Realizing the Promise and Potential of Gamification

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2022.05.20

PROS

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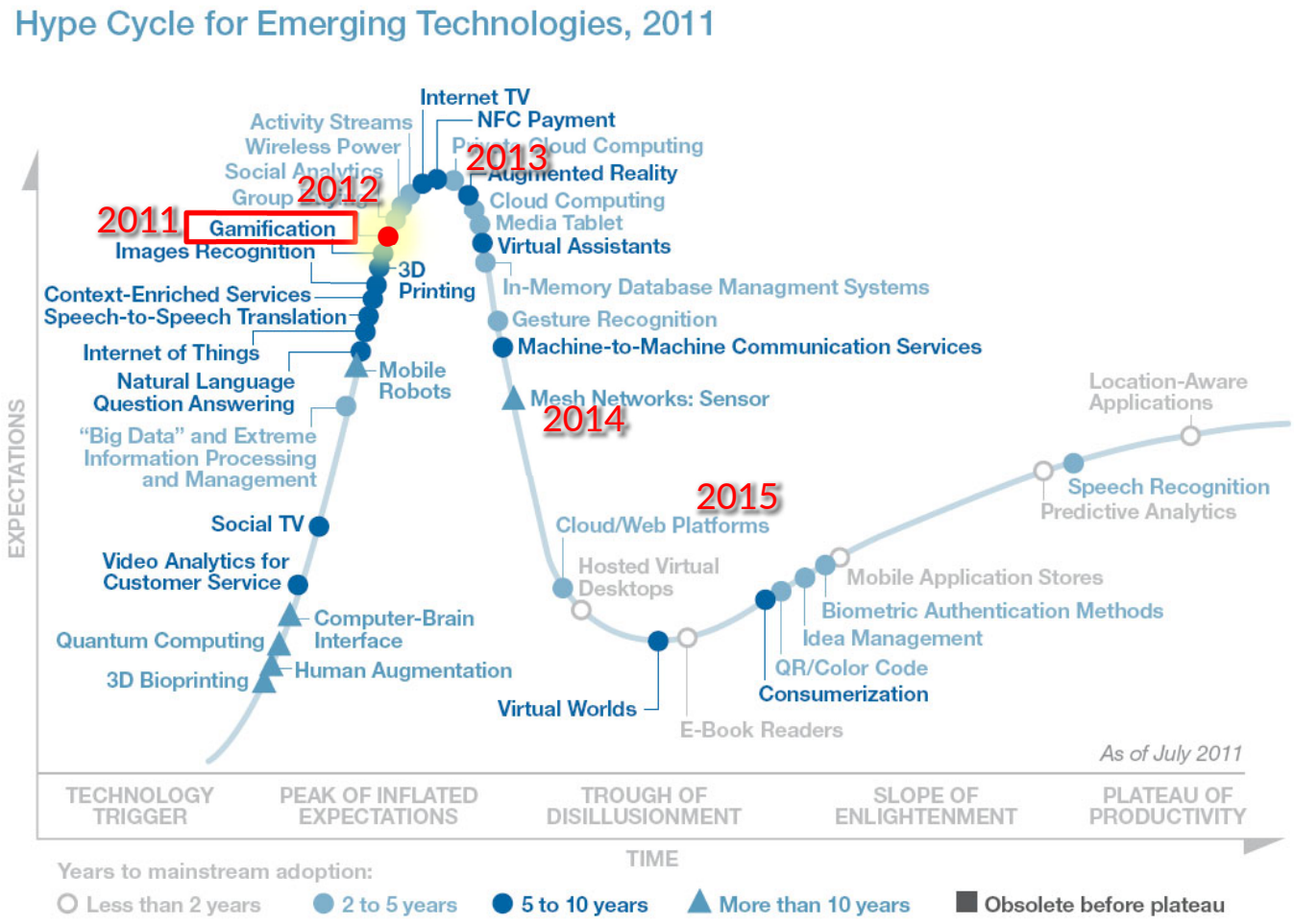
what is gamification?



50%

of orgs that manage innovation process will gamify those process by 2015

70%

of global-2000 orgs will have at least 1 gamification application by 2014

$2.8B

in direct spending on gamification by 2015

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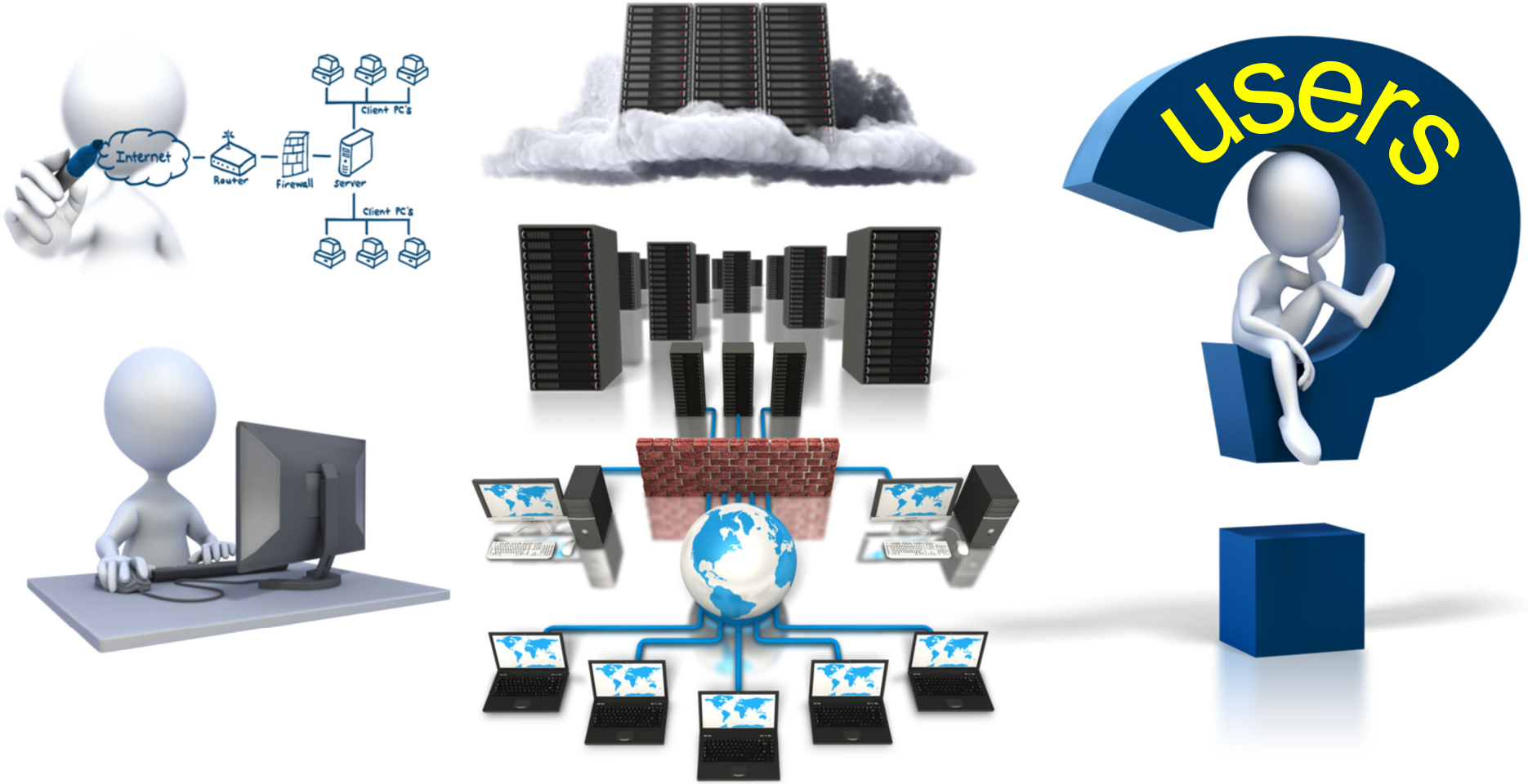
gamification = applied behavioral economics



