

Measuring Behavior conference 2012

Tuesday August 28 Utrecht

Tutorial

Keystroke logging in a Windows environment via Inputlog



The screenshot shows the 'General Logging File' interface of Inputlog. It displays a table of logging events with columns for WritingMode, Output, StartClock, StartTime, EndClock, EndTime, ActionTime, PauseTime, X, and Y. The data includes mouse movements and keyboard actions like 'contact in', 'ENTER', 'spant', 'RS', 'SPACE', and 'kaderen in de ontwikkeling ervan een presentatiebestand 'spant'.

WritingMode	Output	StartClock	StartTime	EndClock	EndTime	ActionTime	PauseTime	X	Y
2	Movement	0:00:00	0	0:00:16	16532	16532	0	252	95
2	Left Button	0:00:16	16472	0:00:16	16797	128	16672	252	95
2	Movement	0:00:16	16891	0:00:17	17890	1000	219	219	260
2	Left Button	0:00:17	17907	0:00:17	17969	62	1826	219	260
3 - dit	contact in	0:04:39	279051	0:04:40	280877	2526	420		
1	ENTER	0:04:42	282250	0:04:42	282328	78	3299		
1	ENTER	0:04:42	282576	0:04:42	282640	63	329		
3 - dit	de algemene verplichtingen van de werkgever met betrekking tot de bescherming van gezondheid en veiligheid van werknemers op de werkvloer	0:04:43	283502	0:04:51	292922	9420	924		
3 - dit	'spant	0:04:55	295051	0:04:55	295928	877	11549		
1	RS	0:05:01	302394	0:05:01	302468	74	6543		
1	SPACE	0:05:02	302297	0:05:02	302376	79	703		
3 - dit	kaderen in de ontwikkeling ervan een presentatiebestand 'spant	0:05:02	302687	0:05:06	306240	3563	390		

www.inputlog.net

Leijten, M., & Van Waes, L. (2012). Tutorial: Keystroke logging in a Windows environment via Inputlog. Paper presented at the Measuring Behavior 2012 conference, Utrecht. http://www.inputlog.net/download_presentations.html

Mariëlle Leijten
Flanders Research Foundation
University of Antwerp
marielle.leijten@ua.ac.be

Luuk Van Waes
University of Antwerp
luuk.vanwaes@ua.ac.be

Script of demonstration

File Peter Smith.idfx

Actions	ID's
1. Start Inputlog and fill in session identification in the record tab MS Word opens automatically	-
2. Position cursor in Word document	4
3. Text production: Demonstration Inputlog 5.1	8-37
4. Open Google and search for Inputlog website	38-60
5. Select description page and copy sentence from this webpage	61-75
6. Insert in MS Word	76-82
7. Search other document called Features of Inputlog.docx	83-93
8. Select text and copy this to Wordlog.docx	94-124
9. Delete extra space before 'logging of speech recognition'	126-133
10. Insert 'via Dragon Naturally Speaking' after speech recognition and correct typing error of 'Ps' into 'Sp'	133-176
11. Delete '(partly under development' and '(under development)'	177-210
12. Insert 'Windows-based' in the first sentence	211-228
13. Text production: The data-output of Inputlog enables researchers to analyse the writing process in great detail: both text production in MS Word and all activities in other programs. (and correcting a few typing errors)	229-448

Final text:

Demonstration Inputlog 5.1

Inputlog is a Windows-based logging tool that logs all types of input modes: keyboard, mouse & speech recognition.

The most distinguishing characteristics of Inputlog to date are: word processor independent functionality, standardized XML structure of the logging and output files, logging of speech recognition via Dragon Naturally Speaking, revision analysis and linkage of data to lexica and NLP tools.

The data-output of Inputlog enables researchers to analyse the writing process in great detail: both text production in MS Word and all activities in other programs.

Output files of Inputlog

1. General analysis
2. Summary analysis (pause threshold 1 seconds)
3. Pause analysis (pause threshold 1 second, fixed intervals 60 seconds)
4. Linear analysis (pause threshold 2 seconds, fixed intervals 60 seconds)
5. Linear analysis including condensed analyses (1 interval)
6. Focus analysis (general and grouped)
7. Revision matrix
8. S-notation



General Analysis

Meta Information	
Logfile	Peter_Smith_0.idfx
Log Creation	22/08/12 10:20:53.188
Log GUID	66ed26b7-c50a-48a1-ae43-d24bfe69c6c7
Logging Program Version Number	5.1.0.1
Analysis Creation	22/08/12 10:24:28
Analysis GUID	fea05c3c-40ee-4ad4-8ae5-87e6cf81bb2e
Analysis Program Version Number	5.1.0.1
Session Identification	
Participant	Peter Smith
Text Language	EN
Age	37
Gender	Male
Session	1
Group	Professional
Experience	3

#Id	Event Type	Output	Position	DocLength	StartTime	StartClock	EndTime	EndClock	ActionTime	PauseTime	PauseLocation	Character Production	Range
0	mouse	Movement			3495	00:00:03	3495	00:00:03	0	3495	INITIAL PAUSE	0	
1	focus	Inputlog 5.1.0.1			3495	00:00:03	3495	00:00:03	0	0	UNKNOWN PAUSE	0	
2	mouse	Movement			5336	00:00:05	6006	00:00:06	670	1841	INITIAL PAUSE	0	
3	focus	TASKBAR			5336	00:00:05	5336	00:00:05	0	0	UNKNOWN PAUSE	0	
4	mouse	LEFT Click			6459	00:00:06	6537	00:00:06	78	453	UNKNOWN PAUSE	0	
5	focus	Wordlog.docx - Microsoft Word			6537	00:00:06	6537	00:00:06	0	0	UNKNOWN PAUSE	0	
8	keyboard	D	0	1	7754	00:00:07	7878	00:00:07	265	1076	BEFORE WORDS	1	
9	keyboard	e	1	2	8690	00:00:08	8814	00:00:08	124	936	WITHIN WORDS	2	
10	keyboard	m	2	3	8814	00:00:08	8892	00:00:08	78	124	WITHIN WORDS	3	
11	keyboard	o	3	4	9002	00:00:09	9142	00:00:09	140	188	WITHIN WORDS	4	
12	keyboard	n	4	5	9142	00:00:09	9267	00:00:09	125	140	WITHIN WORDS	5	
13	keyboard	s	5	6	9392	00:00:09	9579	00:00:09	187	250	WITHIN WORDS	6	
14	keyboard	t	6	7	9735	00:00:09	9828	00:00:09	93	343	WITHIN WORDS	7	
15	keyboard	r	7	8	9938	00:00:09	10047	00:00:10	109	203	WITHIN WORDS	8	
16	keyboard	a	8	9	10047	00:00:10	10250	00:00:10	203	109	WITHIN WORDS	9	
17	keyboard	t	9	10	10187	00:00:10	10359	00:00:10	172	140	WITHIN WORDS	10	
18	keyboard	i	10	11	10296	00:00:10	10421	00:00:10	125	109	WITHIN WORDS	11	
19	keyboard	o	11	12	10359	00:00:10	10593	00:00:10	234	63	WITHIN WORDS	12	
20	keyboard	n	12	13	10499	00:00:10	10702	00:00:10	203	140	WITHIN WORDS	13	
21	keyboard	SPACE	13	14	10718	00:00:10	10874	00:00:10	156	219	AFTER WORDS	14	
23	keyboard	l	14	15	11108	00:00:11	11186	00:00:11	188	280	BEFORE WORDS	15	
24	keyboard	n	15	16	11638	00:00:11	11763	00:00:11	125	530	WITHIN WORDS	16	
25	keyboard	p	16	17	11794	00:00:11	11919	00:00:11	125	156	WITHIN WORDS	17	
26	keyboard	u	17	18	11888	00:00:11	11950	00:00:11	62	94	WITHIN WORDS	18	
27	keyboard	t	18	19	12075	00:00:12	12200	00:00:12	125	187	WITHIN WORDS	19	
28	keyboard	l	19	20	12200	00:00:12	12293	00:00:12	93	125	WITHIN WORDS	20	
29	keyboard	o	20	21	12402	00:00:12	12480	00:00:12	78	202	WITHIN WORDS	21	
30	keyboard	g	21	22	12527	00:00:12	12621	00:00:12	94	125	WITHIN WORDS	22	
31	keyboard	SPACE	22	23	12902	00:00:12	12995	00:00:12	93	375	AFTER WORDS	23	
32	keyboard	5	23	24	13588	00:00:13	13666	00:00:13	78	686	BEFORE WORDS	24	
33	keyboard	.	24	25	13978	00:00:13	14056	00:00:14	78	390	WITHIN WORDS	25	
34	keyboard	1	25	26	14274	00:00:14	14337	00:00:14	63	296	WITHIN WORDS	26	
35	keyboard	SPACE	26	27	14836	00:00:14	14914	00:00:14	78	562	AFTER PARAGRAPHS	27	
36	keyboard	RETURN	27	28	18346	00:00:18	18471	00:00:18	125	3510	AFTER PARAGRAPHS	28	
37	keyboard	RETURN	28	29	19188	00:00:19	19282	00:00:19	94	842	BEFORE PARAGRAPHS	29	
38	mouse	Movement			21934	00:00:21	23089	00:00:23	1155	2746	UNKNOWN PAUSE	29	
39	mouse	LEFT Click			23354	00:00:23	23432	00:00:23	78	265	AFTER PARAGRAPHS	29	
40	focus	TASKBAR			23432	00:00:23	23432	00:00:23	0	0	UNKNOWN PAUSE	29	
41	mouse	Movement			23463	00:00:23	27020	00:00:27	3557	31	UNKNOWN PAUSE	29	
42	focus	Naamloos - Google Chrome			23650	00:00:23	23650	00:00:23	0	0	UNKNOWN PAUSE	29	

