

The Game Engine of the Future

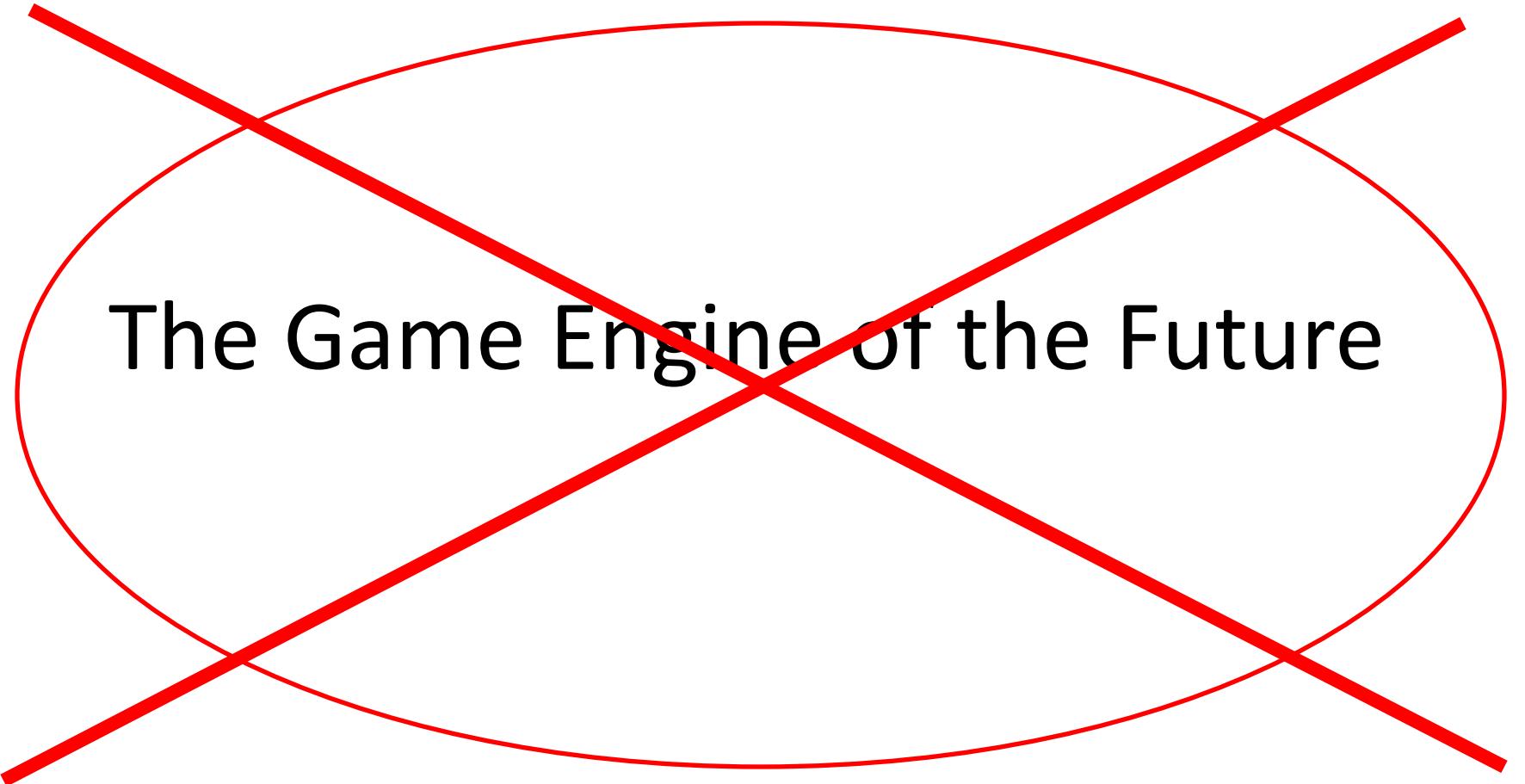
Mike Acton

macton@insomniacgames.com

Twitter: @mike_acton

Why am I here?

Say anything you want.



The Game Engine of the Future

Mike Acton

macton@insomniacgames.com

Twitter: @mike_acton

It's all about the data.

THE END.

Y1 M12 W2 •

\$140.1K



Contract ☺

10/15



Due 6 Wk. 🚚

3/30



Save

Menu

Game dev story

Dialog Window



insomniacgames Insomniac Games
We're working on something new.

12 seconds ago

Secretary



Contract



11/15



Due 6 Wk.



3/30



E 29

Developed Console 2/3



License Negotiation

Yr Profit

\$230.0K

No Project

Dialog Window

Lots of big changes.
What are you going to do?

Secretary



Contract



11/15



Due 6 Wk.



3/30

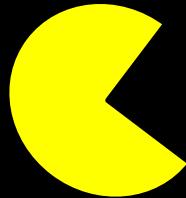


Shared my personal vision with
team.

The Path

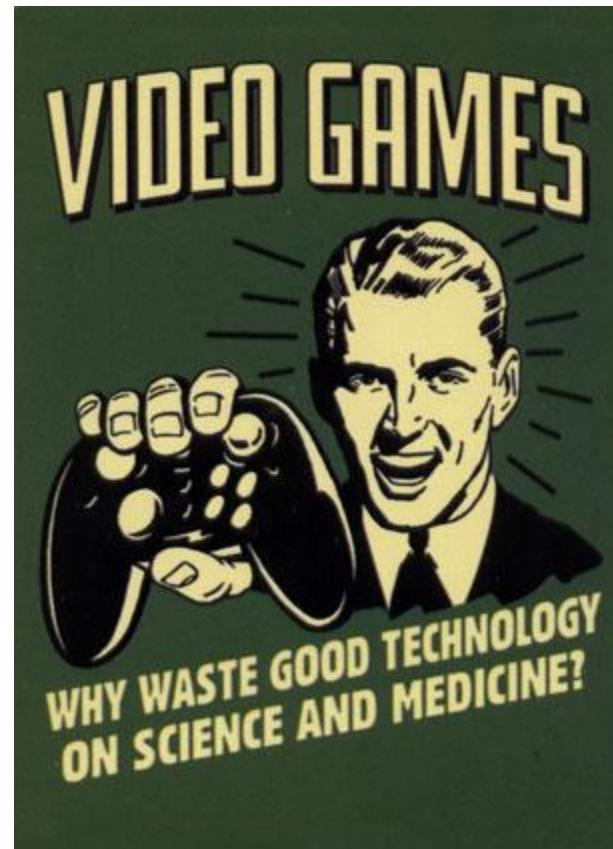
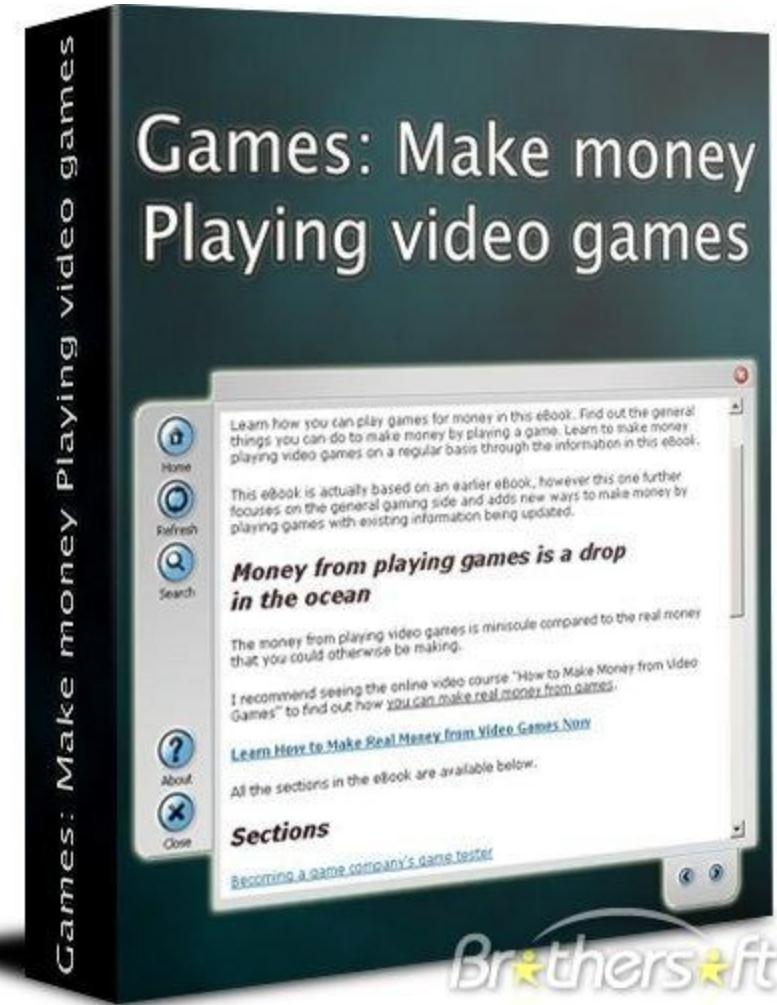


Why?



For the money?

For the money?



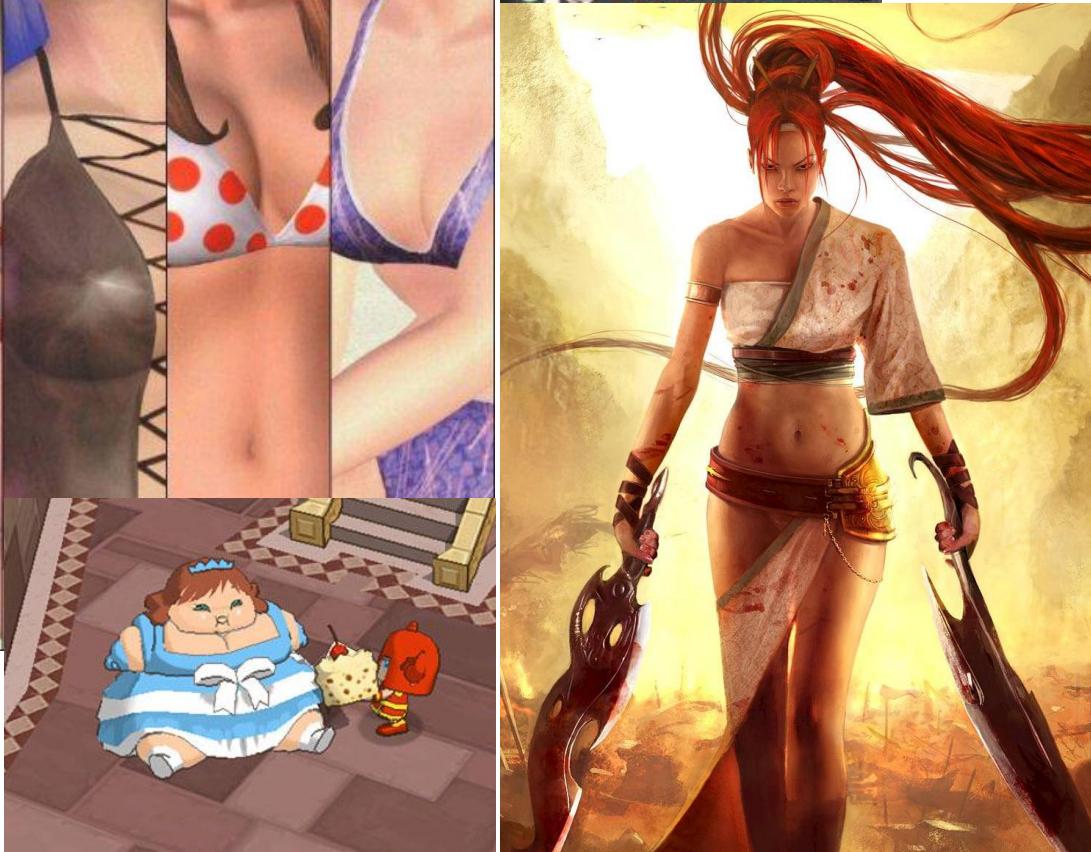
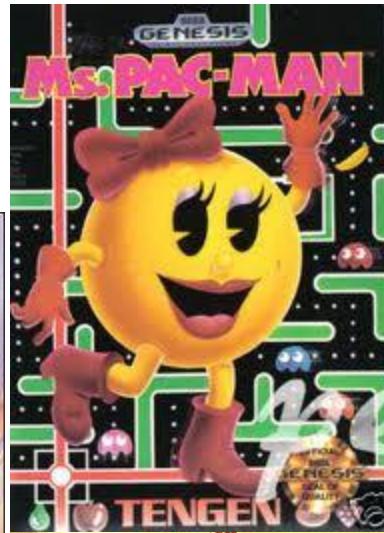
For the fame?

For the fame?

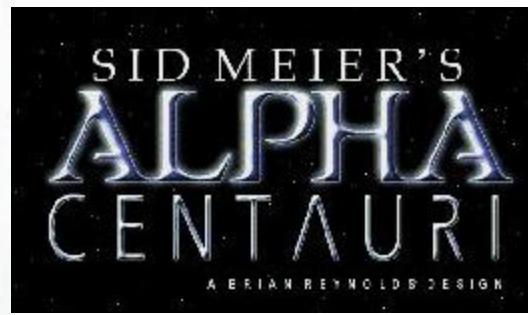
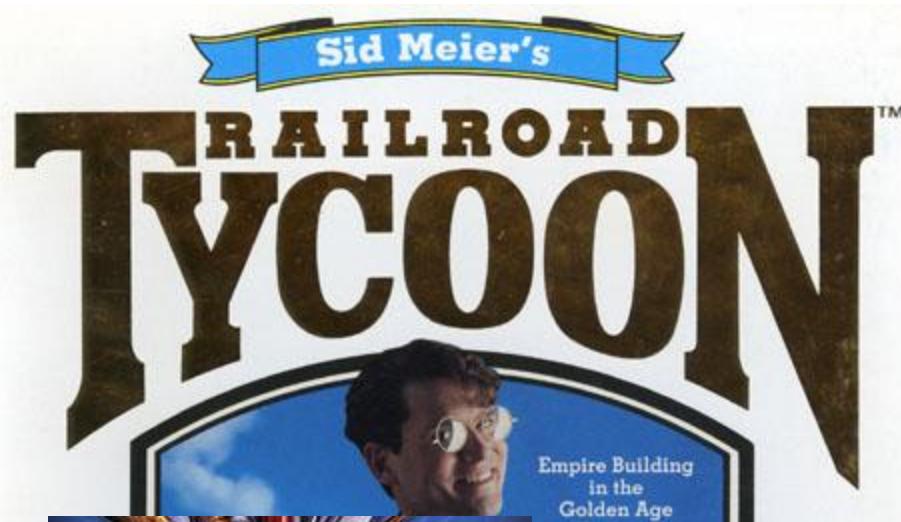


For the girls?

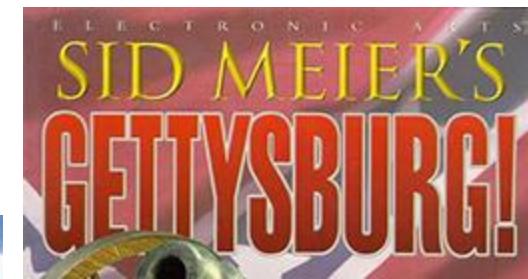
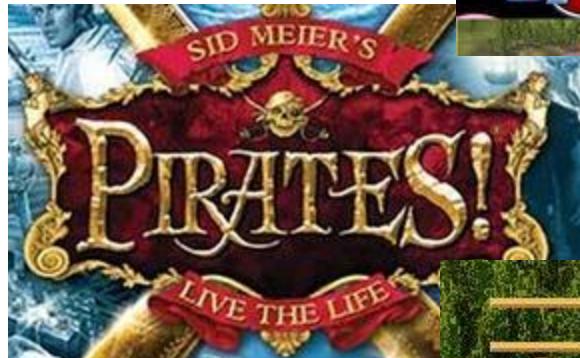
For the girls?



Creation Ego?



Creation Ego?



Maybe a little...

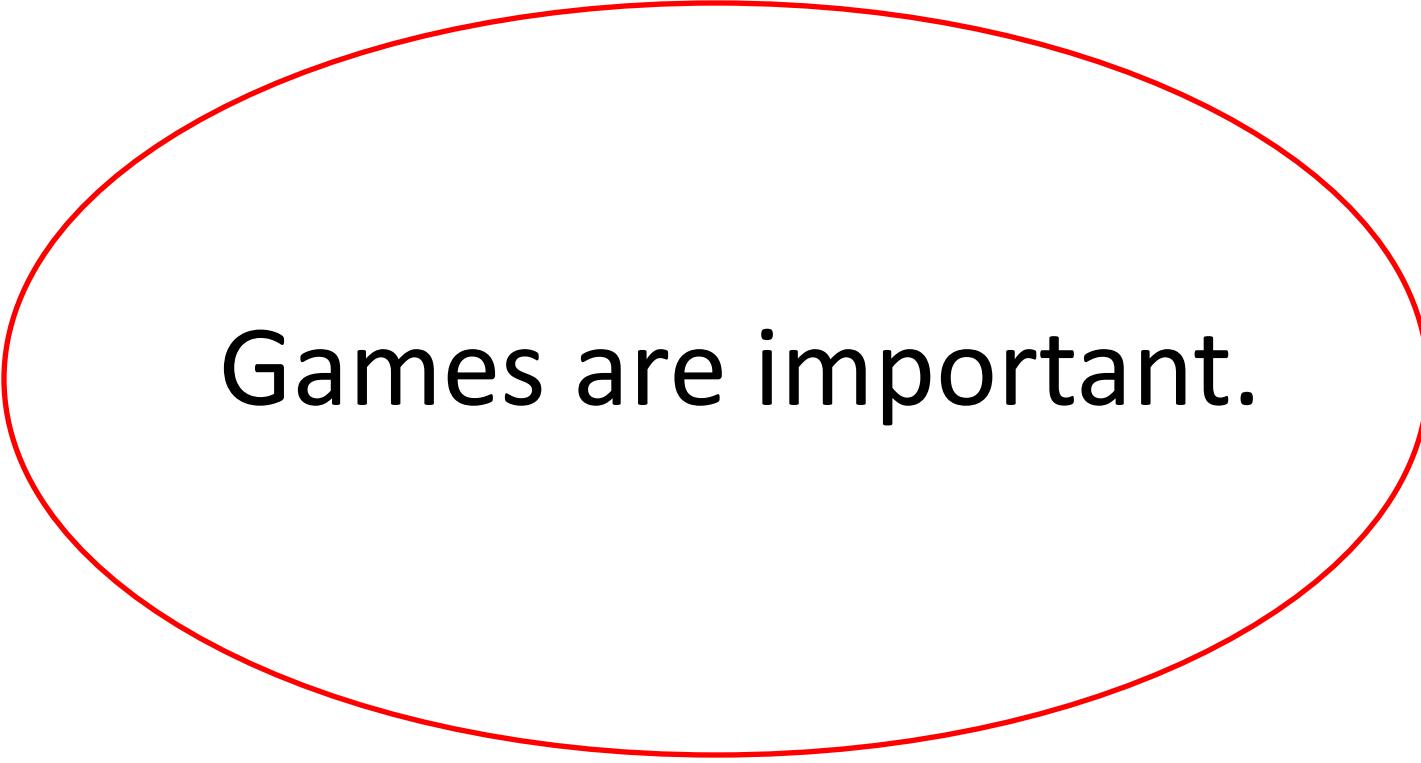


Mike Acton Presents:

**Mike Acton's Vision of
The Engine of The Future**

Presented by Mike Acton

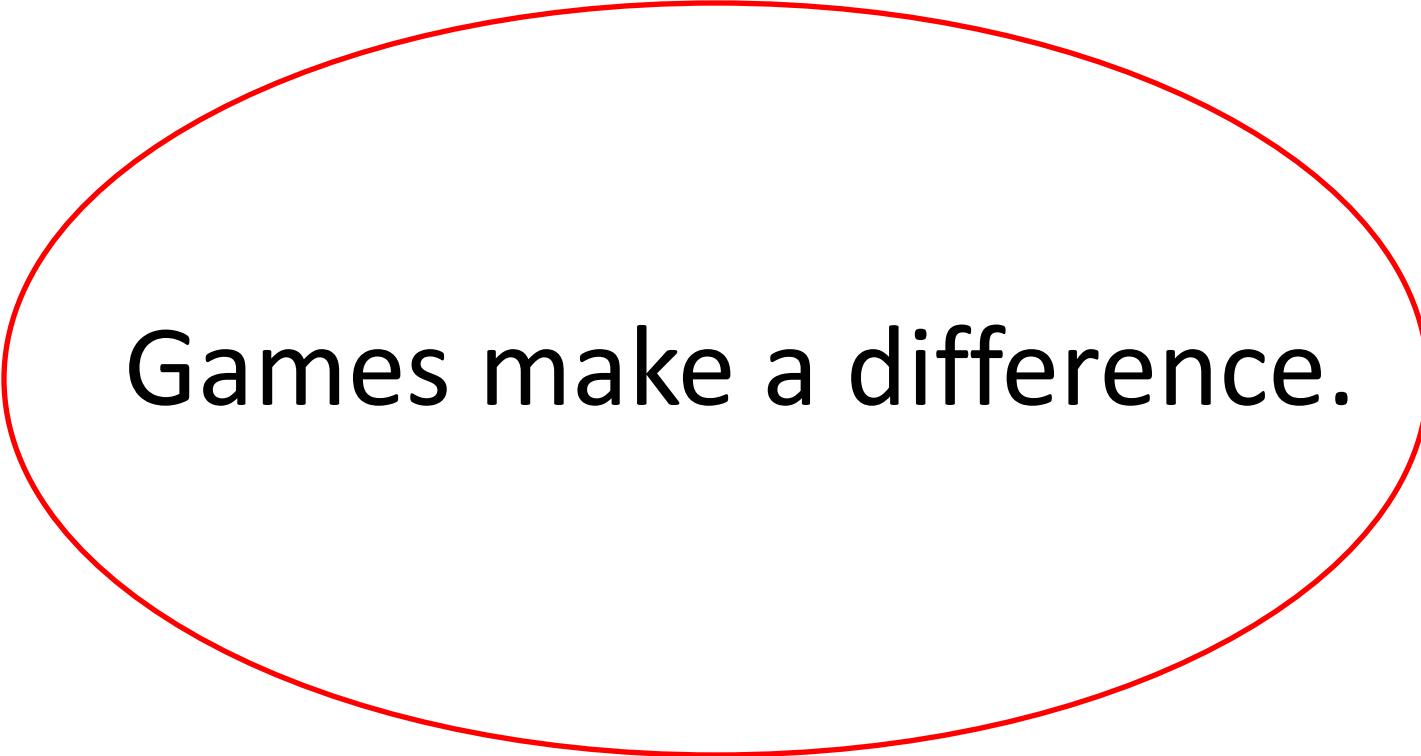
Because I believe...