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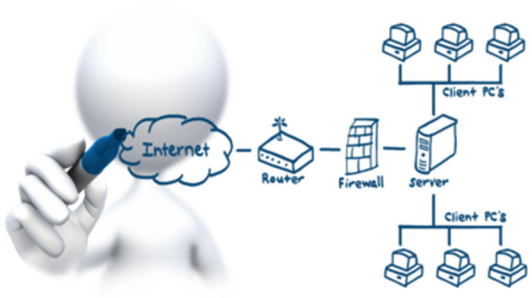
gamification = applied behavioral economics



motivation: why would a user want to click this button

ability: do they have all the needed resources to click it? time, permission, etc.

trigger: is there a call to action?

temporal convergence

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WORLD OF WARCRAFT
WRATH of the LICH KING

gamification sounds easy, but it's not

Gartner

WHY GARTNER ANALYSTS RESEARCH EVENTS CONSULTING ABOUT

Newsroom

Newsroom \ Announcements \ Gartner Says by 2014, 80 Percent of Current Gamified Applica

Press Release Share: Like 14 Tweet 21 Share

STAMFORD, Conn., November 27, 2012

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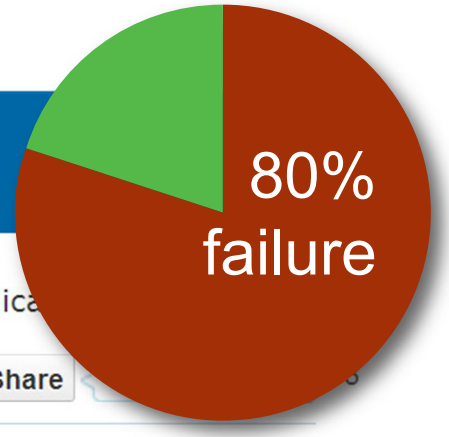
Gartner Says by 2014, 80 Percent of Current Gamified Applications Will Fail to Meet Business Objectives Primarily Due to Poor Design

Analysts Discuss Key Issues During Complimentary Webinar, "Gamification Trends and Strategies to Help Prepare for the Future" on November 28



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ex: hotel or airline loyalty programs

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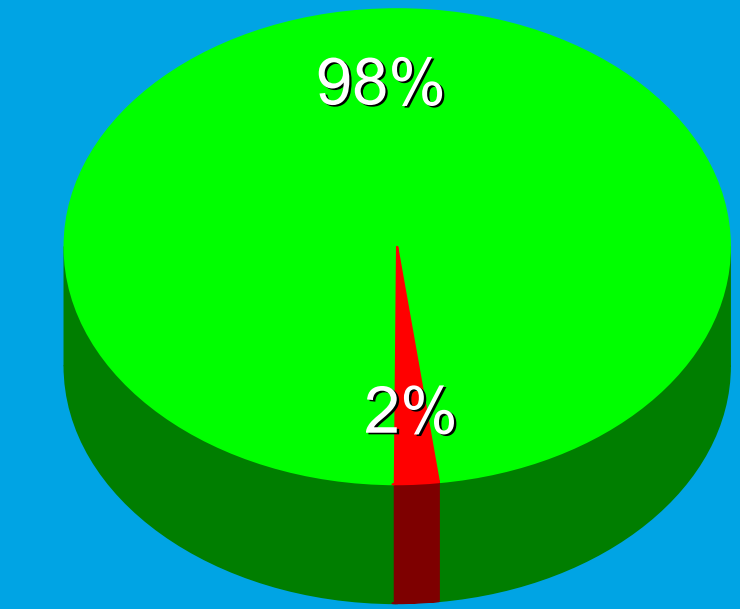

do you participate in any travel based loyalty programs?

(e.g. frequent flyer programs with airlines, hotel reward programs, etc.)

n=1273

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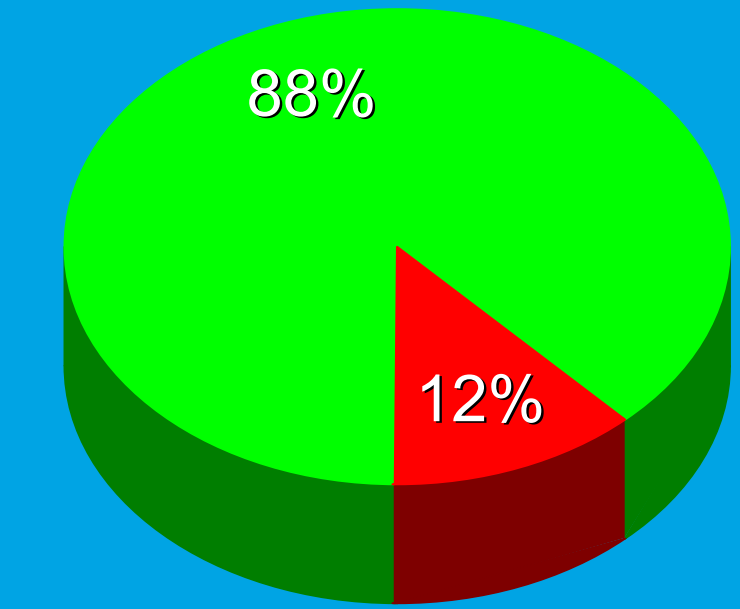

do you have more than one of these programs?

(e.g. with different airlines & hotels)

