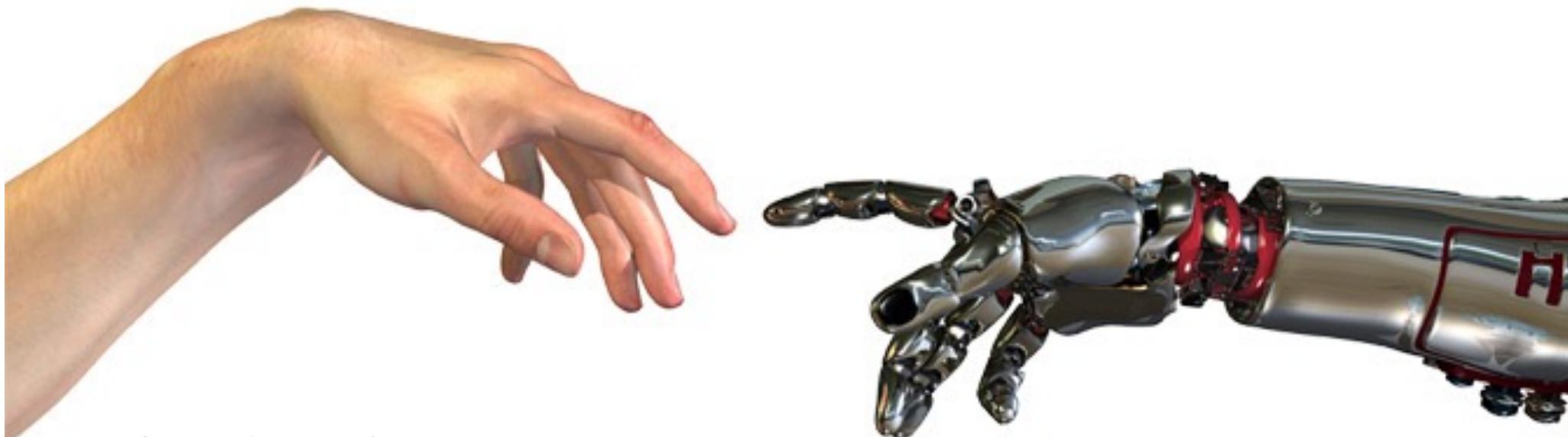


HUMAN-COMPUTER INTERACTION

UNIVERSAL PRINCIPLES OF HUMAN-COMPUTER INTERACTION DESIGN

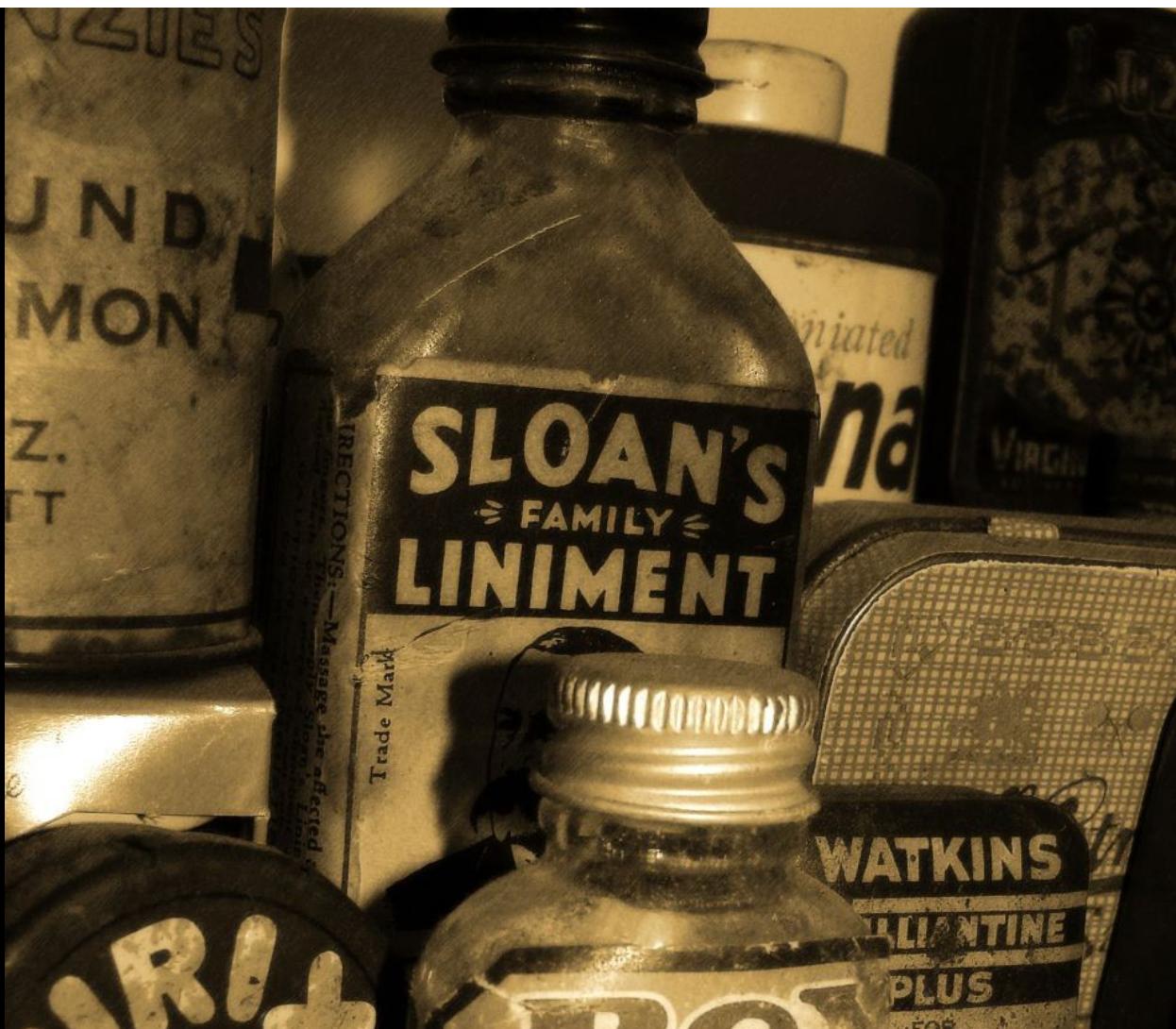


OBJECTIVES

Persuasive Technology – Gamification Part II

1.) *Designing Gamification*





It's become a bit of a cure all for
engagement problems...

"80 Percent of Current Gamified Applications Will Fail to Meet Business Objectives Primarily Due to Poor Design"

Gartner Press Release

<http://www.gartner.com/newsroom/id/2251015>

And then there is poor design...



@hugh

So is there a secret ingredient?

What exactly is it that most current gamification proponents are missing? Are there some »secret ingredients«, or is it all just snake oil 2.0?

