

## RAPP Platform

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## Chapter 1

## Todo List

**Member** [rapp\\_speech\\_detection\\_sphinx4.greek\\_support.GreekSupport.\\_generic\\_sphinx\\_configuration](#)

Fix this according to the generic Greek model



## Chapter 2

# Namespace Index

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<a href="#">mysql_wrapper_main</a>	11
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## Chapter 3

# Hierarchical Index

### 3.1 Class Hierarchy

This inheritance list is sorted roughly, but not completely, alphabetically:

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# Class Index

### 4.1 Class List

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<a href="#">cognitive_exercise.CognitiveExercise</a>	
The Cognitive exercise ros node . . . . .	20
<a href="#">rapp_audio_processing.rapp_detect_silence.DetectSilence</a>	
Performs silence detection on an audio file . . . . .	22
<a href="#">rapp_audio_processing.rapp_energy_denoise.EnergyDenoise</a>	
Performs energy denoising on an audio file . . . . .	22
<a href="#">rapp_speech_detection_sphinx4.english_support.EnglishSupport</a>	
Allows the creation of configuration files for English Sphinx speech recognition . . . . .	23
<a href="#">FaceDetection</a>	
Class <a href="#">FaceDetection</a> uptakes the task of handling the ROS service callbacks . . . . .	26
<a href="#">FaceDetector</a>	
Class that implements a face detection algorithm based on a Haar cascade classifier . . . . .	28
<a href="#">rapp_speech_detection_sphinx4.global_parameters.GlobalParams</a>	
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<a href="#">rapp_speech_detection_sphinx4.greek_support.GreekSupport</a>	
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<a href="#">KnowrobWrapper</a>	
Class <a href="#">KnowrobWrapperCommunications</a> contains all the necessary knowrob wrapper functions	37
<a href="#">KnowrobWrapperCommunications</a>	
Class <a href="#">KnowrobWrapperCommunications</a> uptakes the task of handling the ROS service callbacks	45
<a href="#">rapp_speech_detection_sphinx4.limited_vocabulary_creator.LimitedVocabularyCreator</a>	
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<a href="#">rapp_speech_detection_sphinx4.speech_recognition_sphinx4_handler_node.SpeechRecognition-Sphinx4HandlerNode</a>	
Maintains Sphinx instances to perform speech recognition	83
<a href="#">speech_recognition_google.SpeechToTextGoogle</a>	
Implements calls the Google ASR API	85
<a href="#">Sphinx4</a>	
Performs speech recognition employing Sphinx	87
<a href="#">rapp_speech_detection_sphinx4.sphinx4_wrapper.Sphinx4Wrapper</a>	
Contains the Sphinx subprocess and is responsible for configuring Sphinx and performing the recognition request	90
<a href="#">rapp_speech_detection_sphinx4.sphinx4_configuration_params.SphinxConfigurationParams</a>	
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## Chapter 6

# Namespace Documentation

### 6.1 `cognitive_exercise` Namespace Reference

#### Classes

- class `CognitiveExercise`  
*The Cognitive exercise ros node.*

### 6.2 `cognitive_exercise_main` Namespace Reference

#### Variables

- tuple `CognitiveExerciseNode = CognitiveExercise()`  
*The main function that initiates the CognitiveExercise ROS Node.*

#### 6.2.1 Variable Documentation

##### 6.2.1.1 `tuple cognitive_exercise_main.CognitiveExerciseNode = CognitiveExercise()`

The main function that initiates the CognitiveExercise ROS Node.

Definition at line 27 of file `cognitive_exercise_main.py`.

### 6.3 `mysql_wrapper` Namespace Reference

#### Classes

- class `MySQLdbWrapper`  
*The mysql wrapper ros node.*

### 6.4 `mysql_wrapper_main` Namespace Reference

#### Variables

- tuple `MySQLWrapperNode = MySQLdbWrapper()`  
*The main function that initiates the rapp mysql wrapper ROS Node.*

### 6.4.1 Variable Documentation

#### 6.4.1.1 tuple mysql\_wrapper\_main.MySQLWrapperNode = MySQLdbWrapper()

The main function that initiates the rapp mysql wrapper ROS Node.

Definition at line 26 of file mysql\_wrapper\_main.py.

## 6.5 rapp\_audio\_processing Namespace Reference

### Namespaces

- [rapp\\_audio\\_processing](#)
- [rapp\\_detect\\_silence](#)
- [rapp\\_energy\\_denoise](#)
- [rapp\\_set\\_noise\\_profile](#)
- [rapp\\_sox\\_denoise](#)
- [rapp\\_transform\\_audio](#)
- [rapp\\_utilities](#)

## 6.6 rapp\_audio\_processing.rapp\_audio\_processing Namespace Reference

### Classes

- class [AudioProcessing](#)  
*Provides audio processing utilities.*

### Variables

- tuple [AudioProcessingNode](#) = [AudioProcessing](#)()

### 6.6.1 Variable Documentation

#### 6.6.1.1 tuple rapp\_audio\_processing.rapp\_audio\_processing.AudioProcessingNode = AudioProcessing()

Definition at line 236 of file rapp\_audio\_processing.py.