n=1273

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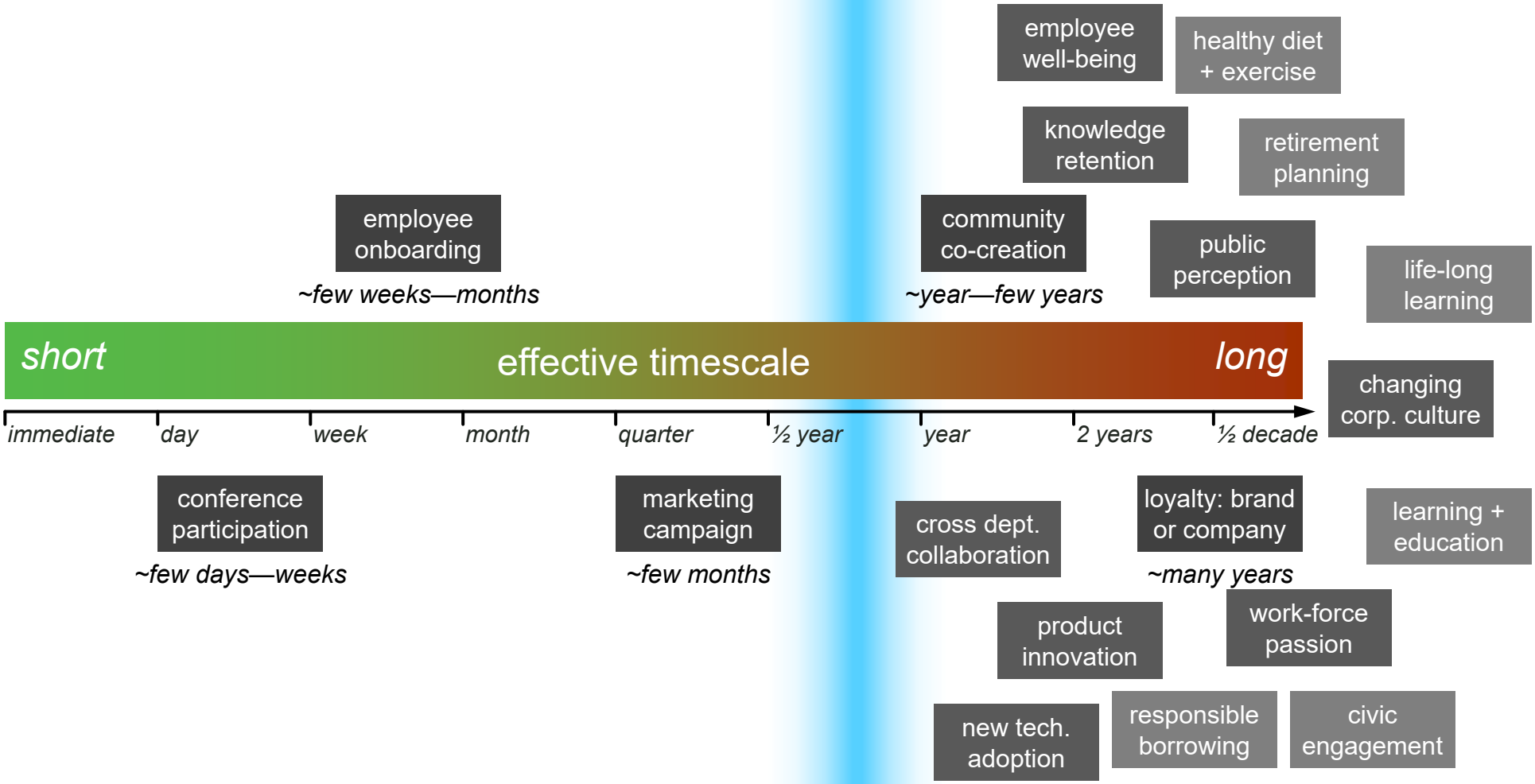
SHORT TERM
LONG TERM

the problem's effective timescale



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in theory

we just need to know the outcome we want to drive with gamification

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business outcome
is the result of a multitude
of human behaviors

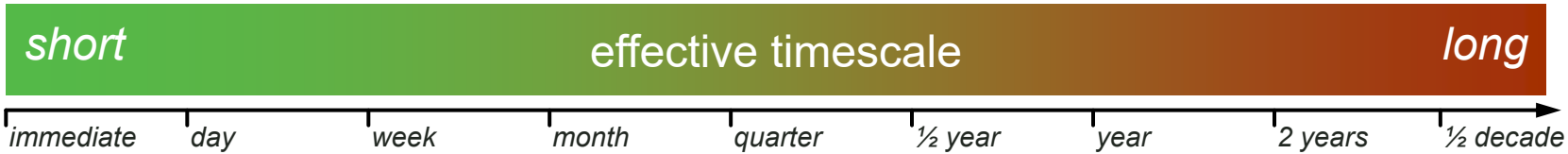
every behavior change involves many granular behaviors

employee onboarding

attend employee training,
get IT + computing access,
watch training videos,
study compliance + regulations,
meet w/ buddy/mentor regularly,
learn to use supporting software,
understand workflow + process,
…

community co-creation

register to join the community,
revisit the community regularly,
ask questions,
answer other's questions,
participate in trending discussions,
give kudos to good discussions,
submit ideas,
vote on interesting ideas,
…



conference participation

arrive venue on time,
attend keynotes,
live-tweet presentations,
share photos,
join breakout sessions,
meet partners,
study vendors offerings, …

marketing campaign

watch the campaign video,
like the video,
share the video,
download whitepaper,
sign up for email promotions,
talk to a rep. to learn more,
visit the product page,
test drive the product, …

loyalty: brand or company

continue doing biz w/ the brand,
refer others to the brand
share brand experiences on social media
defend the brand from irrational attacks
turn down more attractive offers,
respond to surveys,
participate in focus groups, …

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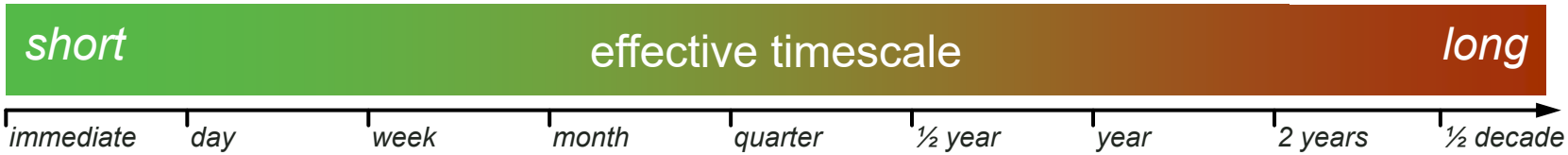
every behavior change involves many granular behaviors

employee onboarding

attend employee training,
get IT + computing access,
watch **15** training videos,
study compliance + regulations,
meet w/ buddy/mentor **1x/week**,
learn to use supporting software,
understand workflow + process,
…

community co-creation

register to join the community,
revisit the community **2x/week**,
ask **1** questions by **end of month**,
answer **3** questions from others,
participate in **1 discussions/month**,
give **5** kudos to good discussions,
submit **1** ideas/quarter,
vote on interesting ideas,
…



conference participation

arrive venue on time,
attend **3** keynotes,
live-tweet presentations,
share **10** photos,
join **5** breakout sessions,
meet **3** partners,
study **3** vendors offerings, …

marketing campaign

watch **5** campaign video,
like **3** video,
share **1** video,
download **2** whitepaper,
sign up for email promotions,
talk to a rep. to learn more,
visit the product page,
test drive the product, …

loyalty: brand or company

repeat biz w/ the brand **over 5 years**,
refer **1** friend to the brand**/year**
share **1** brand experiences on social media
defend the brand from irrational attacks
turn down more attractive offers,
respond to **3** surveys,
participate in **1** focus groups, …

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tenet #1

understand *all* the behaviors you want to drive—in *granular* detail

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software engineers are adept at dealing
with granular details of complex systems

most gamification practitioners

design science

behavior science

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in theory

use behavior science (psychology, behavior econ, etc) to design behaviors drivers

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gamification through a different lens

