

Langsoft, Switzerland

Brief Description of  
Langsoft Technology - software, source code and databases  
with full list of the  
**Software Programs**

<b>NATURAL LANGUAGE TEXT PROCESSING SYSTEM</b>								
Name of project OS Windows	Number of languages in the project	Number of software programs	Stage of development	source code lines (approx.)	c(pp) files	h (inl/inc) files	Compiler	dic. word entries
<b>1) Parsing</b> - Syntactical analysis of the sentence. Uses the traditional approach to parsing. Natural Language Parsing is the basis of Natural Language Processing. Without accurate parsing no Natural Language Processing application works correctly!	4	7	completed					
The DDS , Win 16. 32 Bit ,software display Parts of Speech (Noun, Verb, Adjective, etc.) and Parts of the Sentence (Subject, Complement Subject, Verb and verbal tense, Object Direct, Object Indirect, Complement Object, etc.)								
English - 16, 32 Bit - menu, displays Parts of Speech and Parts of the Sentence, saves to file	1	1		261,811	41	24	Borland	55,452
English - 16, 32, 64 Bit - console application, displays Parts of Speech	1	1		990,000	60	28	Borland/Visual Studio	100,623
German - 16, 32 Bit - menu, displays Parts of Speech and Parts of the Sentence, saves to file	1	1		263,321	41	24	Borland	165,639
German - 16, 32, 64 Bit - console application, displays Parts of Speech	1	1		990,000	60	28	Borland/Visual Studio	182,348
French - 16, 32 Bit - menu, displays Parts of Speech and Parts of the Sentence, saves to file	1	1		262,513	41	24	Borland	80,670
French - 16, 32, 64 Bit - console application, displays Parts of Speech		1		990,000	60	28	Borland/Visual Studio	100,623
Italian - 16, 32 Bit - menu, displays Parts of Speech and Parts of the Sentence, saves to file		1		256,539	41	24	Borland	40,358
<b>1a) Semantical parsing</b> - Syntactical and Semantical analysis of the sentence. Displays word meaning.	2	4	completed					

English - 16, 32 Bit- menu, displays Parts of Speech, Parts of the Sentence and word meaning, saves to file		1		266,387	41	24	Borland	59,614
English - 16, 32, 64 Bit- console application, displays Parts of Speech and word meaning		1		Over 1,000,000	60	28	Visual Studio	100,623
German - 16, 32 Bit- menu, displays Parts of Speech, Parts of the Sentence and word meaning, saves to file		1		267,803	41	24	Borland	165,639
German - 16, 32, 64 Bit- console application, displays Parts of Speech and word meaning		1		Over 1'000,000	60	28	Visual Studio	182,348
<b>2) Spelling</b> - Orthographical and Grammatical spell-checking of the sentence. A learning tool that significantly improves access and quality of education.	4	7	completed					
The DOS, Win 16, 32 Bit software verifies the correct use of Prepositions. Displays statistics of the orthographical and of the grammatical (concord, usage, verb related) errors. Displays the total number of errors, their percentage and the number of words and sentences spellchecked. Suggests corrections for the grammatical errors. Collects the unknown words in the text.								
English - 16, 32 Bit - menu, displays spelling choice, saves to file	1	1		257,669	41	23	Borland	58,018
English - 16, 32, 64 Bit - console application, corrects, automatically, the wrong spelling	Same as English into plain English MT							
German - 16, 32 Bit - menu, displays spelling choice, saves to file		1		263,321	41	24	Borland	165,639
German - 16, 32, 64 Bit - console application, corrects, automatically, the wrong spelling	Same as German into plain German MT							
French - 16, 32 Bit - menu, displays spelling choice, saves to file		1		258022	41	23	Borland	80,655
French - 16, 32, 64 Bit - console application, corrects, automatically, the wrong spelling		1		990,000	60	28	Borland/Visual Studio	100,623
Italian - 16, 32 Bit - menu, displays spelling choice, saves to file	1	1		256,539	41	24	Borland	40,358
<b>3) Question answering</b> - Answers questions - accurate answer and probable answer	2	5	completed					
English - 16, 32 Bit - menu, answers questions, saves the question and its answer to file		1		260,810	41	23	Borland	60,816
German - 16, 32 Bit - menu, answers questions, saves the question and its answer to file		1		261,482	41	23	Borland	165,900
<b>English Dialogue System</b> - 16, 32, 64 Bit - console application, a <b>chatbot</b> , answers questions, asks		1		Over 1,000,000	60	28	Visual Studio	88,235