Gamification: The Dark Side

- Focus only on extrinsic rewards
- Poor game flow & design
- Faking intrinsic value

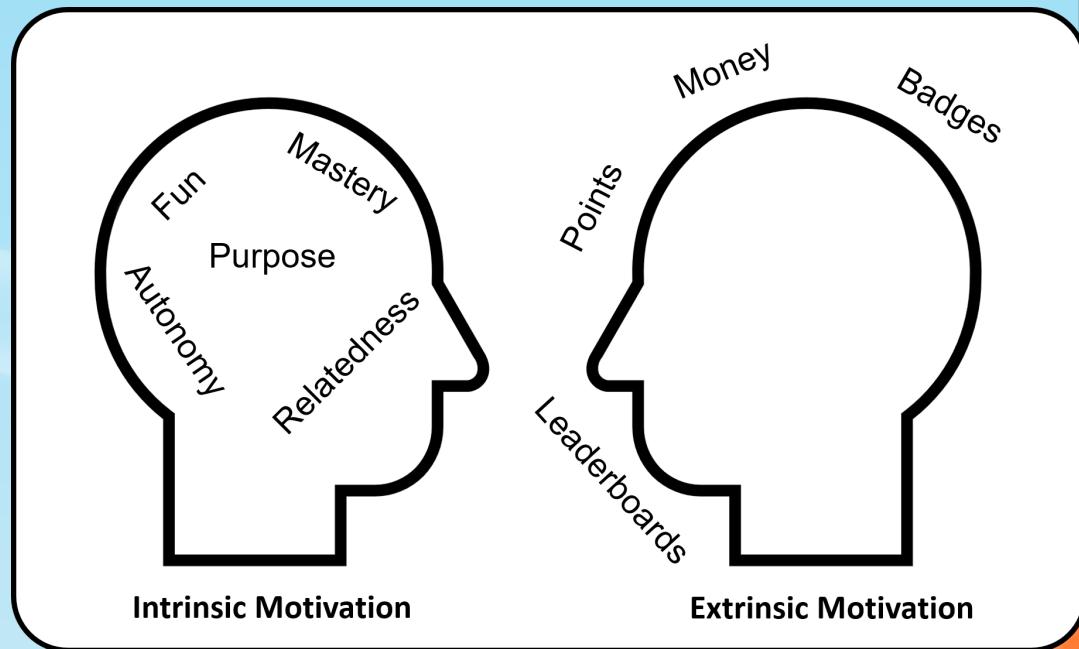


Designed by @DanBenoni

Gamification + Engagement

Q: “What’s better?
Intrinsic... or
Extrinsic?”

A: **Both**. Align intrinsic motivation with extrinsic rewards (S.A.P.S.) = Status, Access, Power, Stuff.



Gamification + Engagement

“ You **CAN'T** cheat the intrinsic value of something by adding game mechanics...
...but you **CAN** change the context to make it more engaging.







1

Meaning

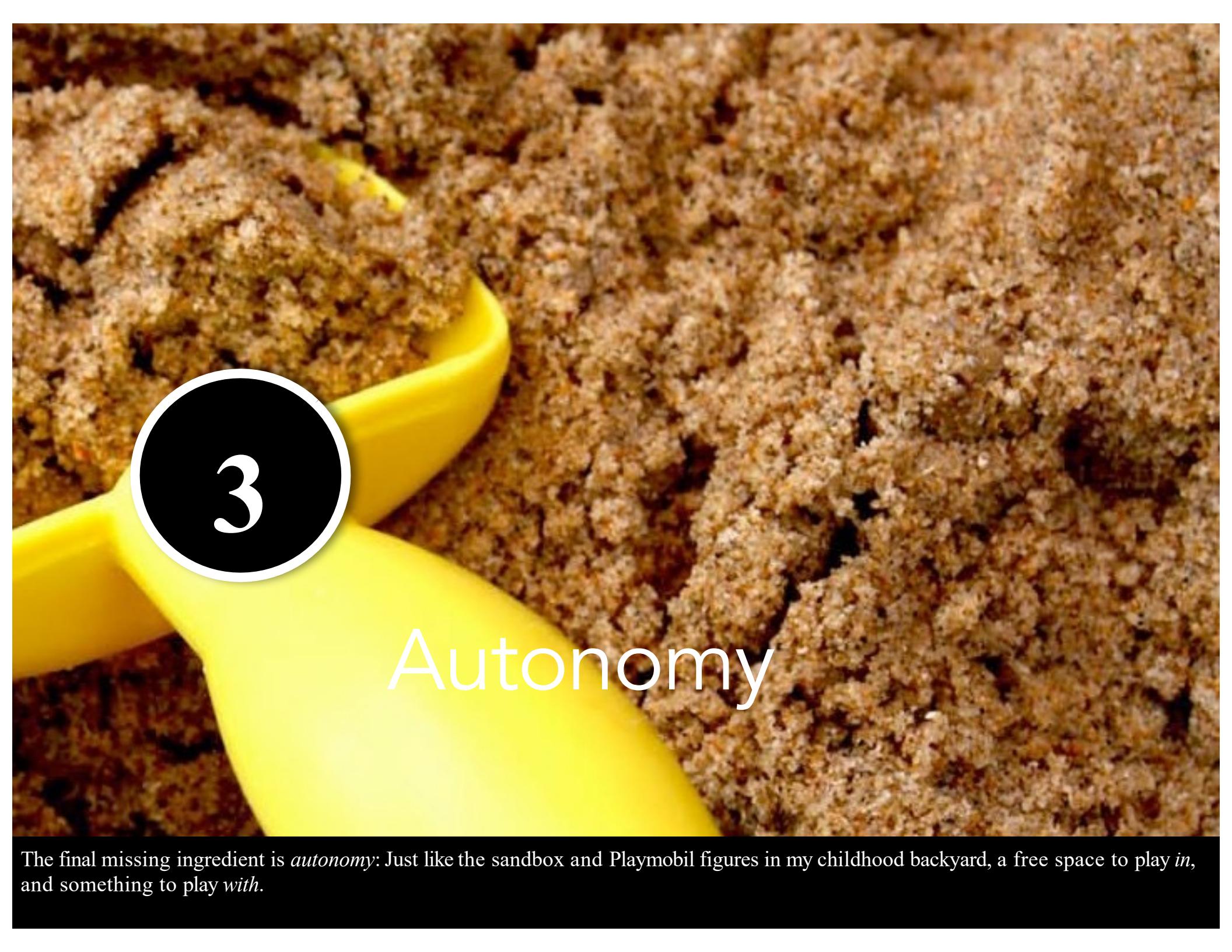
The first one is *meaning*. To be effective, gameified applications have to connect to something that is already meaningful to the user – or wrap themselves in a story that makes them meaningful, as in the case of the walk home from school.



2

Mastery

The second missing ingredient is *mastery*: The experience of being competent, of achieving something – like mowing a lawn. It turns out that this experience is at the core of what makes any good game fun and engaging.

A close-up photograph of a yellow plastic shovel partially buried in brown sand. The shovel's handle is visible on the left, and its metal blade is partially submerged in the sand. The sand has a textured, granular appearance.

