P A T E N T
and
PUBLISHED PATENT APPLICATIONS
of
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1. U.S.8560305 B1, Patent, published on 15.10.2013

LOGICAL INFERENCE, (LOGIFOLG, A Computer System for Automated Reasoning to find implicit (tacit, hidden) information in Natural Language Sentences), works on hundreds of syntactic structures representing millions of simple and compound (complex) sentences and their equivalents in meaning. Prototype, version 1.0, exists, showing how the program works and what it can do.

Inferences are made when a human being or computer software program finds unavailable evidence to form a conclusion. Our intelligent software program has an inductive and deductive automated reasoning. It can find and display implicit information that is not explicitly mentioned in the text, not contained in the synonyms of the particular word, or present in the concept the word belongs to. No statistical analysis or concordance based analysis can detect and derive this information. Nevertheless, this implicit information is present and understood, implicitly, consciously or unconsciously, by everybody who reads the text.

The inductive reasoning of our Computer System is based to a great extent on its deductive reasoning, present in the word classes by default. The basic principle of the deductive reasoning is that if something is true of a class of things in general, this truth applies to all members of that class.

Therefore, we do not have difficulties to teach our System that all living beings, including all humans, are mortal or that all birds (exceptions excluded) can fly. If we list, in our database, all humans, who have lived 2500 years ago, including Socrates and Agamemnon, our System will be able to deduce that Socrates and Agamemnon are long dead, since no human being can live that long. We need to make a simple rule in the System to let it know that.

Our System is capable of making logical inferences based on simple sentences, also on complex, compound sentences. For example if we type in "John shot a partridge", the System will print out "John is a hunter", because partridge is a wild game bird, if one types in "John slaughters chicken", the System will print out "John is a butcher", because chicken are domestic poultry, if one types in "John killed Susan", the System will print out "John is a murderer", "Susan is dead", if we type in "John killed two enemy soldiers" our System will print out "John is a hero". If we type in "John married Ann", the System will print out "John is husband of Ann", "Ann is wife of John", etc. In the above examples, the words, *hunter, butcher, murderer, dead, hero, husband, wife*, carry additional information about the sentences and broaden the scope of Automated Natural Language Understanding.

Note that one can substitute the names John, Ann, etc, with any other name (contained in our database) or with any human being, male or female (man, woman, priest, president, etc.). Also, one can substitute partridge with any other wild game or chicken with any other domestic animal to achieve the same result. Besides, our Computer System can turn the sentence and preserve its meaning, for example, if we type in "John is smaller than Ali.", the System will display "Ali is bigger than John", if we type in "Alexander breeds pigs", the System will display "The pigs are bred by Alexander", etc.

This implicit information will help the search engines find more accurately the information we are seeking. In education, it can be used in teaching logic and artificial reasoning. LOGIFOLG can serve as a basis to build an artificial intellect, chatbot or humanoid robot, capable of independent thinking, situation assessment and decision taking.

Languages: English and German. With the same method, one can develop similar software programs for other languages. Runs on all versions of Windows, also on Windows 7, 8, 10 64 Bit.

Screen shot of the program interface with an example of processed input sentence "Ann and Ali are married" and output sentence, the logical inference the program has made
"Ann is the wife of Ali." See also the German interface below, with example sentence being processed.

Online download link: http://www.google.com.ar/patents/US8560305
Note: We can sell or license the patent. The patent can be sold also with the source code of the prototypes. Use the contact form to contact us, if you want the patent or a license to use it.

2. US 20140025366 A1, Patent Application, 23 Jan. 2014
TEXT-TO-SPEECH, Single language and bilingual Machine Translation.

Our text to speech technology is based on whole words, phrases and concepts, not on phonemes and syllables, as that of the competition. For example, the text to voice program will pronounce "fish" if one writes "herring", etc. Many individual words, such as prepositions, articles, etc. are pronounced as individual words. Many other individual words, such as names of important places or people are also pronounced as individual words. Some phrases are pronounced as one unit, preserving the stress and the intonation of this unit, such as *isn't it?*, *can't we?*, *have you?*, *don't you?*, *not at all*, etc.