## 6.7 rapp\_audio\_processing.rapp\_detect\_silence Namespace Reference

### Classes

- class [DetectSilence](#)  
*Performs silence detection on an audio file.*

## 6.8 rapp\_audio\_processing.rapp\_energy\_denoise Namespace Reference

### Classes

- class [EnergyDenoise](#)  
*Performs energy denoising on an audio file.*

## 6.9 rapp\_audio\_processing.rapp\_set\_noise\_profile Namespace Reference

### Classes

- class [SetNoiseProfile](#)  
*Evaluates the noise profile for an audio file.*

## 6.10 rapp\_audio\_processing.rapp\_sox\_denoise Namespace Reference

### Classes

- class [SoxDenoise](#)  
*Performs denoising on an audio file employing Sox application.*

## 6.11 rapp\_audio\_processing.rapp\_transform\_audio Namespace Reference

### Classes

- class [TransformAudio](#)  
*Provides audio type tranformation functionalities.*

## 6.12 rapp\_audio\_processing.rapp\_utilities Namespace Reference

### Classes

- class [Utilities](#)  
*Provides audio processing utilities.*

## 6.13 rapp\_exceptions Namespace Reference

### Classes

- class [RappError](#)  
*Inherits Exception and is used to catch only RAPP-specific exceptions.*

## 6.14 rapp\_speech\_detection\_sphinx4 Namespace Reference

### Namespaces

- [english\\_support](#)
- [global\\_parameters](#)
- [greek\\_support](#)
- [limited\\_vocabulary\\_creator](#)
- [rapp\\_exceptions](#)
- [rapp\\_tools](#)
- [speech\\_recognition\\_sphinx4](#)
- [speech\\_recognition\\_sphinx4\\_handler\\_node](#)
- [sphinx4\\_configuration\\_params](#)
- [sphinx4\\_wrapper](#)

## 6.15 rapp\_speech\_detection\_sphinx4.english\_support Namespace Reference

### Classes

- class [EnglishSupport](#)  
*Allows the creation of configuration files for English Sphinx speech recognition.*

## 6.16 rapp\_speech\_detection\_sphinx4.global\_parameters Namespace Reference

### Classes

- class [GlobalParams](#)  
*Contains global Sphinx parameters.*

## 6.17 rapp\_speech\_detection\_sphinx4.greek\_support Namespace Reference

### Classes

- class [GreekSupport](#)  
*Allows the creation of configuration files for Greek Sphinx speech recognition.*

## 6.18 rapp\_speech\_detection\_sphinx4.limited\_vocabulary\_creator Namespace Reference

### Classes

- class [LimitedVocabularyCreator](#)  
*Creates temporary configuration files for the input limited vocabulary.*

## 6.19 rapp\_speech\_detection\_sphinx4.rapp\_exceptions Namespace Reference

### Classes

- class [RappError](#)  
*Provides a RAPP specific exception.*

## 6.20 rapp\_speech\_detection\_sphinx4.rapp\_tools Namespace Reference

### Functions

- def [rapp\\_print](#)

### 6.20.1 Function Documentation

#### 6.20.1.1 def rapp\_speech\_detection\_sphinx4.rapp\_tools.rapp\_print ( var )

Definition at line 21 of file rapp\_tools.py.



## 6.21 rapp\_speech\_detection\_sphinx4.speech\_recognition\_sphinx4 Namespace Reference

### Classes

- class [SpeechRecognitionSphinx4](#)  
*Provides a complete Rapp Sphinx Entity.*

### Variables

- tuple [SpeechRecognitionSphinx4Node](#) = [SpeechRecognitionSphinx4\(\)](#)

#### 6.21.1 Variable Documentation

- 6.21.1.1 tuple rapp\_speech\_detection\_sphinx4.speech\_recognition\_sphinx4.SpeechRecognitionSphinx4Node = [SpeechRecognitionSphinx4\(\)](#)

Definition at line 283 of file speech\_recognition\_sphinx4.py.

## 6.22 rapp\_speech\_detection\_sphinx4.speech\_recognition\_sphinx4\_handler\_node Namespace Reference

### Classes

- class [SpeechRecognitionSphinx4HandlerNode](#)  
*Maintains Sphinx instances to perform speech recognition.*

### Variables

- tuple [SpeechRecognitionSphinx4HandlerNode](#) = [SpeechRecognitionSphinx4HandlerNode\(\)](#)

#### 6.22.1 Variable Documentation

- 6.22.1.1 tuple rapp\_speech\_detection\_sphinx4.speech\_recognition\_sphinx4\_handler\_node.SpeechRecognitionSphinx4HandlerNode = [SpeechRecognitionSphinx4HandlerNode\(\)](#)

Definition at line 149 of file speech\_recognition\_sphinx4\_handler\_node.py.

