

The Gamification AI Learning Loop

Michael Wu, PhD (@mich8elwu)
chief AI strategist @ PROS

2023.03.10



Michael Wu, PhD (@mich8elwu)
chief AI strategist @ PROS

2023.03.10

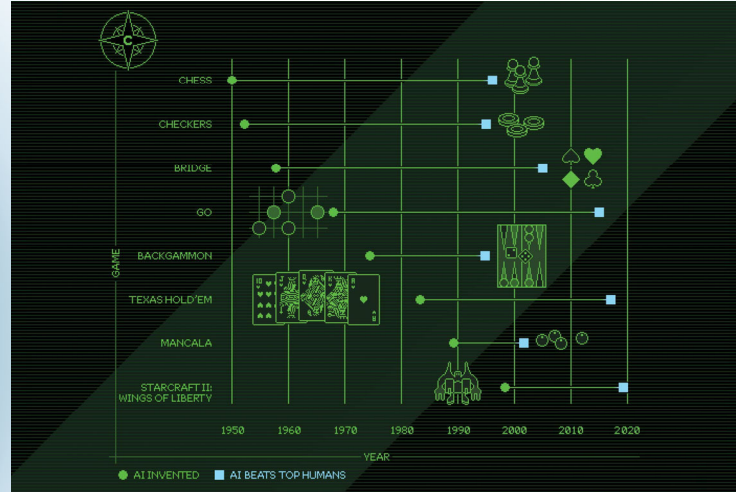
What Does AI Have Anything to do with Gamification?



learning to play games



design science
behavior science
human learning



IBM Deep Blue (1997)
IBM Watson (2011)
DeepMind AlphaGo (2016)
OpenAI Five DotA2
1v1 (2017), 5v5 (2018)
Meta Cicero (2022)



math + stats
computer science
machine learning

What Does AI Have Anything to do with Gamification?



**collective learning
from everyone**

strategy: AlphaGo
teamwork: OpenAI/DotA2
negotiation: Cicero

effective communication
chatGPT



gamification

design science
behavior science
human learning



math + stats
computer science
machine learning

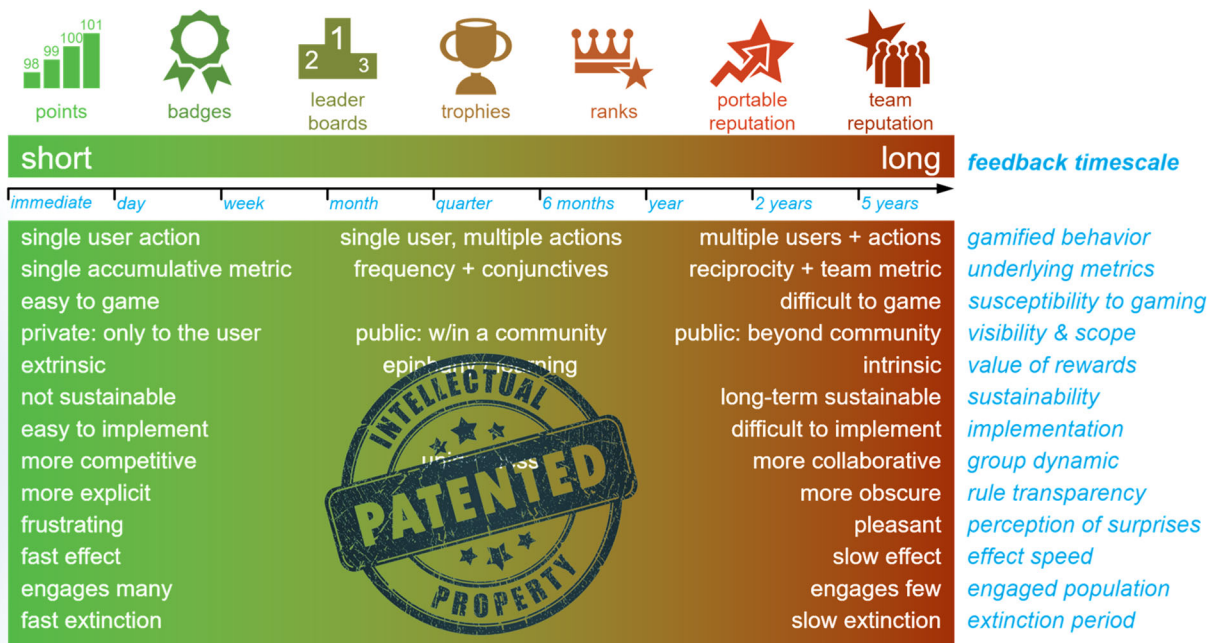
How Can AI Benefits Gamification?

human learning
new behaviors



biggest challenge?