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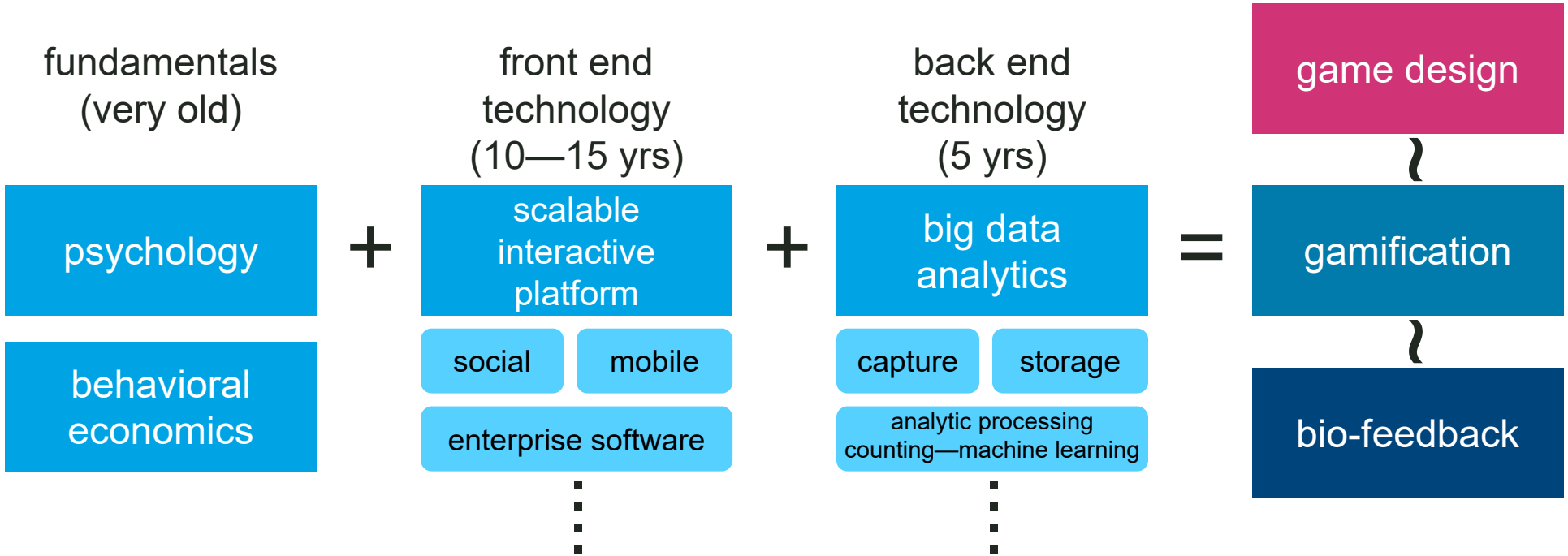
gamification from a different lens



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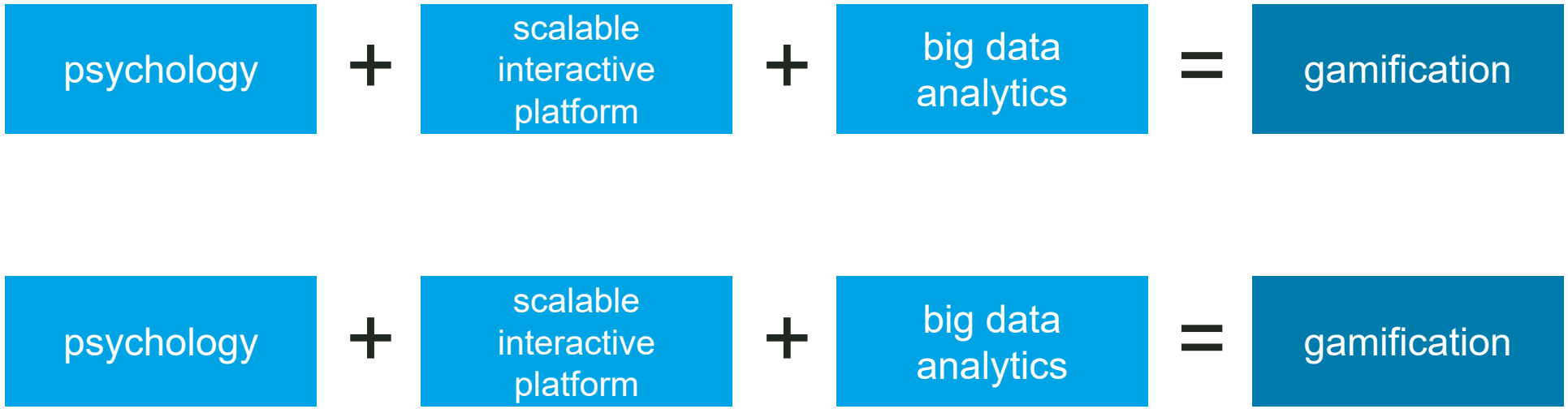
gamification from a different lens



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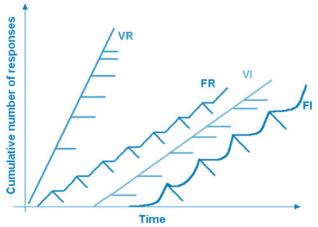
gamification from a different lens

psychology + scalable interactive platform + big data analytics = gamification

Maslow: hierarchy of needs

Watson + Skinner: conditioning



Ryan+Deci: self-determination
Festinger: cognitive dissonance
Heider: attribution theory
Fishbein + Ajzen: reasoned actions
Bandura: self-efficacy theory

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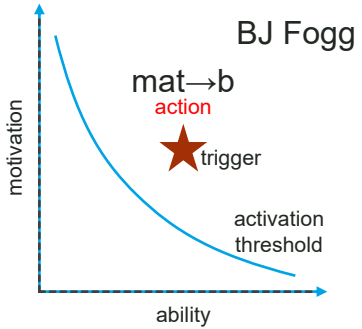

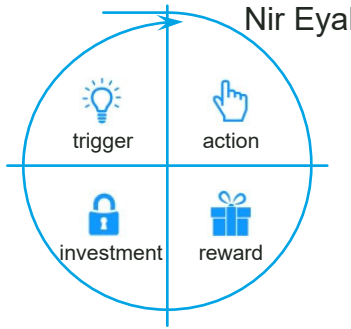

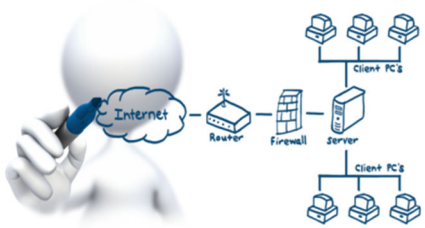

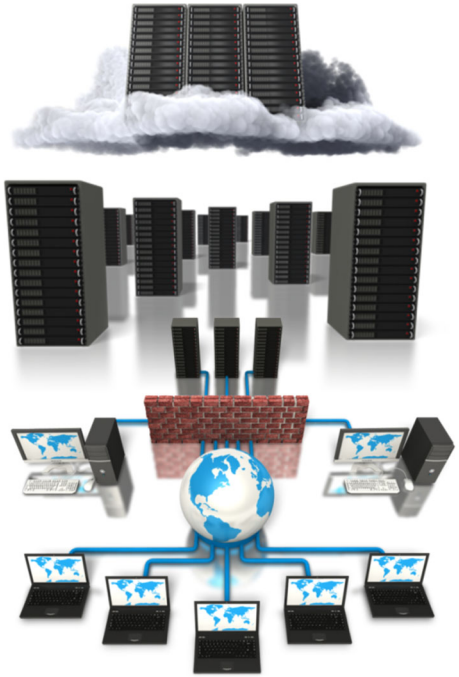

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gamification is really a big data discipline

requires a lot of data:
for feedback/reinforcement

understand player behaviors,
intrinsic motivation, cheating
etc.

fairly reward players
compare player performance
etc.

track all
player behaviors

drive desired
player behaviors

generates a lot of data:
from the driven behaviors

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gamification is really a big data discipline