43	focus	Google - Google Chrome			26240	00:00:26	26240	00:00:26	0	0	UNKNOWN PAUSE	29
44	mouse	LEFT Click			27067	00:00:27	27145	00:00:27	78	47	UNKNOWN PAUSE	29
45	mouse	Movement			27238	00:00:27	27410	00:00:27	172	93	UNKNOWN PAUSE	29
47	keyboard	l			28159	00:00:28	28268	00:00:28	250	608	BEFORE WORDS	29
48	keyboard	n			28377	00:00:28	28486	00:00:28	109	218	WITHIN WORDS	29
49	keyboard	p			28658	00:00:28	28783	00:00:28	125	281	WITHIN WORDS	29
50	keyboard	u			28814	00:00:28	28907	00:00:28	93	156	WITHIN WORDS	29
51	keyboard	t			29063	00:00:29	29204	00:00:29	141	249	WITHIN WORDS	29
52	keyboard	l			29204	00:00:29	29251	00:00:29	47	141	WITHIN WORDS	29
53	keyboard	o			29360	00:00:29	29438	00:00:29	78	156	WITHIN WORDS	29
54	keyboard	g			29469	00:00:29	29547	00:00:29	78	109	BEFORE SENTENCES	29
55	keyboard	RETURN			29937	00:00:29	30015	00:00:30	78	468	AFTER SENTENCES	29
56	mouse	Movement			30904	00:00:30	31871	00:00:31	967	967	UNKNOWN PAUSE	29
57	focus	inputlog - Google zoeken - Google Chrome			30904	00:00:30	30904	00:00:30	0	0	UNKNOWN PAUSE	29
58	mouse	LEFT Click			32152	00:00:32	32246	00:00:32	94	281	BEFORE SENTENCES	29
59	mouse	Movement			33197	00:00:33	34055	00:00:34	858	951	UNKNOWN PAUSE	29
60	focus	Inputlog - Google Chrome			33197	00:00:33	33197	00:00:33	0	0	UNKNOWN PAUSE	29
61	mouse	LEFT Click			34102	00:00:34	34180	00:00:34	78	47	UNKNOWN PAUSE	29
62	mouse	Movement			34695	00:00:34	36458	00:00:36	1763	515	UNKNOWN PAUSE	29
63	mouse	LEFT Click			36863	00:00:36	38501	00:00:38	1638	405	UNKNOWN PAUSE	29
64	mouse	Movement			37051	00:00:37	38080	00:00:38	1029	0	UNKNOWN PAUSE	29
65	mouse	Movement			38595	00:00:38	38735	00:00:38	140	515	UNKNOWN PAUSE	29
66	mouse	RIGHT Click			38969	00:00:38	39063	00:00:39	94	234	UNKNOWN PAUSE	29
67	mouse	Movement			39203	00:00:39	39749	00:00:39	546	140	UNKNOWN PAUSE	29
68	mouse	LEFT Click			39874	00:00:39	39983	00:00:39	109	125	UNKNOWN PAUSE	29
69	mouse	Movement			39890	00:00:39	39890	00:00:39	0	0	UNKNOWN PAUSE	29
70	mouse	Movement			40576	00:00:40	41606	00:00:41	1030	686	UNKNOWN PAUSE	29
71	mouse	LEFT Click			41871	00:00:41	41980	00:00:41	109	265	UNKNOWN PAUSE	29
72	focus	TASKBAR			41980	00:00:41	41980	00:00:41	0	0	UNKNOWN PAUSE	29
73	mouse	Movement			42261	00:00:42	43587	00:00:43	1326	281	UNKNOWN PAUSE	29
74	focus	Wordlog.docx - Microsoft Word			42261	00:00:42	42261	00:00:42	0	0	UNKNOWN PAUSE	29
75	mouse	RIGHT Click			43805	00:00:43	43930	00:00:43	125	218	UNKNOWN PAUSE	29
76	mouse	Movement			44320	00:00:44	44913	00:00:44	593	390	UNKNOWN PAUSE	29
77	focus	TASKBAR			44320	00:00:44	44320	00:00:44	0	0	UNKNOWN PAUSE	29
78	mouse	LEFT Click			45490	00:00:45	45631	00:00:45	141	577	UNKNOWN PAUSE	29
79	mouse	Movement			45974	00:00:45	48220	00:00:48	2246	343	UNKNOWN PAUSE	29
80	focus	Wordlog.docx - Microsoft Word			45974	00:00:45	45974	00:00:45	0	0	UNKNOWN PAUSE	29
81	insert	BEFORE: [129] Inputlog is a logging tool that logs all types of input modes: keyboard, mouse & speech recognition. LENGTH: [100]				45974	00:00:45		0	0	UNKNOWN PAUSE	29
83	keyboard	RETURN	129	130	49172	00:00:49	49219	00:00:49	47	952	UNKNOWN PAUSE	130
84	mouse	Movement			52542	00:00:52	53696	00:00:53	1154	3370	UNKNOWN PAUSE	130
85	mouse	LEFT Click			53836	00:00:53	53946	00:00:53	110	140	BEFORE WORDS	130
86	mouse	Movement			54351	00:00:54	54960	00:00:54	609	405	UNKNOWN PAUSE	130
87	focus	Inputlog - Google Chrome			54351	00:00:54	54351	00:00:54	0	0	UNKNOWN PAUSE	130
88	mouse	LEFT Click			55178	00:00:55	55272	00:00:55	94	218	UNKNOWN PAUSE	130
89	focus	TASKBAR			56847	00:00:56	56847	00:00:56	0	0	UNKNOWN PAUSE	130
90	mouse	LEFT Click			56910	00:00:56	57034	00:00:57	124	1638	UNKNOWN PAUSE	130
91	focus	Program Manager			56910	00:00:56	56910	00:00:56	0	0	UNKNOWN PAUSE	130
92	mouse	Movement			57518	00:00:57	58891	00:00:58	1373	484	UNKNOWN PAUSE	130
93	focus	Features of Inputlog.docx - Microsoft Word			57518	00:00:57	57518	00:00:57	0	0	UNKNOWN PAUSE	130
94	mouse	LEFT Click			59094	00:00:59	60108	00:01:00	1014	203	UNKNOWN PAUSE	130
95	mouse	Movement			59125	00:00:59	59874	00:00:59	749	0	UNKNOWN PAUSE	130
96	mouse	RIGHT Click			60576	00:01:00	60685	00:01:00	109	702	UNKNOWN PAUSE	130

97	mouse	Movement			60997	00:01:00	61356	00:01:01	359	312	UNKNOWN PAUSE	130
98	focus	TASKBAR			60997	00:01:00	60997	00:01:00	0	0	UNKNOWN PAUSE	130
99	mouse	LEFT Click			61714	00:01:01	61855	00:01:01	141	358	UNKNOWN PAUSE	130
100	mouse	Movement			62682	00:01:02	63867	00:01:03	1185	827	UNKNOWN PAUSE	130
101	focus	Features of Inputlog.docx - Microsoft Word			62682	00:01:02	62682	00:01:02	0	0	UNKNOWN PAUSE	130
102	mouse	LEFT Click			63945	00:01:03	64039	00:01:04	94	78	UNKNOWN PAUSE	130
103	focus	TASKBAR			64039	00:01:04	64039	00:01:04	0	0	UNKNOWN PAUSE	130
104	mouse	Movement			64288	00:01:04	65053	00:01:05	765	249	UNKNOWN PAUSE	130
105	mouse	LEFT Click			65068	00:01:05	65178	00:01:05	110	15	UNKNOWN PAUSE	130
106	mouse	Movement			65287	00:01:05	66394	00:01:06	1107	109	UNKNOWN PAUSE	130
107	focus	Wordlog.docx - Microsoft Word			65287	00:01:05	65287	00:01:05	0	0	UNKNOWN PAUSE	130
108	keyboard	LCTRL	130	131	66457	00:01:06	65350	00:01:05	63	63	UNKNOWN PAUSE	131
109	mouse	Movement			66582	00:01:06	66831	00:01:06	249	125	UNKNOWN PAUSE	131
113	mouse	Movement			67018	00:01:07	67018	00:01:07	187	125	UNKNOWN PAUSE	131
123	keyboard	LCTRL + V	130	131	67330	00:01:07	67502	00:01:07	671	32	UNKNOWN PAUSE	131
124	insert	BEFORE: [438] The most distinguishing characteristics of Inputlog to date are: word processor independent functionality, standardized XML structure of the logging and output files, logging of speech recognition, revision analysis (partly under development) and linkage of data to lexica and NLP tools (under development). LENGTH: [308]					67502	00:01:07	0	0	UNKNOWN PAUSE	131
126	mouse	Movement			68313	00:01:08	72182	00:01:12	3869	983	UNKNOWN PAUSE	131
127	mouse	LEFT Click			72853	00:01:12	72962	00:01:12	109	671	UNKNOWN PAUSE	131
129	mouse	Movement			73087	00:01:13	73274	00:01:13	187	125	UNKNOWN PAUSE	131
130	keyboard	RIGHT	296	439	74662	00:01:14	74818	00:01:14	156	1388	UNKNOWN PAUSE	439
132	keyboard	DELETE	297	439	75817	00:01:15	75910	00:01:15	93	1155	UNKNOWN PAUSE	439
133	replacement	[297:298]					75910	00:01:15	0	0	UNKNOWN PAUSE	439
135	mouse	Movement			76690	00:01:16	77907	00:01:17	1217	873	UNKNOWN PAUSE	439
136	mouse	LEFT Click			78282	00:01:18	78360	00:01:18	78	375	UNKNOWN PAUSE	439
137	mouse	Movement			78406	00:01:18	78547	00:01:18	141	46	UNKNOWN PAUSE	439
139	keyboard	SPACE	326	438	79420	00:01:19	79530	00:01:19	110	873	UNKNOWN PAUSE	439
140	keyboard	v	327	439	79857	00:01:19	80013	00:01:20	156	437	UNKNOWN PAUSE	440
141	keyboard	i	328	440	79982	00:01:19	80091	00:01:20	109	125	WITHIN WORDS	441
142	keyboard	a	329	441	80263	00:01:20	80388	00:01:20	125	281	WITHIN WORDS	442
143	keyboard	SPACE	330	442	80419	00:01:20	80544	00:01:20	125	156	AFTER WORDS	443
145	keyboard	D	331	443	80824	00:01:20	80965	00:01:20	234	312	BEFORE WORDS	444
146	keyboard	r	332	444	81105	00:01:21	81277	00:01:21	172	281	WITHIN WORDS	445
147	keyboard	a	333	445	81230	00:01:21	81386	00:01:21	156	125	WITHIN WORDS	446
148	keyboard	g	334	446	81511	00:01:21	81651	00:01:21	140	281	WITHIN WORDS	447
149	keyboard	o	335	447	81698	00:01:21	81932	00:01:21	234	187	WITHIN WORDS	448
150	keyboard	n	336	448	81838	00:01:21	81995	00:01:21	157	140	WITHIN WORDS	449
151	keyboard	SPACE	337	449	81932	00:01:21	82088	00:01:22	156	94	AFTER WORDS	450
153	keyboard	N	338	450	82275	00:01:22	82369	00:01:22	156	281	BEFORE WORDS	451
154	keyboard	a	339	451	82541	00:01:22	82681	00:01:22	140	266	WITHIN WORDS	452
155	keyboard	t	340	452	82681	00:01:22	82743	00:01:22	62	140	WITHIN WORDS	453
156	keyboard	u	341	453	83040	00:01:23	83165	00:01:23	125	359	WITHIN WORDS	454
157	keyboard	r	342	454	83321	00:01:23	83445	00:01:23	124	281	WITHIN WORDS	455
158	keyboard	a	343	455	83445	00:01:23	83601	00:01:23	156	124	WITHIN WORDS	456
159	keyboard	l	344	456	83695	00:01:23	83757	00:01:23	62	250	WITHIN WORDS	457
160	keyboard	l	345	457	83867	00:01:23	83929	00:01:23	62	172	WITHIN WORDS	458
161	keyboard	y	346	458	84194	00:01:24	84319	00:01:24	125	327	WITHIN WORDS	459
162	keyboard	SPACE	347	459	84350	00:01:24	84491	00:01:24	141	156	AFTER WORDS	460
164	keyboard	P	348	460	84818	00:01:24	84896	00:01:24	203	343	BEFORE WORDS	461
165	keyboard	s	349	461	85130	00:01:25	85271	00:01:25	141	312	WITHIN WORDS	462