questions based on user input, saves the question and its answer to file. Can lead continuous conversation with the user on various subjects. The latest version can answer user questions with voice and video clips. The method is covered by U.S. patent U.S.8560305 B1								
<b>German Dialogue System</b> - 16, 32, 64 Bit - console application, a <b>chatbot</b> , answers questions, asks questions based on user input, saves the question and its answer to file. Can lead continuous conversation with the user on various subjects. The latest version can answer user questions with voice and video clips. The method is covered by U.S. patent U.S.8560305 B1		1		Over 1,000,000	60	28	Borland/Visual Studio	182,348
5) Question answering with pictures - English - console application, answers questions, displays a photo as answer	1	1	completed	980,000	60	28	Borland/Visual Studio	88,235
4) <b>Text attribution</b> - Recognizes the meaning of the sentence and attributes it to a theme of discourse. . Can be used as an accurate text classification and text attribution tool.	2	7	completed					
English 1 - menu, displays word meaning, theme of discourse, saves to file	1	1		260,499	41	23	Borland	59,614
English 2 - menu, displays word meaning, theme of discourse , saves to file	1	1		260,499	41	23	Borland	59,614
English 3 - menu, displays word meaning, theme of discourse, saves to file	1	1		260,499	41	23	Borland	59,614
English 4 - console application, displays word meaning, theme of discourse , saves to file, makes frequency list of meanings.	1	1		Over 1,000,000	60	28	Visual Studio	100,623
German 1 - menu, displays word meaning, theme of discourse , saves to file.	1	1		268,598			Borland	166,000
German 2 - menu, displays word meaning, theme of discourse, saves to file.	1	1		268,598			Borland/	166,000
German 3 - console application, displays word meaning, theme of discourse, saves to file, makes frequency list of meanings.	1	1		Over 1,000,000	60	28	Visual Studio	182,348
Cross-language (German & English) - console appl., displays word meaning, theme of discourse, saves to	1	1		Over 1,000,000	60	23	Visual Studio	293,876

file, makes frequency list of meanings.								
Cross-language (German & English) - menu, displays word meaning, theme of discourse, saves to file.	1	1		261,482	41	28	Borland	229523
<b>Machine Translation</b> - Provides understandable translation of what is meant by the original text. The text needs post-editing.								
5) <b>German-English MT</b> (Machine Translation) saves the translation to a file	2	1	completed	983,545	60	28	Borland/Visual Studio	261,793
6) <b>English-German MT</b> , saves the translation to a file	2	1	completed	980,786	60	28	Borland/Visual Studio	129,900
7) <b>English-Russian MT</b> , saves the translation to a file, console application	2	1	completed	982,945	59	29	Borland/Visual Studio	98,595
7a) <b>English-Russian MT</b> , saves the translation to a file, menu, processes files and direct input			completed	994,000	77	57	Borland 3.0	98,595
8) <b>German-Russian MT</b> , saves the translation to a file, console application	2	1	completed	982,945	59	29	Borland/Visual Studio	35,573
8a) <b>German-Russian MT</b> , saves the translation to a file, menu, processes files and direct input			completed	994,000	77	57	Borland 3.0	35,573
9) <b>French-Russian MT</b> , saves the translation to a file, console application	2	1	completed	984,012	59	29	Borland/Visual Studio	113,891
9a) <b>French-Russian MT</b> , saves the translation to a file, menu, processes files and direct input			completed	994,000	77	57	Borland 3.0	113,891
10) <b>English into plain English MT</b> , automatically corrects spelling errors, replaces words with their better known synonyms	1	1	completed	980,786	60	28	Borland/Visual Studio	81,085
11) <b>German into plain German MT</b> , automatically corrects spelling errors	1	1	completed	980,786	60	28	Borland/Visual Studio	173,663
<b>Electronic Thesauri</b> - Groups, automatically, the words according to their meaning, with examples and short definition of meaning.								
12) <b>English Electronic Thesaurus</b>	1	1	completed	2734	1	1	Borland/Visual Studio	23,404
13) <b>Linguistic thesaurus.</b> Groups, automatically, the linguistic terminology according to its meaning and role.	4	1	completed	2716	1	1	Borland/Visual Studio	12,777
14) <b>Location of geographical names.</b> Groups, automatically, the geographical names according to their location, adjacent names, denomination, etc.	4	1	completed	2783	1	1	Borland/Visual Studio	2,527