Games are important.

Imagine a world without games.





Games make a difference.

TRADE

WARS!



For [QuickBBS](#)
by
[Alan Davenport](#)

Author Name : Alan Davenport

Year Written : 1987

Application Type : TW Fork

For Version : Unknown

Download : [tw1000.zip](#)

Description :

Though I have greatly enhanced this game, Chris Sherrick originally wrote it and holds the COPYRIGHT to it. I could not have come up with such a fine, original idea. My programming skills work best at improving already fine software. Remember to give thanks to Chris for the ORIGINAL idea each time your users play and enjoy this fine game! I do not want and WILL NOT accept money for the game. All I ask is that you ENJOY it!

-Alan Davenport

PlayStation®



PlayStation®

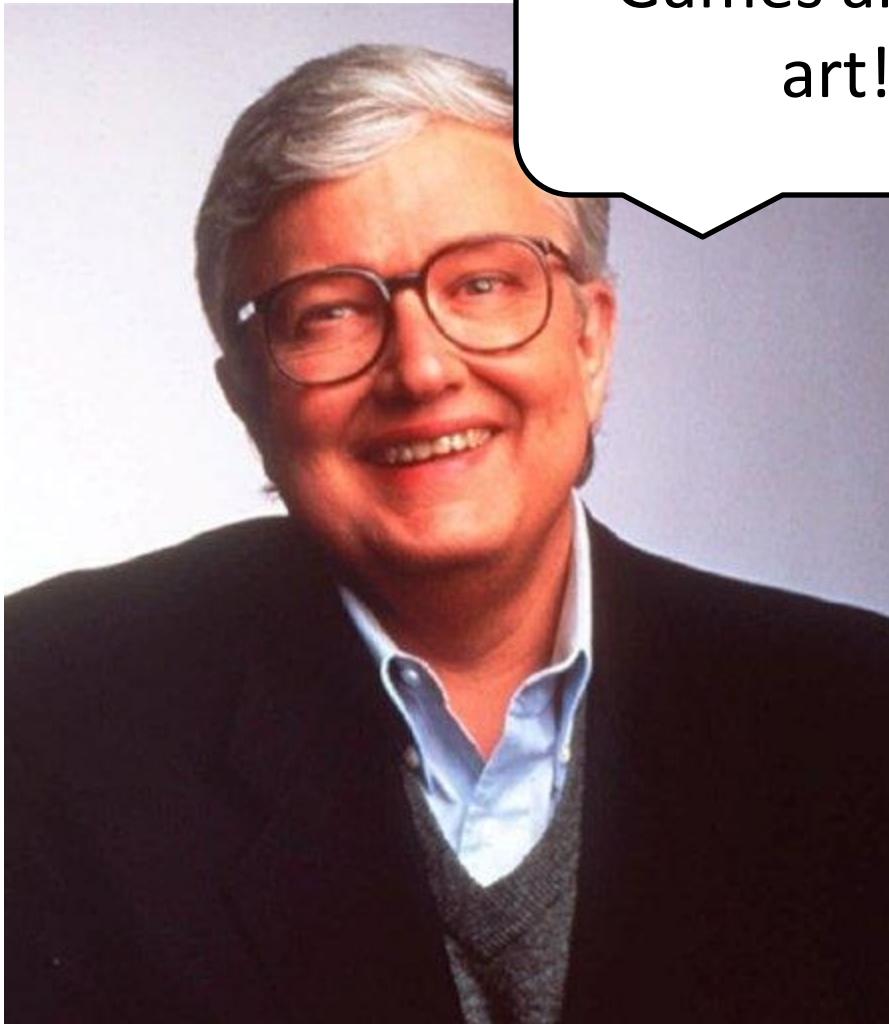
PC CD-ROM

The SIMS 2



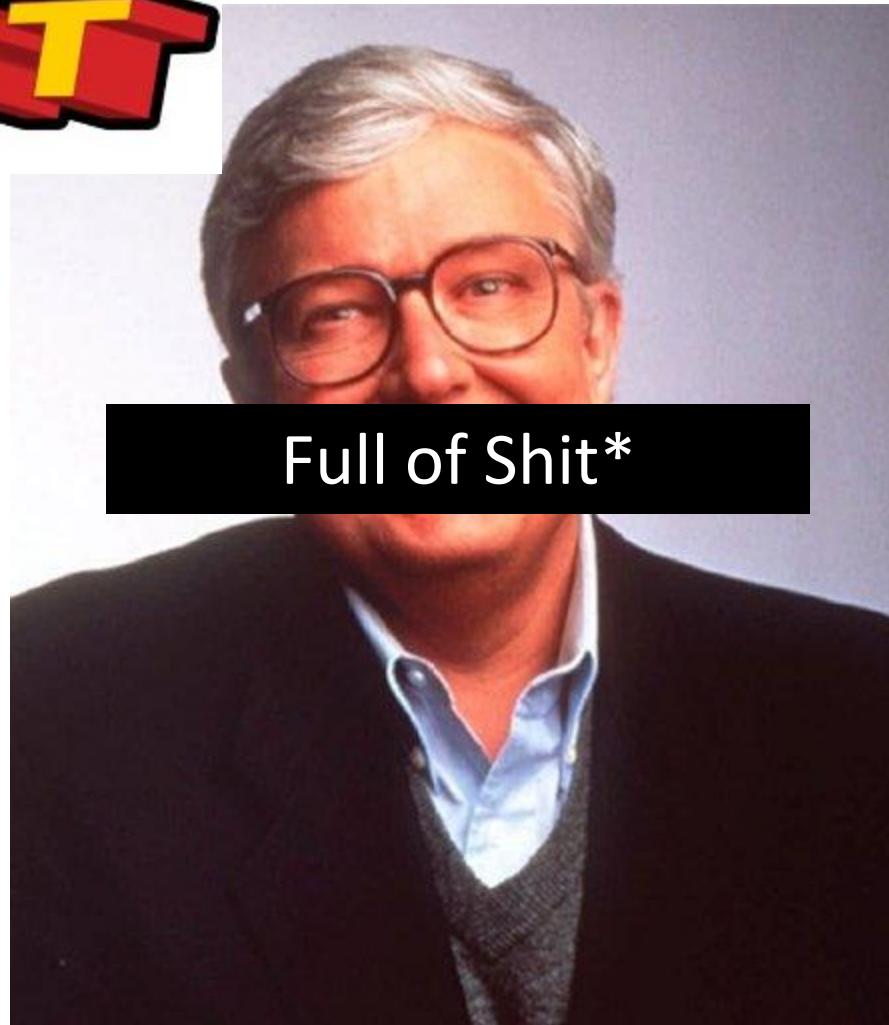


Games are art

A portrait of a middle-aged man with light-colored hair and glasses, smiling. A speech bubble originates from his mouth, containing the text "Games are not art!".

Games are not
art!

**GAMES
ARE ART**



*About video games



@mike_acton
Mike Acton

Movies are just a degenerate form of games. They're a one-button game (Play) with a single 90 minute quick time event (QTE). @ebertchicago

18 Apr via web Favorite Reply Delete

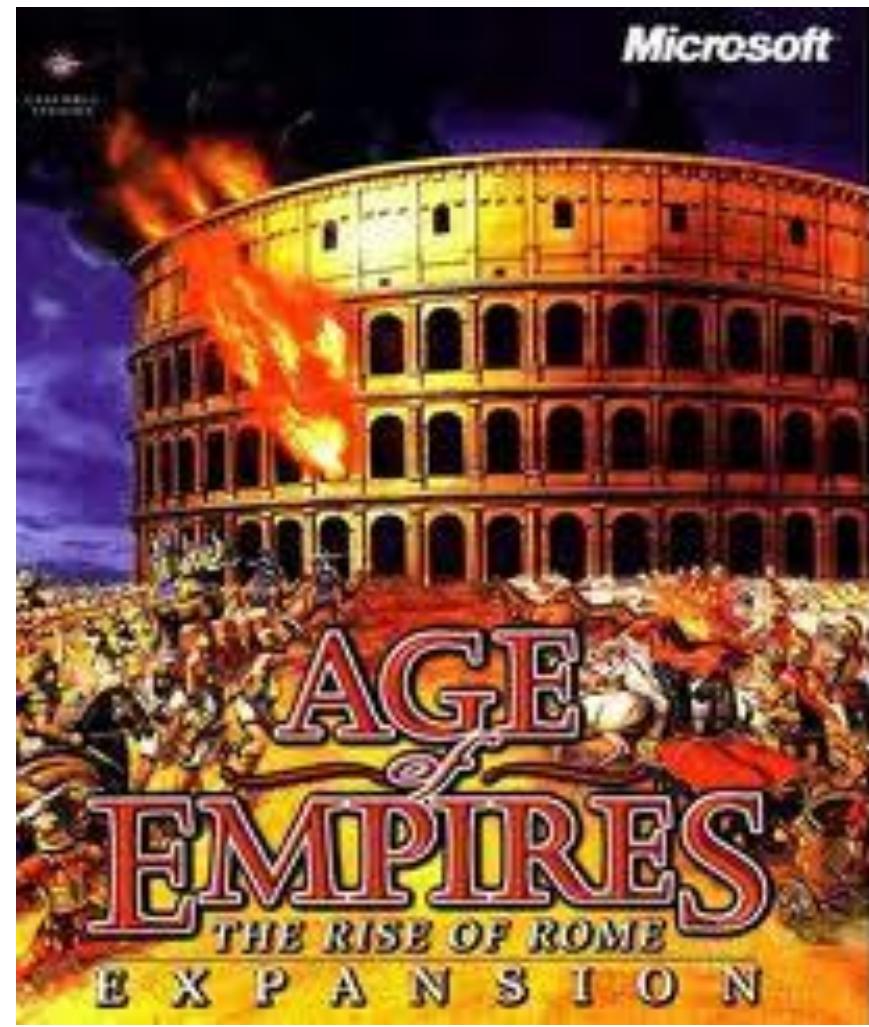
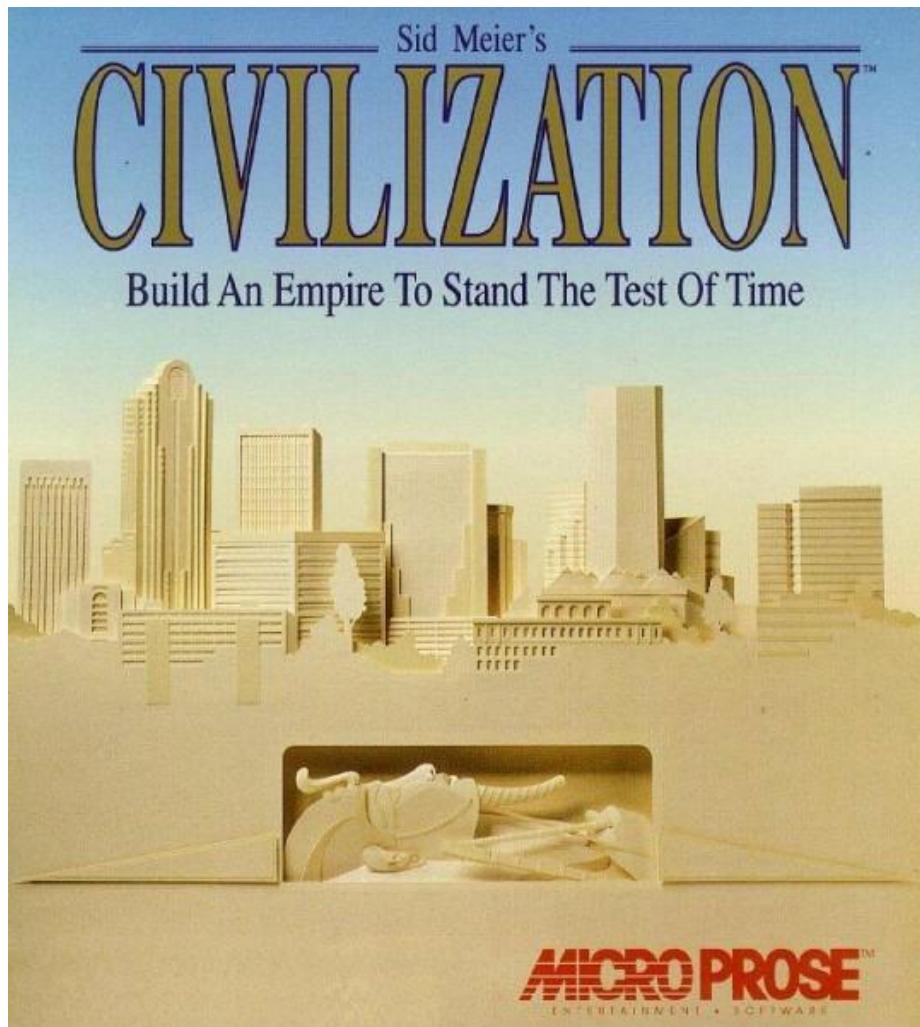
Participatory Fantasy



Augmented Dreams



Augmented Dreams



Augmented Dreams

Other dreams?

Interactive Creativity



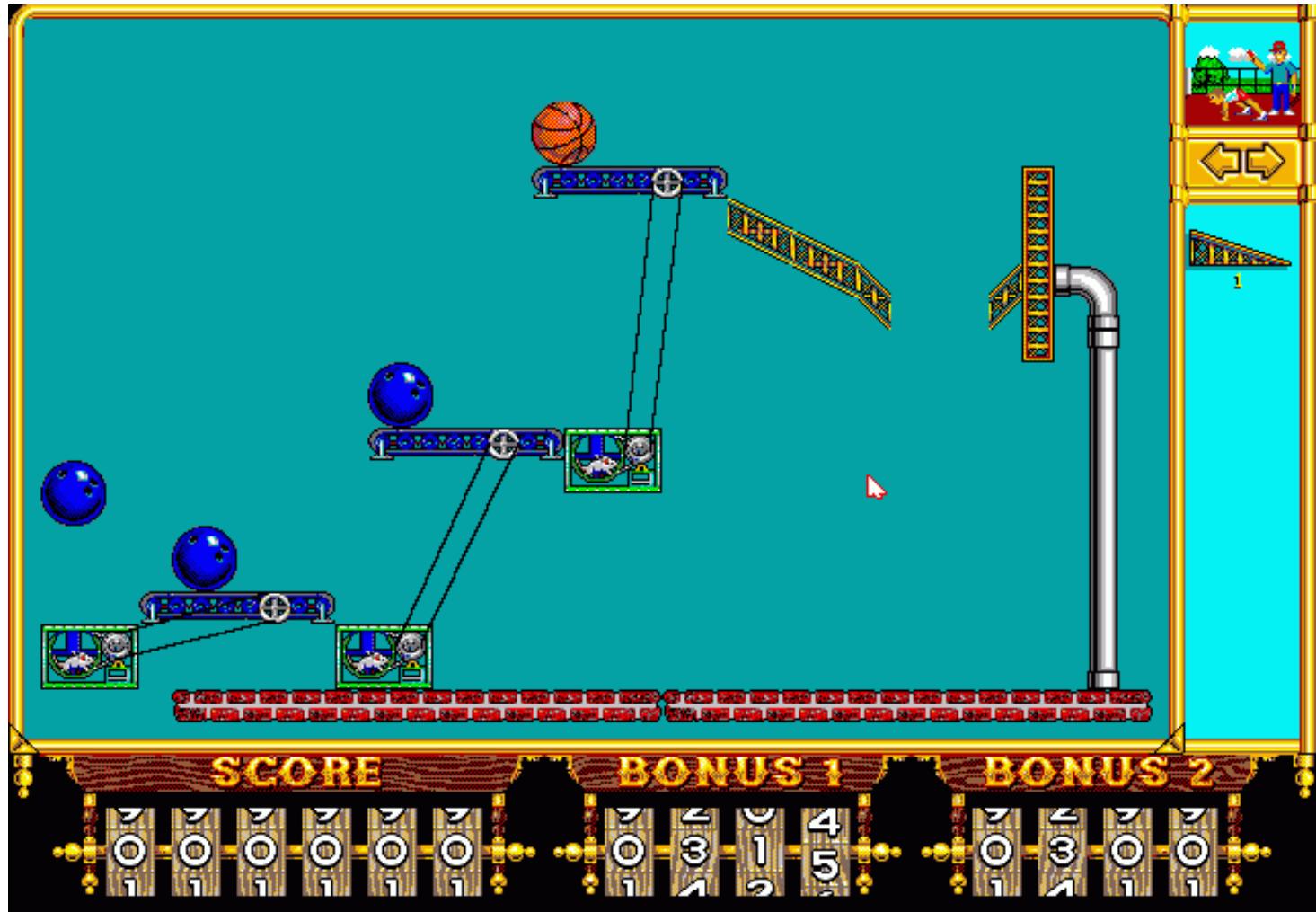
LittleBigPlanet

Interactive Creativity



Pinball Construction Set (1983)

Interactive Creativity



The Incredible Machine (1992)

Interactive Creativity





Business vs. Art

Don't get hung up...

