

“Language is still the most important medium in human communication and the most used one. Automation has enormous potential in this area, but is not as easily accepted.” This attitude needs to change says Detlev Artelt the author of voice compass. With current examples and trends from the world of linguistic automation CallCenterInternational shows why.

Examples and Trends in linguistic Automation

INNOVATION BY LANGUAGE

Language is by far the fastest, the most powerful and the simplest means of communication between people. Moreover, during the last 100 years we communicate more and more with technology and engines which requires a lot of work from us. Unfortunately, we still use tools like keys for it which can be easily forgone with the use of linguistic automation. Now linguistic applications bring along the long missed connection, making the simple communication of spoken word between people and engines possible.

But where can these communication aids be used really meaningfully and where is automation considered rather annoying? First we must learn to rethink when answering this question. If new procedures meet our everyday life, they evoke mostly refusal and doubt. This article shows you some current examples from the practice and would like to make the utility value of a lot of linguistic applications clearer.

ENTERTAINMENT ALMOST COMPLETELY WITHOUT KEYS

New linguistic applications successfully combine different communication modes by bringing the web and telephone together. So the Munich enterprise Telenet to its 25-year-old proficient anniversary has created the linguistic application “Grandma Anneliese”. In this multimodal application the Internet in form of the communication channel “browser” and the channel “telephone with speech recognition” merge to a substantial solution. It is a matter of filling out a crossword riddle together with the fictitious “Grandma Anneliese” without using the keyboard or a pencil. Only by voice the lines and columns fill directly on the screen of the user.

A call on the local call number of the “Grandma Anneliese” establishes the connection between the browser and the caller. Then everything happens apparently like magic. First the caller is asked to men-

tion the different notions of the crossword. Besides, the fresh dialogue with “grandma” has motivating and funny throw-ins and helps the user to find the correct notions. If the answer is found, an interesting price can be won every month. The mixture of speech recognition, fresh user’s guidance and the visualization of the recognized words on the screen shows in which direction the solutions will develop.

SUBURBAN TRAIN AND UNDERGROUND BY LANGUAGE QUESTION

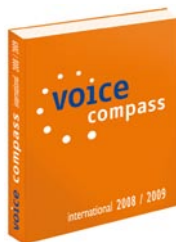
The MVV in Munich has not only created a system for the comfortable interrogation of all undergrounds, moreover, bus connections can be questioned for the entire surroundings of Munich. The system distinguishes itself by a clear and simple usage and, therefore, is suitable very well as a good example. Because simple multimodal functions are available to the user, moreover, the linguistic application pro-



duces a particularly positive picture. A call on the landline makes the information of his route possible by language for the user. The well led dialogue asks systematically one after the other departure and desired stop as well as the time for departure or arrival or whether a transport suitable for the handicapped should take place. If all inputs are done, the connection is announced in addition to switching options. The main attraction is that you can receive this, moreover, as a SMS or as a fax on receipt of the information on the telephone. So you have the possibility to consider this again to recognize in which stops you must change or whether while changing still time remains for a lunch at any time. Here the multimodal use refers to the simple input by language and the possible outputs via other channels.

Current trends were shown at the begin of March 2008 in San Diego taking place Voice Search Conference, the probably

KNOWLEDGE



voice compass international 2008 / 2009.....

.... is available in English and is focussed on international readers. In over 640 pages, Detlev Artelt and three co-authors create the definitive worldwide standard text on voice and speech applications. Approaches, scenarios and all related technologies will be illustrated in a clear, neutral, and all-encompassing way. The voice compass team demystifies the complex filed of speech applications.