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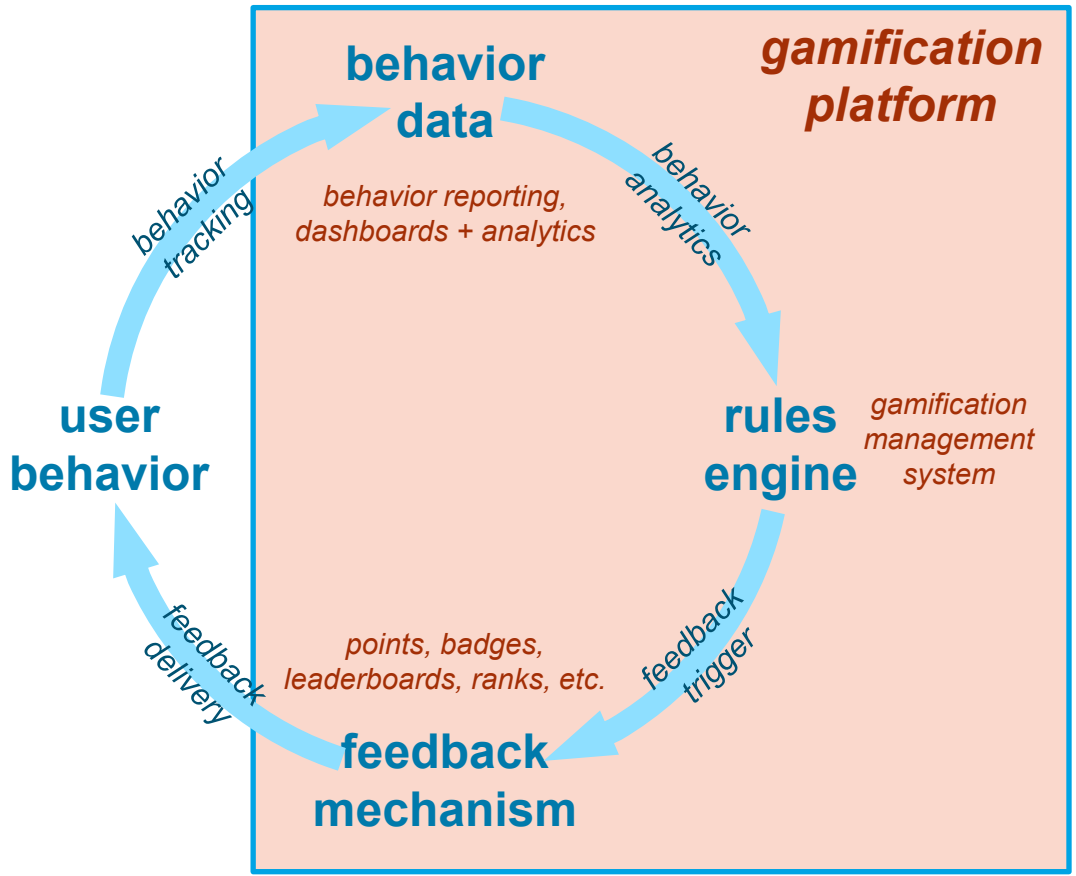
components of gamification system



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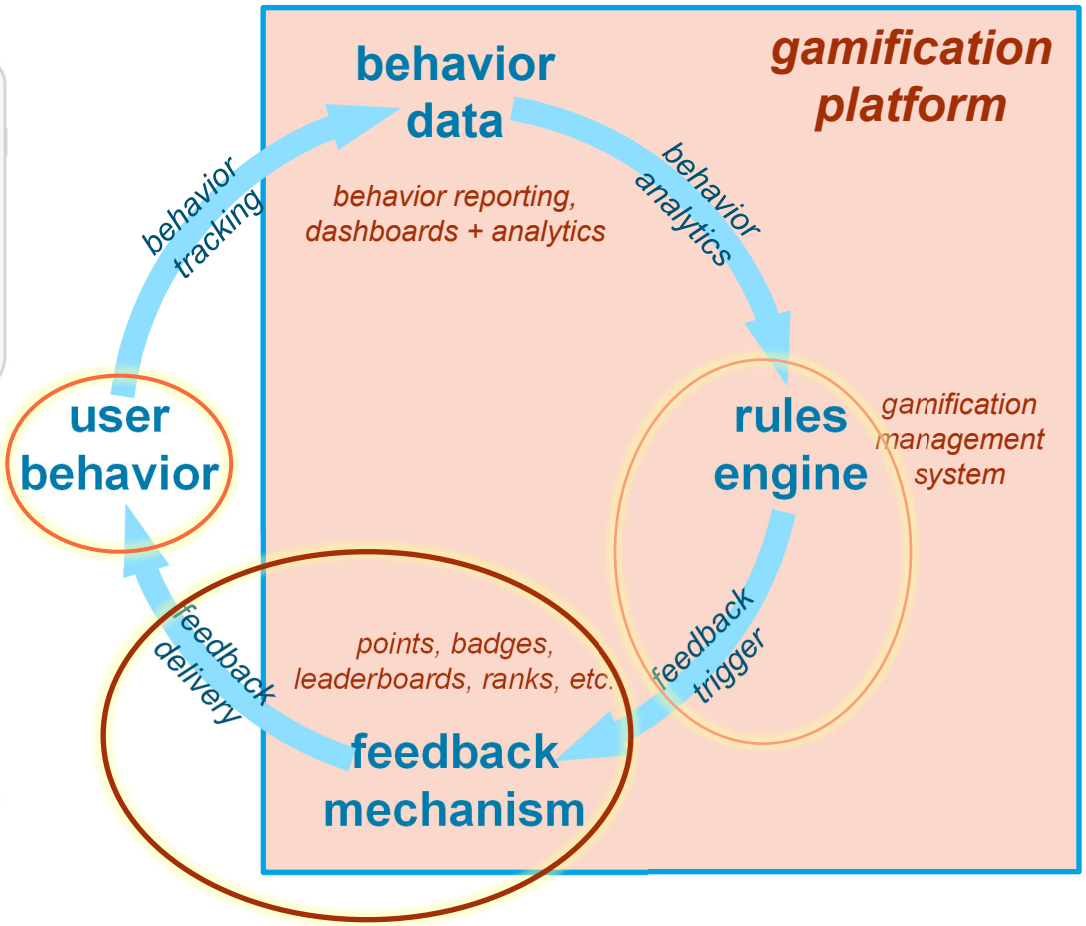
where did the industry focus?



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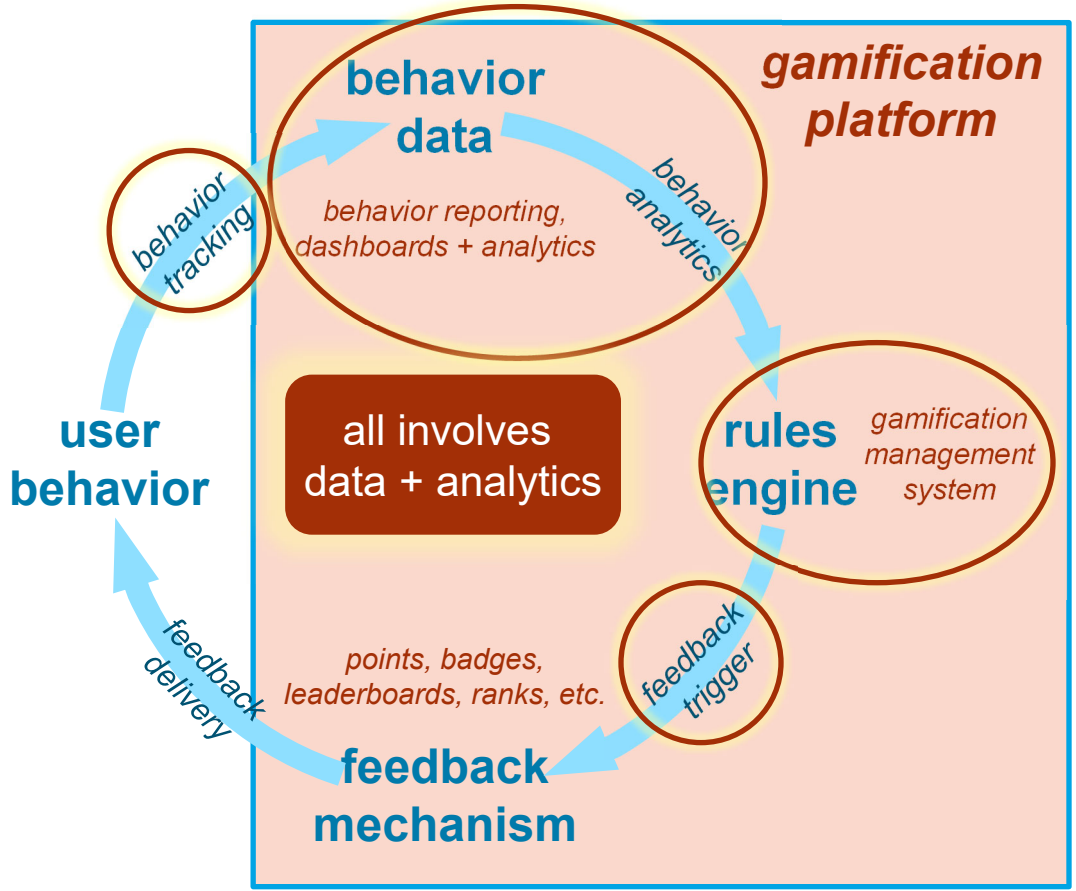
opportunities for advancement