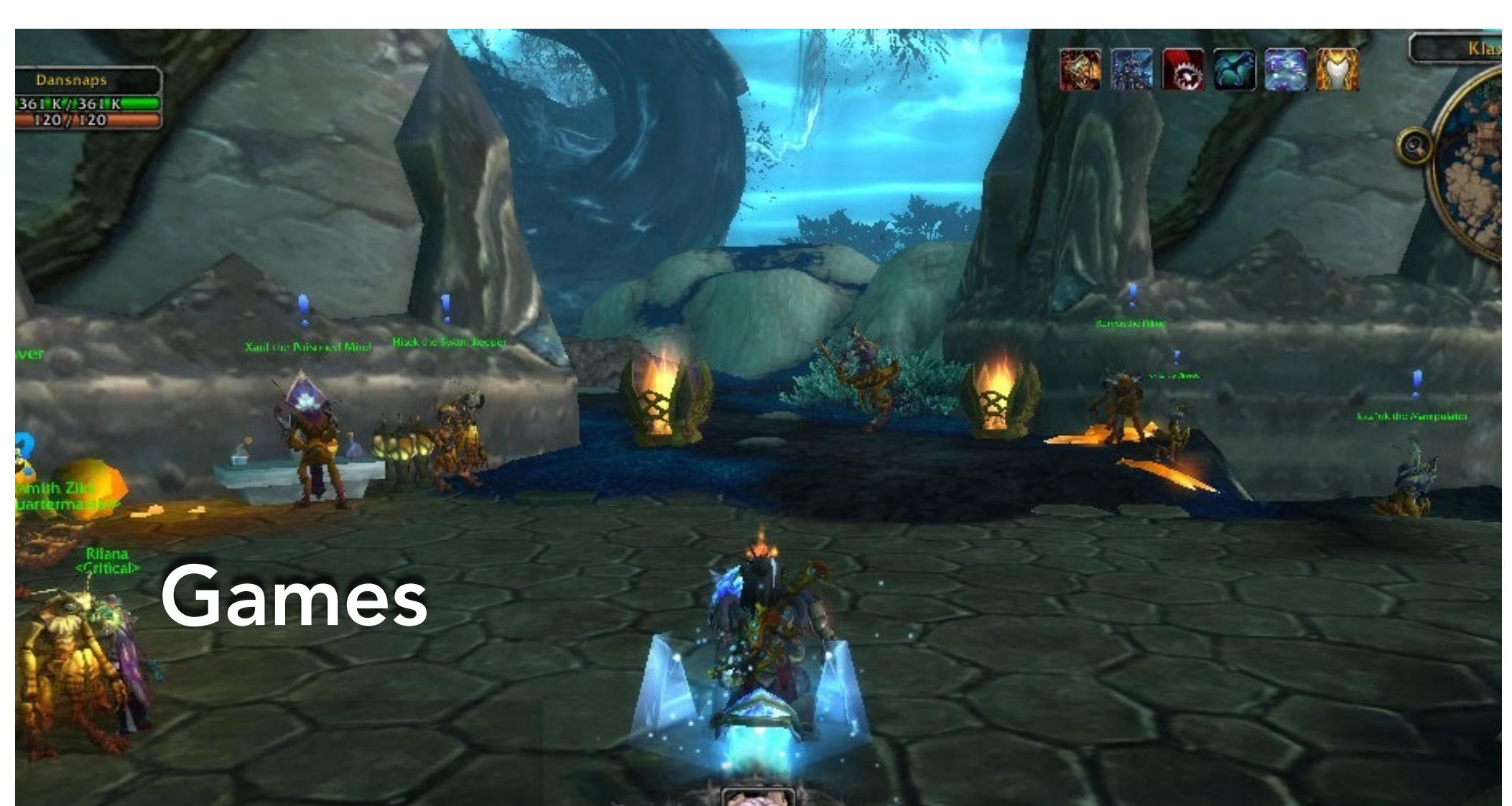
3

Autonomy

The final missing ingredient is *autonomy*: Just like the sandbox and Playmobil figures in my childhood backyard, a free space to play *in*, and something to play *with*.

Gamification

To understand it...



Games

...we have to go back to its roots.



The average gamer?



Is a young, nerdy male who plays video games (often violent) all by themselves right?

Um, not so much ...

Video games have become **mainstream**

The average gamer is 34 years old.

(And 43% of people aged 51 or older are also gamers)

Women Play Video Games. Can We Cut The Sexist Crap Now?



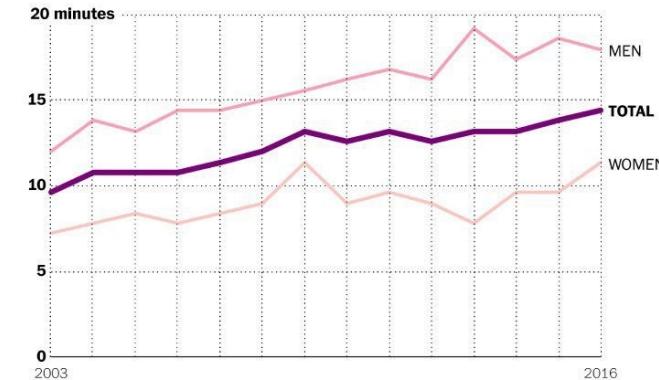
By Taylor Casti



TIM MACPHERSON VIA GETTY IMAGES

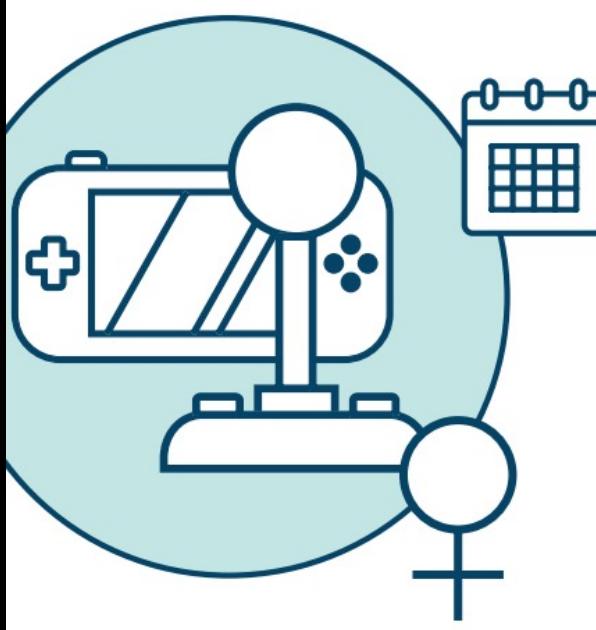
Gaming time rises by 50 percent

Average time spent playing video or board games on an average day by an average American



WAPO.ST/WONKBLOG

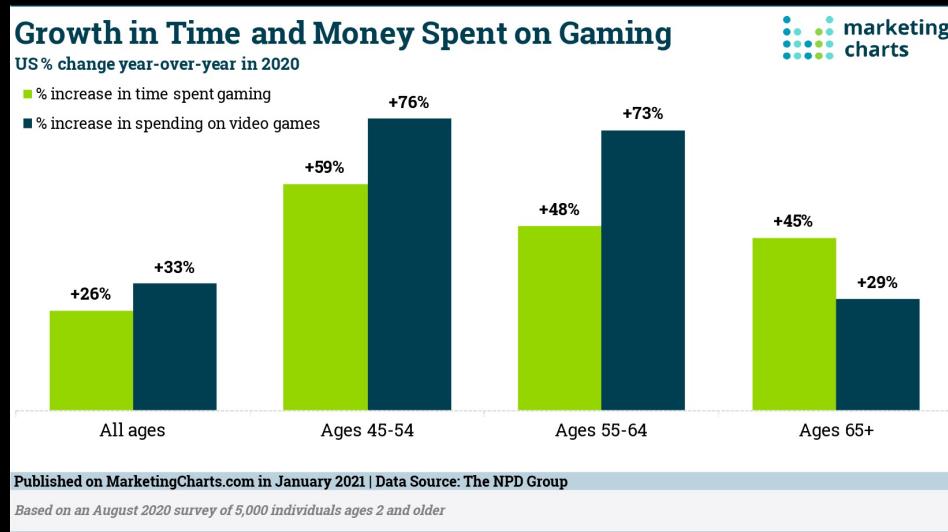
Source: American Time Use Survey, US Census Bureau



The average **female** video game player is **36**, and the average **male** video game player is **32**.