Innovation != Sales

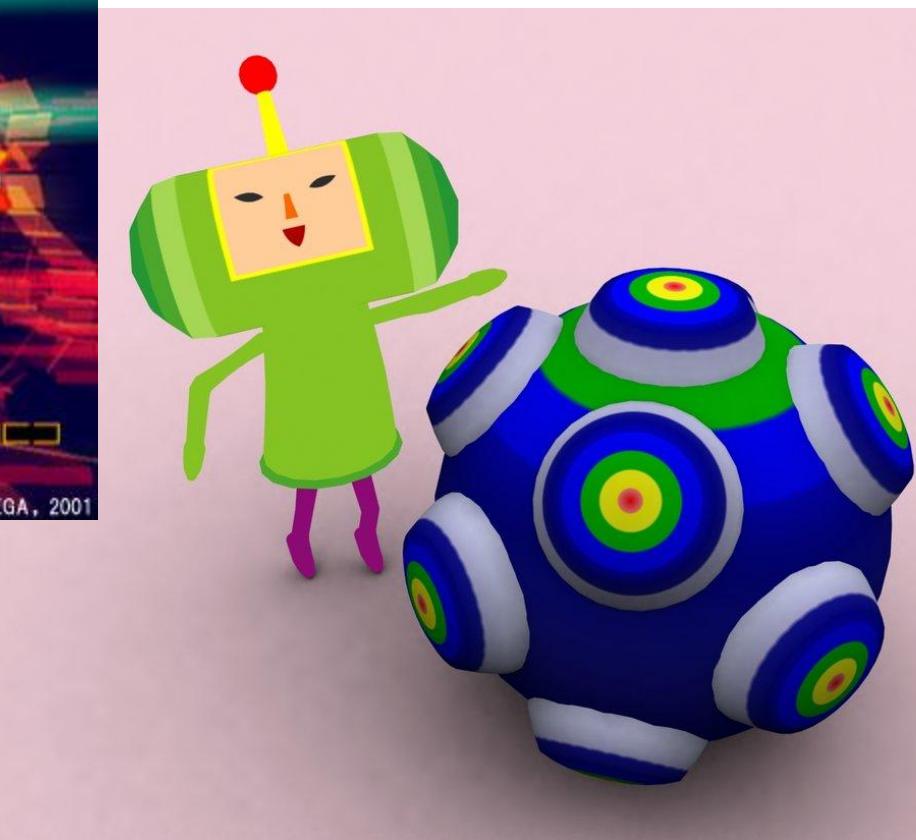
(Radical) Innovation != Sales

Rez



Braid

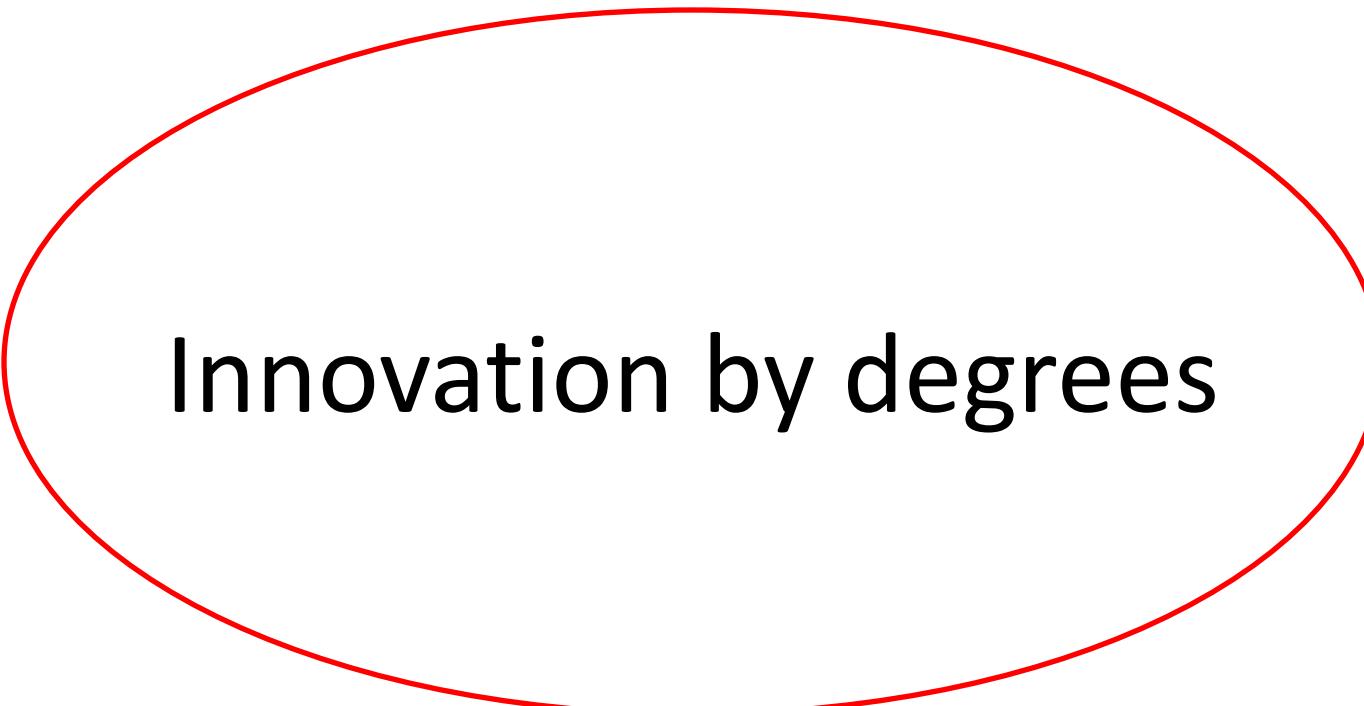
Katamari Damacy



Are we short-sighted?

Are we short-sighted?

Only sometimes. Mostly impatient.

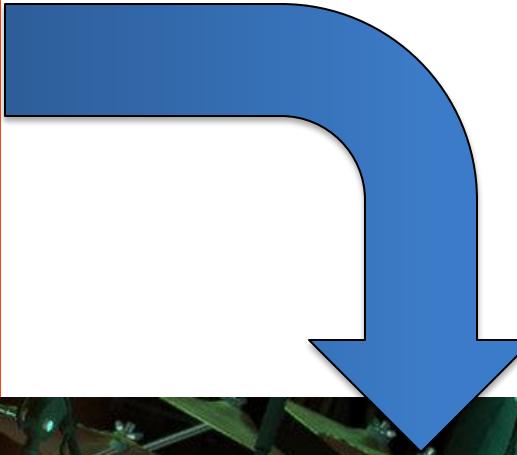


Innovation by degrees

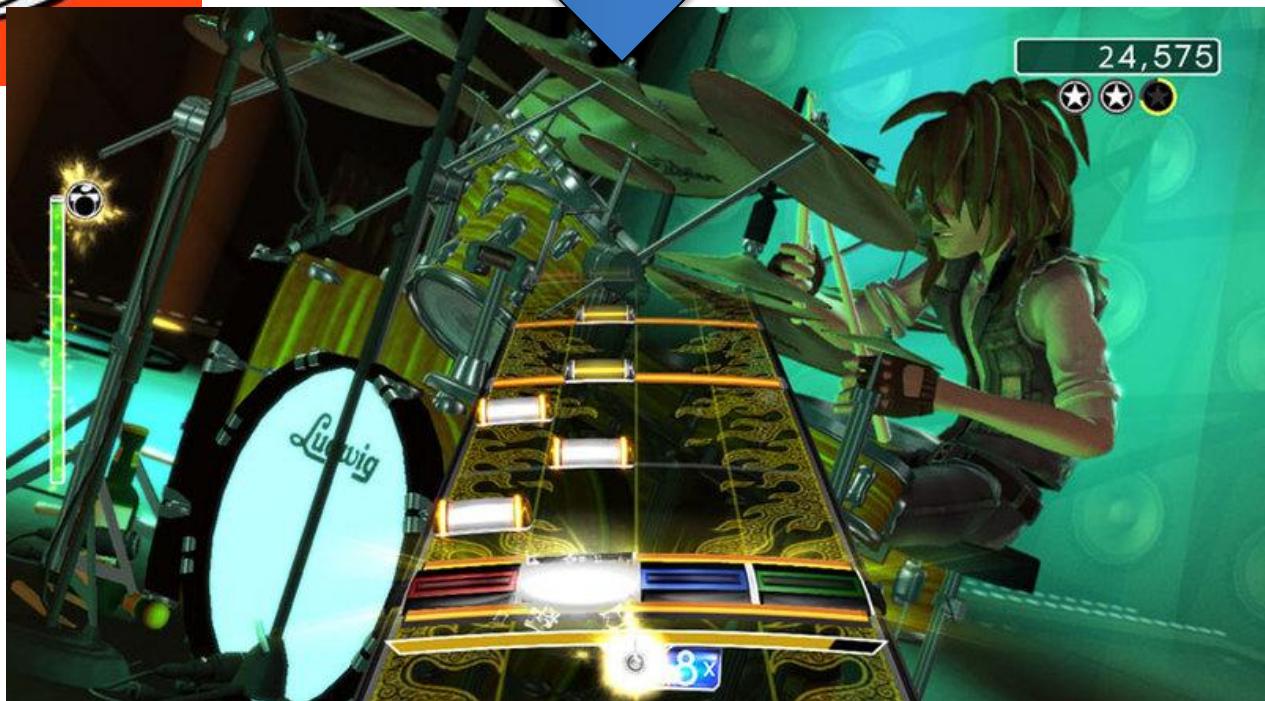
(Many games theory)



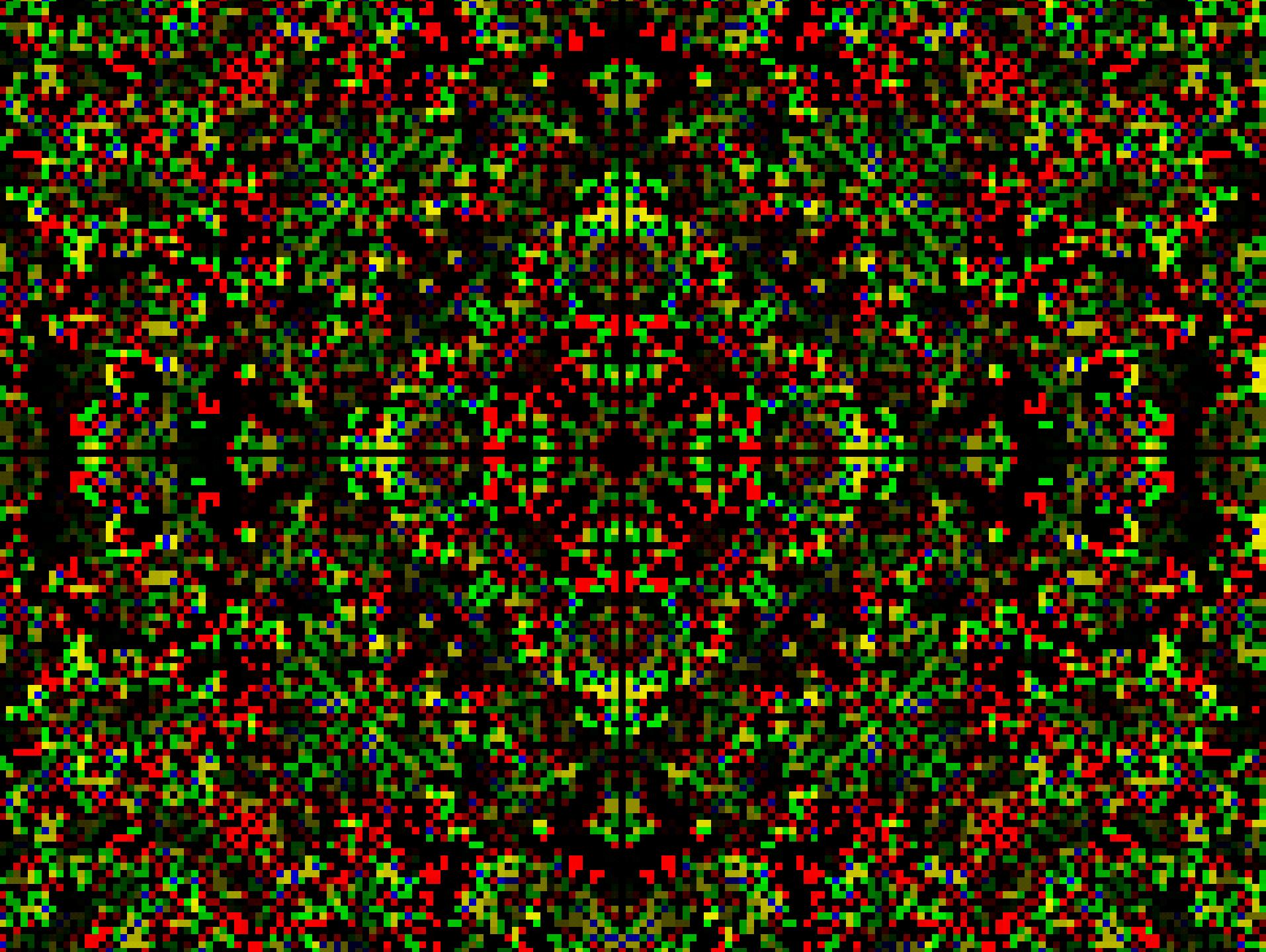
Parappa the Rapper

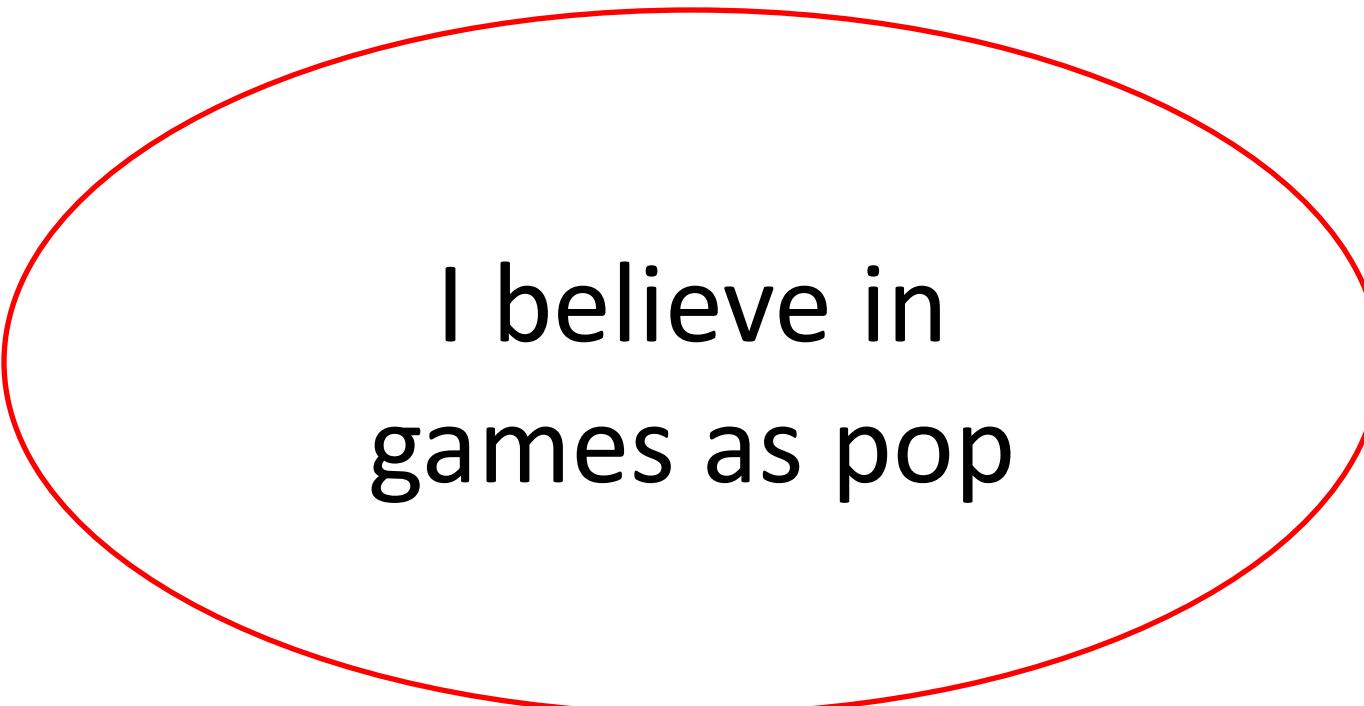


Rock Band



Discover unknown uses.





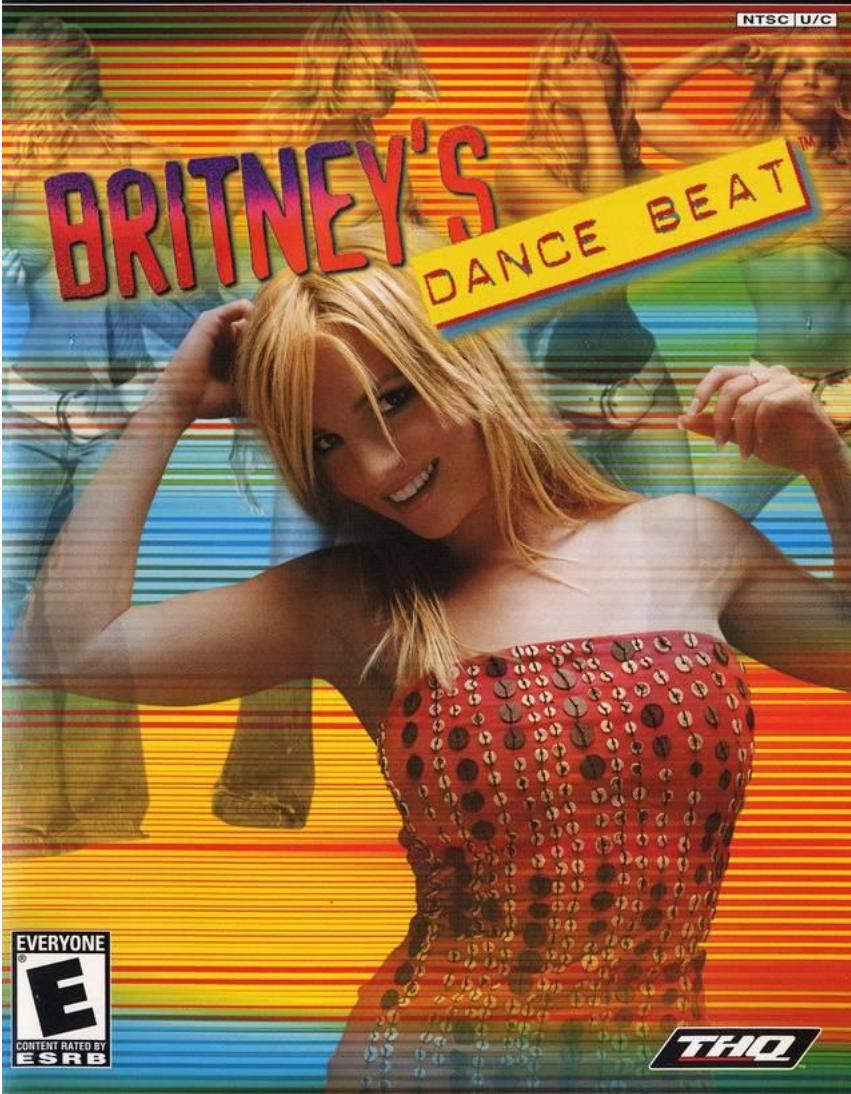
I believe in
games as pop

PlayStation®2



NTSC U/C

BRITNEY'S DANCE BEAT™



THQ

Reflect the world and the world
will surprise you.



