LOSD: A Linked Open Social Dataset for Scientific Research (Supplementary document)

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Abstract

This is a Supplementary document which provides ontological diagrams and auxiliary tables for the LOSD dataset. The main document of the article is in [1].

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1. General guidance

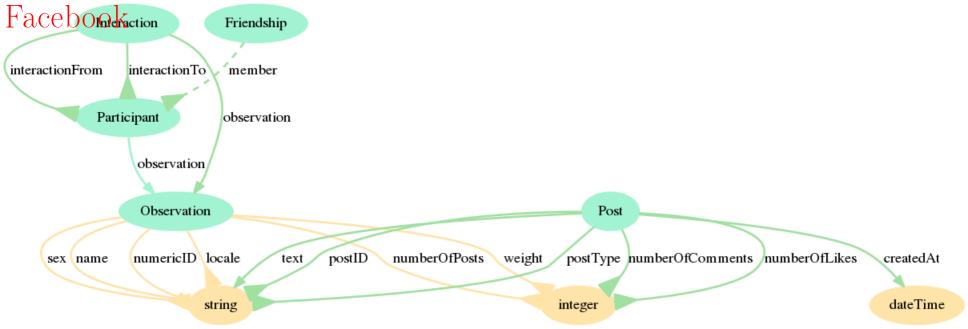
In this document we provide diagrams for the provenances in LOSD, namely Facebook, Twitter, IRC, Email, Participa.BR, Cidade Democrática and AA. Each provenance has two diagrams: one presents the relations among classes (blue nodes) and data types (orange nodes), the other presents metadata for the snapshot provenance. Every class instance is related to the snapshot instance by the triple class_uri po:snapshot snapshot_uri. Such triples are omitted for simplicity. Due to the large number of relations, the rendering of diagrams are automatized and displays some overlaps of the nodes related to each class or datatype. Even so, the images are useful for grasping what is available in current LOSD and exploration assistance. Edges in the diagrams have (see OWL official documentation or the article [1]:

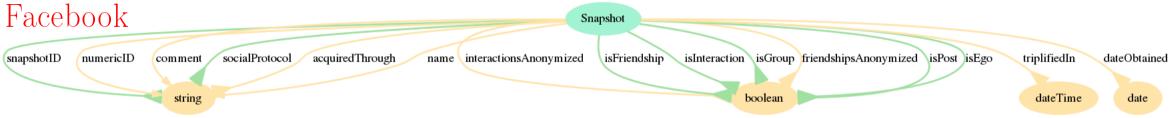
- green color if representing an OWL existential class restriction;
- inverted arrow tip if representing an OWL universal class restriction;
- full edges (non-dashed) if representing a functional property axiom.

Furthermore, this document ends with two sets of tables, one with references for snapshot groups, such as Wikipedia or contact links, the other with counts of triples, participants, edges/interactions/relations and characters.

2. Facebook data

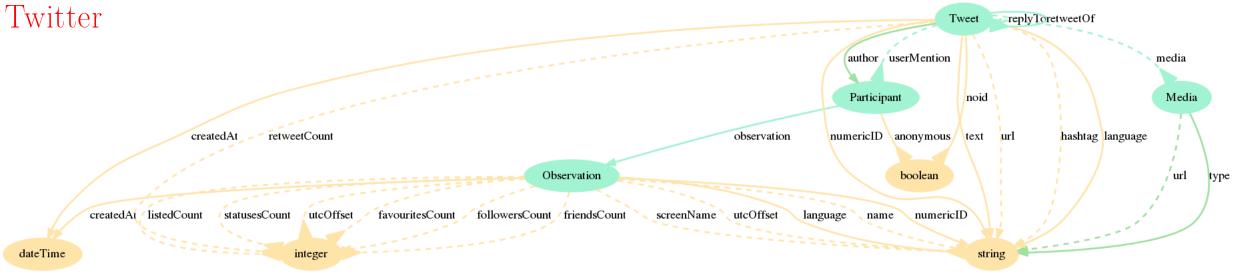
Each Facebook snapshot is yield by either a user, from which the friends are in the friendship network, or a group, in which participants can yield friendship and interaction networks and posts information with text and some metadata. Further information is found in the following diagrams, in the tables at the end of this document or in the main document of this article [1].

