

Supplementary Materials

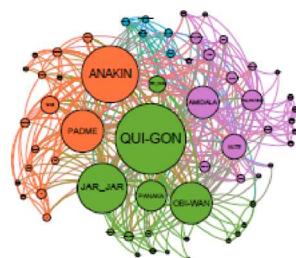
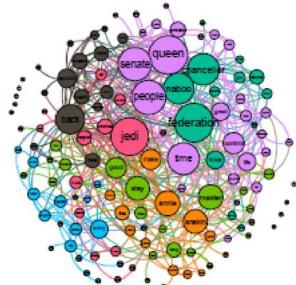
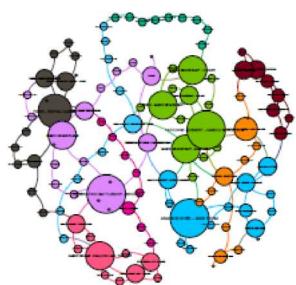
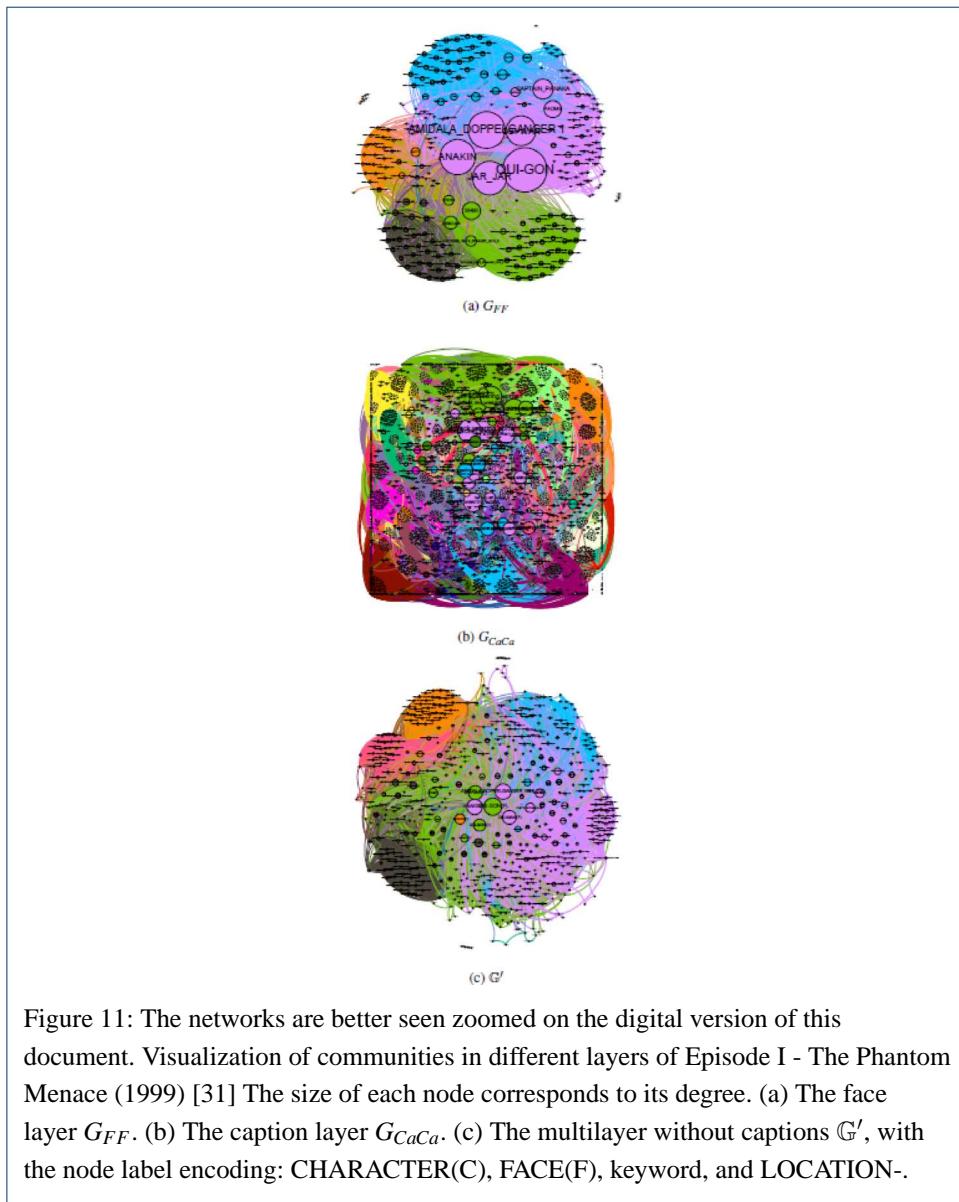
(a) G_{CC} (b) G_{KK} (c) G_{LL}

Figure 10: The networks are better seen zoomed on the digital version of this document. Visualization of communities in different layers of Episode I - The Phantom Menace (1999) [31]. The size of each node corresponds to its degree. (a) The character layer G_{CC} . (b) The keyword layer G_{KK} . (c) The location layer G_{LL} .



