



Jedi Mind Tricks

Cognitive Biases in Game Development

Daniel Menard
Co-founder and CEO
Double Stallion Games

About Me



Daniel Menard
Co-founder and CEO



Goals

- Summarize and give context to research
- Help you manage your own psychology
- Demystify team and market behaviors

Cognitive Biases?

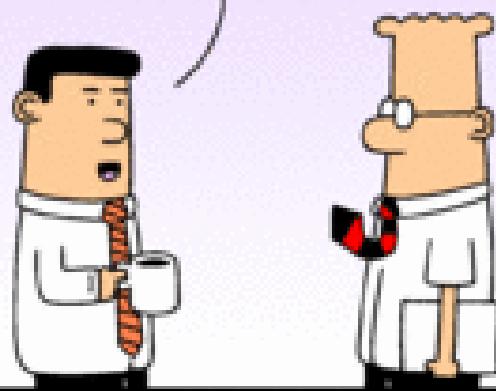


Cognitive Biases?

- Shortcuts, Heuristics
- Irrationality
- Shared by everyone

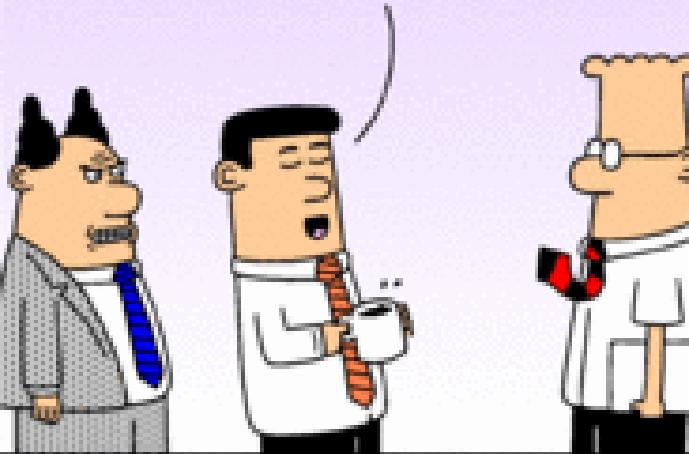
Cognitive Biases?

WHAT DO YOU GET
WHEN YOU COMBINE
COGNITIVE BIAS
WITH INACCURATE
INFORMATION?



Dilbert.com DilbertCartoonist@gmail.com

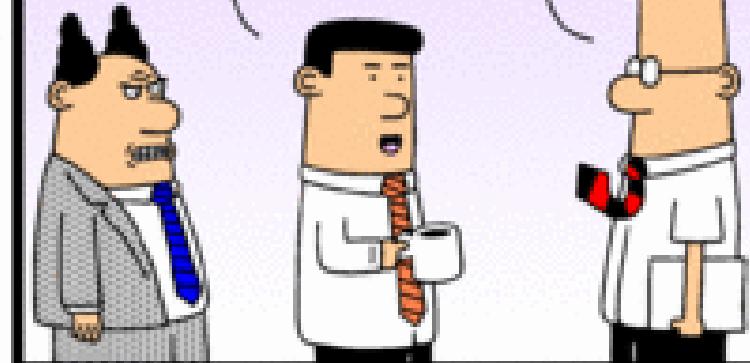
OUR BUSINESS
STRATEGY! HAHA—
HAHAHAHA!!!



10-5-10 © 2010 Scott Adams, Inc./Dist. by UFS, Inc.

I GUESS
I SHOULD
KEEP MY
DAY JOB.

GOOD
LUCK
WITH
THAT.



Topics

- Survivorship Bias
- Impostor Syndrome
- Motivation

Disclaimer

- Not a psychologist
- Not a researcher in this field
- This is a summary



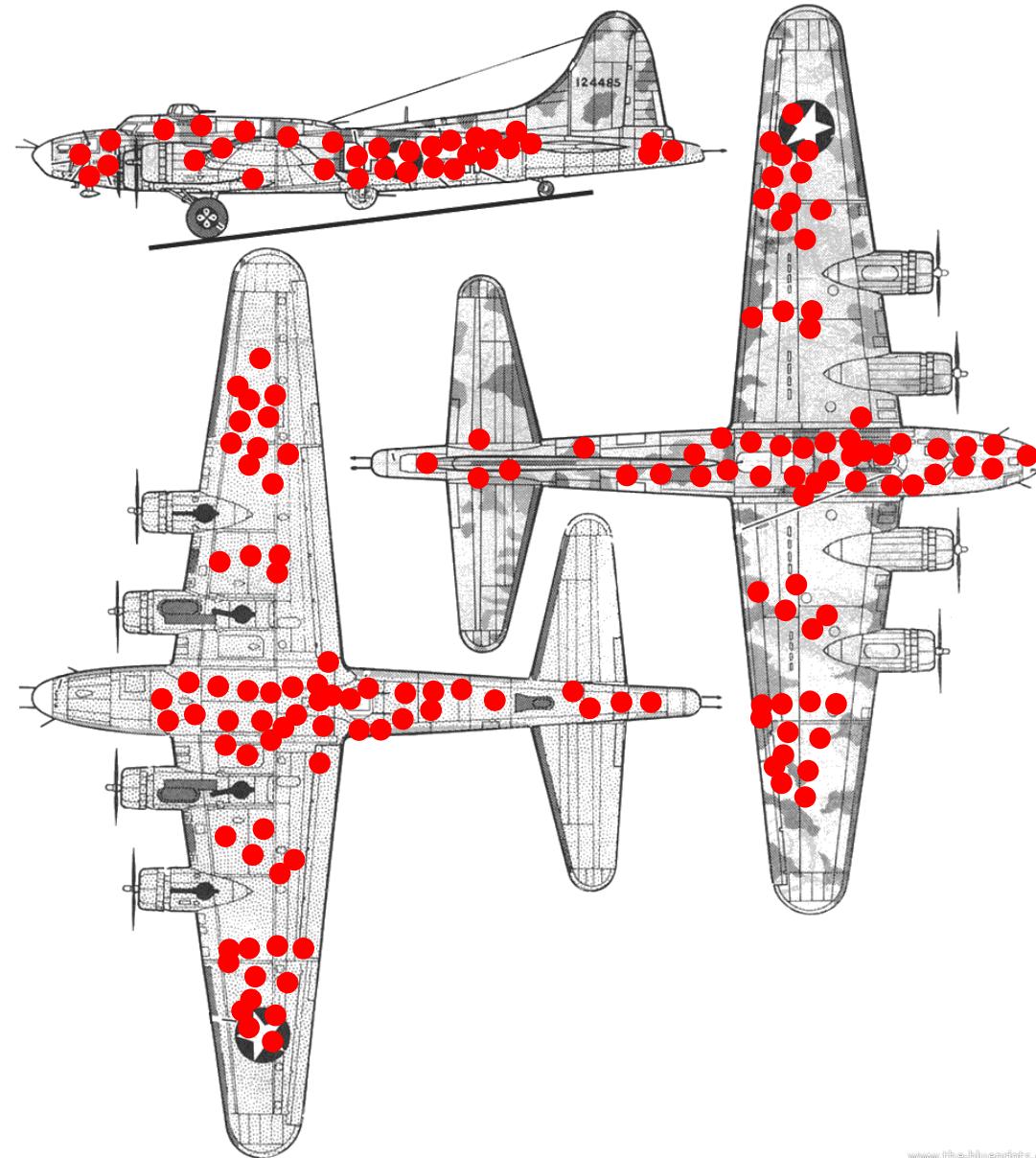
World War II Bombers



World War II Bombers



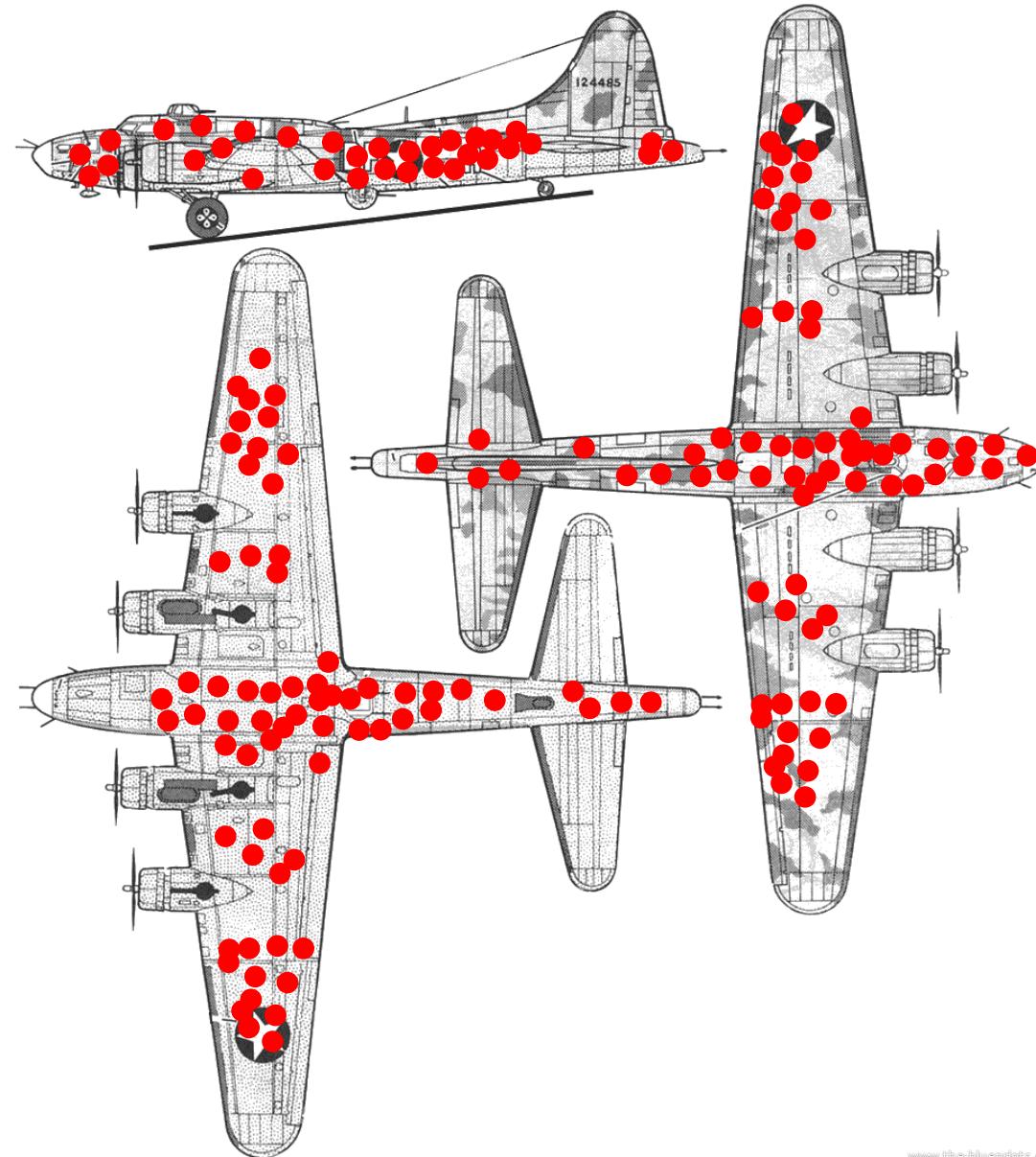
Where to Place the Armor?