45% of US gamers are women.

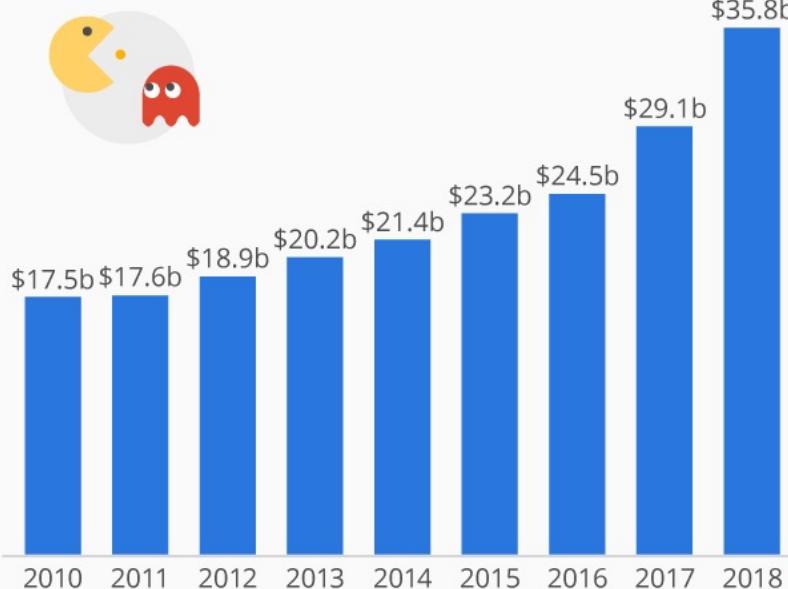
Video games have become **big business**



Americans Spent \$43 Billion on Video Games in 2018

Consumer spending on video game content, hardware and accessories in the U.S.

Video game content spending



- Total video game spending
- \$35.8b Content
- \$5.1b Hardware
- \$2.4b Accessories*



Video games have become **mobile**



Devices Owned by Gamers

73%

own a
game console

43%

own a
handheld
system

29%

own a
VR device

25%

own a
mobile
VR device



Most Common Devices Used for Video Game Play Among Adult Players

61%

smartphone

52%

game
console

49%

personal
computer

Video games have become **social**



65%

of video game players play with others

17%
team/guild/
clanmates/
“online only”
friends of
all types

7%
parents

24%
other family
members

42%
friends

27%
spouse/
partner

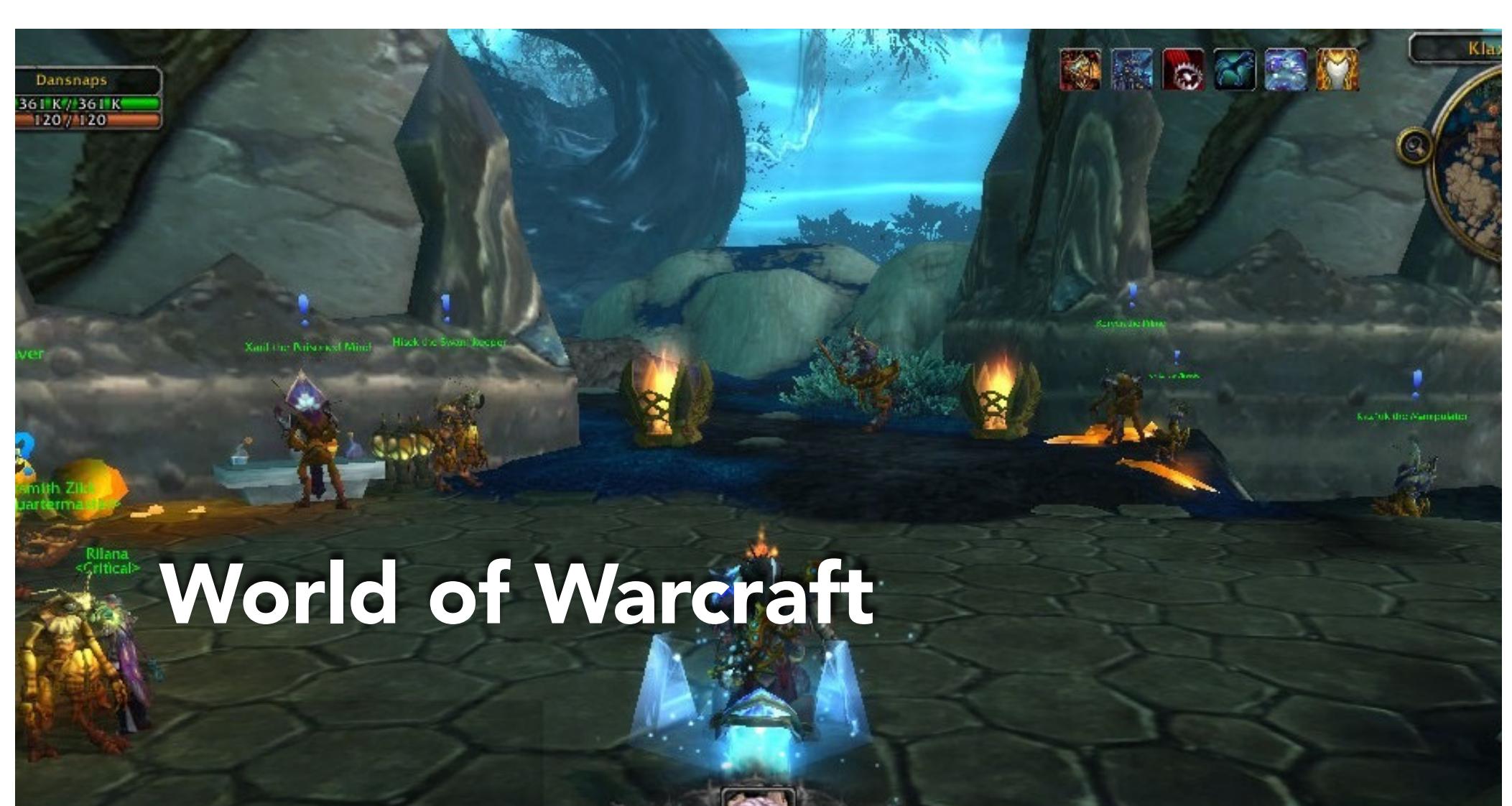


**Adult video game
players spend...**

6.6 HOURS
a week playing
with others online

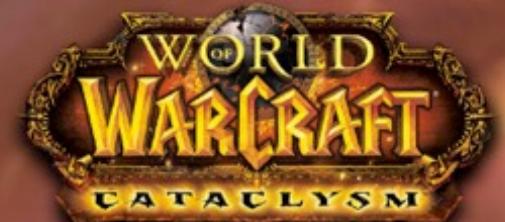
4.3 HOURS
a week playing with
others in person

Games are incredibly engaging



World of Warcraft

One of the most engaging games out there
was this one.



ALLIANCE



Horde



Male



Warrior



Orc

- May enraged to increase damage.
- Resistant to stun effects.
- Damage done by pets increased.
- Increased expertise with Axes and Fist weapons.