Business + Art

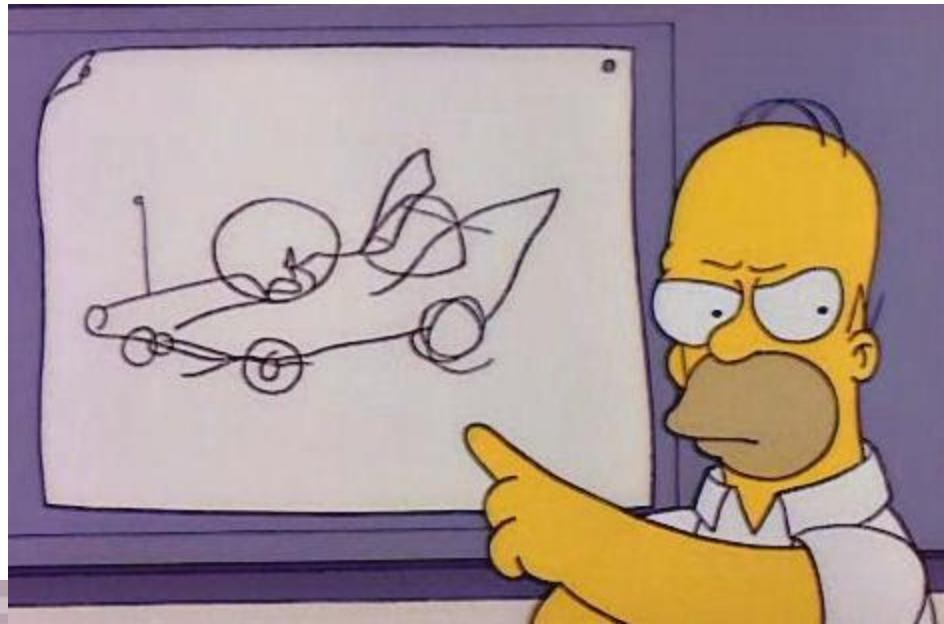


The Art of Pop

Production value matters...
Marketing matters...



Players Matter.



POWELL MOTORS

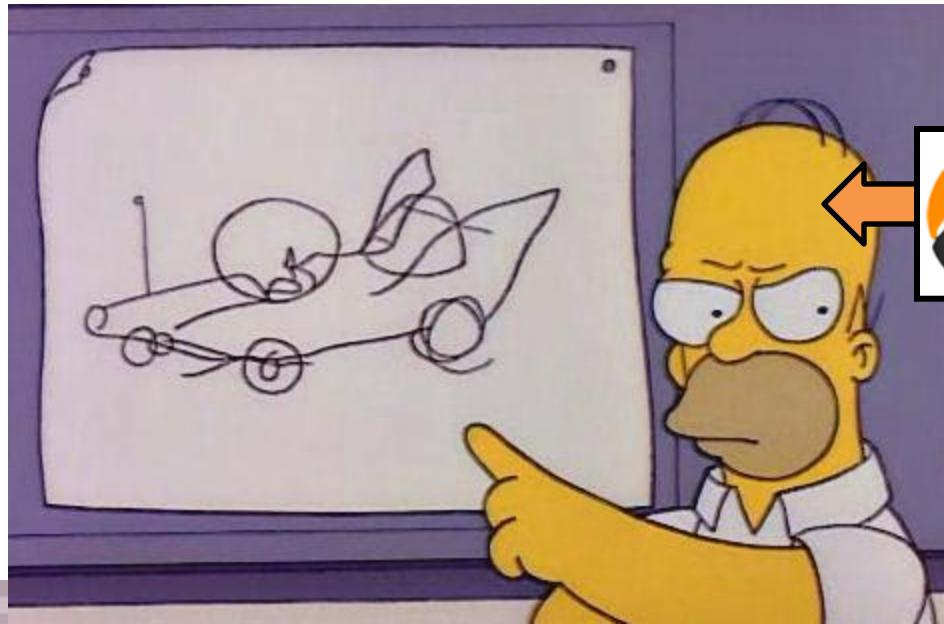
Presents

The Homer

Powerful like a Gorilla



Carlos R.Bisquertt - © 2007



POWELL MOTORS

Presents

The Homer

Powerful like a Gorilla



Carlos R.Bisquertt - © 2007

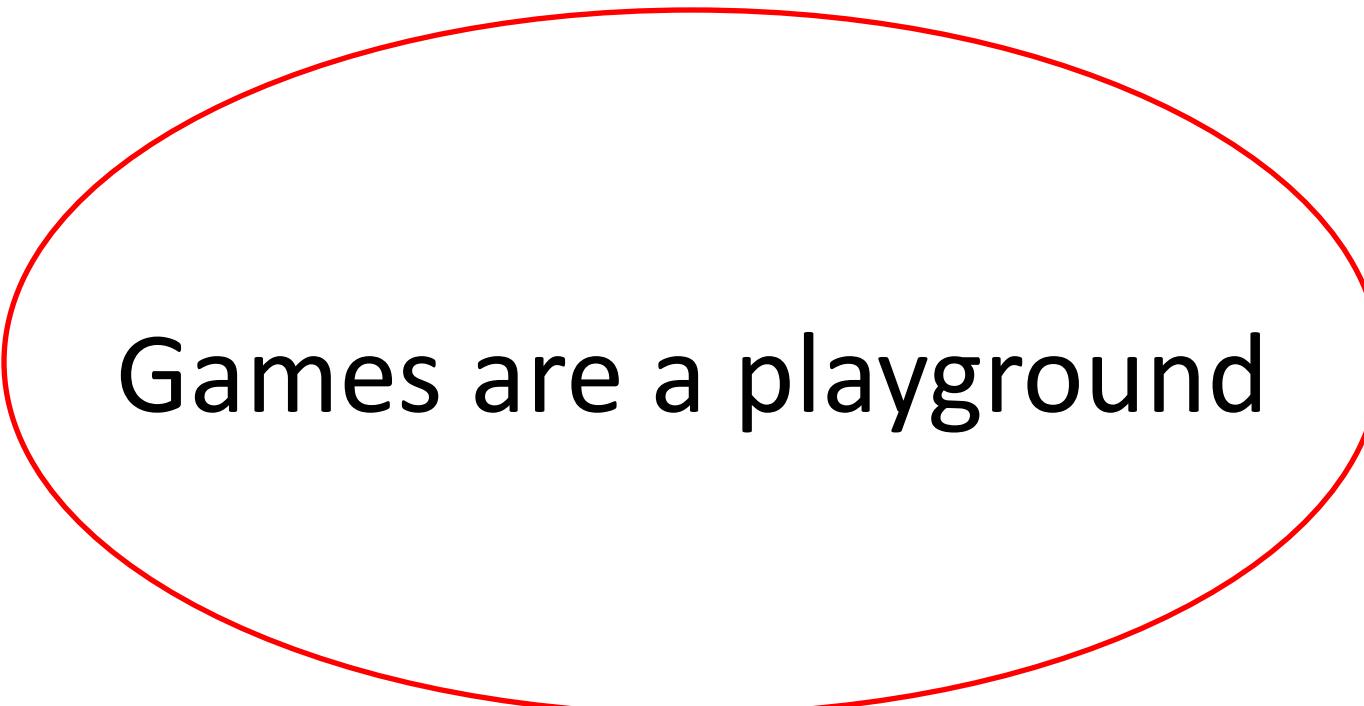
Come to the dark side,
We have cookies...

-V

Cult of Productivity

Small company vs. big company

Individual & Professional



Games are a playground

Playground for technology

222

222 CONSOLE HISTORY
A LIST OF 222 CONSOLES FROM 1947 TO 2008
1. 1947 - 1950
2. 1951 - 1955
3. 1956 - 1960
4. 1961 - 1965
5. 1966 - 1970
6. 1971 - 1975
7. 1976 - 1980
8. 1981 - 1985
9. 1986 - 1990
10. 1991 - 1995
11. 1996 - 2000
12. 2001 - 2005
13. 2006 - 2008



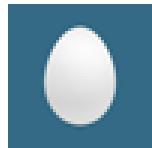


mike_acton Mike Acton

What's the one thing you're *most* passionate about in game development?

1 Nov

— in reply to @mike_acton ↑



@stingoh

Alban Wood

@mike_acton Gamedev is one of the only prog. domains where math, perf. and creativity ALL matter, where problems are hard AND diverse.

19 hours ago via web Favorite Retweet Reply

Playground for ideas



Business, Management and Economics

NINTENDO[®]
DS[™]

BRAIN AGE[™]

Train Your Brain in Minutes a Day!

How many
red #s?

9 2 7 0
6 8 1
0 0 7



SUDOKU
included!

$$8 - 1 = 7$$

Cleared: 30

$$9 \times 9 =$$



IS YOUR BRAIN YOUNG OR OLD?

Educational Studies

Other playgrounds for games

- The Arts
- Human Development
- Cultural Studies
- Human Development
- Labor Studies
- Social Theory, Social Structure and Change



mike_acton Mike Acton

What's a (seemingly unrelated) area of research that you think hasn't been explored (or explored enough) in games, but should be?

7 hours ago

— in reply to @mike_acton ↑



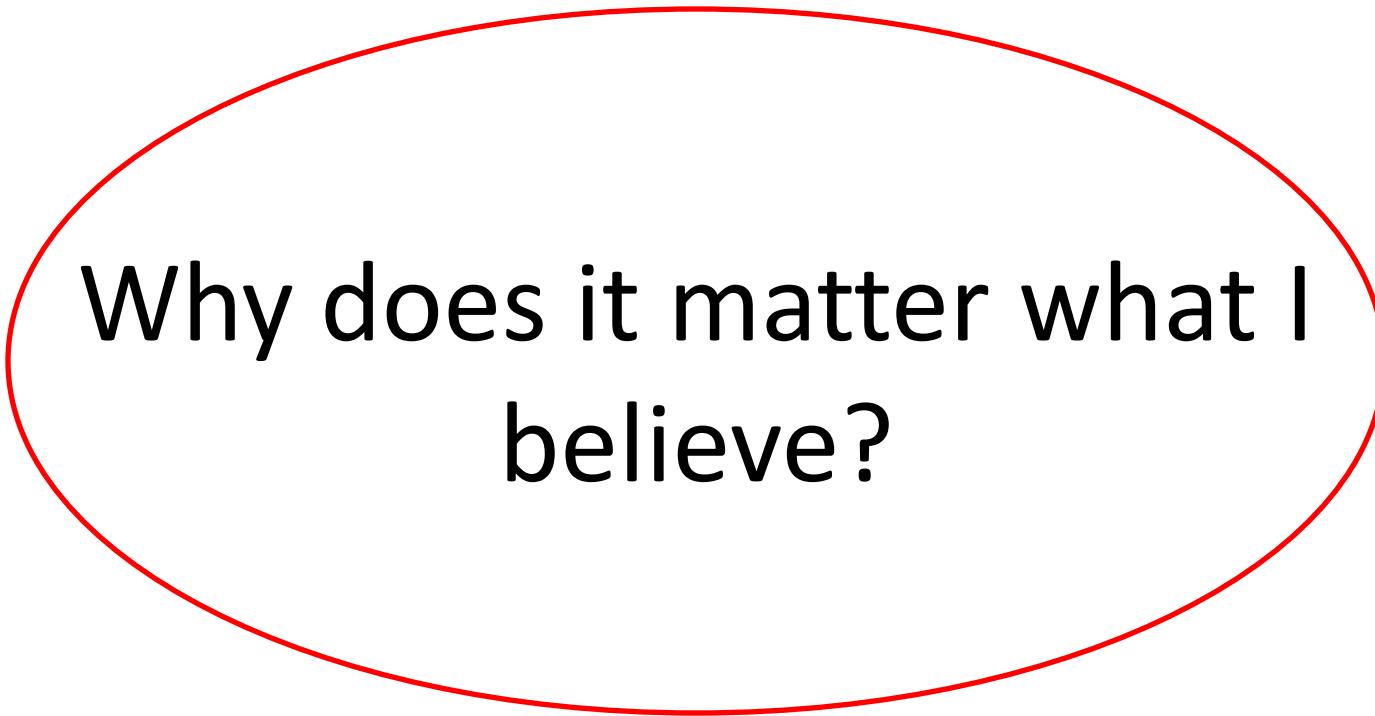
@mcmuttons

Christian Abildsø

@mike_acton Etymology?

7 hours ago via TweetDeck Favorite Retweet Reply

Okay, but...



Why does it matter what I
believe?

Defined me and what I do.

Playing

Trading

Programming

Making

Inspired me

“So we need some standardization for data interchange among development tools and products. The more developers that adopt a standard, the better for all of us and our customers.”

-- Jerry Morrison, EA IFF 85

CellPerformance

Sharing tips and experience with the cell processor, performance, data design and game programming.

INSOMNIAC RESEARCH AND DEVELOPMENT

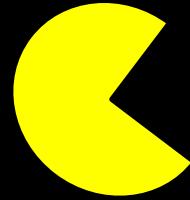
R&D



*"Simple things should be simple and complex
things should be possible."*

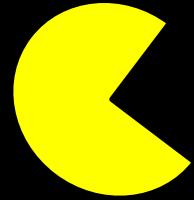
-- Alan Kay

Color all of my choices
every single day



Why do I do this?

- Games are important
- Games make a difference
- ...as art
- ...as pop
- ...as a playground
- Games inspire



What gets in the way?



Haters



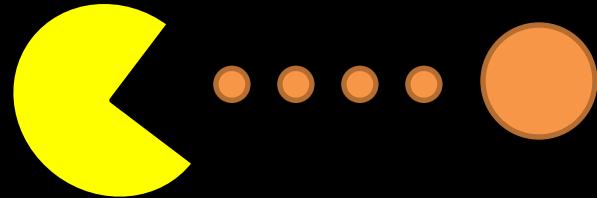
Our impatience



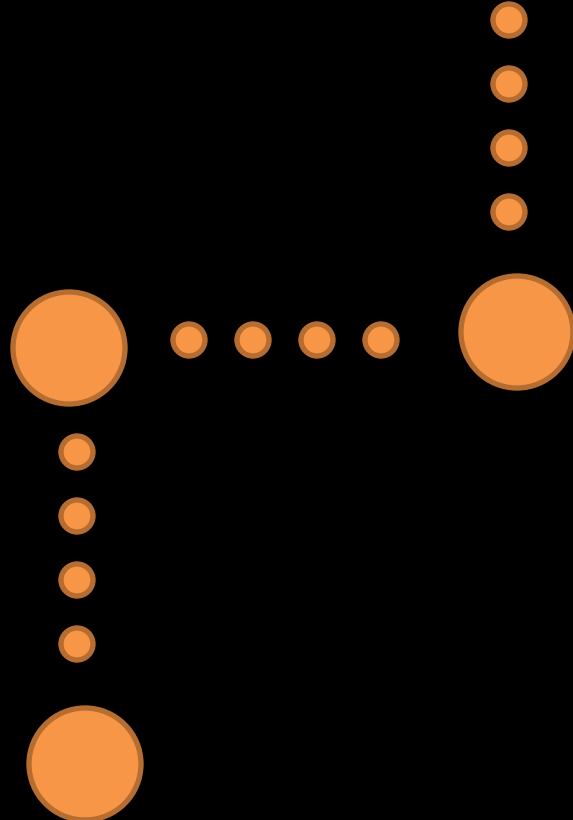
Cult of productivity



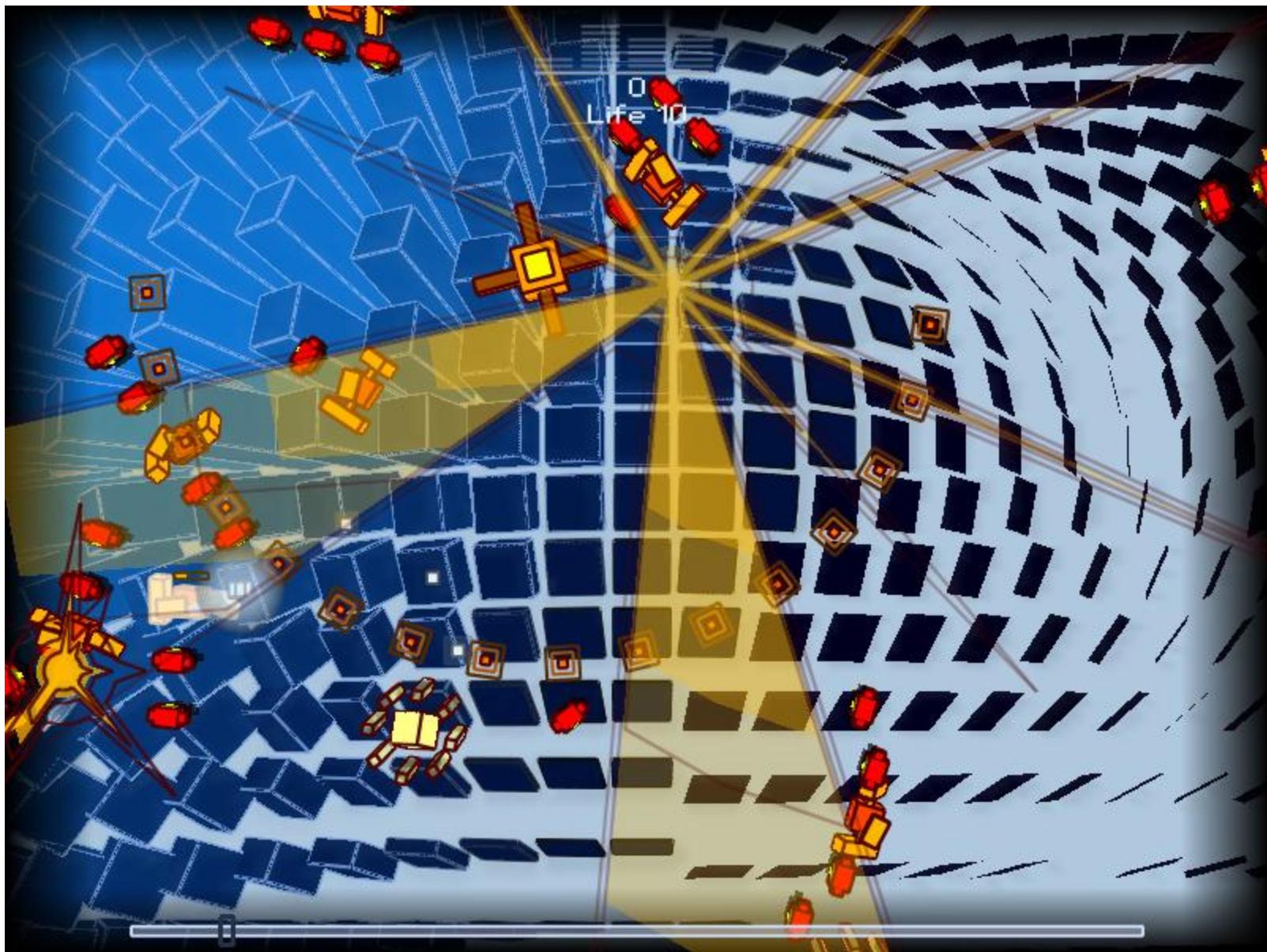
Forgetting why we're here



How?