Allied Mathematician



Where to Place the Armor?



Survivorship Bias

The logical error of concentrating on the people or things that "survived" some process and inadvertently overlooking those that did not because of their lack of visibility.

- Wikipedia

Business

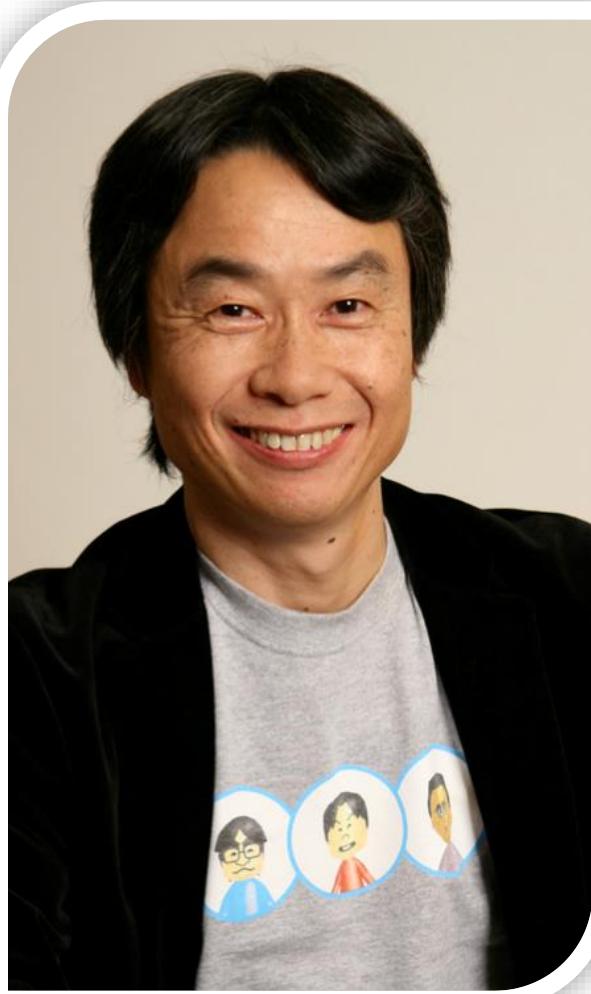
Misconception:

You should focus on success to become successful

Business



Famous Developers



Conference Survivorship Bias

Colleges and conferences prefer speakers who shine as examples of making it through adversity, of struggling against the odds and winning. **The problem here is that you rarely take away from these inspirational figures advice on what not to do, on what you should avoid, and that's because they don't know.**

- David McRaney, *You Are Not So Smart*

Result of the Bias

- Success seems more common than it is
- No advice on what takes down a studio
- Misplaced effort when starting out

Personal Experience



Team Problems

- Overbearing founder / manager
- Too large or unclear roles
- Emotional and financial pressure
- Weak self-care

No Business Sense

- Building the wrong game
- Negative perception of business

No Parachute

- Good business sense
- Focusing too much on current game
- Keep 6 months of runway

Studio Killers

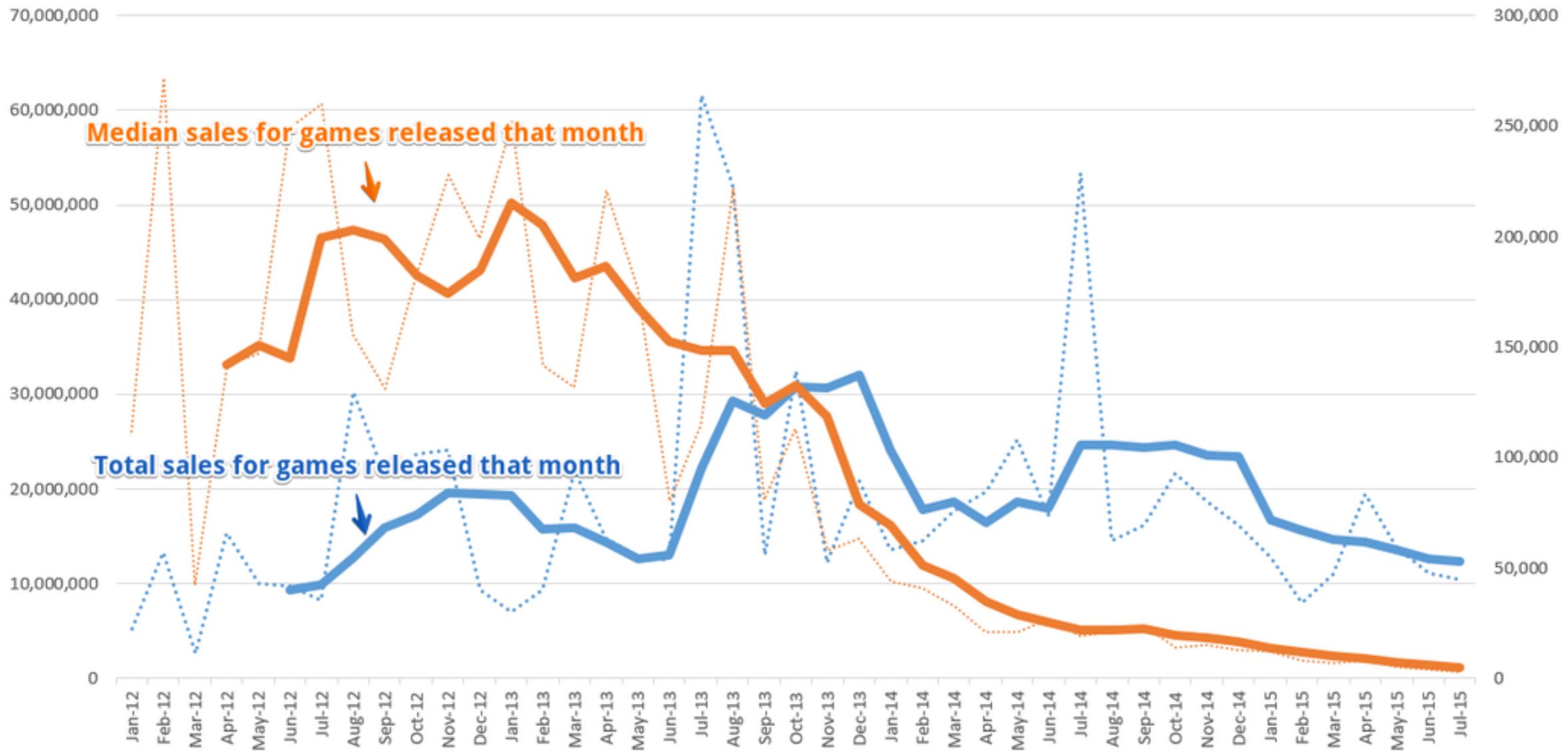
1. Team breakup or burnout
2. Poor market fit, no business sense
3. Game fails, no backup

Survivor Issues

- Finding and optimizing the fun
- Technical and design agility
- Marketing and PR to drive discoverability

Indiepocalypse

Total monthly sales vs median monthly sales



Triple I

Morgan Jaffit
Aug 30, 2015 · 5 min read

Indipocalypse, or the birth of Triple-I?

I've been lucky enough to watch the games industry ebb and flow through a few different cycles now, and it's clear we're just about to embark upon a fresh transition. This time, it's the indie space that's changing, but a lot of these changes mirror the various twists the industry has taken in the past. More than anything though, it resembles the change we saw when the PC/Console game business of the late 90's became the juggernaut we now call "Triple A Development" and in the process crushed everything else in sight.

There's a lot of suggestions that we may be headed towards an "[Indie Extinction Event](#)" as the number of titles from known indie developers that fail to find their market increases. There was a time when simply getting on Steam was enough—but with the opening up of the Steam marketplace, that's stopped being true.



George Broussard
@georgeb3dr



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It's time to make "III" (triple "I" indie) a thing. We've had AAA for console games forever. There are indie games & III indie games.

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6:31 PM - 30 Aug 2015

Myth

tinyBuild: Indiepocalypse? What Indiepocalypse?

By Matthew Handrahan

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MON 05 OCT 2015 1:42PM GMT / 9:42AM EDT / 6:42AM PDT

DEVELOPMENT

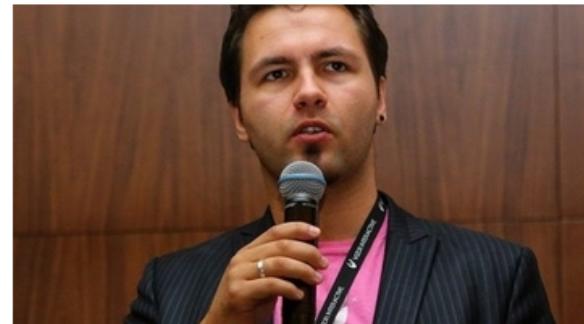
CEO Alex Nichiporchik took overcrowding on Steam as incentive to improve, expanding into mobile, console, publishing and esports

The Indiepocalypse is nigh. That's the unpleasant and entirely plausible scenario that the industry's more pessimistic analysts claim lies ahead. Some have argued against the possibility, displaying a foresight and confidence that I evidently lack. The evidence that there are too many developers sharing too small a slice of the available revenue is both voluminous and convincing. Every time a blow is struck for those building small businesses in PC and mobile - the Steam Discovery Update, for example - it seems only to highlight the scale of the problem at hand.

Alex Nichiporchik, the CEO of tinyBuild, was the most provocative respondent to an article published at the time of Apple's recent dabbling with App Store curation. "It's been a long time coming," he said. "Apple's move shows that they're serious about reversing the race to the bottom, and putting companies that treat players like cattle on the backseat."

Founded in 2011, tinyBuild initially built its business on Steam. The company's debut release, *No Time To Explain*, was one of the first games to make it through Greenlight, while *SpeedRunners* was similarly quick to capitalise on the opportunity presented by Early Access. "If you were on Steam in 2011, it didn't matter. You're done," Nichiporchik says when we meet in person at GDC Europe in August. "If you were on Steam the press comes to you, everyone comes to you."