## 6.23 rapp\_speech\_detection\_sphinx4.sphinx4\_configuration\_params Namespace Reference

### Classes

- class [SphinxConfigurationParams](#)  
*Contains the parameters required for the Sphinx configuration.*

## 6.24 rapp\_speech\_detection\_sphinx4.sphinx4\_wrapper Namespace Reference

### Classes

- class [Sphinx4Wrapper](#)

*Contains the Sphinx subprocess and is responsible for configuring Sphinx and performing the recognition request.*

## 6.25 speech\_recognition\_google Namespace Reference

### Classes

- class [SpeechToTextGoogle](#)

*Implements calls the Google ASR API.*

### Variables

- tuple [speech\\_to\\_text\\_node](#) = [SpeechToTextGoogle\(\)](#)

*The main function.*

### 6.25.1 Variable Documentation

6.25.1.1 tuple `speech_recognition_google.speech_to_text_node = SpeechToTextGoogle()`

The main function.

Creates a [SpeechToTextGoogle](#) object

Definition at line 285 of file `speech_recognition_google.py`.

## 6.26 text\_to\_speech\_espeak Namespace Reference

### Classes

- class [TextToSpeechEspeak](#)

### Variables

- tuple [text\\_to\\_speech\\_espeak\\_ros\\_node](#) = [TextToSpeechEspeak\(\)](#)

### 6.26.1 Variable Documentation

6.26.1.1 tuple `text_to_speech_espeak.text_to_speech_espeak_ros_node = TextToSpeechEspeak()`

Definition at line 81 of file `text_to_speech_espeak.py`.

## Chapter 7

# Class Documentation

### 7.1 rapp\_audio\_processing.rapp\_audio\_processing.AudioProcessing Class Reference

Provides audio processing utilities.

#### Public Member Functions

- def [\\_\\_init\\_\\_](#)  
*Constructor performing initializations.*
- def [denoiseCallback](#)  
*Service callback for denoising.*
- def [detectSilenceCallback](#)  
*Service callback for Detecting silence.*
- def [energyDenoiseCallback](#)  
*Service callback for Energy denoising.*
- def [setNoiseProfileCallback](#)  
*Service callback for setting noise profile.*
- def [transformAudioCallback](#)  
*Service callback for Audio transformation.*

#### Private Attributes

- [\\_detect\\_silence\\_module](#)  
*Instantiates [rapp\\_detect\\_silence.DetectSilence](#).*
- [\\_energy\\_denoise\\_module](#)  
*Instantiates [rapp\\_energy\\_denoise.EnergyDenoise](#).*
- [\\_energy\\_denoising\\_debug](#)  
*Energy denoising debug flag.*
- [\\_set\\_noise\\_profile\\_module](#)  
*Instantiates [rapp\\_set\\_noise\\_profile.SetNoiseProfile](#).*
- [\\_sox\\_denoise\\_module](#)  
*Instantiates [rapp\\_sox\\_denoise.SoxDenoise](#).*
- [\\_transform\\_audio\\_module](#)  
*Instantiates [rapp\\_transform\\_audio.TransformAudio](#).*
- [\\_utilities\\_module](#)  
*Instantiates [rapp\\_utilities.Utilities](#).*

### 7.1.1 Detailed Description

Provides audio processing utilities.

Implements service servers to perform denoising, audio transformation etc.

Definition at line 66 of file rapp\_audio\_processing.py.

### 7.1.2 Constructor & Destructor Documentation

#### 7.1.2.1 `def rapp_audio_processing.rapp_audio_processing.AudioProcessing.__init__( self )`

Constructor performing initializations.

Definition at line 69 of file rapp\_audio\_processing.py.

### 7.1.3 Member Function Documentation

#### 7.1.3.1 `def rapp_audio_processing.rapp_audio_processing.AudioProcessing.denoiseCallback( self, req )`

Service callback for denoising.

Parameters

<i>req</i>	[rapp_platform_ros_communications::AudioProcessing::AudioProcessingDenoiseSrv] The denoise request
------------	--

Returns

res [rapp\_platform\_ros\_communications::AudioProcessing::AudioProcessingDenoiseSrvResponse] The denoise response

Definition at line 177 of file rapp\_audio\_processing.py.

#### 7.1.3.2 `def rapp_audio_processing.rapp_audio_processing.AudioProcessing.detectSilenceCallback( self, req )`

Service callback for Detecting silence.

Parameters

<i>req</i>	[rapp_platform_ros_communications::AudioProcessing::AudioProcessingDetectSilence] The detect silence request
------------	--

Returns

res [rapp\_platform\_ros\_communications::AudioProcessing::AudioProcessingDetectSilenceSrvResponse] The detect silence response

Definition at line 192 of file rapp\_audio\_processing.py.