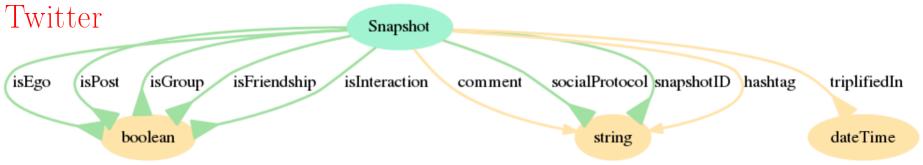




3. Twitter data

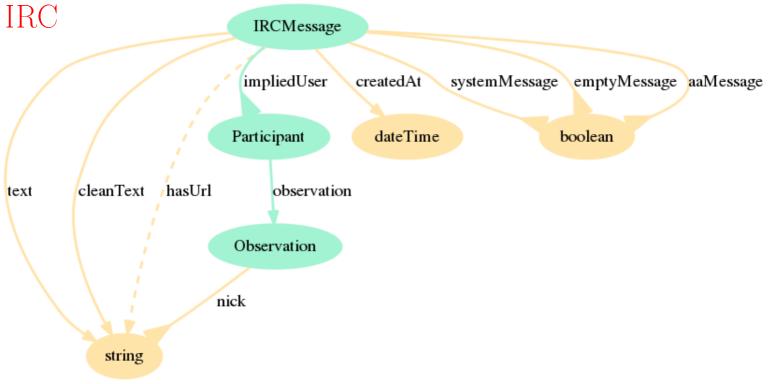
Each Twitter snapshot is yield by a hashtag. Retweets (po:retweetOf are usually considered the interactions between users. The database present also po:replyTo and po:userMention which may be useful in understanding the networking and provides additional networks. Further information is found in the following diagrams, in the tables at the end of this document or in the main document of this article [1].

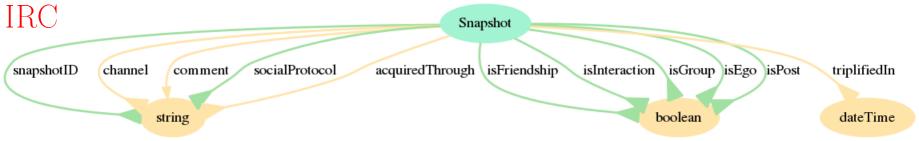




4. IRC data

Each IRC snapshot is yield by an IRC channel. IRC messages are either 1) server messages (e.g. join and exit) marked with po:systemMessage true and having an po:impliedUser user_uri, or 2) user messages, which yield interactions through po:directedTo and po:mentions properties. Text messages without the user names are provided through the po:cleanText property. Further information is found in the following diagrams, in the tables at the end of this document or in the main document of this article [1].