166	keyboard	BACK	350	462	85692	00:01:25	85770	00:01:25	78	562	WITHIN WORDS	463
167	keyboard	BACK	349	461	85863	00:01:25	85926	00:01:25	63	171	UNKNOWN PAUSE	463
169	keyboard	S	348	460	86316	00:01:26	86425	00:01:26	218	344	BEFORE WORDS	463
170	keyboard	p	349	461	86690	00:01:26	86799	00:01:26	109	374	WITHIN WORDS	464
171	keyboard	e	350	462	86955	00:01:26	87080	00:01:27	125	265	WITHIN WORDS	465
172	keyboard	a	351	463	87080	00:01:27	87221	00:01:27	141	125	WITHIN WORDS	466
173	keyboard	k	352	464	87283	00:01:27	87345	00:01:27	62	203	WITHIN WORDS	467
174	keyboard	i	353	465	87455	00:01:27	87611	00:01:27	156	172	WITHIN WORDS	468
175	keyboard	n	354	466	87533	00:01:27	87673	00:01:27	140	78	WITHIN WORDS	469
176	keyboard	g	355	467	87673	00:01:27	87751	00:01:27	78	140	WITHIN WORDS	470
177	mouse	Movement			89639	00:01:29	90278	00:01:30	639	1966	WITHIN WORDS	470
178	mouse	LEFT Click			90684	00:01:30	92727	00:01:32	2043	406	WITHIN WORDS	470
179	mouse	Movement			90777	00:01:30	92400	00:01:32	1623	0	UNKNOWN PAUSE	470
180	mouse	Movement			92930	00:01:32	92946	00:01:32	16	530	UNKNOWN PAUSE	470
181	replacement	[376:403] (partly under development)					92946	00:01:32	0	0	UNKNOWN PAUSE	470
183	keyboard	DELETE	376	468	94319	00:01:34	94443	00:01:34	124	1373	UNKNOWN PAUSE	471
184	replacement	[376:403]					94443	00:01:34	0	0	UNKNOWN PAUSE	471
186	mouse	Movement			95021	00:01:35	97283	00:01:37	2262	702	UNKNOWN PAUSE	471
187	mouse	LEFT Click			97532	00:01:37	97657	00:01:37	125	249	UNKNOWN PAUSE	471
188	mouse	Movement			97735	00:01:37	98187	00:01:38	452	78	UNKNOWN PAUSE	471
190	keyboard	BACK	439	441	98905	00:01:38	98983	00:01:38	78	718	UNKNOWN PAUSE	471
191	keyboard	BACK	438	440	99123	00:01:39	99155	00:01:39	32	218	UNKNOWN PAUSE	471
192	keyboard	BACK	437	439	99264	00:01:39	99326	00:01:39	62	141	UNKNOWN PAUSE	471
193	keyboard	BACK	436	438	99435	00:01:39	99482	00:01:39	47	171	UNKNOWN PAUSE	471
194	keyboard	BACK	435	437	99591	00:01:39	99638	00:01:39	47	156	UNKNOWN PAUSE	471
195	keyboard	BACK	434	436	99747	00:01:39	99810	00:01:39	63	156	UNKNOWN PAUSE	471
196	keyboard	BACK	433	435	99919	00:01:39	99966	00:01:39	47	172	UNKNOWN PAUSE	471
197	keyboard	BACK	432	434	100075	00:01:40	100137	00:01:40	62	156	UNKNOWN PAUSE	471
198	keyboard	BACK	431	433	100247	00:01:40	100293	00:01:40	46	172	UNKNOWN PAUSE	471
199	keyboard	BACK	430	432	100403	00:01:40	100465	00:01:40	62	156	UNKNOWN PAUSE	471
200	keyboard	BACK	429	431	100574	00:01:40	100621	00:01:40	47	171	UNKNOWN PAUSE	471
201	keyboard	BACK	428	430	100730	00:01:40	100793	00:01:40	63	156	UNKNOWN PAUSE	471
202	keyboard	BACK	427	429	100902	00:01:40	100964	00:01:40	62	172	UNKNOWN PAUSE	471
203	keyboard	BACK	426	428	101073	00:01:41	101136	00:01:41	63	171	UNKNOWN PAUSE	471
204	keyboard	BACK	425	427	101229	00:01:41	101292	00:01:41	63	156	UNKNOWN PAUSE	471
205	keyboard	BACK	424	426	101401	00:01:41	101463	00:01:41	62	172	UNKNOWN PAUSE	471
206	keyboard	BACK	423	425	101588	00:01:41	101635	00:01:41	47	187	UNKNOWN PAUSE	471
207	keyboard	BACK	422	424	101744	00:01:41	101807	00:01:41	63	156	UNKNOWN PAUSE	471
208	keyboard	BACK	421	423	101916	00:01:41	101978	00:01:41	62	172	UNKNOWN PAUSE	471
209	keyboard	BACK	420	422	102337	00:01:42	102399	00:01:42	62	421	UNKNOWN PAUSE	471
210	mouse	Movement			107313	00:01:47	108546	00:01:48	1233	4976	UNKNOWN PAUSE	471
211	mouse	LEFT Click			108827	00:01:48	108905	00:01:48	78	281	UNKNOWN PAUSE	471
212	mouse	Movement			108967	00:01:48	109310	00:01:49	343	62	UNKNOWN PAUSE	471
215	keyboard	W	43	421	110199	00:01:50	110293	00:01:50	281	702	BEFORE WORDS	471
216	keyboard	i	44	422	110777	00:01:50	110995	00:01:50	218	578	WITHIN WORDS	472
217	keyboard	n	45	423	110917	00:01:50	111104	00:01:51	187	140	WITHIN WORDS	473
218	keyboard	d	46	424	111104	00:01:51	111291	00:01:51	187	187	WITHIN WORDS	474
219	keyboard	o	47	425	111385	00:01:51	111510	00:01:51	125	281	WITHIN WORDS	475
220	keyboard	w	48	426	111822	00:01:51	111978	00:01:51	156	437	WITHIN WORDS	476
221	keyboard	s	49	427	112009	00:01:52	112165	00:01:52	156	187	WITHIN WORDS	477
222	keyboard	-	50	428	112820	00:01:52	112898	00:01:52	78	811	WITHIN WORDS	478
223	keyboard	b	51	429	113023	00:01:53	113117	00:01:53	94	203	WITHIN WORDS	479
224	keyboard	a	52	430	113210	00:01:53	113320	00:01:53	110	187	WITHIN WORDS	480
225	keyboard	s	53	431	113460	00:01:53	113569	00:01:53	109	250	WITHIN WORDS	481
226	keyboard	e	54	432	113616	00:01:53	113710	00:01:53	94	156	WITHIN WORDS	482
227	keyboard	d	55	433	113819	00:01:53	113928	00:01:53	109	203	WITHIN WORDS	483
228	keyboard	SPACE	56	434	114349	00:01:54	114490	00:01:54	141	530	AFTER WORDS	484
229	mouse	Movement			115441	00:01:55	115940	00:01:55	499	1092	UNKNOWN PAUSE	484
230	mouse	Movement			116986	00:01:56	117095	00:01:57	109	1046	UNKNOWN PAUSE	484
231	mouse	LEFT Click			117610	00:01:57	117703	00:01:57	93	515	BEFORE WORDS	484
233	keyboard	RETURN	434	435	118483	00:01:58	118546	00:01:58	63	780	UNKNOWN PAUSE	485
235	keyboard	T	435	436	120698	00:02:00	120839	00:02:00	312	2044	BEFORE WORDS	486
236	keyboard	h	436	437	120932	00:02:00	121010	00:02:01	78	234	WITHIN WORDS	487
237	keyboard	e	437	438	121057	00:02:01	121182	00:02:01	125	125	WITHIN WORDS	488
238	keyboard	SPACE	438	439	121120	00:02:01	121260	00:02:01	140	63	AFTER WORDS	489

239	keyboard	d	439	440	121354	00:02:01	121478	00:02:01	124	234	BEFORE WORDS	490
240	keyboard	a	440	441	121510	00:02:01	121603	00:02:01	93	156	WITHIN WORDS	491
241	keyboard	t	441	442	121603	00:02:01	121712	00:02:01	109	93	WITHIN WORDS	492
242	keyboard	a	442	443	121697	00:02:01	121790	00:02:01	93	94	WITHIN WORDS	493
243	keyboard	-	443	444	122414	00:02:02	122492	00:02:02	78	717	WITHIN WORDS	494
244	keyboard	o	444	445	122867	00:02:02	123054	00:02:03	187	453	WITHIN WORDS	495
245	keyboard	u	445	446	123023	00:02:03	123163	00:02:03	140	156	WITHIN WORDS	496
246	keyboard	t	446	447	123226	00:02:03	123335	00:02:03	109	203	WITHIN WORDS	497
247	keyboard	p	447	448	123428	00:02:03	123553	00:02:03	125	202	WITHIN WORDS	498
248	keyboard	u	448	449	123522	00:02:03	123616	00:02:03	94	94	WITHIN WORDS	499
249	keyboard	t	449	450	124240	00:02:04	124380	00:02:04	140	718	WITHIN WORDS	500
250	keyboard	SPACE	450	451	124396	00:02:04	124536	00:02:04	140	156	AFTER WORDS	501
251	keyboard	o	451	452	124661	00:02:04	124786	00:02:04	125	265	BEFORE WORDS	502
252	keyboard	f	452	453	124973	00:02:04	125098	00:02:05	125	312	WITHIN WORDS	503
253	keyboard	SPACE	453	454	125098	00:02:05	125222	00:02:05	124	125	AFTER WORDS	504
255	keyboard	l	454	455	125378	00:02:05	125441	00:02:05	125	218	BEFORE WORDS	505
256	keyboard	n	455	456	125597	00:02:05	125690	00:02:05	93	219	WITHIN WORDS	506
257	keyboard	p	456	457	125737	00:02:05	125846	00:02:05	109	140	WITHIN WORDS	507
258	keyboard	u	457	458	125815	00:02:05	125909	00:02:05	94	78	WITHIN WORDS	508
259	keyboard	t	458	459	125940	00:02:05	126034	00:02:06	94	125	WITHIN WORDS	509
260	keyboard	l	459	460	126002	00:02:06	126080	00:02:06	78	62	WITHIN WORDS	510
261	keyboard	o	460	461	126174	00:02:06	126252	00:02:06	78	172	WITHIN WORDS	511
262	keyboard	g	461	462	126361	00:02:06	126424	00:02:06	63	187	WITHIN WORDS	512
263	keyboard	SPACE	462	463	126517	00:02:06	126626	00:02:06	109	156	AFTER WORDS	513
264	keyboard	e	463	464	126798	00:02:06	126954	00:02:06	156	281	BEFORE WORDS	514
265	keyboard	n	464	465	126892	00:02:06	126970	00:02:06	78	94	WITHIN WORDS	515
266	keyboard	a	465	466	127016	00:02:07	127126	00:02:07	110	124	WITHIN WORDS	516
267	keyboard	b	466	467	127250	00:02:07	127391	00:02:07	141	234	WITHIN WORDS	517
268	keyboard	l	467	468	127391	00:02:07	127500	00:02:07	109	141	WITHIN WORDS	518
269	keyboard	e	468	469	127594	00:02:07	127687	00:02:07	93	203	WITHIN WORDS	519
270	keyboard	s	469	470	127843	00:02:07	127999	00:02:07	156	249	WITHIN WORDS	520
271	keyboard	SPACE	470	471	127937	00:02:07	128046	00:02:08	109	94	AFTER WORDS	521
272	keyboard	r	471	472	128140	00:02:08	128249	00:02:08	109	203	BEFORE WORDS	522
273	keyboard	e	472	473	128202	00:02:08	128327	00:02:08	125	62	WITHIN WORDS	523
274	keyboard	e	473	474	128483	00:02:08	128623	00:02:08	140	281	WITHIN WORDS	524
275	keyboard	s	474	475	128483	00:02:08	128514	00:02:08	31	0	WITHIN WORDS	525
276	keyboard	a	475	476	128654	00:02:08	128779	00:02:08	125	171	WITHIN WORDS	526
277	keyboard	r	476	477	128732	00:02:08	128826	00:02:08	94	78	WITHIN WORDS	527
278	keyboard	BACK	477	478	129154	00:02:09	129232	00:02:09	78	422	WITHIN WORDS	528
279	keyboard	BACK	476	477	129325	00:02:09	129388	00:02:09	63	171	UNKNOWN PAUSE	528
280	keyboard	BACK	475	476	129481	00:02:09	129544	00:02:09	63	156	UNKNOWN PAUSE	528
281	keyboard	BACK	474	475	129637	00:02:09	129700	00:02:09	63	156	UNKNOWN PAUSE	528
282	keyboard	s	473	474	130183	00:02:10	130308	00:02:10	125	546	UNKNOWN PAUSE	528
283	keyboard	e	474	475	130386	00:02:10	130495	00:02:10	109	203	WITHIN WORDS	529
284	keyboard	a	475	476	130495	00:02:10	130604	00:02:10	109	109	WITHIN WORDS	530
285	keyboard	r	476	477	130558	00:02:10	130651	00:02:10	93	63	WITHIN WORDS	531
286	keyboard	c	477	478	130776	00:02:10	130916	00:02:10	140	218	WITHIN WORDS	532
287	keyboard	h	478	479	130870	00:02:10	130932	00:02:10	62	94	WITHIN WORDS	533
288	keyboard	e	479	480	131057	00:02:11	131197	00:02:11	140	187	WITHIN WORDS	534
289	keyboard	r	480	481	131119	00:02:11	131306	00:02:11	187	62	WITHIN WORDS	535
290	keyboard	s	481	482	131306	00:02:11	131447	00:02:11	141	187	WITHIN WORDS	536
291	keyboard	SPACE	482	483	132632	00:02:12	132788	00:02:12	156	1326	AFTER WORDS	537
292	keyboard	t	483	484	132944	00:02:12	133085	00:02:13	141	312	BEFORE WORDS	538
293	keyboard	o	484	485	133038	00:02:13	133178	00:02:13	140	94	WITHIN WORDS	539
294	keyboard	SPACE	485	486	133241	00:02:13	133366	00:02:13	125	203	AFTER WORDS	540
295	keyboard	a	486	487	133537	00:02:13	133678	00:02:13	141	296	BEFORE WORDS	541
296	keyboard	n	487	488	133678	00:02:13	133771	00:02:13	93	141	WITHIN WORDS	542
297	keyboard	a	488	489	133818	00:02:13	133958	00:02:13	140	140	WITHIN WORDS	543
298	keyboard	l	489	490	133880	00:02:13	134005	00:02:14	125	62	WITHIN WORDS	544
299	keyboard	y	490	491	134099	00:02:14	134224	00:02:14	125	219	WITHIN WORDS	545
300	keyboard	s	491	492	134255	00:02:14	134426	00:02:14	171	156	WITHIN WORDS	546
301	keyboard	e	492	493	134302	00:02:14	134473	00:02:14	171	47	WITHIN WORDS	547
302	keyboard	SPACE	493	494	135222	00:02:15	135378	00:02:15	156	920	AFTER WORDS	548
303	keyboard	t	494	495	135503	00:02:15	135628	00:02:15	125	281	BEFORE WORDS	549
304	keyboard	h	495	496	135596	00:02:15	135674	00:02:15	78	93	WITHIN WORDS	550
305	keyboard	e	496	497	135690	00:02:15	135830	00:02:15	140	94	WITHIN WORDS	551