#### 7.1.3.3 `def rapp_audio_processing.rapp_audio_processing.AudioProcessing.energyDenoiseCallback( self, req )`

Service callback for Energy denoising.

## Parameters

<i>req</i>	[rapp_platform_ros_communications::AudioProcessing::AudioProcessingDenoiseSrv] The denoise request
------------	---

## Returns

res [rapp\_platform\_ros\_communications::AudioProcessing::AudioProcessingDenoiseSrvResponse] The energy denoise response

Definition at line 207 of file rapp\_audio\_processing.py.

#### 7.1.3.4 def rapp\_audio\_processing.rapp\_audio\_processing.AudioProcessing.setNoiseProfileCallback ( self, req )

Service callback for setting noise profile.

## Parameters

<i>req</i>	[rapp_platform_ros_communications::AudioProcessing::AudioProcessingSetNoiseProfileSrv] The set noise profile request
------------	---

## Returns

res [rapp\_platform\_ros\_communications::AudioProcessing::AudioProcessingSetNoiseProfileSrvResponse]  
The set noise profile response

Definition at line 142 of file rapp\_audio\_processing.py.

#### 7.1.3.5 def rapp\_audio\_processing.rapp\_audio\_processing.AudioProcessing.transformAudioCallback ( self, req )

Service callback for Audio transformation.

## Parameters

<i>req</i>	[rapp_platform_ros_communications::AudioProcessing::AudioProcessingTransformAudioSrv] The transform audio request
------------	--

## Returns

res [rapp\_platform\_ros\_communications::AudioProcessing::AudioProcessingTransformAudioSrvResponse]  
The transform audio response

Definition at line 223 of file rapp\_audio\_processing.py.

### 7.1.4 Member Data Documentation

#### 7.1.4.1 rapp\_audio\_processing.rapp\_audio\_processing.AudioProcessing.\_detect\_silence\_module [private]

Instantiates [rapp\\_detect\\_silence.DetectSilence](#).

Definition at line 72 of file rapp\_audio\_processing.py.

#### 7.1.4.2 rapp\_audio\_processing.rapp\_audio\_processing.AudioProcessing.\_energy\_denoise\_module [private]

Instantiates [rapp\\_energy\\_denoise.EnergyDenoise](#).

Definition at line 74 of file rapp\_audio\_processing.py.

#### 7.1.4.3 `rapp_audio_processing.rapp_audio_processing.AudioProcessing._energy_denoising_debug` [private]

Energy denoising debug flag.

Definition at line 109 of file `rapp_audio_processing.py`.

#### 7.1.4.4 `rapp_audio_processing.rapp_audio_processing.AudioProcessing._set_noise_profile_module` [private]

Instantiates `rapp_set_noise_profile.SetNoiseProfile`.

Definition at line 80 of file `rapp_audio_processing.py`.

#### 7.1.4.5 `rapp_audio_processing.rapp_audio_processing.AudioProcessing._sox_denoise_module` [private]

Instantiates `rapp_sox_denoise.SoxDenoise`.

Definition at line 76 of file `rapp_audio_processing.py`.

#### 7.1.4.6 `rapp_audio_processing.rapp_audio_processing.AudioProcessing._transform_audio_module` [private]

Instantiates `rapp_transform_audio.TransformAudio`.

Definition at line 82 of file `rapp_audio_processing.py`.

#### 7.1.4.7 `rapp_audio_processing.rapp_audio_processing.AudioProcessing._utilities_module` [private]

Instantiates `rapp_utilities.Utilities`.

Definition at line 78 of file `rapp_audio_processing.py`.

The documentation for this class was generated from the following file:

- `/home/travis/rapp_temp/rapp-platform/rapp_audio_processing/src/rapp_audio_processing/rapp_audio_processing.py`

## 7.2 `cognitive_exercise.CognitiveExercise` Class Reference

The Cognitive exercise ros node.

### Public Member Functions

- `def __init__`  
*Default constructor.*
- `def chooserDataHandler`  
*The cognitive exercise chooser service callback.*
- `def cognitiveTestCreatorDataHandler`  
*The cognitive test creator service callback.*
- `def recordUserCognitiveTestPerformanceDataHandler`  
*The record user cognitive test performance service callback.*

### Public Attributes

- `serv`
- `serv_topic`

### 7.2.1 Detailed Description

The Cognitive exercise ros node.

Definition at line 57 of file cognitive\_exercise.py.

### 7.2.2 Constructor & Destructor Documentation

#### 7.2.2.1 def cognitive\_exercise.CognitiveExercise.\_\_init\_\_( self )

Default contructor.

Waits for services the node depends on and declares the callbacks of the node's services

Definition at line 62 of file cognitive\_exercise.py.

### 7.2.3 Member Function Documentation

#### 7.2.3.1 def cognitive\_exercise.CognitiveExercise.chooserDataHandler ( self, req )

The cognitive exercise chooser service callback.