That is now a distant memory, however. Nichiporchik highlights



"Everyone's looking back at this golden age of indie games...Times change. Everyone's making games now"

The 5 Myths of the Indiepocalypse

by Ryan Clark on 09/08/15 01:36:00 pm

Expert Blogger

Featured Post

80 comments [t](#) [f](#) Share [G+](#) [r](#)

The following blog post, unless otherwise noted, was written by a member of Gamasutra's community. The thoughts and opinions expressed are those of the writer and not Gamasutra or its parent company.

The hot topic for independent developers these days is the so-called "indiepocalypse". It's the notion that indies are going to have an increasingly difficult time making a living now that mobile and Steam are both "flooded" with games. Indiepocalypse posts tend to focus on 5 key ideas:

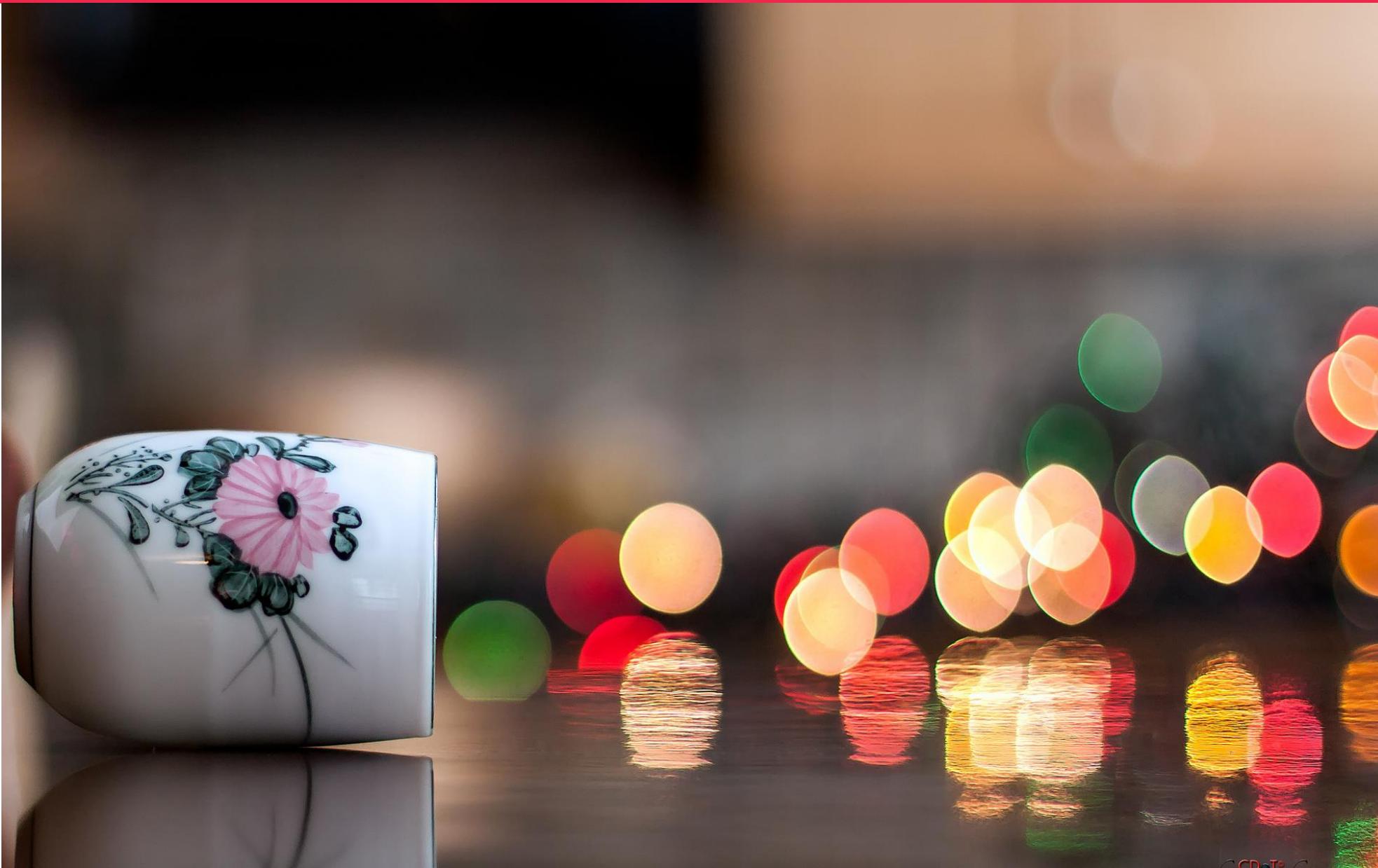
1. There is too much competition, especially now that so many games launch on Steam each week.
2. Various charts are showing bad things, such as revenue per game declining.
3. The App Store is a wasteland. Steam will now become a wasteland.
4. A few high profile indie games have had weaker-than-expected launches lately. Surely this means that the apocalypse is upon us?
5. Triple-I independent games are going to force indie budgets to rise inexorably, mirroring what happened with AAA.

I contend that the "indiepocalypse" is a myth, and that these 5 ideas are misleading in subtle ways. I will respond to each of them below.

1. Too Much Competition

The advent of Steam Greenlight and the subsequent "opening of the floodgates" has scared many independent developers. If you were able to get your games onto Steam pre-Greenlight, why would you want Greenlight to come along and increase the total number of your competitors? Surely this is bad!

Photography



Survivorship Bias

- Survivors perpetrated a myth
- Dead studios were invisible
- More failures today, and more visible

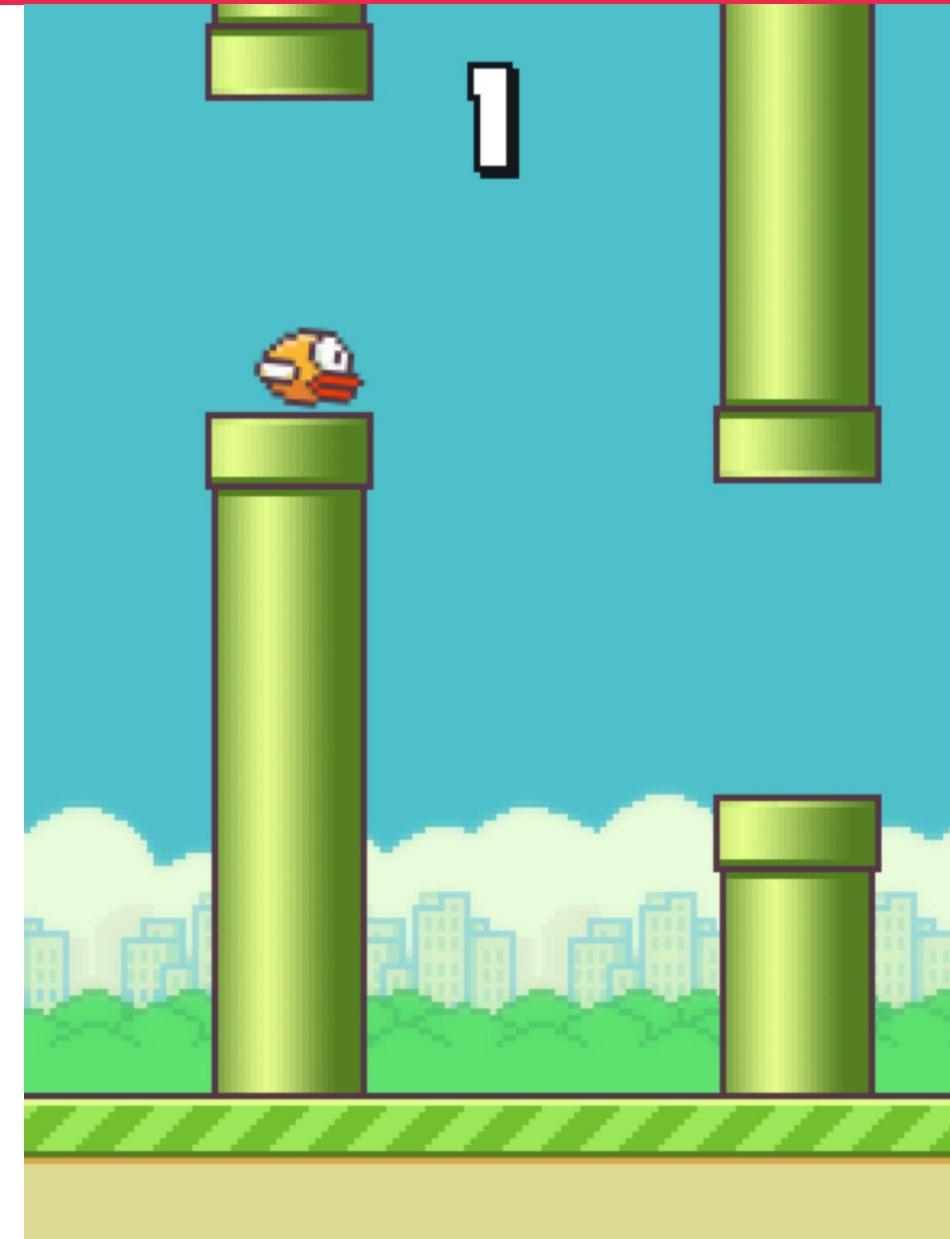
Indiepocalypse

#	GAME	RELEASE DATE	PRICE	SCORE RANK (USERSCORE / METASCORE)	OWNERS	PLAYTIME (MEDIAN)
1610	 Tactical Soccer The New Season	Nov 20, 2015	\$7.49	N/A (N/A)	380 ±525	00:24 (00:24)
1657	 RoBoRumble	Dec 10, 2015	\$5.99	N/A (N/A)	380 ±525	13:16 (13:15)
1709	 InsanZ - Retro Survival Horror	Apr 27, 2015	\$7.99	N/A (N/A)	380 ±525	00:14 (00:14)
1748	 Starsphere	Oct 26, 2015	\$7.99	N/A (N/A)	380 ±525	02:38 (02:37)
1802	 TankZone Battle	Sep 21, 2015	\$2.67	N/A (N/A)	380 ±525	00:00 (00:00)
1841	 Undercover Missions: Operation Kursk K-141	Dec 11, 2015	\$19.99	N/A (N/A)	380 ±525	00:00 (00:00)
1854	 The Ables: Freepoint High	Dec 16, 2015	\$9.99	N/A (N/A)	380 ±525	00:00 (00:00)
1870	 Orc Slayer	Nov 5, 2015	\$9.99	N/A (N/A)	380 ±525	00:06 (00:03)
1942	 Bleeding Blocks	Sep 15, 2015	\$1.99	N/A (N/A)	380 ±525	00:48 (00:24)