306	keyboard	SPACE	497	498	135752	00:02:15	135908	00:02:15	156	62	AFTER WORDS	552
307	keyboard	w	498	499	136064	00:02:16	136111	00:02:16	47	312	BEFORE WORDS	553
308	keyboard	r	499	500	136205	00:02:16	136330	00:02:16	125	141	WITHIN WORDS	554
309	keyboard	i	500	501	136314	00:02:16	136361	00:02:16	47	109	WITHIN WORDS	555
310	keyboard	t	501	502	136423	00:02:16	136501	00:02:16	78	109	WITHIN WORDS	556
311	keyboard	i	502	503	136470	00:02:16	136610	00:02:16	140	47	WITHIN WORDS	557
312	keyboard	n	503	504	136548	00:02:16	136657	00:02:16	109	78	WITHIN WORDS	558
313	keyboard	g	504	505	136657	00:02:16	136766	00:02:16	109	109	WITHIN WORDS	559
314	keyboard	SPACE	505	506	136782	00:02:16	136891	00:02:16	109	125	AFTER WORDS	560
315	keyboard	p	506	507	136922	00:02:16	137000	00:02:17	78	140	BEFORE WORDS	561
316	keyboard	r	507	508	137032	00:02:17	137125	00:02:17	93	110	WITHIN WORDS	562
317	keyboard	o	508	509	137110	00:02:17	137234	00:02:17	124	78	WITHIN WORDS	563
318	keyboard	f	509	510	137281	00:02:17	137390	00:02:17	109	171	WITHIN WORDS	564
319	keyboard	BACK	510	511	137702	00:02:17	137780	00:02:17	78	421	WITHIN WORDS	565
320	keyboard	c	509	510	137858	00:02:17	137968	00:02:17	110	156	UNKNOWN PAUSE	565
321	keyboard	e	510	511	137936	00:02:17	138046	00:02:18	110	78	WITHIN WORDS	566
322	keyboard	s	511	512	138155	00:02:18	138264	00:02:18	109	219	WITHIN WORDS	567
323	keyboard	s	512	513	138685	00:02:18	138794	00:02:18	109	530	WITHIN WORDS	568
324	keyboard	SPACE	513	514	139996	00:02:19	140152	00:02:20	156	1311	AFTER WORDS	569
325	keyboard	i	514	515	140245	00:02:20	140432	00:02:20	187	249	BEFORE WORDS	570
326	keyboard	n	515	516	140354	00:02:20	140495	00:02:20	141	109	WITHIN WORDS	571
327	keyboard	SPACE	516	517	140448	00:02:20	140588	00:02:20	140	94	AFTER WORDS	572
328	keyboard	g	517	518	140713	00:02:20	140760	00:02:20	47	265	BEFORE WORDS	573
329	keyboard	r	518	519	140916	00:02:20	141056	00:02:21	140	203	WITHIN WORDS	574
330	keyboard	e	519	520	141025	00:02:21	141166	00:02:21	141	109	WITHIN WORDS	575
331	keyboard	a	520	521	141384	00:02:21	141540	00:02:21	156	359	WITHIN WORDS	576
332	keyboard	t	521	522	141540	00:02:21	141649	00:02:21	109	156	WITHIN WORDS	577
333	keyboard	SPACE	522	523	141649	00:02:21	141790	00:02:21	141	109	AFTER WORDS	578
334	keyboard	d	523	524	141836	00:02:21	141914	00:02:21	78	187	BEFORE WORDS	579
335	keyboard	e	524	525	142008	00:02:22	142195	00:02:22	187	172	WITHIN WORDS	580
336	keyboard	t	525	526	142148	00:02:22	142273	00:02:22	125	140	WITHIN WORDS	581
337	keyboard	a	526	527	142242	00:02:22	142382	00:02:22	140	94	WITHIN WORDS	582
338	keyboard	i	527	528	142351	00:02:22	142523	00:02:22	172	109	WITHIN WORDS	583
339	keyboard	l	528	529	142460	00:02:22	142616	00:02:22	156	109	WITHIN WORDS	584
340	keyboard	:	529	530	144020	00:02:24	144114	00:02:24	94	1560	AFTER WORDS	585
341	keyboard	SPACE	530	531	144286	00:02:24	144379	00:02:24	93	266	UNKNOWN PAUSE	586
342	keyboard	b	531	532	144535	00:02:24	144598	00:02:24	63	249	UNKNOWN PAUSE	587
343	keyboard	o	532	533	144613	00:02:24	144707	00:02:24	94	78	WITHIN WORDS	588
344	keyboard	t	533	534	144754	00:02:24	144863	00:02:24	109	141	WITHIN WORDS	589
345	keyboard	h	534	535	144832	00:02:24	144941	00:02:24	109	78	WITHIN WORDS	590
346	keyboard	SPACE	535	536	144941	00:02:24	145066	00:02:25	125	109	AFTER WORDS	591
347	keyboard	t	536	537	145315	00:02:25	145425	00:02:25	110	374	BEFORE WORDS	592
348	keyboard	e	537	538	145378	00:02:25	145518	00:02:25	140	63	WITHIN WORDS	593
349	keyboard	x	538	539	145674	00:02:25	145752	00:02:25	78	296	WITHIN WORDS	594
350	keyboard	t	539	540	145939	00:02:25	146033	00:02:26	94	265	WITHIN WORDS	595
351	keyboard	SPACE	540	541	146345	00:02:26	146517	00:02:26	172	406	AFTER WORDS	596
352	keyboard	p	541	542	146517	00:02:26	146657	00:02:26	140	172	BEFORE WORDS	597
353	keyboard	r	542	543	146844	00:02:26	147000	00:02:27	156	327	WITHIN WORDS	598
354	keyboard	o	543	544	147000	00:02:27	147094	00:02:27	94	156	WITHIN WORDS	599
355	keyboard	d	544	545	147437	00:02:27	147546	00:02:27	109	437	WITHIN WORDS	600
356	keyboard	u	545	546	147562	00:02:27	147687	00:02:27	125	125	WITHIN WORDS	601
357	keyboard	c	546	547	147749	00:02:27	147843	00:02:27	94	187	WITHIN WORDS	602
358	keyboard	t	547	548	147983	00:02:27	148092	00:02:28	109	234	WITHIN WORDS	603
359	keyboard	i	548	549	148014	00:02:28	148201	00:02:28	187	31	WITHIN WORDS	604
360	keyboard	o	549	550	148092	00:02:28	148248	00:02:28	156	78	WITHIN WORDS	605
361	keyboard	n	550	551	148186	00:02:28	148357	00:02:28	171	94	WITHIN WORDS	606
362	keyboard	SPACE	551	552	148326	00:02:28	148482	00:02:28	156	140	AFTER WORDS	607
363	keyboard	i	552	553	149949	00:02:29	150120	00:02:30	171	1623	BEFORE WORDS	608
364	keyboard	n	553	554	150027	00:02:30	150167	00:02:30	140	78	WITHIN WORDS	609
365	keyboard	SPACE	554	555	150120	00:02:30	150276	00:02:30	156	93	AFTER WORDS	610
367	keyboard	M	555	556	150432	00:02:30	150760	00:02:30	390	250	BEFORE WORDS	611
368	keyboard	S	556	557	151103	00:02:31	151259	00:02:31	156	671	BEFORE SENTENCES	612
369	keyboard	SPACE	557	558	151477	00:02:31	151649	00:02:31	172	374	AFTER SENTENCES	613
371	keyboard	W	558	559	151914	00:02:31	152039	00:02:32	250	312	BEFORE WORDS	614
372	keyboard	o	559	560	152289	00:02:32	152413	00:02:32	124	375	WITHIN WORDS	615
373	keyboard	r	560	561	152398	00:02:32	152523	00:02:32	125	109	WITHIN WORDS	616