The orc race originated on the planet Draenor. A peaceful people with shamanic beliefs, they were enslaved by the Burning Legion and forced into war with the humans of Azeroth. Although it took many years, the orcs finally escaped the

WARRIOR

- Role: Tank, Damage
- Heavy Armor (Mail / Plate and Shield)

You create a character...

Accept

Back

Randomize



...and then embark on quests and adventures in the world with other players.



You get quests.

GAMES SPOT

Kill 3 boars

Like this one.

Loc: Durotar (52, 70)

XP/hr this session: 0 Time to level: N/A

2 54 27

Bags: 3/16

Durability: 100%



You go off and complete them.





And then get a reward.

Wait... this is just like work

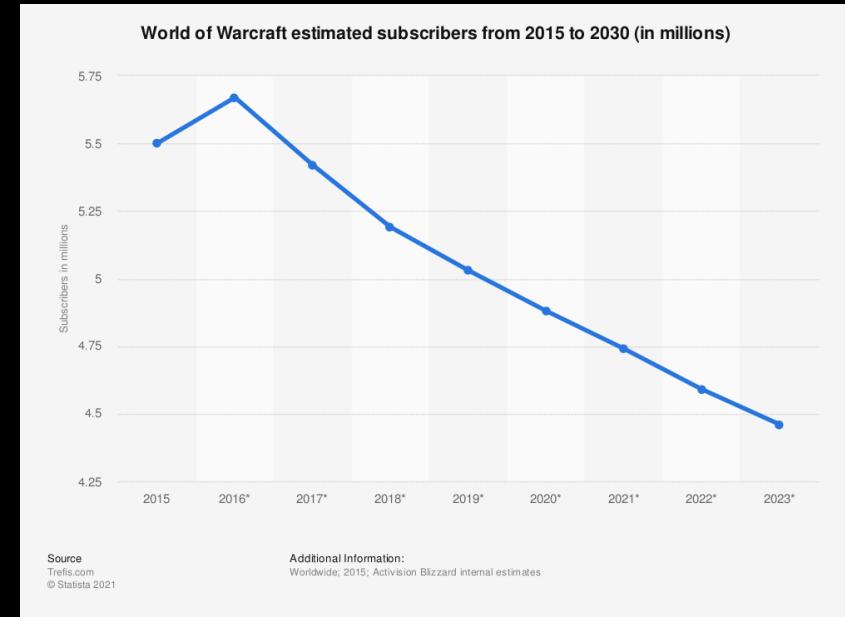
After playing for 8 hours straight it hit me...

But it was really fun work

12 million subscribers in 2010

(has since reduced to 4.5 million in 2020).

However....



Others think it's fun as well, even many years after it was released.

So what is a game?

Most games boil down to solving a problem...

- Find a way to kill 3 boars
- Find a way to get more points than the other team
- Find a way to get to the finish line before the other players
- Find a way to complete this level
- Find a way to destroy the other player before they destroy you

Last four examples are from **The Art of Game Design**, Jesse Schell, 2008



It's how this activity is presented that plays an important part in creating a fun experience

"Fun from games arises out of mastery. It arises out of comprehension. It is the act of solving puzzles that makes games fun. In other words, with games, learning is the drug"

- Raph Koster
A Theory of Fun, 2005

Hang on, if games are so engaging...

Designing Gamification

Gamification Blueprint

FRONT ELEVATION
 $\frac{1}{4}$ Scale

RIGHT SIDE ELEVATION
 $\frac{1}{4}$ Scale

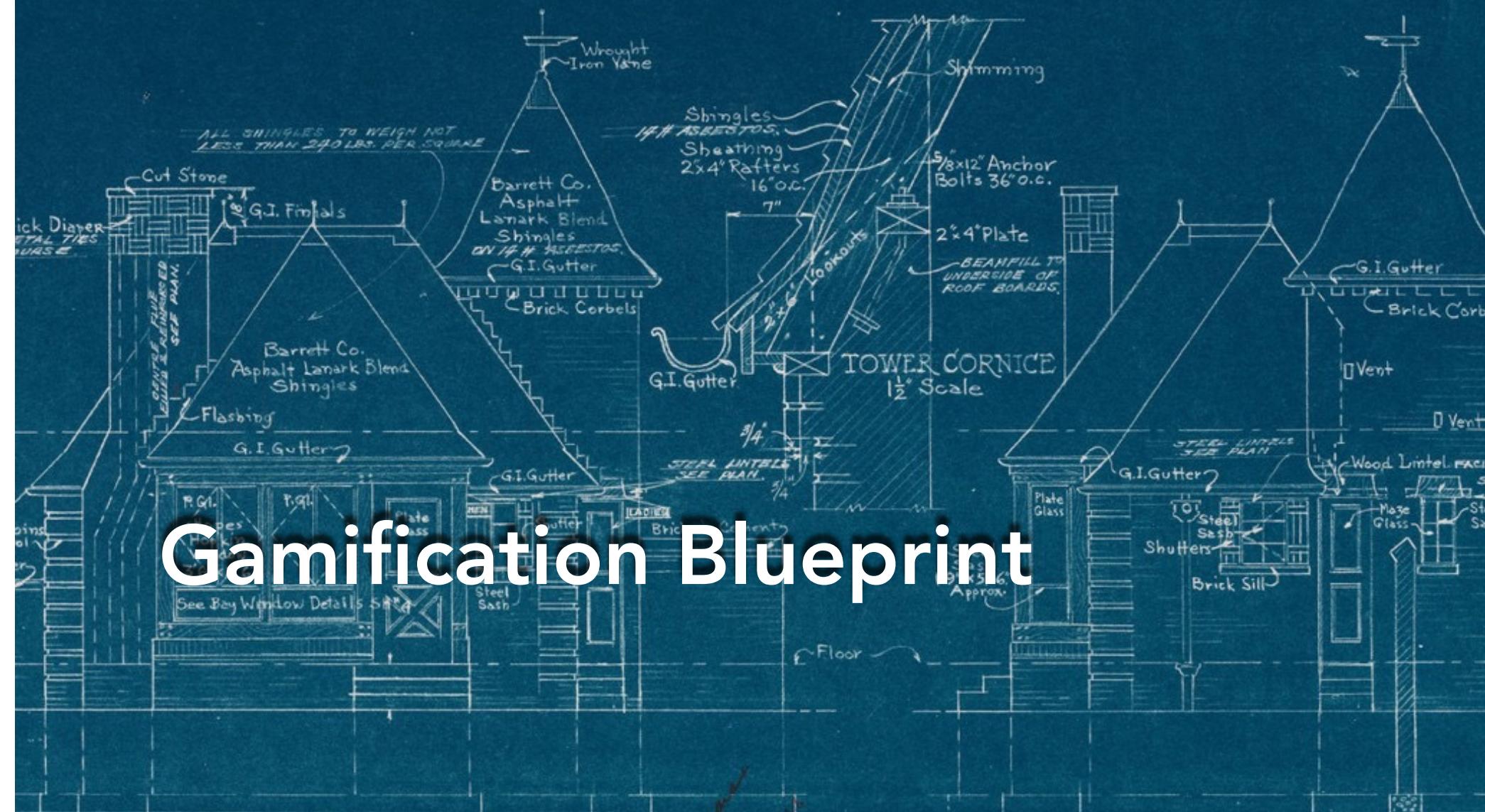
Approved by:
R.C. [Signature]
Date: Aug 17, 1911