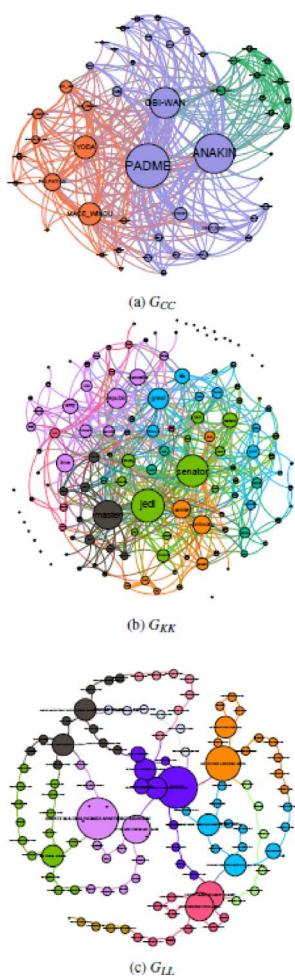
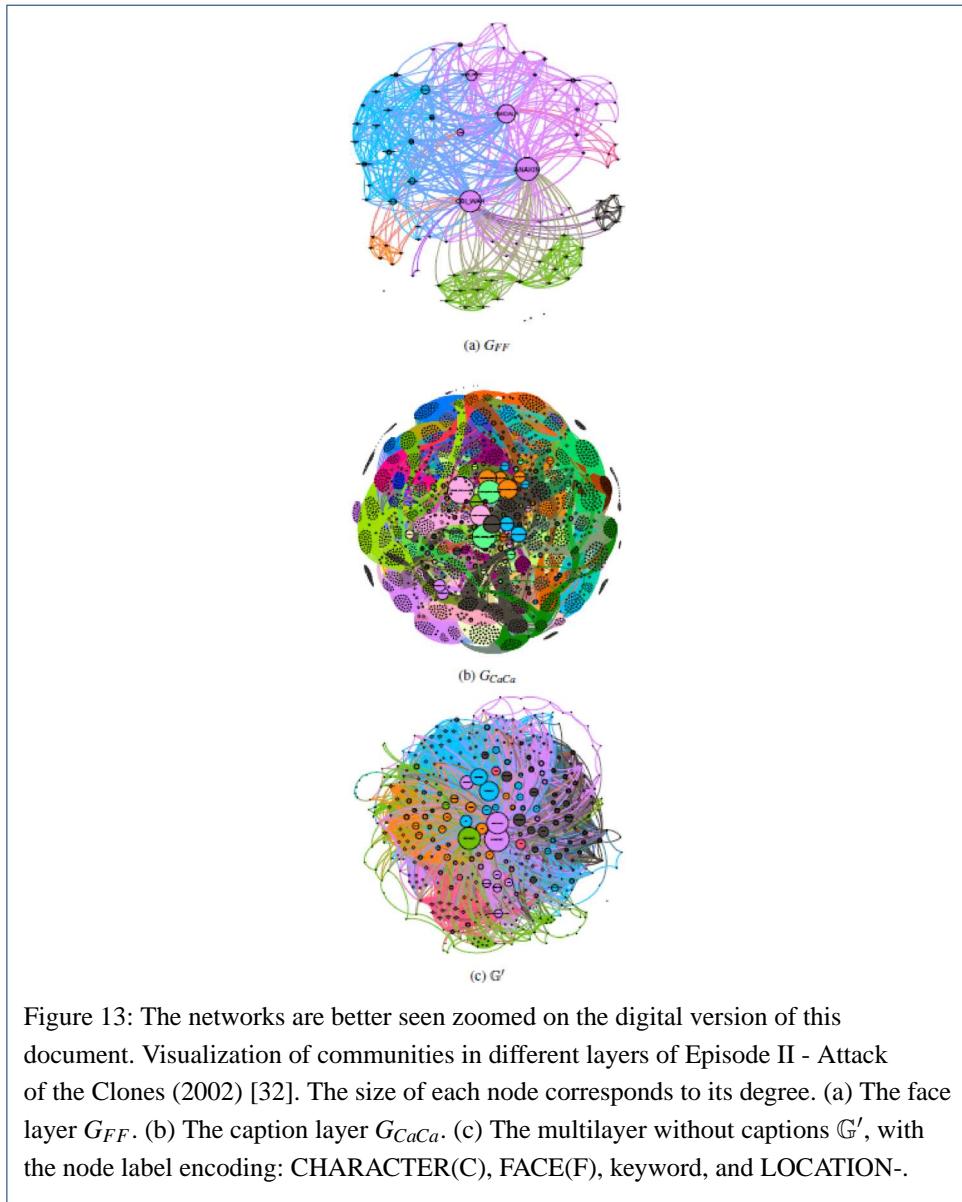
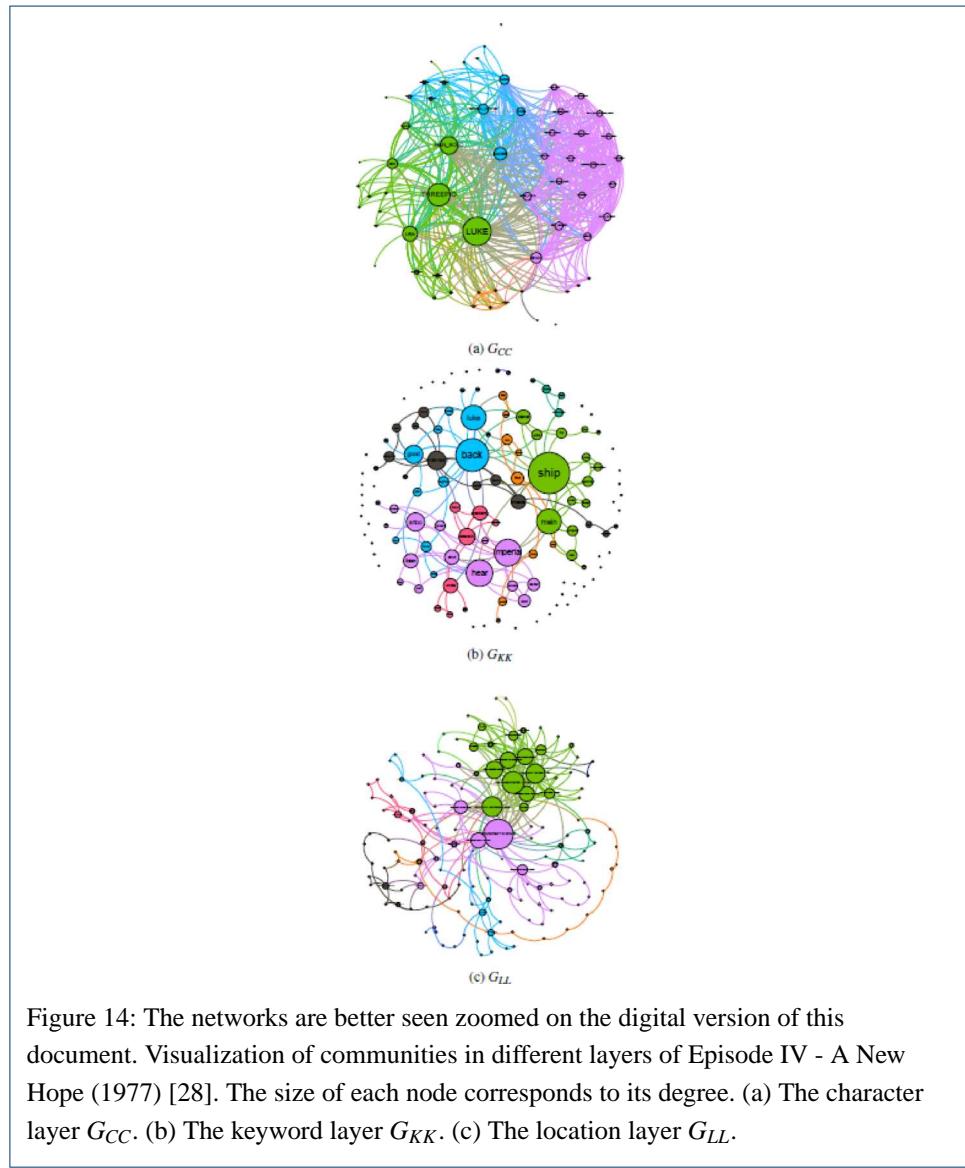


Figure 12: The networks are better seen zoomed on the digital version of this document. Visualization of communities in different layers of Episode II - Attack of the Clones (2002) [32]. The size of each node corresponds to its degree. (a) The character layer G_{CC} . (b) The keyword layer G_{KK} . (c) The location layer G_{LL} .





