



Discover the Experience

Speech Dialog Integration EB GUIDE Speech Target Framework

Target integration of speech grammars

Today voice control of systems is particularly convenient, intuitive and reliable. In addition to graphics display elements, the functional extension of EB GUIDE Speech Extension now also allows easy modeling of speech dialogs. Subsequent HMI meta-file generation with EB GUIDE Speech Target Framework seamlessly integrates the HMI model previously developed with EB GUIDE Speech Extension.

From PC model to embedded speech dialog

EB GUIDE provides great flexibility in your choice of technologies. The tool supports the common modules for automatic speech recognition (ASR) and speech synthesis (TTS - Text-To-Speech). It also allows the integration of various languages for development of multi-national HMI products. The EB GUIDE Speech Target Framework provides the individual applications of infotainment systems with innovative ASR and TTS services.

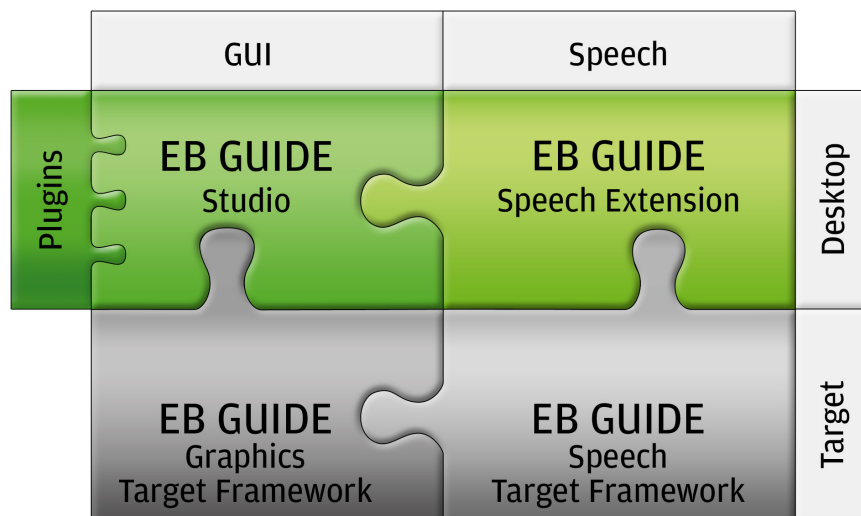
Speech recognition: In addition to inputting conventional navigation targets by voice (VDE), third-party applications such as MP3 player or telephone book entries can be easily controlled by voice (command & control).

Speech synthesis: In the context of navigation e.g. this allows the driver to receive route announcements that inform him about the direction as well as about the names of streets and exits.

EB also develops customer-specific complete or partial speech-dialog-based solutions with automatic speech recognition and generic speech synthesis.

EB GUIDE stands for

- ▶ Efficient tools for the specification, simulation and meta-file generation of multi-modal user interfaces
- ▶ Interface to various ASR and TTS engines
- ▶ Navigation systems with voice input/output
- ▶ Voice control of third-party applications
- ▶ Expertise in embedded software



Speech Target Framework in detail

Specification and simulation with EB GUIDE Speech Extension

- ▶ Speech dialog editor, text-based dialog simulator, separate speech dialog state machine
- ▶ Multi-user mode for simultaneous work by several individuals on different parts of a specification
- ▶ On-the-fly validation of all functionalities of the HMI model
- ▶ Speech dialog simulation
- ▶ Customer-specific design, development, simulation and meta-file generation

Generic speech data

- ▶ Database-driven target framework with dynamic memory
- ▶ Static speech dialog data, e.g. Command&Control for HMI functions
- ▶ Dynamic speech dialog data, e.g. radio station list
- ▶ Different plugins for integrating pre-compiled application-based speech grammars, e.g. navigation service with VDE grammars or address book service with address book grammars
- ▶ OneShot for talking to the system without interruption
- ▶ Grammar specification in SRGS
- ▶ Semantic interpretation with SISR
- ▶ Generic preparation of speech data (XML format)
 - no static compilation

Navigation systems

- ▶ VDE - Voice Destination Entry: Input cities, street names and house numbers by voice
- ▶ Available for EB street director
- ▶ Service for speech dialog systems in the navigation area

Speech recognition

- ▶ Core algorithms
- ▶ Confidence measures
- ▶ Speaker adaptation
- ▶ Phoneticization
- ▶ Grammar design

Supported speech recognition and synthesis engines

- ▶ SVOX
- ▶ Nuance
- ▶ Further engines upon request

Supported operating systems

- ▶ QNX
- ▶ WinCE
- ▶ WinXP
- ▶ Further operating systems upon request

Speech recognition for countries/languages:

Austria, Denmark, France, Germany, Ireland/Great Britain, Italy, Netherlands, Portugal, Spain, Sweden, Switzerland/Liechtenstein

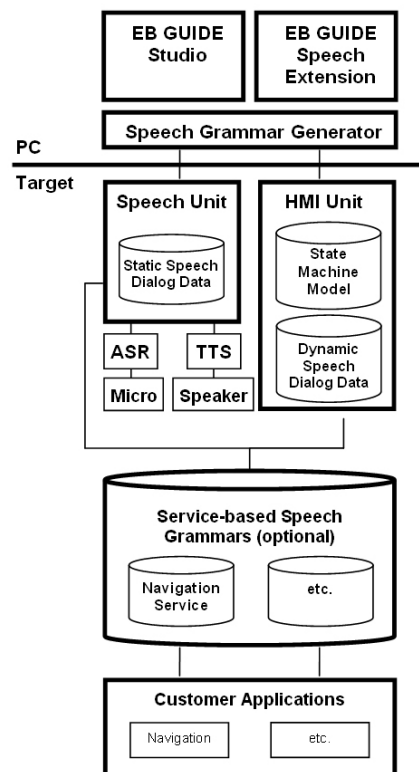
Speech syntheses for countries/languages:

Brazil, Canada, Czech Republic, Denmark, Finland, France, Germany, Great Britain, Greece, Hungary, Italy, Mexico, Netherlands, Norway, Poland, Portugal, Russia, Turkey, Spain, Sweden, US

Meta-file generation for embedded systems

In summer 2007, the first portable navigation device (PND) allowing target input by speech dialog was introduced on the market.

The EB street director navigation solution as well as the EB GUIDE Speech Target Framework platform used for the speech dialog were both available ready-to-use from EB.



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