ACB

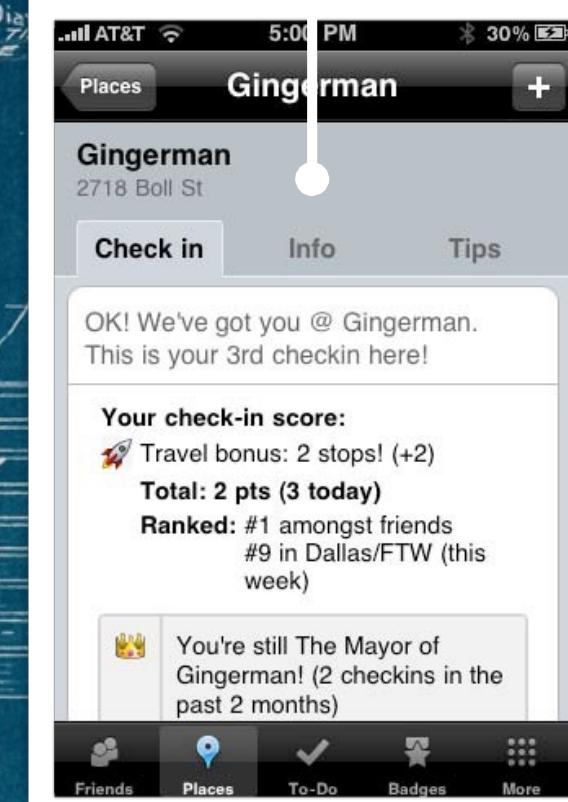
781

ONTARIO
Revised Aug. 20

JOB #834 SI



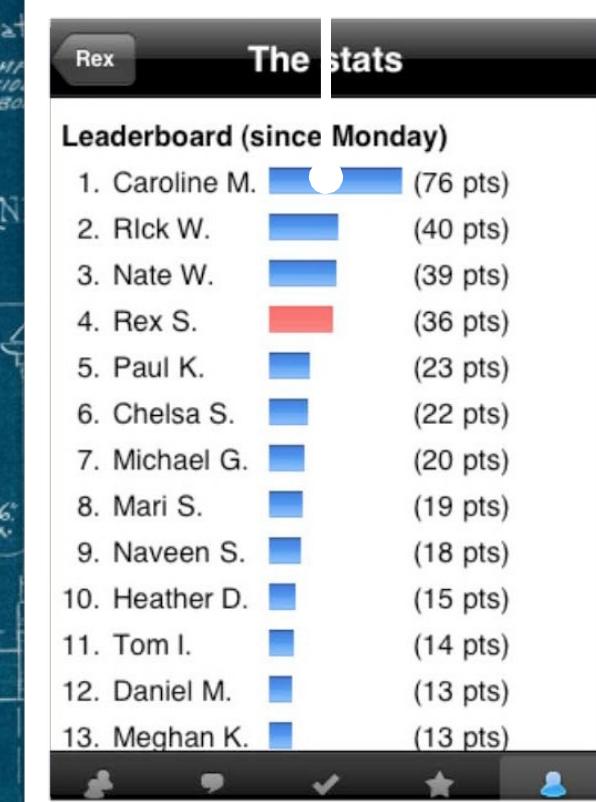
Points tracking, feedback



Badges goals, rewards



Leaderboards competition

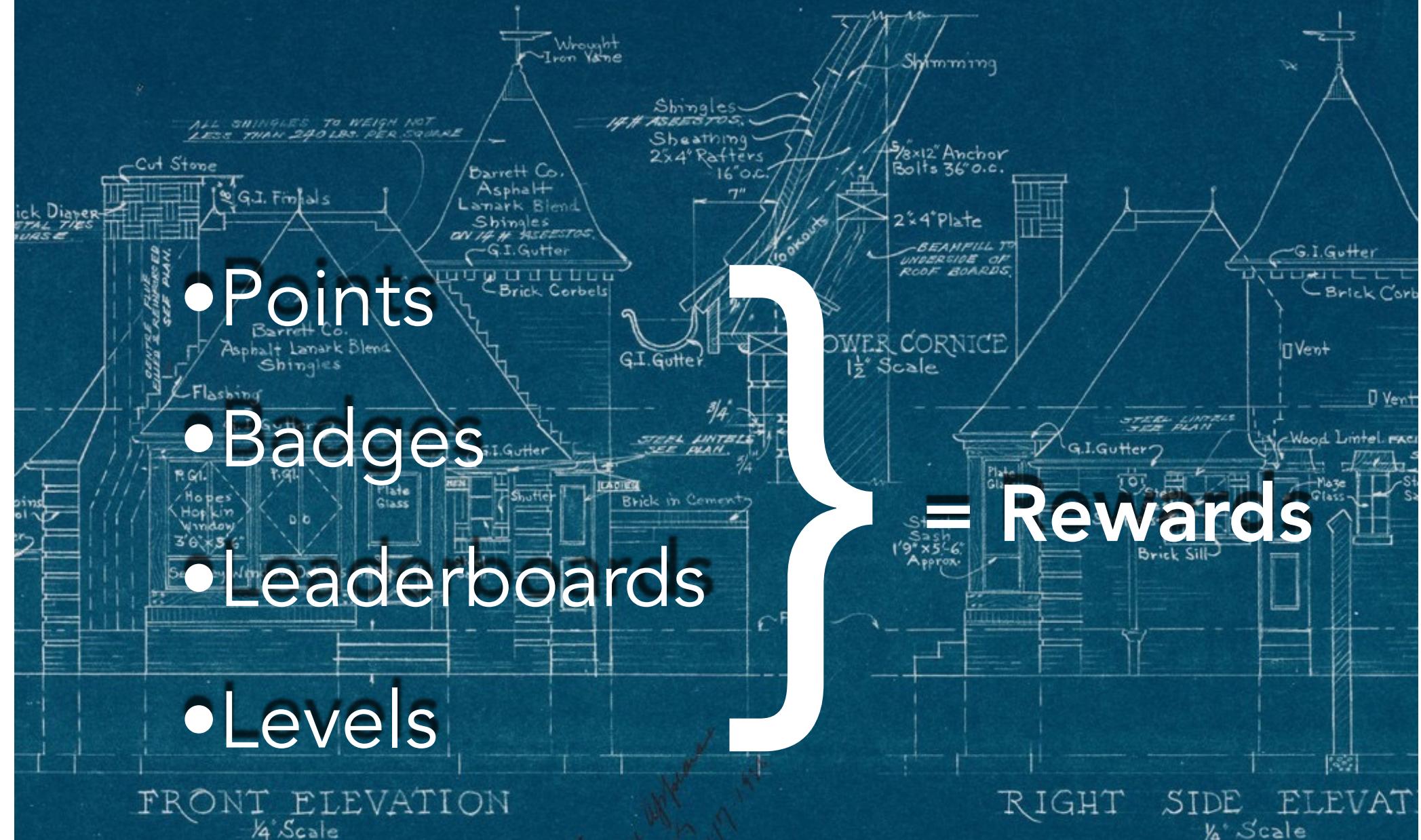


A screenshot of the Foursquare mobile app showing a leader board titled "The stats" for user "Rex". The table lists 13 users with their names, profile pictures, and scores. The columns are: Rank, Name, Score, and Points.