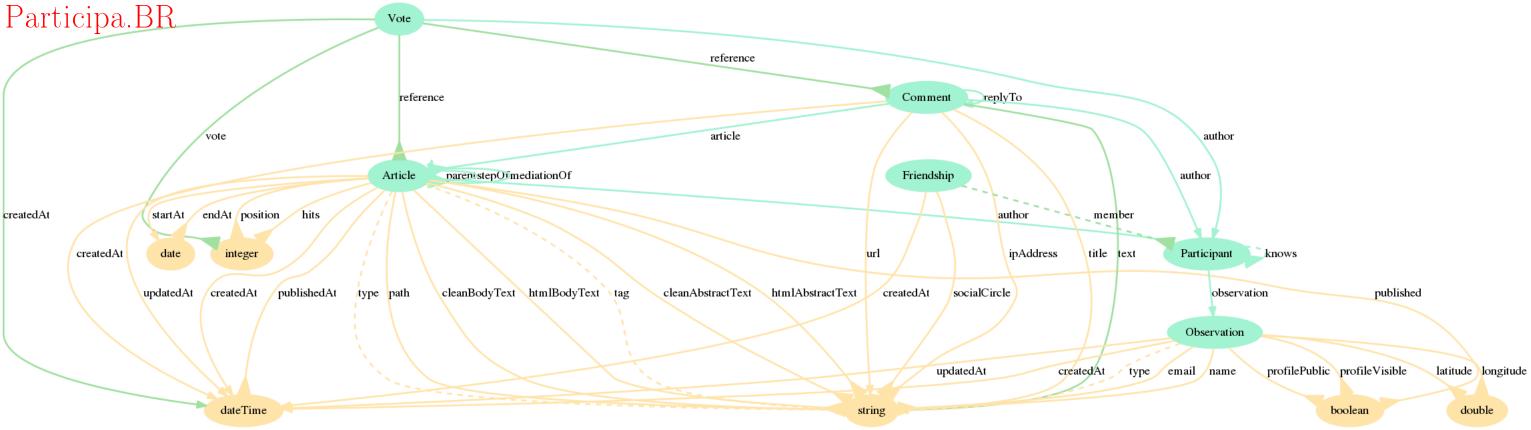


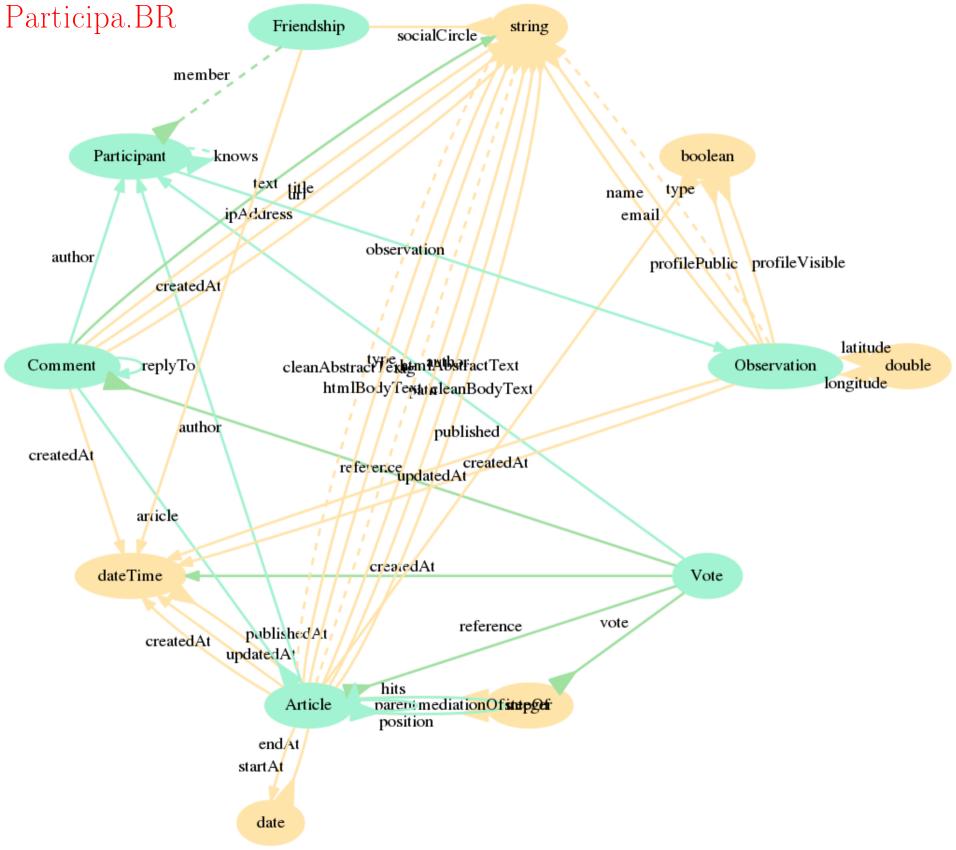
5. Email data

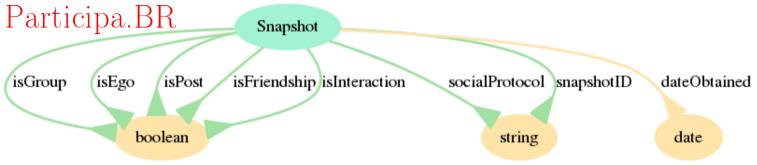
Each email snapshot is yield by an Email list. Interactions are entailed by po:replyTo relations although po:to and po:cc may also be considered. The email body is given by po:text relations while po:cleanText links to text with lines removed where they are obviously from previous messages or computer code. Further information is found in the following diagrams, in the tables at the end of this document or in the main document of this article [1].

6. Participa.BR data

The Participa.BR snapshot is yield by a data dump donated by the system administrators of the federal portal of social participation Participa.BR. Articles can have parent articles (po:parent), can be a step of a collection of articles (po:stepOf) and can be a mediation of other articles (po:mediationOf). Interactions are entailed by comments which are po:replyTo other comments or which are made directly to an article. This snapshot also holds friendship structures. The language used is mainly Brazilian Portuguese, but English and Spanish are also incident. Due to the higher complexity of the diagram, an additional figure, obtained through another layout algorithm, is given. Further information is found in the following diagrams, in the tables at the end of this document or in the main document of this article [1].