Readers of CallCenterInternational can acquire voice compass at a special price. Save 20 Euro by using Option Code "CCVICINT89". Please order at:
<http://voice-compass.com/english/main/buy.html>

most important international conference for linguistic and multimodal technology. Here it was presented how the market of the linguistic and multimodal applications develops in the USA. User friendliness and efficiency are the engines of new speech applications. Besides, the common technology of speech processing slips further in the background. Many manufacturers have already recognized this and emphasize on the real utility value for the final user as the crucial sales argument. Hence solutions are found in America increasingly in the area of the biometrics – of the voice as a password – as well as in the area language to language translation. To make the mobile phone more easy to use speech applications are the engine. A Voice Search function can find information quickly by a spoken request. In a mobile environment, Voice Search helps address the limitations of a small device for text entry. It creates the option of a

» uniform user interface executed within the network and largely independent of the specific device. Besides, it is about real actively used linguistic applications and not about demo applications, as this was still the case some years ago. Some offerers already talk analogously to the hype “web 2.0” of “Phone 2.0”. Here the focus of all activities is directed upon mobile phones. The technological wonderwork mobile phone – see iPhone and others – becomes the most important communication tool. We are attainable with it always and every-

loaded from Microsoft. According to the statement of Albert R. R. Kooiman, Senior Product Manager, Unified Communications Platform and Extensibility at Microsoft, this product directly contains a linguistic-steered IVR, the speech server. With this every enterprise very simply benefits from the pleasure of linguistic applications, because according to Kooiman no additional price for linguistic technology is charged. As with every technology Microsoft brings into the mass market also with the linguistic products the price screw

the correct software becomes a powerful everyday helper who breaks language barriers and contributes to the communication of people. Although a fluent dialogue is not reached yet according to statement of the linguist only the translation of the utensils and some instructions from English into Spanish or vice versa has turned out to be an enormous help in the daily coexistence. The acquitted sentence “Please do the dishes” understood by the engine in content, internally translated from English into Spanish and afterwards automatically presented in Spanish as “Por favor friegue los platos”. This is a real increase in value.

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universal remedy or a replace of an agent.

where. This permanent accessibility, deduces with the new technologies, allows completely new applications in which language is a particularly important and effective communication channel.

GOOGLE, MICROSOFT AND CO. ARE STEAMING UP THE MARKET

Many of the big offerers have already recognized the future of the linguistic applications and invest many hundred millions. Google researches diligently in solutions like the linguistic application “GOOG411” which is to be reached in America free of charge under the call number 0800 GOOG 411. The caller can ask all American enterprises and either the call number is announced, he gets connected directly or gets a map on his mobile phone with the spoken order “mapit”. This visualizes the address of the enterprise and shows the way. Because “411” is the usual number of the information “GOOG411” can be noticed particularly well.

Naturally Microsoft may not be lacking with such ideas. The giant from Redmond already researches for over thirteen years in the speech recognition and places as far as technologies on famous linguistic recognition systems which were developed at the Carnegie Mellon and Cambridge University. In addition the leading offerer for information applications in America, the company TellMe was bought several months ago. The new released technology Microsoft Office Communications Server 2007, shortly named OCS, also supports the German language and can be down-

was turned substantially, because the Redmonders offer their solutions at a much lower price in the market than some of the established competitors. Parallel can be found a fast growing number of enterprises which offer hosting of linguistic applications. D+S Solutions, SNT or T-Com have set up server landscapes with thousands of telephone lines and rentals are offered at reasonable prices. In addition the vendors already offer readymade linguistic applications and herewith allow a reasonable entrance.

SIMPLY OVERCOME LANGUAGE BARRIERS...

In the talk with a young American linguist an interesting use of a linguistic application turned out. She has a Mexican domestic help, but does not speak her language. Unfortunately the domestic help speaks no English either. Now the linguistic application plays translator. So a simple PC with

... AND THE POTENTIALS OF SPEECH RECOGNITION ARE USEFUL

The speech recognition finds more and more attention since some years and makes wonderful solutions which allow a very high factor in automation possible. Finally the the computer understands what the user says, and can query data bases in real time to serve the user quickly and effectively. The communication à la “Captain Kirk of the Enterprise” who speaks simply and naturally to the engine is no more an illusion, but already exists in a multiplicity of applications. Since years there are systems which state the current account balance, schedules of films in the local cinema or also a railway connection over the telephone. However it becomes much more interesting if the communication channels are mixed, because so different content can be also transported. On the phone can be only spoken, but a picture or a video sometimes says more than thousand words. In the meantime the current telephones and particularly current mobile devices allow the use of video. So solutions which show a sequence of the latest motion picture of “Harry Potter” directly on the

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Multimodal - what is this?

