

Data visualization and journalism

Alexandre Gonçalves

computer science + journalism

computer science as a tool to
improve news media



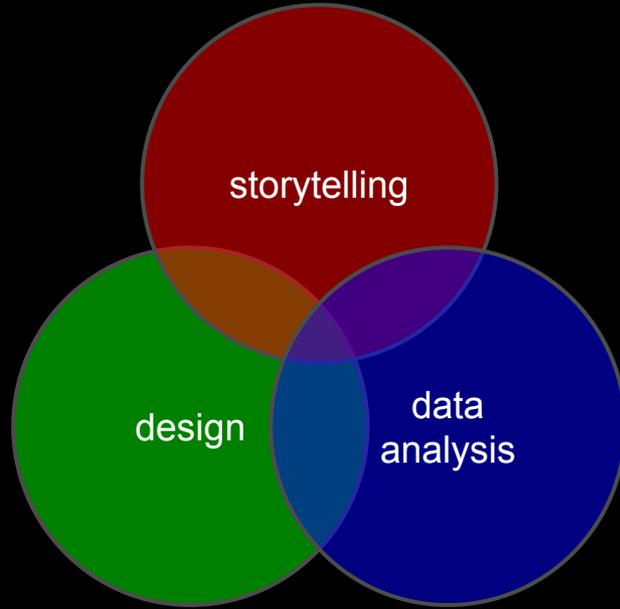
ESTADÃO
data visualization as a tool to
tell a story

computer science as a tool to
understand news media



data visualization as a tool to
find patterns in media behavior

data visualization to tell a story



data visualization to tell a story

- visualization for the masses
- visualization to build communion
- visualization for social change
- visualization + narrative
- visualization and the duty of beauty

visualization for the masses

bit.ly/nyt_kepler
Malofiej 2014

visualization to build communion

Communication is linked to terms such as “sharing,” “participation,” “association,” “fellowship,” and “the possession of a common faith.” This definition exploits the ancient identity and common roots of the terms “commonness,” “communion,” “community,” and “communication.”
(James Carey, Communication as Culture)

data.schoolbook.org

www.qedu.org.br

projects.propublica.org/docdollars

what do they have in common?

visualization for social change

Gasto com Fies cresce 13 vezes e chega a R\$ 13,4 bi, mas ritmo de matrículas cai

José Roberto de Toledo
Paulo Saldaña
Rodrigo Burgarelli



Enquanto os gastos federais com mensalidades de alunos em universidades privadas por meio do Financiamento Estudantil (Fies) dispararam a partir de 2010, o ritmo de matrículas no ensino superior caiu. Daquele ano até 2014, o custo do programa cresceu 13 vezes – saltou de R\$ 1,1 bilhão para R\$ 13,4 bilhões, em valores corrigidos –, mas a média anual de aumento de alunos nas instituições particulares passou de 5%, entre 2003 e 2009, para 3% de 2010 até 2013.

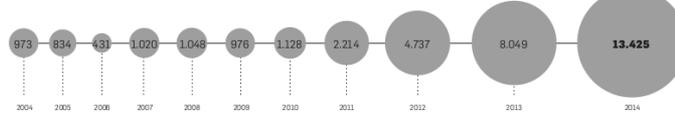
Criado em 1999, o Fies teve uma explosão de contratos após mudanças promovidas em 2010 para elevar as matrículas na rede privada, conforme anunciado na época. “O Brasil precisa chegar a 10 milhões de matrículas no ensino superior”, afirmou o então ministro da Educação, Fernando Haddad (PT). Os juros caíram de 6,5% para 3,4% ao ano, abaixo da inflação. Além disso, o financiamento pôde ser obtido a qualquer momento, a exigência de fiador foi relaxada e o prazo

BALANÇO

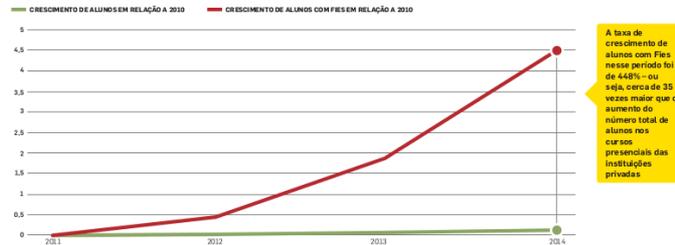
• Aumento de investimentos e contratos do Fies não refletiu na expansão do número de alunos da rede particular

Total de gastos do Fies

EM MILHÕES DE REAIS



Diferença



A taxa de crescimento de alunos com Fies nesse período foi de 448% – ou seja, cerca de 35 vezes maior que o aumento do número total de alunos nos cursos presenciais das instituições privadas.