As such, these programs can be regarded as educational, with inherent possibility to use them in other fields. For example, when one cannot see the translation or when one cannot use, for some reason, an external program to read aloud the translation, in such situations as communication between ground and pilot.
There are text to voice programs on the market, but there are no such programs that recognize the meaning of the word and work on the level of the concept. Besides, the programs of the competition can pronounce any nonsense you write and they need an external program to read aloud the translation. Our programs pronounce, with a human voice, only words or meanings that exist in the language and do that immediately, with the translation. As such, our programs fully preserve the accent and the stress of the spoken word, while those of the competition cannot do that.
Our invention has two parts. The first part of our invention is when the software program speaks the written word in the same language. Our novelty in this case is:
- the program does not synthetise the word on the basis of its constituent phonemes or syllables in order to pronounce the word;
- the program pronounces the whole word or phrase, as one unit;
- the program preserves the accent, the melody and the stress of the spoken word;
- the software program can combine the meaning of the word and the ending of the word

when choosing a sub-category of the word, before pronouncing it as a member of this sub-category;

- The accent and the stress of the spoken word may depend on whether the word is used as an adjective or as a verb or other part of speech. For example, such words as "absent" (àbsent, absènt), “access” (àcces, accèss), “accent” (àccent, accènt), “increase” (íncrease, incréase), “nice”, “niece” (nais, niis, Niis), “object” (òbject, objéct), “project” (pròject, projéct), “refuse” (réfuse, refúse), “subject” (sùbject, subjéct), tear (téar, tíer), etc. have different stress when used as an adjective, noun or verb, in context. Compare also such words as “desert”, “dessert”, etc., where the pronunciation changes completely the meaning. There are many languages in the world, for example Vietnamese, with many homographs, where the pronunciation of the word is very important because different pronunciations of the same word have different meanings.

Our program recognizes the part of speech of the word, in context, and chooses the correct pronunciation. The existing text-to-voice software programs cannot do that, because they do not analyse the sentence to determine the role of each word, in context.

- the program preserves the intonation in an interrogative sentence (optional feature, needs extra programming to include all types of interrogative sentences).

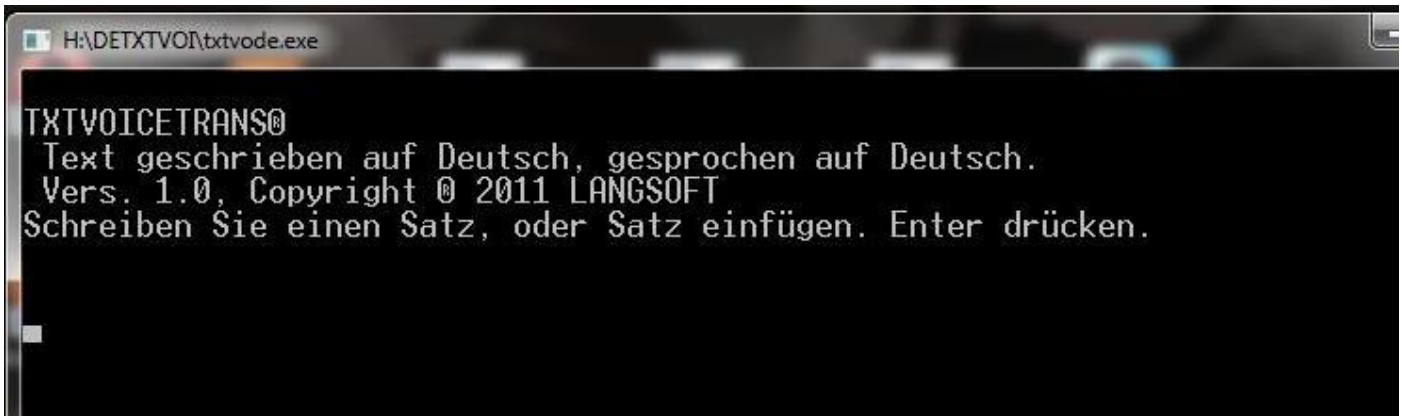
The second part of our invention is when the word written in one language is spoken in another language, simultaneously with its written translation. Our novelty in this case is:

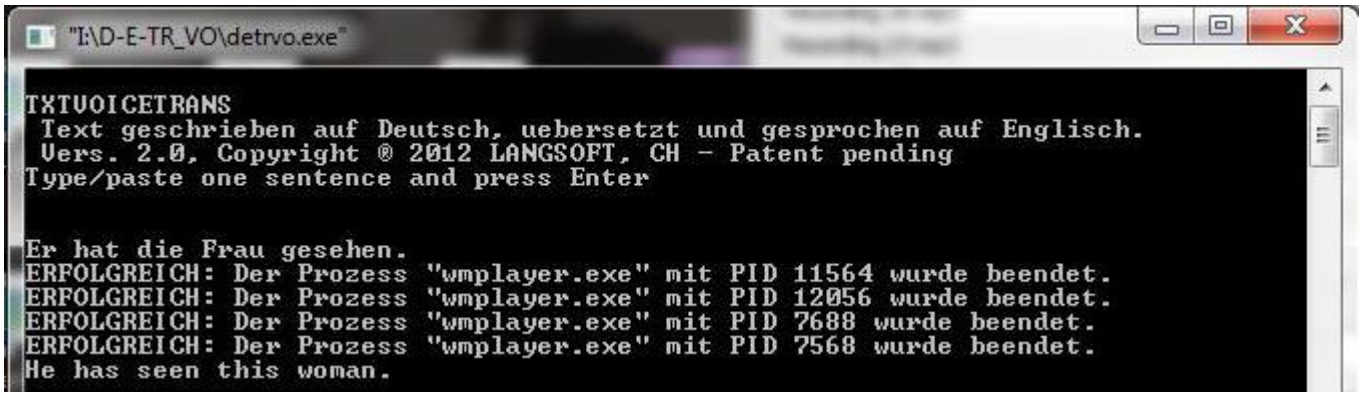
- the program does not synthetise the translated word on the basis of its constituent phonemes or syllables in order to pronounce the word;
- the program pronounces the translated word as a whole word, as one unit;
- the software program can combine the meaning of the word and the beginning or ending of the word when choosing a sub-category of the word, before pronouncing it as a member of this sub-category. For example, the meaning for "*tissue*" when combined with the German word ending "*-tuch*" will pronounce in English "*cloth*", when combined with "*-garn*" will pronounce "*yarn*", etc. German, for example, has many words that consist of two or three words written as one word. Our program can separate the first word and the last word and pronounce them separately, in English or any other language;
- when the translated word is a homograph (*absent*, *accent*, etc., compare *àbsen*t, *absént*, *àccent*, *accént*, etc.), our program chooses the correct pronunciation;
- the program preserves the accent, the melody and the stress of the translated spoken word;
- the program preserves the intonation in an interrogative sentence (optional feature, needs extra programming to include all types of interrogative sentences).

On the existing basis one can easily develop similar software programs for other languages, by replacing the voice files with spoken words in the desired target language.

Prototype of the invention exists, to demonstrate all those features claimed as novelty by the invention.

Screen shots:





Online download link of the published patent application:
http://www.google.com/patents/US20140025366

USPTO Application No: 13553950, filed on 20.07.2012.
Application rejected, on grounds that others have applied for the same, before me.

Appealed the rejection to the Patent Trial and Appeal Board in 2013.
The patent was abandoned after the rejection of the Patent Trial and Appeal Board.

3. **US20130035928A1**, Patent Application, Feb. 7, 2013
TxtVideolizer (applied as TxtVsiolizer, published, wrongly, as "TXTANALIZER").
We have developed text to motion pictures software programs.
TxtVideolizer understands the meaning of the sentence and translates it into motion pictures, into separate scenes, portraying, visually, what was meant by the sentence or the text. Analyses the sentence, in depth, in

order to determine the meaning of the sentence. Works only on sentences that can be represented visually. At present, the program is working on English or German sentences: you type in a sentence, the program understands the meaning of the sentence (that means you can say the same thing in other words) and starts automatically a video file. The video file closes itself after the video finishes and the program is ready to process the next sentence.
Our program requires accurate parsing of the sentence: morphological analysis of the source word, determining the contextual part of speech of the word, syntactical analysis of the sentence, determining the role of each individual word in the sentence, grammatical analysis of the sentence, determining whether the sentence is grammatically correct, and, finally semantical analysis of the sentence, determining the meaning of the sentence and choosing the correct video file for display.

We have developed versions that combine video, voice and written translation into another language: one writes in one language, sees a video what is meant, hears the translation into another language and sees the written translation into another language.