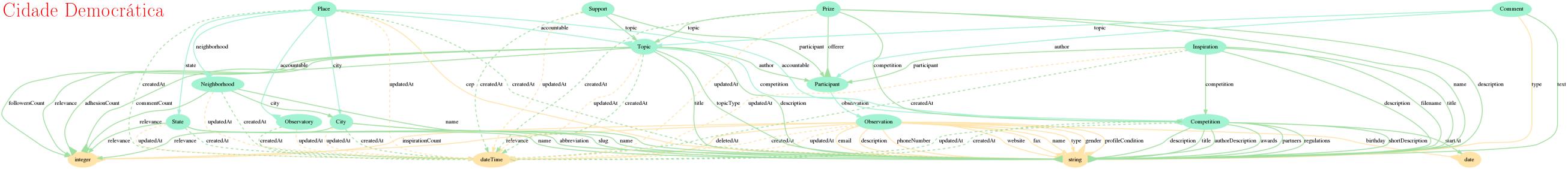


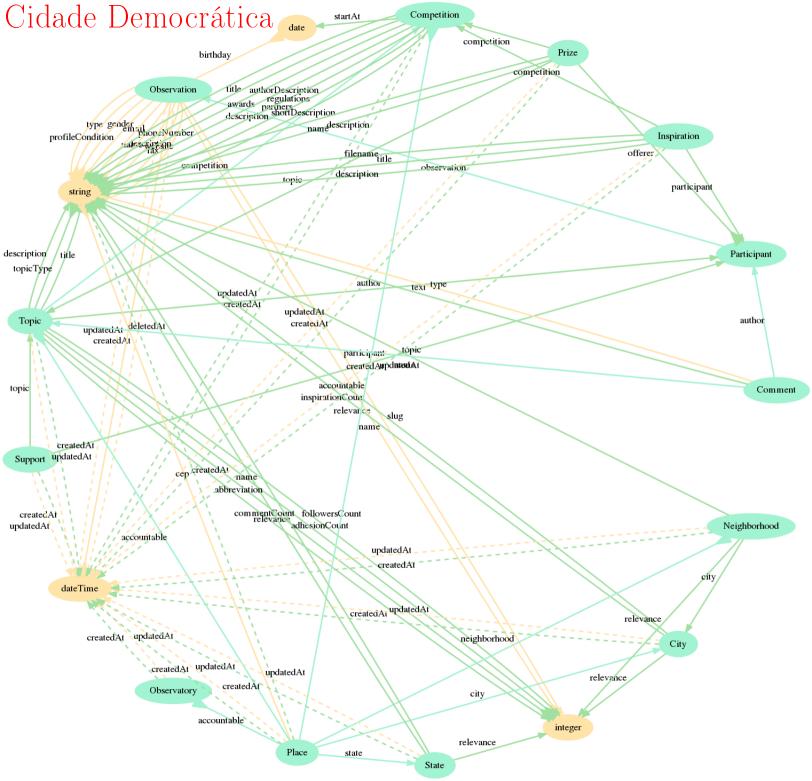


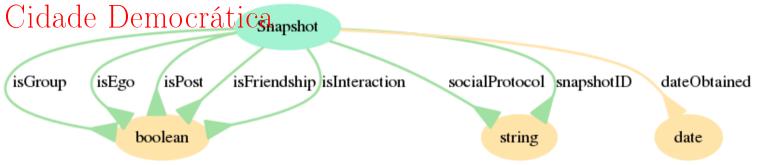


7. Cidade Democrática data

The Cidade Democrática snapshot is yield by a data dump donated by the system administrators of the civil society social participation portal Cidade Democrática. This snapshot holds a complex structure of both Topics/Inspirations/Observatories/Supports/Co and of State/City/Neighborhood/Place. The language used is mainly Brazilian Portuguese. Due to the higher complexity of the diagram, an additional figure, obtained through another layout algorithm, is given. Further information is found in the following diagrams, in the tables at the end of this document or in the main document of this article [1].