long-term gamification
rapid behavior learning
sustained behavior



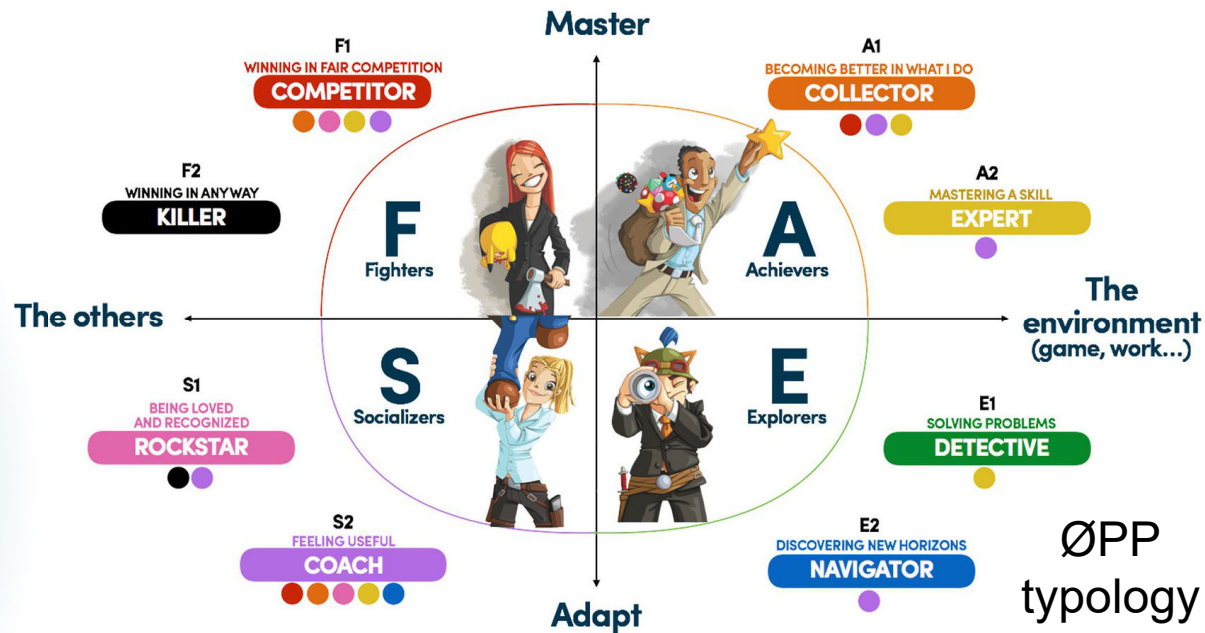
How Can AI Benefits Gamification?

human learning
new behaviors



biggest challenge?

long-term gamification
rapid behavior learning
sustained behavior



what's the problem?
over-generalize

How Can AI Benefits Gamification?

human learning
new behaviors



biggest challenge?

long-term gamification
rapid behavior learning
sustained behavior



what's the problem?

