Human-Computer Interaction

#HCI

Oussama Metatla and Dan Bennett

Week 3: 3rd Wave

READING:

Core reading

Designing for Motivation, Engagement and Wellbeing in Digital Experience

Dorian Peters[1], Rafael A. Calvo[1] and Richard M. Ryan[2]*

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Optional

"The Small Decisions Are What Makes it Interesting": Autonomy, Control, and Restoration in Player Experience

APRIL TYACK, Aalto University, Finland and Queensland University of Technology, Australia
PETA WYETH, Queensland University of Technology, Australia

Games and play research at CHI employs psychological theory to investigate the ways that varied qualities of people, videogames, and play contexts contribute to nuances in player experience (PX). Play is often characterised as self-endorsed and freely chosen behaviour, and self-determination theory (SDT) proposes that this *autonomous* quality contributes to wellbeing restoration. However, prior research has produced only inconsistent support for this claim.

In this study, 148 participants experienced an autonomy-satisfying or -frustrating puzzle before playing *Spore* [60], a videogame likely to satisfy autonomy. Need-frustrated participants showed comparatively greater improvement in autonomy, vitality, and intrinsic motivation when playing *Spore*, and in-game autonomy satisfaction was shown to index post-play wellbeing outcomes. However, further results were mixed, and only competence frustration was found to predict ill-being outcomes. These findings are contextualised by post-study interviews that investigate the ways that autonomy, wellbeing, and motivation emerge in and through play in daily life.

Beyond Intrinsic Motivation: The Role of Autonomous Motivation in User Experience

DANIEL BENNETT, University of Bristol, Bristol, UK
ELISA D. MEKLER, IT University of Copenhagen, Copenhagen, Denmark

Motivation and autonomy are fundamental concepts in Human–Computer Interaction (HCI), yet in User Experience (UX) research they have remained surprisingly peripheral. We draw on Self-Determination Theory (SDT) to analyse autonomous and non-autonomous patterns of motivation in 497 interaction experiences. Using latent profile analysis, we identify five distinct patterns of motivation in technology use—'motivational profiles'—associated with significant differences in need satisfaction, affect, and perceived usability. Users' descriptions of these experiences also reveal qualitative differences between profiles: from intentional, purposive engagement, to compulsive use which users themselves consider unhealthy. Our results complicate exclusively positive notions of intrinsic motivation and clarify how extrinsic motivation can contribute to positive UX. Based on these findings, we identify open questions for UX and SDT: addressing 'hedonic amotivation'—negative experiences in activities which are intrinsically motivated but not otherwise valued—and 'design for internalisation'—scaffolding healthy and sustainable patterns of engagement over time.

3rd Wave

Chunk 1: Is This Happiness? ( )

Understandings, uses (and abuses?) of “Happiness”

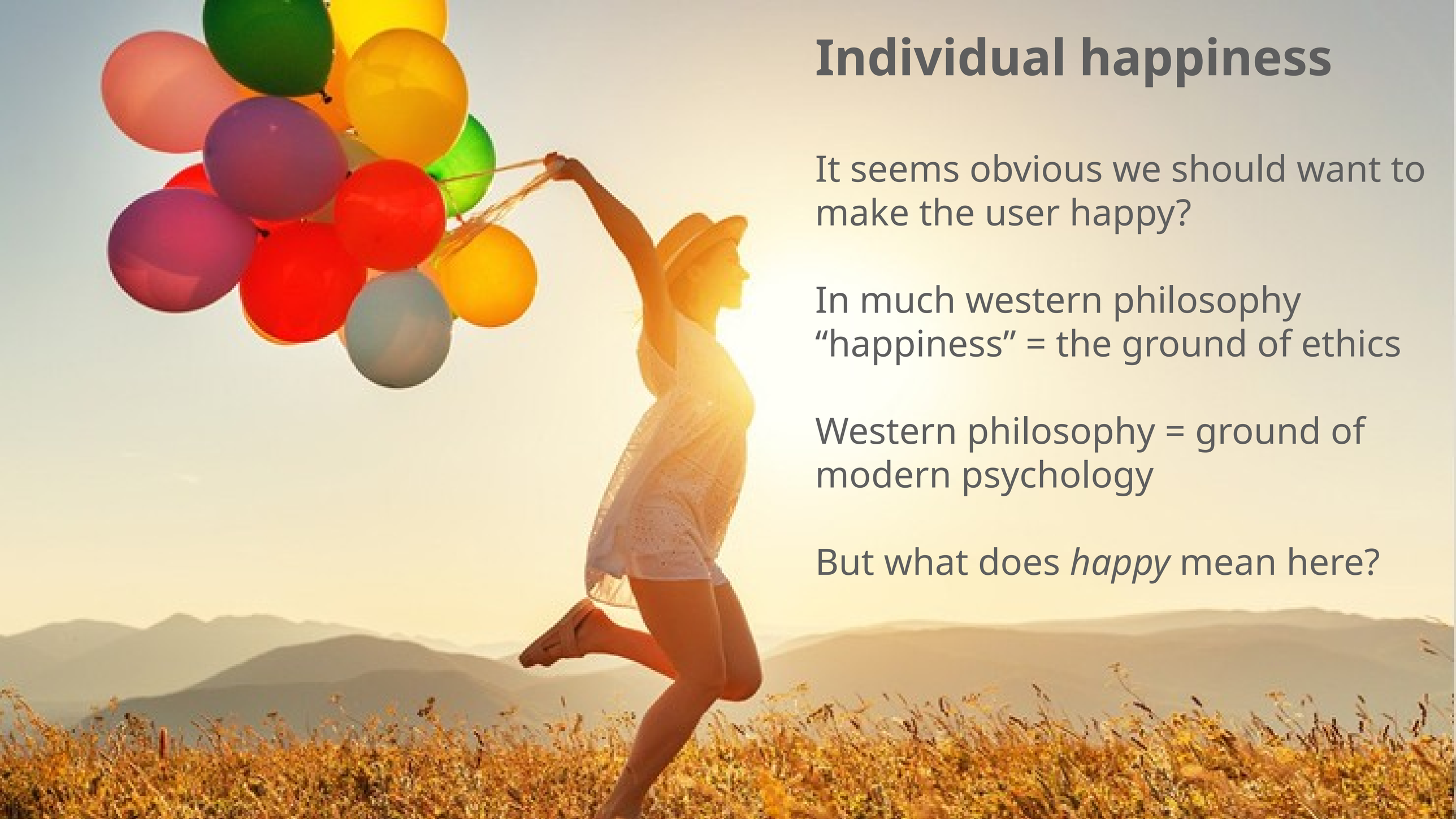
3rd wave of HCI

- 1990s-Present(?)
- Beyond efficiency, action, and productivity
- Humanistic perspectives, experience, ethics and values
- “Social Conscience”

3rd wave of HCI

How we'll cover the 3rd Wave

- Starting with local, and individual experience of happiness
- Build up to incorporate connection-to-others, and life context
- In a couple of weeks: issues of accessibility and disability



Individual happiness

It seems obvious we should want to make the user happy?

In much western philosophy “happiness” = the ground of ethics

Western philosophy = ground of modern psychology

But what does *happy* mean here?

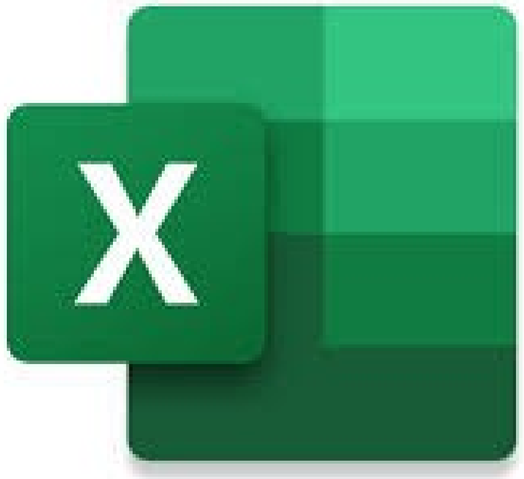
Kinds of Happiness (or positive experience)

1.0 “Hooked” by the experience

2.0 “Hedonic” enjoyment?

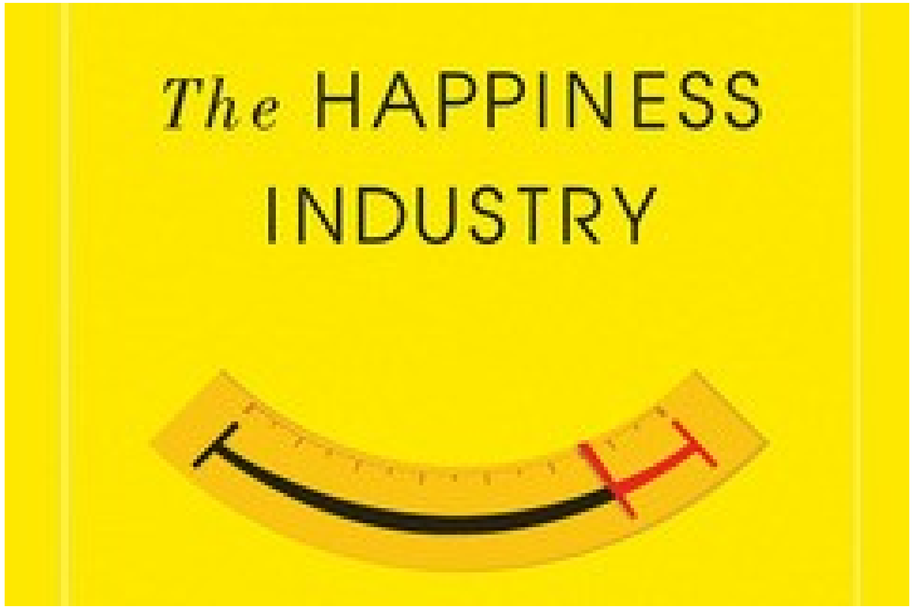
3.0 Life-situated “eudaimonic” happiness

When is happiness a relevant concern in technology design?