The power of one person



Everyday Shooter, Jonathan Mak

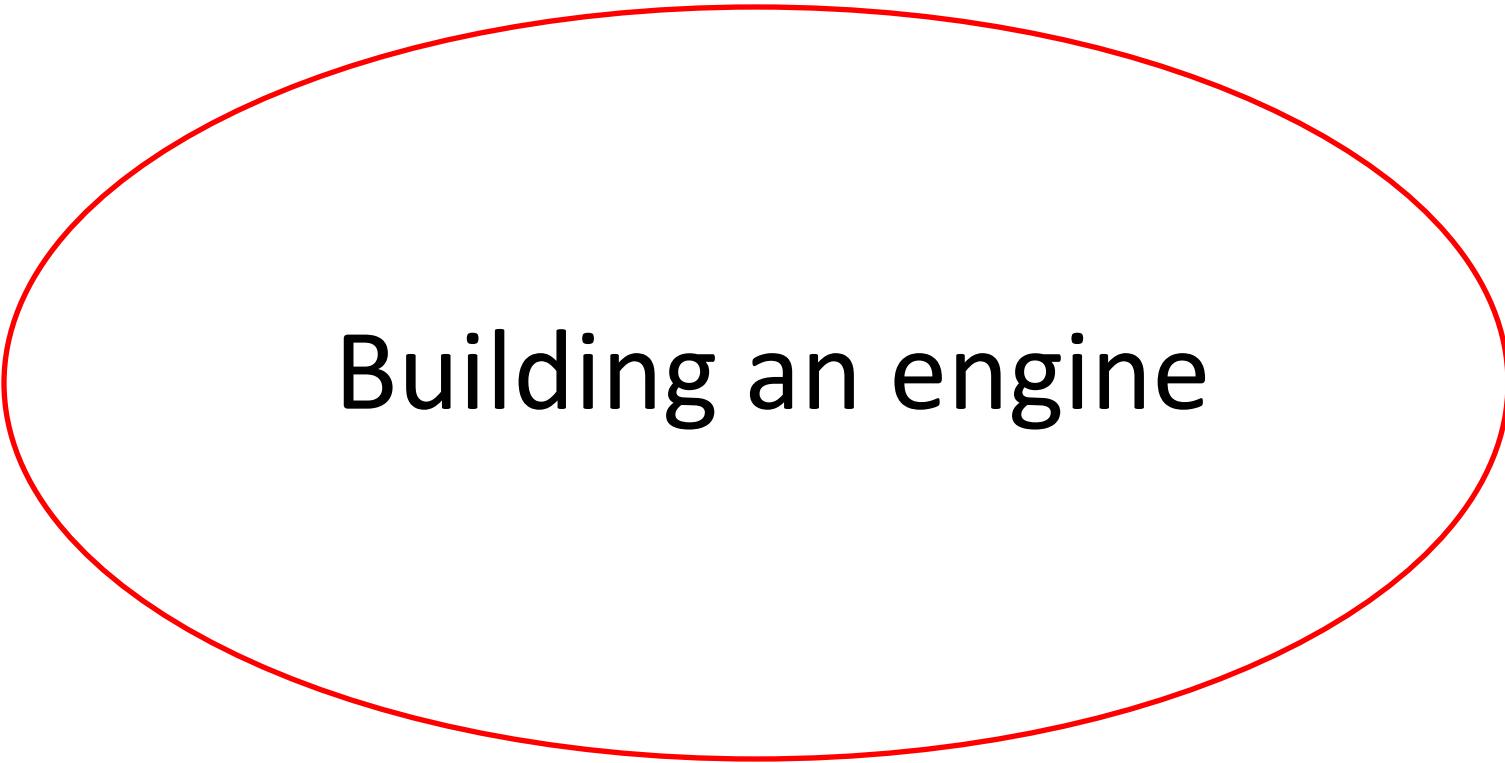
Impact on a team

Our job is what we make it.



Prediction:
50% - 5 years
100% - 10 years

Growth (2x)



Building an engine

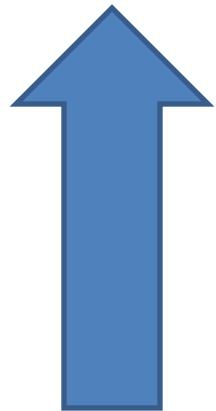
Vehicle for passion



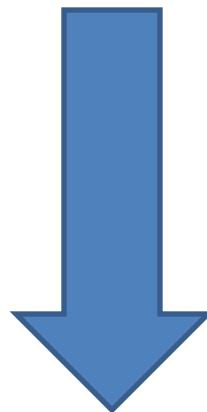
Reflect *developers' vision*

Technology-driven industry cycle

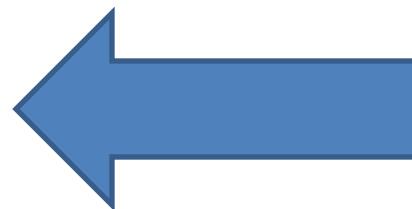
Experimental



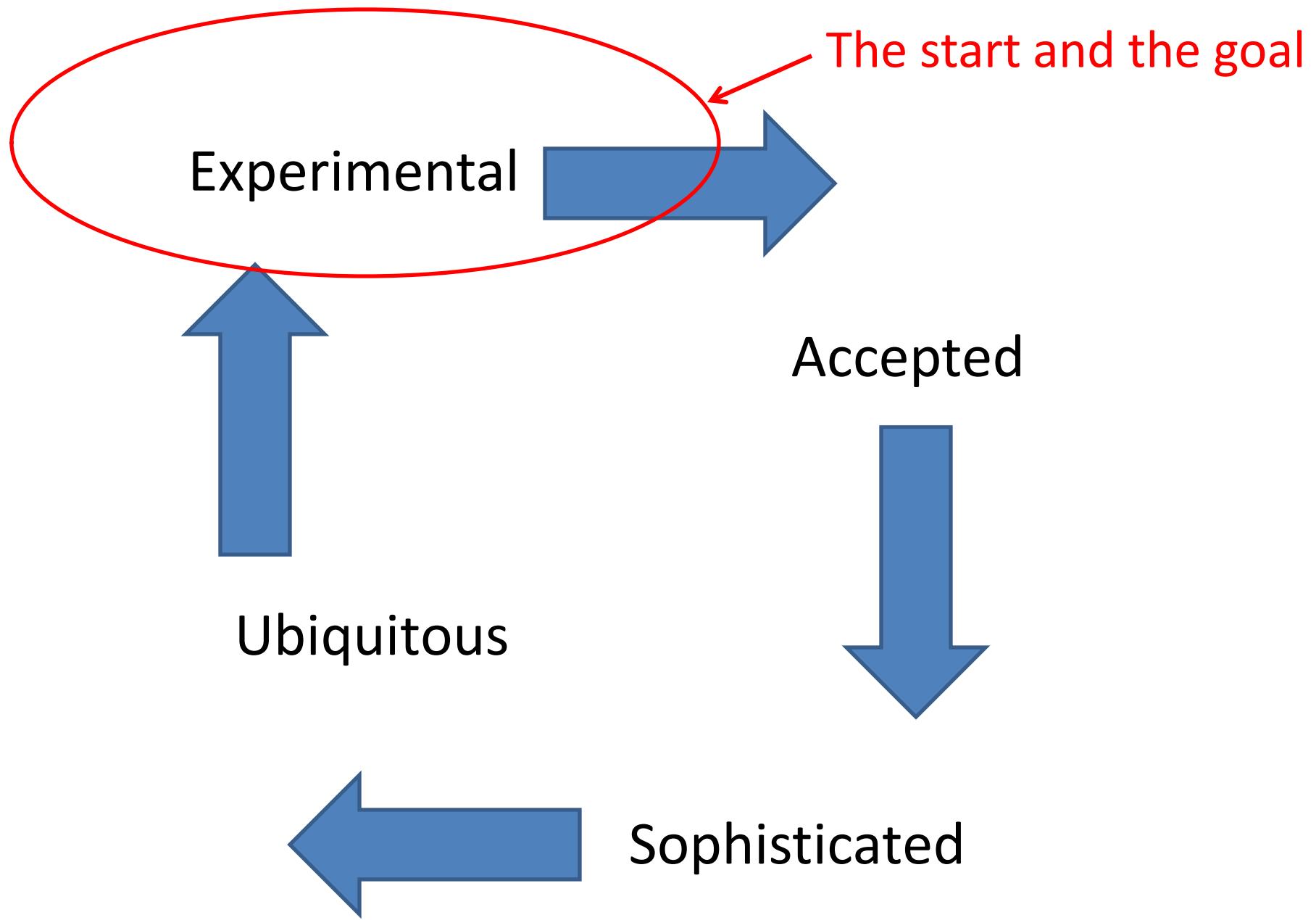
Accepted



Ubiquitous



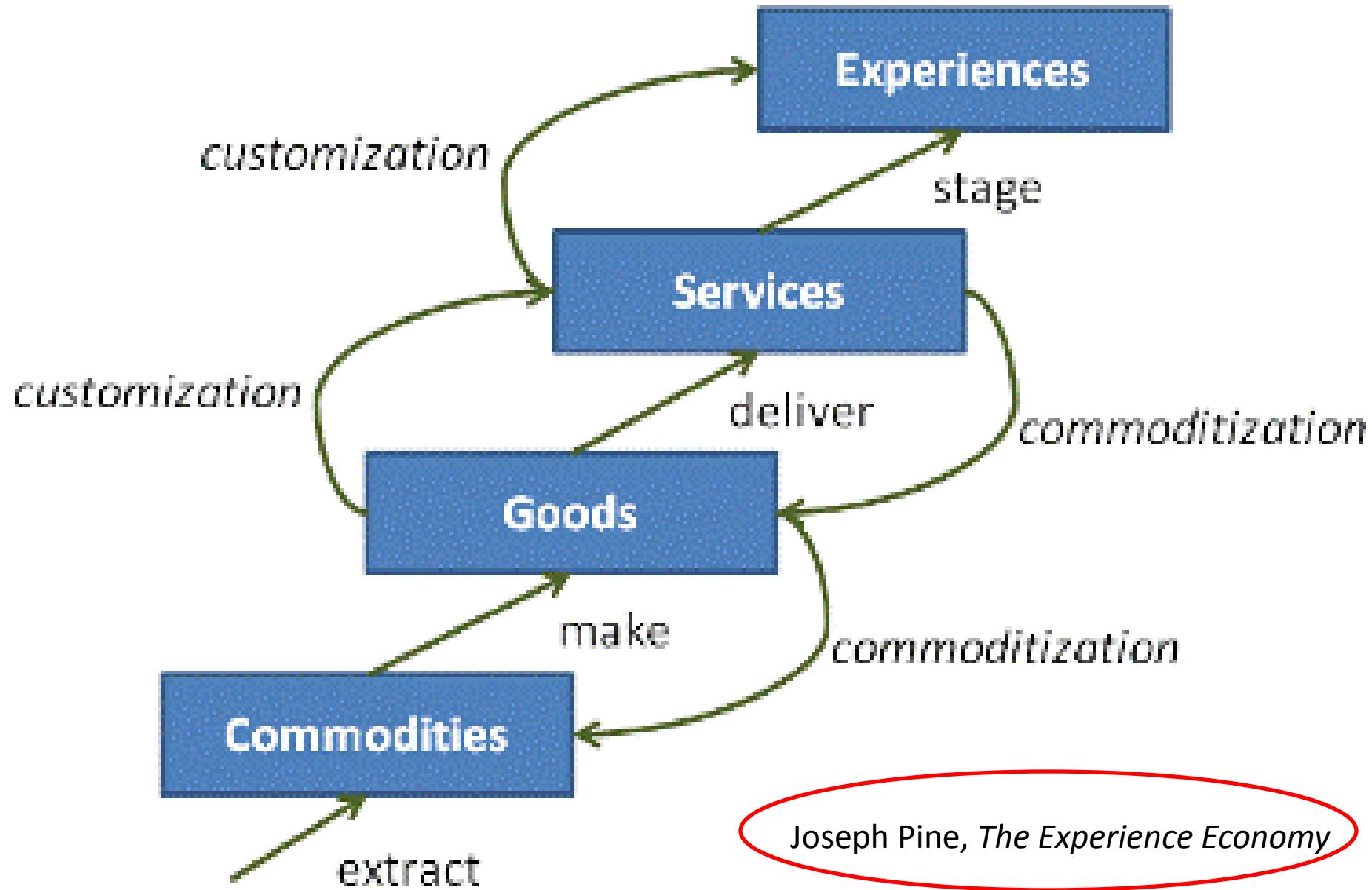
Sophisticated



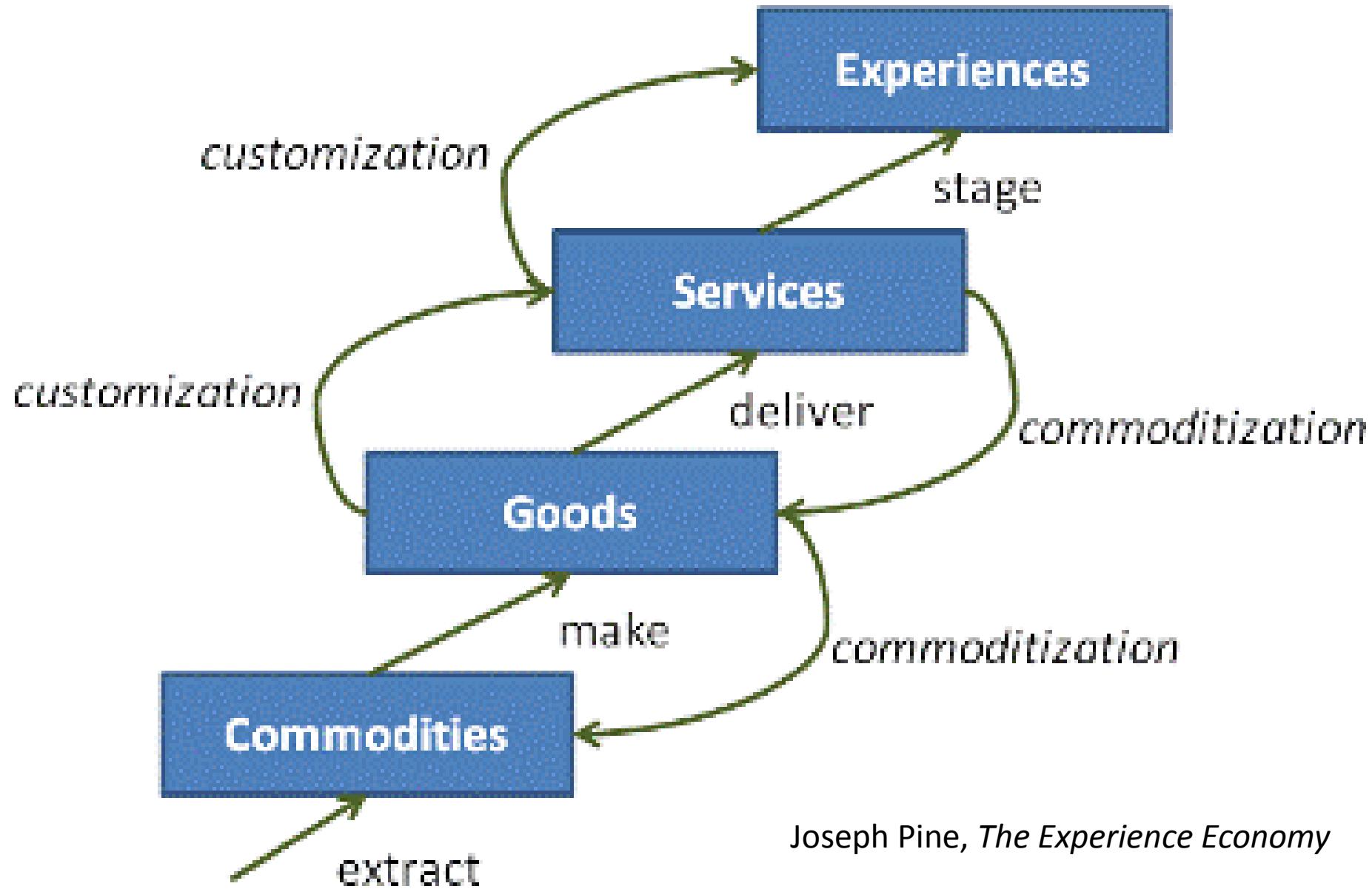
The Programmer Bias

Negativity Bias

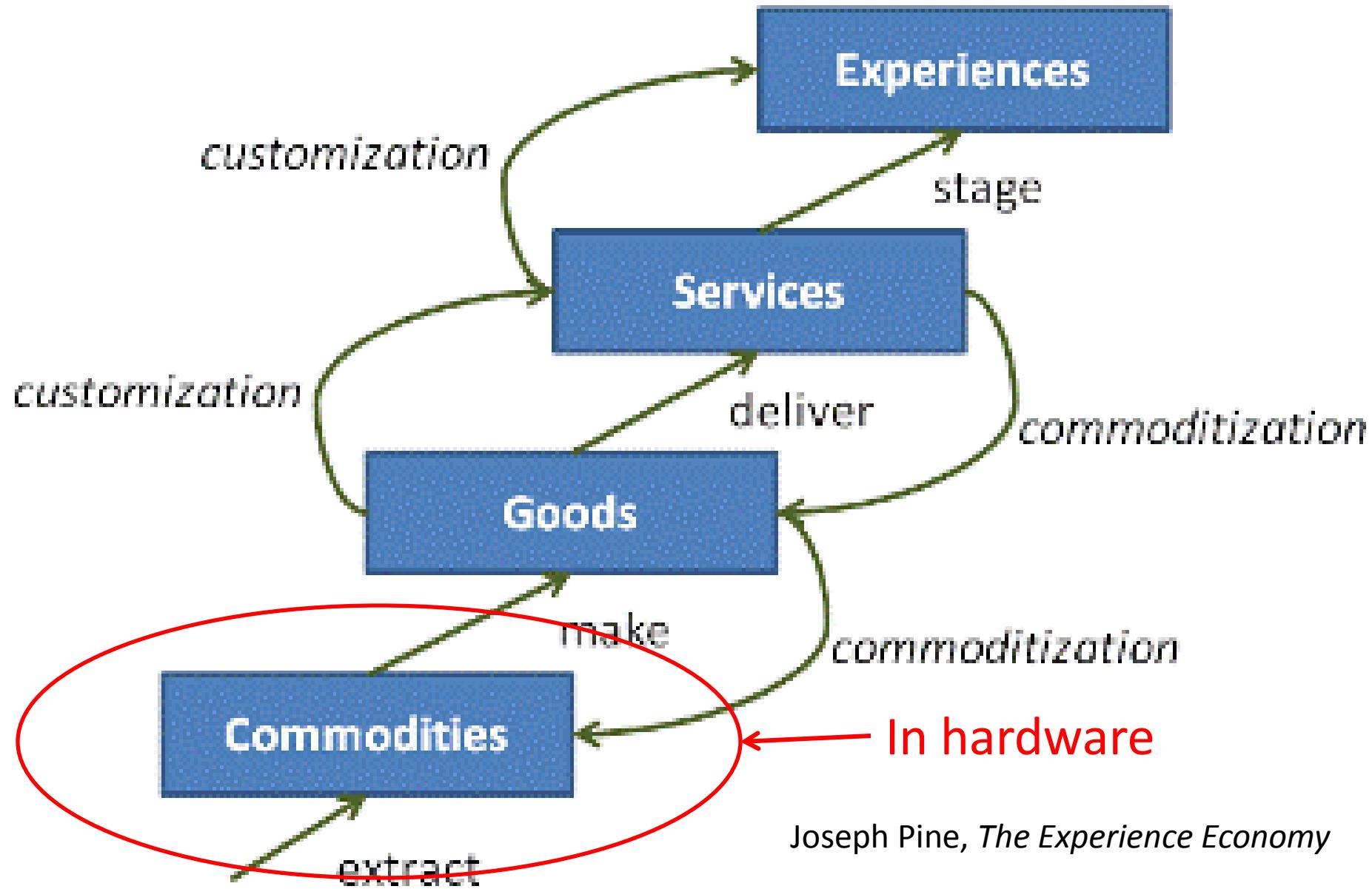
The Progression of Economic Value



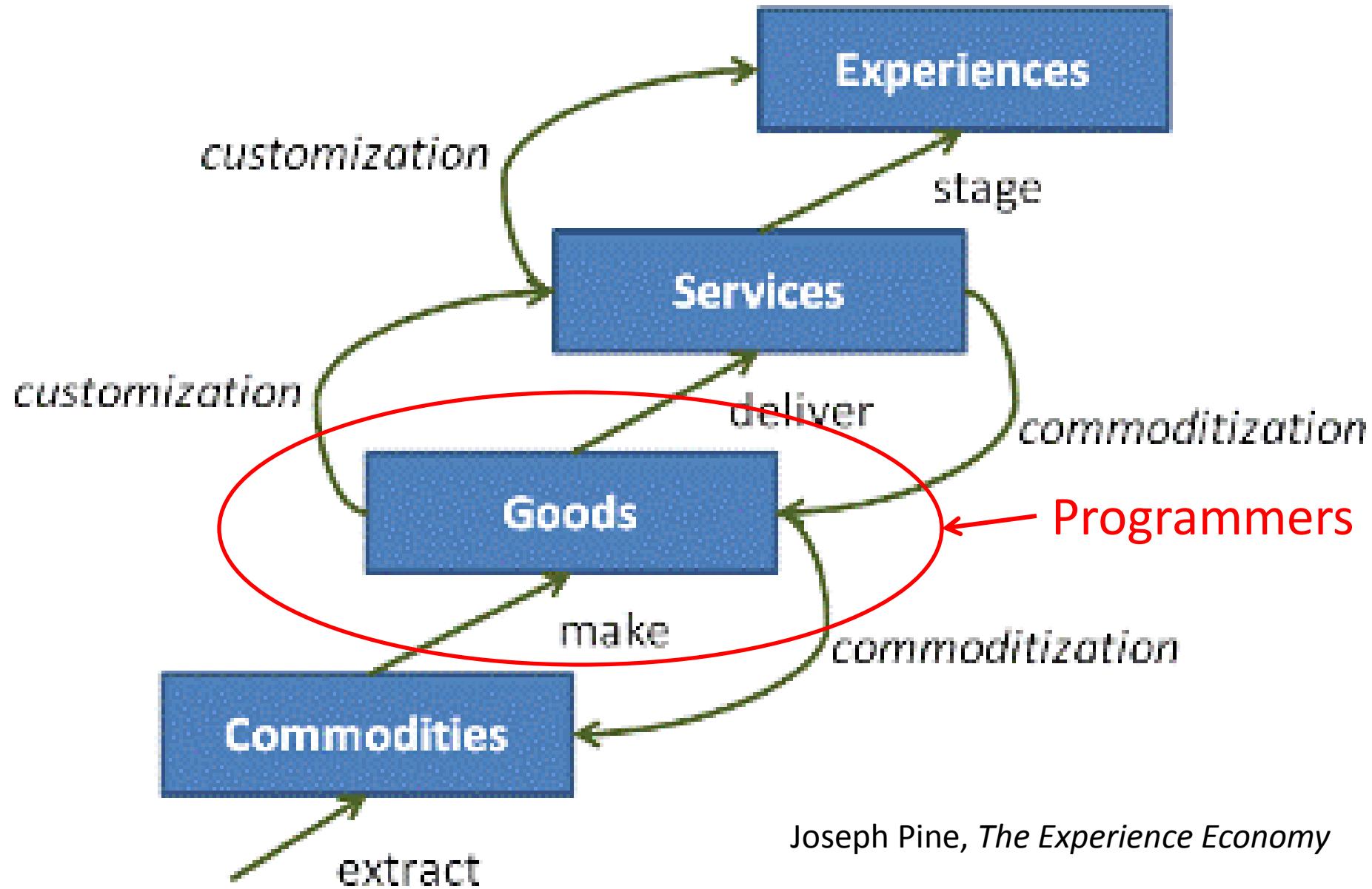
The Progression of Economic Value (For developers)