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what behavior(s) can gamification drive?

any behavior(s) that you can measure and track accurately

- data science + stats → measurement
- technology → tracking large scale

and feedback to the users reliably and effectively

- tech + design → reliable feedback
- behavior science → effectiveness

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tenet #2

you can’t change a behavior that you don’t measure

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software engineers have more background
and training to be successful in data science

Mihaly Csikszentmihalyi: flow

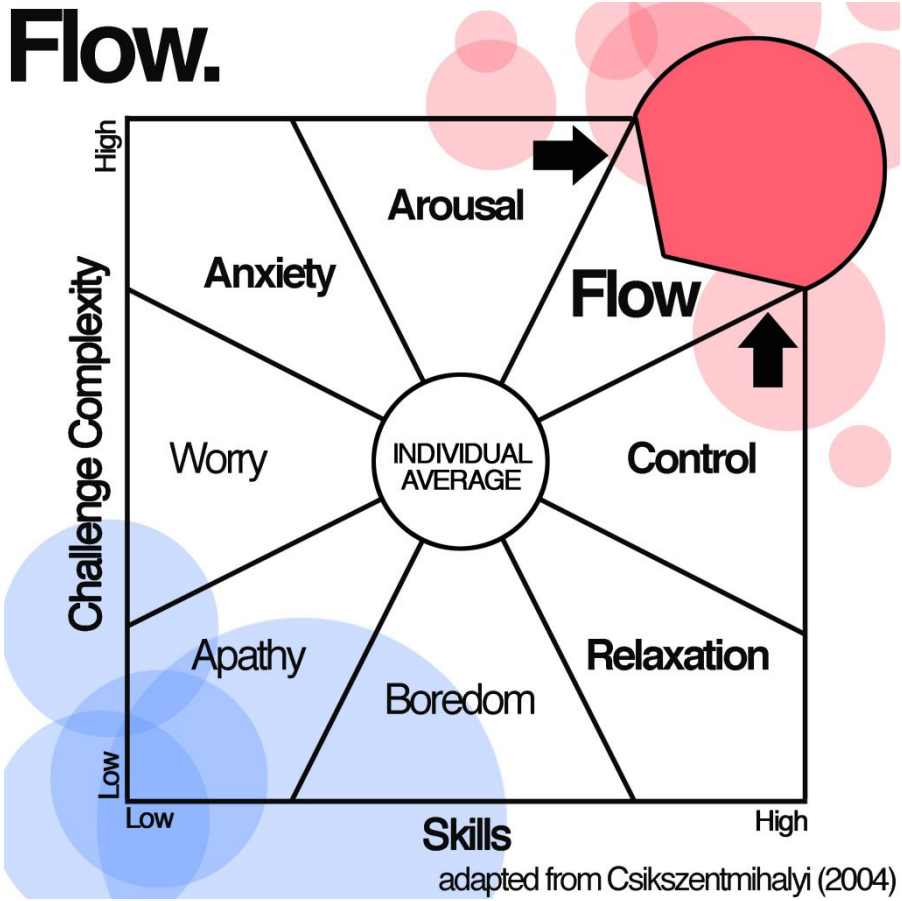
flow: an optimal state of intrinsic motivation

- forget about physical feelings (e.g. hunger, sleep), passage of time, and their ego

skill ~ challenge → flow

certainty vs. uncertainty

- people love the **control** state
- hate the **boredom** state
- like **arousal**
- dislike **worry**



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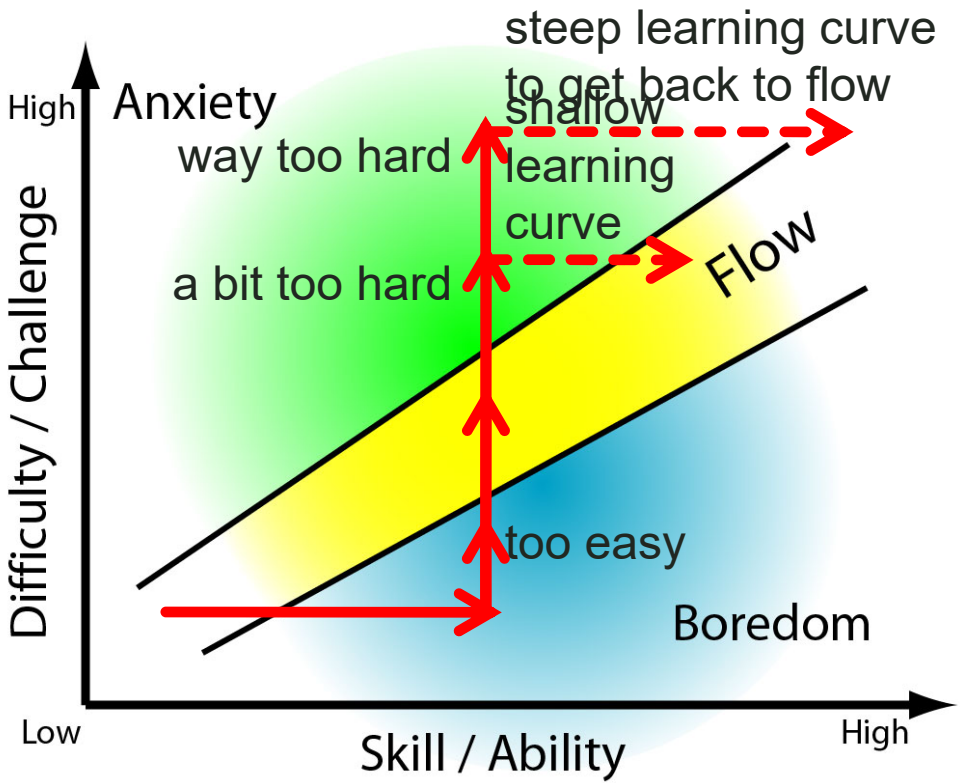
Mihaly Csikszentmihalyi: Flow