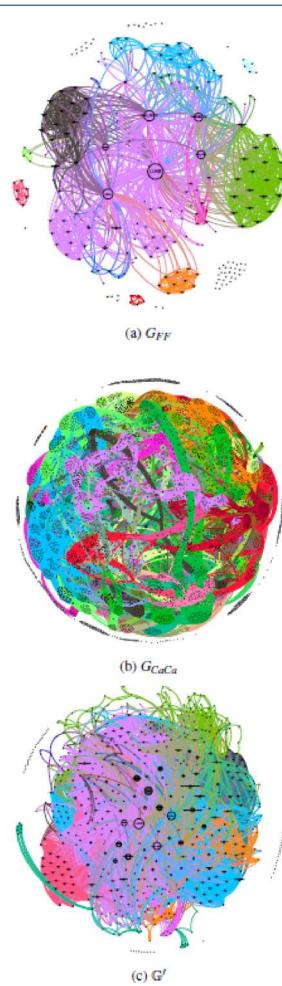
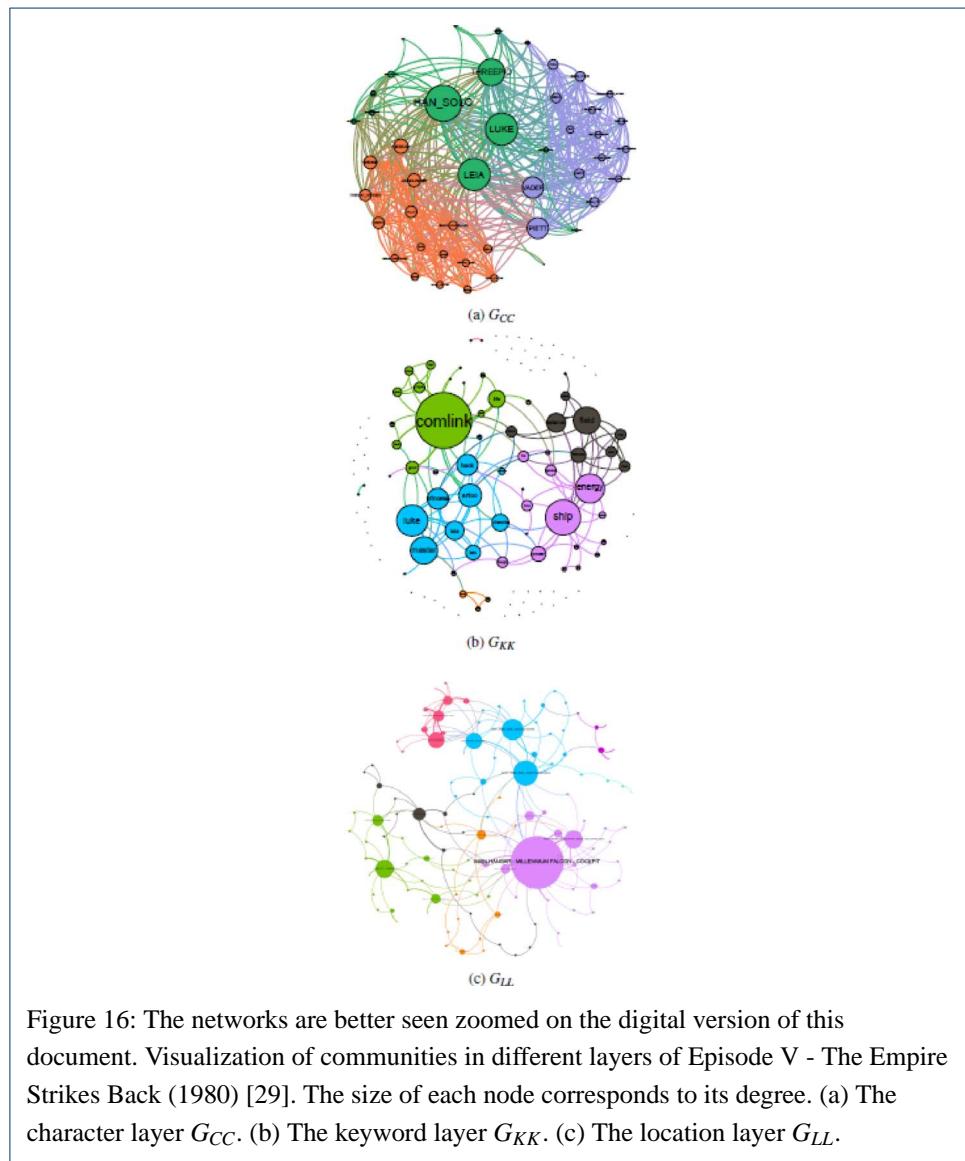
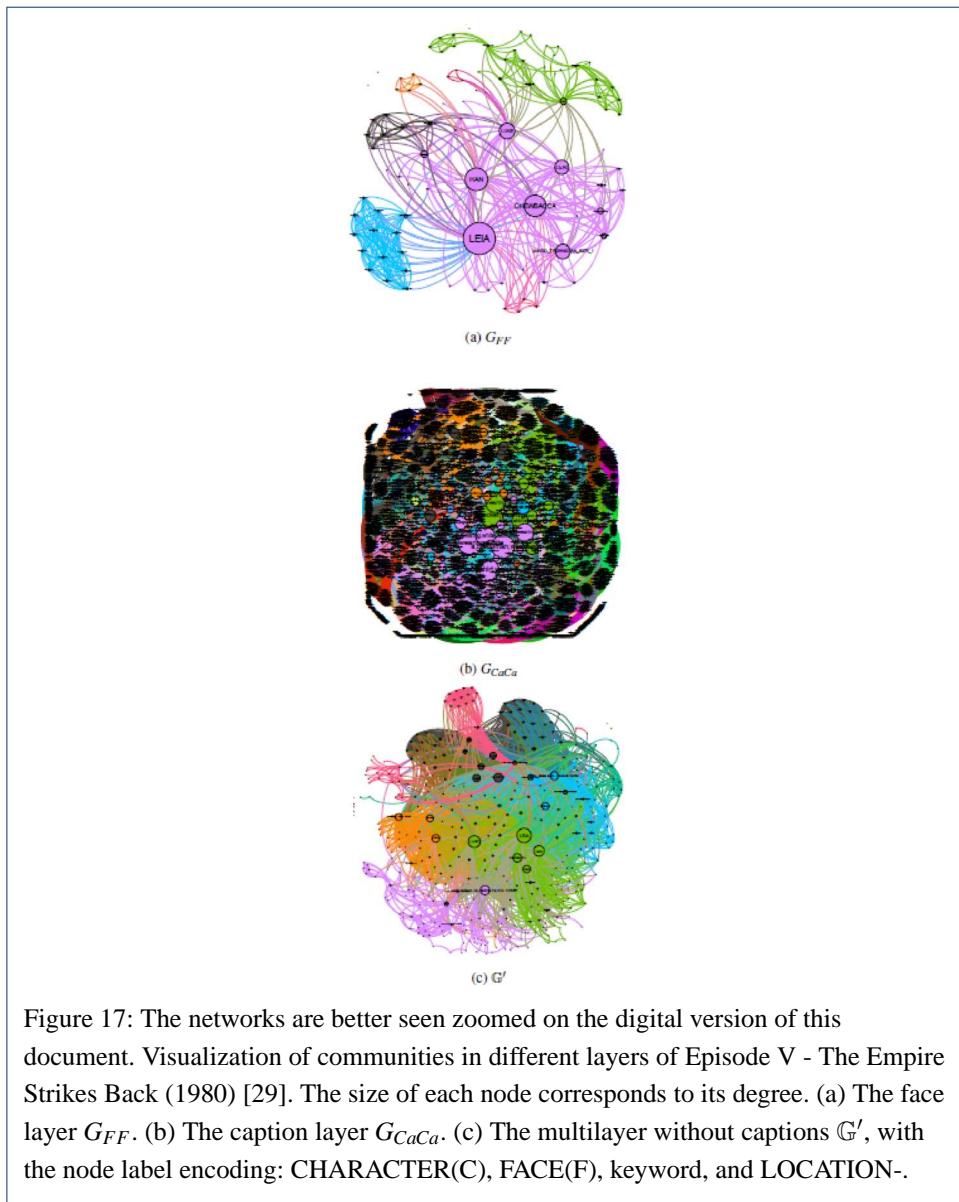
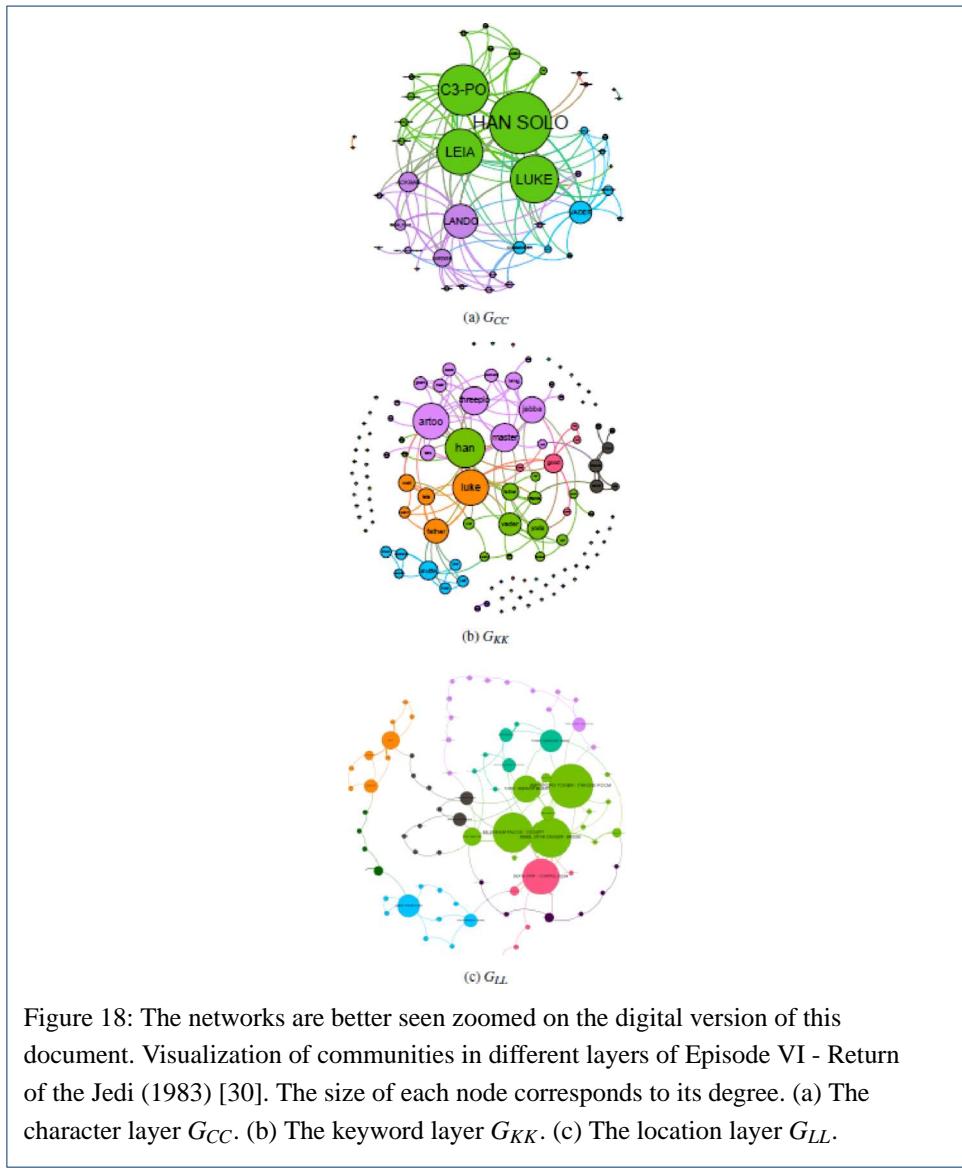


Figure 15: The networks are better seen zoomed on the digital version of this document. Visualization of communities in different layers of Episode IV - A New Hope (1977) [28]. The size of each node corresponds to its degree. (a) The face layer G_{FF} . (b) The caption layer G_{CaCa} . (c) The multilayer without captions \mathbb{G}' , with the node label encoding: CHARACTER(C), FACE(F), keyword, and LOCATION-.







