						Char	vacteristics of relation											Where e:	was the textu	al triple	Correct KB mappi textual trip	ış, given le?			If novel triple	detected as wrong	j: Why?			Evaluatio	n of baseline (ReV	/erb)
Query or rela which be in r triple)	needs to	Document (Obpedia- Lin no. dor dor	 Sentencis where two entities occur which are connected by in some relation. (Sent. with one entity and one Rear lare removed;	Occurrence of "query entities" (for gold std. creation)	Occurrence of "query relations" (for gold std. creation)	Entities are in binary relation to each other V-O, no literal quadrupel)	n Entities in n binary r. (S- relation, but il or relation expressed as particible	representable as quadruple or literal (also, if object is too general), i.e. no	Would it be a Com novel triple? triple (ground truth) What is the novelty class?	esponding novel e is:	semantics of (r the A statement in the text gets lost. Hence,	Triple not T novel, but i already in KB c (novelty class A)	Triple not novel, since to irrelevant (at least 2 part of triple not in KB)	 Sentence contains (i) noun phrase and particible construction (cf. The iPhone 5 is a touchscreen smartphone developed by Apple Inc.) or (ii) parentesis (e.g., App 	No out det noi out	ected? Which m	yes, Triple in out th correct? (i.e odale correct now rb? class, correc entities and relations as gold standa	ity t	p_t	p_t s	ρ	o A w (e to	coreference is matched g., "the game" :Game)	Surface form detected correctly, but r in xLiD/Dbpedi (xLiD problem) yes, S or O affected?	Wrong disambigua not S or O affec a . If	p_t correct tion? detected, l ted? is wrong o unsuitable semantics]	tly T but pin KB in r v a (different m) h h	Transformation Tri nto active n i oice is vo necessary, but no nas not ho nappened.	ransformatio Du into active no oice makes in o sense, but ba appened. No cli	tected as Novelt vel triple class o ReVerb- ReVerb teline. baselir velty correc ss? triple i ground truth);	baseline	iple of ReVerb
Amazo	in.com 1	Tom_Clancy's_Splinter_C ell:_Conviction	Amazon on uk released its own Limited Edition which contained	Amazon.com	release			triple relation, no KB import, but at least 2 entities			no KB import useful.			smartphone developed by Apple Inc.) or (ii) parentecisi (e.g., App Store, an online application for) or similar.																		
Apple		Phone	the standard version of the game, a separate DVD case called "Exclusive Pre-order Pack" and the SPAS-12 code, a 32-page comic book and a DVD detailing the making of the game. 7	Apple Inc.	- 1			:	1																							
			Other functions video games, reference works, social networking, etc. can be enabled by downloading application programs; as of October 2013, the App Store offered more than one million apps by Apple and third parties.		- 1			:	1																							
Apple	inc. I		18 Development of what was to become the iPhone began in 2004, when deels started to applies a taxes of 1000 employeer to work.	Apple Inc.	_																											
Apple	inc. I	Phone	which space has been opported to be a standard with space and the space of the s	Apple Inc	develop			:	1																							
Apple	inc. I		exclusive US sales, until 2011. 27 On July 11, 2008, Apple released the iPhone 3G in twenty-two countries, including the original six. 28 Apple released the iPhone 3G in upwards of eighty countries and	Apple Inc, iPhone 3G			1		1 Apple B2 iPhor	le increleased- ne 3G le increleased-	1				E2				1 1	1	1			0								
Apple	inc. I		territories. 41 On January 11, 2011, Verizon announced during a media event that it had reached an agreement with Apple and would begin	3G Apple Inc, iPhone 4			1		B2 iPho	ne 3G	1																					
Apple	inc. I		selling a CDMA2000 iPhone 4. 55	Apple Inc, iPhone 5			1		1 Apple anno 82	le Inc ounced-iPhone5																						
Apple	inc. I		On September 12, 2012, Apple announced the iPhone 5. 63 On September 10, 2013, Apple unveiled two new iPhone models during a highly anticipated press event in Cupertino, California, U.S.																													
Apple	inc. I		On January 15, 2008, Apple released software update 1.1.3, allowing users to create "Web Clips", home screen icons that resemble apps that open a user-defined page in Safari.	Apple Inc.	release				1						E2			1	1 1	1	1	. 1							82		0 apple rele	ase software
Apple Apple			iteration of the iPhone.	Apple inc, iPhone 5 Apple inc, iPhone			1		Appl C iPhor	le Incunveil- ne 5					c					1		1										
Apple	inc. I		using the H.264 codec.	Apple Inc, Microsoft ActiveSync	- 1					le Inclicensed- veSync					c				1	1					0							
Apple	inc. I		397 In July 2011, Apple released IOE 4.2 E to fix a cocyclic valencebility	Apple Inc, iOS			1		E2 Аррі E2 IOS 4	le Increleased- 4.3.5					E2			1	1 1	1	1			0								
Apple Apple	inc. 1	Nokia Nokia	 Symbian was a smartphone operating system that Nokia expected to allow it compete with Apple and Samsung. Ri Mi increased its share during the period from 16.6% to 19.9%, but Apple increased size from 8.2% to 14.4%. 	Apple Inc., Nokia Apple Inc.				:	1																							
Apple	inc. I	Nokia	but Apple increased share from 8.2% to 14.4%. 205 Nokia was overtaken by Apple as the world's biggest smartphone maker by volume in June 2011.	Nokia, Apple Inc., smartphone			1		1 Noki Inc.	ia-overtook-Apple	1							1	1 1	,	1	,										
Apple	inc. I	Nokia	In October 2009, Nokia filed a lawsuit against Apple Inc. in the U.S. 326 Apple was quick to respond with a countersuit filed in December	Apple Inc., Nokia					1																							
Apple	inc. 1		2009 accusing Nokia of 11 patent infringements. 332 In June 2011, Apple settled with Nokia and agreed to an estimated	Apple Inc., Nokia	- 1			:	1 Appli Noki	le incsettled- ia																						
iOS			Google Chrome was introduced to the iOS on June 26, 2012.	105			1		C Goog C intro	gle Chrome- iduced to-IOS	1				c c				1 1		1	1										
105		e)	 Need for Speed: Hot Pursuit is a 2010 racing video game developed by British games developer Criterion Games and published by Electronic Arts for PlayStation 3, Xbox 360, Microsoft Windows, Wii, IOS, Android, webOS and Windows Phone 	iOS				:	1																							
iO5 iO5 2.0		or_Within	 On the 3rd of June 2010, a port of Warrior Within was released for the IOS. It has no optical zoom, flash or autofocus, and does not natively 		introduce				1																							
iOS 4.3	8.5 I	IPhone	support video recording. iPhone OS 2.0 introduced geotagging for photos. 307 In July 2011, Apple released iOS 4.3.5 to fix a security vulnerability 1 The iPhone is a line of smartphones designed and marketed by	Apple Inc, iOS	release		1		1 Apple E2 IOS 4	le Increleased- 4.3.5					E2				1 1	1	1			0								
		IPhone IPhone	The iPhone is a line of smartphones designed and marketed by Apple Inc. The iPhone is a line of smartphones designed and marketed by	iPhone				1	10h-ce	ne-designer- le Inc le Incmarkets-				1	82			1	1 1	1	1	1										
		Phone	Apple Inc. 1 The iPhone is a line of smartphones designed and marketed by Apple Inc.					1	C iPho	ne				1	c			1	1	1	1	1							c		the iphone 0_of i smartp	e be a line rhone
iPhone		Phone	3 The first execution litheon way released on luon 29, 2007, the	first gerneration iPhone, iPhone, iPhone 5C, iPhon	introduce, release e																											
		Phone	most recent iPhones, the seventh-generation iPhone 5C and iPhone 5C and on September 10, 2013. 6 An iPhone can shoot video, take photos, play music, send and receive email, browse the web, send texts, GPS navigation, tell jokes, record notes, do mathematical calculations, and receive	55 iPhone				:	1 iPho	ne-send-Email																						
		Phone	visual voicemair.	iPhone	- 1		1		C iPho	ne-receive-Email					c		1				1											
iPhone		Phone	 wsual vocemail. An Phone can shoot video, take photos, play music, send and excellencemail between the web conditions. GRE excellencemail. 				1		C iPho	ne-receive-Email					c		1				1											
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iPhone		IPhone	Francisco. 63 On September 10, 2013, Apple unveiled two new iPhone models during a highly anticipated press event in Cupertino, California, U.S.	Apple Inc, iPhone	a unveil		1		1																							
iPhone			U.S. 198 The iPhone was initially released with two options for internal storage size: 4 GB or 8 GB. 259	iPhone Apple Inc.	release					in line colleges					E2				1 1		1											
iPhone			Apple released home screen icons that resemble apps that open a user-defined page in Safari.		renewal		1		E2	le Increlease- le creen icons					E2			1	1 1	1	1	1										
iPhone	•		279 The iPhone does not support video calling or videoconferencing on versions prior to the fourth generation, as there is only one camera on the opposite side of the screen.				1		ipho Vider C	ne-not support- oconferencing											1											
iPhone	2	Phone	303 play digital video, allowing users to watch TV shows and movies in widescreen.	iPhone			1		IPho E2 video	ne-play-digital o					E2		1				1											

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No	iPhone	IPhone	332	iPhone			Cascading Style																
No	iPhone	IPhone	340 Apple also developed a separate application to view YouTube videos on the iPhone, which streams videos after encoding them units the B1-56 coder.		1	1	B2 Sheets				82 C	1	1 1			1		0					
No. N	iPhone	Nokia	176 Originally launched in 2007, Apple's iPhone continued to be outsold and unfavoured by Nokia smartphones, most notably the Nokia N95 for some time.	iPhone		1																	
Note Note<	iPhone	Nokia	213 European carriers stated that Nokia Windows phones could not	Nokia, Windows Phone, iPhone					Nokia Windows Phone-														
Image: state in the state in	iPhone		169 A reimagining of XIII, called XIII: Lost Identity, was released by		1	1			compete-iPhone														
Index <td>generation)</td> <td></td> <td>most recent iPhones, the seventh-generation iPhone 5C and iPhone 5S, were introduced on September 10, 2013.</td> <td>iPhone, iPhone SC, iPhone SS</td> <td></td> <td>1</td> <td></td>	generation)		most recent iPhones, the seventh-generation iPhone 5C and iPhone 5S, were introduced on September 10, 2013.	iPhone, iPhone SC, iPhone SS		1																	
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	iPhone 3G	Nokia	successful, although the Nokia 5800 XpressMusic was mainly cooridered to be the ithone 26's main sholl.	5800 XpressMusic		1					E2		1 1	1	1 1		0						
			185 The N97's closest competitor was the Phone 3GS. 41 On January 11, 2011, Verizon announced during a media event that it had reached an agreement with Apple and would begin			1																	
And <td></td> <td>IPhone</td> <td>280</td> <td>iPhone 4</td> <td></td> <td>1</td> <td></td>		IPhone	280	iPhone 4		1																	
Normal of the second of the			48 American carrier C Spire Wireless announced that it would be carrying the iPhone 4S on October 19, 2011.	iPhone 4S announce	1	1					E2	1	1 1		1 1	1							
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<table-container> Angle Angle</table-container>			The first generation iPhone was released on June 29, 2007; the most recent iPhone SC and iPhone SC and iPhone SC, were introduced on September 10, 2013. The first nearestice iBhone was referred to June 29, 2007; the	iPhone (first introduce, gerneration), release iPhone, iPhone SC, iPhone SS iPhone (first introduce)		1																	
Normal Market State	iTunes	Tom_Clancy's_Splinter_C	103	SC, iPhone SS		1																	
in the interpretent	LG Optimus !	-	Michael Nielsen and Kaveh Cohen released a 16-track Official Soundtrack to Splinter Cell: Conviction exclusively via iTunes. 2n After clearing out and discontinuing the LG Dotimus Chic due to	LG Optimus Net release		1	Bell Mobility-releas	ied-															
	LG Optimus (One LG_Optimus_One	poor sales, Bell Mobility released the LG Optimus Net on October 27, 2011. 1	LG Optimus One	1		LG Optimus Net E2	LG Optimus One-			E2		1	1	1	1							
I and a state in the			The Optimus One with Google is manufactured by LG Electronics					manufactur															
	LG Optimus (One LG_Optimus_One	15 In Canada, the LG Optimus One is sold by Telus Mobility since December 2010 and its brand Koodo Mobile since February 2011		1						01		1 1		1 1	1							
Around Parkan	LG Optimus 0	One LG_Optimus_One	4.7 Misleast Esmily Mehile released the LG Optimus One is charged	LG Optimus One release	1	1	Walmart-released- D2 Optimus One	LG 1			D2		1 1	1	1	1	s					sell D	,
Norm Norm<	Microsoft	Nokia	of mobile phones to Microsoft as part of an overall deal totaling	r Microsoft, Nokia																			
Mai Name Normal </td <td>Microsoft</td> <td>Nokia</td> <td>7 Stephen Elop, Nokia's former CEO, and several other executives</td> <td>Microsoft, Nokia</td> <td></td> <td>1</td> <td></td> <td></td> <td>Stenhen Flon-inin-Micro</td> <td>senft</td> <td></td>	Microsoft	Nokia	7 Stephen Elop, Nokia's former CEO, and several other executives	Microsoft, Nokia		1			Stenhen Flon-inin-Micro	senft													
	Microsoft	Nokia	196 On 11 February 2011, Nokia's CEO Stephen Elop, a former head o Microsoft business division, unveiled a new strategic alliance with Microsoft, and announced it would shift its efforts to Windows	Microsoft unveil f																			
Anset Ale Ale Ale Ale Ale Mode Mode <t< td=""><td>Microsoft</td><td>Nokia</td><td>Phone. except for non-smartphones. 200 Microsoft provided developer tools to Nokia to replace the Qt framework, which was not supported by Windows Phone 7</td><td></td><td></td><td>1</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>	Microsoft	Nokia	Phone. except for non-smartphones. 200 Microsoft provided developer tools to Nokia to replace the Qt framework, which was not supported by Windows Phone 7			1																	
Main 2/2 Windown Closed fields field windown Closed field windown	Microsoft	Nokia	240 As part of the deal, a number of Nokia executives will join Microsoft	Microsoft		1																	
Main Alian Alian Alian Month	Microsoft	Nokia	242 While Microsoft licensed the Nokia brand under a 10-year agreement, Nokia agreed not to use its name on smartphones an will be subject to a non-compete clause preventing it from producing any mobile devices under the Nokia name through 31	Microsoft, Nokia d		-	Nokia brand																
Marcal Interface Apple Name Apple Nam Apple Nam <td>Microsoft</td> <td>Nokia</td> <td>242 Microroft acquired the rights to the Arba and Lumia brands as</td> <td>Microsoft acquire</td> <td>1</td> <td></td>	Microsoft	Nokia	242 Microroft acquired the rights to the Arba and Lumia brands as	Microsoft acquire	1																		
Active System Apple Induced Microsoft Antiversity Constraints Microsoft Active System Active Sy	Microsoft		part of the deal.			-																	