- Different aspects of “happiness”?
- Are there any tools / utilities you really like/ make you feel good?
- Do any everyday things you own make you happy / enrich your life?

Happiness 1.0: Happiness we can sell



- There is money to be made from happiness (or versions of it)

- Social Media
- Streaming services
- Gaming

- Other cases where personal identity and feel/vibe matter?

- Are tech companies invested in our happiness and wellbeing?

A version of happiness many tech companies like:

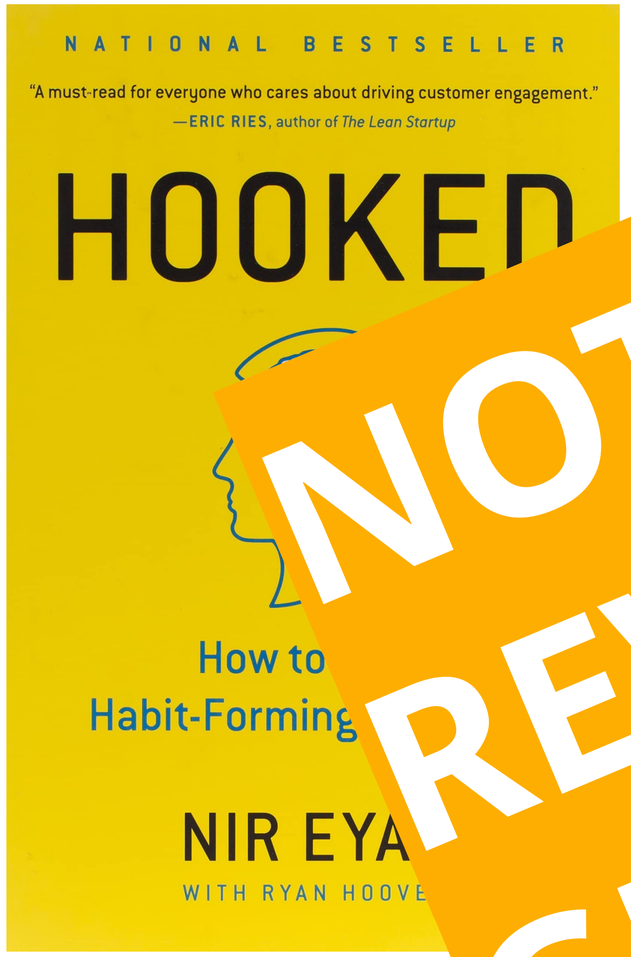
NOT AN ENDORSEMENT

https://www.nirandfar.com/how-to-manufacture-desire/

The “Hook” model

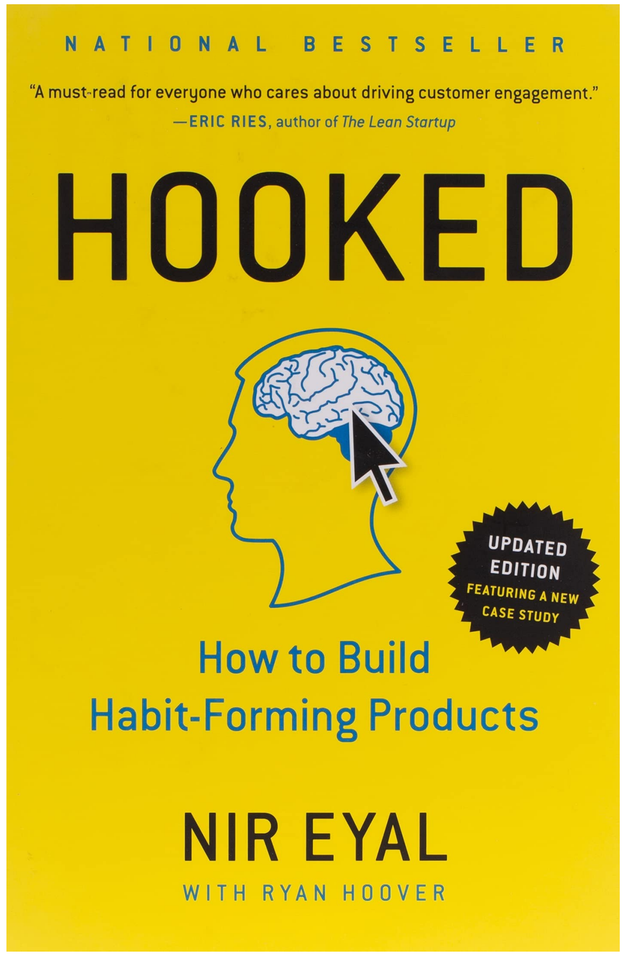
Ma… …ucts valu… …rding

…ely)



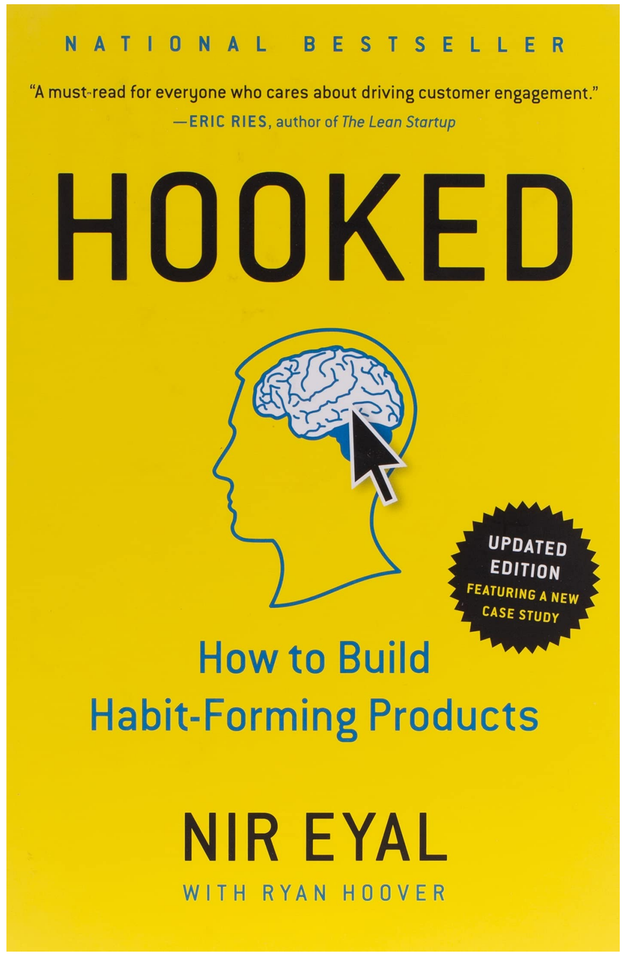
NOT PEER REVIEWED: SOME GUY'S THOUGHTS

…relying on expensive marketing or …ying about differentiation, habit-forming companies get users to cue themselves to action by attaching their services to the users’



Four Part Model:

- TRIGGER
- ACTION
- VARIABLE REWARD
- INVESTMENT

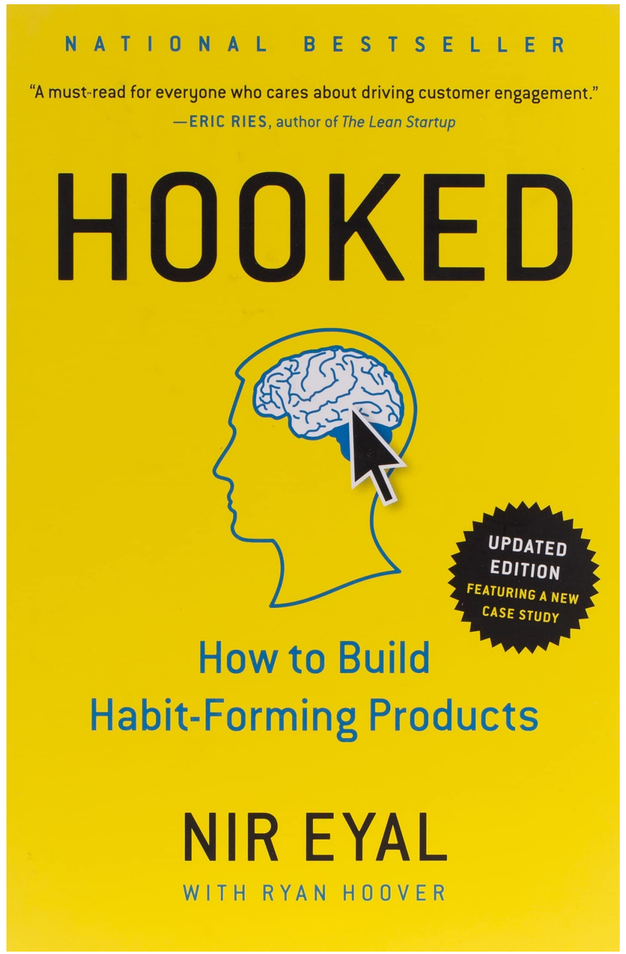


Four Part Model:

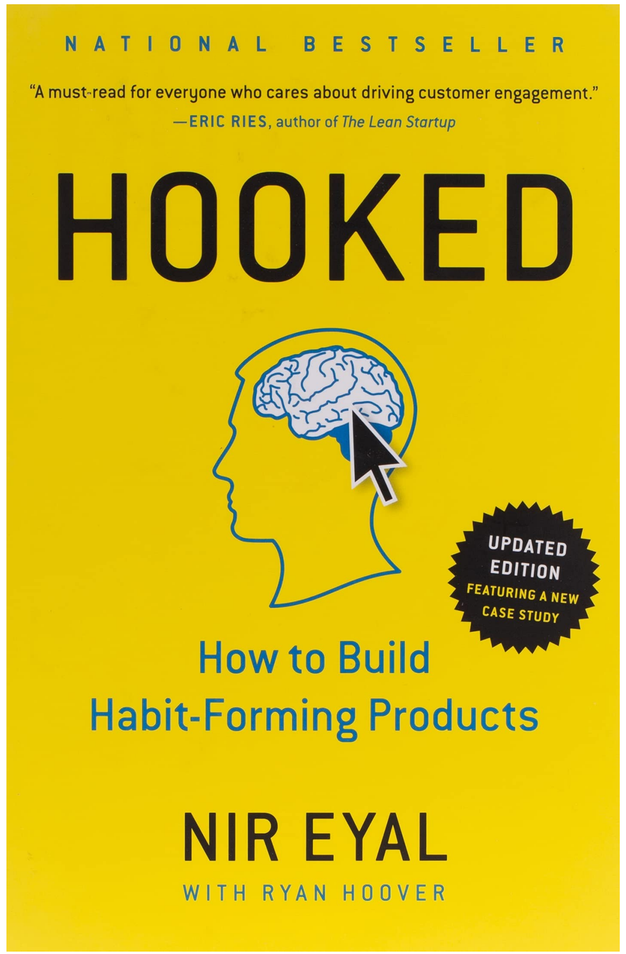
- **TRIGGER**

- The initiator to perform some behaviour.
- A link/ icon/ notification etc.
- An invitation to act (information about an affordance!)

Pavlov's Bell: the thing we want to build associations with.



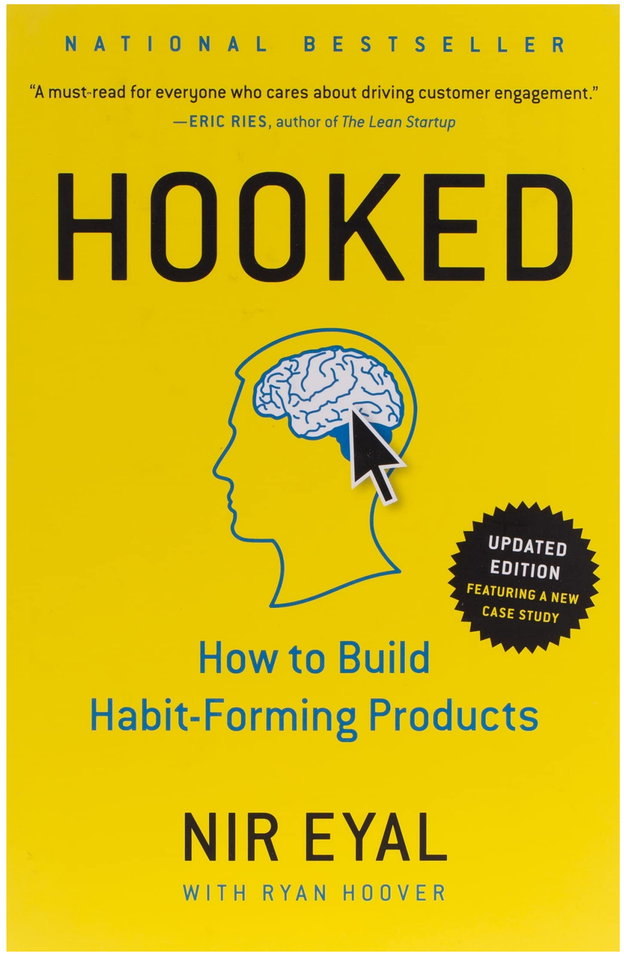
- **TRIGGER**
- **ACTION**
  - Get the user to respond with some action (Post, purchase, scroll, swipe)
  - Make this easy – minimise friction
    - e.g. GOMS, Fitts' Law (how often does saving 1-2s really benefit the user?)
  - (Note: Twitter's 2016 efforts to reduce spread of misinformation *intentionally increased* friction. Why not do this as a matter of course !?)



- **TRIGGER**
- **ACTION**
- **VARIABLE REWARD**

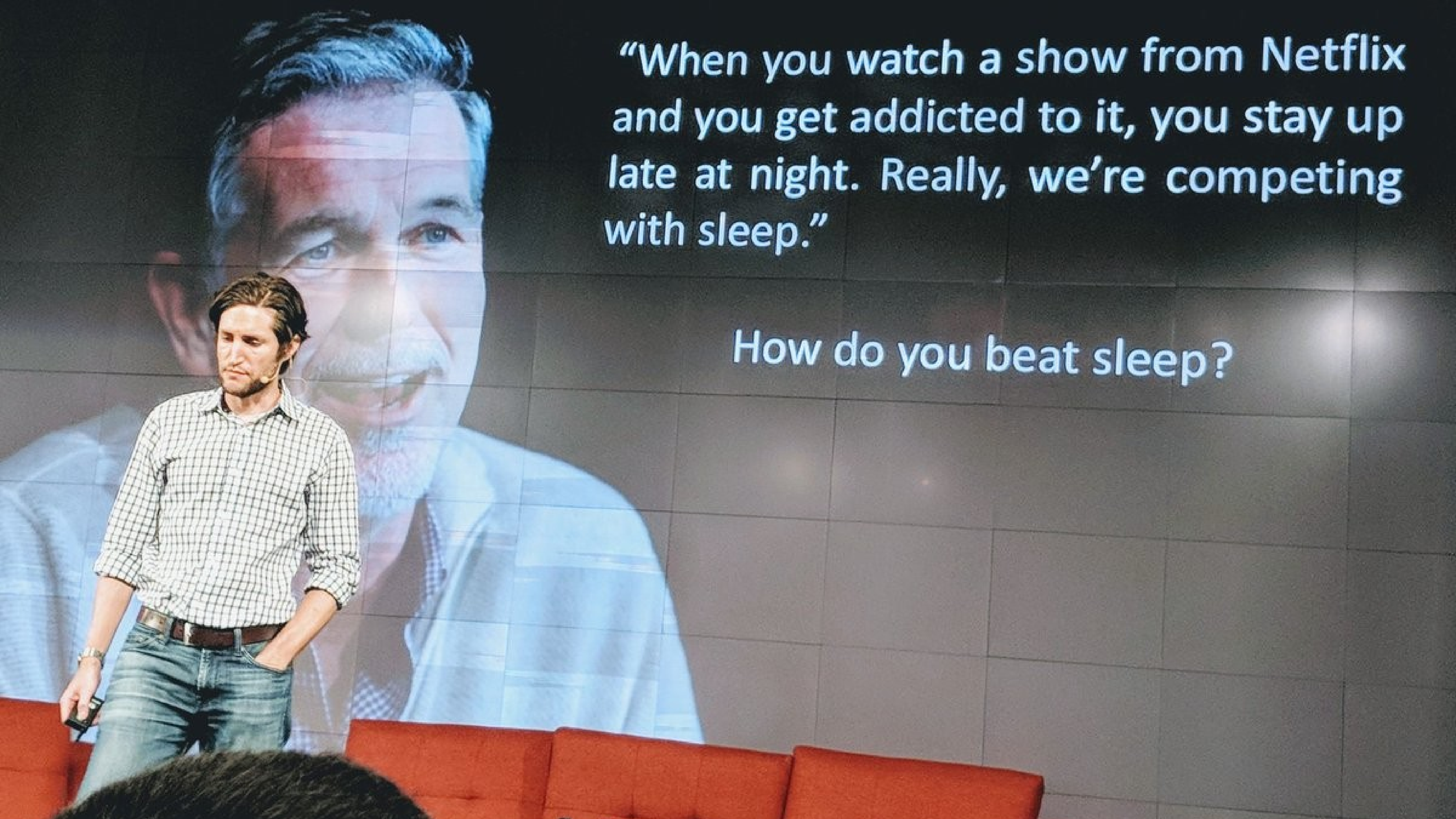
Isn't reliable reward best? Not for habit-formation!