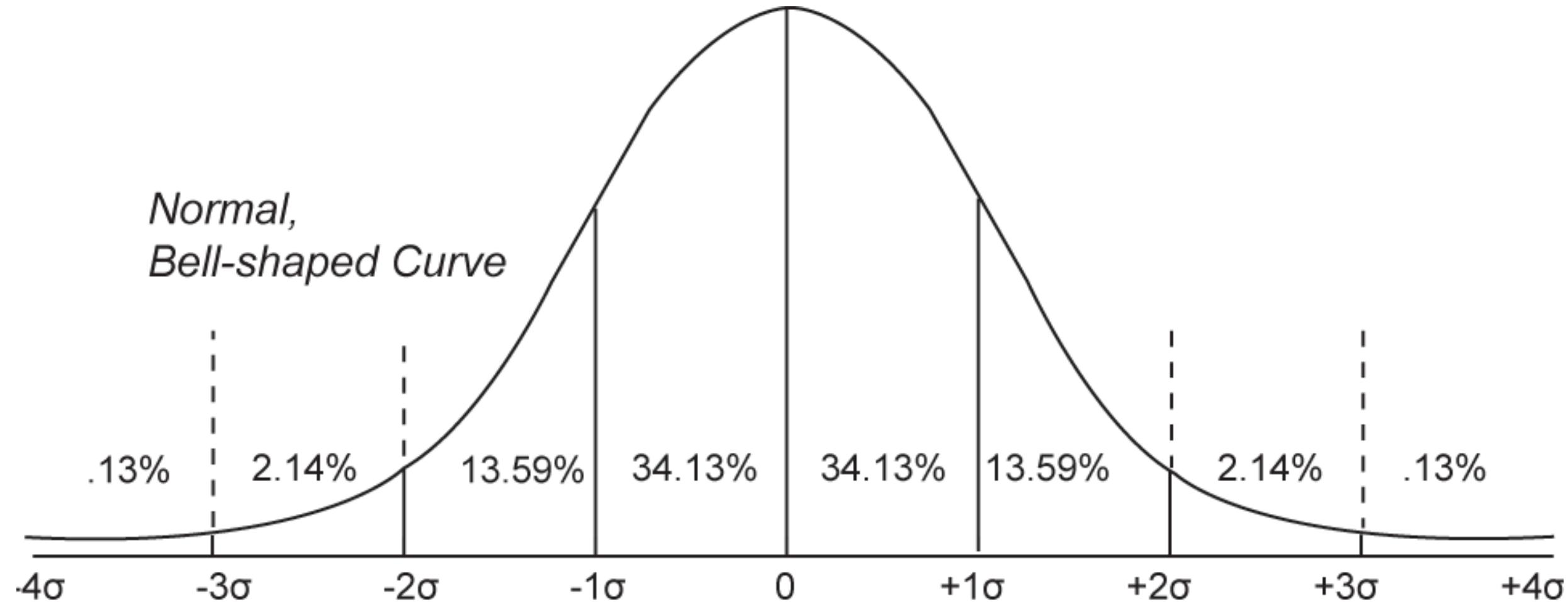
My Advice

- Find people that did everything right, and still failed
- What could they have done to survive?

Video Games Market



What is Luck?



Antichamber



Antichamber

“Luck is a multiplier on your efforts, it should not be the thing that makes or breaks your success.”

- Alexander Bruce

What is Luck?

"According to psychologist Richard Wiseman, luck – bad or good – is just what you call the results of a human being consciously interacting with chance, and some people are better at interacting with chance than others."

- David McRaney, *You Are Not So Smart*

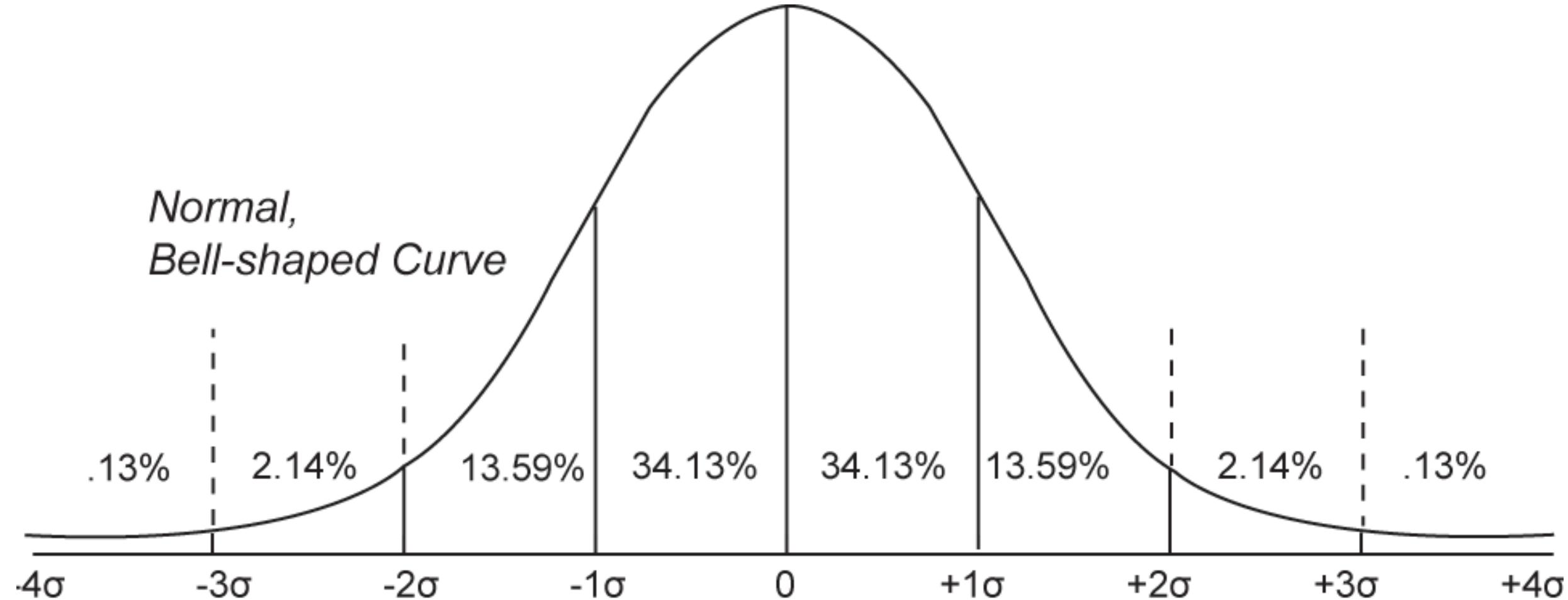
Unlucky People



Lucky People



Bell Curve



Lucky Strategy

- Keep taking risks
- Accept manageable damage
- Avoid catastrophe every step of the way

Survivorship Bias

- “Just looking at the successful people was making me miss out on half the story.”
- Alexander Bruce

Takeaway

- Survivorship Bias is about ignoring failures because they aren't visible
- Game development is an industry where this bias is pervasive
- Luck is your interaction with chance, you have some control

Your Studio



Leadership



Leadership



I HAVE NO
IDEA WHAT
I'M DOING

Impostor Syndrome

A psychological phenomenon in which people are unable to internalize their accomplishments. Despite external evidence of their competence, those with the syndrome remain convinced that they are frauds and do not deserve the success they have achieved.

- Wikipedia

Symptoms

- Feeling like a fake
- Attributing success to luck
- Discounting success

Description

- Affects high-achievement, high-success people
- Not a medical condition, not low self-esteem
- Recurring self-doubt