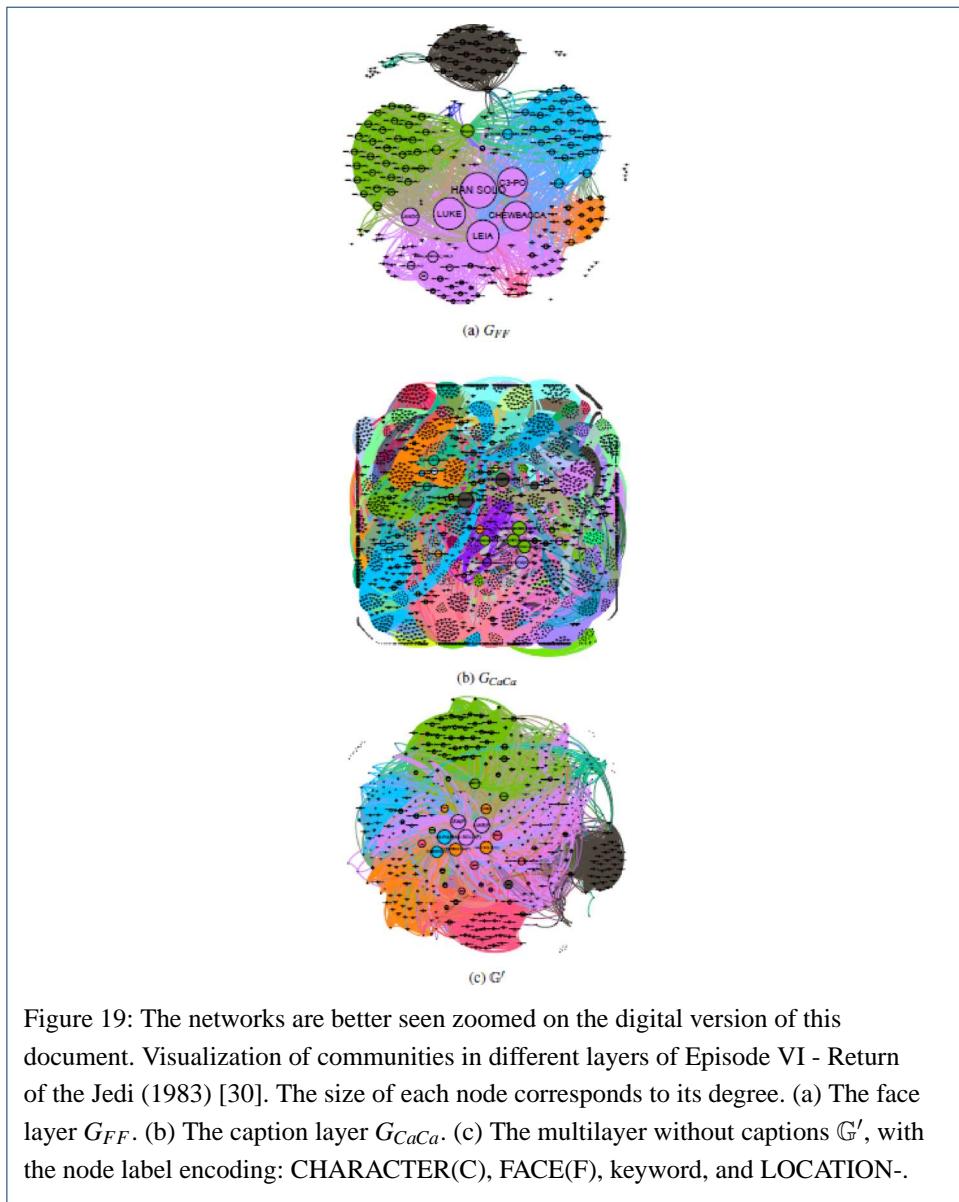


Figure 19: The networks are better seen zoomed on the digital version of this document. Visualization of communities in different layers of Episode VI - Return of the Jedi (1983) [30]. The size of each node corresponds to its degree. (a) The face layer G_{FF} . (b) The caption layer G_{CaCa} . (c) The multilayer without captions \mathbb{G}' , with the node label encoding: CHARACTER(C), FACE(F), keyword, and LOCATION-.

		CHARACTERS G_{CC}						
		INFLUENCE SCORE	BETWEENNESS CENTRALITY	DEGREE		EIGEN CENTRALITY		
SW1	Q.GON	1,00	Q.GON	365,29	Q.GON	188	Q.GON	1,00
	ANAKIN	2,33	J.JAR	262,28	ANAKIN	151	ANAKIN	0,77
	J.JAR	2,67	ANAKIN	256,84	J.JAR	131	J.JAR	0,74
	O.WAN	4,67	AMIDALA	243,94	PADME	110	O.WAN	0,70
	PADME	5,00	O.WAN	145,97	O.WAN	109	PADME	0,63
	AMIDALA	5,67	PADME	124,22	AMIDALA	82	PANAKA	0,46
	PANAKA	7,33	NUTE	109,11	PANAKA	78	AMIDALA	0,36
	NUTE	8,00	PALPATINE	105,27	NUTE	61	SHMI	0,31
	PALPATINE	9,33	PANAKA	54,91	PALPATINE	48	NUTE	0,28
SW2	R.OLIE	10,67	DOFINE	10,99	SHMI	42	R.OLIE	0,24
	PADME	1,00	PADME	380,80	PADME	154	PADME	1,00
	ANAKIN	2,00	ANAKIN	259,02	ANAKIN	139	ANAKIN	0,95
	O.WAN	3,00	O.WAN	173,52	O.WAN	105	O.WAN	0,75
	M.WINDU	4,33	YODA	42,04	M.WINDU	75	M.WINDU	0,60
	YODA	4,67	M.WINDU	32,98	YODA	75	YODA	0,57
	PALPATINE	6,33	C-3PO	10,92	PALPATINE	54	PALPATINE	0,42
	C-3PO	6,67	PALPATINE	10,58	C-3PO	38	C-3PO	0,33
	J.JAR	8,33	C.TYPHO	10,57	J.JAR	36	J.JAR	0,30
SW3	C.DOOKU	9,67	J.JAR	5,11	M.AMEDDA	29	C.DOOKU	0,26
	M.AMEDDA	11,00	C.DOOKU	2,91	C.DOOKU	29	M.AMEDDA	0,22
	O.WAN	1,00	O.WAN	138,18	O.WAN	108	O.WAN	1,00
	PALPATINE	2,67	PADME	129,22	PALPATINE	99	ANAKIN	0,94
	ANAKIN	3,00	PALPATINE	102,65	ANAKIN	98	PALPATINE	0,92
	PADME	3,33	ANAKIN	91,95	PADME	96	PADME	0,83
	YODA	5,00	YODA	77,58	YODA	88	YODA	0,82
	B.ORGANA	6,33	GRIEVOUS	60,93	B.ORGANA	64	B.ORGANA	0,50
	D.VADER	8,00	B.ORGANA	57,94	N.GUNRAY	54	D.VADER	0,48
SW4	N.GUNRAY	8,33	N.GUNRAY	39,60	D.VADER	54	M.WINDU	0,46
	GRIEVOUS	10,00	D.VADER	16,51	M.AMEDDA	46	C.C.CODY	0,44
	M.AMEDDA	10,67	M.MOTHMA	15,24	GUARD	46	N.GUNRAY	0,43
	LUKE	1,00	LUKE	385,33	LUKE	154	LUKE	1,00
	C-3PO	2,00	C-3PO	271,48	C-3PO	121	C-3PO	0,83
	H.SOLO	3,00	H.SOLO	179,11	H.SOLO	92	H.SOLO	0,70
	LEIA	4,00	LEIA	132,40	LEIA	77	LEIA	0,60
	VADER	5,33	VADER	127,91	VADER	64	BEN	0,50
	BIGGS	6,67	BIGGS	79,29	BIGGS	54	VADER	0,32
SW5	I.OFFICER	8,67	CHIEF	58,00	BEN	51	TROOPER	0,28
	BEN	8,67	TARKIN	51,90	I.OFFICER	49	BIGGS	0,26
	TARKIN	9,33	I.OFFICER	42,03	TARKIN	47	I.OFFICER	0,24
	R.LEADER	11,33	R.LEADER	23,65	B.VOICE	39	B.VOICE	0,22
	H.SOLO	1,00	H.SOLO	158,34	H.SOLO	108	H.SOLO	1,00
	LUKE	2,33	LUKE	100,45	LUKE	95	LEIA	0,91
	LEIA	3,00	C-3PO	83,76	LEIA	95	LUKE	0,89
	C-3PO	3,67	LEIA	82,81	C-3PO	79	C-3PO	0,80
	PIETT	5,00	PIETT	44,48	PIETT	62	PIETT	0,55
SW6	VADER	6,00	VADER	44,48	VADER	62	VADER	0,55
	RIEEKAN	7,33	DERLIN	11,92	RIEEKAN	41	RIEEKAN	0,38
	ANNOUNCER	8,33	RIEEKAN	4,84	ANNOUNCER	37	ANNOUNCER	0,33
	WEDGE	9,33	ANNOUNCER	4,56	WEDGE	37	WEDGE	0,33
	VEERS	10,33	WEDGE	4,56	VEERS	33	VEERS	0,26
	H.SOLO	1,33	LANDO	199,35	H.SOLO	84	H.SOLO	1,00
	C-3PO	2,67	H.SOLO	174,41	C-3PO	68	C-3PO	0,86
	LUKE	3,33	LUKE	115,15	LUKE	64	LEIA	0,79
	LANDO	3,67	C-3PO	106,90	LEIA	61	LUKE	0,77
	LEIA	4,00	LEIA	105,88	LANDO	44	LANDO	0,35
SW7	VADER	6,00	VADER	62,55	VADER	28	VADER	0,25
	ACKBAR	8,00	D.S.CONTROLLER	39,97	ACKBAR	24	ACKBAR	0,24
	WEDGE	8,67	COMMANDER	30,52	WEDGE	21	JABBA	0,14
	COMMANDER	9,00	WEDGE	28,81	COMMANDER	14	WEDGE	0,11
	JABBA	10,33	ACKBAR	26,95	JABBA	12	COMMANDER	0,11

Table 9: Top 10 nodes sorted and their different metrics of the character layer G_{CC} for each of the 6 SW movies.