15) <b>Automated Reasoning</b> (Logical Inference) The method is covered by U.S. patent U.S.8560305 B1	2	3	under development					
English , makes logical inference to find implicit information in Natural Language Sentence and saves it to file		1		259,726	41	24	Borland	57,000
English , makes logical inference to find implicit information in Natural Language Sentence and saves it to file		1		990,000	60	28	Visual Studio	100,623
German , makes logical inference to find implicit information in Natural Language Sentence and saves it to file		1		990,000	60	28	Visual Studio	182,348
16) <b>Text to video</b> , <i>single language</i>		2	Developed, Vers. 1					
16a) English - English , displays the meaning of the sentence in motion pictures	1	1	Developed, Vers. 1	Over 1,000,000	60	28	Visual Studio	88,238
16b) German - German , displays the meaning of the sentence in motion pictures	1	1	Developed, Vers. 1	Over 1,000,000	60	28	Visual Studio	182,274
17) <b>Text to voice</b> , <i>single language</i>		2	completed					
17a) English - English , hear in English what you write	1	1	Version 2.0 completed	Over 1,000,000	60	28	Visual Studio	88,264
19aa) English - English - including homophones , hear in English what you write	1	1	Version 1.0 completed	Over 1,000,000	60	28	VS	88,300
17b) German - German , hear in German what you write	1	1	Version 1.0 completed	Over 1,000,000	60	28	Visual Studio	182,273
18) <b>Text to voice MT</b> , <i>bilingual</i>		4	completed					
18a) Text to voice MT, German-English , write in German, hear (and see) the translation in English	2	2	Version 2.0 completed	Over 1,000,000	60	28	Visual Studio	274,570
18b) Text to voice MT, English-German , write in English, hear (and see) the translation in German	2	2	Version 2.0 completed	Over 1,000,000	60	28	Visual Studio	122,000
18ba) Text to voice MT, English-German - including homophones , write in English, hear (and see) the translation in German	1	1	Version 1.0 completed	Over 1,000,000	60	28	VS	100,000
20) <b>Text to video and voice</b> , <i>single language</i>		2	completed					
20a) English text to video and voice , write in	1	1	Version 1 complete	Over	60	28	Visual	122,000

English, hear and see what is meant in motion pictures				1,000,000			Studio	
20b) German text to video and voice , write in German, hear and see what is meant in motion pictures	1	1	Version 1 complete	Over 1,000,000	60	28	Visual Studio	182,273
21) <b>Text-to-Video-to-Voice MT, <i>bilingual</i></b>		6	completed					
21a) English-German Text-to-Video-to-Voice MT , write in English, hear and see what is meant, in motion pictures, in German	2	2	Version 1 complete	Over 1,000,000	60	28	Visual Studio	122,000
21b) German-English Text-to-Video-to-Voice MT , write in German, hear and see what is meant, in motion pictures, in English	2	2	Version 1 completed	Over 1,000,000	60	28	Visual Studio	274,570
21c) German-Russian Text-to-Video-to-Voice MT , write in German, hear and see what is meant, in motion pictures, in Russian	2	1	under development of the video clips	Over 1,000,000	60	28	Visual Studio	274,570
21d) English-Russian Text-to-Video-to-Voice MT , write in English, hear and see what is meant, in motion pictures, in Russian	2	1	under development of the video clips	Over 1,000,000	60	28	Visual Studio	122,000
Total programs:		62						

**Completed** means versions 2, 3 or 4.

**Under development** means that there is a prototype, version 1.0, to show how the software program works and what it can do.

Eleven auxiliary programs for various electronic dictionaries are not included in this list.

**Note:** Two third of the code is the same for all applications that have around 260,000 lines (older versions, with menu) or around 990,000 lines (newer versions, no menu, console applications). Approximately one third is different, depending on the language and on the task.

The Dictionaries are specific to Language and task. Some are very similar, some are quite different, because of the task, some contain phrases, some, like those for text-to-voice and text-to-video, have very few phrase entries in them. Some Dictionaries have very few semantic codes, others have extensive semantic description for almost each word entry.

The programs with menu, compiled on Borland, run on DOS, Windows 16 and 32 Bit and on Linux and Unix, in DOS mode. The programs compiled on Visual Studio run on Windows 16, 32 and 64 Bit.

All console applications, listed above, can compile as QT multi-platform projects on Visual Studio version 2015.

Description of the software projects, video clips, download of timed commercial copies for evaluation can be found on HTML pages and PDF files under menu items at our website:

<https://www.langsoft.ch>