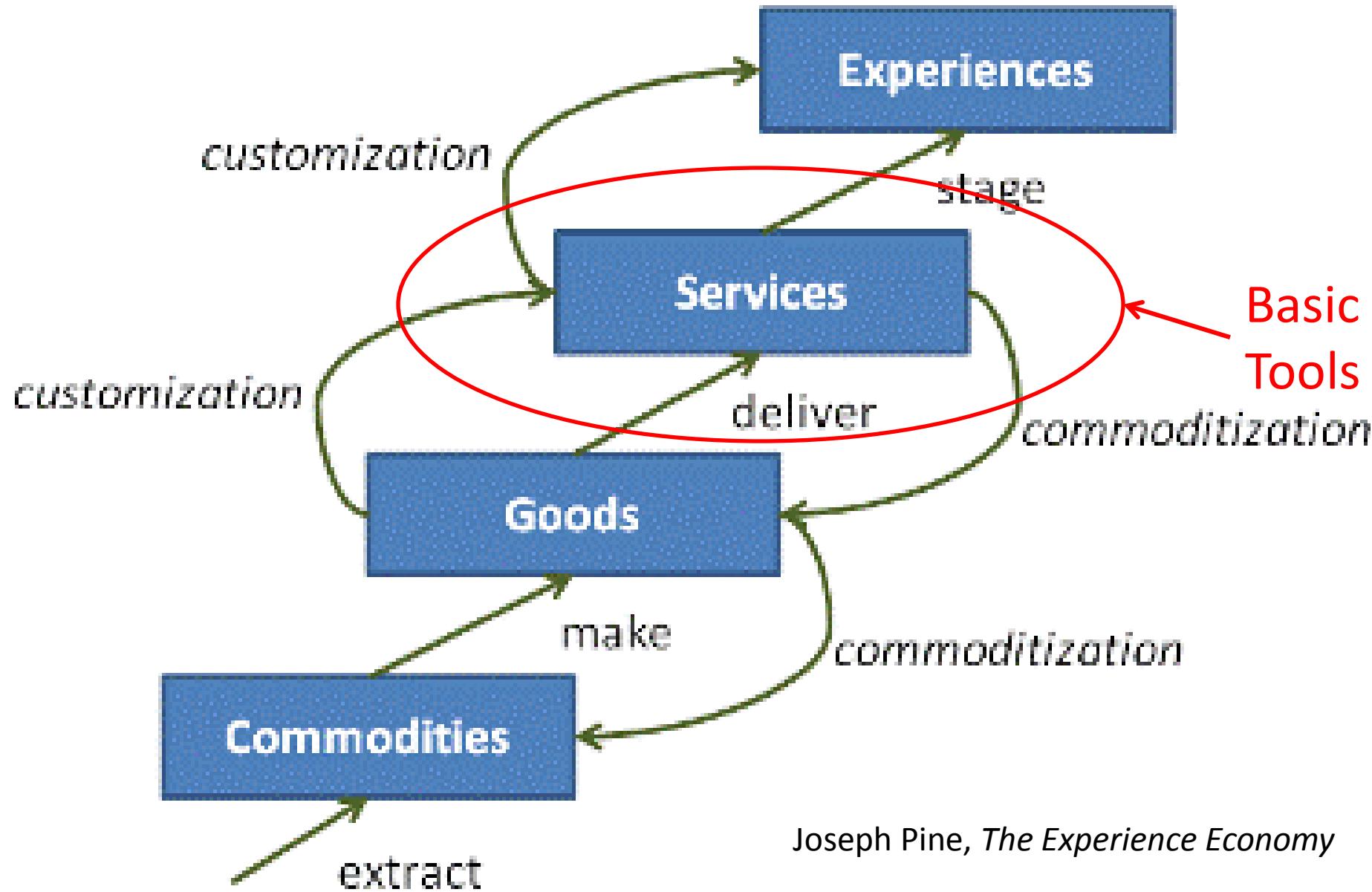
The Progression of Economic Value (For developers)



The Progression of Economic Value (For developers)



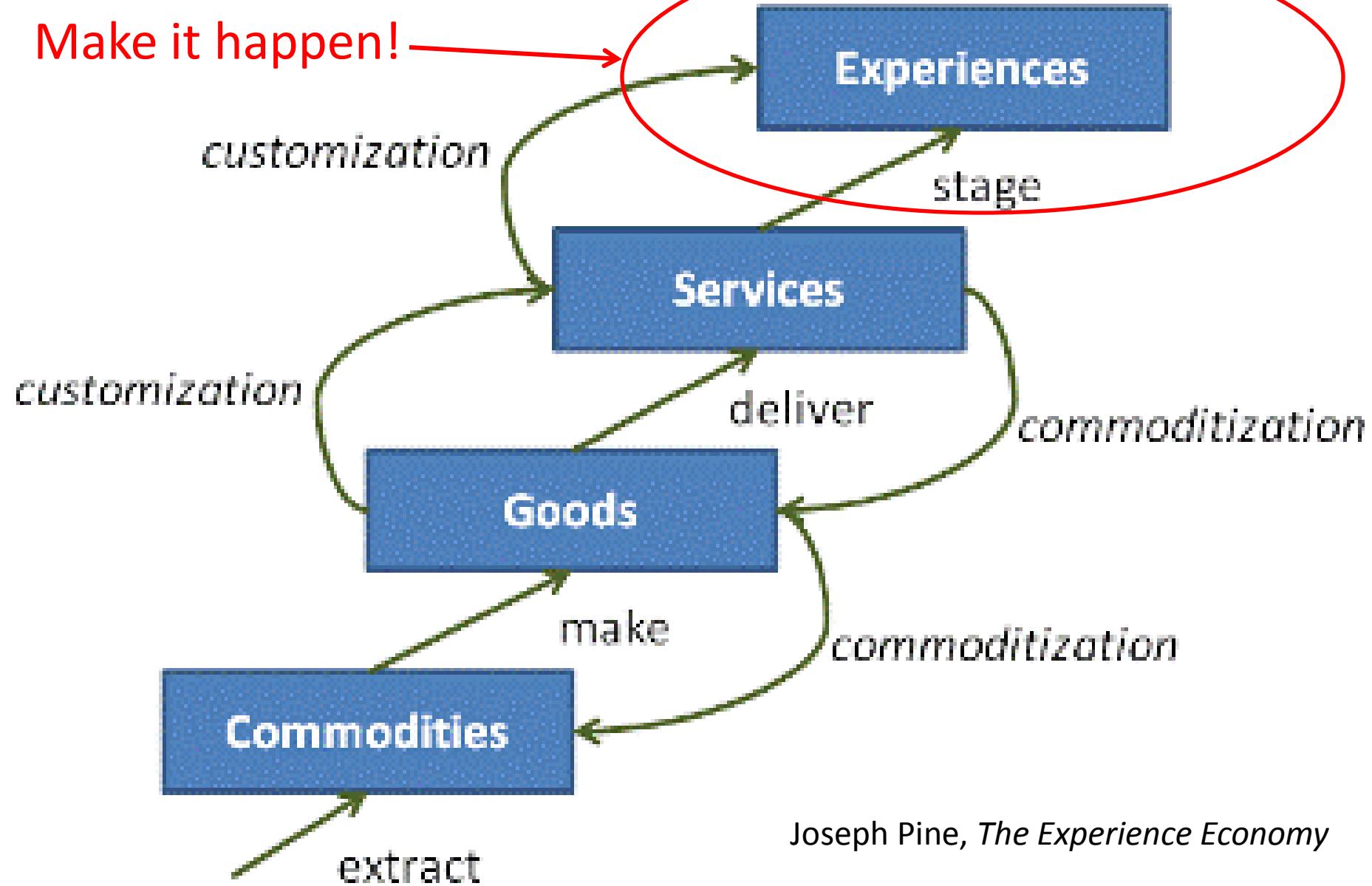
The Progression of Economic Value (For developers)

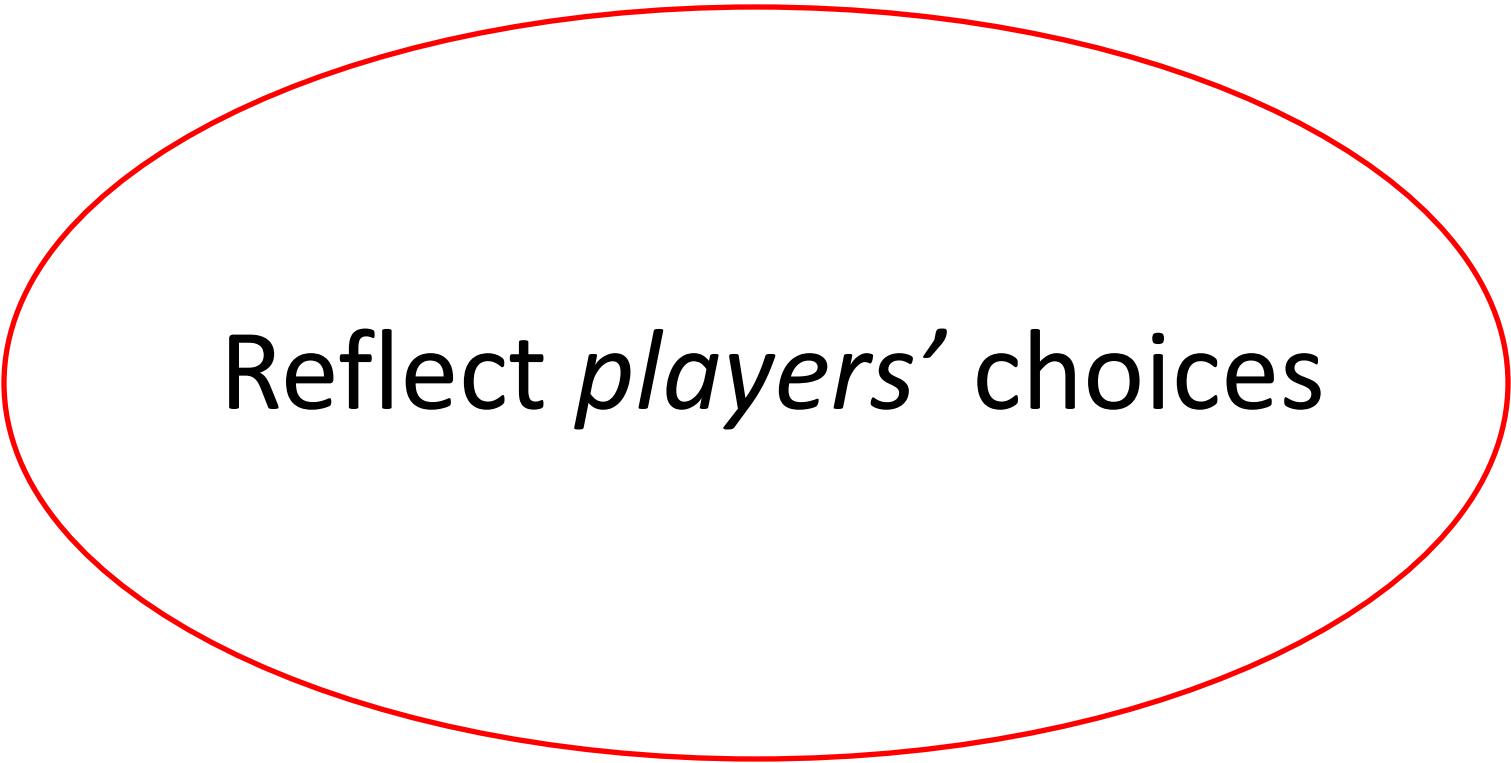


The Progression of Economic Value

(For developers)

Make it happen!

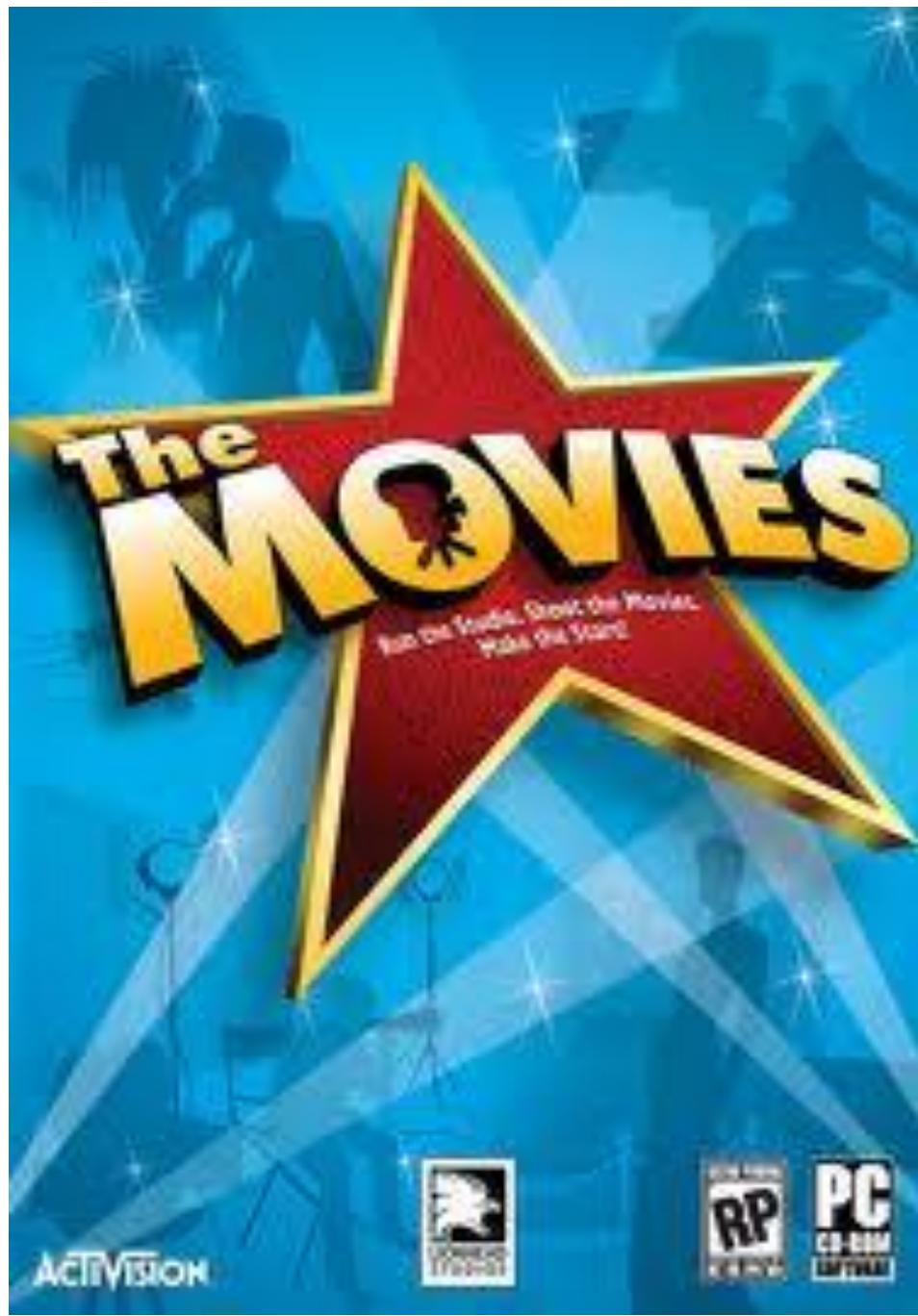


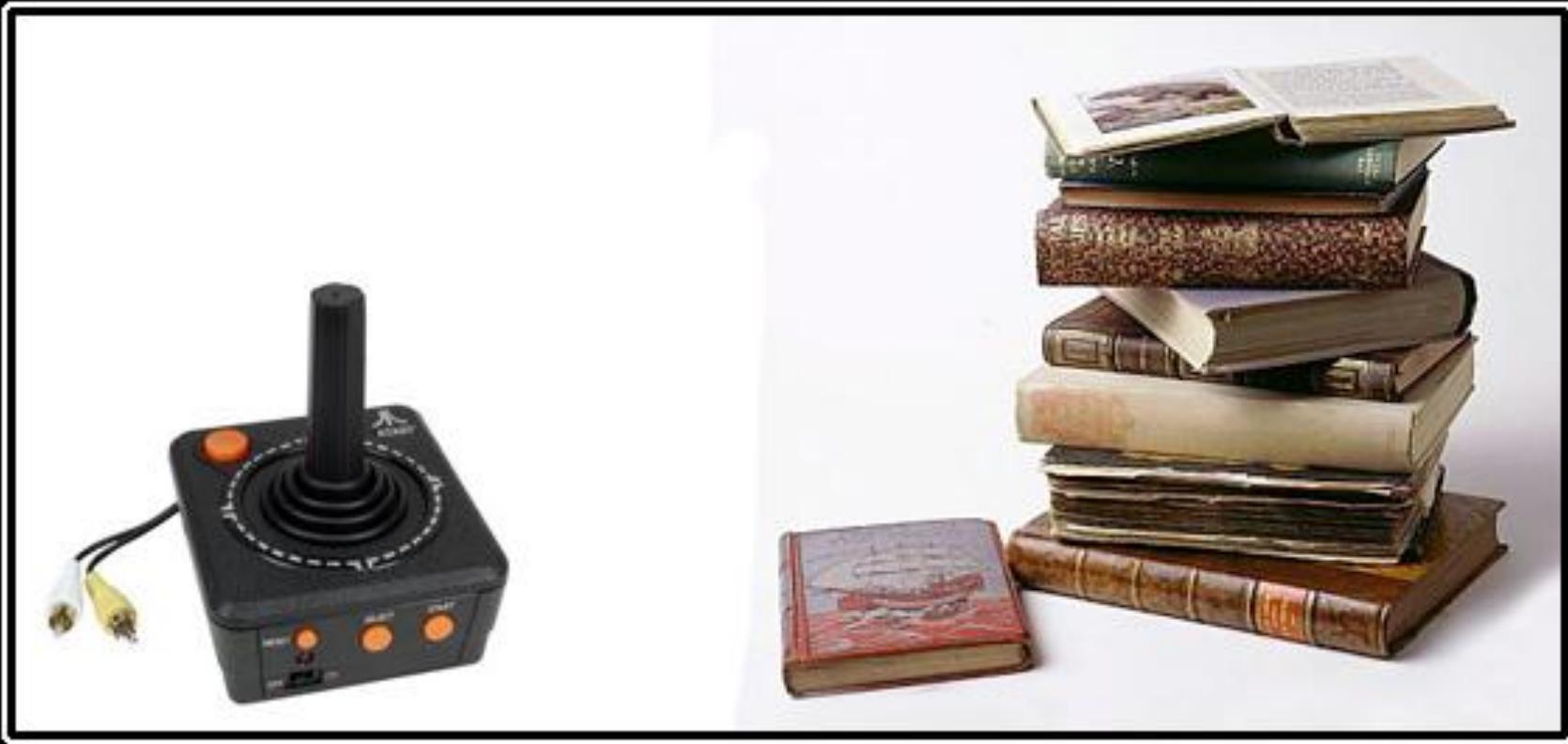


Reflect *players'* choices

Realtime = Reflect player choice







CHALLENGER

they always appear

Shaders

Post

Camera

Environment

How else can you reflect players' choices?