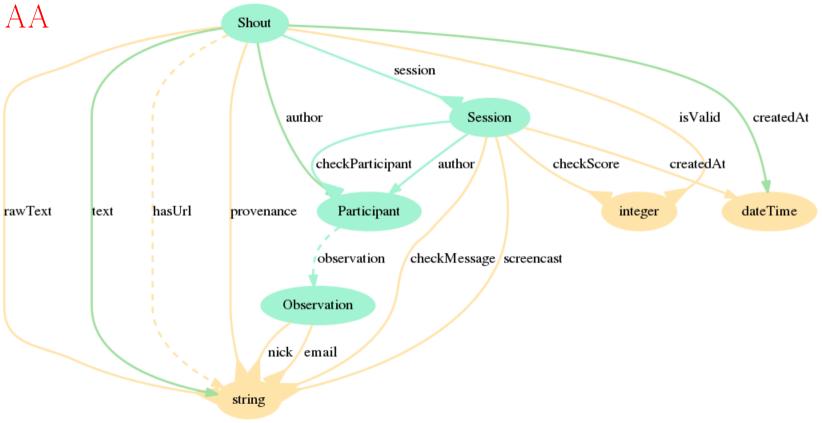


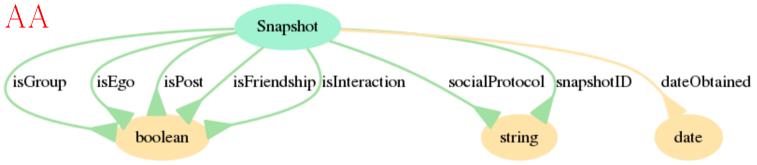




8. AA data

The AA (Algorithmic Autoregulation) snapshots are yield by a data dump donated by the system administrators and by a mined IRC log. The system aims at simplicity and most of the data consists of shouts with po:text and po:author. Further information is found in the following diagrams, in the tables at the end of this document or in the main document of this article [1].





9. Snapshot references

Table 1: All the Facebook snapshots are either the result of individuals who downloaded their data (and donated to the first author) or data downloaded from groups. In the first case, it is senseless to present references. In the second case, we present the group name and a link to a post in the group where data and figures were delivered back to the group.

group name	$\operatorname{url}(\mathbf{s})$
Adorno Nao Eh Enfeite	https://www.facebook.com/groups/265217103529531/permalink/525654127485826/
Ativistas Da Inclusao Digital	https://www.facebook.com/groups/423602557691243/permalink/525201037531394/
Ciencias Com Fronteiras	https://www.facebook.com/groups/contraaexclusao/permalink/269103356558439/
Computer Art	https://www.facebook.com/groups/computerart/permalink/259389137529870/
Coolmeia	https://www.facebook.com/groups/coolmeia/permalink/380091142098291/, https://www.facebook.com/groups/coolmeia/permalink/489757754464962/
Democracia Direta Ja	https://www.facebook.com/groups/ddjbrasil/permalink/347023325397298/
Democracia Pura	https://www.facebook.com/groups/democraciapura/permalink/310907215704321/
Economia	https://www.facebook.com/groups/economa1/permalink/586007714743535/
Economia Criativa Digital	https://www.facebook.com/groups/economiacriativadigital/permalink/438313682916103/
Educacoes E Aprendizagens XXI	https://www.facebook.com/groups/geaxxi/permalink/433229973421182/
Latesfip	https://www.facebook.com/groups/183557128478424/permalink/266610616839741/
Living Bridges Planet	https://www.facebook.com/groups/livingbridgesplanet/permalink/ 352950408144951/
Mobilizacoes Culturais Interior SP	https://www.facebook.com/groups/131639147005593/permalink/144204529082388/
Partido Pirata	https://www.facebook.com/groups/partidopiratabrasil/permalink/ 10151409024509317/
Politicas Culturas Brasileiras	https://www.facebook.com/groups/pcult/permalink/519626544747423/
Praca Popular	https://www.facebook.com/groups/215924991863921/permalink/319279541528465/
Rede Tranzmidias	https://www.facebook.com/groups/318333384951196/permalink/346658712118663/
Silicon Valley Global Network	https://www.facebook.com/groups/109971182359978/permalink/589326757757749/
Solidarity Economy	https://www.facebook.com/groups/9149038282/permalink/10151461945623283/
Study Group SNA	https://www.facebook.com/groups/140630009439814/permalink/151470598355755/
Tecnoxamanismo	https://www.facebook.com/groups/505090906188661/permalink/733144993383250/ ,
	https://www.facebook.com/groups/505090906188661/permalink/733157380048678/

Table 2: Different Twitter snapshots are yield by different hashtags. This table presents each snapshot with the respective hashtag and a reference to the subject.