Jedi Mind Tricks

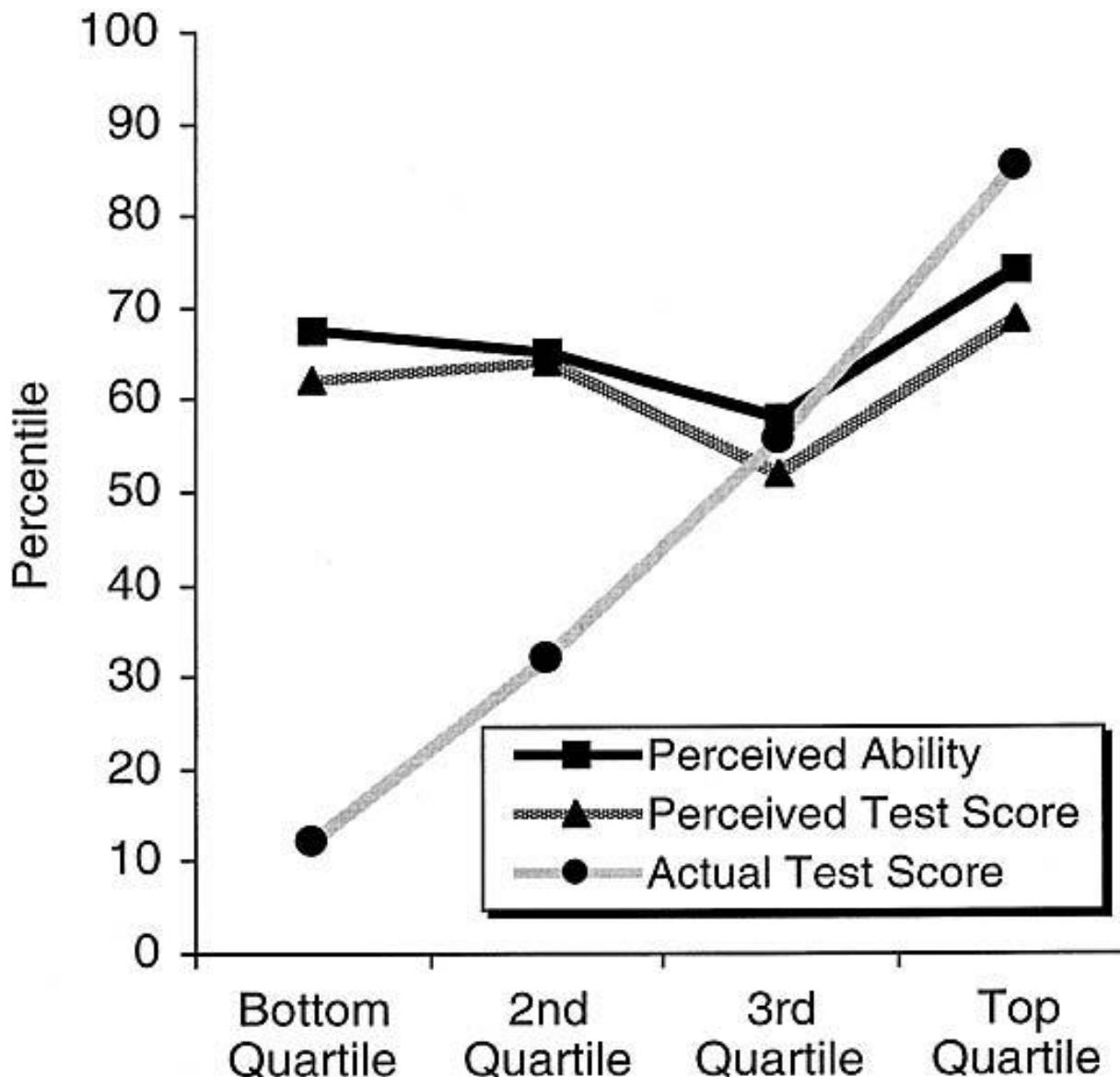
Cognitive Biases in Game Development

Daniel Menard
IMPOSTOR
Co-founder and CEO
Double Stallion Games

Women and Minorities



Dunning-Kruger Effect

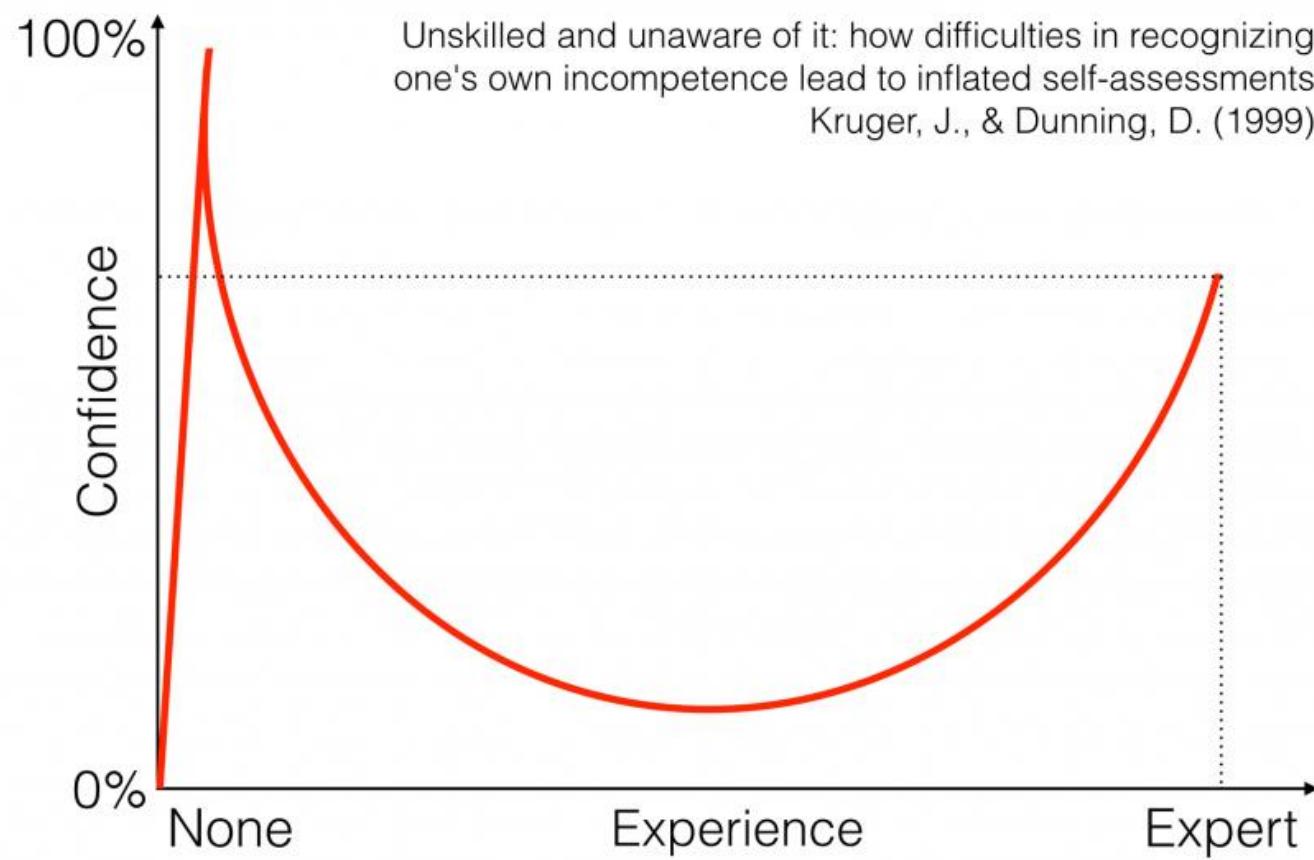


Explanation

- People least skilled have large blind spots
- People most skilled don't give themselves credit

Learning Cycle

Dunning-Kruger Effect



Dealing With It

- Know it exists

Know It Exists

Impostor syndrome

From Wikipedia, the free encyclopedia

For the belief that a familiar person has been replaced by an impostor, see Capgras delusion.

The **impostor syndrome** (also spelled **imposter syndrome**), sometimes called **impostor phenomenon** or **fraud syndrome**, is a psychological phenomenon in which people are unable to accept their own competence, those with the syndrome remain convinced that they are frauds and do not deserve the success they have achieved. Proof of success is dismissed as luck, timing, or as a fluke, rather than as a valid measure of their ability. They believe that they are not really qualified for their work, and that others have actually earned greater success than they did. Those with the syndrome tend to feel like impostors, even when they are clearly successful at what they do. This feeling may lead them to act less confidently than they would otherwise. Impostor syndrome can affect anyone, but it is most commonly observed in high-achieving women.

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Background [edit]

The term "impostor syndrome" first appeared in an article written by Pauline R. Clance and Suzanne A. Imes who observed many high-achieving women tended to believe they were not as good as they seemed.

The impostor syndrome tends to be studied as a reaction to certain stimuli and events. It is not perceived to be a **mental disorder** among people, but it has been the topic of research for decades. While it was initially considered a personality trait, impostor syndrome has more recently been studied as a reaction to certain situations. Under this pretense, it is a response, experienced by many different people, to situations that make them feel like impostors. People with impostor syndrome often feel like they are not as good as they seem, even when they are clearly successful at what they do. They may feel like they are not qualified for their work, and that others have actually earned greater success than they did. This feeling may lead them to act less confidently than they would otherwise. Impostor syndrome can affect anyone, but it is most commonly observed in high-achieving women.

Dealing With It

- Know it exists
- Get a support group

You Are Not Alone



Dealing With It

- Know it exists
- Get a support group
- Challenge automatic thoughts

The Struggle

- “I’m in over my head”
- “I’m not qualified for this”
- “Where did I go wrong?”

Newsflash

- Building a studio or leading a team is hard
- You learn only by doing it
- For leaders, the mean score is 22/100

Fear and Courage

The Hero versus the Coward

Managing Your Psychology

- Personal challenge
- Difficult skill to learn
- Focus on the road, not the wall

Motivation



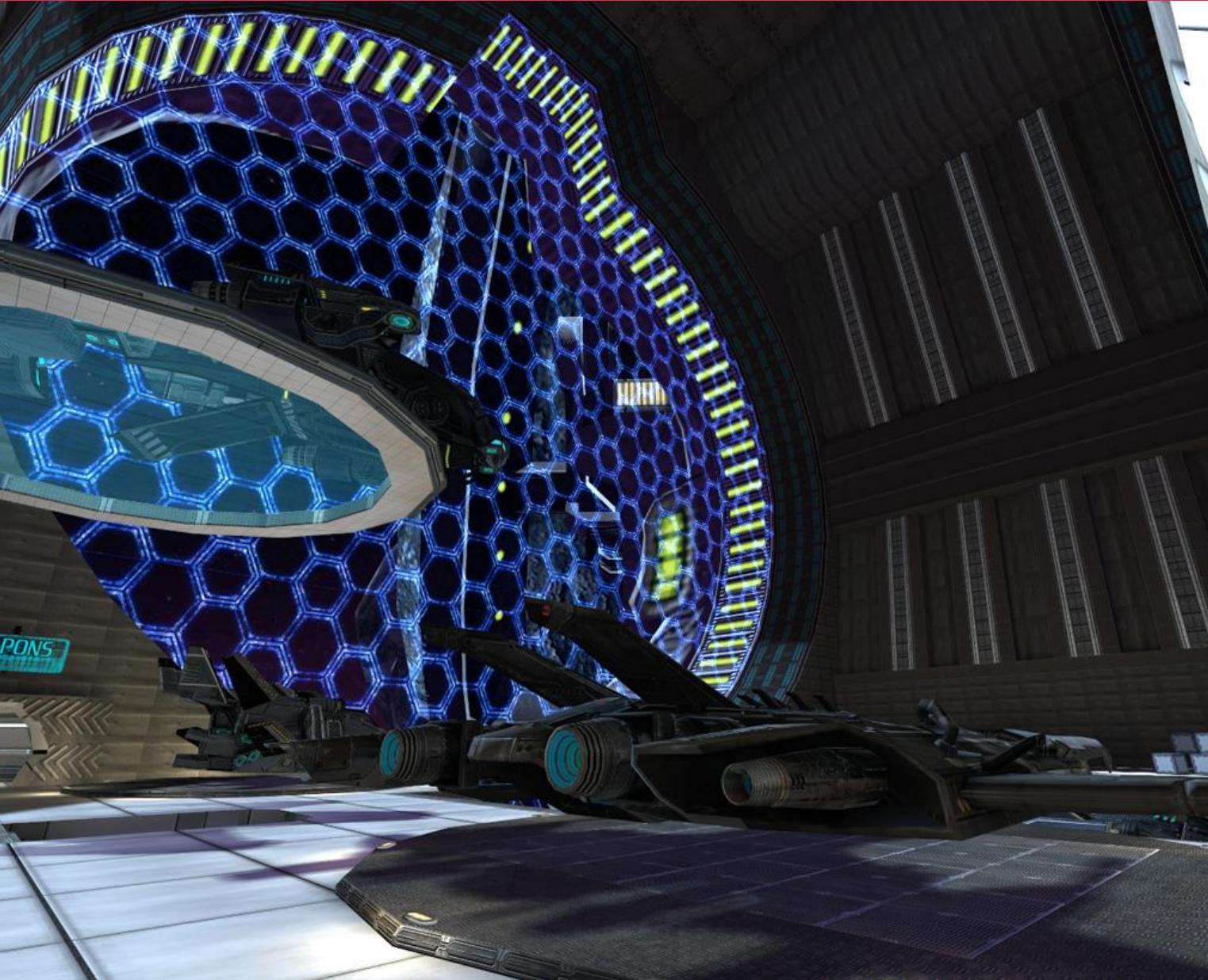
MOTIVATION

Chuck Norris doesn't need motivation,
motivation needs Chuck Norris.