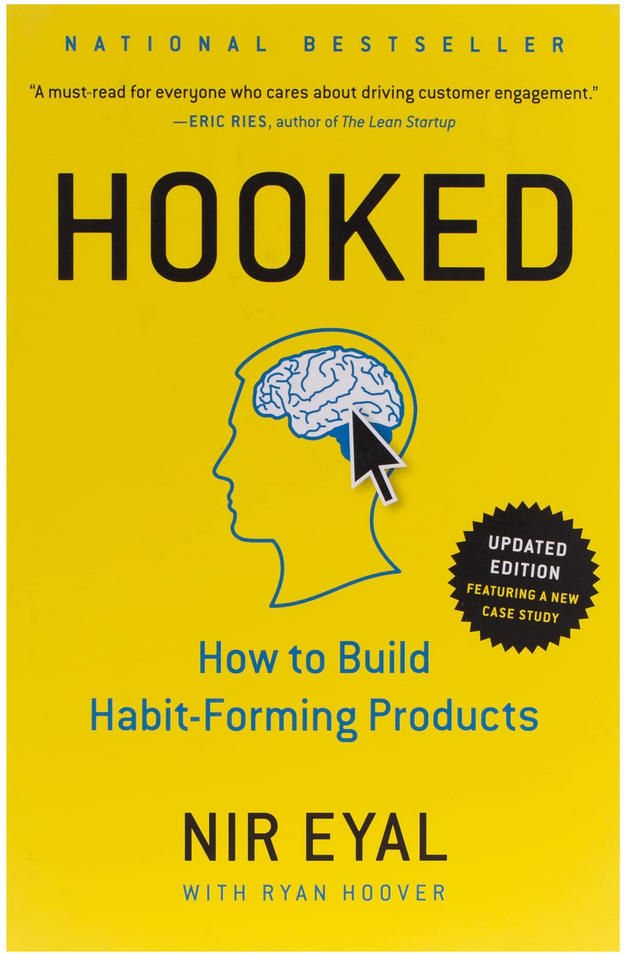
- **Slightly different value reward each time, sometimes none!**
- **Everyday examples of this?**
- **Really terrible examples of this?**



- **TRIGGER**
- **ACTION**
- **VARIABLE REWARD**
- **INVESTMENT**
  - The "right" kind of friction in the "right" place:
  - 2 extra clicks to load action = no action
  - 5 mins playing with Instagram filters = investment
  - Ideally investment that builds loyalty: giving your data, building a gallery, inviting friends.


DIABLO
IMMORTAL


"When you watch a show from Netflix and you get addicted to it, you stay up late at night. Really, we're competing with sleep."
How do you beat sleep?



- **This is a simplified version**: companies use more data-driven, sophisticated approaches, grounded in same approach

- It is about feeling good **in the moment.**

- **How do you feel about this approach?**

3rd Wave

Chunk 2: Hedonism & Fun

Understanding the “non-useful” aspects of user experience – pleasure, and play

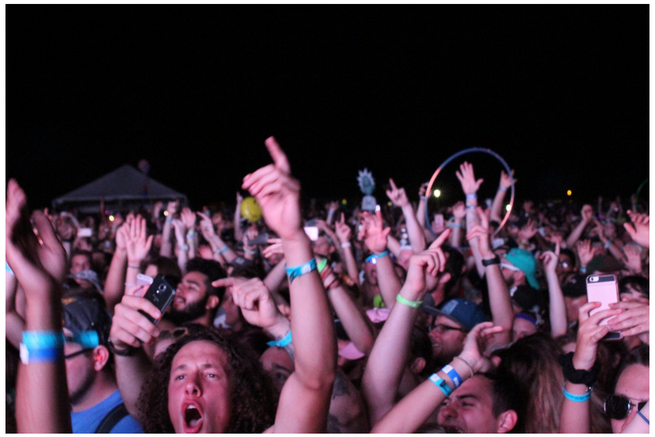
User Experience (UX)

Since mid 2000s UX research started to distinguish between:

Pragmatic Qualities

How usable, practical, functional, supportive, adaptable, useful?

Hedonic Qualities

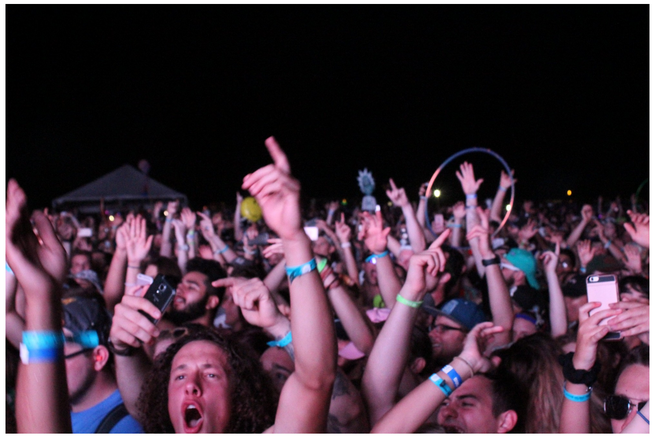


How pleasurable, fun, interesting, stimulating, exciting?

User Experience (UX)

Since mid 2000s UX research started to distinguish between:

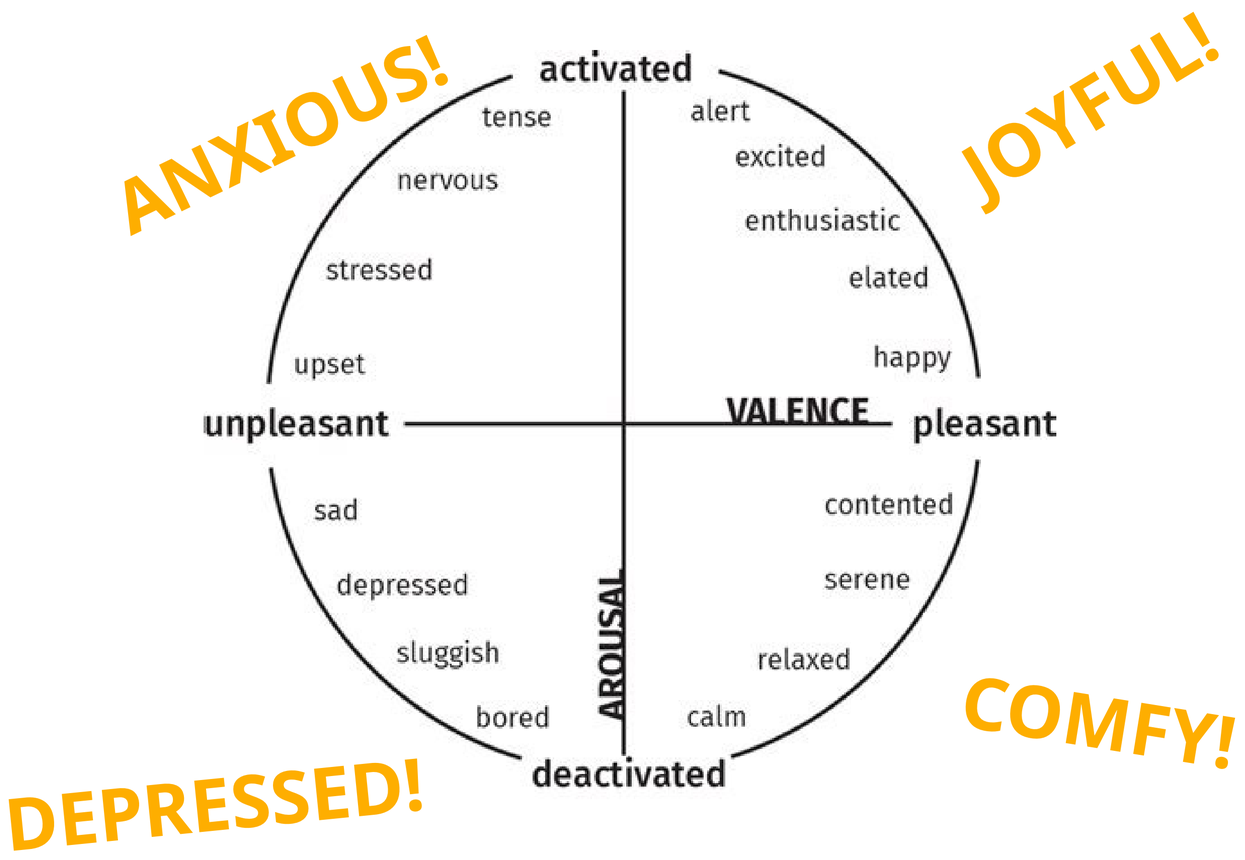
Hedonic Qualities



How pleasurable, fun, interesting, stimulating, exciting?

How can we measure / quantify/ formalise “hedonic” qualities?