snapshot hashtag	observation	reference
#arenaNETmundial	a Brazilian discussion hub about	http://www.participa.br/
	free culture, democracy and the	netmundial
	internet	
#art	tweets with the generic hashtag	https://en.wikipedia.org/wiki/
	#art	Art
#ChennaiFloods	heavy rainfall generated by the	https://en.wikipedia.org/wiki/
	annual northeast monsoon in	2015_South_Indian_floods
	November-December 2015	
#dilma	the 36th President of Brazil	https://en.wikipedia.org/wiki/
		Dilma_Rousseff
#ForaDilma	2015-16 anti-government	https://en.wikipedia.org/wiki/
	protests in Brazil	2015-16_protests_in_Brazil
#ForaCunha	2015-16 anti-corruption protests	https://en.wikipedia.org/wiki/
	in Brazil	2015-16_protests_in_Brazil
#fuck	tweets with the generic hashtag	https://en.wikipedia.org/wiki/
	#fuck	Fuck
#game	tweets with the generic hashtag	https://en.wikipedia.org/wiki/
	#game	Game
#god	tweets with the generic hashtag	https://en.wikipedia.org/wiki/
	# go d	God
#MAMA2015	the grand 2015 Mnet Asian Mu-	https://en.wikipedia.org/wiki/
	sic Awards	2015_Mnet_Asian_Music_Awards
#music	tweets with the generic hashtag	https://en.wikipedia.org/wiki/
	#music	Music
#obama	the 44th President of the United	https://en.wikipedia.org/wiki/
	States	Barack_Obama
#python	the Python programming lan-	https://en.wikipedia.org/wiki/
	guage	Python_(programming_language)
# Quarta Sem Racismo Clube SDV	an anti-racism netweaving	https://twitter.com/hashtag/
		quartasemracismoclubesdv
#science	tweets with the generic hashtag	https://en.wikipedia.org/wiki/
	#science	Science
#SnapDetremura	reference for Snapchat about a	https://twitter.com/detremura
	celebrated person	

Table 3: Different IRC snapshots are yield by different IRC channels. This table presents each snapshot with the respective channel and a reference to the subject.

snapshot channel	observation	reference		
#foradoeix o	a Brazilian network of culture re-	https://pt.wikipedia.org/wiki/		
	lated collectives	Fora_do_Eixo		
#hackerspace-cps	a hackerspace in Campinas,	https://lhc.net.br/wiki/P%C3%		
	Brazil	A1gina_principal		
#hackerspaces-br	Brazilian hackerspaces channel	https://garoa.net.br/wiki/		
		Hackerspaces_Brasileiros		
#labmacambira	Brazilian channel for the lab-	http://labmacambira.		
	Macambira collective	sourceforge.net/		

Table 4: Different Email snapshots are yield by different email lists. This table presents each snapshot with the respective list and a reference to the subject.

Gmane ID	observation	reference
gmane.linux.audio.users	the Linux Audio Users	http://linuxaudio.org
gmane.politics.organizations.me-	a network about technology and	https://metareciclagem.github.
tareciclagem	social transformation	io
gmane.linux.audio.devel	the Linux Audio Developers	http://lists.linuxaudio.org/
		listinfo/linux-audio-dev
${\tt gmane.comp.gcc.libstdc++.devel}$	the C++ standard library	https://gcc.gnu.org/libstdc++/

Table 5: References for the snapshots of Participa.BR, Cidade Democrática and AA.

social protocol	observations	reference	
Participa.BR	a Brazilian federal portal of so-	http://www.participa.	
	cial participation	br/	
Cidade Demorática	a Brazilian civil society portal of	http://www.	
	social participation	cidadedemocratica.	
		org.br/	
AA	the Algorithmic Autoregulation	[2, 3]	
	software development methodol-		
	ogy		

10. Trivial counts in each snapshot

Table 6: Number of triples (ntriples), number of relations/interactions/edges (nedges), number of participants (nparticipants) and number of characters (nchars) in each snapshot.