people acquire skills over time → move into the boredom state

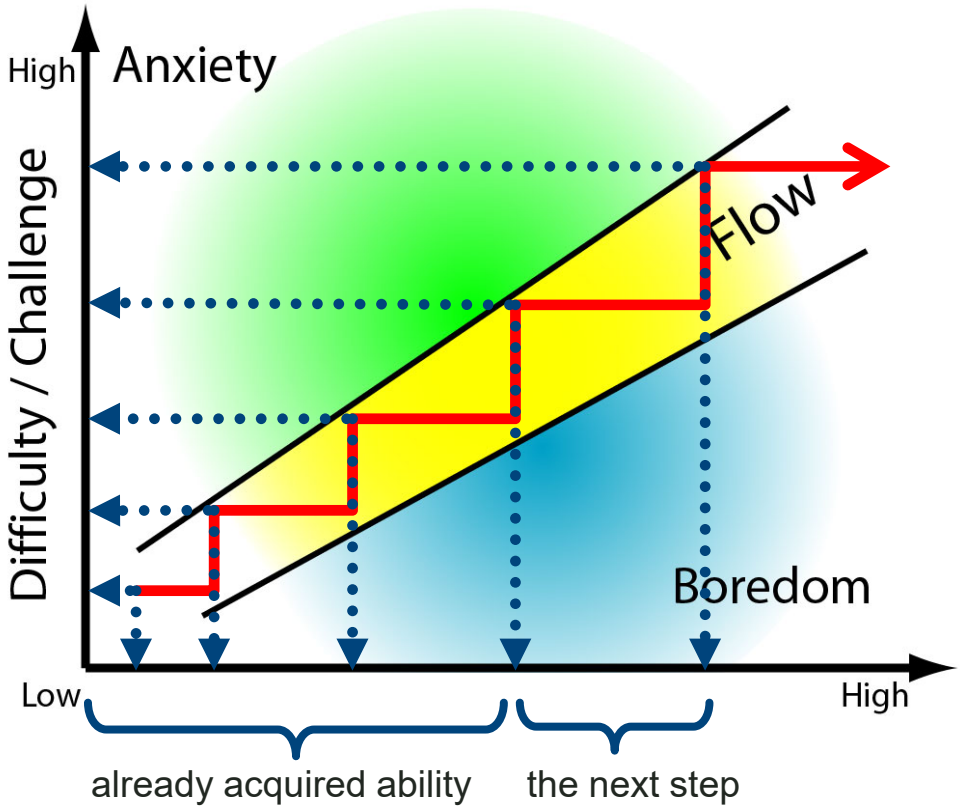
we are motivated by challenges, surprises, and varieties, to avoid boredom

- IRL matching challenge to people's skills exactly is hard
- they are either too easy (boring) or too hard (frustrating)



getting to flow

games → habit formation ≈ behavioral addiction



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in theory

we want to keep the player in the flow zone, but how do we do this in practice?

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typical level-up criteria

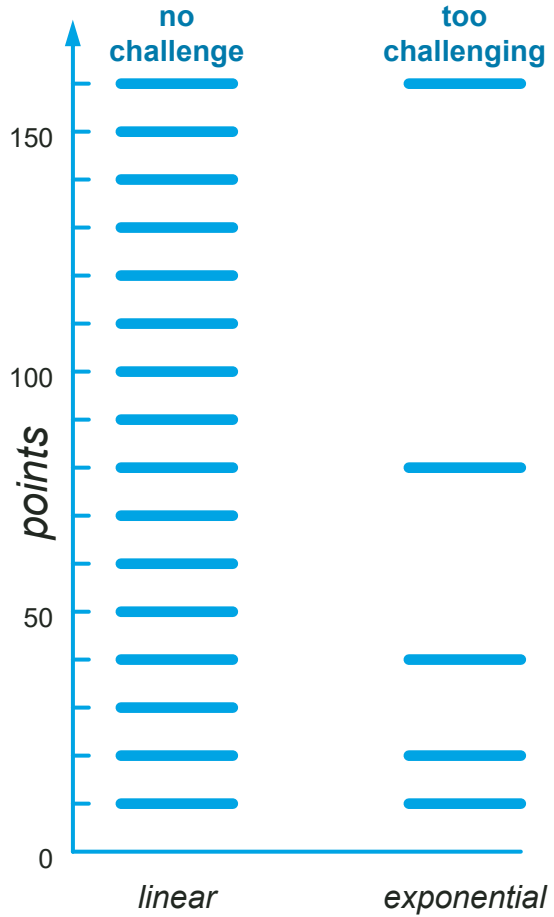
linear—arithmetic progression

- 10, 20, 30, 40, 50, etc… (fixed difference between levels)
- example: United Airline

2016 Qualification requirements Applies to qualifying activity for status through the following Program year	PQM (and PQD for U.S. residents)		PQS (and PQD for U.S. residents)
To reach Premier Silver	25,000 (and $3,000)	or	30 (and $3,000)
To reach Premier Gold	50,000 (and $6,000)		60 (and $6,000)
To reach Premier Platinum	75,000 (and $9,000)		90 (and $9,000)
To reach Premier 1K®	100,000 (and $12,000)		120 (and $12,000)

exponential—geometric progression

- 10, 20, 40, 80, 160, 320, etc… (fixed ratio between levels)
- example: many out of the box gamified software (apps) use this type of progression



a better level-up criteria

linear—arithmetic progression

- 10, 20, 30, 40, 50, etc… (fixed difference between levels)
- example: United Airline

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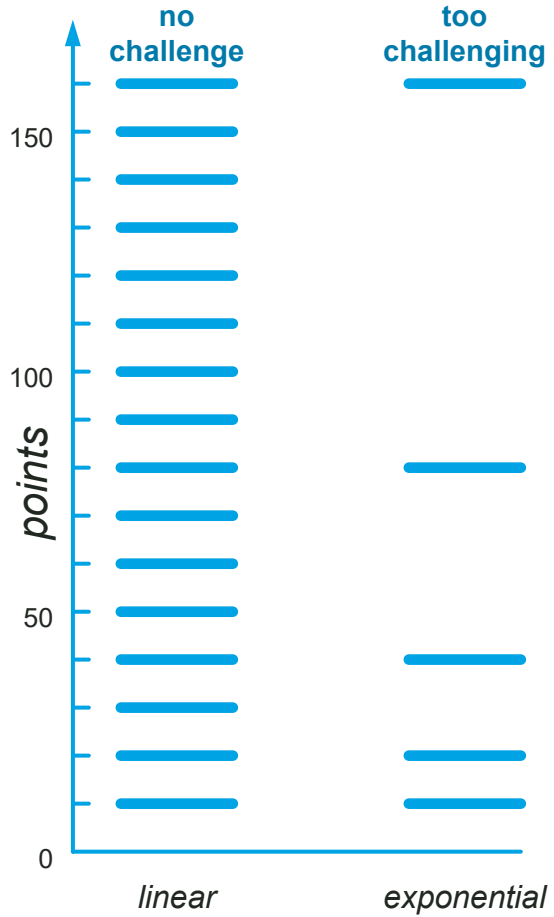