Eternal Silence



Eternal Silence



Eternal Silence

All Games > Action Games > Eternal Silence

Eternal Silence

Community Hub



Eternal Silence is a science fiction mod that pits two capital ships against each other in a seamless blend of space warfare and tactical infantry combat. Pilots coordinate strikes with invading infantry in order to take down the behemoth capital ships from both the inside and out.

User reviews: **Very Positive** (216 reviews)

Release Date: 1 Mar, 2007

Popular user-defined tags for this product:

Action Mod Free to Play FPS Space

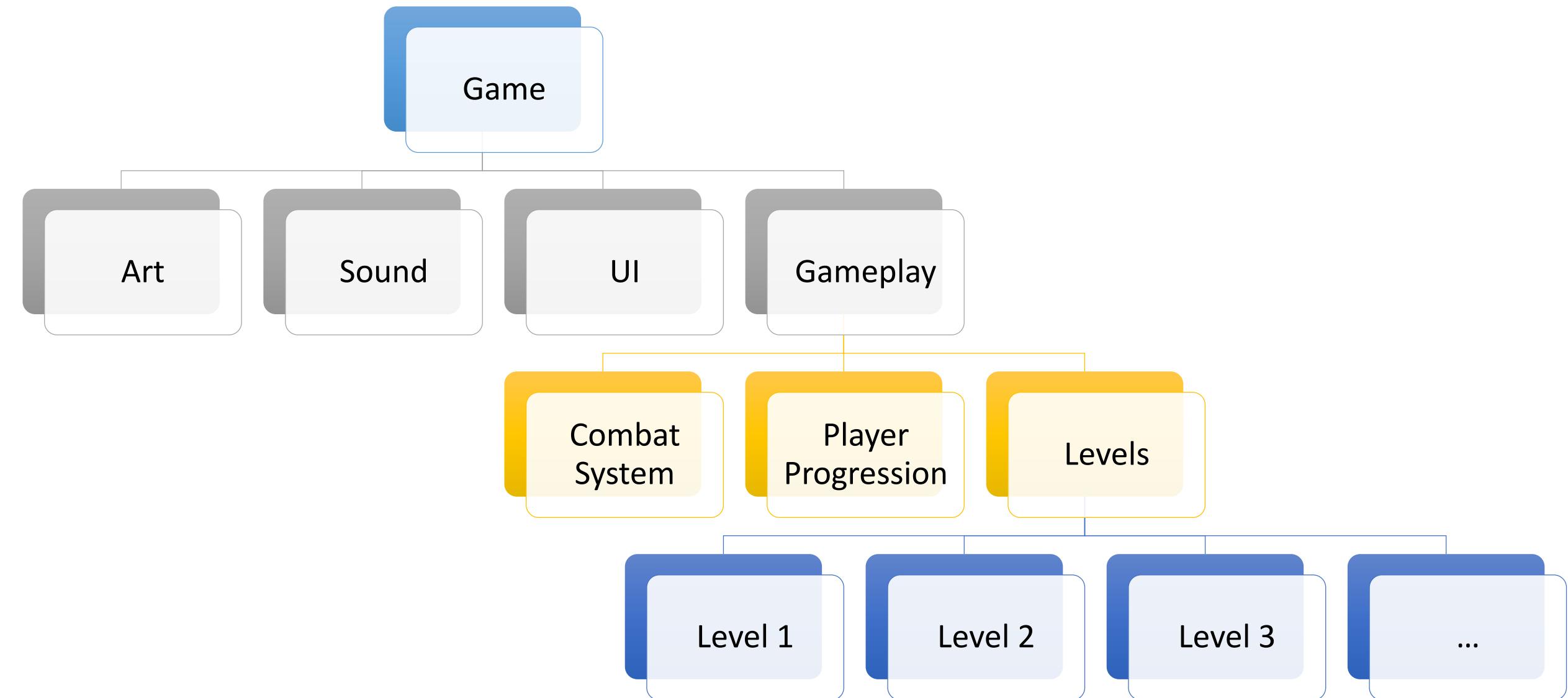
Common Advice

- Small Projects
- Break everything down
- Give yourself rewards

Clear Vision



Task Breakdown



Motivation

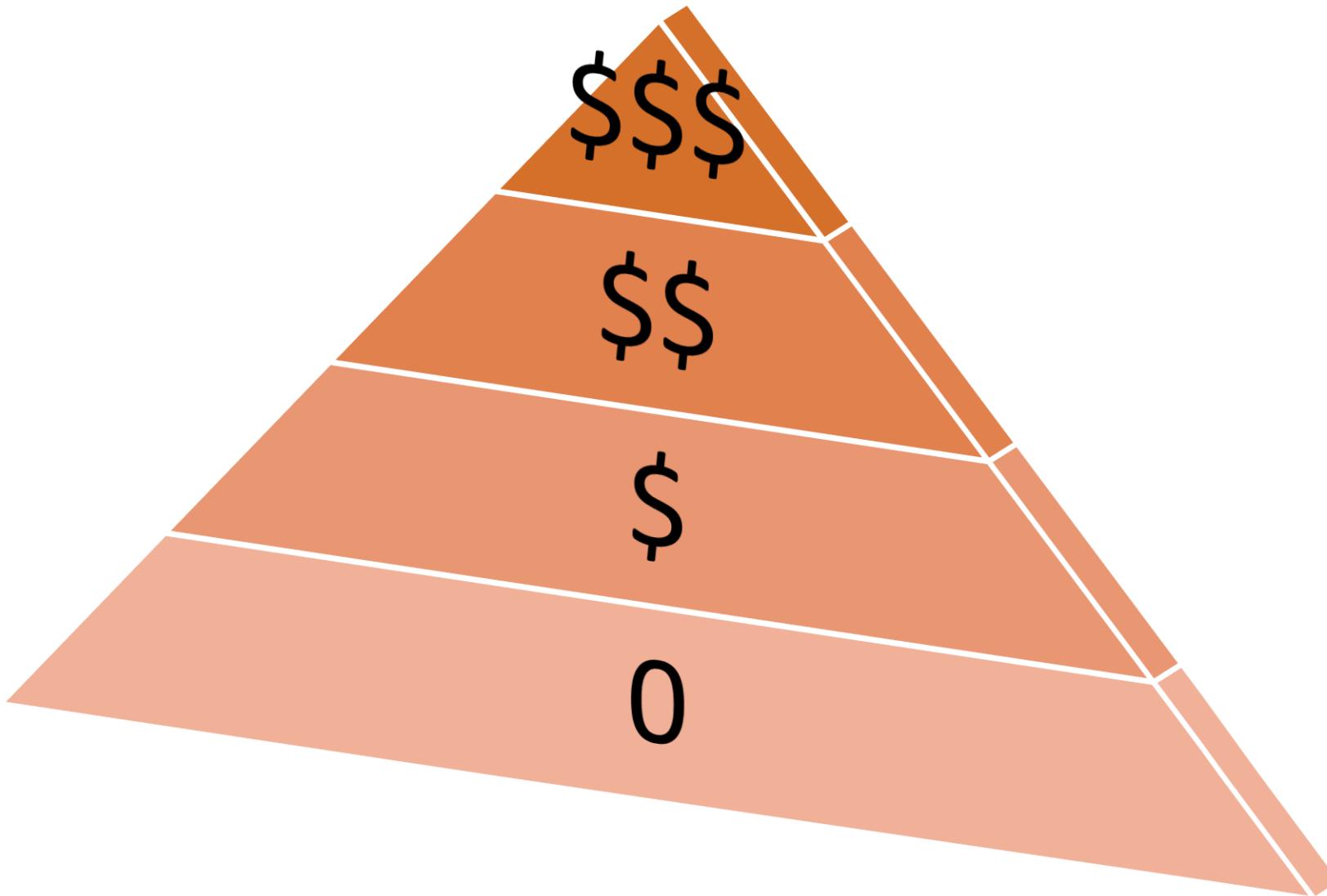
- If you reward something, you get more of it
- If you punish something, you get less of it

Scientific Research



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Scientific Research



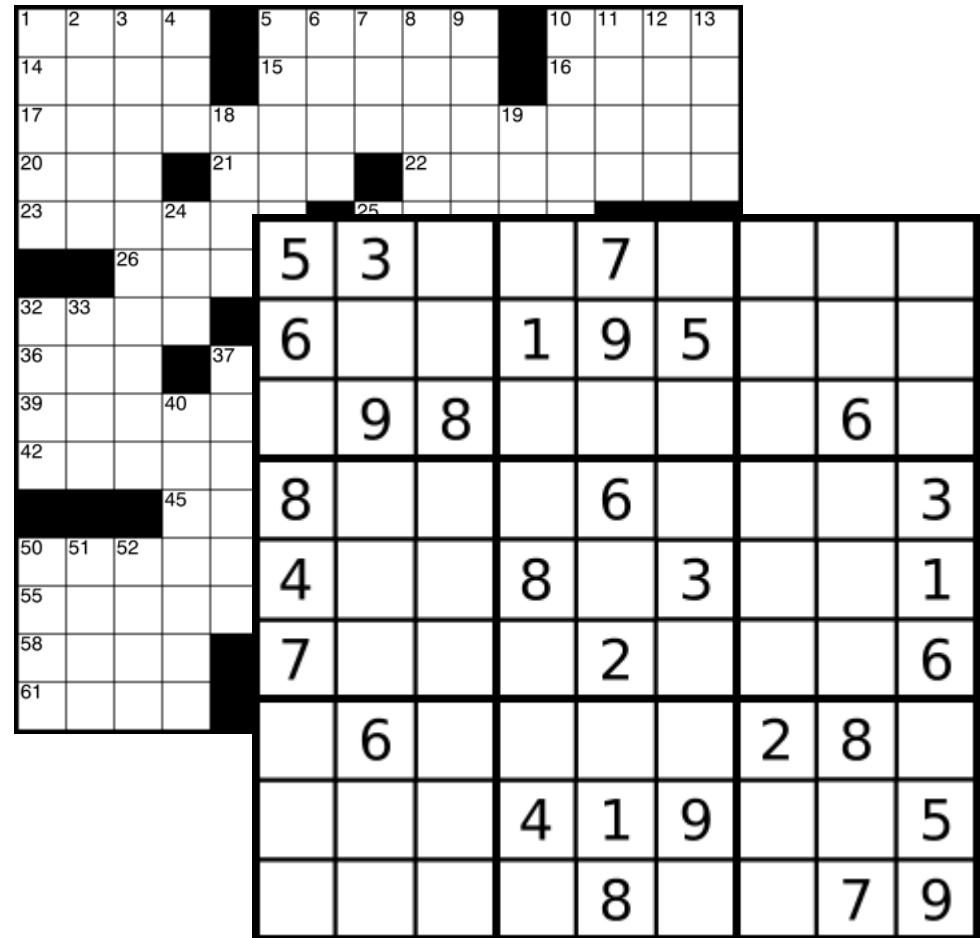
Scientific Research



- As expected
- Larger reward = better performance

Scientific Research

- Rudimentary cognitive skill or creativity
- **Larger reward = poorer performance**