Rank	Name	Score	Points
1.	Caroline M.	11	(76 pts)
2.	Rick W.	10	(40 pts)
3.	Nate W.	9	(39 pts)
4.	Rex S.	8	(36 pts)
5.	Paul K.	7	(23 pts)
6.	Chelsea S.	6	(22 pts)
7.	Michael G.	5	(20 pts)
8.	Mari S.	4	(19 pts)
9.	Naveen S.	3	(18 pts)
10.	Heather D.	2	(15 pts)
11.	Tom I.	1	(14 pts)
12.	Daniel M.	1	(13 pts)
13.	Meghan K.	1	(13 pts)

The blueprint

- Points
 - Badges
 - Leaderboards
 - Levels
- = Rewards



Behaviour + Rewards = Fun!



ONTARIO
Revised Aug. 20

JOB #834 SI

Behaviour + Rewards = Fun!

FRONT ELEVATION
 $\frac{1}{4}$ Scale

RIGHT SIDE ELEVATION
 $\frac{1}{4}$ Scale

Approved by:
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Aug 17, 1911

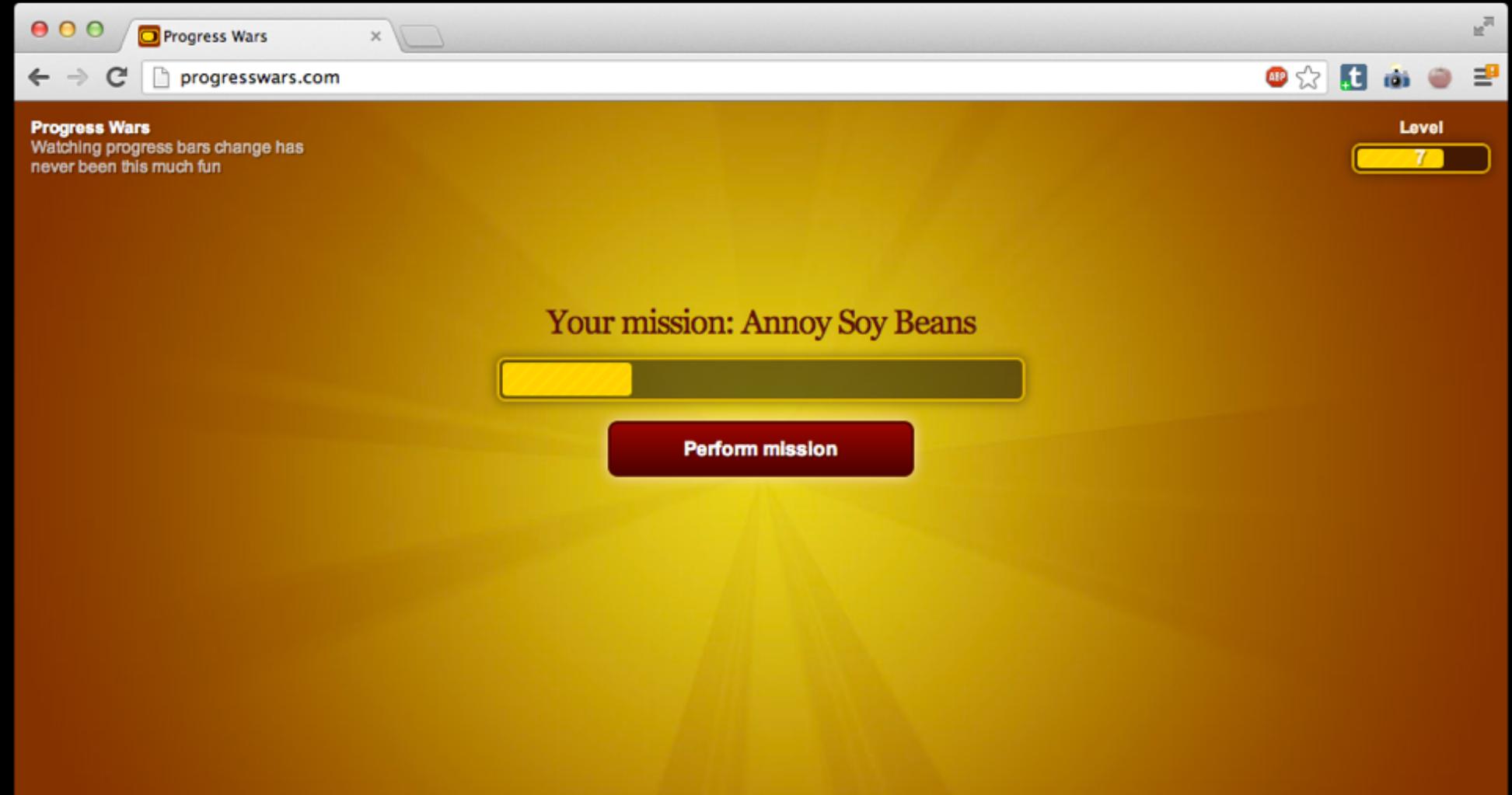
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ONTARIO
Revised Aug. 20