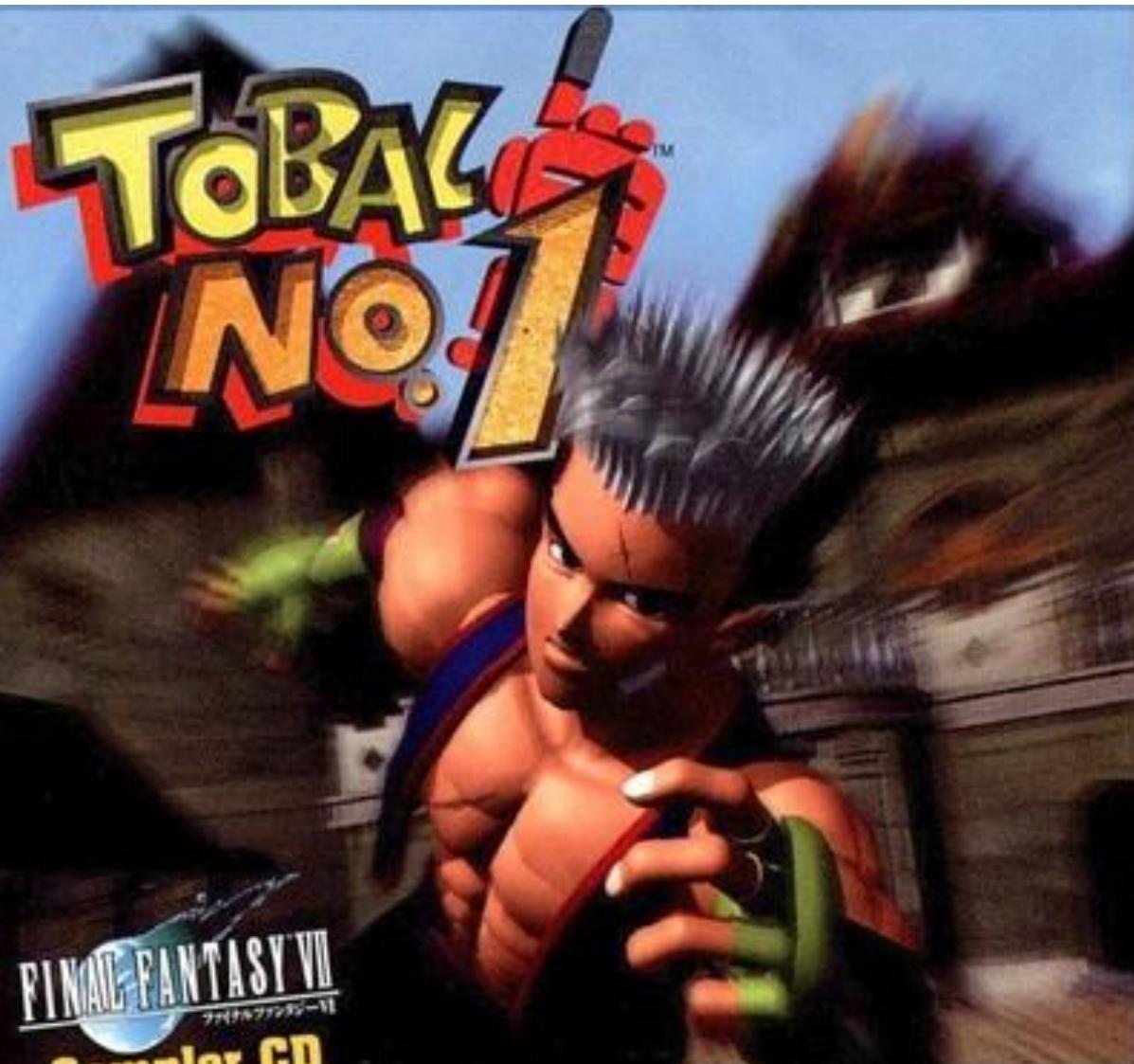
Believeability

ARRGGH!



NTSC UVC

PlayStation



TEEN



AGES 13+

CONTENT RATED BY

ESRB

SLES-00558

788405

SQUARESOFT®

SONY



1DISC

COMPUTER
ENTERTAINMENT

COMFORT LEVEL +

INDUSTRIAL
ROBOT

HUMANOID
ROBOT

HUMAN LIKENESS

50%

uncanny
valley

HEALTHY
PERSON

BUNRAKU
PUPPET

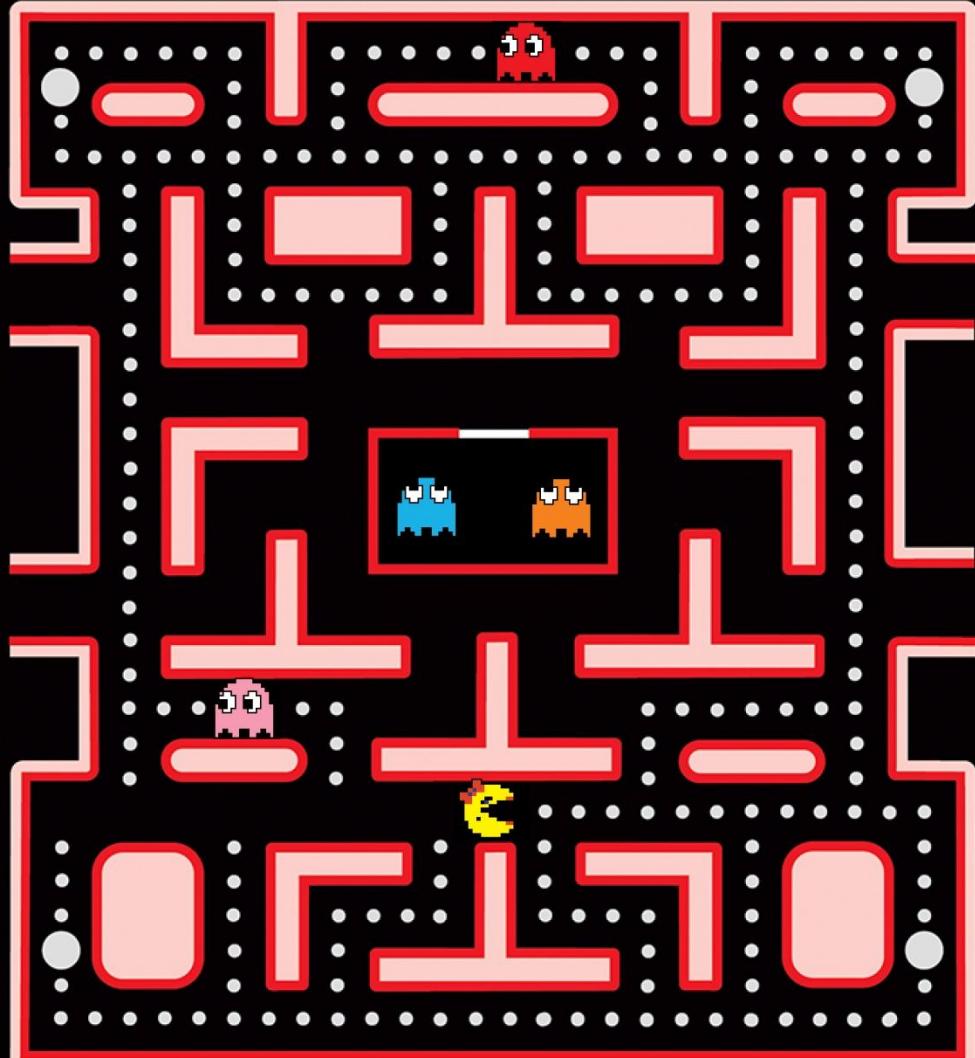
100%

ZOMBIE PROSTHETIC
HAND

We are here

1UP

120



INSTRUCTIONS

- INSERT COIN
- SELECT 1 OR 2 PLAYERS
- AVOIDS
- DOTS SCORE 10 POINTS
- 4 FLASHING MONSTERS SCORE 50 POINTS
- AFTER ENERGIZING CAN ATTACK
- BEWARE OF FLASHING MONSTERS WHICH ARE ABOUT TO CHANGE TO THE DANGEROUS COLORS

MONSTER POINT VALUE

	1000	800	600	400	200
ghost	100	200	500	700	1,000
apple	100	200	500	700	1,000
orange	100	200	500	700	1,000
banana	100	200	500	700	1,000

EXTRA POINTS

ghost	100
apple	200
orange	500
banana	700
cherries	1,000
water	2,000
power pellet	5,000

Usability



Go sit in
the corner,
dumbass.



I LAUGH AT YOUR PAIN



ArmyOfBruce Bruce Mitchener
@jtilander all software sucks.

57 minutes ago



— in reply to @ArmyOfBruce ↑



@jtilander

Jim Tilander

@ArmyOfBruce "That's the thing about people who think they hate computers. What they really hate is lousy programmers." -- Niven

53 minutes ago via web ⭐ Unfavorite ↗ Retweet ↙ Reply

Retweeted by [ArmyOfBruce](#)



Usability cart stories

Feedback





Feedback



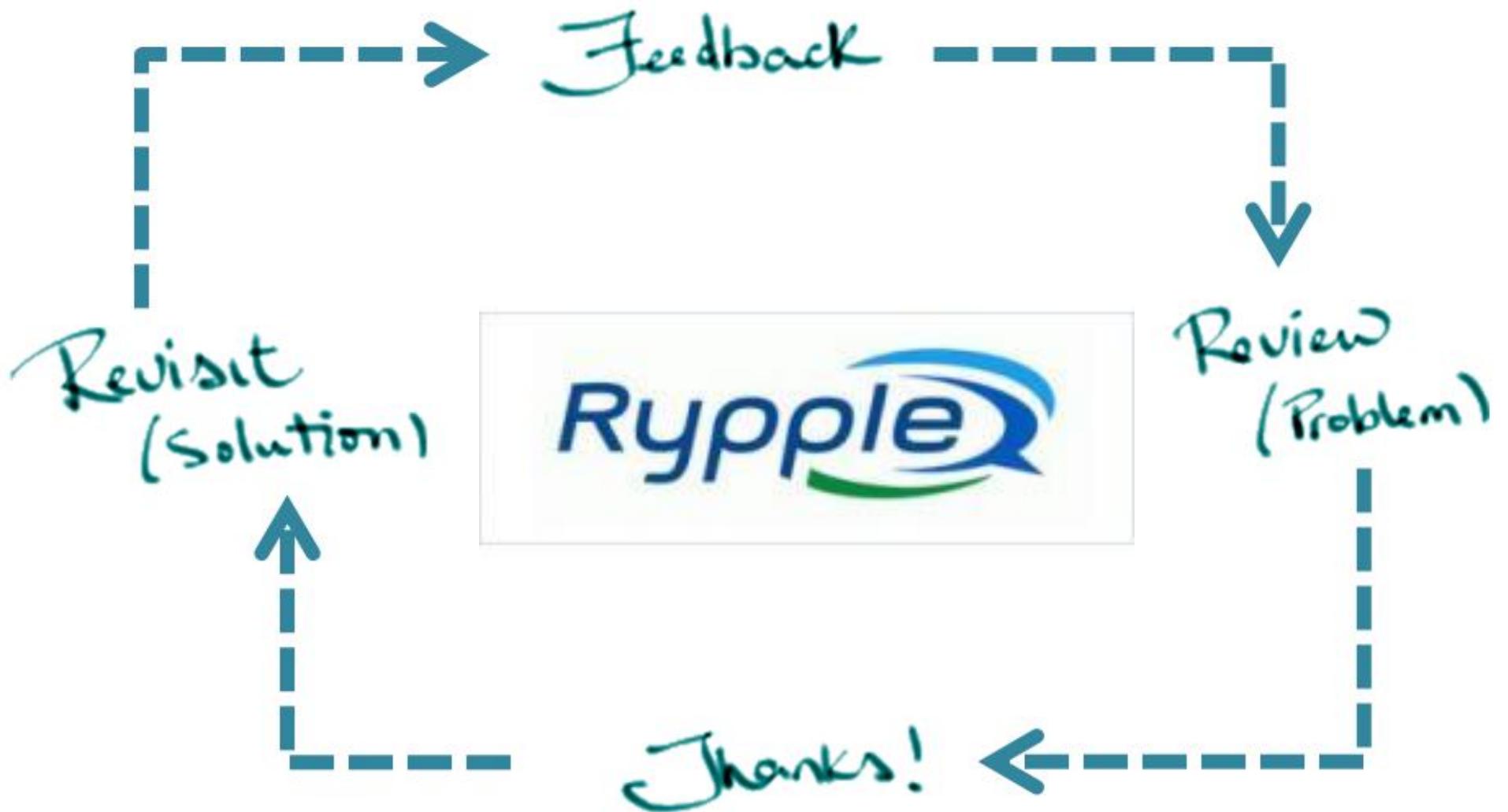
Revisit
(solution)

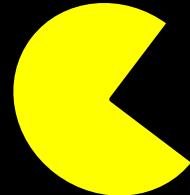


Review
(problem)

Thanks!

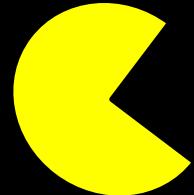






How do I make a difference?

- As an individual
- As part of a team
- Building an Engine
- ...reflects developers' passions
- ...reflects players' choices
- ...through believability, usability
- ...and feedback



What gets in the way?



Not making the most of our jobs



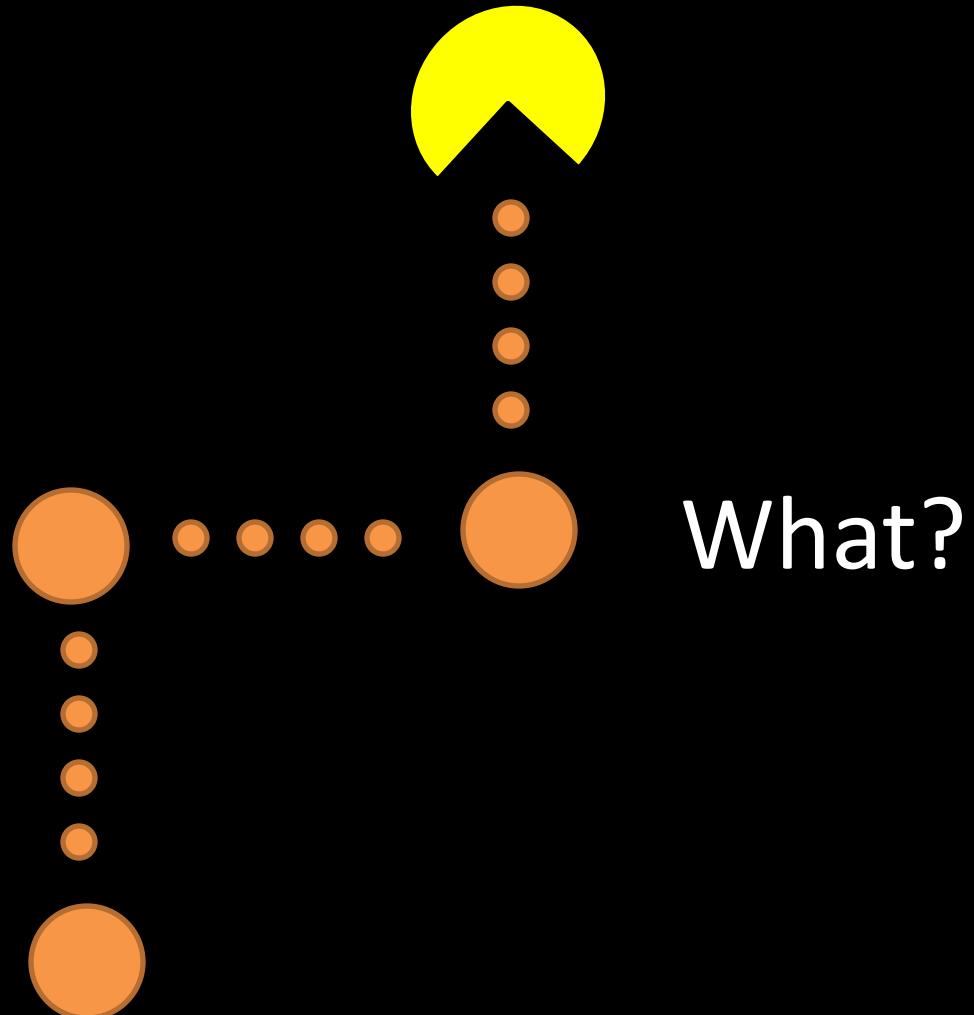
Programmer and negativity biases



Not focusing on usability



Neglecting the feedback cycle





Performance

“Never underestimate the power
of speed.”

-- Eric Schmidt, CEO of Google



INSIDER: MIKE ACTON

How much does framerate matter?