snapshot id	ntriples	nedges	nparticipants	nchars
aa-irc-legacy-labmacambira_lalenia.txt	53,140	0	117	558,466
aa-mongo-legacy	22,773	0	37	240,172
aa-mysql-legacy	790,796	0	157	2,753,354
cidadedemocratica-legacy	915,852	0	23,079	6,871,848
facebook-legacy-AdornoNaoEhEnfeite29032013	8,459	1,292	293	26,113
facebook-legacy-AntonioAnzoategui18022013	1,676	328	52	0
facebook-legacy-AtivistasDaInclusaoDigital09032013	25,642	5,592	306	0
facebook-legacy-Auricultura10042013	19,515	3,898	412	14,015
facebook-legacy-BrunoMialich31012013	40,794	9,320	502	0
facebook-legacy-CalebLuporini13042013	105,962	24,653	1,050	0
facebook-legacy-CalebLuporini19022013	104,746	24,391	1,026	0
facebook-legacy-CienciasComFronteiras29032013	110,734	23,302	2,921	0
facebook-legacy-ComputerArt10032013	260,050	62,819	1,342	0
facebook-legacy-Coolmeia06032013	76,063	16,534	1,202	0
facebook-legacy-DanielPenalva18022013	3,519	682	113	0
facebook-legacy-DemocraciaDiretaJa14032013	258,679	59,323	3,053	54,443
facebook-legacy-DemocraciaDiretaJa14072013	257,490	59,781	3,607	58,035
facebook-legacy-DemocraciaPura06042013	32,227	6,730	627	65,062
facebook-legacy-Economia14042013	238,790	54,001	3,587	52,664
facebook-legacy-EconomiaCriativaDigital03032013	185,905	43,128	1,684	0
facebook-legacy-EducacoesEAprendizagensXXI02032013	106,918	24,802	1,285	0
facebook-legacy-GabrielaThume19022013	18,581	4,108	307	0
facebook-legacy-GrahamForrest28012013	1,370	185	90	0
facebook-legacy-LailaManuelle17012013	201,071	48,572	969	0
facebook-legacy-LarissaAnzoategui20022013	24,824	5,191	580	0
facebook-legacy-Latesfip08032014	11,554	2,009	306	0
facebook-legacy-LivingBridgesPlanet 29032013	149,708	32,494	3,077	52,808
facebook-legacy-LuisCirne07032013	16,619	3,390	437	0
facebook-legacy-MariliaMelloPisani10042013	84,770	19,040	1,230	0
facebook-legacy-Mirtes16052013	39,415	9,075	445	0
facebook-legacy-MobilizacoesCulturaisInteriorSP13032013	26,518	6,096	298	0
facebook-legacy-PartidoPirata23032013	45,495	8,537	1,943	36,313

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Table 6 - Continued from previous page

snapshot id	ntriples	nedges	nparticipants	nchars
facebook-legacy-PedroPauloRocha10032013	215,888	50,591	1,932	0
facebook-legacy-PeterForrest28012013	8,156	1,829	120	0
facebook-legacy-PoliticasCulturasBrasileiras08032013	178,289	41,690	1,278	69,756
facebook-legacy-PracaPopular16032013	4,539	932	65	4,249
facebook-legacy-RafaelReinehr09042013	174,423	39,586	2,297	0
facebook-legacy-RamiroGiroldo20022013	9,928	2,020	264	0
facebook-legacy-RedeTranzmidias02032013	25,111	4,940	391	54,907
facebook-legacy-RenatoFabbri02032013	93,134	21,579	974	0
facebook-legacy-RenatoFabbri03032013	93,690	21,711	978	0
facebook-legacy-RenatoFabbri11072013	114,552	26,440	1,256	0
facebook-legacy-RenatoFabbri18042013	104,156	24,072	1,124	0
facebook-legacy-RenatoFabbri20012013	86,416	20,085	868	0
facebook-legacy-RenatoFabbri29112012	82,093	19,083	823	0
facebook-legacy-RicardoFabbri18022013	11,372	2,327	344	0
facebook-legacy-RitaWu08042013	83,895	18,935	1,165	0
facebook-legacy-RonaldCosta12062013	31,338	6,557	730	0
facebook-legacy-SiliconValleyGlobalNetwork27042013	77,158	15,740	2,130	50,251
facebook-legacy-SolidarityEconomy12042013	14,230	2,404	525	67,774
facebook-legacy-StudyGroupSNA05042013	5,604	480	448	25,474
facebook-legacy-THackDay26032013	1,844	420	41	0
facebook-legacy-Tecnoxamanismo08032014	11,106	2,069	318	0
facebook-legacy-Tecnoxamanismo15032014	14,589	2,702	450	0
facebook-legacy-ThaisTeixeira19022013	26,424	6,088	296	0
facebook-legacy-VilsonVieira18022013	19,688	4,334	336	0
facebook-legacy-ViniciusSampaio18022013	90,515	21,360	725	0
facebook-legacy-avlab_BarthorLaZule22022014	16,005	3,513	279	0
facebook-legacy-avlab_CalebLuporini25022014	125,577	29,268	1,215	0
facebook-legacy-avlab_CamilaBatista23022014	21,138	4,476	462	0
facebook-legacy-avlab_CarlosDiego25022014	171,744	39,401	2,020	0
facebook-legacy-avlab_CristinaMekitarian23022014	24,647	5,572	337	0
facebook-legacy-avlab_DanielGonzales23022014	196,406	45,318	2,162	0
facebook-legacy-avlab_FelipeBrait23022014	1,228,605	299,082	4,611	0
facebook-legacy-avlab_FelipeVillela22022014	2,475	477	81	0
facebook-legacy-avlab_JoaoMeirelles25022014	52,371	11,649	825	0
facebook-legacy-avlab_JoaoMekitarian23022014	88,765	20,821	783	0
facebook-legacy-avlab_JulianaSouza23022014	129,757	29,942	1,427	0
facebook-legacy-avlab_KarinaGomes22022014	9,073	1,906	207	0