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a better level-up criteria

linear—arithmetic progression

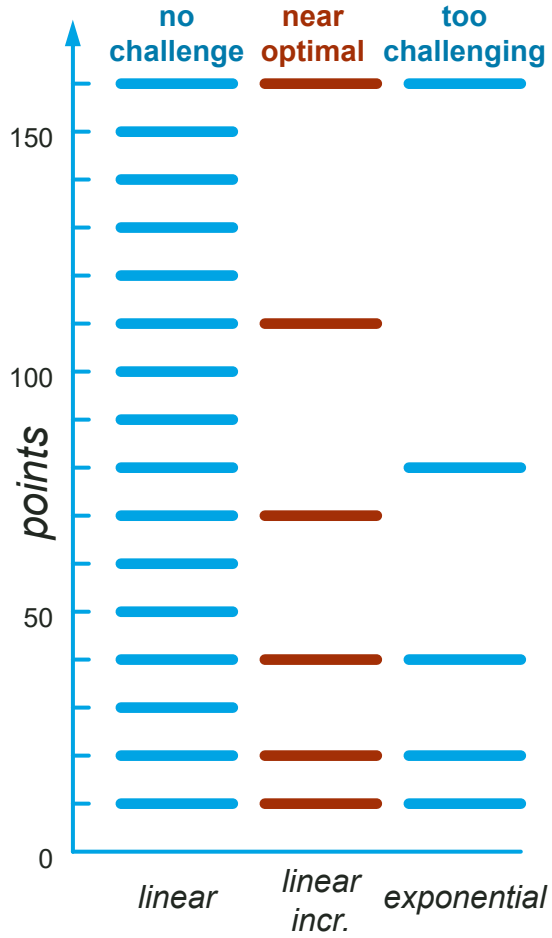
- 10, 20, 30, 40, 50, etc… (fixed difference between levels)
- example: United Airline

exponential—geometric progression

- 10, 20, 40, 80, 160, 320, etc… (fixed ratio between levels)
- example: many out of the box gamified software (apps) use this type of progression

near optimal progression—linear increment

- 10, 20, 40, 70, 110, 160, etc…
- the increment (or the difference between levels) is linear 10, 20, 30, 40, 50



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the linear increment formulae

you determine

- c — the criteria to achieve top level
- n — how many levels do you want to have

the formula for near-optimal leveling criteria to get to top level is $c(n) = \frac{d}{2}(n + n^2)$

fixing United's loyalty program

- c = 100,000 miles for top level 1K
- n = 4 levels

2016 Qualification requirements Applies to qualifying activity for status through the following Program year	PQM (and PQD for U.S. residents)	
To reach Premier Silver	25,000 (and $3,000)	$c(1) = 5000 \cdot (1 + 1) = 10\text{k}$
To reach Premier Gold	50,000 (and $6,000)	$c(2) = 5000 \cdot (2 + 4) = 30\text{k}$
To reach Premier Platinum	75,000 (and $9,000)	$c(3) = 5000 \cdot (3 + 9) = 60\text{k}$
To reach Premier 1K®	100,000 (and $12,000)	$c(4) = 5000 \cdot (4 + 16) = 100\text{k}$

1. solve the formula for d:

2. compute near-optimal leveling criteria:

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tenet #5

level up in baby steps towards your goal

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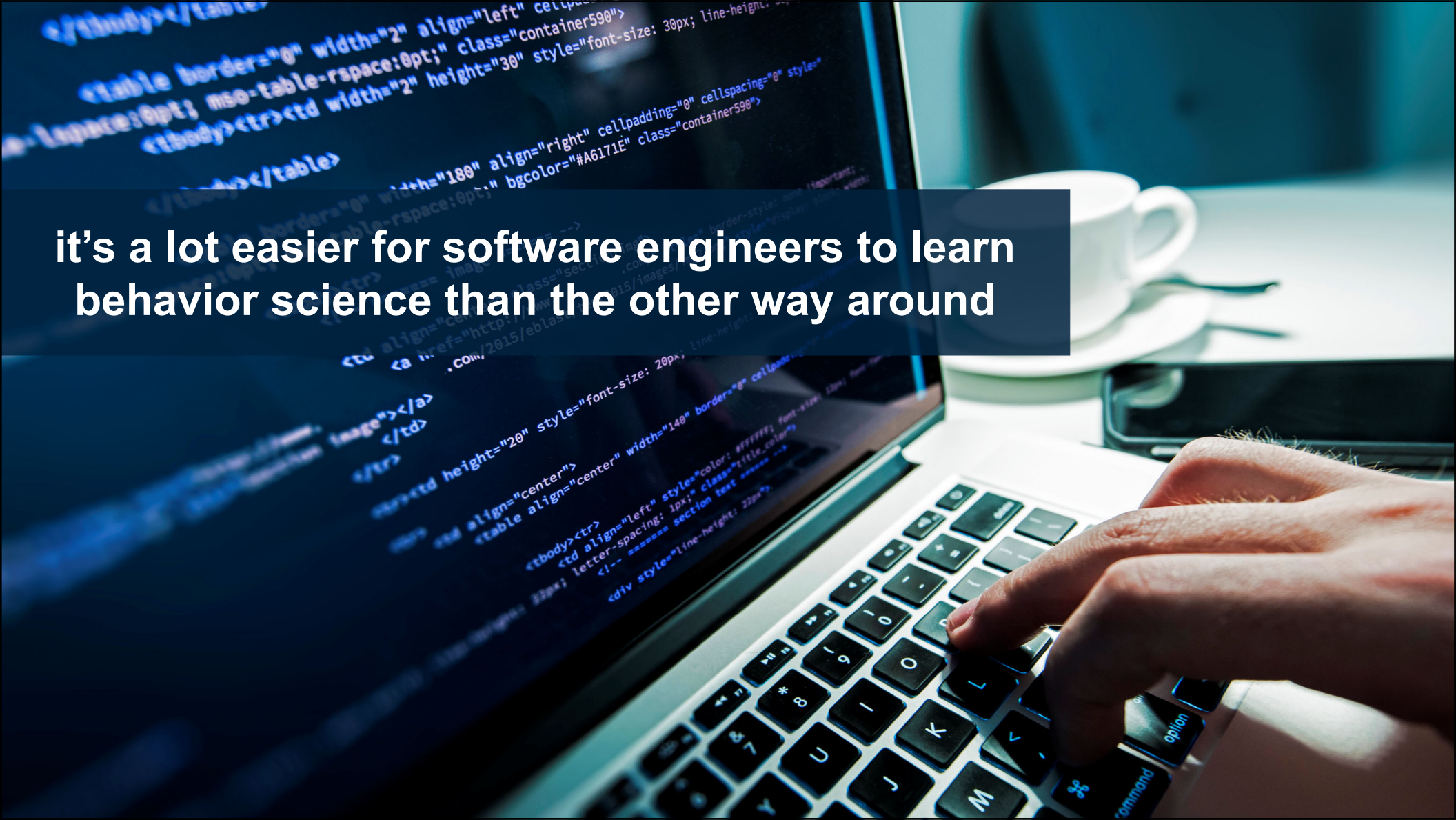
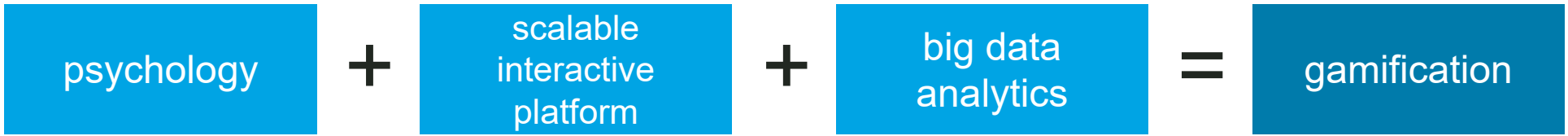

it’s a lot easier for software engineers to learn behavior science than the other way around

gamification from a different lens



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scalable
interactive
platform
psychology
big data
analytics