Why I Haven't Learned to Stop Worrying and Love the Bomb

or

Anthropological Observations on the Political Economy of Digital Technology

Bonnie Nardi
University of California, Irvine
AAA Meetings
December 1, 2017

Latour has proposed that we "love" our monsters
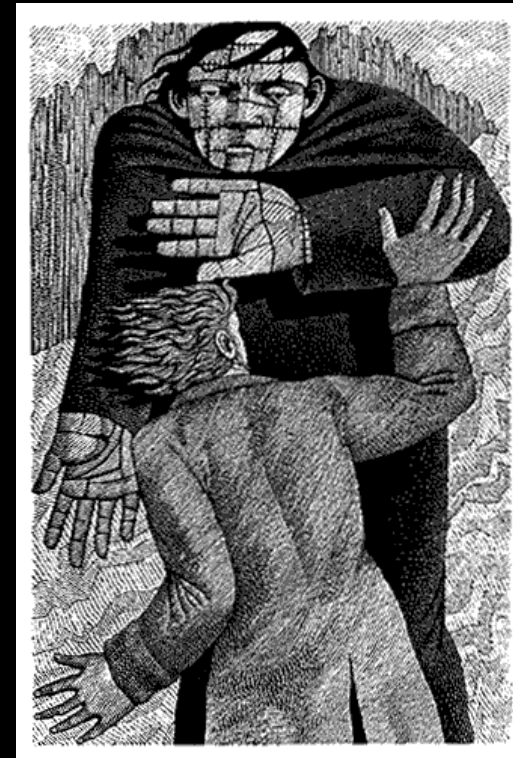

LOVE YOUR MONSTERS

WHY WE MUST CARE FOR OUR TECHNOLOGIES AS WE DO OUR CHILDREN

BY BRUNO LATOUR

The poetry of the tragic figure

Latour begins by invoking the poetry of the tragic figure of Frankenstein's monster, who, he says, was not sufficiently loved.

God, Himself

Latour suggests that our relation to technologies should be to watch over, as paternalistic gods, the marvels we have created:

"The real goal must be to have the same type of patience and commitment to our creations as God the Creator, Himself."

(Latour, Love Your Monsters, 2011)

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It is inviting to be asked to find it in our hearts to love a monster, yet also a deflection from the incredibly serious problems before us.

World Scientists' Warning to Humanity: A Second Notice

William J. Ripple, Christopher Wolf, Thomas M. Newsome, Mauro Galetti, Mohammed Alamgir, Eileen Crist, Mahmoud I. Mahmoud, William F. Laurance, 15,364 scientist signatories from 184 countries

Are technologies lovable monsters or part of runaway capitalism?

Sociologist John Foster Bellamy says:

"Latour…does not challenge capital accumulation and unlimited economic growth, or accept the existence of natural limits, but rather places…emphasis on machines/technology, coupled with the market mechanism, as the complete solution."

Are technologies lovable monsters or part of runaway capitalism?

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Latour says:

"Today we can fold ourselves into the molecular machinery of soil bacteria through our sciences and technologies. We now run robots on Mars, and we photograph and dream of further galaxies. And yet we fear that the climate could destroy us."

Digital technology has spurred the economy for decades

These marvels, however, did not arise from the mind of a mad scientist, but as a core part of an organized economy.

Digital technology has been crucial to the economy since the 1950s.

console had cigarette lighter and ashtray :)

Creations/monsters that cannot be loved; monstrous in themselves

nuclear weapons

instruments of biological warfare

handguns

Creations that become monstrous in use

while no technology is neutral, most have a good side and a bad side, depending on use

problems of use include scale, planned obsolsecence, overuse, e-waste

Two case studies and a question and an action item

1. digital civic infrastructure: imposed by industry and government (smart cities)

2. affective technologies: freely chosen but controlled by industry (video gaming)