Motivation

Traditional carrot and stick motivation doesn't work



Motivation

- Extrinsic Motivation
- Intrinsic Motivation

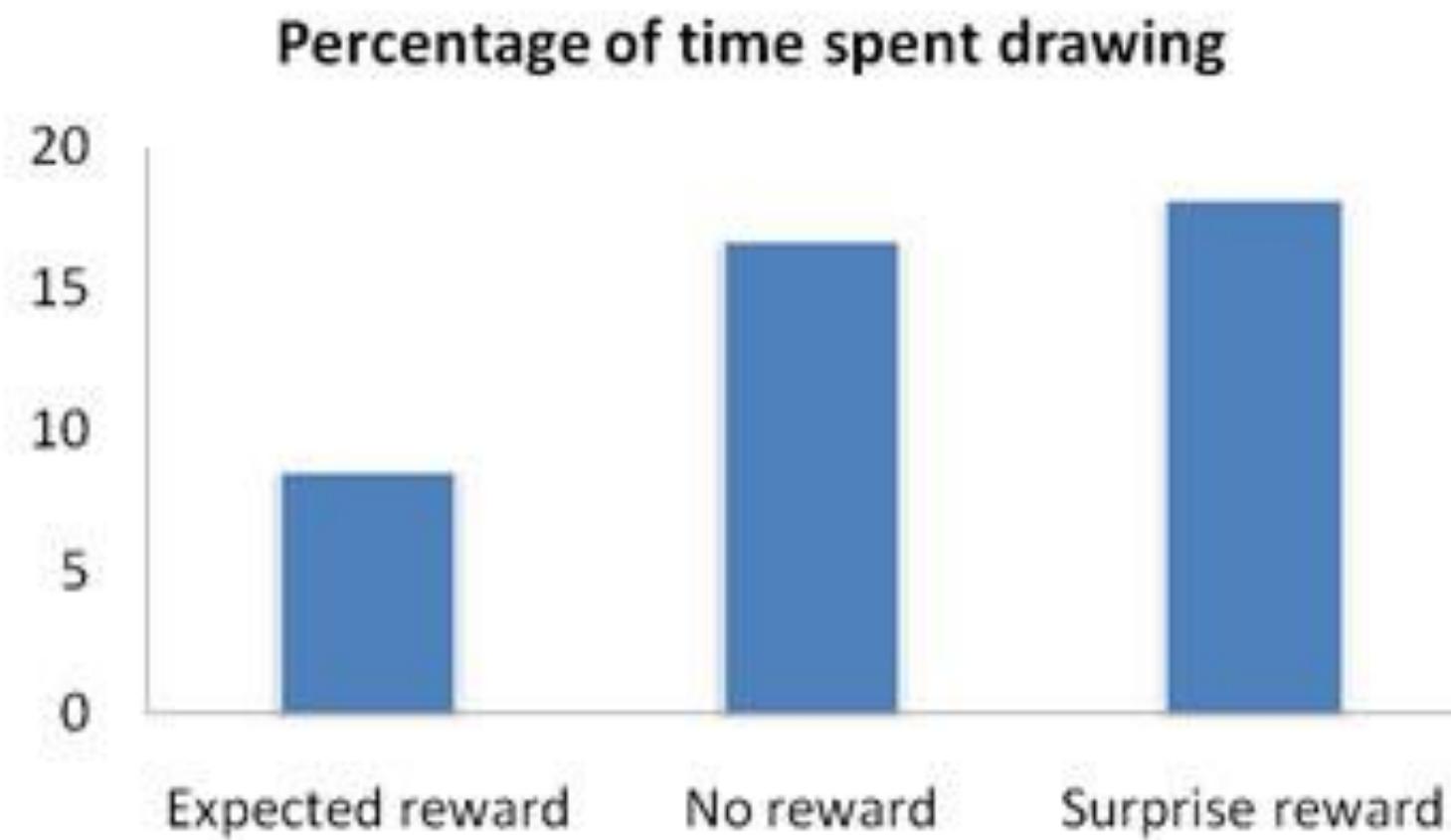
Why Extrinsic Doesn't Work

- It leads to tunnel vision on the reward.
- It stifles creativity.
- It turns it into work, removing intrinsic motivation.

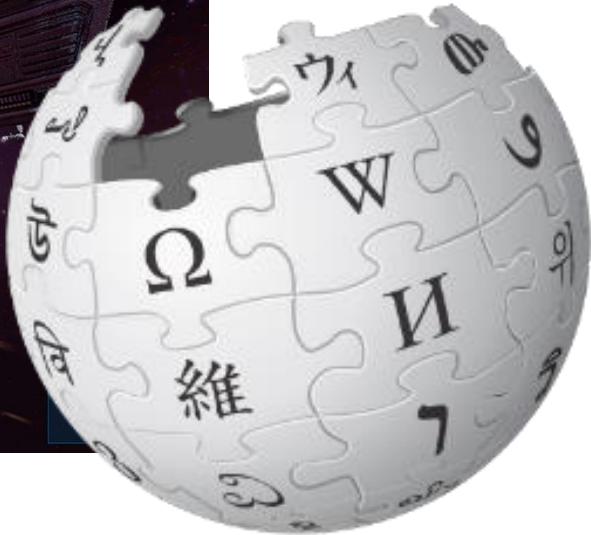
Rewards for Drawing



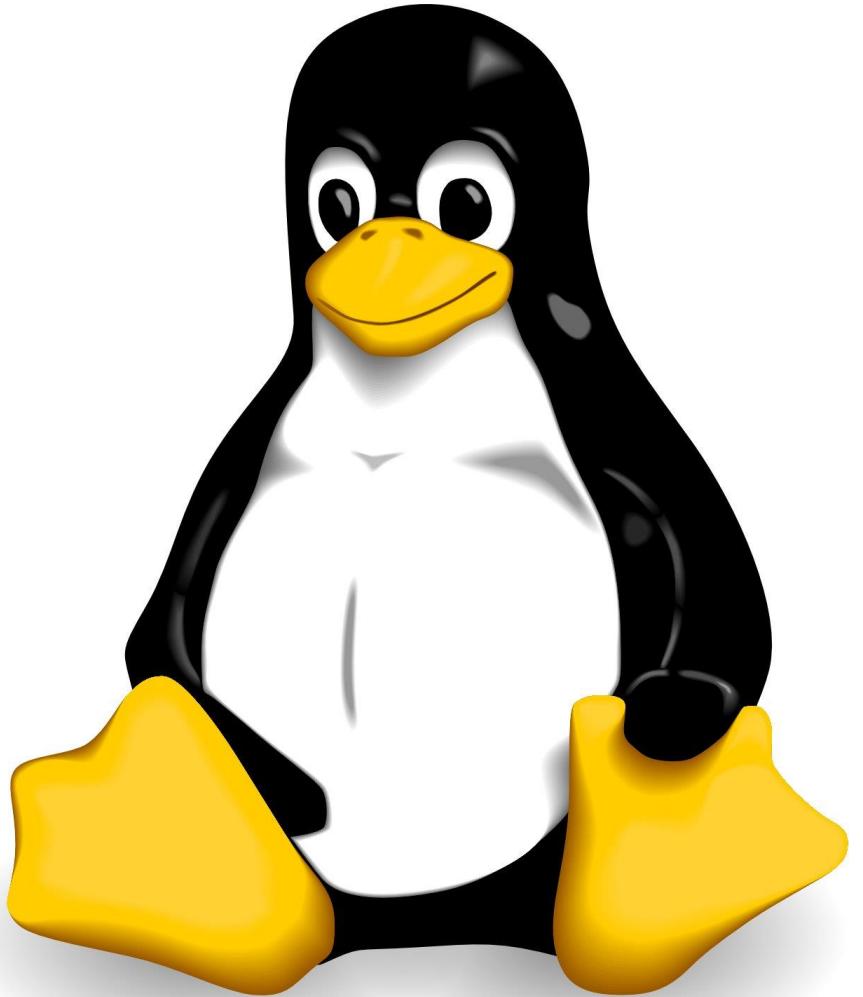
Rewards for Drawing



Intrinsic Motivation

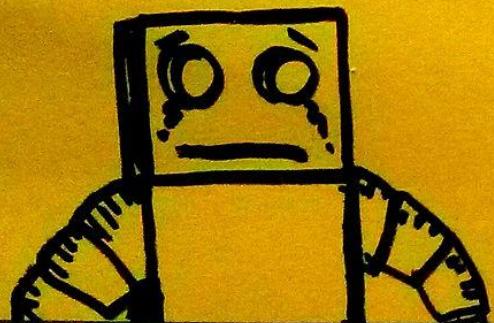


WIKIPEDIA
The Free Encyclopedia



Motivation Drives

AUTONOMY



MASTERY



PURPOSE



Autonomy and Play

- Control over your work
- Freedom to play at work



Autonomy

- Trust your team
- Allow for play
- Get out of their way

Autonomy @ Double Stallion

- Foster trust
- Guide, don't dictate
- Creative days

Mastery and Potential

- Getting better - Flow
- Chasing the impossible
- Enjoying the journey



Build Mastery

- Create a sense of potential
- Escalating challenges for your team
- Personal growth
- Move fast and break things

Build Mastery



Purpose

- Reason you do what you do
- Big Hairy Audacious Goal
- Making the world a better place



Purpose

- Apple: “To make a contribution to the world by making tools for the mind that advance humankind.”
- Riot Games: “To be the most player-focused game company in the world.”
- Blizzard: “Dedicated to creating the most epic entertainment experiences...ever.”

Build Purpose

- Answer “Why?”
- Create your vision and share it
- Must not let profit be your purpose

Build Purpose

1. Put Players First

Always have players in mind when designing or building games. Remember that they give you your paycheck at the end of the day. Strive to exceed their expectations and deliver on the promises we make. Know your market, learn what makes them tick. Deliver the best quality product possible through testing and QA.

2. Be a Professional

Owning your work from start to finish. Be responsible for your part and the project as a whole. We aren't doing game development as a hobby anymore, and we have responsibilities to our customers. Remember that *Less is More*; Not having a feature is better than doing it badly.

3. Keep Work-Life Balance

Remember to go home and get refreshed. Crunch time is the result of poor planning, and we must minimize it. Do what it takes to stay happy, creative and productive. Always bring your best to work.

4. Leave Your Ego at the Door

Do what is best for the company and the team. Take feedback as an invitation to learn and improve. Be honest with the work of others, good and bad, but always be constructive. Acknowledge your strengths and weaknesses and know that everyone here is trying to make our games better.