374	keyboard	d	561	562	152959	00:02:32	153147	00:02:33	188	561	WITHIN WORDS	617
375	keyboard	SPACE	562	563	153225	00:02:33	153381	00:02:33	156	266	AFTER WORDS	618
376	keyboard	a	563	564	153615	00:02:33	153739	00:02:33	124	390	BEFORE WORDS	619
377	keyboard	n	564	565	153739	00:02:33	153864	00:02:33	125	124	WITHIN WORDS	620
378	keyboard	d	565	566	153864	00:02:33	154020	00:02:34	156	125	WITHIN WORDS	621
379	keyboard	SPACE	566	567	153989	00:02:33	154083	00:02:34	94	125	AFTER WORDS	622
380	keyboard	a	567	568	154145	00:02:34	154239	00:02:34	94	156	BEFORE WORDS	623
381	keyboard	l	568	569	154332	00:02:34	154395	00:02:34	63	187	WITHIN WORDS	624
382	keyboard	l	569	570	154488	00:02:34	154582	00:02:34	94	156	WITHIN WORDS	625
383	keyboard	SPACE	570	571	154707	00:02:34	154847	00:02:34	140	219	AFTER WORDS	626
384	keyboard	a	571	572	154941	00:02:34	155065	00:02:35	124	234	BEFORE WORDS	627
385	keyboard	c	572	573	155175	00:02:35	155221	00:02:35	46	234	WITHIN WORDS	628
386	keyboard	t	573	574	155377	00:02:35	155471	00:02:35	94	202	WITHIN WORDS	629
387	keyboard	i	574	575	155471	00:02:35	155518	00:02:35	47	94	WITHIN WORDS	630
388	keyboard	v	575	576	155627	00:02:35	155705	00:02:35	78	156	WITHIN WORDS	631
389	keyboard	i	576	577	155705	00:02:35	155783	00:02:35	78	78	WITHIN WORDS	632
390	keyboard	t	577	578	155830	00:02:35	155923	00:02:35	93	125	WITHIN WORDS	633
391	keyboard	i	578	579	155955	00:02:35	156033	00:02:36	78	125	WITHIN WORDS	634
392	keyboard	e	579	580	156033	00:02:36	156126	00:02:36	93	78	WITHIN WORDS	635
393	keyboard	s	580	581	156813	00:02:36	156922	00:02:36	109	780	WITHIN WORDS	636
394	keyboard	SPACE	581	582	157015	00:02:37	157187	00:02:37	172	202	AFTER WORDS	637
395	keyboard	i	582	583	157156	00:02:37	157327	00:02:37	171	141	BEFORE WORDS	638
396	keyboard	n	583	584	157234	00:02:37	157405	00:02:37	171	78	WITHIN WORDS	639
397	keyboard	SPACE	584	585	157312	00:02:37	157499	00:02:37	187	78	AFTER WORDS	640
398	keyboard	o	585	586	157624	00:02:37	157749	00:02:37	125	312	BEFORE WORDS	641
399	keyboard	t	586	587	157764	00:02:37	157889	00:02:37	125	140	WITHIN WORDS	642
400	keyboard	h	587	588	157889	00:02:37	157983	00:02:37	94	125	WITHIN WORDS	643
401	keyboard	e	588	589	157983	00:02:37	158154	00:02:38	171	94	WITHIN WORDS	644
402	keyboard	r	589	590	158076	00:02:38	158232	00:02:38	156	93	WITHIN WORDS	645
403	keyboard	SPACE	590	591	158154	00:02:38	158310	00:02:38	156	78	AFTER WORDS	646
404	keyboard	p	591	592	158326	00:02:38	158419	00:02:38	93	172	BEFORE WORDS	647
405	keyboard	r	592	593	158451	00:02:38	158544	00:02:38	93	125	WITHIN WORDS	648
406	keyboard	o	593	594	158529	00:02:38	158638	00:02:38	109	78	WITHIN WORDS	649
407	keyboard	g	594	595	158653	00:02:38	158700	00:02:38	47	124	WITHIN WORDS	650
408	keyboard	r	595	596	158809	00:02:38	158903	00:02:38	94	156	WITHIN WORDS	651
409	keyboard	a	596	597	158872	00:02:38	159043	00:02:39	171	63	WITHIN WORDS	652
410	keyboard	m	597	598	158997	00:02:38	159137	00:02:39	140	125	WITHIN WORDS	653
411	keyboard	s	598	599	159215	00:02:39	159340	00:02:39	125	218	WITHIN WORDS	654
413	keyboard	.	599	600	159574	00:02:39	159699	00:02:39	172	312	BEFORE WORDS	655
414	keyboard	SPACE	600	601	159667	00:02:39	159777	00:02:39	110	93	AFTER PARAGRAPHS	656
415	keyboard	RETURN	601	602	160338	00:02:40	160447	00:02:40	109	671	BEFORE PARAGRAPHS	657
416	mouse	Movement			162429	00:02:42	163833	00:02:43	1404	2091	UNKNOWN PAUSE	657
417	mouse	LEFT Click			163926	00:02:43	164550	00:02:44	624	93	AFTER PARAGRAPHS	657
418	mouse	Movement			163957	00:02:43	164363	00:02:44	406	0	UNKNOWN PAUSE	657
419	replacement	[0:27] Demonstration Inputlog 5.1					164363	00:02:44	0	0	UNKNOWN PAUSE	657
429	keyboard	LCTRL + B	0	603	166126	00:02:46	166313	00:02:46	2122	1045	UNKNOWN PAUSE	658
430	mouse	Movement			166141	00:02:46	166188	00:02:46	47	15	UNKNOWN PAUSE	658
431	mouse	Movement			166329	00:02:46	166968	00:02:46	639	141	UNKNOWN PAUSE	658
432	mouse	LEFT Click			167093	00:02:47	167187	00:02:47	94	125	UNKNOWN PAUSE	658
434	mouse	Movement			167920	00:02:47	168138	00:02:48	218	733	UNKNOWN PAUSE	658
435	keyboard	DELETE	28	603	168747	00:02:48	168840	00:02:48	93	609	UNKNOWN PAUSE	658
436	replacement	[28:29]					168840	00:02:48	0	0	UNKNOWN PAUSE	658
438	mouse	Movement			169168	00:02:49	170244	00:02:50	1076	421	UNKNOWN PAUSE	658
439	mouse	LEFT Click			170369	00:02:50	170447	00:02:50	78	125	UNKNOWN PAUSE	658
441	mouse	Movement			170728	00:02:50	177093	00:02:57	6365	281	UNKNOWN PAUSE	658
442	mouse	LEFT Click			177311	00:02:57	177405	00:02:57	94	218	END PAUSE	658
443	focus	TASKBAR			177405	00:02:57	177405	00:02:57	0	0	UNKNOWN PAUSE	658
444	mouse	Movement			177717	00:02:57	178731	00:02:58	1014	312	END PAUSE	658
445	mouse	LEFT Click			178980	00:02:58	179058	00:02:59	78	249	END PAUSE	658
446	mouse	Movement			179542	00:02:59	180977	00:03:00	1435	484	END PAUSE	658
447	focus	Inputlog 5.1.0.1			179542	00:02:59	179542	00:02:59	0	0	UNKNOWN PAUSE	658
448	mouse	LEFT Click			181164	00:03:01	181258	00:03:01	94	187	END PAUSE	658

Summary Logging File

Meta Information	
Logfile	Peter Smith_0.idfx
Log Creation	22/08/12 10:20:53.188
Log GUID	66ed26b7-c50a-48a1-ae43-d24bfe69c6c7
Logging Program Version Number	5.1.0.1
Analysis Creation	22/08/12 15:32:36
Analysis GUID	7535aa60-d319-45af-90b9-ab899153bf05
Analysis Program Version Number	5.1.0.1
Session Identification	
Participant	Peter Smith
Text Language	EN
Age	37
Gender	Male
Session	1
Group	Professional
Experience	3
Parameters	
Pause Threshold (ms)	1000

Process Information	
Characters	
Total (excl.spaces)	245
Per minute (excl.spaces)	81.667
Total (incl.spaces)	279
Per minute (incl. spaces)	93
Words	
Total	34
Per minute	11.333
Mean Word Length	6.265
Standard Deviation Word Length	4.385
Sentences	
Total	4
Mean Characters/Sentence	69.750
Standard Deviation Characters/Sentence	63.961

Mean Words/Sentence	8.500
Standard Deviation Words/Sentence	23.245
Paragraphs	
Total	2
Mean Characters/Paragraph	139.500
Standard Deviation Characters/Paragraph	0
Mean Words/Paragraph	17
Standard Deviation Words/Paragraph	0
Mean Sentences/Paragraph	2
Standard Deviation Sentences/Paragraph	0
Product Information	
Characters	
Total (excl.spaces)	511
Per minute (excl.spaces)	170.333
Total (incl.spaces)	597
Per minute (incl. spaces)	199
Words	
Total	88
Per minute	29.333
Paragraphs	
Total	4
Lines	
Total	9
Pages	
Total	1
Product/Process Ratio	
Character and Word Ratios	
Characters Ratio (excl.spaces)	2.086
Characters Ratio (incl.spaces)	2.140
Word Ratio	2.140
Process Time	
General	
Total Process Time (s)	00:03:01
Total Process Time (s)	181.258
Number of P-Bursts	20
Mean Process Time P-Bursts (s)	9.062
Standard Deviation P-Bursts	1,199.083
Total Pause Time	00:00:41

Total Pause Time (s)	41.672
Number of Pauses	21
Mean Pause Time (s)	1.984
Standard Deviation Pause Time	1.053
Active Writing Time	00:02:19
Total Writing Time (s)	139.586
Writing Mode	
Keyboard	5124095576027: 30:46
Total Time (s)	1,8446744073699E+16
Number of Clusters Keyboard	14
Mean Cluster Time Keyboard	1,31762457669279E+15
Standard Deviation Cluster Time Keyboard	0
Number of P-Bursts Keyboard	21
Mean Segment Time Keyboard	878416384461859
Standard Deviation Segment Time Keyboard	0
Switches Mouse to Keyboard	14
Mouse	00:01:01
Total Time (s)	61.416
Number of Clusters Mouse	14
Mean Cluster Time Mouse	4.386
Standard Deviation Cluster Time Mouse	5.018
Number of P-Bursts Mouse	17
Mean Segment Time Mouse	3.346
Standard Deviation Segment Time Mouse	4.329
Switches Keyboard to Mouse	14

Pause Logging File

Meta Information	
Logfile	Peter Smith_0.idfx
Log Creation	22/08/12 10:20:53.188
Log GUID	66ed26b7-c50a-48a1-ae43-d24bfe69c6c7
Logging Program Version Number	5.1.0.1
Analysis Creation	22/08/12 20:13:52
Analysis GUID	a162510a-bb5d-4e15-b27b-615c13be1d13
Analysis Program Version Number	5.1.0.1
Session Identification	
Participant	Peter Smith
Text Language	EN
Age	37
Gender	Male
Session	1
Group	Professional
Experience	3
Parameters	
Pause Threshold (ms)	200
Pause Analysis Type	Fixed Length Intervals
Length of Interval (sec)	60

General Information	
Total Process Time	00:03:01
Total Pause Time	00:01:44
Total Pause Time (s)	104.662
Number Of Pauses	179
Mean Pause Time (s)	0.584
Standard Deviation (s)	0.650
Pause Location	
Within Words	
Number Of Pauses	65
Mean Pause Time (s)	0.367
Standard Deviation (s)	0.261
Initial Pauses	

Number Of Pauses	2
Mean Pause Time (s)	2.668
Standard Deviation (s)	0
End Pauses	
Number Of Pauses	4
Mean Pause Time (s)	0.316
Standard Deviation (s)	0.119
Unknown Pauses	
Number Of Pauses	57
Mean Pause Time (s)	0.792
Standard Deviation (s)	0.821
Between Words	
BEFORE WORDS	
- number of pauses	30
- mean pause (s)	0.464
- standard deviation (s)	0.419
AFTER WORDS	
- number of pauses	12
- mean pause (s)	0.628
- standard deviation (s)	0.510
TRANSITION	
- number of pauses	22
- mean pause (s)	0.986
- standard deviation (s)	0.476
Between Sentences	
BEFORE SENTENCES	
- number of pauses	2
- mean pause (s)	0.476
- standard deviation (s)	0
AFTER SENTENCES	
- number of pauses	2
- mean pause (s)	0.421
- standard deviation (s)	0
TRANSITION	
- number of pauses	0
- mean pause (s)	0
- standard deviation (s)	0
Between Paragraphs	
BEFORE PARAGRAPHS	