ção das instituições com o Fies é de “capitalismo sem risco”. “Elas não precisam competir por preço, não têm dificuldade de reajustar valores, não têm crise nem problema com aluno.” O especialista em ensino superior Carlos Monteiro, da CM Consultoria, explica que a expectativa de expansão no número total de matrículas não se concretizou. “O que a maioria das instituições acabou fazendo foi transferir para o Fies aquele aluno que dava desconfo, que era bolsista”, diz.

Mudanças. Após a reeleição de Dilma Rousseff, o Ministério da Educação (MEC) decidiu restringir o acesso ao Fies. Agora, os alunos devem obter ao menos 450 pontos no Exame Nacional do Ensino Médio (Enem) – antes, bastava ter participado. Segundo a pasta, a mudança tem como objetivo melhorar a qualidade do ensino.

Grupos educacionais tiveram grandes perdas em valor de mercado na Bolsa e se posicionaram contrários às mudanças. Ainda não é possível quantificar o impacto da medida no gasto federal e na evolução das matrículas. O valor orçado para o Fies em 2015 é de R\$ 12 bilhões. Em nota, o MEC informou que busca “sempre aprimorar os processos com o objetivo de garantir mais oportunidades”. O Estadão não rastreia entidades.

- Fies: the government lends money to students to fund their college education in private institutions (low interest rates and long grace periods).
- Private institutions instruct their students to apply for the loan: they prefer to receive money from the government than from the students.
- If the students do not pay for the loan, it is a government's problem, not a college owner's problem. Private profit, socialized risk.

projects.nytimes.com/guantanamo
Malofiej 2012

visualization + narrative

Statistics don't bleed.
(Arthur Koestler)

bit.ly/nsa_decoded
Malofiej 2014

visualization and the duty of beauty

Beauty is mysterious as well as terrible.
God and devil are fighting there, and the
battlefield is the heart of man.
(Dostoevsky, The Brothers Karamazov)

bit.ly/nyt_fashion
Malofiej 2014

bit.ly/nyt_city
Malofiej 2014

why the NYT bias?

challenges

news stories
are expensive

most people
agree that they
are important

nobody wants
to pay for it

data journalism
is even more
expensive

non-profit
organizations or
public funding

data literacy
among
journalists

data visualization to find patterns in media behavior

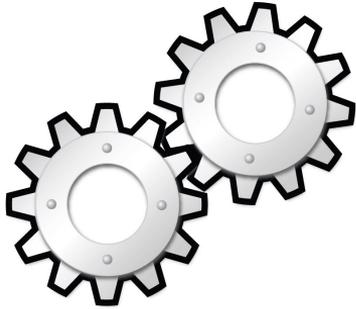
- SOPA/PIPA debate
- Russian blogosphere
- Flashmobs in Brazil

www.mediacloud.org

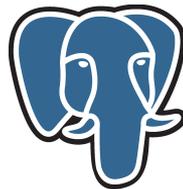
What **is** Media Cloud?

www.mediacloud.org

Web crawler



Database



PostgreSQL
the world's most advanced open source database

Search platform



SOPA/PIPA

- The Hollywood-sponsored anti-piracy legislation.
- Defeated in January 2012.

Jan 17



SOPA/PIPA is anti-piracy legislation



Jan 18

Imagine a World Without Free Knowledge

For over a decade, we have spent millions of hours building the largest encyclopedia in human history. Right now, the U.S. Congress is considering legislation that could fatally damage the free and open internet. For 24 hours, to raise awareness, we are blacking out Wikipedia. [Learn more.](#)

Make your voice heard

Facebook Google+ Twitter

STOP CENSORSHIP

Mozilla is joining the virtual strike against internet censorship. Help us fight SOPA/PIPA.