Parameters

<i>req</i>	[rapp_platform_ros_communications::testSelectorSrvRequest::Request&] The ROS service request
<i>res</i>	[rapp_platform_ros_communications::testSelectorSrvResponse::Response&] The ROS service response

Definition at line 114 of file cognitive\_exercise.py.

#### 7.2.3.2 def cognitive\_exercise.CognitiveExercise.cognitiveTestCreatorDataHandler ( self, req )

The cognitive test creator service callback.

Parameters

<i>req</i>	[rapp_platform_ros_communications::cognitiveTestCreatorSrvRequest::Request&] The ROS service request
<i>res</i>	[rapp_platform_ros_communications::cognitiveTestCreatorSrvResponse::Response&] The ROS service response

Definition at line 131 of file cognitive\_exercise.py.

#### 7.2.3.3 def cognitive\_exercise.CognitiveExercise.recordUserCognitiveTestPerformanceDataHandler ( self, req )

The record user cognitive test performance service callback.

Parameters

<i>req</i>	[rapp_platform_ros_communications::recordUserCognitiveTestPerformanceSrvRequest::Request&] The ROS service request
<i>res</i>	[rapp_platform_ros_communications::recordUserCognitiveTestPerformanceSrvResponse::Response&] The ROS service response

Definition at line 123 of file cognitive\_exercise.py.

### 7.2.4 Member Data Documentation

#### 7.2.4.1 `cognitive_exercise.CognitiveExercise.serv`

Definition at line 99 of file `cognitive_exercise.py`.

#### 7.2.4.2 `cognitive_exercise.CognitiveExercise.serv_topic`

Definition at line 65 of file `cognitive_exercise.py`.

The documentation for this class was generated from the following file:

- `/home/travis/rapp_temp/rapp-platform/rapp_cognitive_exercise/src/cognitive_exercise.py`

### 7.3 `rapp_audio_processing.rapp_detect_silence.DetectSilence` Class Reference

Performs silence detection on an audio file.

#### Public Member Functions

- def `detectSilence`  
*Detects silence.*

#### 7.3.1 Detailed Description

Performs silence detection on an audio file.

Definition at line 29 of file `rapp_detect_silence.py`.

#### 7.3.2 Member Function Documentation

##### 7.3.2.1 `def rapp_audio_processing.rapp_detect_silence.DetectSilence.detectSilence ( self, audio_file, threshold )`

Detects silence.

Handles service callback `rapp_audio_processing.AudioProcessing::detectSilenceCallback`

#### Parameters

<i>audio_file</i>	[string] Audio file path
<i>threshold</i>	[float] Silence threshold

#### Returns

`rsd_sq` [float] Noise relative standard deviation  
`has_silence` [bool] Indicates the existence of silence

Definition at line 41 of file `rapp_detect_silence.py`.

The documentation for this class was generated from the following file:

- `/home/travis/rapp_temp/rapp-platform/rapp_audio_processing/src/rapp_audio_processing/rapp_detect_silence.py`

### 7.4 `rapp_audio_processing.rapp_energy_denoise.EnergyDenoise` Class Reference

Performs energy denoising on an audio file.



## Public Member Functions

- def [energyDenoise](#)  
*Performs energy-based denoising.*

### 7.4.1 Detailed Description

Performs energy denoising on an audio file.

Definition at line 29 of file rapp\_energy\_denoise.py.

### 7.4.2 Member Function Documentation

7.4.2.1 `def rapp_audio_processing.rapp_energy_denoise.EnergyDenoise.energyDenoise ( self, audio_file, scale, denoised_audio_file, energy_denoising_debug )`

Performs energy-based denoising.

Handles service callback [rapp\\_audio\\_processing.AudioProcessing::energyDenoiseCallback](#)

Parameters

<i>audio_file</i>	[string] Audio file path
<i>scale</i>	[float] Energy denoise scale
<i>denoised_audio-_file</i>	[string] Path to write denoised audio file

Definition at line 39 of file rapp\_energy\_denoise.py.

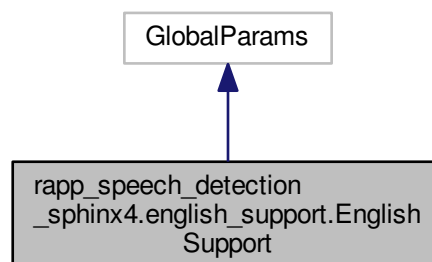
The documentation for this class was generated from the following file:

- /home/travis/rapp\_temp/rapp-platform/rapp\_audio\_processing/src/rapp\_audio\_processing/[rapp\\_energy\\_denoise.py](#)

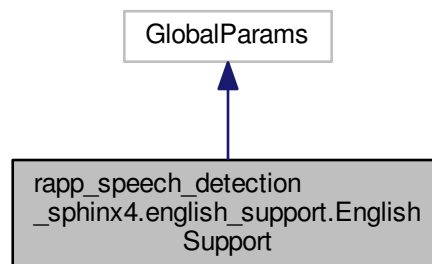
## 7.5 rapp\_speech\_detection\_sphinx4.english\_support.EnglishSupport Class Reference

Allows the creation of configuration files for English Sphinx speech recognition.

