



## CREALOG SPEECH PROCESSING

### INTELLIGENT SPEECH RECOGNITION, SPEECH SYNTHESIS AND SPEECH ANALYTICS

CreaLog voice portals stand for conveniently operated, high-performance conversational voice dialogs with high customer acceptance. In 1995, CreaLog presented the first phoneme-based speech recognition system in German for natural, fluidly spoken language ("natural language understanding" or NLU). Today, speech recognition, speech synthesis and voice biometrics technologies from leading providers such as Nuance are integrated in the CreaLog platform.

CreaLog has a vast collection of language material which enables our experts to make objective comparisons of the various products. Thus we can provide multi vendor support in answering key questions such as which technology is best for your specific application, which recognition rates are to be expected and how the dialog flow and recorded messages must be structured to make optimal use of speech recognition.

#### UNDERSTAND WHAT CALLERS WANT

Spoken language is the most natural means of interaction. This is particularly true on the phone, where spoken language is usually also the most efficient means. After all, who hasn't been irritated at some point by cumbersome dialog navigation using a mobile telephone keypad?

Along with suitable base technologies such as speech recognition and synthesis, dialog creation is critically important for the success of a project. This starts with discussing whether in the particular project a dialog with specific prompts such as "Please select one of the following menu items:" or a free dialog with open-ended questions such as "What would you like to do with your bank account?" will achieve greater customer acceptance and a higher level of automation. Concepts such as "mixed initiative" dialogs give the caller the option to speak freely or be guided by the system according to his preferences.

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#### SOLUTION

- Speech recognition
- Speech synthesis
- Voice biometrics

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#### USE

- All types of dialogs requiring reliable speech technology

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#### BENEFITS

- High customer acceptance thanks to well-engineered, reliable technology

The design of the dialog is also very important. Regardless of the type of dialog control, a friendly, easily understandable and directly targeted dialog will satisfy more callers than one which does not meet these criteria.

Voice automation will benefit the company most where business transactions cannot be automated efficiently by other means and a lot of extra value is created for the caller. The greater the usefulness to the customer, the higher the acceptance will be for a voice dialog system.

This is illustrated clearly by the following example. If up to now the caller could only check his account balance and recent transactions using a toll number and also had to wait for a minute or more to speak to a representative in the call center, his response to receiving the same service through a toll-free voice portal number with no waiting will be very positive.

## TECHNOLOGIES USED

- **Speech recognition in more than 80 languages**  
Recognition of individual and compound words (keyword/phrase spotting) in conjunction with semantic analysis and statistical models enables naturally spoken sentences from the caller to be recognized and understood.

- **Speech synthesis (text-to-speech) in more than 40 languages**

Conversion of written text to spoken language. Speech synthesis sounds natural, like the person whose voice it is based on. "Corporate voices", i.e. individual voices for companies or special dialogs, are available.

- **Voice-to-text**

The transcription of spoken language enables telephone conversations to be documented and the contents of conversations to be analyzed afterward. This enables problematic discussions to be identified quickly in order to optimize the dialog or coach call center employees.

- **Voice biometrics**

Voice biometrics enable people to be identified by their voices. To do this, a "voice print" of the caller is created during an initial call in what is referred to as the "enrollment" process. This technology is used frequently with higher security requirements for telephone banking or resetting passwords.

- **Emotion recognition**

Emotion recognition enables happiness, approval and irritation to be detected in dialogs between humans or between a human and a machine. This makes it possible to filter such conversations for later analysis or to respond immediately to the emotions in the phone dialog.

## HIGHLIGHTS

- Uses current, leading edge technology from market leaders
- Professional, proprietary tools for optimizing the base technologies
- Top dialog quality and high recognition rates ensure high customer acceptance

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