3. where is the governance?
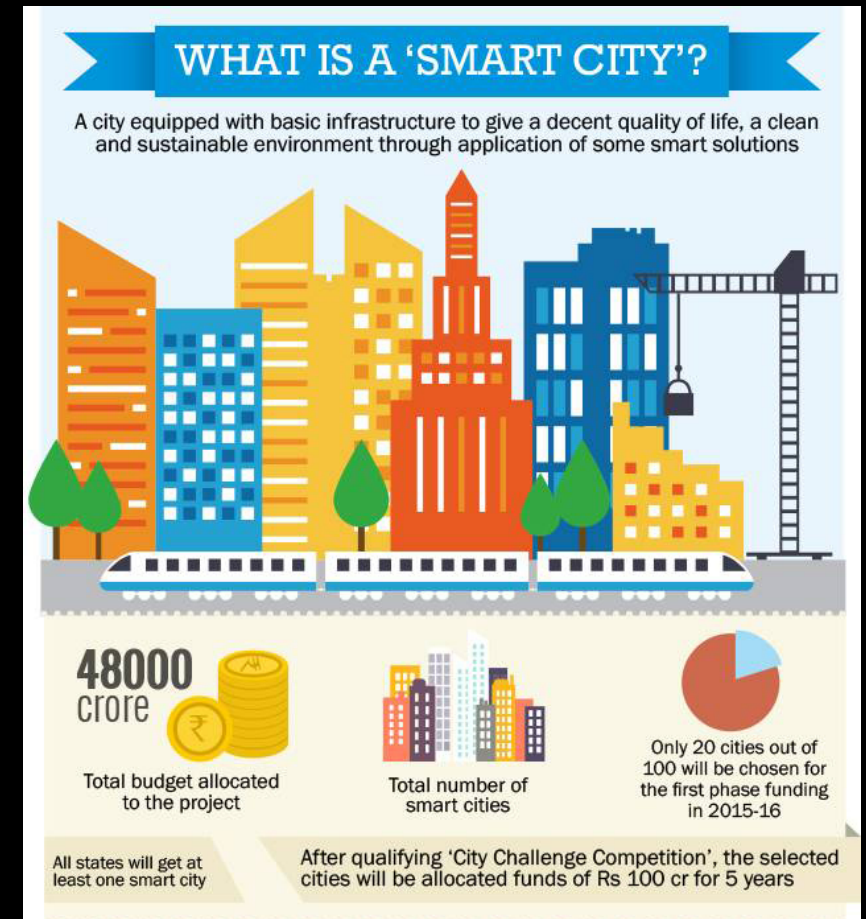
4. some practical considerations

Digital technology increasingly insinuated into infrastructure

Proposed by companies (ideas from start-ups, government-supported research…)

Companies lobby governments

Companies receive subsidies

New legislation if needed

Bonnie Nardi, UC Irvine

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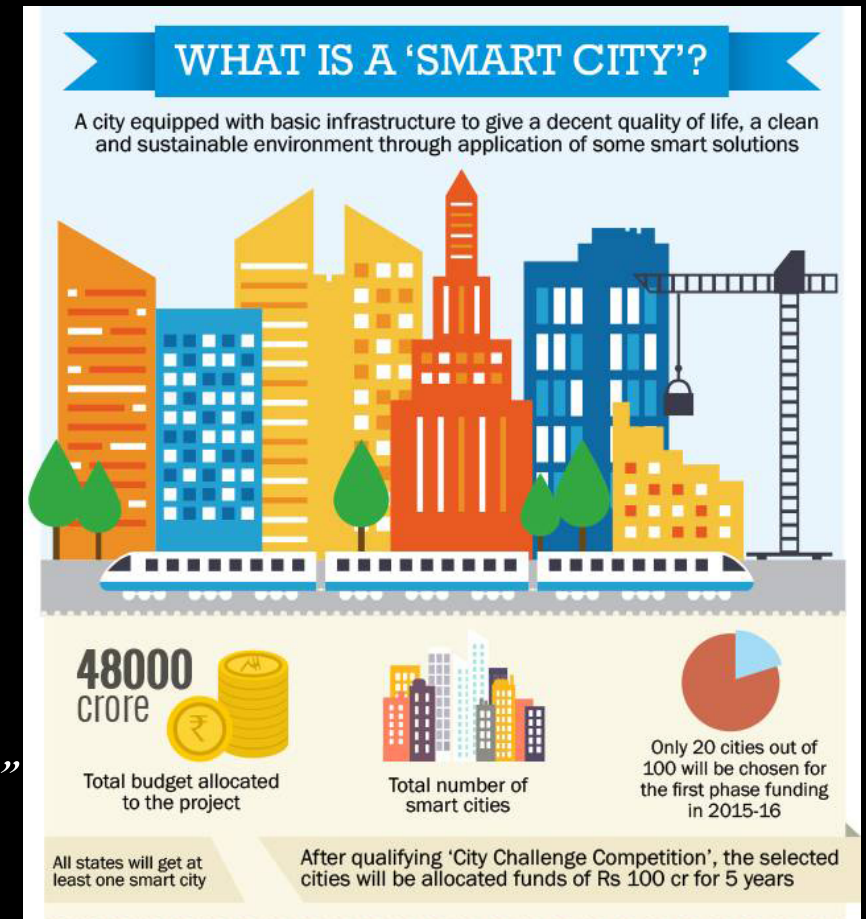
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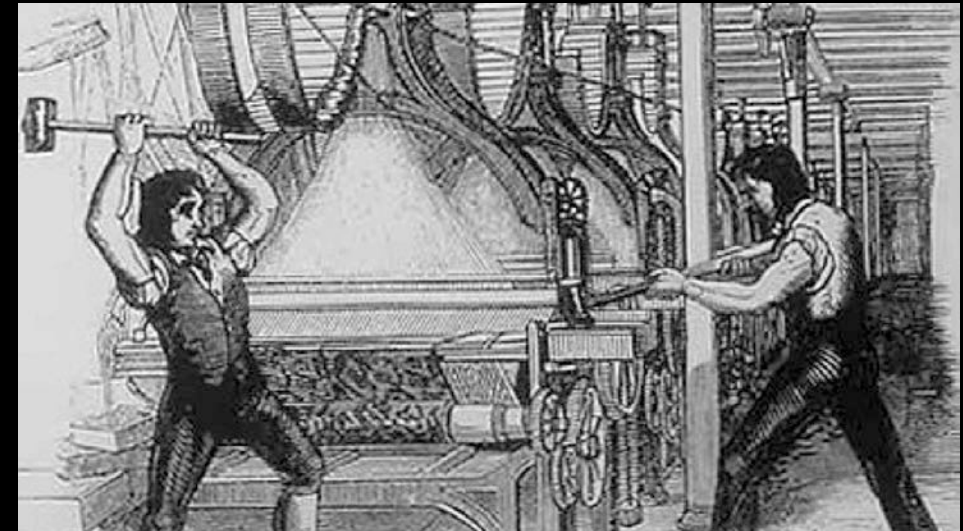
Companies receive subsidies