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Table 6 - Continued from previous page

snapshot id	ntriples	nedges	nparticipants	nchars
facebook-legacy-avlab LucasOliveira26022014	62,871	14,764	545	0
facebook-legacy-avlab MarcelaLucatelli25022014	138,733	31,647	1,735	0
facebook-legacy-avlab MariliaPisani25022014	114,765	25,830	1,635	0
facebook-legacy-avlab_NatachaRena22022014	642,769	154,758	3,391	0
facebook-legacy-avlab_OrlandoCoelho22022014	5,149	848	251	0
facebook-legacy-avlab_PalomaKliss25022014	493,774	119,520	2,242	0
facebook-legacy-avlab_PedroRocha25022014	346,883	81,910	2,749	0
facebook-legacy-avlab_RenatoFabbri22022014	124,703	28,780	1,369	0
facebook-legacy-avlab_SarahLuporini25022014	505,853	121,502	2,835	0
facebook-legacy-avlab_SatoBrasil25022014	1,519,394	371,249	4,914	0
facebook-legacy-ego_MarceloSaldanha19112014	130,556	29,440	1,828	0
facebook-legacy-ego_MariliaPisani06052014	122,231	27,581	1,701	0
facebook-legacy-ego_MassimoCanevacci19062013	273,328	59,995	4,764	0
facebook-legacy-ego_RenatoFabbri06022014	123,993	28,606	1,367	0
facebook-legacy-ego_RenatoFabbri19112014	153,410	35,514	1,622	0
facebook-legacy-ego_VJPixel23052014	231,608	54,752	1,800	0
facebook-legacy-posavlab_AnaCelia18032014	53,939	12,167	753	0
facebook-legacy-posavlab_ElenaGarnelo04032014	93,472	21,723	940	0
facebook-legacy-posavlab_FabiBorges08032014	159,584	36,592	1,888	0
$face book-legacy-posavlab_George Sanders 08032014$	108,071	24,706	1,321	0
facebook-legacy-posavlab_GrazielleMachado18032014	24,264	5,254	464	0
facebook-legacy-posavlab_RenatoFabbri19032014	129,360	29,890	1,400	0
facebook-legacy-posavlab_RicardoPoppi18032014	76,104	17,234	1,024	0
gmane-legacy-comp.gcc. libstdcpp.devel 1-20000	324,051	14,786	1,036	30,126,252
gmane-legacy-linux.audio.devel1-20000	377,307	17,076	1,232	26,969,596
gmane-legacy-linux.audio.users1-20000	349,304	16,362	1,147	25,065,928
gmane-legacy-politics. organizations. metarecic lagem 1-20000	338,679	15,230	477	54,260,954
irc-legacy-foradoeixo	685,623	4,308	3,318	3,777,424
irc-legacy-hackerspace-cps	253,614	1,860	607	1,059,675
irc-legacy-hackerspaces-br	980,556	210	347	8,420,840
irc-legacy-labmacambira	1,535,463	58,525	1,561	8,358,970
participabr-legacy	159,602	2,207	3,825	2,045,617
twitter-legacy-ChennaiFloods	6,793,705	101,824	46,493	23,237,802
twitter-legacy-ForaCunha	88,963	1,656	2,747	372,131
twitter-legacy-ForaDilma	26,818	668	659	113,810
${\rm twitter\text{-}legacy\text{-}MAMA2015}$	20,356,960	426,558	33,080	75,358,785
twitter-legacy-QuartaSemRacismoClubeSDV	367,460	5,000	5,785	1,635,867

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Table 6 - Continued from previous page

snapshot id	ntriples	nedges	nparticipants	nchars
twitter-legacy-SnapDetremura	26,834	461	621	124,448
twitter-legacy-arenaNETmundial	388,134	15,797	5,898	2,825,121
twitter-legacy-art	2,814,803	32,655	30,486	9,539,413
twitter-legacy-dilma	78,424	1,692	2,274	332,005
twitter-legacy-fuck	3,631	40	93	14,727
twitter-legacy-game	229,992	1,548	4,682	1,229,910
twitter-legacy-god	1,514,365	20,132	22,117	5,560,140
twitter-legacy-music	8,150,863	39,456	54,006	21,116,573
twitter-legacy-obama	1,143,873	20,623	20,330	4,481,840
twitter-legacy-python	5,786	4	17	1,758
twitter-legacy-science	369,013	3,673	7,156	1,910,216

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