	KEYWORDS G_{KK}							
	INFLUENCE SCORE	BETWEENNESS CENTRALITY		DEGREE	EIGEN CENTRALITY			
SW1	federation	2,00	jedi	1031,44	federation	40	queen	1,00
	jedi	3,00	federation	780,77	queen	40	senate	0,89
	queen	3,67	master	663,90	jedi	39	federation	0,86
	senate	5,33	naboo	608,94	people	35	people	0,81
	time	6,33	time	591,96	senate	34	jedi	0,74
	people	6,33	anakin	543,92	chancellor	32	chancellor	0,73
	naboo	6,67	stay	520,44	time	32	time	0,67
	master	8,67	queen	504,97	naboo	31	naboo	0,64
	back	9,33	senate	491,24	back	29	back	0,59
	chancellor	9,33	back	454,75	master	24	amidala	0,49
SW2	jedi	1,00	jedi	868,82	jedi	54	jedi	1,00
	senator	2,00	senator	716,00	senator	52	senator	0,89
	master	3,00	master	714,63	master	47	master	0,82
	great	4,33	republic	427,07	great	32	great	0,53
	republic	4,67	great	411,79	republic	31	republic	0,49
	continuing	7,00	continuing	405,95	continuing	28	chancellor	0,47
	annie	7,67	good	334,49	annie	28	time	0,46
	time	8,00	annie	258,02	time	27	annie	0,44
	chancellor	8,33	time	234,44	chancellor	24	continuing	0,40
	naboo	11,67	chancellor	200,16	army	22	young	0,40
SW3	jedi	1,33	anakin	2014,27	jedi	98	jedi	1,00
	anakin	1,67	jedi	1570,81	anakin	94	anakin	0,84
	chancellor	4,33	force	586,47	master	52	council	0,66
	master	4,33	chancellor	575,17	chancellor	52	master	0,64
	force	5,33	time	468,35	council	46	chancellor	0,58
	council	8,00	master	462,88	force	40	windu	0,49
	time	8,33	ship	325,23	windu	40	force	0,42
	windu	8,33	artoo	289,32	republic	35	great	0,37
	republic	9,33	back	281,10	time	33	senate	0,37
	yoda	12,33	republic	249,93	kenobi	32	republic	0,35
SW4	ship	1,00	ship	1184,22	ship	19	ship	1,00
	han	2,33	han	680,24	han	15	main	0,68
	imperial	4,00	imperial	490,18	hear	12	han	0,67
	hear	4,00	luke	451,74	imperial	12	hear	0,60
	main	5,00	hear	399,62	main	11	imperial	0,52
	luke	5,33	cheewie	322,44	luke	11	luke	0,50
	artoo	9,67	artoo	304,59	artoo	8	planet	0,40
	good	10,67	main	265,22	alderaan	8	computer	0,34
	cheewie	11,00	uncle	237,43	good	8	shut	0,33
	shut	11,67	good	234,80	season	7	entire	0,32
SW5	father	1,00	father	561,06	father	27	father	1,00
	master	4,33	ship	448,13	ship	17	luke	0,92
	ship	4,67	cheewie	230,04	luke	15	master	0,83
	luke	5,67	energy	216,38	energy	14	artoo	0,78
	artoo	6,00	master	213,43	master	13	princess	0,70
	energy	7,67	time	213,00	field	13	leia	0,63
	han	8,67	artoo	129,52	artoo	11	good	0,57
	cheewie	10,00	fire	109,94	han	10	han	0,56
	field	10,33	moving	108,00	princess	10	field	0,50
	princess	12,00	han	91,63	leia	9	ship	0,50
SW6	han	1,00	han	370,59	han	19	han	1,00
	luke	2,00	luke	303,85	luke	17	luke	0,91
	artoo	4,00	father	284,27	artoo	17	threepio	0,82
	jabba	5,33	jabba	223,13	master	13	artoo	0,81
	father	5,67	artoo	200,19	threepio	13	master	0,76
	master	6,33	friends	170,16	jabba	12	jabba	0,54
	vader	9,00	shuttle	165,57	father	11	father	0,51
	threepio	9,33	good	149,85	vader	10	leia	0,46
	good	12,33	vader	139,09	yoda	9	lets	0,45
	yoda	14,00	master	136,10	shuttle	8	vader	0,42

Table 10: Top 10 nodes sorted and their different metrics of the keyword layer G_{KK} for each of the 6 SW movies.

LOCATIONS G_{FF}								
	INFLUENCE SCORE	BETWEENNESS CENTRALITY		DEGREE		EIGEN CENTRALITY		
SW1	FBB	1,00	FBB	3250,47	FBB	14	FBB	1,00
	NGP	4,00	FBCR	2898,56	TCH	10	FBHOB	0,69
	TCH	4,67	NSQC	1656,26	NGP	8	TCH	0,48
	TDNS	6,67	TDNS	1649,20	TDNS	8	NGP	0,38
	FBCR	9,33	NGP	1448,21	AHMR	8	SCU	0,38
	AHMR	11,33	NSMA	1421,79	NSCS	6	FBH	0,34
	NSMA	11,67	NFCS	1416,31	MSAVP	6	FBMB	0,34
	SCU	12,33	NSC	1198,44	MER	6	NSCS	0,30
	NSC	13,00	TCH	1112,97	NSMA	6	FBCR	0,27
	NPTR	14,67	AHMR	1023,31	NSC	6	NFCS	0,25
SW2	CNSS	3,00	SPACE	3320,27	SBPAB	10	TCCE	1,00
	SBPAB	3,67	CCD	2503,83	TCCE	8	CNSS	0,94
	SPACE	4,00	SBPAB	2088,31	CNSS	8	GEA	0,93
	TCKLP	5,33	CNSS	1637,55	GEA	8	TCKLP	0,87
	CCD	6,00	GLA	1519,72	SPACE	7	TCFA	0,68
	TCCE	6,33	TCKLP	1198,69	TCKLP	6	SPACE	0,56
	GLA	8,00	TDHMF	1082,57	CCD	6	SBPAB	0,53
	THMF	10,00	CMSC	1061,00	GLA	6	TC	0,46
	GEA	10,67	THMF	1025,23	TCFA	4	CCD	0,38
	TC	15,33	CJTCC	1005,60	TC	4	THMF	0,27
SW3	PJTC	1,33	PJTC	4411,93	MMCC	14	PJTC	1,00
	MMCC	2,67	ULP	3739,91	PJTC	12	MFJT	0,90
	MCP	11,00	ASH	3128,93	MFJT	6	MMCC	0,81
	CSCMA	11,33	MMCC	2927,78	MCP	6	CSCMA	0,42
	ASH	12,00	CO	2575,75	OBS	6	CCPD	0,39
	OBS	13,00	IDC	2530,00	ASH	6	SC	0,38
	PJTC	13,00	UCRGC	2511,25	LPCIRC	6	SCC	0,33
	ULP	13,33	OBS	2461,83	ULP	6	CSACHO	0,28
	IDC	15,33	BOOC	2431,25	CSCMA	4	MCP	0,27
	LPN	17,00	CJTH	2351,25	CCPD	4	MLP	0,26
SW4	SIS	3,00	SIS	5427,41	SIS	62	LXFC	1,00
	LXFC	3,67	DSCR	2316,40	LXFC	58	SOTDS	0,99
	DSCR	6,33	MFC	2062,13	SOTDS	56	DVC	0,84
	SATDS	7,00	DSH	1134,68	SATDS	50	SATDS	0,84
	MFC	7,67	MFGC	1027,83	DVC	42	RLC	0,68
	MOWR	9,00	TDW	959,43	RLC	36	MOWR	0,68
	SOTDS	9,00	TLH	955,53	MOWR	36	SIS	0,64
	MFGC	10,33	LXFC	820,23	DSCR	34	LXWCT	0,61
	RLC	12,67	DSCOR	696,01	MFC	32	DSCR	0,48
	DSCOR	13,00	SPACE,	685,76	LXWCT	28	GLYWC	0,39
SW5	MHMFC	1,00	MHMFC	4794,51	MHMFC	54	MHMFC	1,00
	HB	4,67	HRBMHD	3148,16	HB	22	DVSDBMCD	0,63
	HRBMHD	5,00	CCC	1063,52	DVSDBMCD	20	SIF	0,56
	HRBCC	8,00	HRBCC	1005,74	HRBMHD	20	HB	0,43
	BOCCWVD	8,00	CCLPMF	958,96	LSRLC	18	BOCCWVD	0,40
	DVSDBMCD	8,33	LXWC	899,89	HRBCC	16	MFH	0,37
	SIF	9,33	BOCCWVD	882,75	CCC	16	WSRTC	0,36
	HIPST	12,00	HB	596,33	SIF	12	LSRLC	0,34
	MFGAC	13,67	RBMC	570,07	WSRTC	12	HRBMHD	0,31
	LSRLC	16,33	HIPST	539,83	HIPST	12	MFSQ	0,28
SW6	MFC	1,00	MFC	1157,72	MFC	14	MFC	1,00
	DSCOR	2,67	DSCOR	885,89	RSCB	14	RSCB	0,95
	RSCB	3,67	DSMDB	809,48	DSCOR	12	DSCOR	0,74
	ETTR	4,67	RTJPT	776,48	ETTR	12	ETTR	0,73
	SKI	7,00	SAT	752,92	SKI	10	SKI	0,68
	SRF	7,67	ETTR	728,46	FGB	10	FGB	0,36
	DSMDB	8,33	RSCB	673,07	SRF	6	SRF	0,33
	FGB	9,00	DSLA	667,95	JTR	6	JTR	0,33
	RTJPT	9,33	SRF	617,25	FLSE	6	FLSE	0,29
	JTR	9,67	DS	615,95	BE	6	BE	0,29