Affect (building block of emotion)



Two dimensions:

- **Valence (good or bad)**
- **Arousal (high or low energy)**

Flow States

- An experience associated with *intrinsically* motivating and enjoyable activities
- Associated with absorbing tasks
- Positive experience – energized, focused, and in-control.
- A kind of *peak experience.*

Aspects of Flow Experience

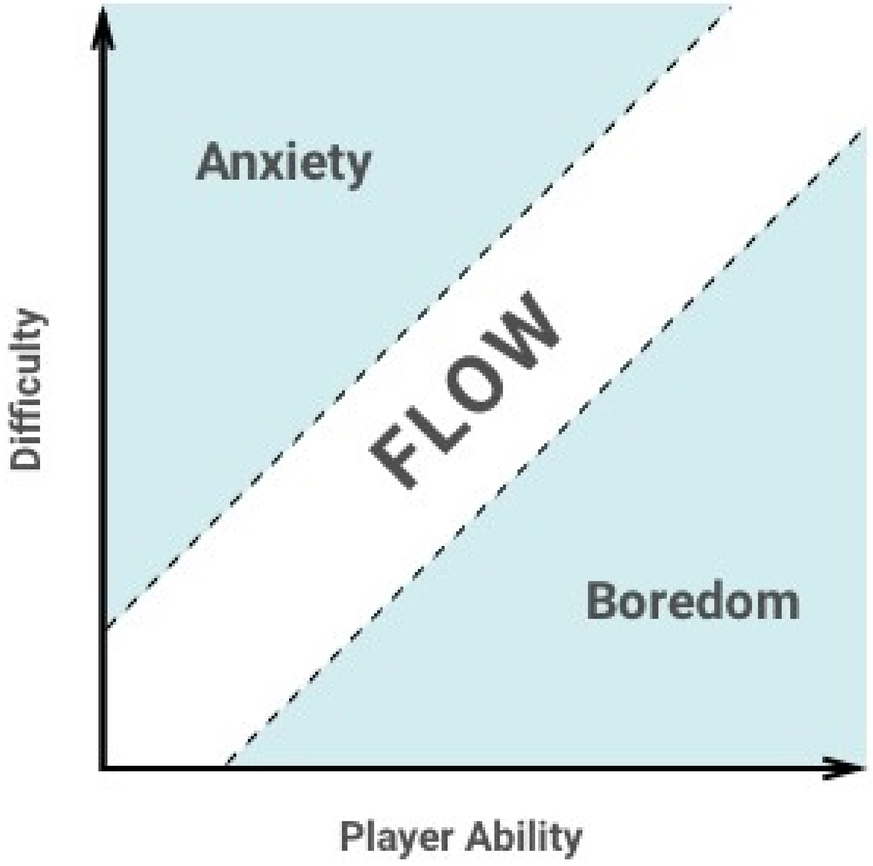
- **Positive experience:** enjoyment and interest in the activity itself (intrinsic motivation – you do it “for it’s own sake”)
- **Merging of action and awareness:** “at one” with the activity, with a sense of effortlessness and spontaneity in actions. Almost “automatic”.
- **Totally concentrated on the task at hand:** no thoughts about other things, hard to distract.
- **Effortless engagement**: the concentration is not hard to maintain. We can continue concentrating despite the high level of engagement.
- **Sense of control:** feeling capable and in control, fear of failure is absent, but there is still a meaningful challenge.
- **Loss of self-awareness:** we become less aware of others’ perceptions of us, and less prone to self-doubt.
- **Loss of time-awareness:** losing track of time.

Supporting Flow Experience

- **Balance between challenge and skill** (difficulty and ability)

- **Clear goals:** it is immediately apparent to the user what they are trying to achieve. (e.g. the immediate goal of this session, and/ or the general goal of the activity).

- **Unambiguous Feedback:** it is immediately clear if an action is “right” or “wrong”, if it is “effective”. Progress towards the goal is easily perceived.

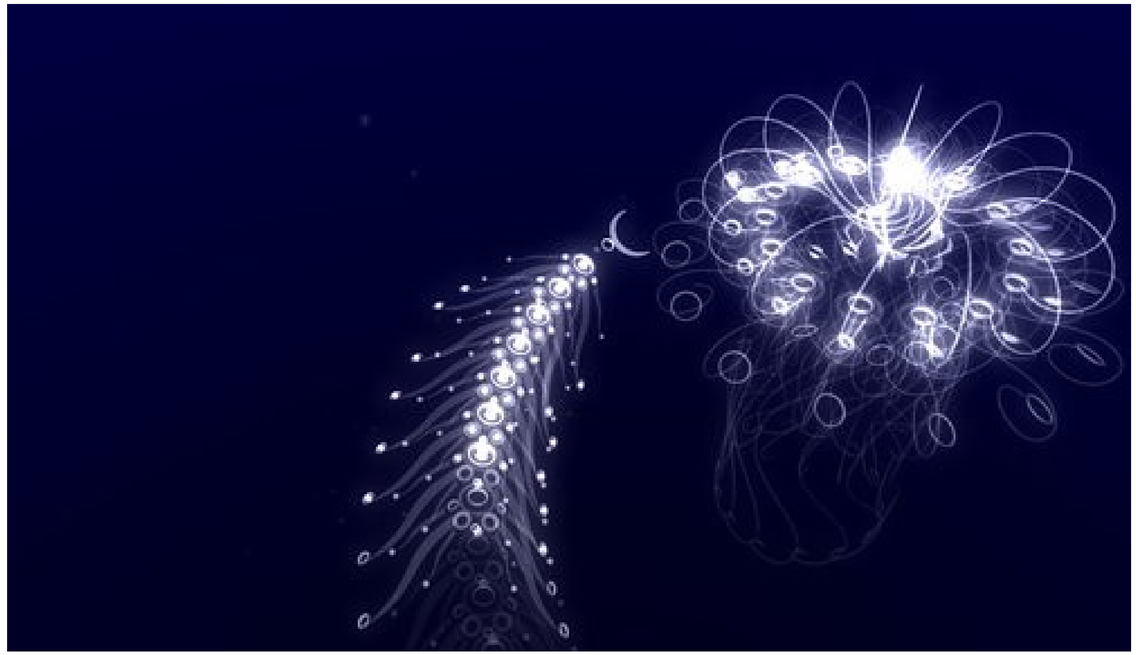


Examples

- Very popular idea in game design
- Popularised by Jenova Chen, in the game “flOw”

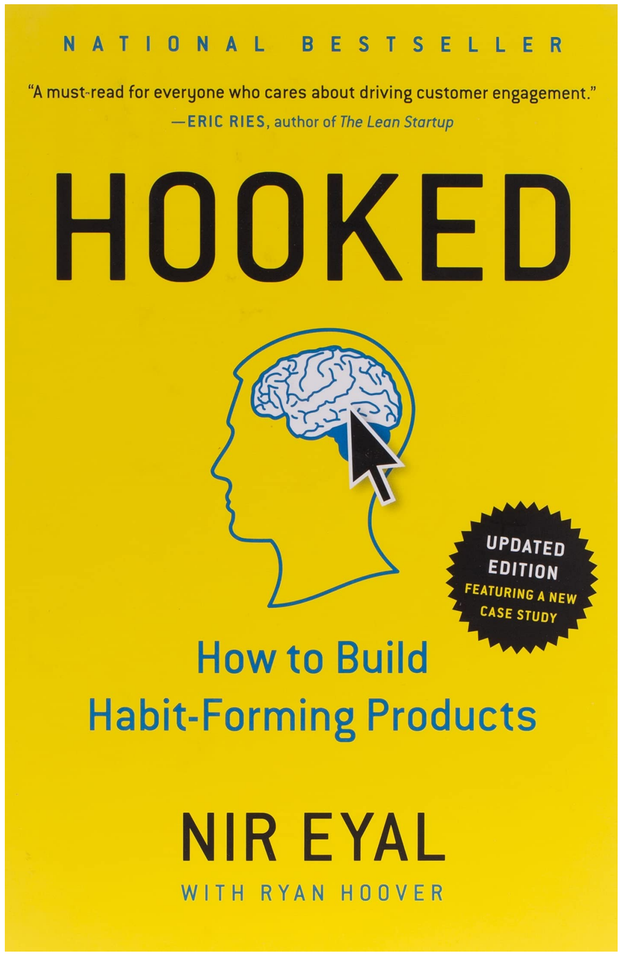
- Play it here: https://www.jenovachen.com/flowingames/flowing.htm

- Emphasised in design of technologies for learning, and health and exercise



Are flow states always good?

- **Losing track** of time
- A **loss of *reflective* self-consciousness**
- Sense of being **in control** (maybe even when you aren't!)
- Important: **dissociation is different from flow** (latter is purposive, involves challenge) but these are easily confused, and similar tricks work for both.
- **Do we always want this? When is it good, when is it bad?**



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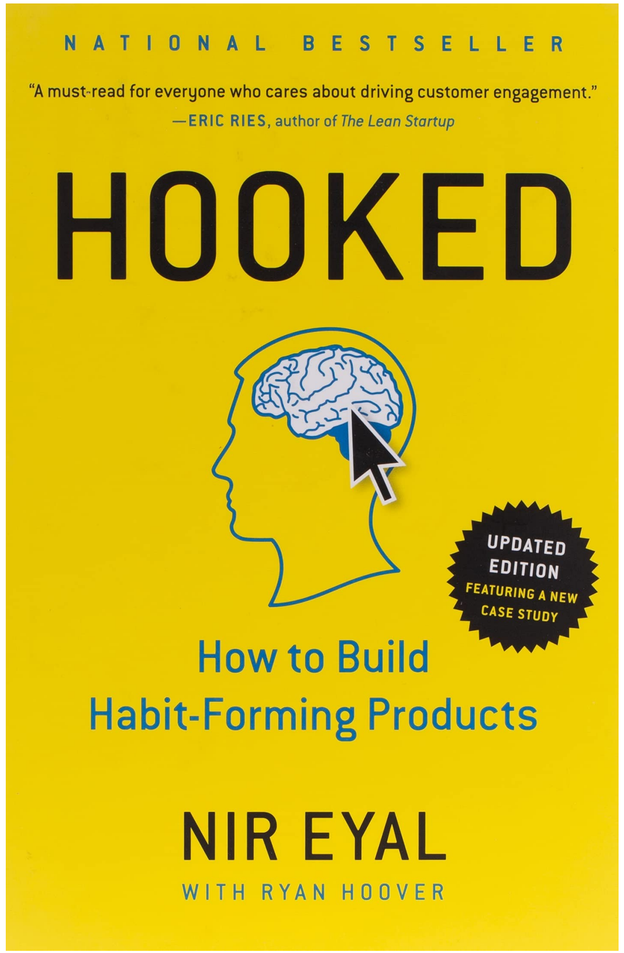
Hooked: Hedonic Experience as Dark Pattern?