- number of pauses	2
- mean pause (s)	0.757
- standard deviation (s)	0
AFTER PARAGRAPHS	
- number of pauses	3
- mean pause (s)	1.446
- standard deviation (s)	1.794
TRANSITION	
- number of pauses	2
- mean pause (s)	2.613
- standard deviation (s)	0
Summary per Interval	
Interval Start: 00:00:00	
Number Of Pauses	48
Mean Pause Time (s)	0.748
Standard Deviation (s)	0.851
Interval Start: 00:01:00	
Number Of Pauses	54
Mean Pause Time (s)	0.650
Standard Deviation (s)	0.730
Interval Start: 00:02:00	
Number Of Pauses	77
Mean Pause Time (s)	0.436
Standard Deviation (s)	0.359
Interval Start: 00:03:00	
Number Of Pauses	0
Mean Pause Time (s)	0
Standard Deviation (s)	0

Linear Logging File

Meta Information	
Logfile	Peter_Smith_0.idfx
Log Creation	22/08/12 10:20:53.188
Log GUID	66ed26b7-c50a-48a1-ae43-d24bfe69c6c7
Logging Program Version Number	5.1.0.1
Analysis Creation	22/08/12 10:24:29
Analysis GUID	09d38995-45ff-4a9b-9f85-79785c8aae8f
Analysis Program Version Number	5.1.0.1
Session Identification	
Participant	Peter Smith
Text Language	EN
Age	37
Gender	Male
Session	1
Group	Professional
Experience	3
Parameters	
Pause Threshold (ms)	2000
Linear Analysis Type	Fixed Length Intervals
Length of Interval (sec)	60

Interval	Output
00:00:00	{ 3495} [Movement][Movement][LEFT Click]Demonstration-Inputlog-5.1- { 3510} [RETURN 2]{ 2746} [Movement][LEFT Click][Movement][LEFT Click][Movement]Inputlog[RETURN][Movement][LEFT Click][Movement][LEFT Click][Movement][LEFT Click][Movement][Movement][RIGHT Click] [Movement][LEFT Click][Movement][Movement][LEFT Click][Movement][RIGHT Click][Movement] [LEFT Click][Movement]<Inputlog is a logging tool that logs all types of input modes: keyboard, mouse & speech recognition.>[RETURN]{ 3370} [Movement][LEFT Click][Movement][LEFT Click] [LEFT Click][Movement][LEFT Click][Movement]
00:01:00	[RIGHT Click][Movement][LEFT Click][Movement][LEFT Click][Movement][LEFT Click][Movement] [LCTRL][Movement][Movement]<The most distinguishing characteristics of Inputlog to date are: word processor independent functionality, standardized XML structure of the logging and output files, logging of speech recognition, revision analysis (partly under development) and linkage of data to lexica and NLP tools (under development).>[LCTRL + V][Movement][LEFT Click] [Movement][RIGHT]<> [DELETE][Movement][LEFT Click][Movement] via: Dragon-Naturally-Ps [BACK 2]Speaking[Movement][LEFT Click][Movement][Movement]<(partly under development) ><>[DELETE][Movement][LEFT Click][Movement][BACK 20]{ 4976} [Movement][LEFT Click] [Movement]Windows-based: [Movement][Movement][LEFT Click][RETURN]{ 2044}
00:02:00	The data-output of Inputlog enables reesar[BACK 4]searchers to analyse the writing prof[BACK] cess in great detail: both text production in MS-Word and all activities in other programs. [RETURN]{ 2091} [Movement][LEFT Click][Movement]<Demonstration Inputlog 5.1 >[LCTRL + B] [Movement][Movement][LEFT Click][Movement]<> [DELETE][Movement][LEFT Click][Movement] [LEFT Click][Movement][LEFT Click][Movement]
00:03:00	[LEFT Click]



Linear Logging File

Meta Information	
Logfile	Peter Smith_0.idfx
Log Creation	22/08/12 10:20:53.188
Log GUID	66ed26b7-c50a-48a1-ae43-d24bfe69c6c7
Logging Program Version Number	5.1.0.1
Analysis Creation	22/08/12 13:39:22
Analysis GUID	a7747281-46b3-460f-9e78-e0a5abaa0762
Analysis Program Version Number	5.1.0.1
Session Identification	
Participant	Peter Smith
Text Language	EN
Age	37
Gender	Male
Session	1
Group	Professional
Experience	3
Parameters	
Pause Threshold (ms)	2000
Linear Analysis Type	Fixed Number of Intervals
Number of Intervals	1

Interval	Output
00:00:00	{ 3495} [Movement][Movement][LEFT Click]Demonstration·Inputlog·5.1·{ 3510} [RETURN 2]{ 2746} [Movement][LEFT Click][Movement][LEFT Click][Movement]Inputlog[RETURN][Movement][LEFT Click] [Movement][LEFT Click][Movement][LEFT Click][Movement][Movement][RIGHT Click][Movement][LEFT Click][LEFT Click][Movement][Movement][LEFT Click][Movement][RIGHT Click][Movement][LEFT Click][Movement] <Inputlog is a logging tool that logs all types of input modes: keyboard, mouse & speech recognition.> [RETURN]{ 3370} [Movement][LEFT Click][Movement][LEFT Click][LEFT Click][Movement][LEFT Click] [Movement][RIGHT Click][Movement][LEFT Click][Movement][LEFT Click][Movement][LEFT Click] [Movement][LCTRL][Movement][Movement]<The most distinguishing characteristics of Inputlog to date are: word processor independent functionality, standardized XML structure of the logging and output files, logging of speech recognition, revision analysis (partly under development) and linkage of data to lexica and NLP tools (under development).>[LCTRL + V][Movement][LEFT Click][Movement] [RIGHT]<>[DELETE][Movement][LEFT Click][Movement]·via·Dragon·Naturally·Ps[BACK 2]Speaking [Movement][LEFT Click][Movement][Movement]<(partly under development) ><>[DELETE] [Movement][LEFT Click][Movement][BACK 20]{ 4976} [Movement][LEFT Click][Movement]Windows-based· [Movement][Movement][LEFT Click][RETURN]{ 2044} The·data·output·of·Inputlog·enables·reesar [BACK 4]searchers·to·analyse·the·writing·prof[BACK]cess·in·great·detail·:·both·text·production·in·MS ·Word·and·all·activities·in·other·programs·. [RETURN]{ 2091} [Movement][LEFT Click][Movement] <Demonstration Inputlog 5.1 >[LCTRL + B][Movement][Movement][LEFT Click][Movement]<> [DELETE][Movement][LEFT Click][Movement][LEFT Click][Movement][LEFT Click][Movement][LEFT Click]
00:00:00	Demonstration Inputlog 5.1 Inputlog<Inputlog is a logging tool that logs all types of input modes: keyboard, mouse & speech recognition.><The most distinguishing characteristics of Inputlog to date are: word processor independent functionality, standardized XML structure of the logging and output files, logging of speech recognition, revision analysis (partly under development) and linkage of data to lexica and NLP tools (under development).>[#]<>[#] via Dragon Naturally Ps[##]Speaking<(partly under development) ><>[#][#####]Windows-based The data-output of Inputlog enables reesar[####]searchers to analyse the writing prof[#]cess in great detail: both text production in MS Word and all activities in other programs. <Demonstration Inputlog 5.1 ><>[#]



Summary Logging File

Meta Information	
Logfile	Peter Smith_0.idfx
Log Creation	22/08/12 10:20:53.188
Log GUID	66ed26b7-c50a-48a1-ae43-d24bfe69c6c7
Logging Program Version Number	5.1.0.1
Analysis Creation	22/08/12 10:24:29
Analysis GUID	3752f705-ecc8-4a43-9544-48cc03f47864
Analysis Program Version Number	5.1.0.1
Session Identification	
Participant	Peter Smith
Text Language	EN
Age	37
Gender	Male
Session	1
Group	Professional
Experience	3

Window Statistics

Window Title	Total Time (s)	Total Time (relative)	Total Keystrokes	Total Keystrokes (relative)
Inputlog 5.1.0.1	3,557	0.02	0	0
TASKBAR	8,487	0.047	0	0
Wordlog.docx - Microsoft Word	139,449	0.769	315	0.969
Naamloos - Google Chrome	2,59	0.014	0	0
Google - Google Chrome	4,664	0.026	10	0.031
inputlog - Google zoeken - Google Chrome	2,293	0.013	0	0
Inputlog - Google Chrome	11,279	0.062	0	0
Program Manager	0,608	0.003	0	0
Features of Inputlog.docx - Microsoft Word	4,836	0.027	0	0
Total	181,258		325	

Window Transition Statistics

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From Window Title	To Window Title	Count
Inputlog 5.1.0.1	TASKBAR	1
TASKBAR	Wordlog.docx - Microsoft Word	4
TASKBAR	Naamloos - Google Chrome	1
TASKBAR	Program Manager	1
TASKBAR	Features of Inputlog.docx - Microsoft Word	1
TASKBAR	Inputlog 5.1.0.1	1
Wordlog.docx - Microsoft Word	TASKBAR	3
Wordlog.docx - Microsoft Word	Inputlog - Google Chrome	1
Naamloos - Google Chrome	Google - Google Chrome	1
Google - Google Chrome	inputlog - Google zoeken - Google Chrome	1
inputlog - Google zoeken - Google Chrome	Inputlog - Google Chrome	1
Inputlog - Google Chrome	TASKBAR	2
Program Manager	Features of Inputlog.docx - Microsoft Word	1
Features of Inputlog.docx - Microsoft Word	TASKBAR	2
Total		21

Summary Logging File

Meta Information	
Logfile	Peter Smith_0.idfx
Log Creation	22/08/12 10:20:53.188
Log GUID	66ed26b7-c50a-48a1-ae43-d24bfe69c6c7
Logging Program Version Number	5.1.0.1
Analysis Creation	22/08/12 17:35:48
Analysis GUID	71ed9b1c-d3f3-4fdf-b29a-c130c63d2c96
Analysis Program Version Number	5.1.0.1
Session Identification	
Participant	Peter Smith
Text Language	EN
Age	37
Gender	Male
Session	1
Group	Professional
Experience	3
Event Preprocessors	
Name	Focus Rewriter
Focus Group: IGNORED	
Entry 1	TASKBAR
Entry 2	Program Manager
Entry 3	Inputlog 5.1.0.1
Focus Group: main document	
Entry 1	Wordlog.docx - Microsoft Word
Focus Group: other sources	
Entry 1	Naamloos - Google Chrome
Entry 2	inputlog - Google zoeken - Google Chrome
Entry 3	Inputlog - Google Chrome
Entry 4	Google - Google Chrome
Entry 5	Features of Inputlog.docx - Microsoft Word

Window Statistics

Window Title	Total Time (s)	Total Time (relative)	Total Keystrokes	Total Keystrokes (relative)
main document	145,174	0.801	315	0.969
other sources	29,547	0.163	10	0.031
Total	181,258		325	

Window Transition Statistics

From Window Title	To Window Title	Count
main document	other sources	2
main document	main document	1
other sources	other sources	5
other sources	main document	2
Total		10