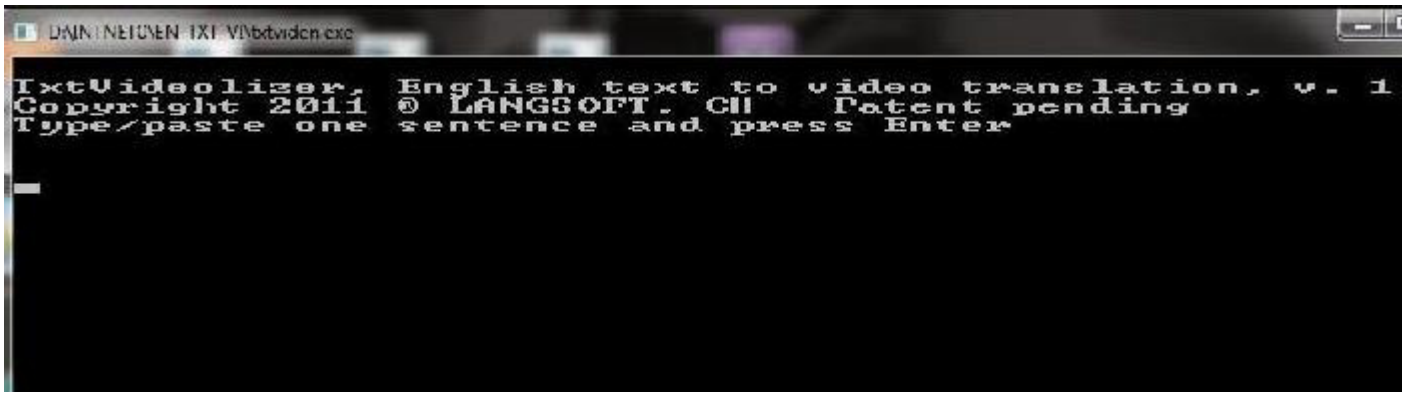
Helps language acquisition and solves communication problems between users not speaking the same language. Can be used also in games, where the user manages the outcome of the visual game with text input instead with joystick.

The program is available for English and German languages. Runs on Windows 7 and 8, 32 and 64 bit.

USPTO patent application No 13198392, filed on 4-th of August 2011. With the application, I have released a timed commercial copy for evaluation, downloadable from my website, with the inscription **Patent pending**, protected by U.S. law for period of one year. Published patent application: US20130035928A1, Feb. 7, 2013. Online download link of the published patent application:
http://www.google.com/patents/US20130035928

Application rejected, on 23.08.2012 and in 2015 on grounds that others have applied for the same, before me. Appealed the rejection to the Patent Trial and Appeal Board in 2015. The patent was abandoned in 2017, after the rejection of the Patent Trial and Appeal Board.

Screen shot of the program interface:



Note: The source code, over one million programming lines and database, pro patent and pro language, can be sold as well.

A Computer System for Automated Reasoning to find new information in Natural Language Sentences, Patent Application No 147008334, filed on 11-th of May 2015

NEWINFO is a computer implemented method of creating an automated system in machines and computer based software applications for finding new, novel, information in written natural language sentences comprising the steps of (a) a computer processor, linked to user, who types in a written text, sentence or sentences, with a request this written text to be analysed, sentence by sentence, in order to fmd new information in it, (b) whereas the computer processor reads the user's written sentence, understands its meaning by analysing successive and non-successive words, up to six words in a sequence, within the sentence or the clause, (c) whereas the computer processor finds unknown, new, novel, information, which is not contained in the knowledge database of the system; and (d) the computer based software application is a computer software process for analysing the text, sentence after sentence, understanding the meaning of the sentence, searching to fmd identical meaning, already stored in the database of the system, and when no identical or very similar meaning is found, displays the new information contained in the sentence, in written form, and, thereafter, codes the new information and stores it in the knowledge database, whereas, once stored in the knowledge database, the new information is no longer new information, it is information known to the system.

2. An automated, intelligent, computer system having a database of coded information, comprising: (a) a computer processor linked to one or more users wherein the computer processor can receive the user's written input; and (b) an automated intelligent system which is controlled by the computer processor, wherein the automated intelligent system has a machine program code, wherein the machine program code is executable to perform a reasoning process, wherein the reasoning process is tied to a database of words with coded information, wherein the coded information comprises part-of-speech information, including morphological, grammatical, syntactical and semantical information, wherein the reasoning process is tied to a built-in semantic representation of word meanings and their relationships, wherein the automated intelligent system analyses user's written input, wherein the automated intelligent system understands the grammatical and syntactical structure of user's written input and its meaning, wherein the automated intelligent system finds new, novel, information in users written input, wherein the automated intelligent system displays the new information, wherein the displayed new information can be used further by other, internal or external machines, for other tasks.

New information, in the incoming sentences, is the information that finds no matching information in the existing sentences already stored in the System.

Publication No ***20160335251,*** **November 17, 2016**

Online download link:

https://patents.google.com/patent/US20160335251A1

Abandoned in 2017, after rejection.