New legislation if needed

Technologies selected for profitability

Sold to the public as unproblematic, forward-looking, "the future"

WHAT IS A 'SMART CITY'?

A city equipped with basic infrastructure to give a decent quality of life, a clean and sustainable environment through application of some smart solutions

48000 crore
Total budget allocated to the project

Total number of smart cities

Only 20 cities out of 100 will be chosen for the first phase funding in 2015-16

All states will get at least one smart city

After qualifying 'City Challenge Competition', the selected cities will be allocated funds of Rs 100 cr for 5 years

Bonnie Nardi, UC Irvine

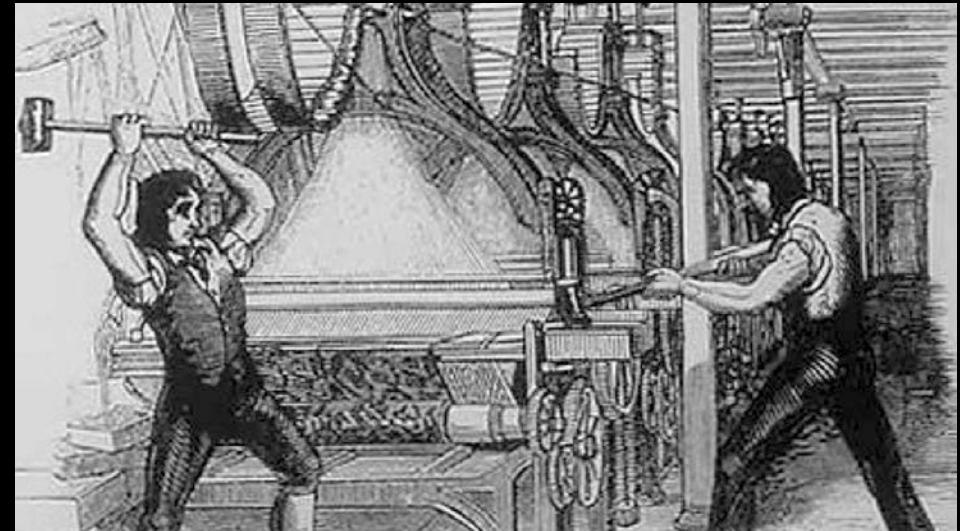# Pushback difficult

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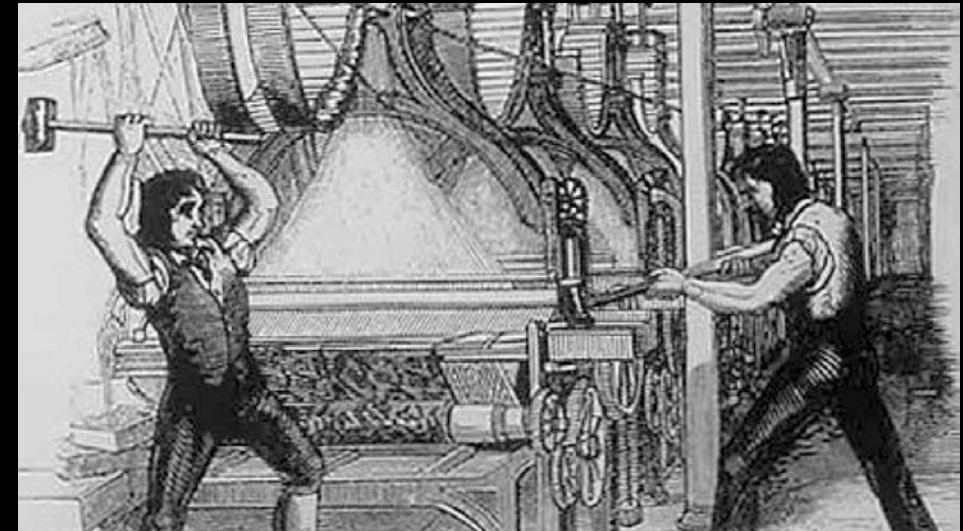
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We get the technologies that make profits rather than those that could heal a planet that is diminished ecologically and socially.
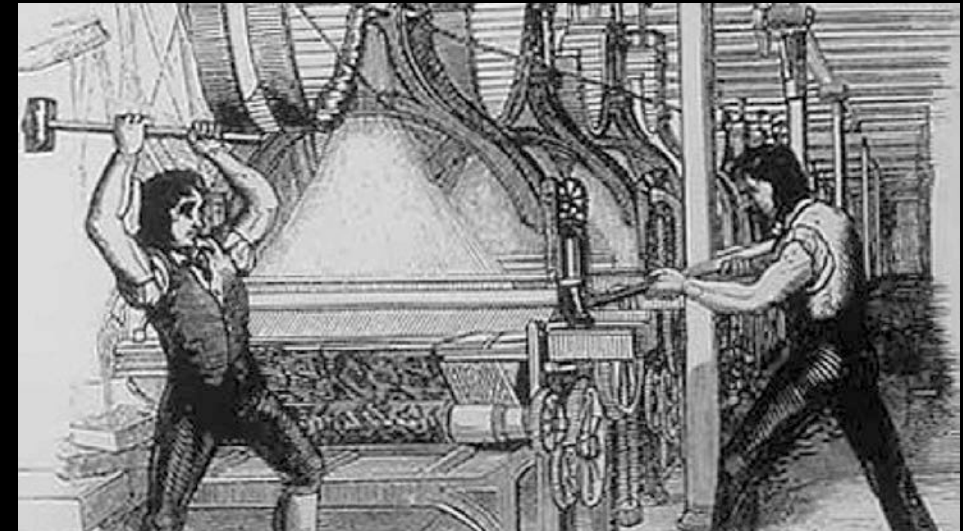
Smart Cities