5. Be Constantly Learning

Takeaway

- Don't confuse milestones and tasks with total motivation
- Avoid using rewards as motivation, use surprises instead
- Allow your team to have autonomy, mastery and purpose

Conclusion

- Survivorship Bias
 - Indiepocalypse
 - Luck
- Impostor Syndrome
- Motivation

References: Survivorship Bias

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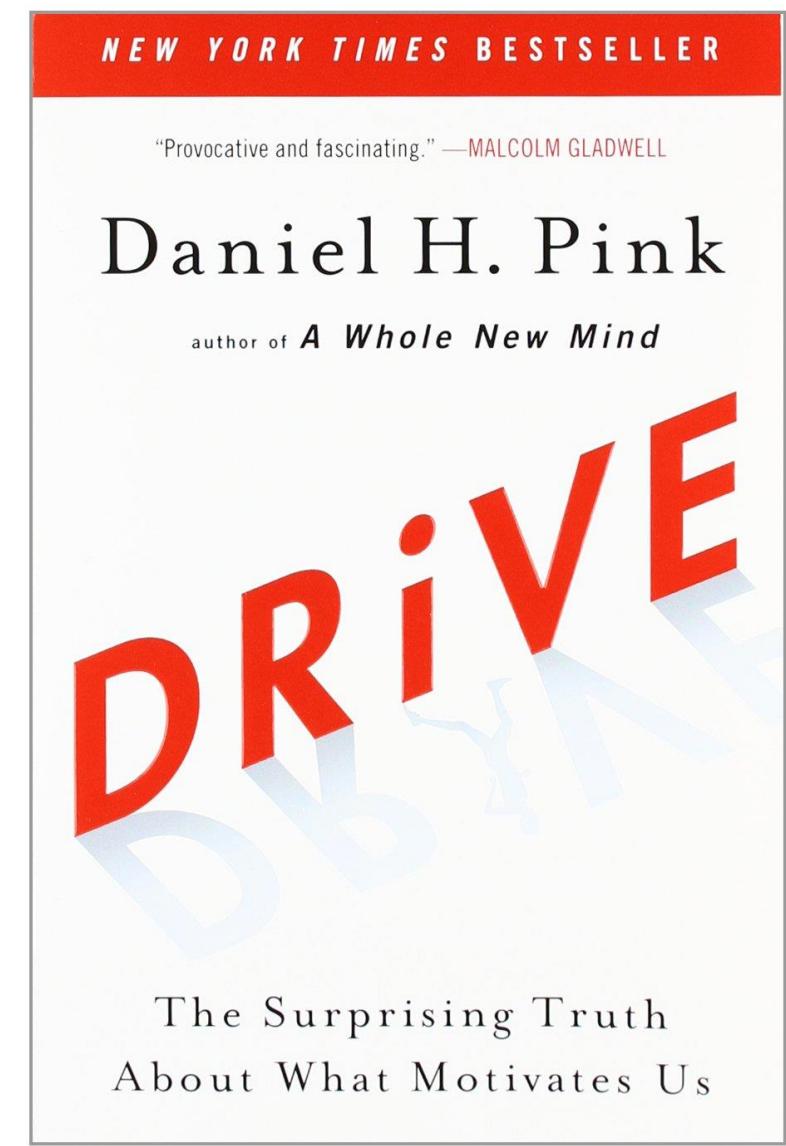
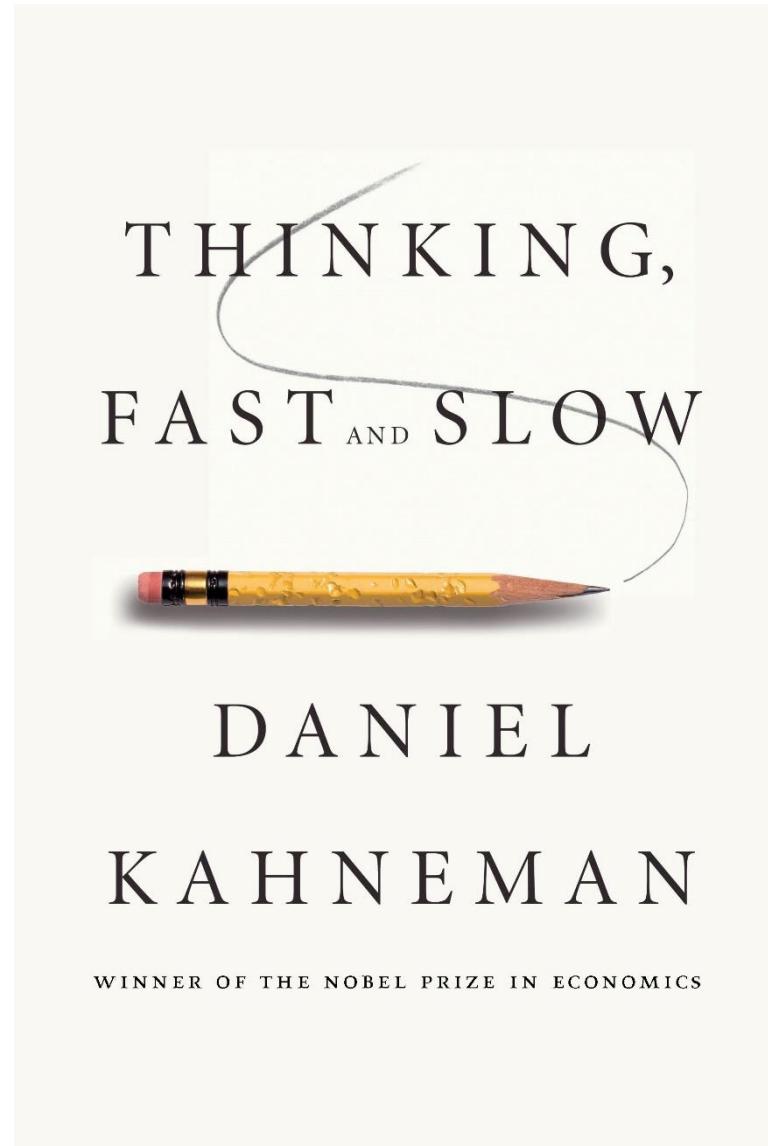
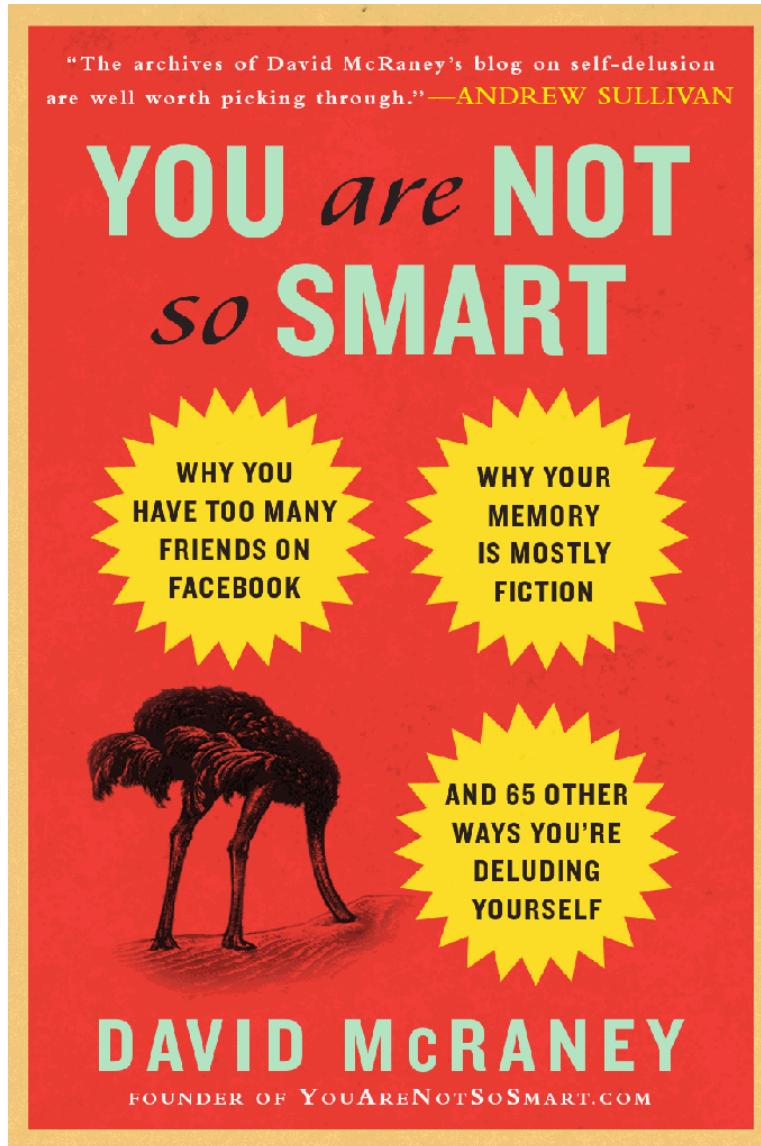
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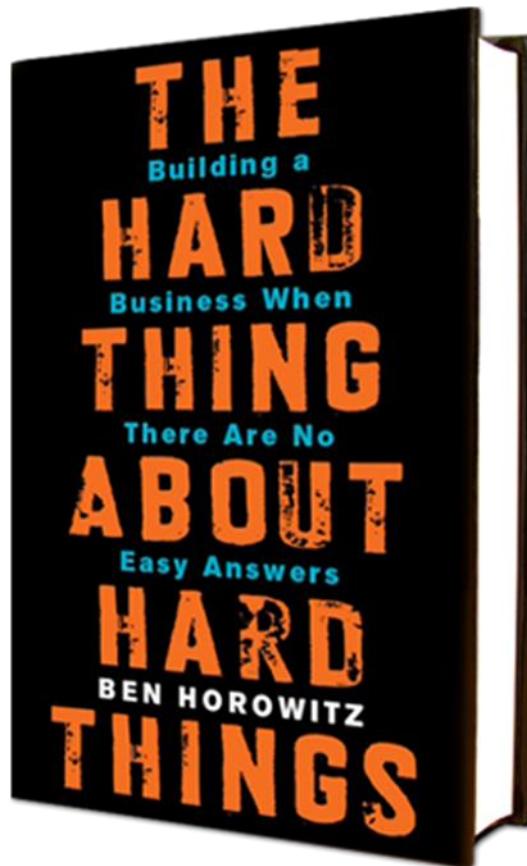
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Recommended Reading



Recommended Reading



Thank You!



**DOUBLE
STALLION**

www dblstallion com

dan@dblstallion.com

@dblstallion - @LDeemen