Inheritance diagram for rapp\_speech\_detection\_sphinx4.english\_support.EnglishSupport:



Collaboration diagram for `rapp_speech_detection_sphinx4.english_support.EnglishSupport`:



## Public Member Functions

- `def \_\_init\_\_`  
*Performs initializations.*
- `def getGenericConfiguration`  
*Returns the Generic English Configuration.*
- `def getLimitedVocebularyConfiguration`  
*Computes the Limited English Configuration.*
- `def getWordPhonemes`  
*Compute the English word phonemes.*

## Private Attributes

- `\_english\_dict\_file`  
*The English dictionary file.*
- `\_english\_dict\_mapping`  
*The mmap of the English dictionary file contents.*
- `\_generic\_sphinx\_configuration`  
*The generic Sphinx configuration.*
- `\_vocabulary`  
*The limited vocabulary creator.*

### 7.5.1 Detailed Description

Allows the creation of configuration files for English Sphinx speech recognition.

Definition at line 32 of file `english_support.py`.

### 7.5.2 Constructor & Destructor Documentation

#### 7.5.2.1 `def rapp_speech_detection_sphinx4.english_support.EnglishSupport.__init__( self )`

Performs initializations.

Definition at line 35 of file `english_support.py`.

### 7.5.3 Member Function Documentation

#### 7.5.3.1 `def rapp_speech_detection_sphinx4.english_support.EnglishSupport.getGenericConfiguration ( self )`

Returns the Generic English Configuration.

Returns

[\\_generic\\_sphinx\\_configuration](#) [dictionary] The Generic English configuration

Definition at line 149 of file english\_support.py.

#### 7.5.3.2 `def rapp_speech_detection_sphinx4.english_support.EnglishSupport.getLimitedVocebularyConfiguration ( self, words, grammar, sentences )`

Computes the Limited English Configuration.

Parameters

<i>words</i>	[list::string] The set of words to be identified
<i>grammar</i>	[list::string] The Sphinx grammar parameter
<i>sentences</i>	[list::string] The Sphinx sentences parameter

Returns

`limited_sphinx_configuration` [dictionary] The Limited English configuration

Definition at line 133 of file english\_support.py.

#### 7.5.3.3 `def rapp_speech_detection_sphinx4.english_support.EnglishSupport.getWordPhonemes ( self, words )`

Compute the English word phonemes.

Parameters

<i>words</i>	[list::string] The set of English words
--------------	---

Returns

`enhanced_words` [dictionary] The English word->phonemes mapping

Definition at line 89 of file english\_support.py.

### 7.5.4 Member Data Documentation

#### 7.5.4.1 `rapp_speech_detection_sphinx4.english_support.EnglishSupport._english_dict_file` [private]

The English dictionary file.

Located in path [global\\_parameters.GlobalParams::\\_language\\_models\\_url](#) + "/englishPack/cmudict-en-us.dict"

Definition at line 72 of file english\_support.py.

#### 7.5.4.2 `rapp_speech_detection_sphinx4.english_support.EnglishSupport._english_dict_mapping` [private]

The mmap of the English dictionary file contents.

Definition at line 74 of file english\_support.py.

#### 7.5.4.3 `rapp_speech_detection_sphinx4.english_support.EnglishSupport_generic_sphinx_configuration` [private]

The generic Sphinx configuration.

##### Note

Check acoustic model!!

Definition at line 57 of file `english_support.py`.

#### 7.5.4.4 `rapp_speech_detection_sphinx4.english_support.EnglishSupport_vocabulary` [private]

The limited vocabulary creator.

Instantiates [limited\\_vocabulary\\_creator.LimitedVocabularyCreator](#)

Definition at line 41 of file `english_support.py`.

The documentation for this class was generated from the following file:

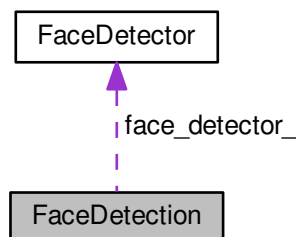
- `/home/travis/rapp_temp/rapp-platform/rapp_speech_detection_sphinx4/src/rapp_speech_detection_sphinx4/`[english\\_support.py](#)

## 7.6 FaceDetection Class Reference

Class [FaceDetection](#) uptakes the task of handling the ROS service callbacks.

```
#include <face_detection.h>
```

Collaboration diagram for FaceDetection:



### Public Member Functions

- [FaceDetection](#) (void)  
*Default constructor.*
- bool [faceDetectionCallback](#) (`rapp_platform_ros_communications::FaceDetectionRosSrv::Request &req`, `rapp_platform_ros_communications::FaceDetectionRosSrv::Response &res`)  
*Serves the face detection ROS service callback.*

## Private Attributes

- [FaceDetector](#) `face_detector_`
- `ros::ServiceServer` `faceDetectionService_`
- `std::string` `faceDetectionTopic_`
- `ros::NodeHandle` `nh_`

### 7.6.1 Detailed Description

Class [FaceDetection](#) uptakes the task of handling the ROS service callbacks.