Hooked's REWARD component connects it to hedonic UX

But it's a hedonic approach which seems to have little respect for the user's autonomy

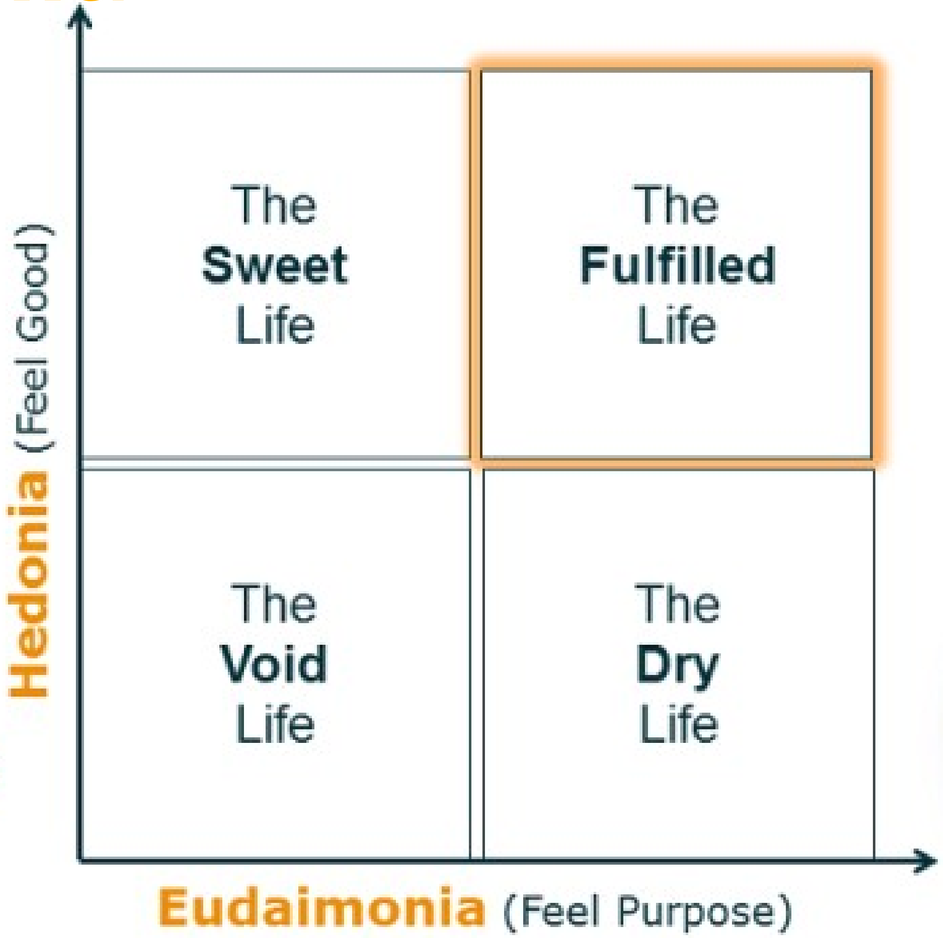
Bypassing reflective engagement to leverage reflex, habit, reward-seeking.

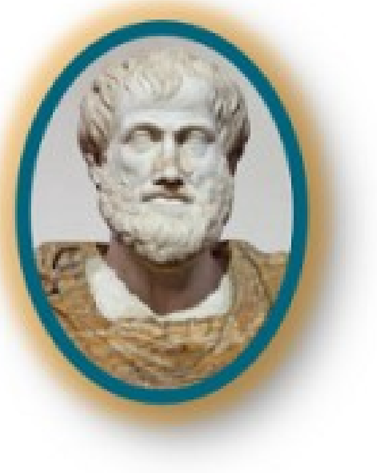
Week 3: 3rd Wave

Chunk 3: Self Determination Theory

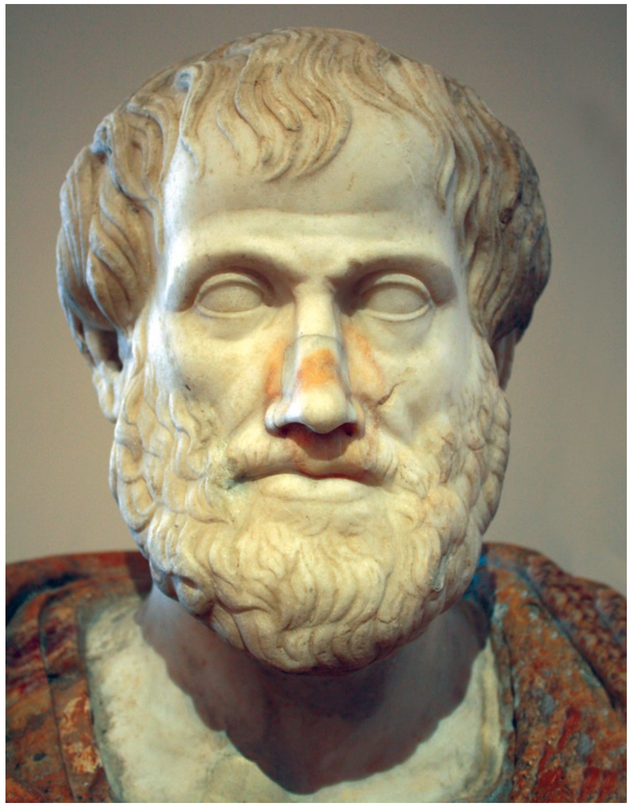
Beyond the immediate experience: Meaning, Wellbeing, Old Greek Guys

Two Greek words for happiness: Hedonia and Eudaimonia





Eudaimonia



- Eudaimonia ≈ the state of being well
- Looking beyond only the immediate moment of experience
- It means experience and behaviour consistent with what truly matters

Eudaimonic behaviour is:

wise, *complete* and *balanced*

Understand what is good in life

Ensure all these goods are represented in our life

Ensure that all these goods are kept in harmony

Focus on things that are intrinsically good

- **Extrinsic – good for the sake of something else**
- **Intrinsic – Good for their own sake**

Examples?

The words “Intrinsic” and “Extrinsic”

Intrinsic just means “integral to the thing / concept”

- e.g. “being a mammal” is intrinsic to “being a dog”
- “being brown” is extrinsic to “being a dog”

If something is intrinsically *good* – it is good in itself. “why is it good”, “It just is!”

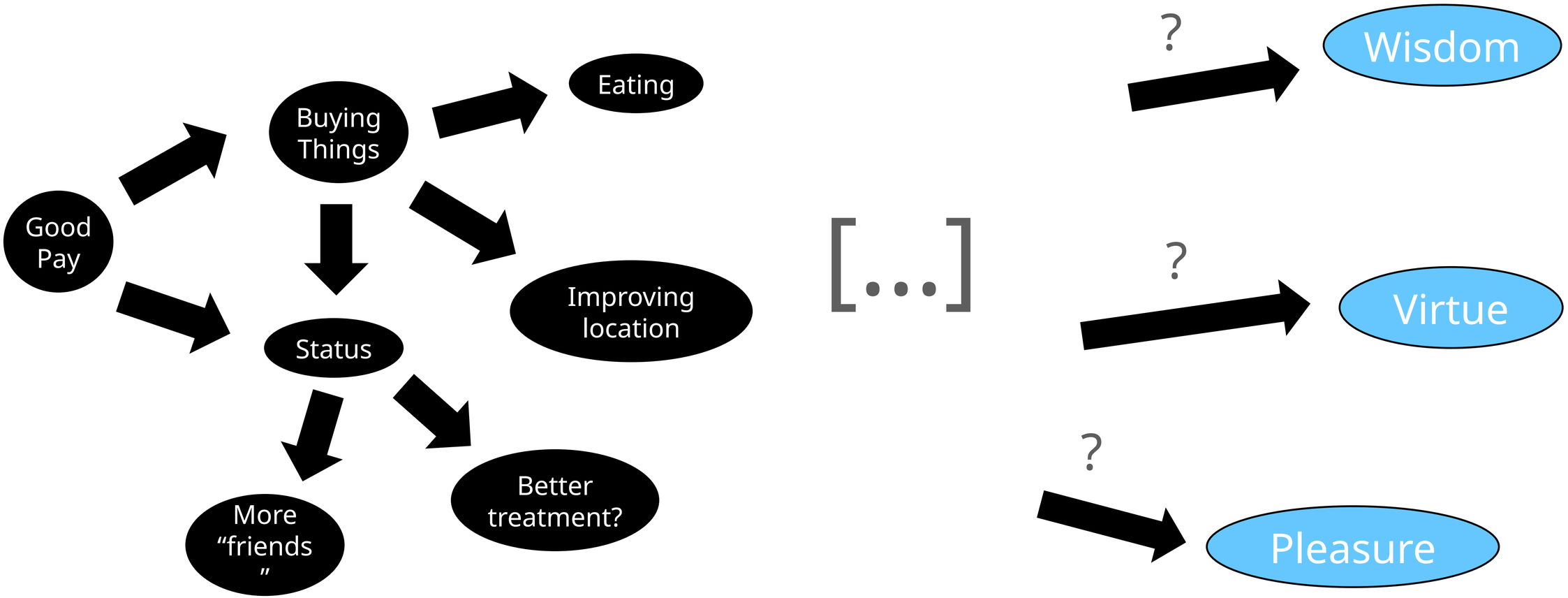
If an activity is intrinsically motivating it motivates in itself – it is enjoyable, stimulating etc.