Table 11: Top 10 nodes sorted and their different metrics of the location layer G_{LL} for each of the 6 SW movies.

		FACES G_{FF}					
		INFLUENCE SCORE		BETWEENNESS CENTRALITY		DEGREE	EIGEN CENTRALITY
SW1	A.DOPPELGANGER	Q.GON ANAKIN J.JAR O.WAN PANAKA SHMI PADME SEBULBA PALPATINE	1,00 2,00 4,00 5,00 6,33 6,67 8,33 9,67 11,67	Q.GON ANAKIN J.JAR O.WAN SHMI PANAKA SEBULBA PADME T.R.SPEAKER	6911,14 4020,27 3519,72 3097,53 770,78 711,55 640,70 589,85 452,96	Q.GON ANAKIN J.JAR O.WAN PANAKA SHMI PADME SEBULBA T.R.SPEAKER	561 442 424 372 244 215 205 154 121
	ANAKIN	1,33	O.WAN	1819,97	ANAKIN	193	ANAKIN
	O.WAN	2,00	ANAKIN	1131,10	O.WAN	178	AMIDALA
	AMIDALA	2,67	AMIDALA	300,88	AMIDALA	151	O.WAN
	M.WINDU	4,00	M.WINDU	115,45	M.WINDU	85	M.WINDU
	YODA	5,67	YODA	99,56	DOOKU	65	DOOKU
	DOOKU	6,67	P.FOLLOWER 1	59,77	YODA	53	YODA
SW2	J.FETT	8,67	J.JAR	36,74	J.FETT	46	J.FETT
	B.FETT	9,67	Z.WESSEL	30,00	B.FETT	45	B.FETT
	KI-ADI	10,33	KI-ADI	18,41	NUTE	34	C-3PO
	P.FOLLOWER 1	11,67	DOOKU	15,28	NUTE.FOLLOWER	33	KI-ADI
	ANAKIN	1,00	ANAKIN	803,00	ANAKIN	149	ANAKIN
SW3	O.WAN	2,00	O.WAN	792,84	O.WAN	137	O.WAN
	PALPATINE	3,00	PALPATINE	477,11	PALPATINE	98	PALPATINE
	YODA	4,00	YODA	343,71	YODA	76	YODA
	B.B.ORGANA	5,33	B.B.ORGANA	99,52	B.B.ORGANA	53	M.WINDU
	GRIEVOUS	7,00	N.GUARD	84,74	M.WINDU	40	B.B.ORGANA
	M.WINDU	7,33	GRIEVOUS	31,85	GRIEVOUS	36	GRIEVOUS
	N.GUARD	8,00	C.C.CODY	17,85	M.AMEDDA	21	N.GUARD
SW4	M.AMEDDA	9,00	CHEWBACCA	17,54	CHEWBACCA	21	M.AMEDDA
	CHEWBACCA	9,33	M.AMEDDA	12,18	N.GUARD	20	CHEWBACCA
	LUKE	1,00	LUKE	4974,91	LUKE	248	LUKE
	H.SOLO	2,33	LEIA	3387,26	H.SOLO	163	H.SOLO
	LEIA	3,33	H.SOLO	1649,13	LEIA	156	O.WAN
SW5	O.WAN	4,33	C-3PO	1259,98	CHEWBACCA	124	CHEWBACCA
	CHEWBACCA	4,67	O.WAN	1106,46	O.WAN	120	LEIA
	C-3PO	5,33	CHEWBACCA	680,36	C-3PO	87	C-3PO
	DODGE	8,67	TARKIN	655,89	DODGE	44	DODGE
	TARKIN	9,00	R.LEADER	181,44	C.BARTENDER	36	TARKIN
	R.LEADER	9,00	R.PILOT	153,00	R.LEADER	34	R.OFFICER 1
	C.BARTENDER	10,33	E.OFFICER 1	110,86	R.OFFICER 1	34	R.LEADER
SW6	LEIA	1,00	LEIA	1835,88	LEIA	181	LEIA
	H.SOLO	2,67	LUKE	1233,35	H.SOLO	127	H.SOLO
	LUKE	4,00	PIETT	1177,96	CHEWBACCA	121	CHEWBACCA
	CHEWBACCA	4,00	H.SOLO	806,91	LUKE	87	C-3PO
	L.TECHNICIAN	5,67	E.OFFICER 2	573,47	L.TECHNICIAN	82	L.TECHNICIAN
	C-3PO	6,00	CHEWBACCA	176,85	C-3PO	79	LUKE
	PIETT	8,00	L.TECHNICIAN	98,78	RIEEKAN	36	STORMTROOPER
SW7	RIEEKAN	8,33	C-3PO	90,03	PIETT	35	RIEEKAN
	STORMTROOPER	10,33	E.OFFICER 3	62,98	STORMTROOPER	32	L.AIDE
	R.OFFICER 2	11,33	RIEEKAN	51,90	L.AIDE	27	R.OFFICER 2
	H.SOLO	1,67	LUKE	6441,79	H.SOLO	264	H.SOLO
	LUKE	2,00	JERJERROD	5334,57	LEIA	236	LUKE
SW8	LEIA	3,00	H.SOLO	2746,38	LUKE	234	LEIA
	C-3PO	4,67	LEIA	1989,77	C-3PO	214	CHEWBACCA
	CHEWBACCA	5,33	C-3PO	1938,99	CHEWBACCA	213	C-3PO
	LANDO	6,67	P.FOLLOWER 2	1573,46	LANDO	123	LANDO
	P.FOLLOWER 2	7,67	CHEWBACCA	1524,11	BIGGS	85	J.MUSICIAN
	BIGGS	9,00	LANDO	1253,12	J.MUSICIAN	69	P.FOLLOWER 2
	J.MUSICIAN	10,67	E.OFFICER 4	965,00	P.FOLLOWER 2	64	BIB
SW9	EWOK	14,33	BIGGS	472,51	EWOK	58	BIGGS
							0,18

Table 12: Top 10 nodes sorted and their different metrics of the face layer G_{FF} for each of the 6 SW movies.