Revision Matrix Notation

Meta Information	
Logfile	Peter Smith_0.idfx
Log Creation	22/08/12 10:20:53.188
Log GUID	66ed26b7-c50a-48a1-ae43-d24bfe69c6c7
Logging Program Version Number	5.1.0.1
Analysis Creation	22/08/12 10:24:40
Analysis GUID	a1cdf4f1-596c-4b23-b740-8bcb3c6915f0
Analysis Program Version Number	5.1.0.1
Session Identification	
Participant	Peter Smith
Text Language	EN
Age	37
Gender	Male
Session	1
Group	Professional
Experience	3

#Revision	Type	Content	#Edits	Duration	BeginPos	EndPos	Length
0	Normal Production	Demonstration Inputlog 5.1. Inputlog is a logging tool that logs all types of input modes: keyboard, mouse & speech recognition. The most distinguishing characteristics of Inputlog to date are: word processor independent functionality, standardized XML structure of the logging and output files, logging of speech recognition, revision analysis (partly under development) and linkage of data to lexica and NLP tools (under development).	50	00:00:59.889	0	438	438
1	Delete	.	6	00:00:01.248	297	298	1
2	Insert	. via Dragon Naturally Ps	29	00:00:05.851	326	350	24
3	Delete	sP	2	00:00:00.234	350	348	2
4	Insert	Speaking	9	00:00:01.544	348	356	8
5	Delete	(partly under development).	2	00:00:00.000	376	403	27
6	Delete)tnempoleved.rednu(23	00:00:08.080	439	419	20
7	Insert	Windows-based.	16	00:00:04.478	43	57	14
0	Normal Production	The data output of Inputlog enables reesar	46	00:00:10.343	434	477	43
8	Delete	rase	4	00:00:00.546	477	473	4
0	Normal Production	searchers to analyse the writing prof	37	00:00:07.207	473	510	37
9	Delete	f	1	00:00:00.078	510	509	1
0	Normal Production	cess in great detail: both text production in MS Word and all activities in other programs.	96	00:00:22.589	509	602	93
10	Delete		15	00:00:03.432	28	29	1



S-Notation File

Meta Information	
Logfile	Peter Smith_0.idfx
Log Creation	22/08/12 10: 20: 53.188
Log GUID	66ed26b7-c50a-48a1-ae43-d24bfe69c6c7
Logging Program Version Number	5.1.0.1
Analysis Creation	22/08/12 10: 24: 51
Analysis GUID	89aa7ea4-4695-4723-80b7-13ecc6db754b
Analysis Program Version Number	5.1.0.1
Session Identification	
Participant	Peter Smith
Text Language	EN
Age	37
Gender	Male
Session	1
Group	Professional
Experience	3
Parameters	

Demonstration Inputlog 5.1. []¹⁰ Inputlog is a { Windows-based }⁷ logging tool that logs all types of input modes: keyboard, mouse & speech recognition. The most distinguishing characteristics of Inputlog to date are: word processor independent functionality, standardized XML structure of the logging and output files, []¹ |₂ logging of speech recognition { via Dragon Naturally [Ps]³ |₄ { Speaking }⁴ |₅ }² |₃, revision analysis [(partly under development)]⁵ |₆ and linkage of data to lexica and NLP tools [(under development)]⁶ |₇. |₁ The data output of Inputlog enables re[es ar]⁸ |₈ searchers to analyse the writing pro[f]⁹ |₉ cess in great detail: both text production in MS Word and all activities in other programs. |₁₀

Keystroke logging in a Windows environment via Inputlog (5.1)

Mariëlle Leijten & Luuk Van Waes

erful simple savvy legendary bright
ntrospective social nourishing vast
energizing uplifting funny shared
autiful provocative insightful mad
g current dynamic engaging lasting
us elevating thoughtful poignant
bold original detailed vivid giving

Introduction

- Faculty of Applied Economics
- Department of Management
- Teaching: Business Communication (Dutch)
- Research group on 'Writing and Digital Media'
 - writing from multiple (digital) sources
 - reading during writing
 - speech recognition & live subtitling
 - online Writing Center (Calliope)



Introduction

- overview
- introduction to writing research
- keystroke logging
- current version of Inputlog (+ demo)
- research study on Professional writing using multiple digital sources
- future developments



Keystroke logging: general

erful simple savvy legendary bright
ntrospective social nourishing vast
energizing uplifting funny shared
autiful provocative insightful mad
g current dynamic engaging lasting
us elevating thoughtful poignant
bold original detailed vivid giving

Objective of keystroke logging

Study writing as it unfolds in real time:

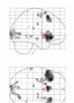
- registration device
- representation of the registration
- framework and procedures for the analysis



Methods in writing research

Writing processes

- thinking aloud protocols:
 - simultaneous or retrospective
- second or triple task techniques: direct or indirect (sub processes and working memory)
- video recording
- eyetracking
- neuro imaging (fMRI – PET – ERP)



Methods in writing research

Writing processes

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- neuro imaging (fMRI – PET – ERP)
- keystroke logging

Writing process research

Process observation provides data for research on:

- cognitive writing processes
- writing strategies
- writing development
- pausing behaviour
- L1 versus L2 writing
- live subtitling
- dyslexia
- etc.

Je hebt ergens gelezen over een congres in je vakgebied.
 Je wil je volgers met name informeren over het onderwerp Social Media.

Congres Interne Communicatie op 17 april van Corner Stone (www.corner-stone.nl).

Je hebt maximaal 10 minuten de tijd om deze tweet te schrijven.

KSL programs

- Scriptlog
- Inputlog
- Translog
- uLog
- Tracelt/JEdit
- Eyewrite
- Eye&Pen

	Scriptlog	Inputlog	Translog	uLog	Tracelt/JEdit	Eyewrite	Eye&Pen
Logging							
Keyboard	✓	✓	✓	✓	✓	✓	✓
Mouse	✓	✓	✓	✓	✓	✓	✓
Eyemovements	✓	(✓)	(✓)			✓	✓
Speech		✓					
Handwriting							✓
Application identification		✓			✓		
Software & Hardware							
Operating system	PC Windows	PC Windows	PC Windows	PC Windows	Macintosh	PC Windows	PC Windows
Word processor	Scriptlog text editor	Microsoft Word XP or later versions	Translog editor	All windows programs	Tracelt editor	Eyewrite editor	Tablet
Logging environment	Scriptlog text editor	All windows programs	Translog editor	All windows programs	Tracelt editor	Eyewrite editor	Tablet
Output							
Summary process data	✓	✓					
General file	✓	✓	✓	✓		✓	✓
Linear file	✓	✓	✓				
Key transition file	✓	✓					
Pause analysis	✓	✓					
Revision Analysis	✓	✓					
Process replay		✓	✓			✓	✓
Website	scriptlog.net	inputlog.net	translog.nl	nodus.com	nada.nl/per/plab/trace-it		eyewrite.net

Translog

- especially designed for translation studies
- two windows:
 - source text (limited number of lines)
 - target text (Translog window)
- analyses
 - linear log file
 - dynamic replay
- further developments:
 - integration with eyetracking
 - interactive dictionaries (reading activation)



all•the•play•er•s•and•offi•cial•s
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 tic•[•06.98]W•ester•n•lik•e•
 :04.08]fi•ght•

ScriptLog^{new}

- A never-ending story that started in 1985
- Now new Windows-version
- Mainly for quasi-experimental/quasi-natural experiments
- A simple editor that records all keyboard events and mouse events and their temporal distribution.
- Could be used for text production or more controlled experiments of the production of smaller units, e.g. spelling tests etc.



<http://www.scriptlog.net>

Inputlog 5.1

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us elevating thoughtful poignant
bold original **detailed** vivid giving

Inputlog 5.1

- Windows (e.g. MS Word)
- Writing modes
 - keyboard and mouse movements & clicks
 - speech: Dragon Naturally Speaking
 - focus: window monitoring
- Analyses
 - process- & product characteristics
 - linear text development and S-Notation
 - pausing behavior
- play-back
- revision analysis



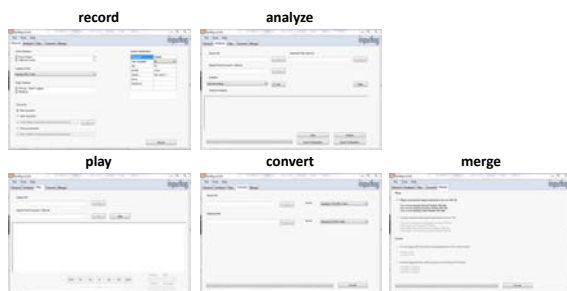
inputlog

Free download for researchers



Eric Van Horenbeek
Tom Pauwaert | Joris Roovers |
Robbe Block

Overview of new features



Demonstration video



Data Analysis ~ see handout

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Content handout

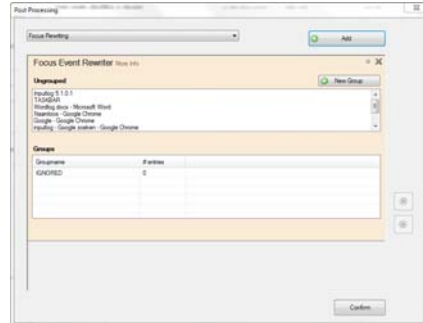
1. General analysis
2. Summary analysis
3. Pause analysis
4. Linear analysis
5. Linear analysis including condensed analyses
6. Focus analysis
7. Revision matrix
8. S-notation



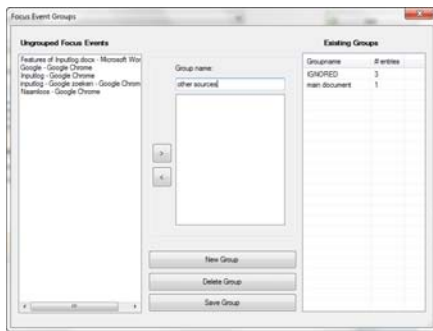
Focus analysis

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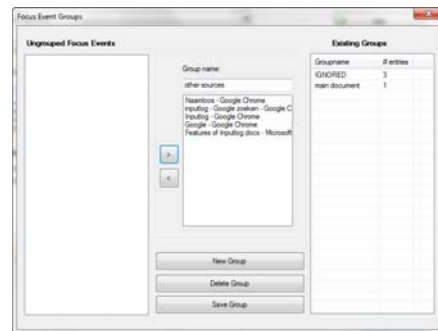
Focus analysis