Definition at line 31 of file `face_detection.h`.

### 7.6.2 Constructor & Destructor Documentation

#### 7.6.2.1 `FaceDetection::FaceDetection ( void )`

Default constructor.

Default constructor. Performs initializations.

Definition at line 24 of file `face_detection.cpp`.

### 7.6.3 Member Function Documentation

#### 7.6.3.1 `bool FaceDetection::faceDetectionCallback ( rapp_platform_ros_communications::FaceDetectionRosSrv::Request & req, rapp_platform_ros_communications::FaceDetectionRosSrv::Response & res )`

Serves the face detection ROS service callback.

Parameters

<i>req</i>	[ <code>rapp_platform_ros_communications::FaceDetectionRosSrv::Request&amp;</code> ] The ROS service request
<i>res</i>	[ <code>rapp_platform_ros_communications::FaceDetectionRosSrv::Response&amp;</code> ] The ROS service response

Returns

`bool` - The success status of the call

Definition at line 42 of file `face_detection.cpp`.

### 7.6.4 Member Data Documentation

#### 7.6.4.1 `FaceDetector FaceDetection::face_detector_ [private]`

Definition at line 62 of file `face_detection.h`.

#### 7.6.4.2 `ros::ServiceServer FaceDetection::faceDetectionService_ [private]`

Member variable holding the face detection ROS service topic

Definition at line 56 of file `face_detection.h`.

#### 7.6.4.3 `std::string FaceDetection::faceDetectionTopic_` [private]

Object of type [FaceDetector](#)

Definition at line 59 of file `face_detection.h`.

#### 7.6.4.4 `ros::NodeHandle FaceDetection::nh_` [private]

< The ROS node handle The face detection service server

Definition at line 53 of file `face_detection.h`.

The documentation for this class was generated from the following files:

- `/home/travis/rapp_temp/rapp-platform/rapp_face_detection/include/face_detection/face_detection.h`
- `/home/travis/rapp_temp/rapp-platform/rapp_face_detection/src/face_detection.cpp`

## 7.7 FaceDetector Class Reference

Class that implements a face detection algorithm based on a Haar cascade classifier.

```
#include <face_detector.h>
```

### Public Member Functions

- [FaceDetector](#) (void)  
*Default constructor.*
- `std::vector< cv::Rect > detectFaces` (const `cv::Mat` &input\_img)  
*Detects faces from a cv::Mat.*
- `std::vector< cv::Rect > findFaces` (std::string file\_name)  
*Finds faces in an image retrieved from a file URL.*
- `cv::Mat loadImage` (std::string file\_name)  
*Loads an image from a file URL.*

### Private Member Functions

- `std::vector< cv::Rect > detectFaces` (const `cv::Mat` &input\_img, const std::string &haar\_path)  
*Detects faces from a cv::Mat.*
- `std::vector< cv::Rect > identifyUniqueFaces` (const std::vector< cv::Rect > firstFaceVector, const std::vector< cv::Rect > secondFaceVector)  
*Identify unique faces from two sets of faces.*

#### 7.7.1 Detailed Description

Class that implements a face detection algorithm based on a Haar cascade classifier.

Definition at line 33 of file `face_detector.h`.

#### 7.7.2 Constructor & Destructor Documentation

##### 7.7.2.1 `FaceDetector::FaceDetector ( void )`

Default constructor.

Definition at line 26 of file `face_detector.cpp`.

### 7.7.3 Member Function Documentation

#### 7.7.3.1 `std::vector< cv::Rect > FaceDetector::detectFaces ( const cv::Mat & input_img )`

Detects faces from a `cv::Mat`.

Parameters

<i>input_img</i>	[const cv::Mat&] The input image
------------------	----------------------------------

Returns

[std::vector<cv::Rect>] A vector containing the detected faces. Each face is represented by a rectangle.

Definition at line 49 of file `face_detector.cpp`.

#### 7.7.3.2 `std::vector< cv::Rect > FaceDetector::detectFaces ( const cv::Mat & input_img, const std::string & haar_path )` [private]

Detects faces from a `cv::Mat`.

Parameters

<i>input_img</i>	[const cv::Mat&] The input image
<i>haar_path</i>	[const std::string] The Haar training model path

Returns

[std::vector<cv::Rect>] A vector containing the detected faces. Each face is represented by a rectangle.

Definition at line 82 of file `face_detector.cpp`.

#### 7.7.3.3 `std::vector< cv::Rect > FaceDetector::findFaces ( std::string file_name )`

Finds faces in an image retrieved from a file URL.