Microadi Nea fur Śpaciej (kr. 1) 1 Nead Stragenia kraft Arazilia Stragenia Andreadi Windowi (kr. 1) 2012 Vidaja je na kraft Stragenia St	Microsoft ActiveSync	IPhone	364 Apple has also licensed Microsoft ActiveSync and now supports the niafform with the release of Jahnon 3.0 formuran	Microsoft			ActiveSync				5		1				0						
	Microsoft Windows		 Need for Speed: Hot Pursuit is a 2010 racing video game developed by British games developer Criterion Games and published by Electronic Arts for PlayStation 3, Xbox 360, Microsoft Windows, Wii, JOS, Android, webOS and Windows 	Microsoft	1	1	•••						. 1	1	. 1		0						

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Microso Window Microso Window	s or_ nt Ot	ince_of_Persia:_Warri _Within t_(framework)	2 Warrior Within was developed and published by Ubisoft, and released on December 2, 2004 for the Xbox, PhySfation 2, GameCube, and Microsoft Windows. 36 The Windows platform was only available under a proprietary increase which mean from ones converge aveil/andex within in fit	Microsoft Windows Microsoft		1	I	Prince of Persia: Warrior Within- released for- C Microsoft Windows	Į					I	I		I							
Microso Window	n Qt_	(framework)	30 the remainder parameters and presence there is projection. It comes, which means there are concerned parameters and the proprietary edition. 54 In 2002, members of the KDE on Oygevin project began porting the GPU license.				1																	
Microso Window	ft Res	isident_Evil_4	D Exempt of ALL Conclusion of Vendows. 10 Resident Evil 4 was subsequently released for Microsoft Windows, Wil, PlayStation 3, Xbox 360, and in heavily condensed versions for the IOS, mobile phones and Zeebo.	Microsoft Windows		1		Resident Evil 4- released for- Microsoft Windows																
Microso Window	ft Res s	isident_Evil_4	On February 27, 2014, Capcom released Resident Evil 4 Ultimate	Microsoft Windows	release			C Capcom-released- Resident Evil 4 Ultimate HD Edition for Microsoft																
Microso Window	ft Sor s 991	inic_the_Hedgehog_(1 i1_video_game)	Un Heruary 27, 2014, Capcon released Nesident Evil 4 Ultimate HD Edition for Microsoft Windows. 86	Microsoft Windows		1		E2 Windows Sonic the Hedgehog				E2		1 1	1 1	1 1	1							
Microso Window		reet_Fighter_II	consoles in February 2009 and for Microsoft Windows in July	Microsoft Windows		1		(1991 video game)- released for- C Microsoft Windows																
Microso Window		em_Clancy's_Splinter_C I:_Conviction		Microsoft Windows	announce		1	Microsoft- announced- special limited edition black																
Microso Window	s		November 15, 2011.	Microsoft Windows	release	1	1	Xbox 360 console E2	1															
Microso Window Nokia	ft X- s Me f A Noi	en_Legends_II:_Rise_o Apocalypse	87 Beenox ported X-Men Legends II to Microsoft Windows. 1 Nokia Oyi is a Finnish communications and information	Microsoft Windows Nokia			1	Nokia-headouarter-																
Nokia	No	okia	technology multinational corporation that is headquartered in Espoo, Finland.				1	Espoo Espoo		Nokia-listed-Helsinki Stoci Exchange	k 1													
Nokia	No	okia	fin 2013, Notiki sold what was once was the word's largest vendor of mobile phones to Microsoft as part of an overall deal totaling 5.44 billion 7 Stephen Elop, Nokia's former CEO, and several other executives				1			Exchange														
Nokia	No		will join Microsoft as part of the deal. 9 Nokia unveiled its third range on 24 February 2014, the Nokia X family, which run a modified version of the Android operating			1				Stephen Elop-join-Microse														
Nokia	No		system. 12 Eduard Poln , Nokia's founder, was a Finnish business leader. 25 In 1902, Nokia added electricity generation to its business	Nokia Nokia		1				Nokia-unveil-Nokia X fami	iy 1													
Nokia	No		activities.	Nokia			1					c		1	1 1	1 1	1							
Nokia	No	okia	35 The three companies, jointly owned since 1922, were merged to form a new industrial conglomerate, Nokia Corporation, in 1967.	Nokia		1	1																	
Nokia	No		in 1988 and two years later Nokian Footwear, manufacturer of rubber boots, was founded. 41 In 1989, Nokia also sold the original paper business; currently this				1																	
Nokia Nokia	No		businesses. 46 In the 1970s, Nokia became more involved in the	Nokia Nokia	develop		1	Nokia DX 200-																
Nokia	No	okia	telecommunications industry by developing the Nokia DX 200, a digital switch for telephone exchanges. 52 In the 1970s and 1980s, Nokia developed the	Nokia	develop		1	developer-Nokia D1 Sanomalaitejrjesteln developer-Nokia																
Nokia	No	okia	Sanomalaitejrijestelm, a digital, portable and encrypted text- based communications device for the Finnish Defence Forces. 54 In 1998, Check Point established a partnership with Nokia, bundling Check Point's Software with Nokia's computer Network	Nokia		1		D1	1	Check Point-cooperates		D1		1 1	1 1	1 1	1							
Nokia	No		Security Appliances. 56 Nokia had been producing commercial and some military mobile radio communications technology since the 1960s, although this part of the company was sold some time before the later company	Nokia		1				with-Nokia														
Nokia	No	okia	part of the company was not a some time time whole a not a test company rationalization. S6 Nokia had been producing commercial and some military mobile radio communications technology since the 1960s, although this part of the company was sold some time before the later company	Ale 1/2			1					D2		1	1 1	1 1	1							
Nokia	No		rationalization. 57 Since 1964, Nokia had developed VHF radio simultaneously with Solero Du	Nokia	develop	1	1	VHF radio-developer D1 Nokia	r.			D2 D1				1 1 1 1								
Nokia	No		58 In 1966, Nokia and Salora started developing the ARP standard , a car-based mobile radio telephony system and the first commercially operated public mobile phone network in Finland.	Nokia	develop		1																	
Nokia	No		63 Nokia bought Salora Oy in 1984 and changed the company's telecommunications branch name to Nokia-Mobira Oy. 65	Nokia	introduce	1				Nokia-bought-Salora (Finnish company)														
Nokia	No		In 1987, Nokia introduced one of the world's first handheld phones, the Mobira Cityman 900 for NMT-900 networks . 65	Nokia	introduce		1	Nokia-introduced-				E2		1	1 1	1 1	1							
Nokia	No	okia	In 1987, Nokia introduced one of the world's first handheld phones, the Mobira Cityman 900 for NMT-900 networks . 73 Nokia was a key developer of GSM , the second-generation mobile	Nolija		1		Mobira Cityman 900 82	1		1	E2		1	1	1 1	1							
Nokia	No	okia	technology that could carry data as well as voice traffic.		develop		1					E2	1	1		1 1	1							
Nokia Nokia	No		 Nokia delivered its first GSM network to Finnish operator Radiolinja in 1989. Nokia produced high quality CRT and early TFT LCD displays for PC 	Nokia Nokia			1	Cathode ray tube-																
			and larger systems applications.			1		D2 producer-Nokia	1			D2		1	1 1	1 1	1							

						ch	haracteristics of relat	ian										Where was t extracti	he textual triple on correct?	Correct KB a textu	napping, given al triple?			If novel triple de	atected as wrong: W	hy?		Evaluation of	baseline (ReVerb)	
w	aery (entity relation tich needs to tin novel ple)	Document (Dbpedia- L Label) e d	Jee Sertences where two entities occur which are connected by a. In one relation, (Sect. with one efficient one literal are removed, and an annances where subject) object is only conference.) One the for each right.	Occurrence of Occ "query entities" of (for gold std. rela creation) (for std. crea		Entities are binary relat to each oth V-O, no lite quadrupel)	e in Entities in tion binary err. (5- relation, bu ral or relation expressed a particible		Would it be a novel triple? (ground truth) s What is the novelty class?	Corresponding nove triple is:)	Novel triple, but parts of the semantics of the statement in the text gets lost. Hence, no KB import useful.	Triple not novel, but already in KB (novelty class A)	B of triple not in KB)	Sentence contains (i) noun phrase and particible construction (cf. The iPhone 5 is a touchscreen smartphone developed by Apple Inc.) or (ii) parentesis (e.g., App Store, an online application for) or similar.	detected	iple in If yee i.e. with d? Which mod class in verb	ale correct novelty	ε <u>τ</u> ι ε	i pj	s p	٥	A coreference was matched (e.g., "the gam to :Game)	Surface form detected correctly, but r in xLiD/Dbpedi (xLiD problem) yes, S or O affected?	Wrong disambiguati not S or O affecte a . If	p_t correctly an? detected, but y is wrong or unsuitable (dif semantics)	Transformat p in KB into active voice is ferent necessary, b has not happened.	ion Transformatio C n into active n voice makes in ut no sense, but b happened. c	etected as Novelty ovel triple class of ReVerb- ReVerb seeline. baseline overhy correct (if ass? triple is in ground truth)?	Textual Triple of ReVer baseline	Þ
N	skia	Nokia	90	Nokia				entities		Thin film transistor liquid crystal display	I							1				1					I			
		Note	Nokia produced high quality CRT and early TFT LCD displays for PC and larger systems applications. 92	81+17-			1		D2	producer-Nokia	1				D2			1	1 :	1 1	1	1								
N	204	NORM	In addition to personal computers and displays, Nokia used to manufacture DSL moderns and dialtal set-too boxes.	NORA			1		D1	manufacturer-Nokia	1																			
N	okia	Nokia	92 In addition to personal computers and displays, Nokia used to manufacture DSL moderns and digital set-top boxes.	Nokia			1		D2	Set-top box- manufacturer-Nokia	1																			
N	okia okia	Nokia	 93 Nokia re-entered the PC market in August 2009 with the introduction of the Nokia Booklet 3G mini laptop. 97 After Kairamo's death, Simo Vuorilehto became Nokia's chairman 	Nokia Nokia					1																					
N	okia	Nokia	and CEO. 105 The worldwide popularity of mobile telephones, beyond even Nokia's most optimistic predictions, created a logistical crisis in the mid-1990s, prompting Nokia to overhaul its entire supply	Nokia					1																					
N	okia	Nokia	chain. 109 Nokia launched its Nokia 1100 handset in 2003, shipping over 200 million units.	Nokia			1		1 B2	Nokia-launched- Nokia 1100					E2			1	1	1	1	1								
N	okia	Nokia	111 Notice way one of the first to recomming the market concertanity in	Nokia					1																					
N	okia Wia	Nokia	directed by Spike Lee.	Nokia				1					Nokia Productions-direct Spike Lee	or- 1																
N	ykia	Nokia	11 protein that management protein protein protein restances protein to allow it compete with Apple and Samsung. 144 Nokia acquired Smarterphone, a company making the Smarterphone OS for low end phones and merged it with Series 40 to form the Asha Platform, which alsoedinherits some UI	Nokia acq	ire				1	Nokia-acquired- Smarterphone																				
N	okia	Nokia	characteristics from Nokia's MeeGo platform.	Nokia			1		с 1						C 82				1	1 1										
N	okia	Nokia	147 In March 2007, Nokia signed a memorandum with Cluj County Council, Romania to open a plant near the city in Jucu commune. 149	Nokia					1						82					1										
N	okia okia	Nokia	 Nokia later moved its North American Headquarters to Sunnyvale. In 2008, Nokia exited mobile phone distribution in Japan. In 2009, Check Point acquired Nokia's network security business 	Nokia Nokia					1																					
N	okia okia	Nokia	unit.	Nokia acq Nokia acq					1				Nokia-acquired-sega.com																	
N	skia	Nokia	Sega to develop the Nokia N-Gage device.				1																							
N	okia	Nokia	Comparing the acquisition on 10 Petersary 2008. 163 On 19 June 2006, Nokia and Siemers AG announced the companies would merge their mobile and fixed-fine phone network equipment businesses, creating Nokia Siemens Networks.	Nokia ann	ounce																									
N	okia	Nokia	166 On 8 August 2005. Notice parced to acquire online mutic	Nokia acq	ire				1																					
N	okia		cin a nagora codo, recelargene conception for approximately USS60 million. 1677 In July 2007, Nokia acquired all assets of Twango, a comprehensive media sharing solution for organizing and sharing photos: videos and other personal media.		ire				1						c			1	1 :	1 1	1	1								
N	ykia ykia	Nokia	In Society and one and one provide in the second metal. 168 In September 2007, Nokia agreed to acquire Enpocket, a supplier of mobile advertising technology and services. 169 In 2007, Nokia agreed to acquire Navteq, a U.Sbased supplier of	Nokia acq					1																					
N	skia	Nokia	digital mapping data, for \$8.1 billion and finalized the acquisition on 10 July 2008. 170 In September 2008, Nokia acquired OZ Communications, a privately held company with approximately 220 employees	Nokia acq					1				Nokia-acquired-OZ																	
N	okia	Nokia	headquartered in Montreal, Canada. 171 On 24 July 2009, Nokia agreed to acquire certain assets of Cellity, a privately owned mobile software company, completed on 5	Nokia acq	ire		1						Communications		82			1		1	1	1								
N	okia	Nokia	August 2009. 172 In September 2009, Nokia acquired certain assets of Plum	Nokia acq	ire				1																					
N	okia	Nokia	Ventures, Inc. to complement Nokia's Social Location services. 173 In March 2010, Nokia acquired Novarra, a mobile web browser firm.	Nokia acq	ire		1		1	Nokia-acquired- Novarra Inc.					c			1 1	1	1 1	1	,								
N	okia okia	Nokia Nokia	 In April 2010, Nokia acquired MetaCarta, a local search technology firm. In 2012, Nokia acquired Smarterphone, a developer of an 	Nokia acq Nokia acq					-	Nokia-acquired-			Nokia-acquired-MetaCart	12					-			-								
N	204	NOBA	operating system for feature phones, and the imaging company Scalarin		are		1		с	Smarterphone																				
N	ykia ykia	Nokia	182 On 24 June 2008, Nokia bought the Symbian operating system and the next year made it open source. 192 Nokia developed Symbian*3 to replace S60, but it never became	Nokia dav	ion.		1		c	Nokia-buy-Symbian Symbian*3-develop																				
N	skia	Nokia	popular. 197 Nokia invested in the Series 40 platform and released a single	Nokia			1		D1	Nokia Nokia-invest-Series	1																			
N	okia	Nokia	MeeGo product in 2011, the Nokia N9.	Nokia			1		с 82	Nokia-released-Nok N9	8			1	82			1 1	1 :	1 1	1	1								
N	ykia ykia	Nokia	198 As part of the restructuring plan, Nokia planned to reduce	Nokia, Windows Phone 7 Nokia, Microsoft,					1																					
		Note	framework, which was not supported by Windows Phone 7 devices. 205	Qt (software)					1	Nokia-overtook-App	-1-																			
N	204	NORM	Nokia was overtaken by Apple as the world's biggest smartphone maker by volume in June 2011.	Nokia, Apple Inc., smartphone			1		c	Inc.	1				с			1 1	1 :	1 1	1	1								
N	okia		compete with Apple iPhone or Samsung Galaxy phones.	Nokia, Windows Phone, iPhone			1						Nokia Windows Phone- compete-iPhone																	
N	okia	Nokia	213	Nokia, Windows Phone, Samsung Galaxy									Nokia Windows Phone.																	