a smart city monitors and integrates its critical infrastructures

ubiquitous sensors, data connections, continual analysis

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networked technological infrastructures will produce social order and progress

abundant corporate opportunities

Smart Cities

October 2017, Washington DC

Smart cities: managing politicians

Building the Capability of Political Leaders

- Political leaders can really make change, what do they need to know?
- Can there be continuity when there is a constant changes in political leadership?
- What tools do we give political leaders so they can bring the most value?

October 2017, Washington DC

Smart cities: it's the data

"The focus is on making [cities] resilient and to use data, innovation and technology to foster cross-agency collaboration and solutions."

Data reified, becomes a magic object, dematerialized, devoid of economics, conflict, interests.

Smart cities: it's the data

"The focus is on making [cities] resilient and to use data, innovation and technology to foster cross-agency collaboration and solutions."

Few mentions of:

> health insurance
> homelessness
> food insecurity
> high rates of incarceration
> public transportation….

Data reified, becomes a magic object, dematerialized, devoid of economics, conflict, interests.

Smart cities: the infrastructure has been decided

Readying the Roads, Planning for Autonomous Vehicles Session

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A Digital Utility Strategy

voice analytics

digital correspondence

interactive voice response

e-payments

digital dashboards…

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digital dashboards…

is this what is missing from utilities?

what problems are being addressed?

what are the costs of resource use, e-waste?

Smart cities: high touch words

compassionate

engagement

citizen

vulnerable population

collaboration

happiness (as a city indicator)

"Shining Cities Upon a Hill"

connection

community

inclusion

Happier for Less

Digital transaction up to 50 times less expensive than face-to-face and citizens are happier

Smart Cities

Opioid Addiction: How a New, Data-Driven Social Safety Net Can Save Lives in Your City Session

Accidental deaths from opioid addiction claim more lives in the U.S. than guns and traffic accidents. And most cities are strapped for the money and other resources they need to combat it. While there are challenges, promising early intervention solutions are coming — solutions that focus on four key elements: engagement, data, technology and funding.

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What about medical care, health insurance, counseling, jobs?

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Why are cities "strapped for funding" for these appalling problems?

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Parallel universe of discourse and intent. Aggressive, take-charge voices speak with certainty about "solutions" to incredibly complex issues.

Smart cities: high tech words

High tech words:

smart and smarter

intelligence

information

instrumented

analytics

metrics

data

digital literacy

cutting edge

networks

Smart cities: a hierarchical process based on imposed data infrastructure

Bill Gates' proposed smart city:

"[will include] a communication and infrastructure spine that embraces cutting-edge technology, designed around high-speed digital networks, data centers, new manufacturing technologies and distribution models, autonomous vehicles and autonomous logistics hubs…" (2017)

Smart cities: a hierarchical process based on imposed data infrastructure

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Global: Sweden, Korea, Taiwan, India, Canada, Dubai, Singapore, US …

Technology in use: scale

The question is not "is this technology in itself good or bad?"

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Infrastructural technologies, unlike assemblages, have "lock-in" effects

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Consequences—for privacy, environment, education, etc.—are difficult to mitigate upon lock-in.

Not just smart cities

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drones (military and non-military uses)

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wearables (for data collection to health providers, insurance companies, law enforcement…)

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self-driving vehicles

Not just smart cities

drones (military and non-military uses)

wearables (for data collection to health providers, insurance companies, law enforcement…)

social robots

self-driving vehicles

precision agriculture…

Frankenstein's monster was unloved not just because of the havoc created but because he was ugly:

"Let a man live with me in the interchange of kindness…and I would bestow every benefit upon him…But that cannot be; the human senses are insurmountable barriers to our union."