		INFLUENCE SCORE	BETWEENNESS CENTRALITY	CAPTIONS G_{CaCa}	DEGREE	EIGEN CENTRALITY
SW1	a,black,jacket,wearing	1,67	a,black,wearing,woman	606832,93	a,black,jacket,wearing	1244
	a,black,wearing,woman	2,00	a,shirt,wearing,white	582836,63	a,black,wearing,woman	1198
	a,red,wearing,woman	3,33	a,black,jacket,wearing	526258,21	a,red,wearing,woman	1172
	a,red,shirt,wearing	4,33	a,red,shirt,wearing	464385,84	a,red,shirt,wearing	1077
	a,shirt,wearing,white	4,67	a,red,wearing,woman	407224,11	a,shirt,wearing,white	1026
	a,jacket,red,wearing	6,67	a,brown,shirt,wearing	375031,25	a,jacket,red,wearing	1004
	a,black,man,wearing	7,33	a,gray,shirt,wearing	326520,32	a,black,man,wearing	912
	a,blue,wearing,woman	10,33	a,cell,holding,phone	320486,19	a,blue,wearing,woman	794
SW2	a,man,red,wearing	10,67	a,black,man,wearing	292449,91	a,man,red,wearing	789
	a,gray,shirt,wearing	12,00	a,jacket,red,wearing	292245,97	a,blue,shirt,wearing	756
	a,black,shirt,wearing	1,00	a,black,shirt,wearing	568323,98	a,black,shirt,wearing	1186
	a,shirt,wearing,white	2,33	a,shirt,wearing,white	421402,65	a,shirt,wearing,white	1046
	a,black,jacket,wearing	2,67	a,black,jacket,wearing	310934,45	a,black,jacket,wearing	1014
	a,black,man,wearing	4,00	a,black,man,wearing	242761,15	a,black,man,wearing	901
	a,black,wearing,woman	5,67	a,brown,shirt,wearing	236348,96	a,black,wearing,woman	862
	a,wearing,white,woman	6,67	a,wearing,white,woman	232958,26	a,red,shirt,wearing	807
SW3	a,brown,shirt,wearing	7,00	a,black,wearing,woman	229585,53	a,wearing,white,woman	756
	a,red,shirt,wearing	7,00	a,brown,chair,wooden	204859,40	a,brown,shirt,wearing	682
	a,brown,chair,wooden	9,33	a,red,shirt,wearing	204831,30	a,blue,shirt,wearing	628
	a,blue,shirt,wearing	10,33	a,blue,shirt,wearing	198192,49	a,brown,chair,wooden	622
	a,black,shirt,wearing	1,00	a,black,shirt,wearing	472700,83	a,black,shirt,wearing	1119
	a,black,jacket,wearing	2,33	a,shirt,wearing,white	413307,64	a,black,jacket,wearing	969
	a,shirt,wearing,white	3,00	a,black,jacket,wearing	385062,37	a,black,man,wearing	955
	a,black,man,wearing	3,67	a,black,man,wearing	331940,26	a,shirt,wearing,white	945
SW4	a,black,wearing,woman	5,00	a,black,wearing,woman	283309,35	a,black,wearing,woman	842
	a,man,wearing,white	6,00	a,man,wearing,white	205703,12	a,man,wearing,white	683
	a,red,shirt,wearing	7,33	a,blue,shirt,wearing	204222,79	a,red,shirt,wearing	582
	a,blue,shirt,wearing	8,00	a,red,shirt,wearing	175432,63	a,blue,shirt,wearing	520
	a,brown,shirt,wearing	9,67	a,hat,man,wearing	162296,90	a,brown,shirt,wearing	500
	a,hat,man,wearing	11,33	a,brown,shirt,wearing	161450,97	a,gray,shirt,wearing	477
	a,shirt,wearing,white	1,00	a,shirt,wearing,white	3004281,15	a,shirt,wearing,white	3958
	a,man,wearing,white	2,00	a,man,wearing,white	893709,27	a,man,wearing,white	2389
SW5	a,black,shirt,wearing	3,33	a,black,shirt,wearing	760984,31	a,black,man,wearing	2061
	a,black,man,wearing	4,33	a,black,jacket,wearing	758577,11	a,black,shirt,wearing	1991
	a,red,shirt,wearing	5,00	a,red,shirt,wearing	589084,12	a,red,shirt,wearing	1945
	a,black,jacket,wearing	5,33	a,black,man,wearing	549910,80	a,black,jacket,wearing	1902
	a,wearing,white,woman	7,33	a,red,red,sign,white	548465,73	a,wearing,white,woman	1697
	a,helmet,man,wearing	9,67	a,wearing,white,woman	536963,20	a,helmet,man,wearing	1387
	and,bag,black,white	10,00	and,bag,black,white	453473,15	and,bag,black,white	1336
	a,black,wearing,woman	11,33	and,black,sign,white	382991,34	a,man,shirt,wearing	1288
SW6	a,shirt,wearing,white	1,00	a,shirt,wearing,white	3004281,15	a,shirt,wearing,white	3958
	a,man,wearing,white	2,00	a,man,wearing,white	893709,27	a,man,wearing,white	2389
	a,black,shirt,wearing	3,33	a,black,shirt,wearing	760984,31	a,black,man,wearing	2061
	a,black,man,wearing	4,33	a,black,jacket,wearing	758577,11	a,black,shirt,wearing	1991
	a,red,shirt,wearing	5,00	a,red,shirt,wearing	589084,12	a,red,shirt,wearing	1945
	a,black,jacket,wearing	5,33	a,black,man,wearing	549910,80	a,black,jacket,wearing	1902
	a,wearing,white,woman	7,33	a,red,red,sign,white	548465,73	a,wearing,white,woman	1697
	a,helmet,man,wearing	9,67	a,wearing,white,woman	536963,20	a,helmet,man,wearing	1387
SW7	and,bag,black,white	10,00	and,bag,black,white	453473,15	and,bag,black,white	1336
	a,black,wearing,woman	11,33	and,black,sign,white	382991,34	a,man,shirt,wearing	1288
	a,shirt,wearing,white	1,33	and,red,sign,white	498416,92	a,shirt,wearing,white	770
	a,black,jacket,wearing	3,00	a,shirt,wearing,white	392339,83	a,black,jacket,wearing	688
	a,man,wearing,white	3,33	a,black,shirt,wearing	309495,34	a,man,wearing,white	652
	and,red,sign,white	4,33	a,black,jacket,wearing	273076,24	and,red,sign,white	616
	a,black,shirt,wearing	4,33	a,man,wearing,white	236449,76	a,black,shirt,wearing	610
	a,black,man,wearing	5,67	a,hat,man,wearing	215331,57	a,black,man,wearing	599
SW8	a,hat,man,wearing	7,33	a,black,man,wearing	194997,54	a,hat,man,wearing	508
	a,green,shirt,wearing	7,67	a,green,shirt,wearing	153338,74	a,green,shirt,wearing	503
	a,black,wearing,woman	9,67	a,brown,chair,wooden	136476,23	a,black,wearing,woman	410
	a,man,shirt,wearing	9,67	a,black,wearing,woman	132225,37	a,man,shirt,wearing	398
	a,shirt,wearing,white	1,00	a,black,shirt,wearing	1244	a,black,jacket,wearing	1,00
	a,red,wearing,woman	0,96	a,black,wearing,woman	1198	a,black,jacket,wearing	0,96
	a,black,wearing,woman	0,94	a,red,wearing,woman	1172	a,black,jacket,wearing	0,94
	a,red,shirt,wearing	0,88	a,red,shirt,wearing	1077	a,black,man,wearing	0,78
SW9	a,red,shirt,wearing	0,83	a,red,shirt,wearing	1026	a,black,man,wearing	0,73
	a,black,man,wearing	0,73	a,jacket,red,wearing	1004	a,black,man,wearing	0,73
	a,shirt,wearing,white	0,63	a,black,man,wearing	912	a,shirt,wearing,white	0,63
	a,man,red,wearing	0,63	a,blue,wearing,woman	794	a,man,red,wearing	0,63
	a,blue,shirt,wearing	0,60	a,man,red,wearing	789	a,blue,shirt,wearing	0,60
	a,blue,wearing,woman	0,60	a,blue,shirt,wearing	756	a,blue,wearing,woman	0,60
	a,blue,shirt,wearing	0,59	a,blue,shirt,wearing	756	a,blue,shirt,wearing	0,59
	a,blue,shirt,wearing	0,58	a,blue,shirt,wearing	756	a,blue,shirt,wearing	0,58
SW10	a,blue,shirt,wearing	0,58	a,blue,shirt,wearing	756	a,blue,shirt,wearing	0,58
	a,blue,shirt,wearing	0,57	a,blue,shirt,wearing	756	a,blue,shirt,wearing	0,57
	a,blue,shirt,wearing	0,56	a,blue,shirt,wearing	756	a,blue,shirt,wearing	0,56
	a,blue,shirt,wearing	0,55	a,blue,shirt,wearing	756	a,blue,shirt,wearing	0,55
	a,blue,shirt,wearing	0,55	a,blue,shirt,wearing	756	a,blue,shirt,wearing	0,55
	a,blue,shirt,wearing	0,54	a,blue,shirt,wearing	756	a,blue,shirt,wearing	0,54
	a,blue,shirt,wearing	0,54	a,blue,shirt,wearing	756	a,blue,shirt,wearing	0,54
	a,blue,shirt,wearing	0,53	a,blue,shirt,wearing	756	a,blue,shirt,wearing	0,53

Table 13: Top 10 nodes sorted and their different metrics of the caption layer G_{CaCa} for each of the 6 SW movies.