N	skia	Nokia	compete with Apple iPhone or Samsung Galaxy phones. 226	Nokia			1			Nokia-released-Nok	ia		compete-Samsung Galax	r																
N	skia	Nokia	in May 2013 Nokia released the Asha platform for its low-end borderline smartphone devices. 238 Following the sale, Nokia will focus on three core business units;	Nokia			1		E2	Asha platform Nokia-focus-Here					E2			1 1	1 :	1 1	1	1								
			its Here mapping service, its infrastructure division Nokia Solutions and Networks, and on developing and licensing its "advanced technologies".				1		c	(Nokia)					E2		1	,	1	1	1	1								
N	okia	Nokia	238 Following the sale, Nokia will focus on three core business units; its Here mapping service , its infrastructure division Nokia Solutions and Networks , and on developing and licensing its	Nokia			-						Nokia-focus-Nokia																	
			Solutions and Networks, and on developing and licensing its "advanced technologies".				1						Nokia-focus-Nokia Solutions and Networks		E2			1	1	1	1	1								

				Characteristics of relation							Where was the textual triple extraction correct?	Correct KB mapping, given textual triple?		If novel triple detected as wrong: Why?		Evaluation of baseline	t (ReVerb)
Query (enti or relation which need be in novel triple)	y Document (Dbpedia- Label) to	 Server and the server of the se	of Occurrence es" of "query - relations" (for gold std. creation)	Entities are in binary relation to each other, Feriation, but quadrupel) equanges of the second second second particible particible second second second second second regenerated as a particible second second second second second regeneration second regeneration regeneration second regeneration regeneregneration regeneratio	Would it be a Corresponding nove novel triple is: (ground ruth) What is the novelty dass?	I Novel triple, Triple not but parts of novel, but already in KB semantics of the already in KB statement in the test gets lost. Hence, no KB import useful.	Triple not novel, since too irrelevant (at least 2 parts of triple not in KB)	Sentence contains (i) noun phrase and particible construction (cf. The iPhone S is a touchscreen smartphone developed by Apple in c) or (ii) parentecis (e.g., App Store, an online application for) or similar.	Novel triple in output, i.e. detected? While novely class in output?	If yes, Triple in output with correct? (i.e. modale correct overly verb? class, correct entities and relations as in gold standard)	ta ta ta	s p o	A coreference Surface form was matched detected (e.g., "the game" correctly, but in xLID/Daped (xLD problem yes, Sor O affected?	Wrong p_t correctly disambiguation? detected, but p in S or O affected? is wrong or a unsuitable (differe semantics)	Transformation Transformatio K3 into active <i>n</i> into active voice in second to active voice modes ant necessary, but no sense, but has not happened. happened.	Detected as Novelty Text: novel triple class of basel in ReVerb. ReVeb baseline. baseline Novelty correct (if class? triple is in ground truth)?	ual Triple of ReVerb
Nokia	Nolia	238 Following the sale, Nokia will focus on three core business units; its Here mapping service, its infrastructure division Nokia Solutions and Networks, and on developing and licensing its "advanced technologies".				I			62	1		1 1	1		I		
Nokia	Nokia	238 Following the sale, Novia will Tocus on three core business units; Nokia its Here mapping service , its infrastructure division Nokia Solutions and Networks , and on developing and licensing its "advanced technologies".	develop						E2	1		1 1					
Nokia	Nolia	242 While Microsoft licensed the Nokia brand under a 10-year Microsoft, In agreement, Nokia agreed not to use its name on smartghones and will be subject to a non-compart clause preventing if from producing any mobile devices under the Nokia name through 31 December 2015.	lokia		Microsoft-licence- Nokia brand												
Nokia	Nokia	245 in October 2013, Nokia predicted a more profitable future for its Nokia NSN networks equipment business, which became the company's main business.		1	E2												
Nokia	Nokia	247 A modi anport revealed in mid-September 2013 that Nokia tested Nokia the Android operating system on both its Lumia and Asha hardware. 251 Nokia	found	:	1 Instituto Nokia de												
Nokia	Nokia	Besides its research centers, in 2001 Nokia founded INdT Nokia Institute of Technology, a R&D institute located in Brazil. 254 Nokia a public limited Joibling company listed on the Helsinki, Nokia Frankfurt, and New York stock eachanges.		1	Tecnologia-founder D1 Nokia		Nokia-listed-Helsinki Stock		D1			1 1					
Nokia	Nokia	254 Nokia is a public limited-liability company listed on the Helsinki, Nokia Frankfurt, and New York stock exchanges.	_	1			Exchange Nokia-listed-Frankfurt Stock Exchange Nokia-listed-New York	1	c		1	1 1 1 1					
Nokia Nokia	Nokia	Frankfurt, and New York stock exchanges. 255 Nokia	_	1			Nokia-listed-New York Stock Exchange	1									
Nokia	Nokia	Nokia plays a very large role in the economy of Finland. 258 Since the Microsoft acquisition, Nokia comprises two business Nokia groups: Mobile Solutions and Markets.	_		1				E2		1 1 1	1 1	L				
Nokia	Nokia	267 Nokia Navteg was acquired by Nokia on 1 October 2007. 270 NSN was a joint venture between Nokia and Siemens , but is now Nokia	acquire	1	Nokia-acquired- C Navteo												
Nokia	Nokia	a wholly owned subsidiary of Nokia. a wholly owned subsidiary of Nokia. Nokia Nokia Siemens Nokia Nokia Nokia Siemens Nokia	_		1												
Nokia	Nokia	292 Since then, Nokia has launched the largest mobile portal, Nokia Nokia.mobi, which received over 100 million visits a month in 2008.		1	Nokia-launched- Nokia.omobi E2			1	E2		. 1 1	1 1	L				
Nokia	Nokia	295 Nobia It has some significance in that Nobia is moving deeper into the world of Internet services, where head-on competition with Microsoft, Google and Apple is inevitable.															
Nokia	Nokia	299 Nokia Nokia discontinued the Ovi brand in 2011, continuing to offer its services under the main brand. An Nokia once offered a free personalised service to Nokia owners Nokia		1	Nokia-discontinued- Ovi (Nokia) B2				E2		1 1	1 1	ı				
Nokia	Nokia	called My Nokia. 305 On 13 August 2008 Nokia launched a beta release of "Nokia Email Nokia	_		1												
Nokia	Nokia	service", a push e-mail service, later incorporated into Nokia Messaging. 308 Nokia Introduced its "Connecting People" advertising slogan in Nokia 1992, coined by Ove Strandberg. This earlier version of the slogan	introduce		1												
Nokia	Nokia	1902, coined by Ove Strand Schmitching Polyne Burres Lang, adgent in Holden 1902, coined by Ove Strand Borg, This earlier version of the slogan used Times Roman SC font. 315 In July 2009, Nolia began to experience a boycott of their Nolea product: and services In Ian.	_		1				E2		1 1 1	1 1	L				
Nokia	Nokia	318 Nolea In 2009, Nolea heavily supported a law in Finland that allows companies to monitor their employees' electronic	_														
Nokia	Nokia	communications in cases of suspected information leaking. 319 Contrary to rumors, Nokia denied that the company would have considered moving its head office out of Finland If laws on electronic surveillance were not changed. 324 Apple Inc., *			1				E2		1 1 1	1 1	I				
Nokia	Nokia	In October 2009, Nokia filed a lawsuit against Apple Inc. in the U.S. 326 Apple was quick to respond with a countersuit filed in December Apple Inc. M			1												
Nokia	Nokia	2009 accusing Nokia of 11 patent infringements. 332 In June 2011, Apple settled with Nokia and agreed to an estimated one time payment of \$600 million and royalties to Nokia.	lokia	1	Apple Incsettled- Nokia	1			c			1 1	L				
Nokia	Nokia	336 Nokia is actively exploring and engaging in open innovation horough selective research collaborations with major universities and institutions by sharing resources and leveraging idea.					Nokia-explore-Open innovation										
Nokia	Nokia	336 Nokia is actively evoluting and engaging in open innovation	_				Nokia-engage-Open innovation										
Nokia	Qt_(framework)	through selective research collaborations with major universities and institutions by sharing resources and lowerapity idea: 11 in February 2011, Note amounced its decision to drop Symbolian Note technologies and base their future smartphones on Microsoft patform instead.	announce	1													
Nokia	Qt_(framework)	pattorm instead. Nola 12 memorth later, Nola announced the sale of Qf's commercial licensing and protectional survices to Daja, with the immediate goal of taking QF support to Android, QS and Windows 8 pattorms, and to continue locusion of existing and embedded development, although holia was to remain the main development, although holia was to remain the main development.	announce														
Nokia	Qt_(framework)	development force behind the framework at that time. 13 Qt works on the following platforms: Since Nokia opened the Qt Nokia source code to the community on Gitorious various ports have been appearing.		1	1 Nokia-opened-Qt source code E2	1			E2			1 1	L				
Nokia	Qt_(framework)	40 Nokia Nokia acquired Trolltech ASA on 17 June 2008 and changed the name first to QT Software, then to QT Development Frameworks.	acquire	1	Nokia-acquired-Qt Development C Frameworks												
Nokia	Qt_(framework)	62 In March 2011, Nokia sold the commercial licensing part of Qt to Nokia Digia creating Qt Commercial.			1												
Nokia Nokia 5800	Qt_(framework) Nokia	62 In March 2011, Nokia sold the commercial licensing part of Qt to Digia creating Qt Commercial. 180 The Nokia N96, released in late 2008, proved to be much less iPhone 3G, 1	Vokia	1	Qt Commercial- D2 creator-Nokia				D2		. 1 1 1	1 1	L				
Nokia DX 21		sourcessful, although the Nokia S800 XpressMusic was minimized as a successful, although the Nokia S800 XpressMusic was minimized as a successful, although the Nokia S800 XpressMusic was minimized as a successful as a	Music		1												
Nokia DX 21 Nokia E71	Nokia Nokia	division.	~		1												
Nokia Lumi	Nokia	The 2008 Nokia E71 competed with BlackBerry-type devices, offering a full "gwerty" keyboard and cheaper prices. 124 Lumia devices used the Linux-based Maemo, except the N9 , Nokia Lumia	series		1		Nokia Lumia series-used-										
series Nokia Map	Nokia	which used MeeGo. 199 Nolia's "applications and content store" became integrated into the Windows Phone Store, and Nokia Maps became the heart of Microsoft's Bing and AdCenter.		1	1		Maemo										
								_									

			Characteristics of relation				Where was the textual triple extraction correct?	Correct KB mapping, given textual triple?	If novel triple detacted as wrong: Why?	Evaluation of baseline (ReVerb)
Query (entity Document (Dispedia- or station Label) which need to be in novel triple)	Line Services where a several second which are converted by a several relative and based out of the Data Service and a several relative and the Service and Service and Service Sec. Several Services and Service and Services and Services for each triple.	Occurrence of Occurrence "query entities" of query (for gold std. relations" (for gold std. creation)	biologication content and the second	Needs 12.a Consequently and the second secon	Triple cost drovel, direct too too too too too of triple cost is 40 a 2 parts parts and too too too of triple cost is 40 a cost of triple cost is 40 a too too too too of triple cost is 40 a too too too operating too opera	Novel triple in If yes, Triple in output adapt, La. with correct? (a. detected? Which mode correct novely neverby class in web? class, correct extitis and relations as in gold standard)	st g tg st	ρο	(e.g., "the game" correctly, but not S or O affected? is wrong or voice is voice mokes in F to:Game) in xLD/Dbpdia unsuitable (different necessary, but no sense, but bas (xLD problem). If semantics) has not Anappened. No	exted as Novelty Testual Triple of Review with type Cascof baseline earlier baseline earlier baseline earlier baseline start Triple is in ground toutlif?