JOB #834 SI



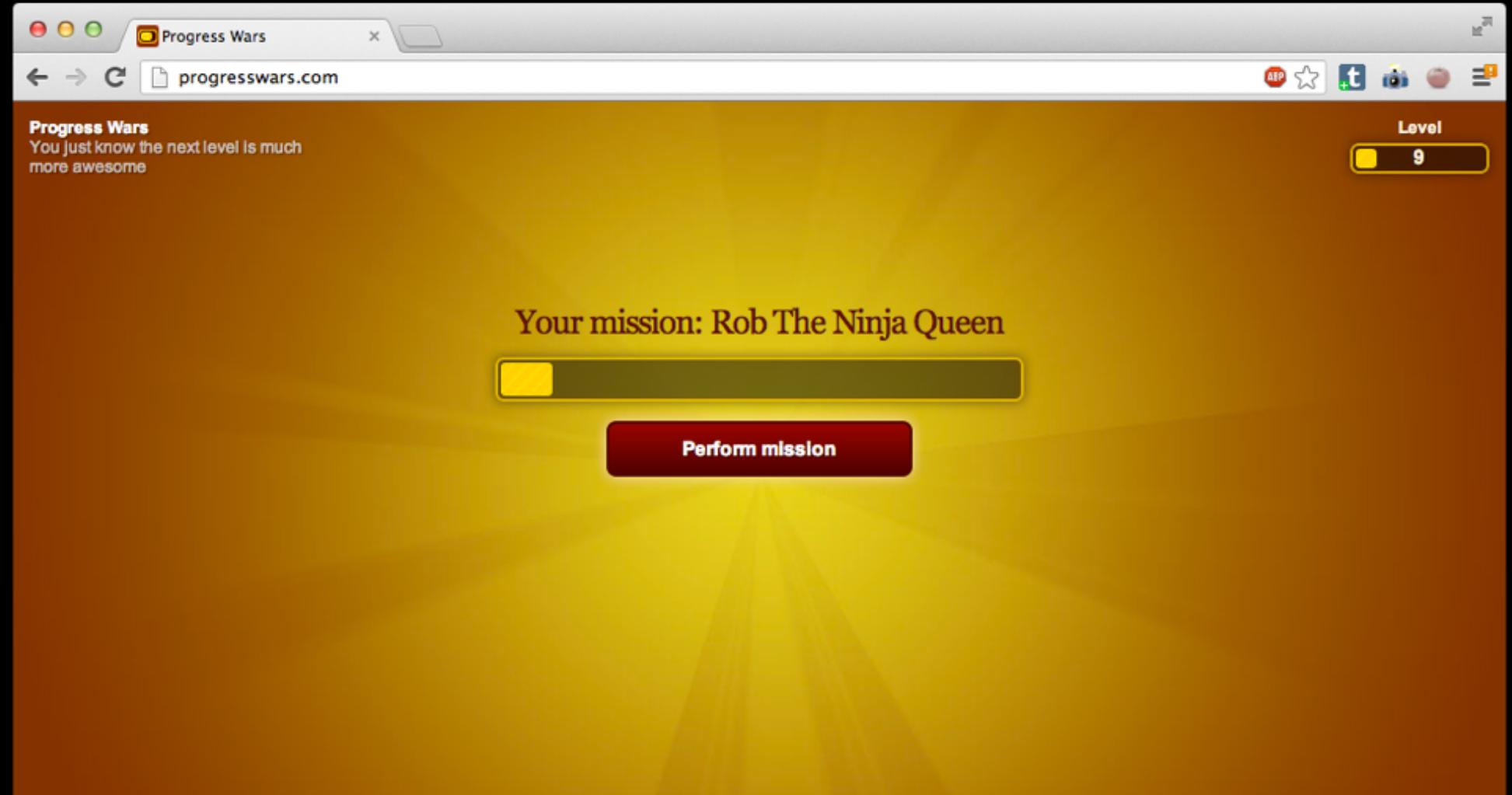


Otherwise this would be the best game out there...

So what's missing?

"Fun from games arises out of **mastery**. It arises out of comprehension. It is the act of **solving puzzles** that makes games fun. In other words, with games, learning is the drug"

- Raph Koster
A Theory of Fun, 2005



Where's the puzzle? Where's the challenge?

**So how can we design engaging
gamification experiences?**

Motivation

There are two types...



Extrinsic Motivation

Motivation for an external reward

A young boy with dark hair, wearing a blue and white striped shirt and green pants, is sitting cross-legged on the floor in a library. He is holding an open book and looking down at it intently. In front of him is a stack of colorful children's books. The background shows shelves filled with books.

Intrinsic Motivation

When an activity is performed for the internal satisfaction of under the activity itself



Intrinsic Motivation

The act of playing a game is generally considered an intrinsically satisfying activity

So what makes a game
motivating to play?

- **Autonomy** - choice to play and choice over actions
- **Competence** - ability to optimally challenge players
- **Relatedness** - connection with others

(Ryan, Rigby, and Przybylski, 2006)

<http://link.springer.com/article/10.1007/s11031-006-9051-8>

Flow

Proposed by Csíkszentmihályi

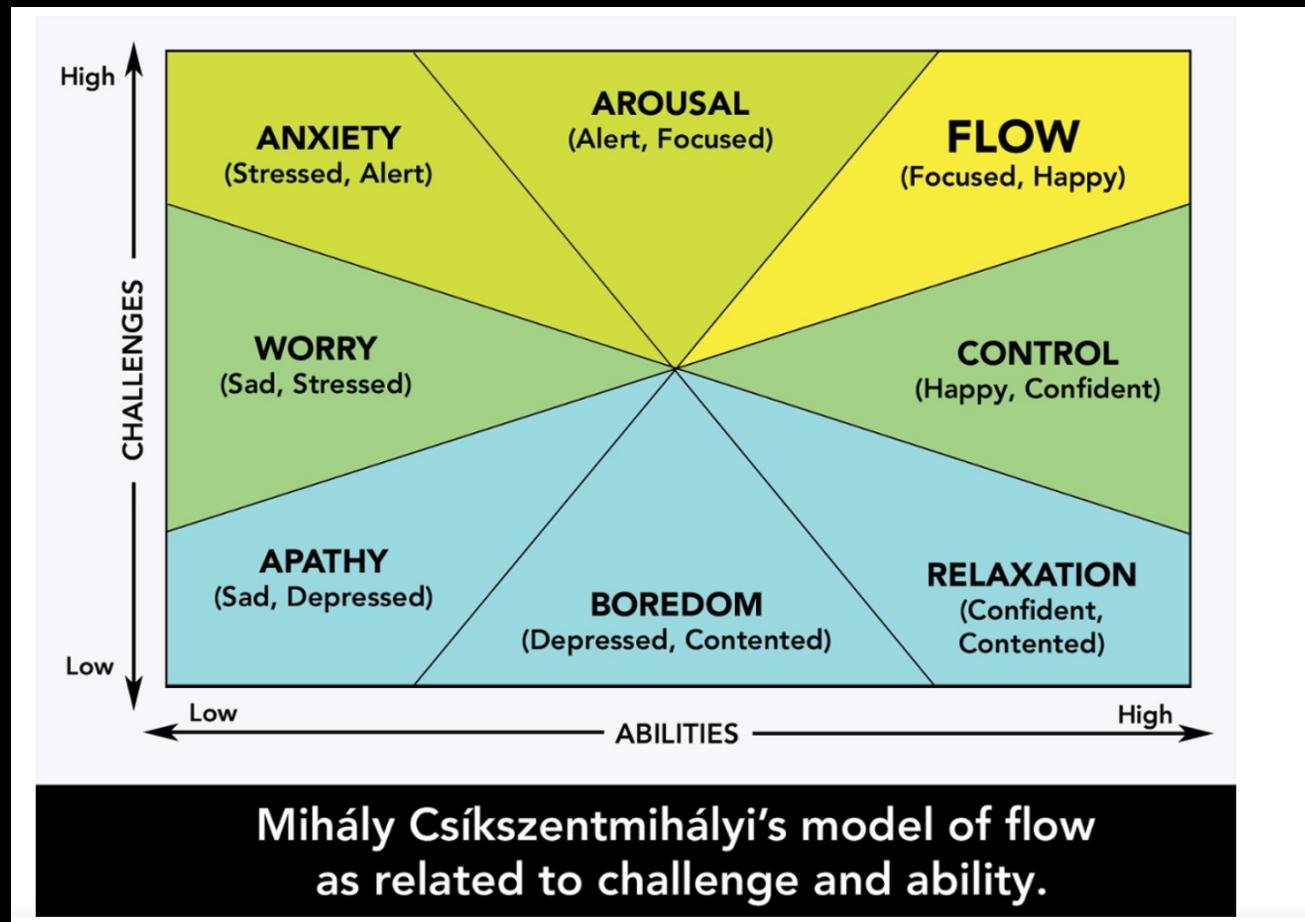


[This Photo](#)

[CC BY-NC-ND](#)

<http://www.flickr.com/photos/allisonjohnstonn/6332963681/>

Remember Flow (already discussed)



Nakamura, J., & Csikszentmihalyi, M. (2009). Flow theory and research. In C. R. Snyder & S. J. Lopez (Eds.), *Handbook of positive psychology* (pp. 195-206). Oxford: Oxford University Press.

Conditions for flow

- A clear goal
- Clear progress
- Clear and immediate feedback
- Balance of challenge and skill

**These are important factors to consider
when trying to design a game.**

**These are important factors to consider
when trying to design gamification.**