Google Search I'm Feeling Lucky

Tell Congress: Please don't censor the web!

Jan 19



SOPA/PIPA is about Internet censorship



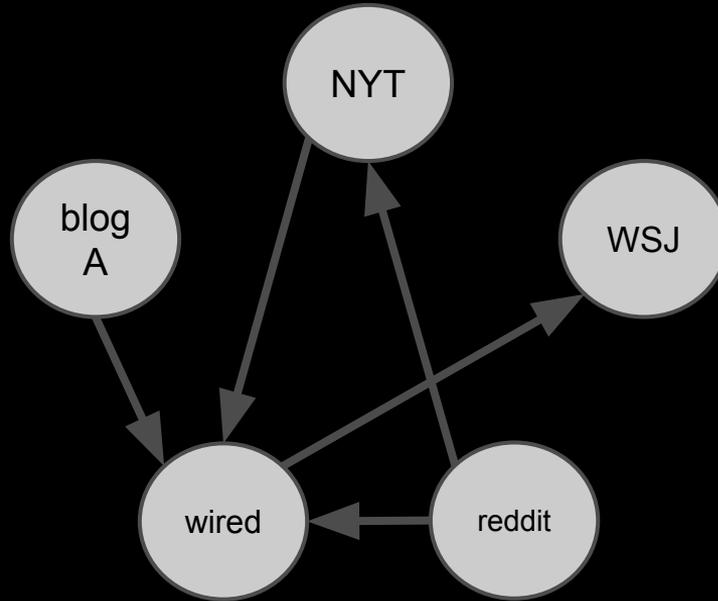
Benkler et al.

- the emergence of the networked public sphere

bit.ly/harvard_sopa

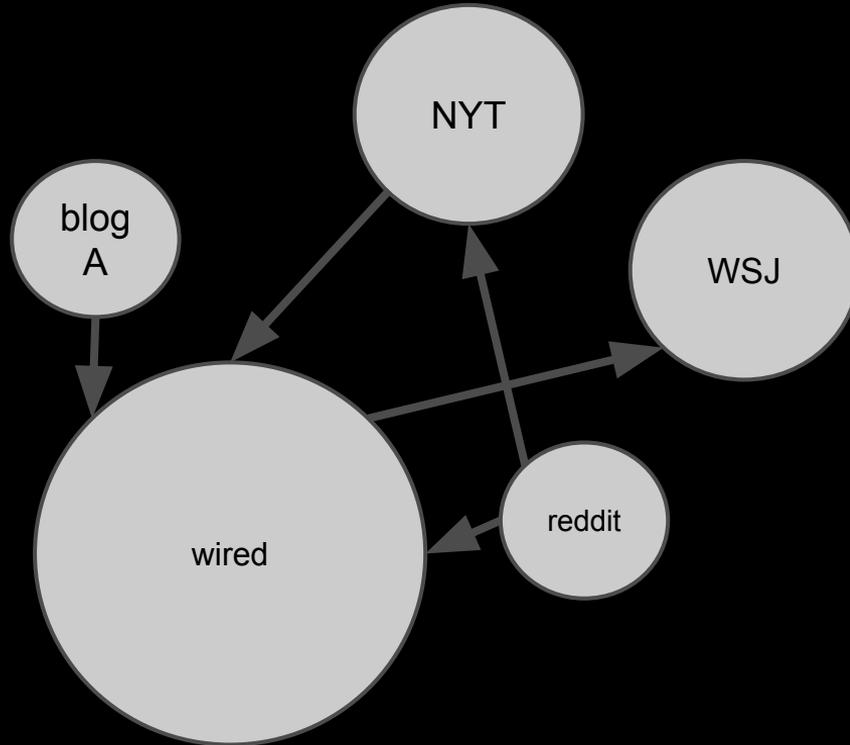
Controversy Mapper

Week X:



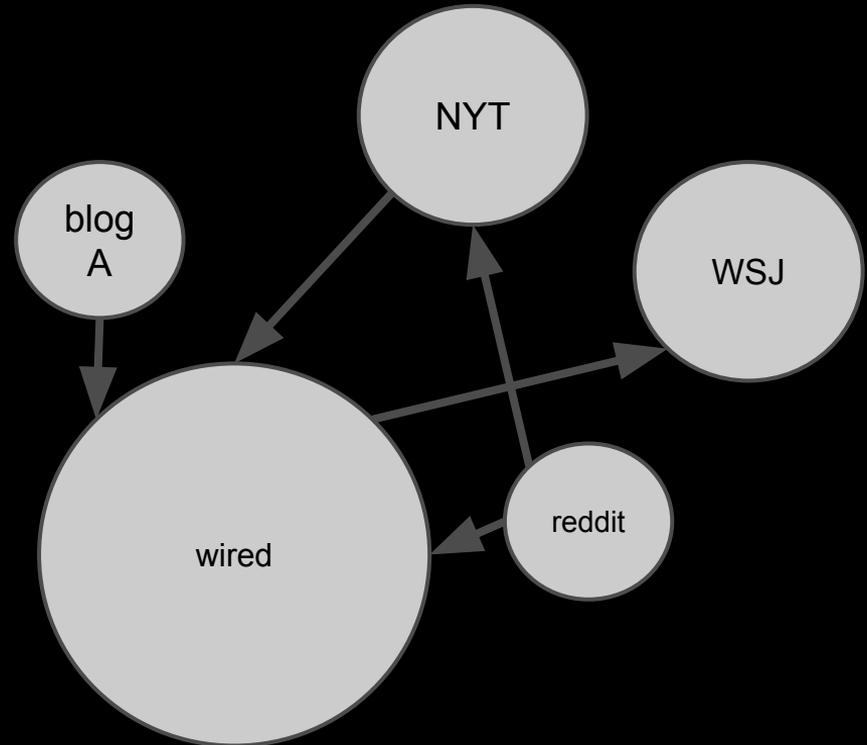
Controversy Mapper

Week X:



Qualitative analysis

- What did WIRED publish that week?
- Who wrote the articles?
- Why were those articles quoted by other media sources?



Rolezinhos are "...gatherings organised via social networks in which tens, hundreds, and sometimes thousands of youngsters from São Paulo's poor periphery meet up in the city's shopping malls..."

[The Economist, 01/20/2014](#)



Shopping Itaquera, 01/11/2014, 3,000 youngsters



Aim: framing analysis of the **rolezinhos** issue

To frame is to select some aspects of a perceived reality and make them more salient in a communicating text, in such a way as to promote a particular problem definition, causal interpretation, moral evaluation, and/or treatment recommendation. (Entman, 1993)

Frame element	Variables
problem definition	main actor: youth state and society
causal interpretation	economic: new middle class social: social criticism lack of civility social or racial prejudice cultural: <i>funk ostentação</i> and social networks few options for recreation
moral evaluation	main actors: youth malls police government: city level state level federal level courts society: media progressives conservatives
treatment recommendation	against: fines and detentions <i>rolezinhos</i> in public parks pro: more <i>rolezinhos</i> and protests dialogue and reflection

Table 2.1: Variables for hierarchical cluster analysis.

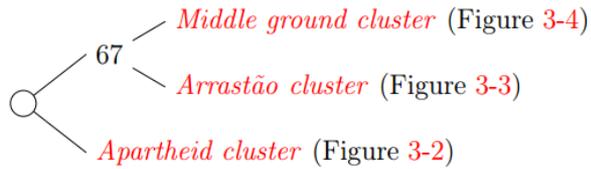


Figure 3-1: Root of the tree and the three main frames.