Nokia N70 Nokia Nokia N8 Nokia	121 The first Nseries device, the N90, ran Symbian OS 8.1 mobile operating system, as did the N70.	N70	1	ļ	Nokia N90-ran-Symbiasn OS 8.1 1		1 1			
Nokia NB Nokia Nokia NB Nokia	126 The 2010 Nokia NB ran Symbian ^3, the last N-series device to ship with Symbian OS. 136	Nokia NB	1		Nokia N8-run-Symbian^3					
Nokia N800 Nokia	The Nokia NB released in September 2010 is the first Symbian*3 device, and the first to feature a 12-megapixel autofocus lens. 123	Nokia N800,								
	The N800. N810. N900. N9 and N950 as of April 2012 were the	Nokia N810, Nokia N900, Nokia N9. Nokia								
Nokia NB10 Nokia	only Nseries devices to not use Symbian OS. 123	N950 Nokia N800, Nokia N810, Nokia N900.								
Nokia N82 Nokia	The N800, N810, N900, N9 and N950 as of April 2012 were the only Nseries devices to not use Symbian OS. 120	Nokia N9, Nokia N950 Nokia N82								
	The Nokia N82 was its first "Nseries" phone with Xenon flash and began their "Comes With Music" program that included one year of complimentary access to music downloads.									
Nokia N9 Nokia	123	Nokia N800, Nokia N810, Nokia N900,								
Nokia N9 Nokia	The N800, N810, N900, N9 and N950 as of April 2012 were the only Nseries devices to not use Symbian OS. 124 Lumia devices used the Linux-based Maemo, except the N9,	Nokia N9, Nokia N950 Nokia N9			Nokia N9-used-MeeGo					
Nokia N90 Nokia	which used MeeGo. 121 The first Nseries device, the N90, ran Symbian OS 8.1 mobile	Nokia N90, Nokia N70	1		Nokia N90-ran-Symbiasn					
Nokia N900 Nokia	operating system, as did the N70. 123	N70 Nokia N800, Nokia N810, Nokia N900	1		05 8.1 1					
Nokia N950 Nokia	The N800, N810, N900, N9 and N950 as of April 2012 were the only Nseries devices to not use Symbian OS. 123	Nokia N900, Nokia N9, Nokia N950 Nokia N800, Nokia N810								
	The N800, N810, N900, N9 and N950 as of April 2012 were the only Nseries devices to not use Symbian OS.	Nokia N900, Nokia N9, Nokia N950								
Nokia N97 Nokia	135 The Nokia N97 released in June 2009 contains a sliding QWERTY and has on-board 32 GB of storage.	Nokia N97				E2	1 1	1 1 1		
Nokia tune Nokia	79 The Nokia 1011 did not yet employ Nokia's characteristic ringtone the Nokia tune, which was introduced as a ringtone in 1994 with the Nokia 2100 series. 9 Nokia unwelled its third range on 24 February 2014, the Nokia X					c	1 1	1 1 1		
Nokia X Nokia	family, which run a modified version of the Android operating system		1		Nokia-unveil-Nokia X family 1					
OS X Qr_(framework) Qt (software) Nokia	 At the end of 2001, Trolltech released Qt 3.0, which added support for Mac OS X. Microsoth provided developer tools to Nokia to replace the Qt framework, which was not supported by Windows Phone 7 	OS X Nokia, Microsoft, Qt (software)								
Qt (software) Nokia	devices. 200 Microsoft provided developer tools to Nokia to replace the Qt framework, which was not supported by Windows Phone 7	Qt (software), Windows Phone 7			Qt (software)-not support- Windows Phone 7					
Samsung Galaxy Nokia	devices. 213	Nokia, Windows	1							
Sonic Unleashed Sonic_Unleashed	European carriers stated that Nokia Windows phones could not compete with Apple iPhone or Samsung Galaxy phones. 1 Sonic Unleached, later releaced as in Japan, is a 2008 video game	Galaxy Sonic Unleashed develop	1	Sonic Unleashed	Nolda Windows Phone- compete-Samsung Galaxy					
Sonic Unleashed Sonic_Unleashed	features hubworlds, in which the player may reveal, as well as	Sonic Unleashed	1	developer- Sonic Team						
Sonic Unleashed Sonic_Unleashed	advance, the story of the game. 35 Sonic Unleashed bagins with a cold open that sees Sonic confronting his nemesis, Doctor Eggman, bounding around a fleet of spacehips.	Sonic Unleashed								
Sonic Unleashed Sonic_Unleashed	57 The title was first brought to public attention when the Sonic Unleashed name was trademarked by Sega on March 12, 2008. 79 On March 12, 2009 Sega released Sonic Unleasheds first	Sonic Unleashed								
Sonic Unleashed Sonic_Unleashed	9 On March 12, 2009 Segar released Soni: Unleashed Sinfit downloadable content for the Xbox 360 and PlayStation 3, consisting of four Chun-nan daytime stages and two night stages in addition to two new missions.	Sonic Unleashed release				E2	1 1	1 1 1		
Sonic Unleashed Sonic_Unleashed	83 Game developer Gameloft announced in May 2009 that it had secured a licensing agreement with Sega Europe Ltd. to produce mobile phone versions of Sega properties, and that its first till would be a version of Source Unbashed for mobile phone platform	Sonic Unleashed								
Sonic Unleashed Sonic_Unleashed	89 Positive elements of Sonic Unleashed remarked upon by reviews include the environments, such as the "postcard-perfect architecture", and the graphics, with ctages lossing "absolutely gorgeous" and being "very pretty and lovingly animated", with one	Sonic Unleashed								
Sonic Unleashed Sonic_Unleashed	gorgeout" and being "wery pretty and lovingly animated", with one reviewer comparing them to a playable brar film. 110 Archie Comisc has made an adaptation of Sonic Unleached featuring the opening cutscene and Sonic's transformation into the Werehog.	e Sonic Unleashed								
Sony Records Dragon_Warrior_III	95 A compilation album of Dragon Warrior IIIs music was not on	Sony Records								
Symbian Nokia	Dragon Quest III "And into the Legend" Remix Symphonic Suite and was published by Sony Records in 1996. 182 On 24 June 2008, Nokia bought the Symbian operating system and the next year made it open source.	Nokia, Symbian	1	Nokia-buy-Symbian C						
Symbian Nokia Windows Phone Need for Speed: Hot P		Symbian Windows Phone		Symbian-made-Open C source		c 1	. 1 1 1	1 1 1		
ursuit_(2010_video_gam e)	developed by British games developer Criterion Games and published by Electronic Arts for PlayStation 3, Xbox 360, Microsoft Windows, Wii, IOS, Android, webOS and Windows Phone.									
Windows Phone Nokia	213 European carriers stated that Nokia Windows phones could not compete with Apple iPhone or Samsung Galaxy phones.		1		Nokia Windows Phone- compete-iPhone					
Windows Phone Nokia	213 European carriers stated that Noleia Windows phones could not	Nokia, Windows Phone, Samsung Galaxy			Nokia Windows Phone-					
	compete with Apple iPhone or Samsung Galaxy phones.		1		compete-Samsung Galaxy					

					Char	racterístics of relatio								Where was the texts	ual triple	Correct KB mapping, given textual triple?			If novel triple det	ected as wrong: Why	W3		Evalu	tion of baseline	a (ReVerb)
Query (enti	Document (Dbpedia-	Line Sentence where two estilies occur which we connected by	Occurrence of	0.00000	Entities are in	n Entities in	Relation	Would it has a Common day your	Nousi triclo Triclo ort	Triele est squel since too	September (active (3	Novel triple in	If yes, Triple in output	st pt		p o	A comference	Surface form	Winner	o t correctly	Transfor	mation Transformat	e Detected as No	oltu Tostu	ual Triple of ReVerb
or relation which need be in novel triple)	(ahel)	Line Settences where two entities occur which are contexted by mis issues ratios. Cars where subject/depict is only contextence a for the settences where subject/depict is only contextence. J Due Tie for each type.	e (for gold std. creation)	of "query relations" (for gold std. creation)	binary relation	r. (S- relation, but expressed as particible	detected, but statement only representable as quadruple or literal (also, if object is too general), i.e. no triple relation, no KB import, but at least 2 entities	Would If the a Corresponding nove rooten triple is: (ground truth) What is the noverty class?	but parts of the movel, but but parts of movel, but semantics of (novelty class the test gets lost. Hence, no K8 import useful.	of triple not in KB)	contract Contains (v) noun phrases and particible construction (cf. The iPhone S is a touchornen smartphone developed by Apple in c), or (ii) parentesis (e.g., App Store, an online application for) or similar.	output, i.e. detected? Whi novelty class in output?	with correct? (i.e.	0 0	P_1 *	μ	was matched (e.g., "the game to :Game)	detected correctly, but no in xLiD/Dbpedia (xLiD problem). yes, S or O affected?	diambiguation ot S or O affected	17 detected, but pi 17 is wrong or unsuitable (diffe semantics)	in KB into acti voice is erent necessa has not happene	mation Transformat ve n into active voice makes ry, but no sense, bu happened. d.		s of baseli	ne
Windows Phone 7	Nokia	198 As part of the restructuring plan, Nokia planned to reduce research and development, instead customising and enhancing the software line for Windows Phone 7.					1	I.			_			1											
Windows Phone 7	Nokia	the software line for Windows Phone 7. 200 Microsoft provided developer tools to Nokia to replace the Qt framework, which was not supported by Windows Phone 7 devices.	Qt (software), Windows Phone 7	_						Qt (software)-not support Windows Phone 7															
to acquire	Dragon_Warrior_III	45 With the ship, the Hero acquires the Final Key and the six mystica	i	acquire			1				_														
to acquire	Dragon_Warrior_III	orbs which are used to revive the legendary bird Ramia . 48		acquire			1				_														
to acquire	Nokia	The Dark World is in fact Alegard , where the Hero must acquire several of the artiflacts that were collected in the original Degon Warror, invident facts and search and the Kara Staff. 144 Nobia acquired Smarterphone, a company making the Smarterphone SG for low end phones and merged in with Series 40 to form the Abla Pattorm, which absorbiners some UI characteristics from Nebla's WeekD platform.	Nokia	acquire		1	1	Nokia-acquired- Smarterphone			_	c		. 1 1	1	1 1									
to acquire	Nokia	 40 to torm the Asha Pactorn, which abadements some of characteristics from Nokia's MeeGo platform. 154 in 2009, Check Point acquired Nokia's network security business unit. 		acquire		-					_														
to acquire to acquire	Nokia	 161 On 22 September 2003, Nokia acquired Sega.com, a branch of Sega to develop the Nokia N-Gage device. 162 On 16 November 2005, Nokia agreed to acquire Intellisync Corporation, a provider of data and PM synchronization software 	Nokia	acquire acquire		1				Nokia-acquired-sega.com	_														
to acquire	Nokia	completing the acquisition on 10 February 2006. 166 On 8 August 2005, Nokia agreed to acquire online music	Nokia	acquire			1				_														
to acquire	Nokia	cinto Regult 2000, Notes agreed to Regult events that the distributor Loudeye Corporation for approximately USS60 million 167 in July 2007, Nokia acquired all acxets of Twango, a comprehensive media advanting solution for organizing and sharing photos, videos and other personal media.	I. Nokia	acquire			1				_					1 1									
to acquire	Nokia			acquire								L				1 1									
to acquire	Nokia	of mobile advertising technology and services. 169 In 2007, Nokia agreed to acquire Nexten, a U.Sbased supplier of digital mapping data, for S2. Is Lillion and finalized the acquisition on 10 July 2008. 170 In Sectember 2008, Nokia acquired 02 Communications. a		acquire			1				_														
to acquire	Nokia	 In September 2008, Nokia acquired OZ Communications, a privately hidd company with approximately 220 employees headquartered in Montreal, Canada. In 24 July 2009, Nokia agreed to acquire certain assets of Cellky, a privately owned mobiles oftware company, completed on 5 	Nokia	acquire		1				Nokia-acquired-OZ Communications	_	82		1		1 1									
to acquire	Nokia	August 2009. 172 In September 2009, Nokia acquired certain assets of Plum Ventures, Inc to complement Nokia's Social Location services.	Nokia	acquire			:				_														
to acquire	Nokia	173 In March 2010, Nokia acquired Novarra, a mobile web browser firm.	Nokia	acquire		1		Nokia-acquired- C Novarra Inc.			_	c		. 1 1	1	1 1									
to acquire	Nokia	 In April 2010, Nokia acquired MetaCarta, a local search technology firm. 175 In 2012, Nokia acquired Smartembone, a developer of an 		acquire						Nokia-acquired-MetaCarta															
to acquire	Nokia	175 In 2012, Nokia acquired Smarterphone, a developer of an operating system for feature phones, and the imaging company Scalado.	Nokia	acquire		1		Nokia-acquired- Smarterphone C			_														
to acquire	Nokia	243 Microsoft acquired the rights to the Asha and Lumia brands as	Microsoft	acquire		-					_														
to acquire	Nokia	part of the deal.	Microsoft	acquire			1				_														
to acquire to acquire	Nokia Qt_(framework)	267 Navteq was acquired by Nokia on 1 October 2007. 40		acquire acquire		1		C Nokia-acquired- C Navteq Nokia-acquired-Qt			_														
		Nokia acquired Trolltech ASA on 17 June 2008 and changed the name first to Qt Software, then to Qt Development Frameworks.				1		Development C Frameworks			_														
to acquire to announc to announc		18 To this end, Gospi has acquired a large amount of chemical weapons, including VM nerve gas and Bitter gas. 41 On sunary 11, 2011, Vetrion amounced during a moda event that it had reached an agreement with Apple and would begin selling a CDMA2000 Timben 4. 42 American carrier C Spire Wealess amounced that it would be	Apple Inc, iPhone 4	acquire announce announce			1				_														
to announc		carrying the iPhone 45 on October 19, 2011. 55	Apple Inc, iPhone				1	Apple Inc			_														
to announce	Lode, Runner	On September 12, 2012, Apple announced the iPhone 5. 108 Hudson Soft also announced a version of Lode Runner for the	5	announce		1		announced-iPhone5 B2	5																
to announc	Need_for_Speed:_Hot_P ursuit_(2010_video_gam	Nintendo DS and released in 2006.		announce			1																с		
to announc	e)	EA announced the Need for Speed Autolog iPhone app in late November 2010. 163		announce			1																		