Affective technologies

But we are attracted to many digital technologies, and love them.

my World of Warcraft character

Bonnie Nardi, UC Irvine

One result of this attraction: heteromation

A labor relation that extracts value from uncompensated everyday activity with the technologies we love.
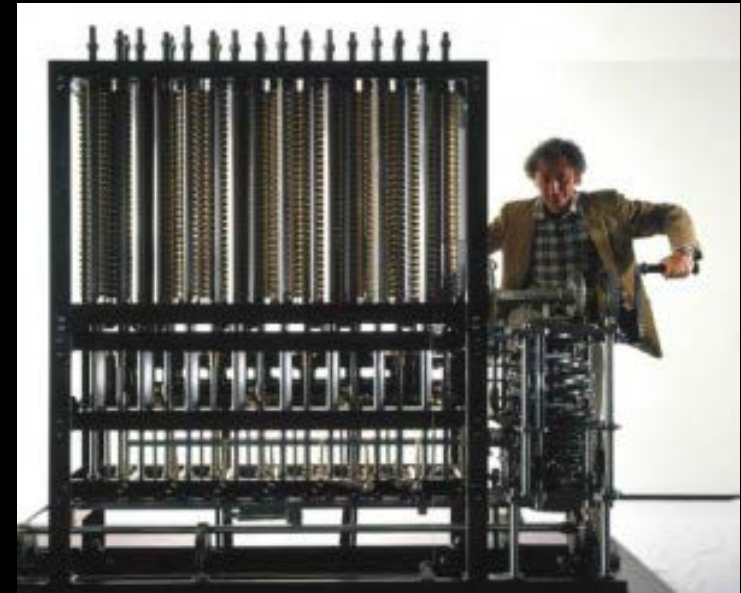
Automation: machine gives labor

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Automation: machine gives labor

Heteromation: machine takes labor

Facebook, Twitter…

YouTube videos

Reviews (Amazon, Yelp…)

Citizen science

Search (Google)

Twitch.tv…

provide content or data

*Heteromation and Other
Stories of Computing
and Capitalism*, MIT Press, 2017

Hamid Ekbia, Indiana University

Mechanisms of Heteromated Labor by Subject Type

● Bubble stars   ○ Less visible participants
underscore designates variable influence of the mechanism

SUBJECT TYPE	MECHANISMS			
	remuneration	convenience	totalized stimulation	social connection
Mechanical Turkers	○			
Correspondent Bankers	○			○
PARO Caregivers	○			<u>○</u>
Phone Menu Users				
ATMs & Self-Service Users		○		
Google Searchers	○	○		
Goldcorp Contest Losers				
Design Contest Losers				
YouTube Followers			○	○
YouTube Non-Celebrities			○	○
Citizen Scientists		○	○	○
Health I.Q. Participants		○		
League of Legends Judges				
Political Essayists			○	○
Recommenders & Reviewers			○	
Video Game Modders			○	○
Social Media Participants		○●	○●	○●
Video Gamers			○●	○●
Design Contest Winners	○●			
Goldcorp Contest Winners	●			
YouTube Celebrity Creators	●			●
Spacewar! Developers				●

Technologies we love: video gaming

Makes more money than film or music

Uses many forms of wealth-producing heteromated labor from activities in and around games:

Recruit other players

Train them in a complex game

Provide a critical mass of players

Establish community norms

Guides, forums, videos (how-to and artistic)

Modding

Theorycrafting

Streaming live games

World of Warcraft

13 years old, available in ten languages, millions of players, produced by Blizzard Entertainment

3D "world" in a medieval setting

a set of varied activities from completely non-competitive to very competitive

appeals to many ages, genders, nationalities…

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$5 billion in annual revenue with 5,000 employees

World of Warcraft: paraludic play

Generate enthusiasm, affection, love, for the game; keep people playing in a subscription-based business model

World of Warcraft: paraludic play

Generate enthusiasm, affection, love, for the game; keep people playing in a subscription-based business model

Catching the Sea Turtle
-Full Guide »

Bonnie Nardi, UC Irvine

Theorycrafting

Proc = Chance of SoL proc

C = Crit Percentage (where 1.0 = 100%)

n = number of chances to proc (n = 2 for Binding Heal, n = 5 for CoH, n = 6 for glyphed COH, PoH with a group that has 2 hunters n = 7!)

Example #4: Manipulating the formula to figure out what crit percentage you would need for the desired chance of getting a Surge of Light proc.

Proc = 0.75 or 75%, meaning you want your CoH to give you a 75% chance to generate a SoL proc.

C = ??? - unknown

n = 6

$Proc = 1 - (1 - C/2)^n$. (isolate C, gets ugly)

$C = -2*[(-P+1)^{1/n} - 1]$

$C = -2*[(-0.75+1)^{1/6} -1]$

$C = -2*[(0.25)^{1/6} - 1]$

$C = -2*[0.7937 - 1]$

$C = -2 * -0.20629$

C = 0.41259 or 41.3% crit needed.

(from ElitistJerks.com)

Software modding: upgrade the product for free

Games typically have interfaces programmers can access to make certain kinds of software modifications to a game.