If different communication channels are mixed, one speaks of multimodal applications. The simplest way of such an application is a Voice mail. A Voice mail will be left by language on an answering machine and is sent via E-mail to a recipient. From here already arise two different communication ways, namely the linguistic channel "telephone" and the news channel "E-mail". The third channel comes into play if the information is sent at the same time by SMS to the receiver or to his mobile phone. This simple example shows how we already use multimodal applications today. By the mix of other channels, information systems, which have a very high utility value by the individual choice of the communication channel, because the customer can decide, when and via which way he would like to get or deliver information, for different customer groups can be created.

mobile phone triggered by a call to the film hotline can be imagined. This is a customer benefit! In the epilog it is automatically asked, how many tickets shall be deposited for collection under the mobile phone number. The customer can simply act by linguistic dialogue. A simple sentence like "please reserve four tickets for Harry Potter at 9 PM" pushes the order process which confirms the order immediately by SMS. This solution is not on duty yet but today a multiplicity of other useful linguistic applications is already found in Germany.

INSTALL NEW APPLICATIONS – BUT CORRECTLY!

The examples give first ideas for the usage of multimodal applications in the practice. In this market still a lot of potential is hidden, because the continuously broader spreading of different devices and the use of linguistic technology permanently allow further possibilities. It is only known that every application case, based on completely different data bases is different and pursues different targets. Depending on whether a solution should be developed for finances, entertainment or in the area of process chains in a manufacturing enterprise a solution which really helps the potential user must be created. This starts with the fitting choice of words and goes over the correct graphic interface as up to the choice of the fitting devices which the user wants to use. Because of this multiplicity of presuppositions the knowledge of experts for such a project is recommended. In the meantime different voice user interface designers (shortly VUI

designers) who help enterprises in the production of an application in the linguistic area with an untechnical attempt are found in Germany. Like some years ago the web designer appeared newly on stage, it is the VUI-Designer who understands this complex and multimodal world, focused on the customer or user of the application in the case of linguistic applications. He has to prevent the task that the new application case becomes a too technical customer prevention system. Only if the user applies the new application gladly, he will repeat this and care take thereby lastingly for an extent of utilization and the success of the application.

HOWEVER, LINGUISTIC APPLICATIONS ARE NOT A CURE FOR EVERYTHING

Today linguistic applications can already do a lot of useful things, however, are definitively no universal remedy or a replace of an agent. Like with every new technology it always depends on the right mix. The guidance of a user through a good linguistic application is always designed around the caller and allows at any time a connection with a helping agent. Unfortunately, this has not gotten around to all decision makers yet and so solutions which are rather to be understood as a customer's prevention system are found. It simply does not make sense to recite the choice of six or more points for the caller of a service hotline completely, so that the customer can make a decision by pressing a key only after the last choice option. Also a good system requires an automatic connection with an agent, if the caller is not understood proper. Unfortunately here are still often found insufficient solutions or endless waiting queues which do not match the wish of the user at all. A linguistic application should always be effective, quickly and simple. If this is not possible, the operator should reconsider the usage of an application.

EVERYTHING IS POSSIBLE!

Language offers great automation potential, only one must do it properly. If the customer enjoys it or has a clear increase in value, he will use the more cost efficient automation gladly again. If this is not the case, we will still talk much longer about "bad" solutions. However, it is clear that language is the future and we may adjust ourselves always to other and better linguistic applications.

Detlev Artelt

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