	Nokia Qt_(framework)	On 19 June 2006, Nokia and Siemens AG announced the companies would merge their mobile and fixed-line phone network equipment buciliesces, creating Nokia Siemens Networks 11 In February 2011, Nokia announced its decision to drop Symbian technologies and base their future smartphones on Microsoft	s. Nokia	announce			1				_														
	Qt_(framework)	licensing and professional services to Digia, with the immediate goal of taking QF support to Android, iOS and Windows 8 obtimem: net to continue focusing on desited and embedded		announce			1																		
to announc	The_Godfather:_The_Ga me	parkoning and occurrent and the second se	2	announce			1				_														
to announc	Tom_Clancy's_Splinter_C ell:_Conviction	known as "MobFace." 136	Microsoft Windows	announce			1	Microsoft- announced-special				E2		1 1		1 1									
		In March 2010, Microsoft announced a special limited edition						limited edition black Xhow 360 console	k																
to announc	Tomb_Raider:_Legend Tomb_Raider:_Underwor	black sizes 480 console with Tom Clan (v) Splinter Call: Conviction 51 in 2010, several pieces of Hemann' music for Legand were recycled in the diversizable sign of Tabu Liaz Corth and the Guardan of Light Following the access of another third ganty game, on the Natismod Gaarchach, Belda somouncet than decision to port Tom Braider: Legand to that glatform, marking Lana Corth Tyra apparance on a how mitikinade consola. 199 SQ, which evened Edios at the time, officially anonconet Tabu Braider: University of the time, officially anonconet Tabu Raider: Linderwide on 10 January 2004, and continned that Jan		announce		1	1	E2 Square Enix Europe	1																
to announce	ld Tomb_Raider:_Underwor Id	platform versions of the game would be released simultaneously in November 2008.		announce		1		announced-Tomb Raider: Underworld B2																	
	ld	On 15 December 2008, Edios announced the release of two classi outfits from past Tomb Raider games, which would be released for free exclusively on the Xbox Live Marketplace.	ic				1																		

				Characteristics of	relation						Where was the textual tri extraction correct?	ple Correct KB mapping, giver textual triple?			novel triple detected as wrong: WI	<i>n</i> 5	Evaluation	n of baseline (ReVerb)
Query (entity or relation	Document (Dbpedia- Lin Label) no.	Sentences where two entities occur which are connected by some relation. (Sent. with one entity and one literal are removed; "quer	rrence of Occurrence y entities" of "guery	Entities are in Entitie binary relation binary	detected, but	Would it be a Corresponding nove novel triple? triple is:	I Novel triple, Triple not Triple not novel, since too but parts of novel, but irrelevant (at least 2 parts	Sentence contains (i)	Novel triple in output, i.e.	If yes, Triple in outpo with correct? (i.e.	t s_t p_t p_t	s p o	A coreference was matched	Surface form detected	Wrong p_t correctly disambiguation? detected, but p	Transformation Transformati in KB into active n into active	Detected as Novelty	f baseline
which needs t be in novel triple)	de de	 also sentences where subject/object is only coreference.) One line for each triple. 	old std. relations" ion) (for gold std.	to each other. (S- relatio V-O, no literal or relatio quadrupel) expres	when the statement only	(ground truth) What is the novelty class?	the already in KB of triple not in KB) semantics of (noveity class the A)	particible construction (cf. The iPhone 5 is a touchscreen	Novel triple in output, i.e. detected? Which novelty class in output?	modale correct novelt	,		(e.g., "the game to :Game)	 correctly, but not in xLiD/Dbpedia (xLiD problem). If 	S or O affected? is wrong or unsuitable (diff semantics)	voice is voice makes erent necessary, but no sense, but has not hoppened.	in ReVerb- ReVerb baseline. baselin Novelty correct class? triple is	e (ff
			creation)	partici	ible literal (also, if object is too general), i.e. no triple relation, no KB import, but at least 2 entities		statement in the best gets lost. Hence, no KB import useful.	smartphone developed by Apple Inc.) or (ii) parentesis (e.g., App Store, an online application for) or similar.		relations as in gold standard				yes, S or O affected?		happened.	class? triple is ground truth)?	in I
to announce	VimpelCom_Ltd.	In January, 2013 VimpelCom Ltd. and the Wikimedia Foundation announced a partnership to deliver free Wikipedia access to VimpelCom customers through "Wikipedia access to vimpelCom customers through Twikipedia access 1 video game developed and published by Konami for the Family	announce		1													
to develop	Castlevania_(video_game) Castlevania_bideo_game	 video game developed and published by Konami for the Family Computer Disk System video game console in Japan in September 1986. Castlevenia was developed and published by Konami for the 	develop develop		1		(video game)- developer- Konami	1										
to develop) Chrono_Trigger	Famicom under its original title Akumajo Dracula. 1 Chrono Trigger is a role-playing video game developed and	develop			Chrono Trigger- developer-Square E	niw.											
to develop	Chrono_Trigger	published by Square for the Super Nintendo Entertainment System in 1995. 177 Square released an enhanced port of Chrono Trigger developed by Tose in Japan for the Sony PlayStation in 1999.	develop		1	B1		ia	81		1 1 1	1 1 1	1					
to develop	Claro_Americas	Tose in Japan for the Sonry PlayStation in 1999. 16 16 16 16 16 16 16 16 16 16	develop		1													
					1				D2	1	1 1	1 1 1	1					
to develop	Doom_(video_game)	Carro's position as the most-oppernang par-timular provider in the country's prepaid market. 61 The development of Doom started in 1992, when John D. Carmack developed a new 3D game engine, the Doom engine, while the rest of the id Software team finished the Wolfenstein 3D prepaid.	develop			3D game engine- developer-John D. Carmack												
to develop	Doom_(video_game)	Net on this is Software team instance and vocanetations of property Spear of Decitivy. 61 The development of Doom started in 1992, when John D. Carmack developed a new 30 game engine, the Doom engine, while the nest of the id Software team finished the Wolfenstein 3D prequel,	develop	1		D2 Doom engine- developer-John D. Carmack	1		D2		1 1 1	1 1						
to develop		spear of Destiny. 101 The game's popularity prompted Bill Gates to briefly consider buying id Software, and led Microsoft to develop a Windows 95 port of Doom to promote the operating system as a gaming	develop	1		82			82		1 1 1	1 1 1	1					
	FIFA_06	platform. 1. FIFA O5 also known as FIFA Soccer O5 is developed by EA Canada and published by Electronic Arts based around the game of football.	develop		1		FIFA 06- developer-EA Canada		01		1 1	1 1	1				82	0
to develop	Final_Fantasy_Dimensio	Final Fantacy Dimensions, known in Japan as Final Fantacy Logends: Hikari to Yami no Senshi is a role-playing video game	develop				Final Fantasy Dimensions- developer-						-				-	
		Legends: Hikari to Yami no Senshi is a role-playing video game developed by Matrix Software and published by Square Enix for mobile devices.			1		Matrix software	1	D1		1 1	1 1	1					
to develop	Ghouls'n_Ghosts	1 Ghouls 'n Ghosts is a platform game run and gun developed by Capcom and released as an arcade game in 1988, and subsequently ported to a number of other platforms.	develop		1		Ghouis'n Ghosts- developer- Cascom	1	01		,	1 1 1	1					
to develop	IPhone	2 Instead, Cingular gave Apple the Iberty to develop the iPhone's Apple hardware and software in-house and even paid Apple a fraction of its monthly service revenue, in exchange for four years of exclusive US cales. until 2011.	inc develop		-													
to develop		340 Apple also developed a separate application to view YouTube Apple videos on the iPhone, which streams videos after encoding them using the H.264 codec.	inc, iPhone develop		1				c		1	1 1			0			
to develop	Lode_Runner Need_for_Speed:_Hot_P ursuit_(2010_video_gam	93 In 1984, Irem developed an arcade conversion of Lode Runner. 1 developed by British games developer Criterion Games and published by Electronic Arts for PlayStation 3, Xbox 360,	develop		1		Need for Speed: Hot		D2		1	1 1		0				
to develop	ursuit_(2010_video_gam Ninja_Gaiden_(Nintendo _Entertainment_System)	61	develop		1	Ninja Gaiden-	Speed: Hot	1										
to develop	Ninja_Gaiden_(Nintendo _Entertainment_System)	Ninja Gaiden was developed by Tecmo, who also developed the Tecmo Bowl and Rygar series. 61	develop	1		B2 developer-Tecmo	Tecmo Bowl-		81		1 1	1 1 1	1				82	ninja gaiden be develop 0 by tecmo
to develop		Nieja Gaiden was developed by Tecmo, who also developed the Tecmo Bowl and Rygar series. 61 Nieja Gaiden was developed by Tecmo, who also developed the	develop	1			developer - Tecmo Rygar - developer -		А.		1 1 1	1 1 1	1					
to develop	Nokia	Term Bowl and Mygar sells, who and developed the Term Bowl and Mygar sells 46 In the 1970s, Nokia became more involved in the telecommunications inductive by developing the Nokia DX 200, a digital switch for telephone exchanges.	develop	1		Nokia DX 200- developer-Nokia D1	Tecmo		D1		1 1	1 1	1	:				
to develop	Nokia	S2 Noisa In the 1970s and 1980s, Noisa developed the Sanomalateripisstelm _a digital, portable and encrypted text- based communications device for the Finnish Defence Forces.	develop		1	Sanomalaitejrjestel developer-Nokia	8-											
to develop		57 Since 1964, Nokia had developed VHF radio simultaneously with Nokia		1		D1 VHF radio-develope D1 Nokia	r. 1		D1 D1		1 1 1 1 1 1	1 1 1 1 1 1	1					
to develop	Nokia	Satira Gy, S8 In 1966, Nokia and Salora started developing the A8P standard, a car-based mobile radio telephony system and the first commercially operated oublic mobile behavior in Finland.	develop															
to develop	Nokia	61 Mobira began developing mobile phones for the NMT network standard, the first-generation, Finaland's first fully automatic cellular chone system that work cellule in 1981.	develop															
to develop	Nokia	ceituiar phone system that work online in 1981. 74 NNT, the work's first models telephony standard to allow Nolea international reaming, provided expertise for Nolia in developing GSM, which was adopted in 1987 as the new European standard for distal mobile technology.	develop		1													
to develop	Nokia	192 Nokia developed Symbian ^A 3 to replace S60, but it never became Nokia	develop	1	1	I Symbian*3-develop D1 Nokia	er- 1											
to develop		popular. 238 Following the sale, Nokia will focus on three core business units; Nokia 15 Here mapping service, its infrastructure division Nokia Solutions and Networks, and on developing and licensing its "advanced technologies".	develop		1				E2	1	1	1 1 1	1					
to develop	Prince_of_Persia:_The_T wo_Thrones	1	develop				Prince of Persia: The Two Thrones- developer- Ubisoft											
to develop	Prince_of_Persia:_The_T	Prince of Persia: The Two Thrones is an action-adventure video game developed and published by Ubisoft Montreal. 58 The Prince also develops a split personality, known as the Dark	develop		1		developer- Ubisoft Montreal	1	D1		1 1	i i	1	:				
to develop		granting developed and published and by personality informative terms ST has Prince and this after-ago constantly bickers with him in his mind about right and wrong. 2. Warrior Within was developed and published by Ubischt, and wrong the numerical and developed and published by Ubischt, and wrong the numerical and developed and published by Ubischt, and	develop		:	Brings of Berria:												
to develop	or_Within Professor_Layton_and_t he_Curious_Village	released on December 2, 2004 for the Xbox, PlayStation 2, GameCube, and Microsoft Windows. 85 Tago also contributed 30 brand new puzzles to the game, developed specifically with the unique capabilities of the Nintendo	develop	1		Warrior Within- B1 developer-Ubisoft												
to develop	ne_Curious_Village Qt_(framework)	DS in mind.	develop		1													
		Project under open governmence, involving individual developers and firms working to advance Qt.		1			Qt (framework)-developer-Digia		D1		1 1	1 1	1		1			

				Characteristics of relation					Where was the textual triple extraction correct?	Correct KB mapping, given textual triple?		If novel triple detected as wrong: Why	,	Evaluation of baseline (Re	eVerb)
Query (entit or relation which needs	y Document (Dbpedia- Lin Label) no.	Sentences where two entities occur which are connected by in some relation. (Sent. with one entity and one literal are removed; also sentences where subject/object is only coreference.) One line	Occurrence of Occurrence "query entities" of "query (for gold std. relations"	Entities are in Entities in Relation binary relation binary detected, but to each other. (S- relation, but statement only	(ground truth)			If yes, Triple in output with correct? (i.e. h modale correct novelty	s_t p_t p_t s	p o	A coreference Surface form was matched detected (e.g., "the game" correctly, but no	Wrong p_t correctly disambiguation? detected, but p in t S or O affected? is wrong or	Transformation Transformatio D KB into active n into active n voice is voice makes in	ovel triple class of baseline ReVerb- ReVerb	Triple of ReVerb
be in novel triple)		for each triple.	creation) (for gold std. creation)	V-C, no Tetral or relation representable as quadrupeli expressed as particible for the particible for the particible particible for the particible provide the particible provide the particible provide the particible provide the particible	What is the novelty class?	semantics of (noveity class (cf. the A) tou statement in smi the text sets by V	The Bill Construction The Bill Bill Bill Bill Bill Bill Bill Bil	verb? class, correct entities and relations as in gold standard)			to Game) in xLID/Obpedia (xLID problem). yes, S or O affected?	unsuitable (differ semantics)	volce is volce makes in ent mecesary, but no sense, but b has not hoppened. c	seline. baseline ovity correct (if ass? triple is in ground truth)?	