Extrinsically motivating activities may not be enjoyable but still valyable (“it’s boring, but I do it because it matters to me”)

Things can obviously be motivating without being good.

Extrinsic and Intrinsic

Aristotle: the good life as a directed graph terminating in “intrinsic” goods

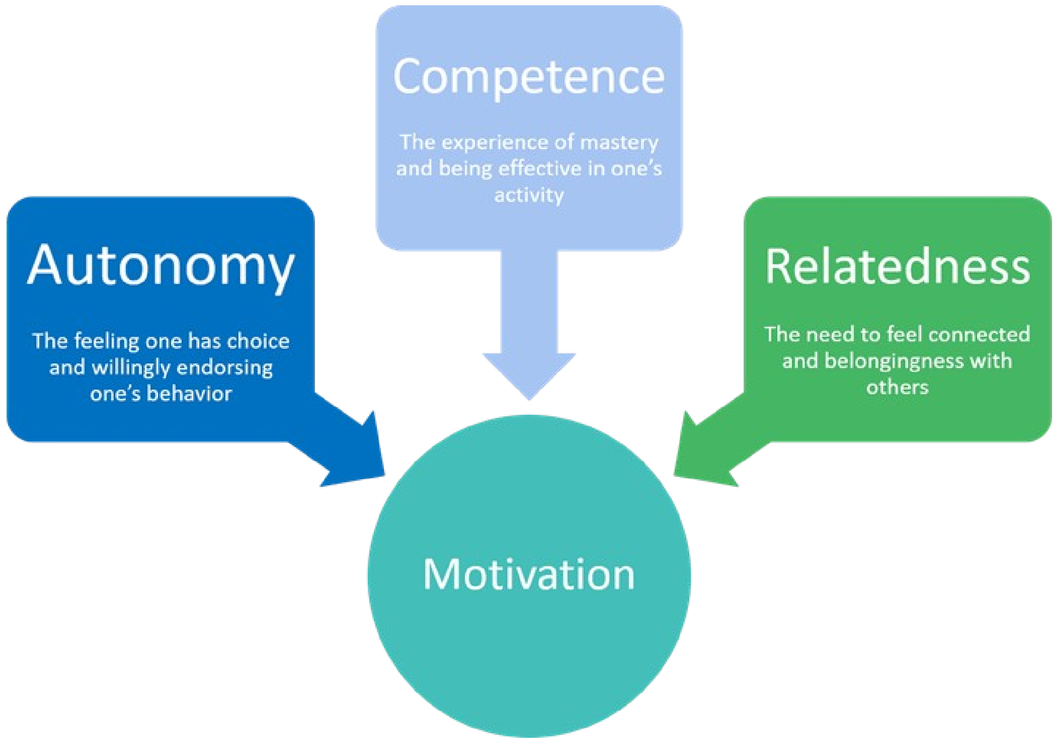


Extrinsic goods

Intrinsic goods

Self Determination Theory

Aristotle as psychology (kind of!)



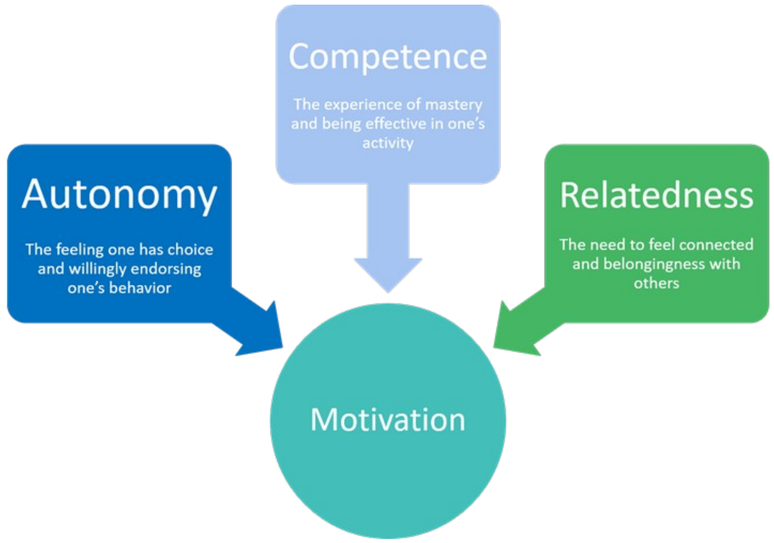
In place of three "intrinsic goods", three "basic needs"

Autonomy

Competence

Relatedness

SDT’s 3 Basic Needs

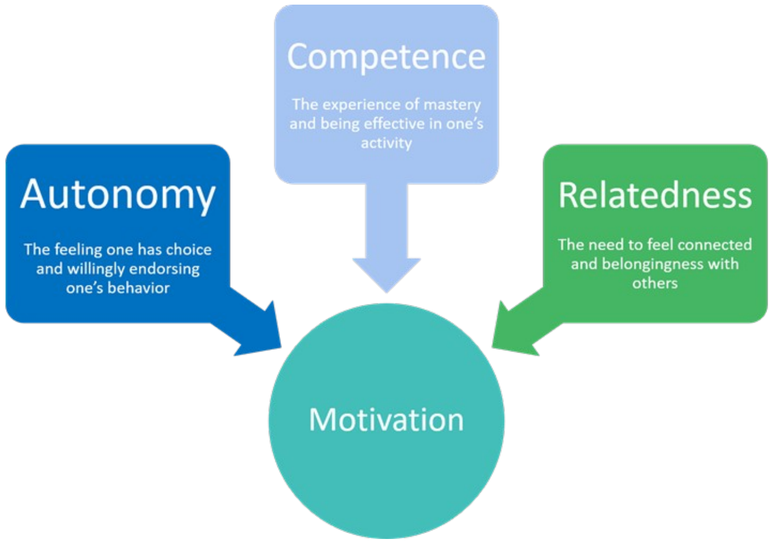


Competence - the need to feel ability and mastery over tasks. Skill, and “efficacy”: the ability to effect change, cope, achieve tasks and goals

Relatedness – the need for connection to other people, sense of belonging and attachment. (Not all social interactions support this!)

Autonomy the need for things to be in line with your goals and values, to determine your own values, and govern your life. NOT JUST INDEPENDENCE!

Supporting the 3 Basic Needs



Competence: Supported by e.g. effective feedback, learning, sense of progress

Relatedness: Supported by e.g. positive connection with loved ones, shared projects, cheerleading by others, ability to help others, feeling of being valued by others

Autonomy: *Relevant* customisation and choice, support for self-reflection, alignment with values and ethics, seeing our own identity and values reflected in the technology/community.

Benefits of Satisfying Basic Needs:

intrinsic motivation

If an activity satisfies basic needs it will be *intrinsically motivating* – interesting and enjoyable in and of itself: (similar to flow states).

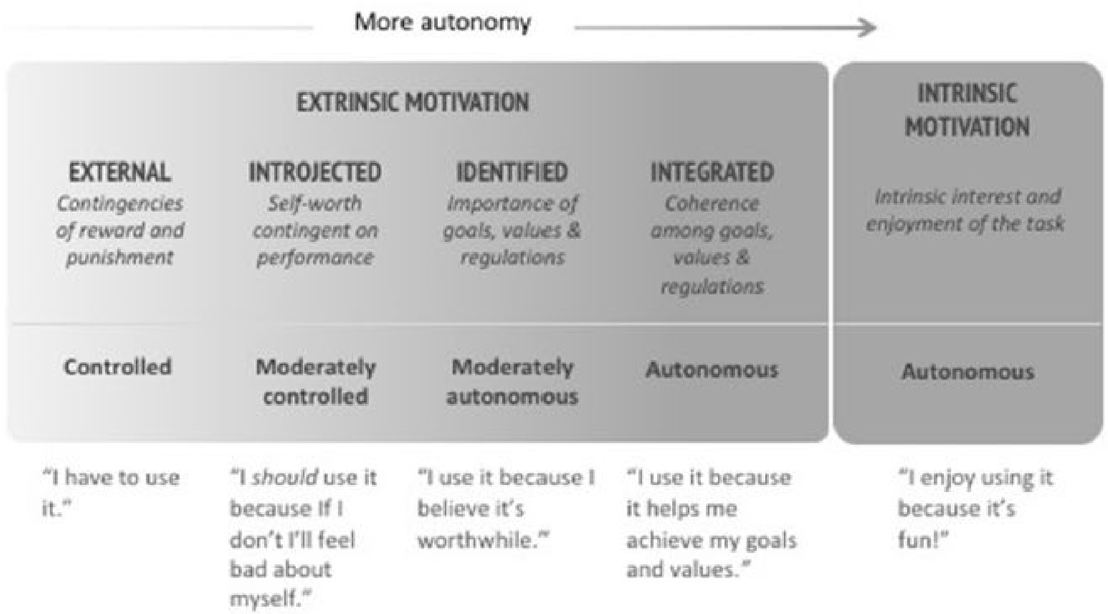
Psychological wellbeing

There is evidence that need satisfaction leads to improved psychological health.
However- be careful. Scale matters! Does 30 minutes of autonomy and competence in a game really make a lasting difference here?