Modders create and distribute these "add-ons" to improve gameplay.

Players download software for free.

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Harness a skilled labor force with no cost to the gaming company:

"Without the creativity of modders, developers would be hard-pressed to come up with new ideas, and it would prove hard to implement these ideas in the high-risk gaming market were it not for the huge 'test-market' the modding community provides."   (Kücklich 2005)

Software modding: upgrade the product for free

Some mods are incorporated into the actual game or generate new games.

Modders do not regard this as exploitative; it is a badge of honor in a community that runs on strong affective ties to games.

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But this is at the discretion of the company; there is no model of shared governance despite the immense economic value of mods to the companies.

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But this is at the discretion of the company; there is no model of shared governance despite the immense economic value of mods to the companies.

Acclimates us to providing free labor with no share governance in return.

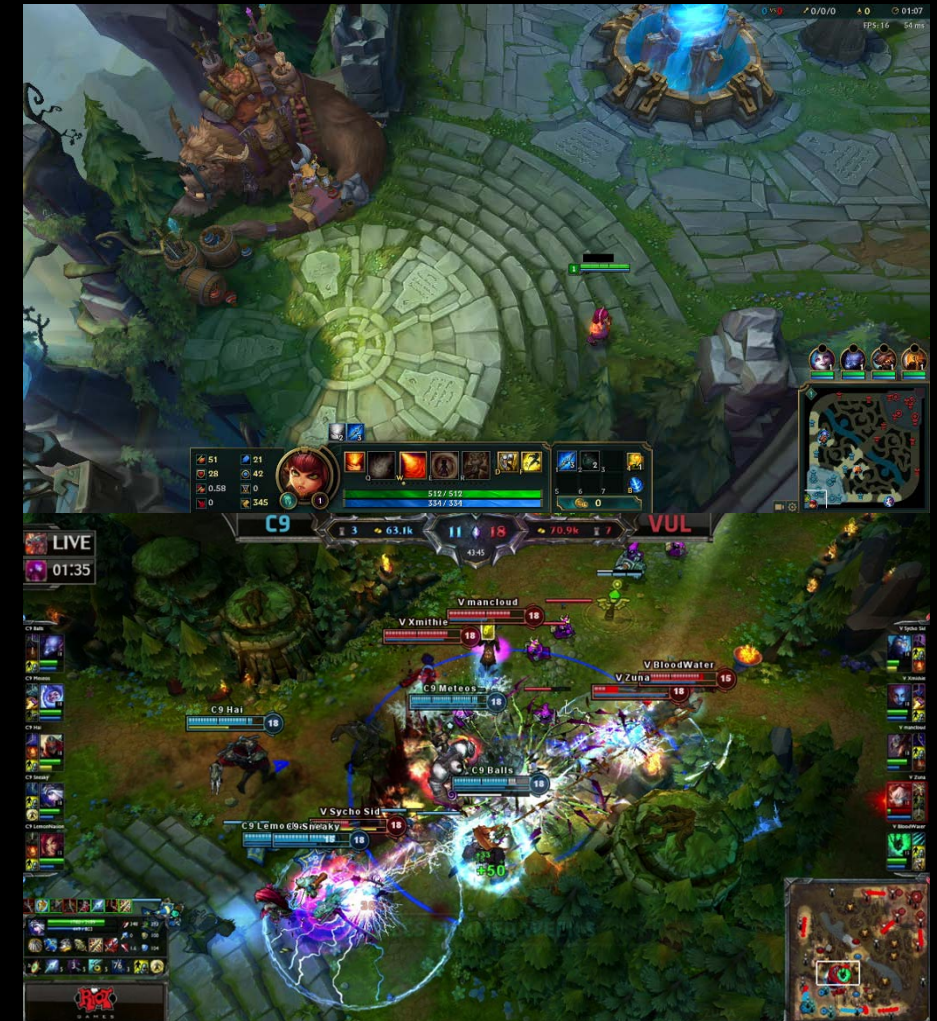# League of Legends: cultural work of establishing community norms

Generate love for the game; keep people playing in
 a "free to play/pay to win" model

Based on Yubo Kou's research

100 million active monthly players

50 minute matches

don't know all or some on your team

League of Legends: problem of community norms

"Toxic" behaviors

flaming, griefing, raging, sabotage, greed play, hostile language

League of Legends: problem of community norms

"Toxic" behaviors

flaming, griefing, raging, sabotage, greed play, hostile language

Who decides what is toxic?

This question was put to the players in
a system called The Tribunal.

League of Legends: The Tribunal

Multiple players judged a case.

Judgment to "punish" or "pardon"

Once norms established, system automated.

The Tribunal

Reviewing:
Case #5679712
In this case: 6 reports | 2 games

Pardon   **Punish**

Recent games: 1 2 3 4 5

General Information

Color legend
- Ally
- Enemy
- Reported Player

Game Type	Game Length	Outcome
Proving Grounds	23:56	Loss

Report Comments

1 Reported by: Ally
"One of the most toxic players I've seen"

2 Reported by: Ally
"Constantly attacked the other players for trying to explain what they were doing and didn't accept anything except his own opinion."