to develop	Resident_Evil_4	1 Resident EVII 4, known as in Japan, is a survival horror video game developed by Capcom Production Studio 4 and released by multiple publishers, including Capcom, Ubisoft, Nietendo Australia: Red Are: Enterorises and THO Asia Pacific.	develop		Resident Evil 4- developer-Capcom Production Studio 4 El	ļ	1 01	I		1 1	l	0			
to develop	SimCity_(1989_video_ga me)	6	develop		SimCity (1989 video game)-developer-Will Wright (game developer)	I.						Ī			
to develop	SimCity_(1989_video_ga me)	SimCity was originally developed by game designer Will Wright. 9 While developing SimCity, Wright cultivated a real love of the intricacies and theories of urban planning and actionovelopys the influence of System Dynamics which was developed by Jay Wright Forrester and whose book on the subject laid the foundations for the simulation.	develop	1	El										
to develop	SimCity_(1989_video_ga	the simulation. 61 Micropolis is a release of the city-building sim game SimCity, that was developed by Don Hopkins. 66 The original version of SimCity was developed by Maxis on the	develop	1		Micropolis-developer-Don Hookins									
to develop	me)	66 The original version of SimCity was developed by Maxis on the Commodore 64, and ported to various platforms, including the Macintosh.	develop	1			D1		1 1 1	1 1 1					
to develop	Sonic_the_Hedgehog_(1 991_video_game)	1	develop			Sonic the Hidgehog (1991 video game)-									
		Sonic the Hedgehog is a platform video game developed by Sonic Team and published by Sega for the Sega Mega Drive Genesis.		1		game)- developer- Sonic Team	1 D1		1 1	1 1 1					
to develop to develop	004 (data anal)	42 AM8 developed ideas for characters while also developing an optime and basis samenian mechanics.	develop	1			D1		1 1 1	1 1 1					
to develop		a version of Sonic the Hedgehog was developed by Ancient and released for Sega's 8-bit consoles, the Master System and Game Gear.	develop	1		Sonic the	D2								
		Sonic the Hedgehog 2 is a platform video game developed by Sonic Team and Sega Technical Institute, and published by Sega.		1		Holgshog 2 (16-bit)- developer- Sonic Team	1 D1		1 1	1 1 1					
to develop	Sonic_the_Hedgehog_2_ (16-bit)	1 Sonic the Hedgehog 2 is a platform video game developed by	develop		Sonic the Hedgehog 2 (16-bit)-developer- Sega Technical Institute	2									
to develop	Sonic Unleashed	Sonic Team and Sega Technical Institute, and published by Sega.	Sonic Unleashed develop	1	E1	Sonic	1 D1		1 1	1 1		1			
to develop	The Amazing Spider-	Sonic Unleashed, later released as in Japan, is a 2008 video game in the Sonic the Hedgehog series developed by Sonic Team and published by Sega for multiple platforms in . 59	develop	1		Unleashed - developer- Sonic Team									
	Man_(2012_video_game)	Connors agrees to escape from the institution and help Spider- Man develop a cure for the outbreak, but only if he is returned to the asylum when the crisis is resolved.		1											
to develop	The_Godfather:_The_Ga me Tom_Clancy's_Rainbow_	 The Godfather: The Game is an action-adventure video game developed and published by Electronic Arts. 	develop	1	The Godfather: The Game-developer- B1 Electronic Arts		1 81	1	1 1	1 1 1					
to develop	Six_3:_Raven_Shield	1 Tom Clancy's Rainbow Six 3: Raven Shield is a 2003 computer game developed and published by Ubisoft.	develop	1	Tom Clancy's Rainbow Six 3: Raven Shield-developer- B1 Ubisoft		1 01		1 1	1 1 1					
to develop	Tom_Clancy's_Rainbow_ Six_3:_Raven_Shield	31 Athena Sword was developed by Ubisoft-Milan and released on March 9, 2004.	develop	1	Athena Sword- developer-Ubisoft D1 Milan Rainbow Six 3: Black										
to develop	Tom_Clancy's_Rainbow_ Six_3:_Raven_Shield	77 Still titled Rainbow Six 3, Black Arrow was developed and published by Ubisoft and released for the Xbox on August 5, 2004.	develop	1	Arrow-developer-		D1	1	1 1 1	1 1 1		1			
to develop	Tom_Clancy's_Splinter_C ell:_Chaos_Theory	 Tom Clancy's Splinter Cell: Chaos Theory is a stealth game, developed and published by Ubisoft. 		1	Tom Clancy's Splinter Cell: Chaos Theory- developer-Ubisoft B1		1 D1		1 1	1 1 1					
to develop	Tom_Clancy's_Splinter_C ell: Chaos_Theory Tom_Clancy's_Splinter_C ell:_Conviction	96 Ubitoft eventually developed two additional levels for download for the PC and Xbox versions. 1	develop develop	1		Tom Clancy's Spinter Coll:	D1		1 1 1	1 1 1					
to develop	Tomb_Raider:_Underwor Id	Tom Clancy's Splinter Cell: Conviction is a action-adventure stealth video game, developed by Ubioft Montreal as part of the Tom Clancy's Splinter Cell series. 73	develop	1		Splinter Call Conviction- developer- Ubiscoft Montreal Tomb Rader: Underwends-									
		Tomb Raider: Underworld was developed by Crystal Dynamics and published by Eidos Interactive as the final Tomb Raider title to be published under the Eidos Interactive label prior to its purchase by Square Erix.		1		developer- Crystal_Dyna mics	D1		1 1	1 1 1					
to develop	XIII_(video_game)	1 XIII is a first-person shooter video game developed by Ubisoft Paris and published by Ubisoft for most platforms except for the	develop			XIII (video game)- developer-									
to develop	X- Men_Legends_II:_Rise_o f_Apocalypse	OS X version, which was published by Feral Interactive.	develop	1		Ubisoft Paris X-Men Legends II: Rise of	1 D1		1 1 1	1 1 1		1			
		X-Men Legends II: Rise of Apocalypse is an action role-playing game developed primarily by Raven Software and published by Activision.		1		Apocalypse- developer- Raven Software			1 1	1 1 1					
to found	Nokia	26 In 1898, Poin founded Finnish Rubber Works, manufacturer of galoches and other rubber products, which later became Nokia's rubber business.	found			Finnish Rubber Works- founder-Eduard Poin	1 01		1 1						
to found	Noléa	rouber duames. 251 Besides its research centers, in 2001 Nokia founded INdT Nokia Institute of Technology, a R&D institute located in Brazil.	Nokia found	1	Instituto Nokia de Tecnologia-founder- D1 Nokia			1	1 1 1	1 1 1					
to introduce	Chrono_Trigger	Honoro Treambagy, a naid institute located in exam. A2 Chrono Trigger also introduces a New Game+ option; after completing the game, the player may begin a new game with the same character levels, techniques, and equipment, excluding	introduce		MAR	Chrono Trigger-Introduce- New Game Plus									
to introduce	Garo_Americas	money, with which he or she ended the previous play through. 13 With competitor Vivo, Claro was one of two operators to	introduce	1											
to introduce	FIFA.06	introduce the Phone 3G in Brazil, with TIM participating later.	introduce introduce	1											
to introduce	FIFA_06	62 FIFA 06 has introduced half much migrate fuels. 62 FIFA 06 has introduced half-inges for the player to achieve in order to win points and unlock prizes. 182 It has no optical zoom, flash or autofocus, and does not natively	introduce IOS 2.0 introduce	1	FIFA 05-introduced- E2 Challense	1	E2	1	1 1 1	1 1 1					
ro introduce	. ar indere	18.2 It has no optical zoom, hash or autorocus, and does not natively support video recording. iPhone OS 2.0 introduced geotagging for photos.		1			E2		1 1 1	1 1	0				

				Ĭ	Characteristi	ics of relation										Where was the extractio	e textual triple n correct?	Correct KB mappin textual tripi	ış, given e?			If novel triple	detected as wrong:	Why?			Evaluation	of baseline (ReVe	arb)
Query (entity or relation which needs t be in novel triple)	Label)	 and a set of the set	Occurrence of Occurr "query entities" of "que (for gold std. relation creation) (for gol std. creatio	ery bina ns" to e ild V-O, quai	ary relation bi sach other. (S- re , no literal or re drupel) ex	inary Ilation, but Ilation opressed as articible	Relation detected, but statement only representable as quadruple or literal (also, if object is too general), i.e. no triple relation, no KB import, but at least 2 entities	Would it be a Corresponding nov novel triple? triple is: (ground truth) What is the novelty class?	vel Novel triple, but parts of the semantics of the statement in the text gets lost. Hence, no KB import useful.	Triple not novel, but already in KB (novelty class A)		Sentence contains (i) noun phrase and particible construction (cf. The iPhone S is a touchscreen smartphone developed by Appie In c,) or (ii) parentesis (e.g., App Store, an online application for) or similar.	dete	I triple in If. ut, i.e. wi cted? Which m Ity class in ve ut?	yes, Triple in output th correct? (i.e. odale correct novelty class, correct entities and relations as in gold standard)	s_t p_	t p_t i	q :	(e.)	g., "the game" :Game)	Surface form detected correctly, but n in xLiD/Dbpedia (xLiD problem). yes, S or O affected?	Wrong disambiguat not S or O affect a . If	p_t correct ion? detected, b ted? is wrong or unsuitable (semantics)	vo (different ne ha	ansformation Tronsf to active n into ice is voice r cessary, but no sen s not hoppe ppened.	formatio active makes in Rev hse, but baseli med. Novell class?	ted as Novelty triple class of eerb- ReVerb ne. baseline ty correct triple is ground truth)?	Textual Tripi baseline jf	e of ReVerb
to introduce	IPhone	312 The iPhone 3G introduced support for third-generation UMTS and HSDPA 3.6, only the iPhone 4S supports HSUPA networks, and only the iPhone 3G and iPhone 4 support HSDPA 7.2.	iPhone 3G introdu	uce		I	1	I		I			E2			1	1 1	1 1	1		0								
to introduce	Nokia	62 In 1982, Mobira introduced its first car phone, the Mobira Senator for NMT 450 networks	introdu		1			Nokia-introduced- E2 Mobira Senator					E2		1			1 1											
to introduce	Nokia	65 in 1987, Nokia introduced one of the world's first handheld phones, the Mobira Cityman 900 for NMT-900 networks .	Nokia introdu	uce																									
to introduce	Nokia	phones, the Mobira Cityman 900 for NMT-900 networks . 65	Nokia introdu	uce			1	Nokia-introduced-					E2			1	1 1	1 1	1										
to introduce	Nokia	In 1987, Nokia introduced one of the world's first handheid phones, the Mobie Cityman 900 for NMT-900 networks. 79 The Nokia 1011 did not yet employ Nokia's characteristic ringtone, the Nokia tune, which was introduced as a rightone in 1994 with	Nokia tune introdu	uce	1			Mobira Cityman 90 82	10	L		1	E2			1	1	1 1											
to introduce	Nokia	the Nokia 2100 series. 308 Nokia introduced its "Connecting People" advertising slogan in 1992, coined by Ove Strandberg. This earlier version of the slogan	Nokia introdu	uce			1						c			1		1 1											
to introduce	Prince_of_Persia:_Warri or_Within	used Times Roman SC font. 68 Two-hand fighting introduces numerous additional acrobatic	introdu	uce			1						ΕZ			1	1 1	1 1	1										
to introduce	Qt_(framework)	combos to dispatch enemies with greater efficiency and brutality. 14 Here are some of them: There are two editions of Q1 available, namely: Q1 is available under the following copyright licenses: Troffsch released Q2 4.0 on 28 June 2005 and introduced five new technologies in the framework C2 5 was difficult released on 29	introdu	uce			1																						
to introduce	Qt_(framework)	December 2012. 23 Additionally, Qt 5.2 introduces new functionalities for KDE	introdu	uce			1						E2			1	1	1 1	1										
to introduce	Salamander_(video_gam	Frameworks 5 and many other improvements. 2 Released in 1986 as a spin-off to Gradius, Salamander introduced	introdu	uce			1																						
to introduce	Sonic_the_Hedgehog_(1 991_video_game)	 a simplified power-up system, two-player cooperative gameplay and both horizontaly and vertically creding stages. Sonic the Heighing added the element of momentum-based physics to the standard platform formula and introduced other unique elements as well, such as the loops, springboards, high- speed devices, and the rings, which are permanently associated 	introdu	uce			1																						
to introduce	Sonic_Unleashed	with the series. 61	introdu	uce			1																						
to introduce	Street_Fighter_II	However, the development team began to introduce enough new innovations to separate it from the Sonic Adventure titles, and so a new title, Sonic Unleached, was dacided upon. 59 Super Street Fighter II torbo was released in and was the last of	introdu	uce			1																						
		the Street Fighter II releases for the arcades, which introduced powered-up special moves called Super Combos and added a new hidden character.					1										1	1 1											
to introduce	Street_Fighter_II	110 Street Fighter II was also responsible for introducing the combo mechanic, which came about when skilled players learned that they could combine several attacks that left no time for the	introdu	uce												1	1	1 1											
to introduce	Tom_Clancy's_Splinter_C ell:_Conviction	Splinter Cell: Conviction introduces a number of new gameplay features to the Splinter Cell series, one of which is the "Mark & Evenue" feature which allows the player to mark specific tareets.	introdu	uce			1																						
