or walk. This may leave us with only narrowly circumscribed routines. Algorithms automate the experience of discovery, but strip away some of the pleasure of uncertainty. The better they know our tastes, the less time we spend imagining new possibilities. Algorithms automate our experience of new people and new ideas, so we may feel that we are in an echo chamber.

Guidelines and Successful Implementation

Follow the principle of minimum viable data

The impulse of most organizations is to collect as much data as possible, just in case. Since individuals have little control over their data or how organizations use it, encouraging minimalism makes sense. With the coming wave of emotion-sensing apps and devices, a minimal approach will become even more important. More is not necessarily better for algorithms or user interfaces. Maciej Ceglowski's talk on data and privacy really brings this issue to life.

Reveal the Algorithm and Its Effects

Of course, people don't want to see code. They don't even want to adjust settings. From my research practice, I can see that people prefer to game an algorithm by launching a private window here, clicking something there, following, and unfollowing. They do this because they don't really understand what data the algorithm uses, how the algorithm works, or how the user interface evolves as a result. As experience designers, we can take on this problem and make algorithms' effects more apparent. Lauren McCarthy's Facebook Mood Manipulator, which uses the same algorithm that Facebook used in their controversial emotional contagion research, is an experiment on how we could get more control over what we see.

Allow People to Participate in Creating Their Algorithms

Once we've made algorithms more transparent, the next thing we should do is let people participate in their data creation. You can choose your own appearance and identity. Crystal is an example of an app that generates a personality profile by analyzing a person's social-media profiles and other publicly available data. It also invites users to answer questions that let them shape their profile. In the future, I'd like to see ways for users to challenge algorithms that serve someone else's interests, choose a level of trust using different personal preferences, and turn off the algorithms designed into an experience.

Approach taken to build the Algorithm

Data tells us about people and organizations. Algorithms create guidelines. Machine learning shapes the experience.
While all of this sounds familiar and is relevant to the work we do, we still wonder:
Should designers write algorithms?
Should designers understand how machines learn?
Are we input or output?

The distinctions are collapsing a bit more every day. Here are three ways you can get started designing with algorithms:

Start with the end.

Whether you decide to turn your attention to output, focus on input, or both, designing with algorithms begins at the end. When designers collaborate on designing algorithm-driven experiences, we can think through what should be human facing. Giles Colbourne describes a process of mapping outputs as a conversation to help plan the data to use as inputs. Designers can help determine how data can enrich the experience—as well as when it doesn't. Think of a conversational travel app such as Pana, which needs to decide when to remember and use your travel preferences and when to ask you about them.

Play a role in data selection.

Once we encourage a dialogue between a data scientist and an experience designer about what's possible and how to present it, we can also play a role in selecting the data with which to train the algorithm and to use on an ongoing basis. It may even mean a different approach to designing the algorithm itself. For example, when working on an ecommerce site like Zappos, a designer might recommend using more historical purchase data and less data showing a particular profile's similarities to other customers.

Bridge the disconnect.

Algorithms can spin off their own stories. We all encounter this when we feel a disconnect between ourselves and the version of ourselves that gets reflected back to us when we view a social-media profile or are served an ad. Designing for algorithms means taking a new approach to defining the person on the receiving end. That person is a collection of data points, a real person we interviewed, a close match that a personalization algorithm generated, and an idealized muse. We need to think about all of these instances of a person when we design with algorithms. Lately, I've been working with teams to create a persona for each instance and role play the interactions.

Solution Ideation

The first ideation is built on the following primary features:

1

Experience Architecture

2

Data Driven Design

3

Conversion Rate

Experience Architecture

The experience architecture of this UX algorithm is based on peoples' new behaviour and emotions - as mapped the users' have shown a declining trend from postive to negative emotions - hence the user experience built here focuses on using the triggers in a mindful manner where the users' are still being directed towards more engagement but less damage.

For example, if a user is engaging in shopping sites - instead of showing the content which is along the same lines as they have shopped or searched for - they will be shown content which is the next step to their searches. For instance, if the user has searched for black running shoes - their data of what sites they went to and what they showed in interest will be analysed and moving ahead they will be directed by prompts which are like the next thing to look for - in the case of shoes, they will be directed to buy socks, fitness oriented stuff, etc.

Data Driven Design

The new user experience algorithm will be using the data of users' engagement with a different perspective - controlling the negativity of emotions and obsessive behaviour. For example, if a user is using social media at night and they are engaging in emotional content which is negative - they will be directed towards emotional content of the same types but of the positive look. Similarly, if a user is using some finance based app like paytm or gpay - they will be prompted to engage in money management, etc related activities instead of the same thing they engaged with.

Conversion Rate

The new algorithm focusses on increasing the conversion rate but by focussing on quality and then on quantity. If the user is directed towards engaging with the relevant thing instead of what they engaged with - the conversion rate will be higher. Putting it into perspective, when instead of 10 users only 5 customers are engaging but those 5 customers are making it to the last stage of that particular journey - we have 5 sure conversions.

Conclusion

Today, algorithms shape what we experience online. Next, they'll modify our physical world—our homes, workplaces, cars, and cities. The new material of invisible, personalized, conversational design is algorithms. As experience designers, we can take an active role in bridging algorithms and the user interface to bring greater humanity to the experiences people have with technology.