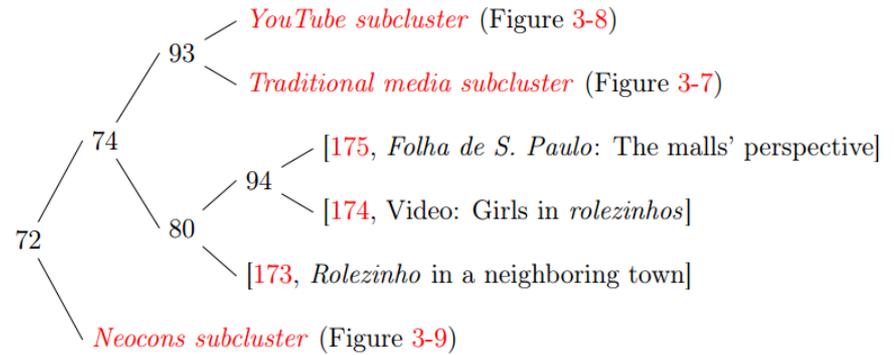
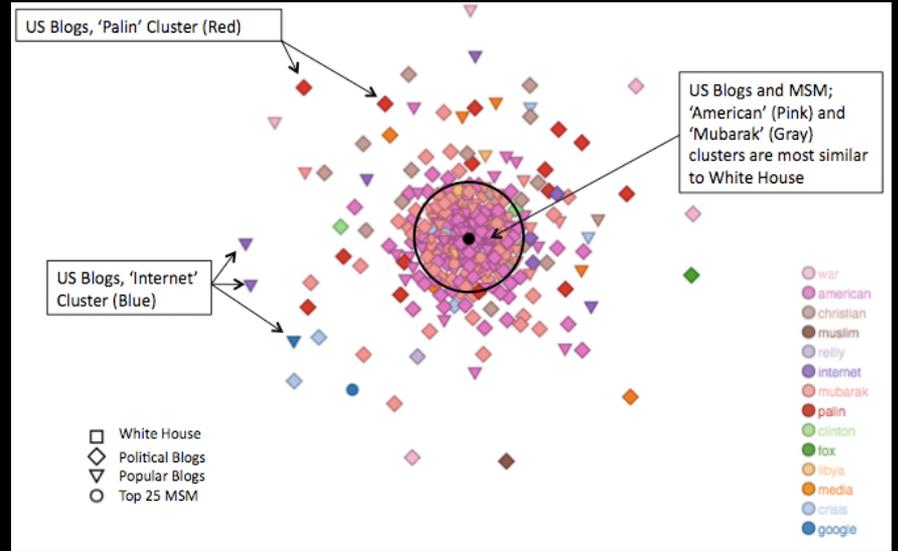
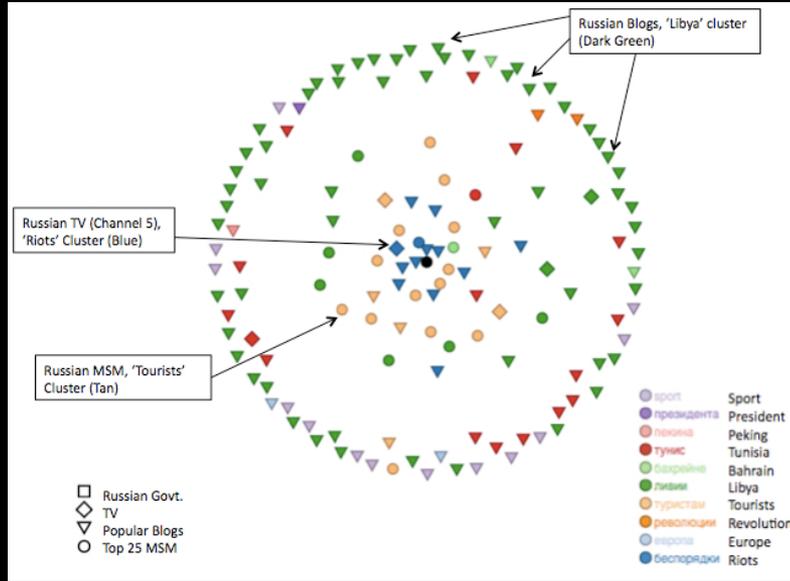


Figure 3-5: *Arrastão cluster*. A collapsed and annotated version of Figure 3-3.

Arab Spring in Russia and the US



bit.ly/russian_blogosphere

thank you!

a.goncalves@columbia.edu

bit.ly/pres_alex