to introduce	Umineko:_When_They_C ry	such as enemies or objects, and shoot them in rapid succession without manually targeting each one. St The family conference occurs as usual, only this time Beatrice exists on the island as its 19th resident, introducing multiple maical elements to the story.	introdu	uce			1																						
to release	Brain_Challenge	magical elements to the story. 5 A version for WilWare was released in Japan on October 14, 2008, in Europe on November 7, 2008 and in North America on November 10, 2008.	release				1																					wiiware be	release
to release	Brain_Challenge	41 A sequel, Brain Challenge Vol. 2: Stress Management, was released by Gameloft for mobile phones in 2008.	release				1	Consider solution					E2					1 1								L.		mjjapan	
to release	Brain_Challenge	41 A sequel, Brain Challenge Vol. 2: Stress Management, was released by Gameloft for mobile phones in 2008.	release		1			Gameloft-release- Brain Challange Vo Stress Managemer	1.2: 1t	L		1	62					1 1											
to release	Brain_Challenge	42 Another sequel, "Brain Challenge 3: Think Again!", was released by Gameloft for mobile. iPod Touch. iPhone in September 2009.	release	·	1			Gameloft-release- Brain Challenge 3 F2	1																				
to release	Brain_Challenge	43 In 2012, "Brain Challenge 4: Breaking Limits" was released for mobile phones.	release		1						Brain Challenge 4-released for-mobile phone																		
to release	Castlevania_(video_game)	46 In 2002, Konami released the first three NES Castlevania games for Windows as the Castlevania and Contra: Konami Collector's Context	release		-		1											1 1											
to release	Chrono_Trigger	177 Square released an enhanced port of Chrono Trigger developed by	release																										
to release	Chrono Trigger	Tose in Japan for the Sony PlayStation in 1999. 219	release				1	Square (company)-					E2			1	1	1 1	1										
to release	Chrono_Trigger	Square also released a one-dice acid jazz arrangement called "The Brink of Time" by Guido that year. 267 GameSpot included Chrono Trigger in "The Greatest Games of All Time" list released in April 2006, and it also appeared as 28th on an "All Time Top 100" its in a poll conducted by Japanese	release		1			released-The Brink E2 Time	of			called	E2		1	1 1	1	1 1	1									gamespot l in	include I chone
to release	Chrono_Trigger	magazine Familisu the same year. 287 Square planned to release Radical Dreamers as an easter egg in the PlayStation edition of Chrono Trigger, but Kato was unhappy	release				1																			c		o trigger	
to release	Chrono_Trigger	with his work and halted its inclusion. 288	release				1	Square (company)- released-Chrono G																					
to release	Doom_(video_game)	Square released Chrono Cross for the Sony PlayStation in 1999. 122 In 1995, WizardWorks Software released the DI Zone pack	release			1		reseased-Enrono C E2	1055	L	WizardWorks Software-		E2		1	1 1	1	1 1	1										
to release	Doom_(video_game)	Teaturing hundreds of levels for Doom and Doom I. 168 When, three years tetrs, 20 Realms released Duke Nukam 3D, a bongue-in-check science fiction blocker based on Kam Silvernan's technologically similar Baid engine, Jd Schware had nearly finished Quake, is non-generation game, within mirrored Dooms success for much of the remainder of the 1990s: and significantly reduced inters in its predicessor.	release		1						release-DI Zone 3D Realms-release-Duke Nukem 3D																		
to release	Dragon_Warrior_III	It was anounced integration of the September It was anounced in May 2011 that September released of Dargon Quest III in Japan, as both the Femicon and Super Femicion ports as part of the September released of Dargon Quest 25th Numerary Commonocident Function & Super Femicon Dragon Quest 1 & II & III for the Will.	release	1	1			Square_Enix-releas Dragon Warrior III 82	ie-				E2		1	1	1	1 1	1										

				che	aracteristics of relatio									Where was the extraction	textual triple correct?	Correct KB text	mapping, given ual triple?			If novel triple det	cted as wrong: Why			Evalua	on of baseline	(ReVerb)
Query (entity or relation which needs to be in novel triple)	Document (Dippedia- Li Label) n d	Re Settences where two entities occur which are contected by the same matches. Each with one entry and one literal are removed and the settence where subject object is only contenents. Doe line for each topic.	Decurrence of Decurrence to "quary entities" of "quary (for gold std. relations" creation) (for gold std. creation)	Entities are binary relati to each oth V-O, no Iter quadrupel)	tion binary ter. (S- relation, but ral or relation	representable as	Would it be a Corresponding nove novel triple? triple is: (ground trith) What is the novelty class?	I Novel triple, T but parts of n the al semantics of (r statement in the test gets lost. Hence, no KB import useful.	Triple not Triple not n novel, but irrelevant (a already in KB of triple not novelty class	ovel, since too at load 2 parts noun phrase and particible construction (cf. The ibhone 5 is a toochscreen smartphone develope by Apple Int ; or (fi) parentexis (eg., Appl Store, an online application –, for similar.	output, i detected novelty c output?	ale in If yes e. with ? Which moda lass in verb?	ale correct novelty	s_t p_t	P_1	s p	0	A coreference was matched (e.g., "the game to :Game)	Surface form detected correctly, but ne in xUD/Dbpedia (xUD problem). yes, S or O affected?	Wrong disambiguation t S or O affected f	p_t correctly detected, but p in is wrong or unsuitable (differ semantics)	Transformation KIB into active voice is ant necessary, but has not happened.	Transformatio n into active voice makes no sense, but happened.	Detected as Nov novel triple class in ReVerb- Baseline. base Novelty corr class? tripl grou trut	of baselin b	al Triple of ReVerb
to release	Fantastic_Journey_(vide o_game)	21 The Gokuj Parodius "Original Game Sound Track" was produced by Konami Kukeiha Club and released by King Records on July 2,	release				I	1	King Record Gokuj Paroc Game Souni	is-released-The dius "Original d Track"				I				I								
to release	Ghouls'n_Ghosts	c) you may be a set of the set			1	1					E2			1	1 1	1	1	1								
to release	Ghouls'n_Ghosts	22 Seea also released a Master System port in.	release		1		Sega-released-Mast System port in E2	er			E2		1	1	1 1	1	1	1								
to release	Ghouls'n_Ghosts	26 A pixel perfect version of Daimakaimura was released by Capcom in 1994 for the Sharp X68000.	release																							
to release	Ghouls'n_Ghosts	27 In , Capcom released Capcom Generation 2 for the PlayStation and Saturn in Japan. a compliation which included Ghouls in	release				Capcom-released- Capcom Generation	2																		
to release	Ghouls'n_Ghosts	Ghosts along with Ghosts 'n Goblins and Super Ghouls 'n Ghosts. 29 Capcom later released in North America Capcom Classics Collection Vol. 1 for the PlayStation 2 and Xbox in 2005 and	release		1		E2 Capcom-released- Capcom Classics Collection Vol. 1	1			E2		1	1	1 1	1	1	1								
to release	Ghouls'n_Ghosts	Collection Vol. 1 for the PlayStation 2 and Xbox in 2005 and Capcom Classics Collection: Reloaded for the PlayStation Portabili in 2006, which includes all the Capcom Generations titles. 29 Capcom later released in North America Capcom Classics	e release		1		E2 Capcom-released- Capcom Classics	1			E2			1	1	1	1	1								
to release	IPhone	Capcom later released in North America Capcom Classics Collection Vol. 1 for the PlayGattion 2 and Xbox in and Capcom Classics Collection: Reloaded for the PlayGattion Portalle in , which includes all the Capcom Generations titles. 27 Oh July 11, 2008, Apple released the iPhone 3G in twenty-two countries, including the original siz.	Apple Inc, iPhone release		1		Collection: Reloader	2			E2			1	-		1	1								
to release	IPhone	28 Apple released the iPhone 3G in upwards of eighty countries and	3G Apple Inc, iPhone release		1		Apple Increleased B2 iPhone 3G Apple Increleased	1			E2			1	1 1	1	1		0							
to release	IPhone	territories. 198 The iPhone was initially released with two options for internal storage size: 4 GB or 8 GB.	3G iPhone release		1	1	B2 iPhone 3G	1			F2			1	1	1	1									
to release	IPhone	259 On January 15, 2008, Apple released software update 1.1.3, allowing users to create "Web Clips", home screen icons that resemble apps that open a user-defined page in Safri.	Apple Inc. release																							I releace I coffware
to release	IPhone	397 In July 2011, Apple released iOS 4.3.5 to fix a security vulnerability	Apple Inc, iOS release by v. 4.3.5		1	1	Apple Increleased E2 IOS 4.3.5				E2		1	1	1 1	1	1	1						82	0 apple)	release software
to release	LG_Optimus_One	 Walmart Family Mobile released the LG Optimus One in charcoal in September 2011. After clearing out and discontinuing the LG Optimus Chic due to 	IC Onteres One and and		1		Walmart-released-L D2 Optimus One	5			D2			1	1 1		1	1	s							
to release	LG_Optimus_One	poor sales, Bell Mobility released the LG Optimus Net on October 27, 2011.	r LG Optimus Net release		1		Bell Mobility-release LG Optimus Net E2	d-			E2			1	1	1		1								
to release	LG_Optimus_One	30 LG has released two different Baseband driver versions, the one commonly referred to as "fold baseband" was shipped with the official Android 2.2 BOM images, while the "new baseband" is shipped with the official Android 2.3 ROMs.	release			1																				
to release	List_of_video_games_ba sed_on_RoboCop	4 RoboCop was released in 1988 by Nihon Bussan AV Japan.	release		1		Nihon Bussan- E2 released-RoboCop Brpderbund-release				D2			1	1 1		1	1	s							
to release	Lode_Runner	26 Broderbund released a special enhanced version, Championship Lode Runner, the following year.	release		1		Championship Lode Runner E2	d-			1 E2			1	1	1		1								
to release	Lode_Runner	118 Broderbund also released Spelunker for arcade machines. Atari 8	release				Brøderbund-release Spelunker (video game)	d-																		
to release	Need_for_Speed:_Hot_P ursuit_(2010_video_gam e)	bit, Commodore 64, MSX and Nintendo Entertainment System. 74 Criterion released another Xbox 360 title update the following days bounder some update thet the new update had	release		1		12	1			E2			1		1										
to release	Need_for_Speed:_Hot_P ursuit_(2010_video_gam	day, however, some users reported that the new update had caused their career saves and racing stats to be reset. 76	release			1					E2			1	1 1	1	1	1								
to release	e) Need_for_Speed:_Hot_P ursuit_(2010_video_gam	Criterion released the official second update for the consoles on 15 February 2011, addressing some minor issues and glitches. 88 In addition to the free update, Criterion has released several optional, premium packs that add content like new cars and	release			1					E2						1									
to release	e)	events. 153 In 2004, Tecmo began releasing low-priced episodic installments of Ninia Gaiden for AT&T and Verizon mobile chones on both	release			1					E2			1	1 1	1	1	1								
to release	Ninja_Gaiden_(Nintendo Entertainment_System)	BREW and Java platforms.	release			1			Pony Canyo	in-released-																
to release	_Entertainment_system) Prince_of_Persia:_The_S ands_of_Time	A soundtrack UJ, Ninja Nyukinden: Tecmo GSM-1, was released by Pony Canyon in February 1989. 76	release		1				Nippon Colu Prince of Pe	inden: Tecmo umbia-refeased- irsia: The Sands	1															
to release	Prince_of_Persia:_The_S ands_of_Time	Some of the tracks were released by Libicoft Music is Decemb	er release		1				of Time - Or Soundtrack	riginal	D2			1	1	1	1	1								
to release	Prince_of_Persia:_The_T	2005, along with Chatwood's music from Prince of Persia: Warris Within and Prince of Persia: The Two Thrones, as part of Prince o Persia: The Official Trilogy Soundtrack	r d release			1																				
to release	wo_Thrones Prince_of_Persia:_The_T wo_Thrones	A remastered, high-definition, version of The Two Thrones was released on the PlayStation Network for the PlayStation 3 on December 21, 2010. The Empress of Time is killed to release the sand and help the Bricen, but it the resonance the Bricen put on the work works.	release			1																				
*******		25 the trajectory that are the formed to be been use and when the Prince, but at that moments the Prince was not wearing the mediation and is infected by the sands of time, creating the dark prince, who had a different appearance; with white hair, bright eyes and fair skin.				1																				
to release	Prince_of_Persia:_Warri or_Within Prince_of_Persia:_Warri	 A port of Warrior Within was done by Pipeworks, renamed as Prince of Persia: Revelations, and It was released on December 6, 2005 for Sony's PlayStation Portable. A remastered, High-Definition, version of Warrior Within was 	release release			1																				
to release	or_Within Professor Layton and t	released on the PlayStation Network for the PlayStation 3 on December 14, 2010.	release			1	Lavton Kypulu to																			