ABBREVIATION	NAME
A.DOPPELGANGER	AMIDALA DOPPELGANGER 1
B.B.ORGANA	BREHA BAIL ORGANA
B.VOICE	BENS VOICE
B.FETT	BOBA FETT
B.ORGANA	BAIL ORGANA
C.C.CODY	CLONE COMMANDER CODY
C.CROWD 1	CORUSCANT CROWD 1
C.DOOKU	COUNT DOOKU
C.PANAKA	CAPT PANAKA
C.TYPHO	CAPTAIN TYPHO
D.MAUL	DARTH MAUL
D.S.CONTROLLER	DEATH STAR CONTROLLER
D.VADER	DARTH VADER
E.OFFICER 1	EMPIRE OFFICER 1
E.OFFICER 2	EMPIRE OFFICER 2
E.OFFICER 3	EMPIRE OFFICER 3
E.OFFICER 4	EMPIRE OFFICER 4
E.OFFICER 5	EMPIRE OFFICER 5
G.GRIEVOUS	GENERAL GRIEVOUS
H.SOLO	HAN SOLO
I.OFFICER	IMPERIAL OFFICER
J.CREW	JABBA CREW
J.FETT	JANGO FETT
J.JAR	JAR JAR
J.MUSICIAN 1	JABBA MUSICIAN 1
L.TECHNICIAN	LANDO TECHNICIAN
L.TECHNICIAN	LANDO TECHNICIAN
M.AMEDDA	MAS AMEDDA
M.MOTHMA	MON MOTHMA
M.WINDU	MACE WINDU
N.GUNRAY	NUTE GUNRAY
N.NUNB	NIEN NUNB
O.WAN	OBI-WAN
P.FOLLOWER	PALPATINE FOLLOWER
PALPATINE	PALPATINE
Q.GON	QUI-GON
R.LEADER	RED LEADER
R.OFFICER	REBEL OFFICER
R.OFFICER 2	REBEL OFFICER 2
R.OLIE	RIC OLIE
Z.WESSEL	ZAM WESSEL

Table 16: Abbreviation table for character and face names.

MOVIE	ABBREVIATION	NAME
SW1	AHMR	ANAKINS HOVEL - MAIN ROOM
	FBB	FEDERATION BATTLESHIP - BRIDGE
	FBCR	FEDERATION BATTLESHIP - CONFERENCE ROOM
	FBH	FEDERATION BATTLESHIP - HALLWAY
	FBHOB	FEDERATION BATTLESHIP - HALLWAY - OUTSIDE BRIDGE
	FBMB	FEDERATION BATTLESHIP - MAIN BAY
	MSAVP	MOS ESPA - ARENA - VIEWING PLATFORM
	MER	MOS ESPA - RACETRACK
	NFCS	NABOO FIGHTER - COCKPIT - SPACE
	NGP	NABOO GRASS PLAINS
	NPTR	NABOO PALACE - THRONE ROOM
	NSC	NABOO SPACECRAFT - COCKPIT
	NSMA	NABOO SPACECRAFT - MAIN AREA
	NSQC	NABOO SPACECRAFT - QUEENS CHAMBERS
	NSCS	NABOO STARFIGHTER - COCKPIT - SPACE
SW2	SCU	SUB COCKPIT - UNDERWATER
	TDNS	TATOOINE - DESERT - NABOO SPACECRAFT
	TCH	THEED - CENTRAL HANGER
	CCD	CITYSCAPE CORUSCANT - DAWN
	CNSS	COCKPIT NABOO STARSHIP - SUNSET
	CJTCC	CORUSCANT JEDI TEMPLE COUNCIL CHAMBER
	CMSCC	CORUSCANT MAIN SENATE CHAMBER
	GEA	GEONOSIS EXECUTION ARENA
	GLA	GEONOSIS LANDING AREA
	SBPAB	SENATE BUILDING PADMES APARTMENT BEDROOM
SW3	SP	SPACE
	TDHMF	TATOOINE DESERT HOMESTEAD MOISTURE FARM
	TC	TIPOCA CITY (RAINSTORM)
	TCCE	TIPOCA CITY CORRIDOR ENTRANCE
	TCFA	TIPOCA CITY FETT APARTMENT
	TCKLP	TIPOCA CITY KAMINO LANDING PLATFORM (RAINSTORM)
	THMF	TATOOINE HOMESTEAD MOISTURE FARM
	THG	TATOOINE HOMESTEAD - GARAGE
	ASH	ALDERAAN STARCRUISER - HALLWAY
	BOOC	BAIL ORGANAS OFFICE - CORUSCANT
SW4	CO	CHANCELLORS OFFICE
	CCPD	CITYSCAPE - CORUSCANT - PRE-DAWN
	CSACHO	CORRIDOR - SENATE ARENA - CHANCELLORS HOLDING OFFICE
	CJTH	CORUSCANT - JEDI TEMPLE - HALLWAY
	CSCMA	CORUSCANT - SENATE CHAMBER - MAIN ARENA
	DVQSD	DARTH VADER'S QUARTERS - STAR DESTROYER
	IDC	INDUSTRIAL DISTRICT - CORUSCANT
	LPCIRC	LANDING PLATFORM - CORUSCANT - IMPERIAL REHAB CENTER
	LPN	LANDING PLATFORM - NABOO SKIFF
	MFJT	MAIN FLOOR - JEDI TEMPLE
	MCP	MUSTAFAR - COLLECTION PANELS
	MLP	MUSTAFAR - LANDING PLATFORM
	MLPR	MUSTAFAR - LANDING PLATFORM ROOM
	MMCC	MUSTAFAR - MAIN CONTROL CENTER
	OBS	OBI-WAN'S STARFIGHTER
SW5	PJTC	PLAZA - JEDI TEMPLE - CORUSCANT
	PJTCR	PLAZA - JEDI TEMPLE - CORUSCANT-ROOM
	SC	SENATE CHAMBER
	SCC	SENATE CHAMBER - CORUSCANT
	UCRGC	UTAPAU - CONFERENCE ROOM - GRAND CHAMBER
	ULP	UTAPAU - LANDING PLATFORM
	DSCR	DEATH STAR - CONFERENCE ROOM
	DSCTR	DEATH STAR - CONTROL ROOM
	DSH	DEATH STAR - HALLWAY
	GLYWC	GOLD LEADERS Y-WING - COCKPIT
SW6	LXWCT	LUKES X-WING - COCKPIT - TRAVELING
	LXFC	LUKES X-WING FIGHTER - COCKPIT
	MLP	MUSTAFAR - LANDING PLATFORM
	MOWR	MASSASSI OUTPOST - WAR ROOM
	MFC	MILLENNIUM FALCON - COCKPIT
	MFGC	MILLENNIUM FALCON - GUNPORTS - COCKPIT
	RLC	RED LEADERS COCKPIT
	SATDS	SPACE AROUND THE DEATH STAR
	SIS	SPACECRAFT IN SPACE
	SOTDS	SURFACE OF THE DEATH STAR
SW7	TDW	TATOOINE - DESERT WASTELAND
	TLH	TATOOINE - LARS HOMESTEAD
	BOCCWVD	BOTTOM OF CLOUD CITY - WEATHER VANE - DUSK
	CCC	CLOUD CITY - CORRIDOR
	CCLPMF	CLOUD CITY - LANDING PLATFORM - MILLENNIUM FALCON
	DVSDBMCD	DARTH VADERS STAR DESTROYER - BRIDGE - MAIN CONTROL DECK
	HB	HOTH - BATTLEFIELD
	HIPST	HOTH - ICE PLAIN - SNOW TRENCH
	HRBC	HOTH - REBEL BASE - COMMAND CENTER
	HRBMHD	HOTH - REBEL BASE - MAIN HANGAR DECK
SW8	LSRLC	LUKES SNOWSPEEDER ROGUE LEADER - COCKPIT
	LXWVC	LUKES X-WING - COCKPIT
	MHMFC	MAIN HANGER - MILLENNIUM FALCON - COCKPIT
	MFC	MILLENNIUM FALCON - COCKPIT
	MFGAC	MILLENNIUM FALCON - GIANT ASTEROID CRATER
	MFH	MILLENNIUM FALCON - HOLD
	MFSQ	MILLENNIUM FALCON - SLEEPING QUARTERS
	MHMFC	MAIN HANGER - MILLENNIUM FALCON - COCKPIT
	RBMC	REBEL BASE - MEDICAL CENTER
	SIF	SPACE - IMPERIAL FLEET
SW9	WSRTC	WEDGES SNOWSPEEDER ROGUE THREE - COCKPIT
	BE	BUNKER - ENTRANCE
	DSMDB	DEATH STAR - MAIN DOCKING BAY
	DSLAA	DUNE SEA - LANDING AREA
	ETTR	EMPERORS TOWER - THRONE ROOM
	FGB	FOREST - GENERATOR BUNKER
	FLSE	FOREST LANDING SITE - ENDOR
	JTR	JABBAS THRONE ROOM
	MFC	MILLENNIUM FALCON - COCKPIT
	MHMFC	MAIN HANGAR - MILLENNIUM FALCON - COCKPIT
SW10	RSCB	REBEL STAR CRUISER - BRIDGE
	RTJPT	ROAD TO JABBAS PALACE - TATOOINE
	SKI	SKIFF
	SRF	SPACE - REBEL FLEET
	SAT	SPACE ABOVE TATOOINEA
	SW11	SW12
	SW13	SW14

Table 17: Abbreviation table for location names.