over-generalize
data-driven design
(for the entire audience)
everyone is unique

AI can help

Personalized, Adaptive, Hierarchical Gamification



machine learning
intelligent behaviors

mission / side quest applied as needed

feedback strategy

feedback style

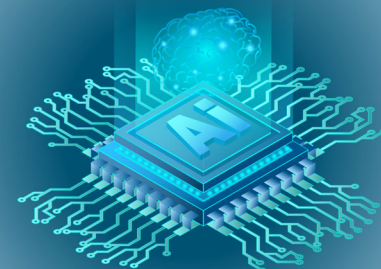


difficulty levels

targeted challenges

real-time feedback

engagement style



AI can help

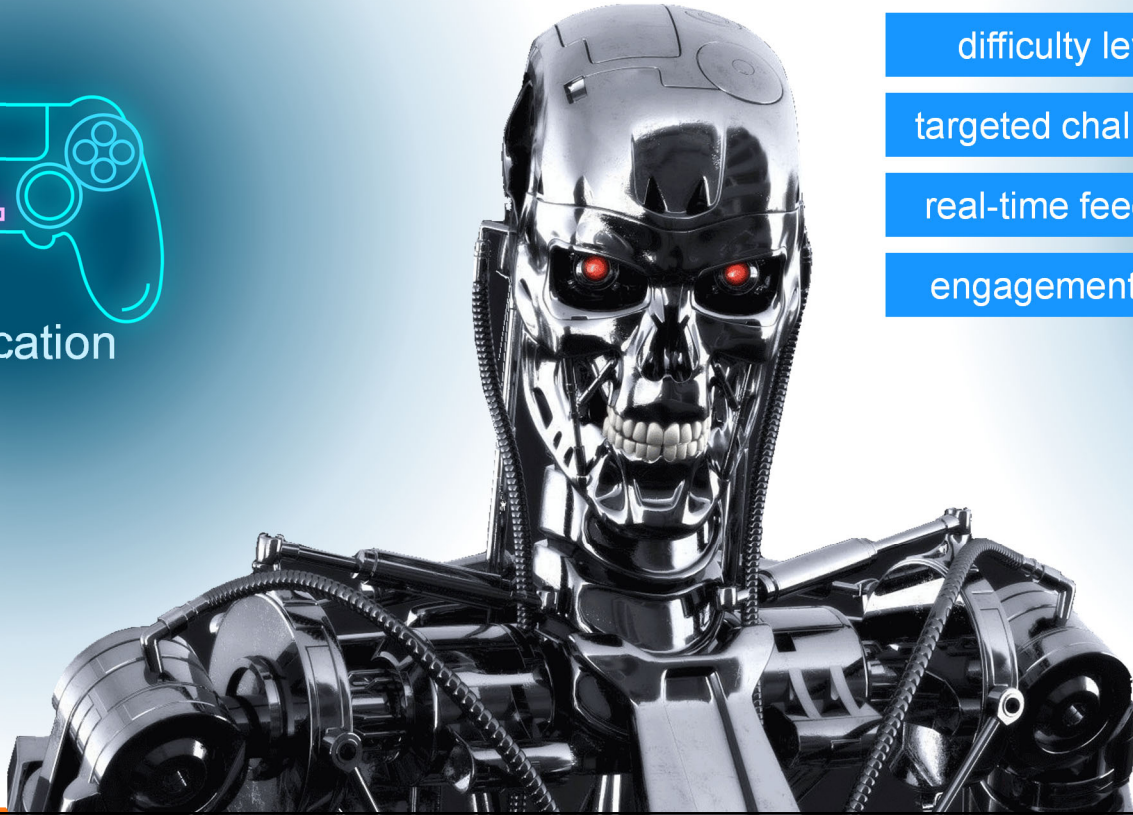
personalization
(optimized for everyone)

what's the problem?

over-generalize
data-driven design
(for the entire audience)
everyone is unique

How Can Gamification Benefit AI?

human learning
new behaviors



difficulty levels

targeted challenges

real-time feedback

engagement style

machine learning
intelligent behaviors

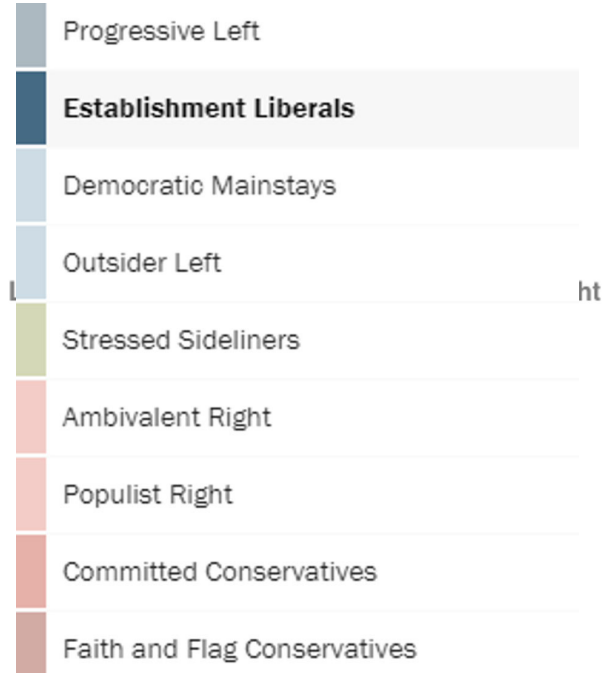


biggest challenge?

existential threat
AI bias problem
etc.

How Can Gamification Benefit AI?

chatGPT failed every bias test



- difficulty levels
- targeted challenges
- real-time feedback
- engagement style

**machine learning
intelligent behaviors**



what's the problem?

humans are biased
humans don't learn fast enough

biggest challenge?

existential threat
AI bias problem
etc.

Gamification Can Help Upgrade Humanity

human learning
new behaviors



gamified faster
learning that's fun

reward less-biased
behaviors

reward long-term
thinking decisions

difficulty levels

targeted challenges

real-time feedback

engagement style

machine learning
intelligent behaviors



gamification can help

changing + upgrading
our own behaviors to
be better humans

what's the problem?

humans are biased
humans don't learn fast enough

biggest challenge?

existential threat
AI bias problem
etc.

AI + Gamification Can Create a Better Humanity

human learning
better behaviors

machine learning
intelligent optimizations



- gamified faster learning that's fun
- reward less-biased behaviors
- reward long-term thinking decisions

- difficulty levels
- targeted challenges
- real-time feedback
- engagement style





Thank You