“Extrinsic” motivations ?

After childhood most activities are not *intrinsically* motivating

***Extrinsic* motivations are also important: activities done for some reason outside immediate enjoyment: earning money, acting ethically, learning skills etc.**

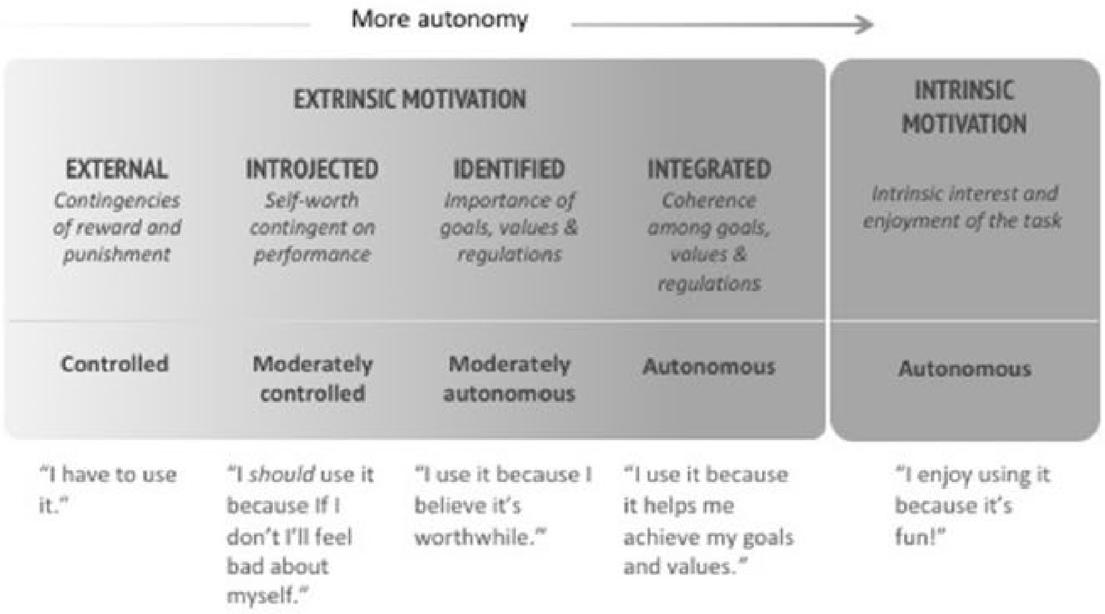


“Extrinsic” motivations ?

Extrinsic motivations can be “controlled” or “internalised”, depending on how well they connect with our identity, goals and values.

When they connect strongly to identity, goals and values they are “internalised”

When they are unrelated to our goals and values then they are “controlled”

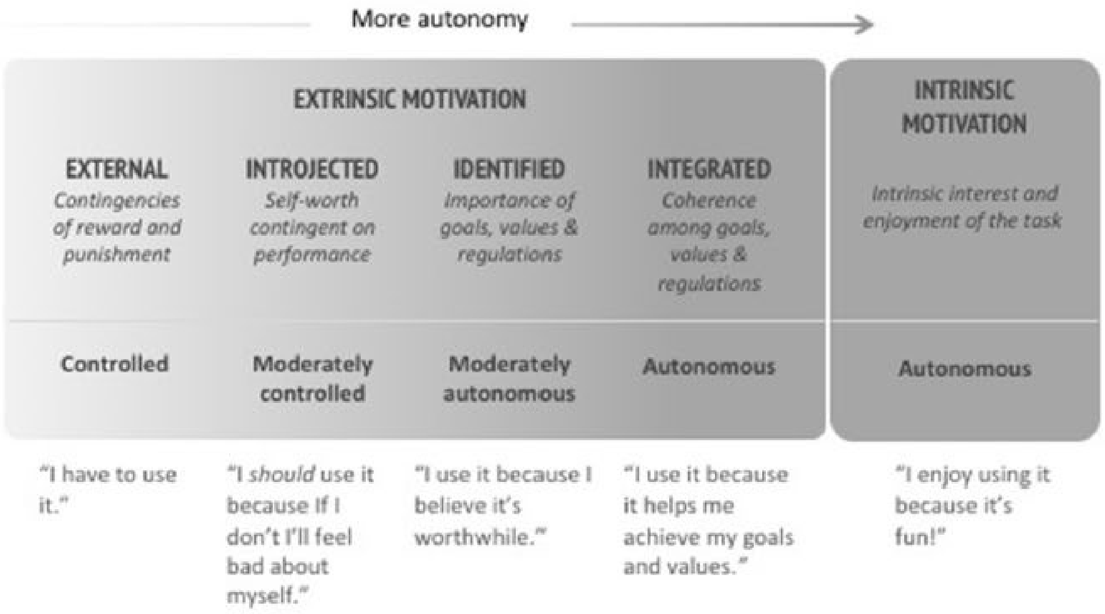


Contexts and activities which satisfy basic needs help us *internalise* the motivation for activities

An Example of Controlling Extrinsic Motivation

“External Motivation” – e.g. *“I just do it for monetary rewards or to avoid punishment”.*
This is controlled. It does not relate the activity itself to our goals and values

This can undermine intrinsic motivation, since it increases external pressure, and distracts from the intrinsic pleasures of the activity



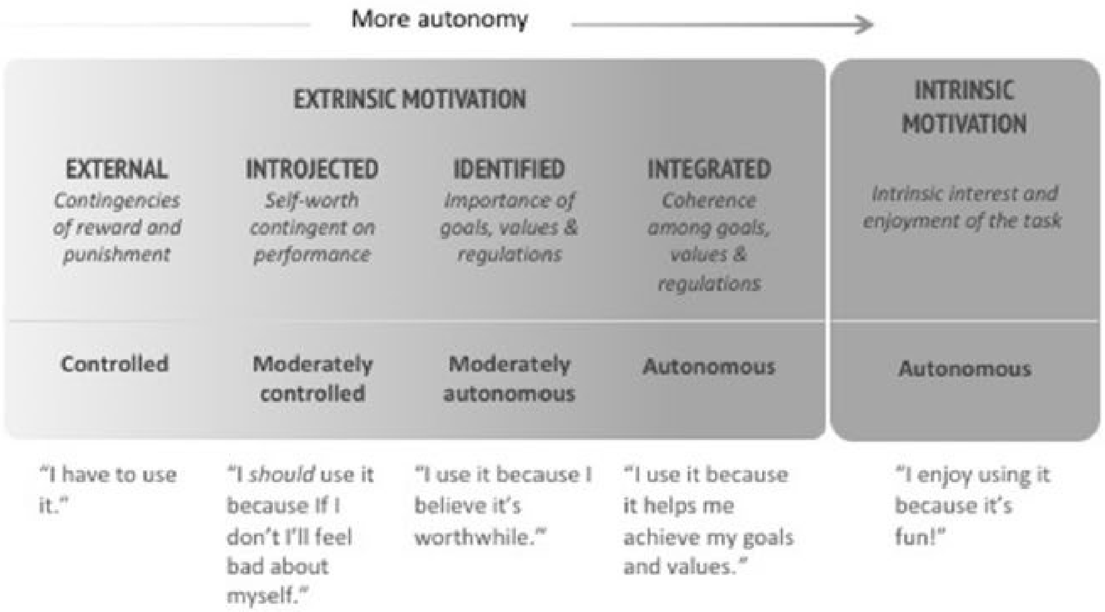
“I run because people make jokes about me being unfit”

An Example of Internalised Extrinsic Motivation

“Integrated Motivation” – *e.g. “I do it because I identify with the activity”*

This is internalised. It has been connected to other sources of meaning and value in our lives.

Situations which make us feel autonomous, competent, related, also help us to internalise the motivation for activities.



“Running is my life! I wear my marathon t-shirt to classes, most of my posts on Instagram are about training, I AM a runner.”

Self Determination Theory in HCI Design

Designing a Fitness Tracker

Or an app to help quit smoking?

Or a game?

- **Avoid external pressure**
- **Avoid (arbitrary) rewards**
- **Informational feedback to support sense of competence**
- **Support connection to others**
- **Help users connect it to their values**
- **Support immediate *intrinsic* motivation**
- **But also help user to *internalise* the activity**