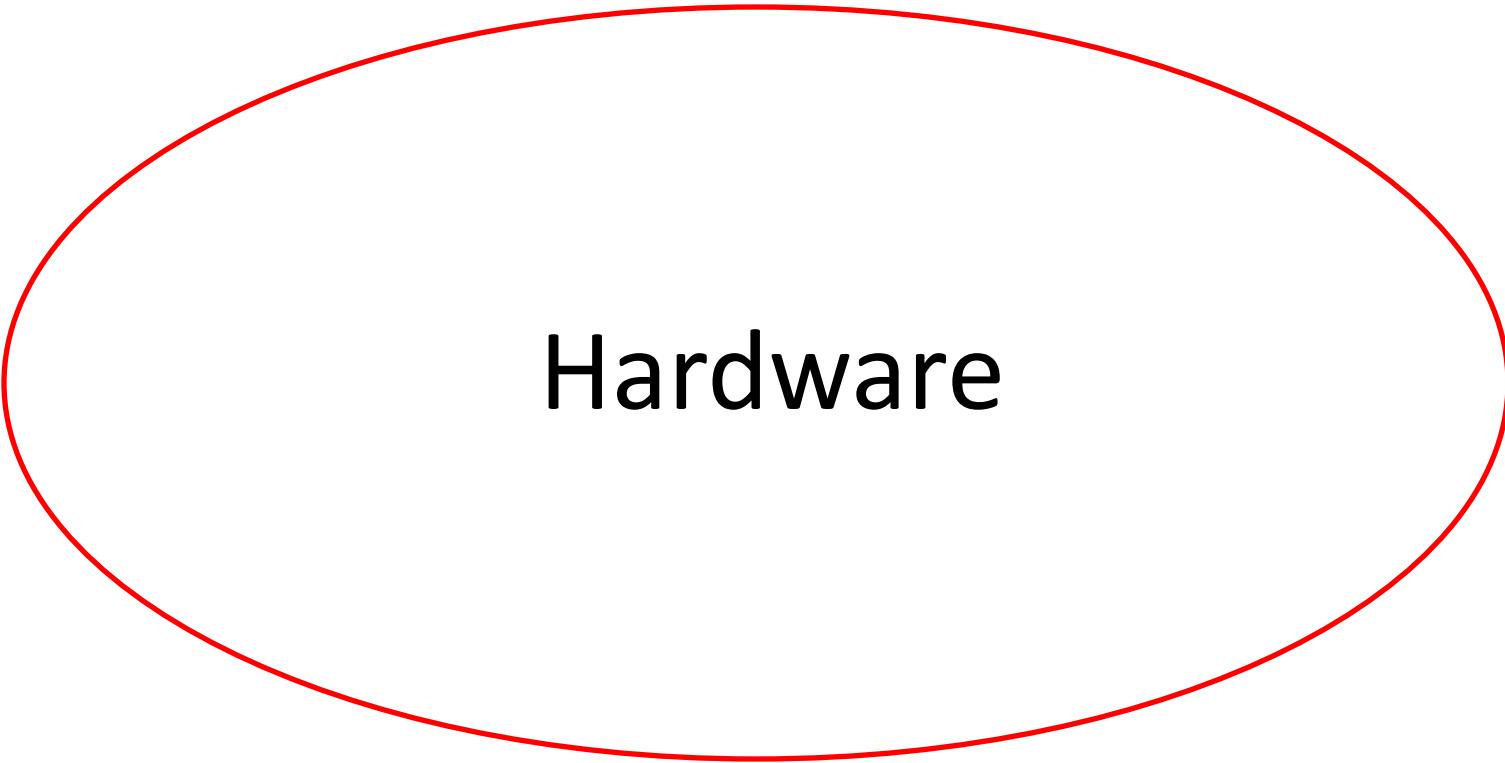
Posted on Oct 29, 2009

+70

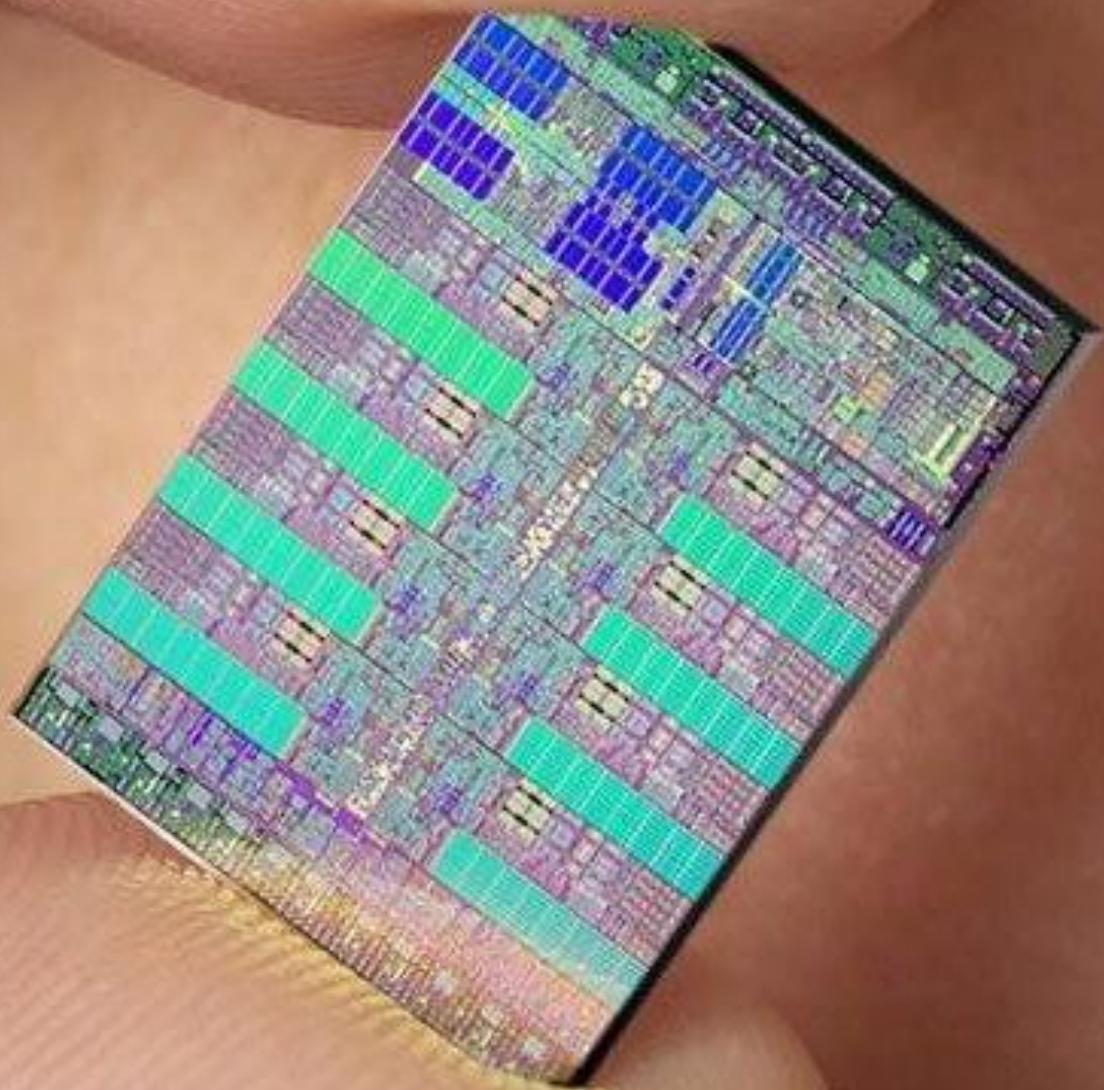
Recently we've been asking ourselves some hard questions:

- What is it that we want to focus on?
- What's most important to us?
- What do we want to make?

It means that framerate is still important to us here at Insomniac, but it's not on the same pedestal it was before. **And that Ratchet and Clank Future: A Crack in Time will probably be Insomniac's last 60fps game.**



Hardware

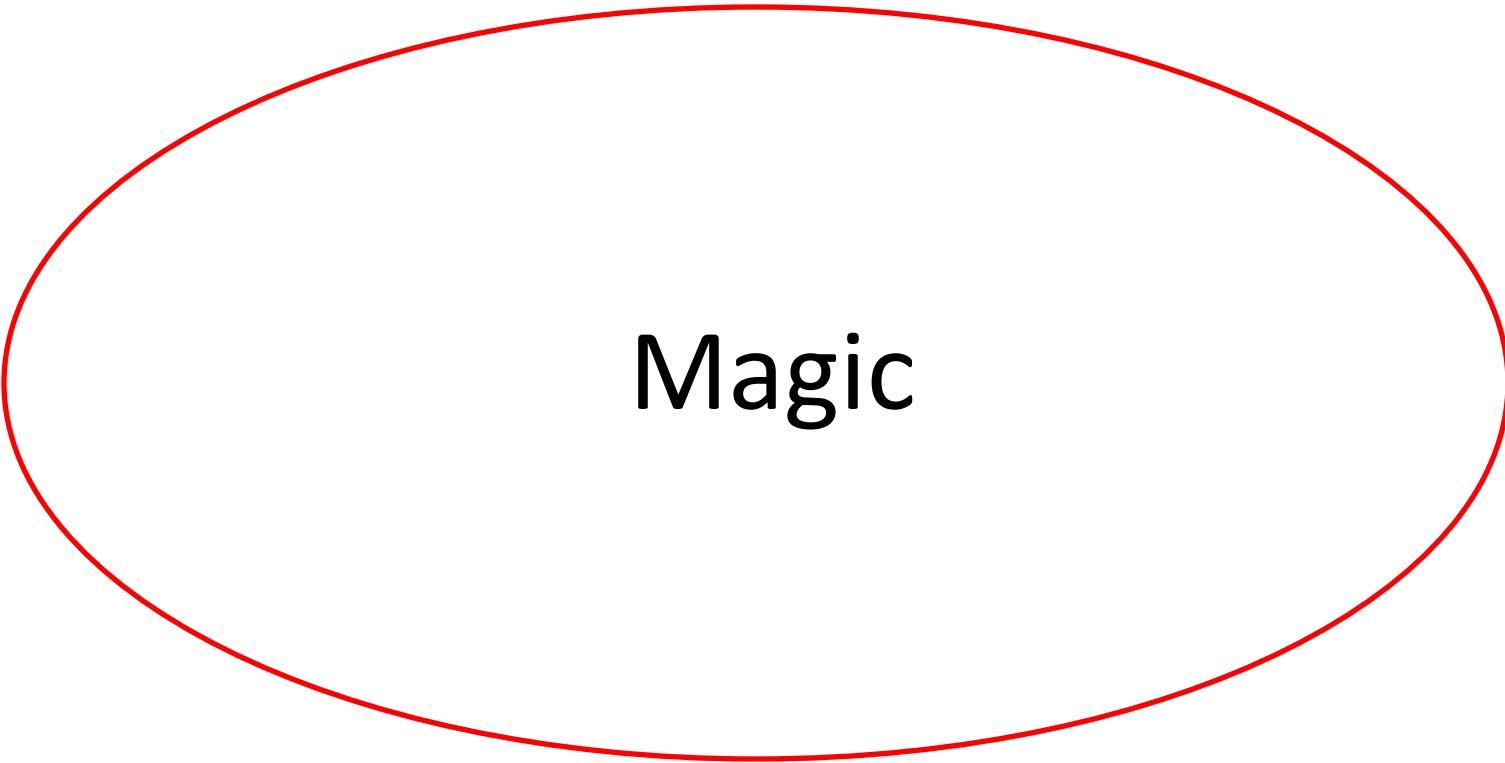


Data



ONLY PURPOSE OF ANY
CODE IS TO TRANSFORM
DATA.

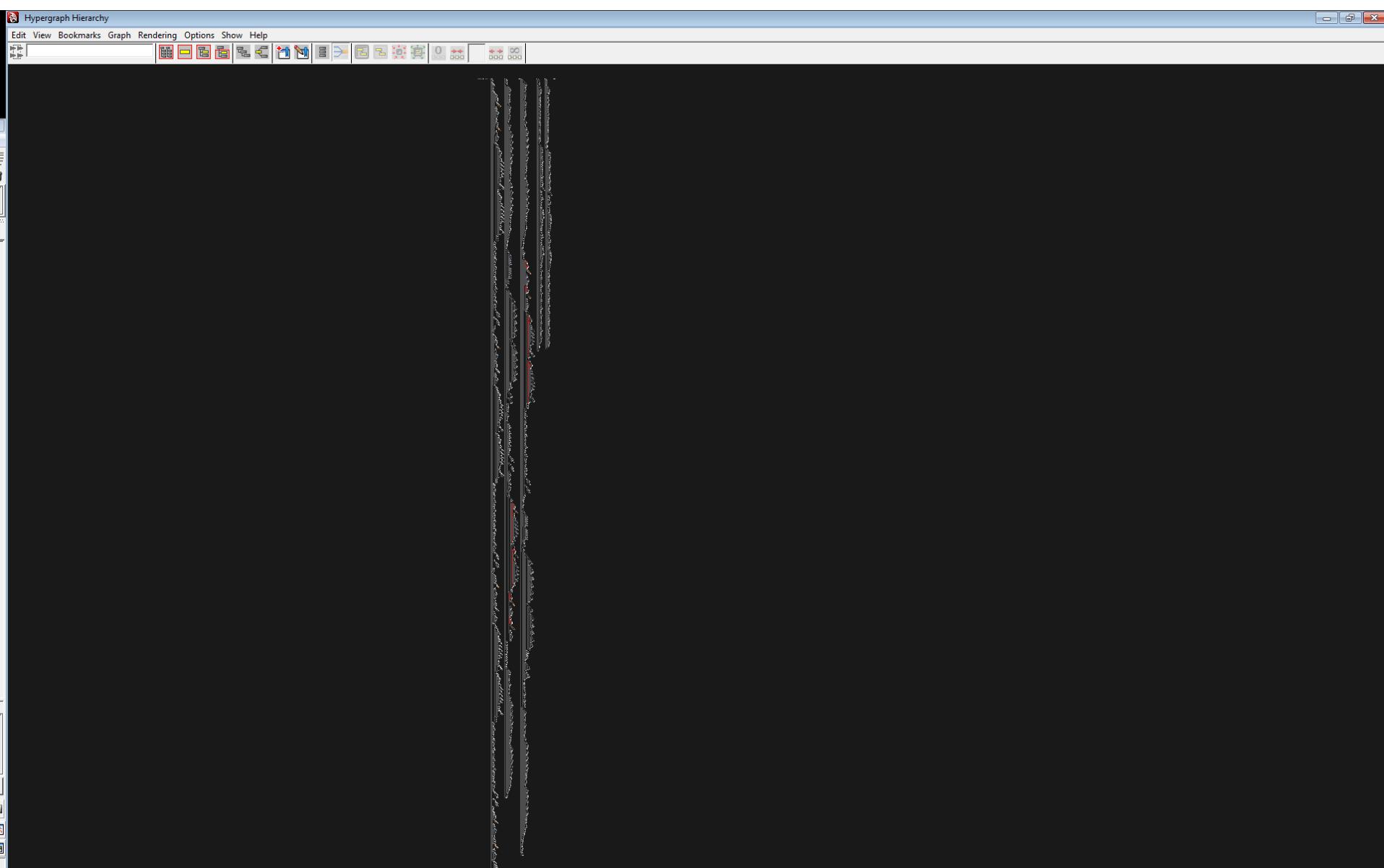




Magic

Value in magic

The magic of
the unexpected



The magic of
play



flickr™

facebook.



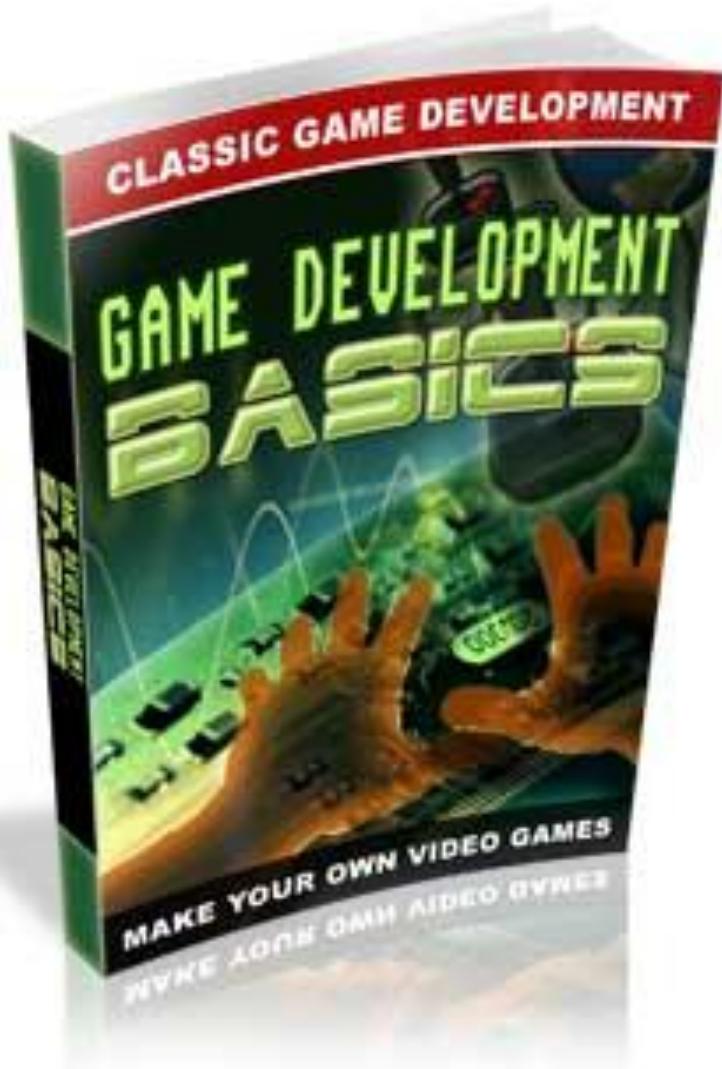
twitter

LinkedIn



Video games
ruined my life.
Good thing I have
two extra lives.





The magic of
failure



Dialog Window

You failed.
Try again?

Secretary



Contract



11/15



Due 6 Wk.

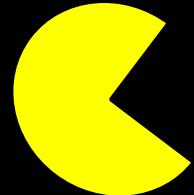


3/30



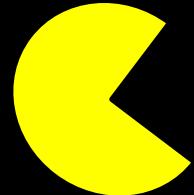
“If you don't fail at least 90 percent of the time, you're not aiming high enough.”

-- Alan Kay



What am I going to focus on?

- Performance
- Hardware
- Data
- The unexpected
- Play



What gets in the way?



Unoptimizable systems



Not understanding the platform

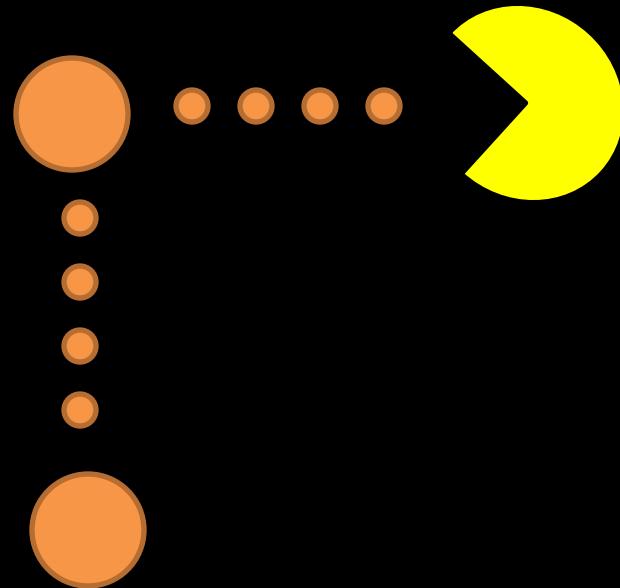


Not understanding the data



Fear of failure

Asking Questions



Why am I here?

What am I most passionate
about?

What drives me?

What's important to me?

What inspires me?

How do I make a difference?

How can I make a bigger impact?

How can I reflect the world?

How can I reflect the player?

How can I reflect our passions?

How can I overcome my biases?

How can I use feedback better?

Where can I make all new
mistakes?

What am I going to focus on?

What else is out there?

How can I use the unexpected?

Is this fun?

What's the data look like?

Dialog Window

Lots of big changes.
What are you going to do?

Secretary



Contract



11/15



Due 6 Wk.



3/30



```
graph TD; A[Be a real person] --> B[Better choices]; B --> C[Passions]
```

Be a real person

Passions

Better choices

Y1 M6 W4

\$182.5K



New



20



10



16



13

66%



Hype

0

Fame

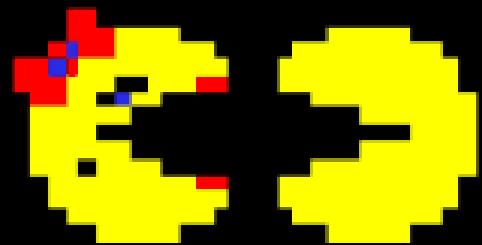
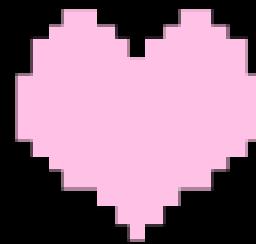
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Save

Menu



Your turn.