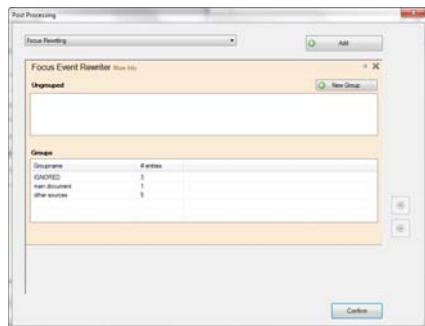
Focus analysis



Focus analysis

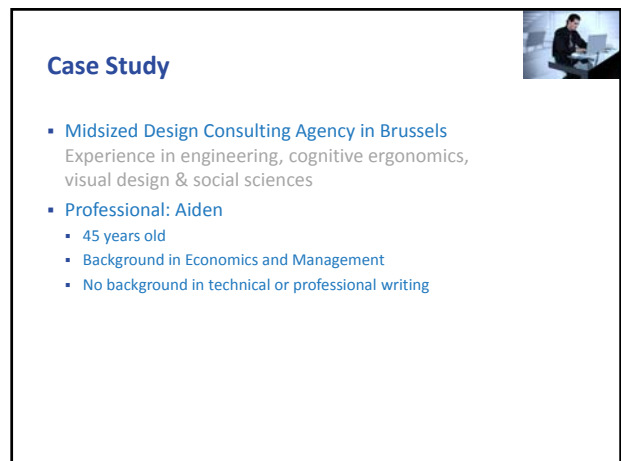
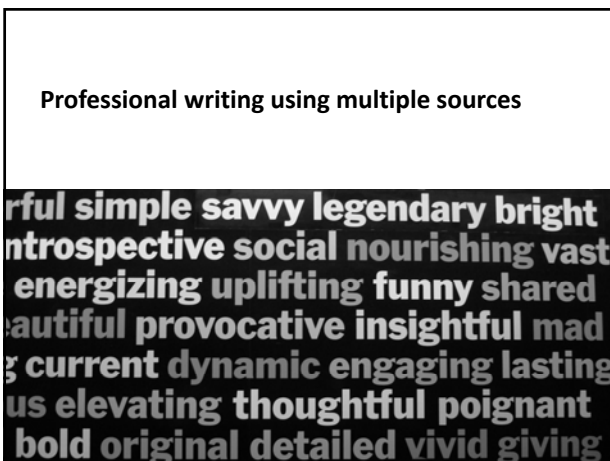
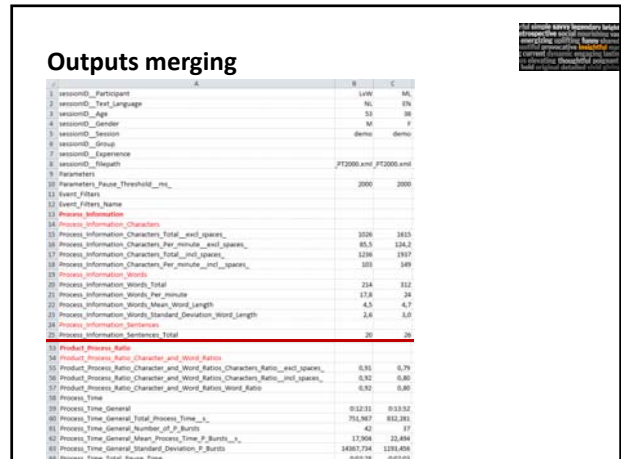
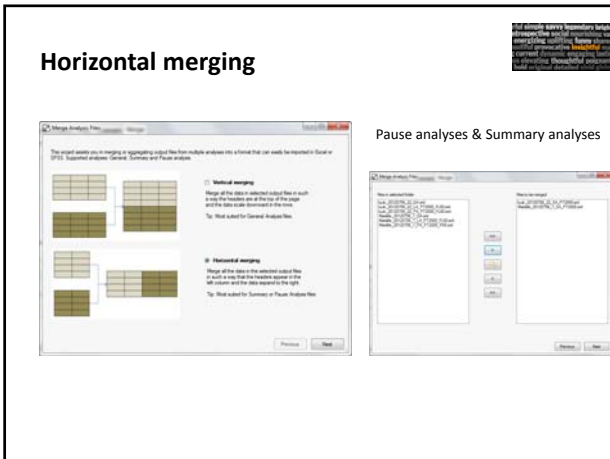
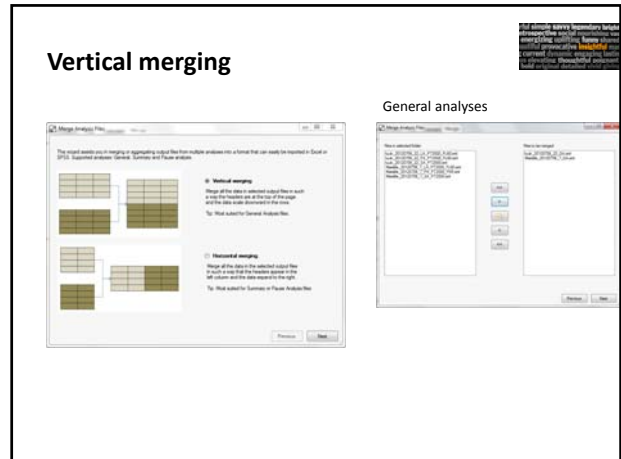
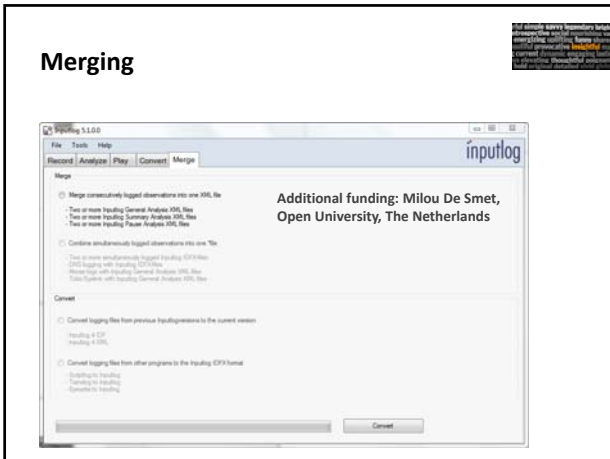


Focus analysis



Merging

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Case study

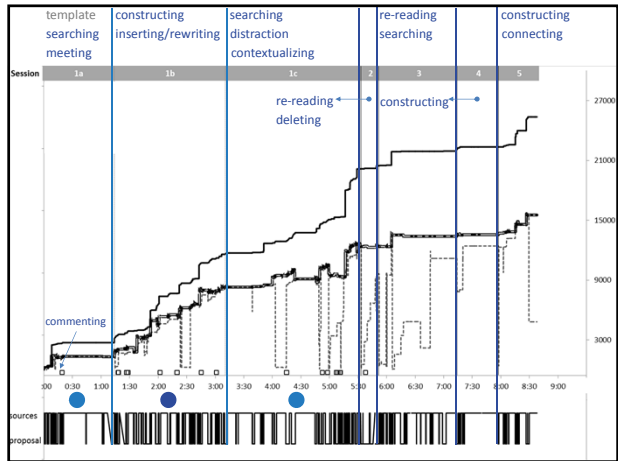
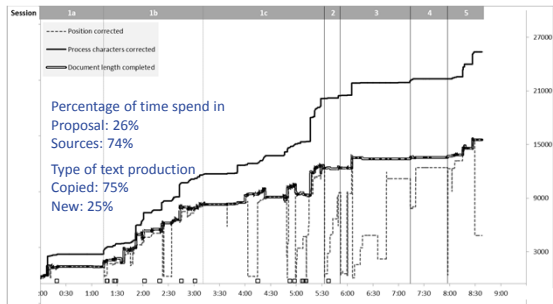
- Proposal for Flemish Government
- In cooperation with contractor
- Duration 8:37:54
- 17 pages
- 55.000 lines of logging data

Session	Date	Duration	% Sessions
session 1	4/04/2011	5:32:41	64,24%
session 2	4/04/2011	0:19:20	3,73%
session 3	5/04/2011	1:29:59	17,37%
session 4	7/04/2011	0:34:45	6,71%
session 5	7/04/2011	0:41:09	7,95%

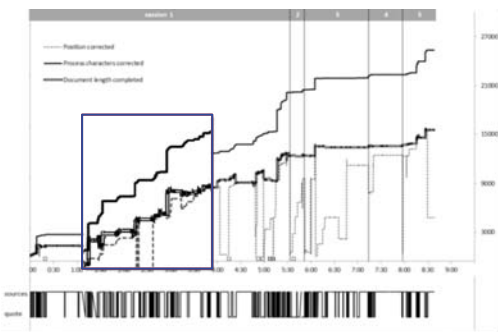
Data preparation

- Merging
- Filtering
- Coding sources

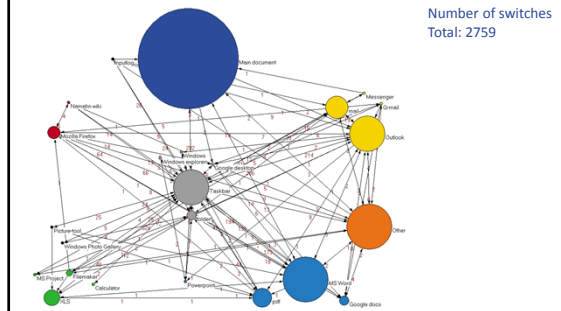
Graph of writing process

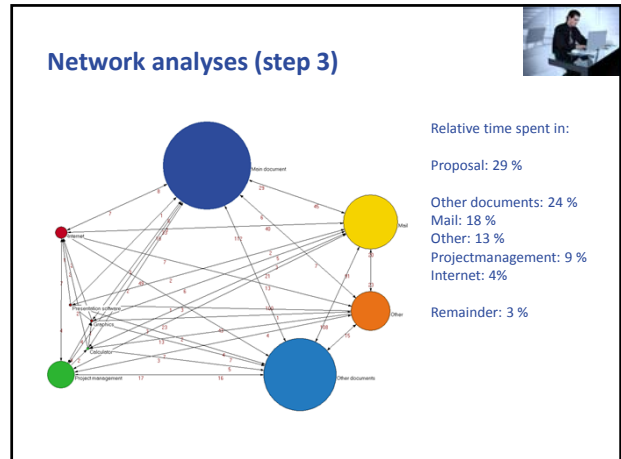
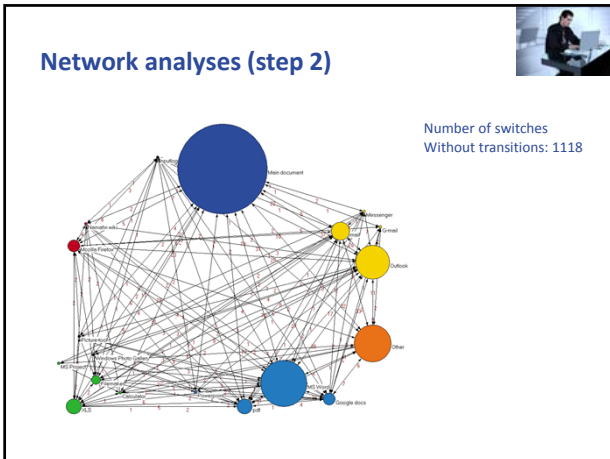


Text construction



Network analyses (step 1)





Future developments

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- ### Future developments
- Server application for linguistic analyses (English / Dutch)
 - Graphical representation of writing process
 - Implementation of focus analyses & merging
 - Logging of Chinese characters (now UTF8)
 - Standardize to generic XML
 - Integration with Trados
 - Elaborate pre and post processing

- ### Thank you
- Eric Van Horenbeeck (technical coordinator Inputlog)
 - Tom Pauwaert (programmer Inputlog: merging, play module & focus analyses)



Literature

- Leijten, M., & Van Waes, L. (2006). Inputlog: New perspectives on the logging of on-line writing processes in a Windows environment. In K. P. H. Sullivan & E. Lindgren (Eds.), *Computer Key-Stroke Logging and Writing: Methods and Applications*. (Vol. 18, pp. 73-94). Oxford: Elsevier.
- Sullivan, K. P. H., & Lindgren, E. (2006). *Computer Key-Stroke Logging and Writing: Methods and Applications*. Oxford: Elsevier Science.
- Related articles on writing process research:

writing PRO
 knowledge center for writing process research

More information: www.inputlog.net

More information

	Mariëlle Leijten Flanders Research Foundation University of Antwerp	@ua.ac.be www.ua.ac.be/marielle.leijten
	Luuk Van Waes University of Antwerp	@ua.ac.be www.ua.ac.be/luuk.vanwaes
	Eric Van Horenbeeck University of Antwerp (technical coordinator)	@ua.ac.be www.ua.ac.be/eric.vanhorenbeeck