	he_Curious_Village	An album titled Layton Kyouju to Fushigi na Machi Original Soundtrack was released in Japan only, containing all the music					Fushigi na Machi Original Soundtrack released Japan																			
		featured in the game.			1		D2				D2		1	1	1 1	1	1	1								

				Characteristics of relation				Where was the textual triple extraction correct?	Correct KB mapping, given textual triple?	If novel triple detected as wrong: Why? Evalue	ation of baseline (ReVerb)
Query (entity or relation which needs be in novel triple)	r Document (Obpedia- L Label) n to d	Restances where two entities occur which are connected by the same minimos, then with ownership and ow liver air remnand, and the same minimos, the same same same same same for each triple.	Occurrence of Occurrence "query entities" of "query (for gold std. relations" creation) (for gold std. creation)	Endities are in Endities in Relation Deary relation Endities are in Endities in Beary relation Endities and Endities Endities and Endities Enditi	Would it be a Corresponding novel Novel tright is: but parts o (ground ruth) the What is the semantics' novelty class? the novelty class? the loss famous in the test get ingoort useful.	already in KB of triple not in KB) particible construction of [nowelty class (cf. The iPhone 5 is a A) touchscreen	Nevel trigle in If yes, adjust Jack with content (in a nevelyting facility of the second of the second of the adjust of the second of the second of the adjust of the second of the second of the adjust of the second of the second of the gold second of the gold second of the second of the second of the second of t	ij pjt pjt	: p o	to (Come) is x10/0headia usruitable/different perserve but paceline ba	vettry Tostual Triple of ReVerb sci of baseline Verb selline participation of the selline participation
to release	Qt_(framework)	14 Here are some of them: There are two editions of Qt available, namely. Qt is available under the following copyright ticenses: Trollector released Qt 4.0 or 28 Jane 2005 and introduced five more technologies in the framework: Qt 5 was officially released on 19	release		Qt Development Frameworks-released- Qt 4.0	I				' '	
to release	Qt_(framework)	At the end of 2001. Trolltech released Ot 3.0, which added	release		E2 Qt Development Frameworks-released- E2 Qt 3.0			1 1 1	1 1		
to release	Qt_(framework)	support for Mac OS X. 38 The Mac OS X support was available only in the proprietary licensi until June 2003, when Trolltech released Qt 3.2 with Mac OS X	release		Qt Development Frameworks-released- Qt 3.2				1 1		
to release	Qt_(framework)	support available under the GPL. 39	release		E2 Qt Development Frameworks-released-		E2	1 1 1	1 1		
to release	Qt_(framework)	In June 2005, Trolltech released Qt 4.0. 46 Until version 1.45, source code for Qt was released under the FreeQt license.	release	1	Frameworks-released- E2 Qt 4.0		E2	1 1 1 1	1 1	1	
to release	Qt_(framework)	53 In 2000, Qt X11 2.2 was released under the GPL v2, ending all controversy regarding GPL compatibility	release	1		Qt X11 2.2-released under- GPL v2					
to release	Qt_(framework)	57 This was resolved when Trolitech released Qt Windows 4 under	release		Qt Development Frameworks-released- Qt Windows 4						
to release	Resident_Evil_4	the GPL in June 2005.	release	1	Ut Windows 4 E2	1	E2	1 1 1 1	1 1	1	
		Resident Evil 4, known as in Japan, is a survival horror video game developed by Capcom Production Studio 4 and released by multiple publishers, including Capcom, Ublisht, Nintendo Australia, Red Ant Enterprises and THQ Asia Pacific.					1				
to release	Resident_Evil_4	140 On July 13, 2009, without any formal announcement, Resident EV 4: Mobile Edition was released by Capcom for the IOS platform via the App Store in Japan, but was quickly removed, though some plavers were able to ourchase and download the game.			Capcom-released- Resident Evil 4		52	1 1 1	1 1		
to release	Resident_Evil_4	143 Recently, Capcon released a new separate version called Resident Evil 4 for Beginners, which offers the first two levels of both Story Mode and Mercenary Mode.	t release	1			E2	1 1	1 1		
to release	Resident_Evil_4	On July 23, 2011 Capcom announced at Comic-Con 2011 that Resident Evil 4 would be released on September 20, 2011 for the PlayStation Network and Xbox Live Games on Demand. 151	Microsoft release		Capcom-released- Resident Evil 4						
		On February 27, 2014, Capcom released Resident Evil 4 Ultimate	Windows		Ultimate HD Edition for Microsoft						
to release	Salamander_(video_gam e)	HD Edition for Microsoft Windows. 56 Konami later released an enhanced version of Salamander in Japan boxing the American title of UR Socra which further fischer out	n release	1	E2 Windows		62		1 1		
to release	Salamander_(video_gam e)	Desing user results in the constraint of the constraint of the maximum of the constraint of the con	release		Konami-released- Salamander Arcade E2 Soundtrack						
to release	Salamander_(video_gam e)	Music Entertainment, Inc. 62 Original Sound of Salamander was released by Apollon Music on December 16, 1986.	release	1	E2 Soundtrack						
to release	Salamander_(video_gam e)	63	release			King Records (Japan)-					
to release	SimCity_(1989_video_ga me)	Salamander - Again : Konami Kukelha Club was released by King Records on May 25, 1992. 43 In 2007 the developer Don Hopkins released a free and open source version of the original SimChy, menamed Micropolis for trademark reasons, for the One Laptop per Child XO-1.	release	1		released Salamander - Again : Konami Kukelha Club					
to release	Sonic_the_Hedgehog_(1	trademark reasons, for the One Laptop per Child XO-1. 122 For the game's 20th anniversary, Sega released Sonic Generations	release	1	Sega-released-Sonic Generations						
to release	991_video_game) Sonic_the_Hedgehog_2_	which contains a complex of the Green Hill Isual		1	E2 Sega-released-Sonic		E2	1 1 1 1	1 1	1	
to release	(16-bit) Sonic_Unleashed	11 micro contains and the online wave in the contrast in the contrast of th	Sonic Unleashed release	1	Generations E2		62	1 1 1 1	1 1	1 1	
to release	Street_Fighter_II	consisting of four Chun-nan daytime stages and two night stages in addition to two new missions. 119 Capcorn measured Street Fighter IV for the arcades in July 2008, followed by the release for the Xbox 360 and PlayStation 3 consoles in February 2009 and for Microsoft Windows in July 2009	release	1	Capcom-released- Street Fighter IV		E2	1 1	1 1	1	
to release	me	28 EA released a sequel to The Godfather in 2009.	release	1	12		62	1 1 1	1 1	1	
to release	Tom_Clancy's_Rainbow_ Six_3:_Raven_Shield	2 Released on March 18, 2003, the Rainbow Six video game series is based on Tom Clancy's best-selling novel of the same name.	release								
to release	Tom_Clancy's_Splinter_C ell:_Conviction	103 On April 13, 2010, Ubisoft Music in conjunction with composers Michael Nielsen and Kaveh Cohen released a 16-track Official Soundtrack to Solinter Cell: Conviction exclusively via Tunes.	iTunes release								
to release	Tom_Clancy's_Splinter_C ell:_Conviction	134 Amazon.co.uk released its own Limited Edition which contained the standard version of the game, a separate DVD case called "Exclusive Pre-order Pack" and the SPAS-12 code, a 32-page comi	Amazon.com release								
to release	Tom_Clancy's_Splinter_C ell:_Conviction	book and a DVD detailing the making of the game. 144 Solister Cell: Conviction released weekly unlockable content even	release	1							
to release	Tomb_Raider:_Legend	Thursday through the in-game "Extras" menu. 58 Due to time restrictions, Eldos chose to release the Xbox version without the intro movie.	release	1							
to release	Tomb_Raider:_Underwor Id		release	1	Eidos Interactive- released-Tomb						
to release	Tomb Raider: Underwor	³ Underworld was released by Eidos Interactive for the Xbox 360, PlayStation 3 and PC, in North America on 18 November 2008, Europe on 21 November 2008 and Australia on 5 December 2008.	release	1	Raider: Underworld B2 Feral interactive-	1					
LO PERENAR	ld	On 14 June 2012, Underworld was released on the Mac OS X by Feral Interactive.		1	released-Tomb	1					
to release	Tomb_Raider:_Underwor Id	95 On 14 June 2012, Underworld was released on the Macintosh by Feral Interactive.	release	1	Feral Interactive- released-Tomb B2 Raider: Underworld						
to release	Tomb_Raider:_Underwor Id	101 After an agreement with Microsoft, Eidos released two new chapters of Tomb Raider: Underworld as exclusive download able content on the Xbox Live Marketplace: Beneath the Ashes on 24	release								
to release	Umineko:_When_They_C	Hebruary 2009 and Lara's Shadow on 10 March 2009. A fishtion more byted on the fearthice proped and Murkeplu work	release	1	07th Expansion- released-Opon		62	1 1 1	1 1	1	
to release	-, Umineko:_When_They_C ry	A region game based on the marked marked primos point was preleased by 07th Expansion on December 31, 2010. 154 Taito released a version of Legend of the Golden Witch playable on certain mobile phones on March 31, 2009.	release	1	E2 Musőkyoku		1 E2	1 1 1	1 1		

		Characteristics				of relation]									e textual triple on correct?		mapping, given Jal triple?			If novel triple det	ected as wrong: Why?			Evaluati	on of baseline (I	ReVerb)
Query (entit or relation which needs be in novel triple)	Label)	Internetics where the addition court which are connected by the internetic the set of the ord of the ord encited and encitable removed, dec. and connections where subject/doject is only conference.) One line for each triple.	"query entities"		V-O, no literal or rela quadrupel) exp	y detected, but ion, but statement only		but parts of the	novel, but already in KB (novelty class A)	Triple not novel, since too irrelevant (at least 2 part of triple not in KB)		Novel triple output, i.e. detected? V novelty clas output?	with Which modale	Triple in output correct? (i.e. correct novelty class, correct entities and relations as in gold standard)	s_t p.	t p_t	s p	o	A coreference was matched (e.g., "the game" to :Game)	Surface form detected correctly, but r in xLiD/Dbpedi (xLiD problem) yes, S or O affected?	ot S or O affected	p_t correctly detected, but p in is wrong or unsuitable (differe semantics)	KB into active voice is	voice makes no sense, but happened.	Detected as Novel rovel triple class n ReVerb- ReVer Reverb- baseli Rovelty corre fass? triple grour truth	nf baselin b t(if sin d	I Triple of ReVerb
to release	Umineko:_When_They_C ry	158 Umineko no Naku Koro ni Chiru was similarly remade for the PlayStation 3, subtiled and released by Alchemist on December 15, 2011.		release	1		Alchemist (company) released-Umineko no Naku Koro ni Chiru E2																				
to release	Umineko:_When_They_C ry	177 Frontier Works began to produce a set of drama CDs for Umineko starting with the first volume released on June 24, 2009.		release																							
to release	Umineko:_When_They_C ry	180 Kodansha Box began releasing novelizations of the visual novel arcs in two volume sets, beginning with Legend of the Golden Witch released on July 1, 2009 for volume one and August 4, 2009 for volume two.		release			1					E2			1	1	1	1 :	L								
to release	Umineko:_When_They_C	196 The single for "Occultics no Majo" was released on November 26, 2009 by Geneon.		release																							
to release	XIII_(video_game)	169 A reimagining of XIII, called XIII: Lost Identity, was released by Anuman Interactive for Windows, Mac, iPhone and iPad on November 15, 2011.	iPhone	release																							
to release	XIII_(video_game)	169 A reimagining of XIII, called XIII: Lost Identity, was released by Anuman Interactive for Windows, Mac, iPhone and iPad on November 15, 2011.	Microsoft Windows	release			1																				
to unveil	IPhone	23 Jobs unveiled the iPhone to the public on January 9, 2007, at the Macworld 2007 convention at the Moscone Center in San Francisco.	iPhone	unveil	1					Steve Jobs-unveiled-iPho	•																
to unveil	IPhone	63 On September 10, 2013, Apple unveiled two new iPhone models during a highly anticipated press event in Cupertino, California, U.S.	Apple Inc, iPhon	e unveil																							
to unveil	IPhone	291 On September 12, 2012, Apple unveiled the iPhone 5, the sixth iteration of the iPhone.	Apple Inc, iPhon	e unveil			Apple Incunveil- C iPhone 5									1 1											
to unveil	Nokia	9 Nokia unveited its third range on 24 February 2014, the Nokia X family, which run a modified version of the Android operating system.	s Nokia, Nokia X	urveil			C interes			Nokia-unveil-Nokia X fam	w 1	Ľ		1													
to unveil	Nokia	19 John M. 196 On 11 February 2011, Nokia's CEO Stephen Elop, a former haad of Microsoft business division, unveiled a new strategic alliance with Microsoft, and announced it would shift its efforts to Windows Phone, except for non-smartphones.		unveil			1																				