3 Reported by: Ally
"Superiority complex, a slight one eh?"

Chat Log   Filter: ⊙Allies ⚬Enemies ⚬All

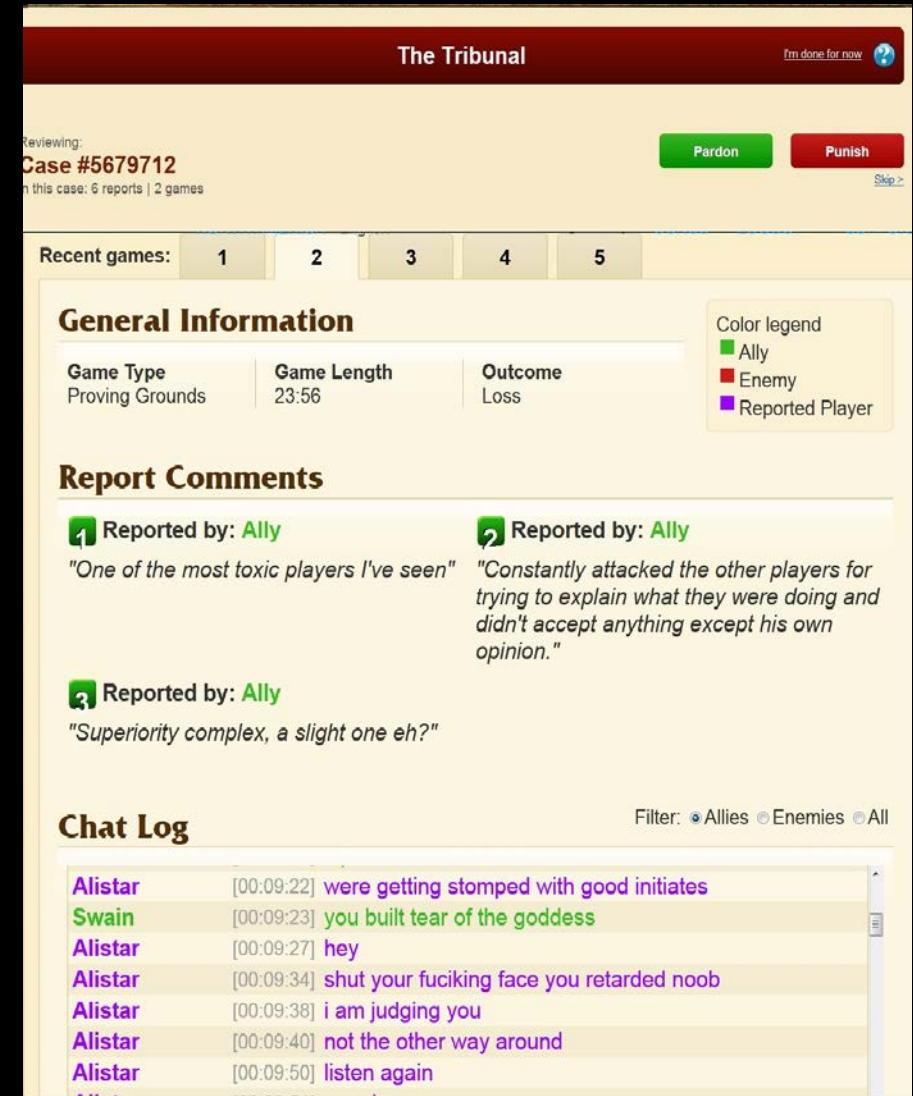| Alistar | [00:09:22] were getting stomped with good initiates |
Swain	[00:09:23] you built tear of the goddess
Alistar	[00:09:27] hey
Alistar	[00:09:34] shut your fuciking face you retarded noob
Alistar	[00:09:38] i am judging you
Alistar	[00:09:40] not the other way around
Alistar	[00:09:50] listen again

League of Legends: The Tribunal

Multiple players judged a case.

Judgment to "punish" or "pardon"

Once norms established, system automated.

Human judgments collected for three years.

Changed behavior.

twitch

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101 Live Channels

FIFA Soccer 13
22 Live Channels

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starladder1
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FollowGrubby
StarCraft II: Heart of the Sw...

westrice
League of Legends

painbrtt
League of Legends

gemieee
League of Legends

ocnus

VMan7. **Permabanned twice. Playing nice now**. On Diamond 5 alt.
VMan7 playing League of Legends

Chat with me on quakenet #VMan7 or in game VFan7 :>

5 VS 4   2   1   0   54   11:32

FPS: 103

shinekoo

facebook.com/vman7
@VmanSeven

Makedamnsure
by Taking Back Sunday

1212 / 1212
430 / 430

1080p+

Follow $4.99   Subscribe   Share

4,297   4,494,100   12,109

Chat   Videos

Dustdizzle: report bot no ss

Toast_xox: <message deleted>

★ Jakepriest: 💜

Toast_xox: <message deleted>

<message deleted>

<message deleted>

<message deleted>

<message deleted>

Sabretooth91: lol no mods and all douchebags appear

Theanimethief: There are mods

Dustdizzle: are you playing guitar or something, vman?

Rrteddy: does anyone know whats up with euw?

Poisonflow: #Iam14AndThisIsFunny

Bastermind: prolly some hackers attacking it again 😧

Brentieie: LOOOOL. My mom came over and lectured me because she thinks I'm playing with naked men (*pokes Vman*).

Shanaticonline: is it because iam from germany?

Sayoe: You wish you could play with naked men.

Meowlikeadog: i played alto sax too

Vjzzerdrjx: So is Vman no longer raging in chat? We have 0 problems with you yelling in stream, but raging in chat will get you banned =(.

Sabretooth91: http://www.youtube.com/watch?v=kxopViU98Xo <-- that's Vman before long hair

Omgfriedbacon: can I post a link?

Bastermind: yea thought id would be down after all that 😧

Shanaticonline: i want to hear ur playlist :s

Chat about this video

Chat

League of Legends: The Tribunal

But again – lack of governance.

Tribunal ran from 2013-2015.

Many players would like to bring it back; in forum discussions, they say the automated system does not understand the context of play.

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Many players would like to bring it back; in forum discussions, they say the automated system does not understand the context of play.

This might seem trivial but it's characteristic of the way our contributions do not produce shared governance.

The youth spend their time here; sets up expectations.

Governance

There is a need to shift priorities from profit to planetary well-being but we lack governing structures to do so.

How can we intervene to use computing technology, and studies of technology, for the social good?

Intervening

A recent *New York Times* article said:

"We need academia to step up to fill in the gaps in our collective understanding about the new role of technology in shaping our lives."

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"We need academia to step up to fill in the gaps in our collective understanding about the new role of technology in shaping our lives."

Academia does study and understand a lot about these issues; we just don't know how to intervene in the current political economy.

Intervening

We tend to be somewhat invisible ("Anthropology Matters").

World Scientists' Warning to Humanity: A Second Notice

William J. Ripple, Christopher Wolf, Thomas M. Newsome, Mauro Galetti, Mohammed Alamgir,
Eileen Crist, Mahmoud I. Mahmoud, William F. Laurance,
15,364 scientist signatories from 184 countries

BioScience, bix125, https://doi.org/10.1093/biosci/bix125
Published: 13 November 2017

Are we circulating in these networks?

Social action in and around computing, social science

SEED: Solutions for Economy, Environment, and Democracy (U of Washington, Siegen U)

Interdisciplinary effort; political science and computer science

Social action in and around computing, social science

Computing within LIMITS Workshop Series

Interdisciplinary research community: computer science, social scienc, earth science

Social action in and around computing, social science

Both efforts begin from the premise that our current form of capitalism is not the right model for well-being.

Social action in and around computing, social science

Both efforts begin from the premise that our current form of capitalism is not the right model for well-being.

Goals:

encourage researchers to orient their research under assumptions of planetary limits

influence policy

Open Think Tanks

idea from recent SEED Workshop

think tanks are listened to

learn to craft messages for policymakers and the public

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don't have to be elitist or closed

use technology to gather, process ideas and inputs

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visible, ongoing, stable presence

Open Think Tanks

On the right, intellectuals and policy makers don't wait till an idea becomes politically acceptable; they float "provocative" ideas repeatedly until they sound normal.

Open Think Tanks

On the right, intellectuals and policy makers don't wait till an idea becomes politically acceptable; they float "provocative" ideas repeatedly until they sound normal.

One such ideas is that the economy is for society, not the other way around.

Plenty of good ideas around

Degrowth

Disintermediation

  use computing to remove middle men to break down complexity
  based on archaeologist Joseph Tainter's idea that increasing societal complexity eventually
  leads to societal collapse

Bonnie Nardi, UC Irvine

Plenty of good ideas around

Degrowth

Disintermediation
      use computing to remove middle men to break down complexity
      based on archaeologist Joseph Tainter's idea that increasing societal complexity eventually
      leads to societal collapse

New forms of democracy
      distributed power
      no elections
      use computing to organize, create a Commons

Guaranteed basic income

Computational agroecology

Bonnie Nardi, UC Irvine

Adopt an Activist

Pool money with others to support an activist

We do what we are good at and they do what they are good at.

Adopt an Activist

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We do what we are good at and they do what they are good at.

Have a contract to specify expectations

Meet quarterly (probably virtually) to discuss results

Manage with a computing platform to match donors and activists, disseminate results

In Conclusion

Anthropologists study important things. But we need more than just "public outreach" to share knowledge.

Work collaboratively, in interdisciplinary settings, long-term, on common problems with high stakes goals.

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Not time to stop worrying yet---time to step up efforts to directly engage the political economy and confront its effects on everything and everyone

Positive efforts abound, and we are at a moment in time when people may be more willing to listen and act.

Optimism as resistance

Our technologies can be used to intervene in runaway capitalism whether we design and implement them or just find them and use them.

Children or loveable monsters? Complicated products of the economy that should appropriated for plans to set things right on the planet.

Those plans must come to be the visible, poetic image that informs and inspires.