Parameters

<i>file_name</i>	[std::string] The image file's URL
------------------	------------------------------------

Returns

[std::vector<cv::Rect>] A vector containing the detected faces. Each face is represented by a rectangle.

Definition at line 160 of file `face_detector.cpp`.

#### 7.7.3.4 `std::vector< cv::Rect > FaceDetector::identifyUniqueFaces ( const std::vector< cv::Rect > firstFaceVector, const std::vector< cv::Rect > secondFaceVector )` [private]

Identify unique faces from two sets of faces.

Parameters

<i>frontFaceVector</i>	[const std::vector<cv::Rect>&] The first set of faces
------------------------	---

<i>secondFace-Vector</i>	[const std::vector<cv::Rect>&] The second set of faces
--------------------------	--

**Returns**

[std::vector<cv::Rect>] A vector containing the unique faces. Each face is represented by a rectangle.

Definition at line 133 of file face\_detector.cpp.

**7.7.3.5 cv::Mat FaceDetector::loadImage ( std::string file\_name )**

Loads an image from a file URL.

**Parameters**

<i>file_name</i>	[std::string] The image's file URL
------------------	------------------------------------

**Returns**

[cv::Mat] The image in OpenCV representation

Definition at line 35 of file face\_detector.cpp.

The documentation for this class was generated from the following files:

- /home/travis/rapp\_temp/rapp-platform/rapp\_face\_detection/include/face\_detection/[face\\_detector.h](#)
- /home/travis/rapp\_temp/rapp-platform/rapp\_face\_detection/src/[face\\_detector.cpp](#)

**7.8 rapp\_speech\_detection\_sphinx4.global\_parameters.GlobalParams Class Reference**

Contains global Sphinx parameters.

**Public Member Functions**

- [def \\_\\_init\\_\\_](#)

**Public Attributes**

- [rospack](#)

**Private Attributes**

- [\\_acoustic\\_models\\_url](#)  
*Acoustic models path.*
- [\\_allow\\_sphinx\\_output](#)  
*True if Sphinx is allowed output on STDIN, STDERR.*
- [\\_language\\_models\\_url](#)  
*Language models path.*
- [\\_noise\\_profiles\\_url](#)  
*Noise profiles path.*
- [\\_socket\\_host](#)  
*IPC socket HOST parameter.*



- [\\_sphinx\\_jar\\_file](#)  
*Sphinx jar file path.*
- [\\_sphinx\\_jar\\_files\\_url](#)  
*Java libraries path.*
- [\\_sphinx\\_package\\_url](#)  
*Sphinx package path.*
- [\\_tmp\\_language\\_models\\_url](#)  
*Temporary language models path.*

### 7.8.1 Detailed Description

Contains global Sphinx parameters.

Definition at line 22 of file global\_parameters.py.

### 7.8.2 Constructor & Destructor Documentation

#### 7.8.2.1 `def rapp_speech_detection_sphinx4.global_parameters.GlobalParams.__init__( self )`

Definition at line 23 of file global\_parameters.py.

### 7.8.3 Member Data Documentation

#### 7.8.3.1 `rapp_speech_detection_sphinx4.global_parameters.GlobalParams._acoustic_models_url` [private]

Acoustic models path.

Definition at line 38 of file global\_parameters.py.

#### 7.8.3.2 `rapp_speech_detection_sphinx4.global_parameters.GlobalParams._allow_sphinx_output` [private]

True if Sphinx is allowed output on STDIN, STDERR.

Definition at line 43 of file global\_parameters.py.

#### 7.8.3.3 `rapp_speech_detection_sphinx4.global_parameters.GlobalParams._language_models_url` [private]

Language models path.

Definition at line 31 of file global\_parameters.py.

#### 7.8.3.4 `rapp_speech_detection_sphinx4.global_parameters.GlobalParams._noise_profiles_url` [private]

Noise profiles path.

Definition at line 36 of file global\_parameters.py.

#### 7.8.3.5 `rapp_speech_detection_sphinx4.global_parameters.GlobalParams._socket_host` [private]

IPC socket HOST parameter.

Definition at line 45 of file global\_parameters.py.

#### 7.8.3.6 `rapp_speech_detection_sphinx4.global_parameters.GlobalParams._sphinx_jar_file` [private]

Sphinx jar file path.

Definition at line 41 of file `global_parameters.py`.

#### 7.8.3.7 `rapp_speech_detection_sphinx4.global_parameters.GlobalParams._sphinx_jar_files_url` [private]

Java libraries path.

Definition at line 27 of file `global_parameters.py`.

#### 7.8.3.8 `rapp_speech_detection_sphinx4.global_parameters.GlobalParams._sphinx_package_url` [private]

Sphinx package path.

Definition at line 29 of file `global_parameters.py`.

#### 7.8.3.9 `rapp_speech_detection_sphinx4.global_parameters.GlobalParams._tmp_language_models_url` [private]

Temporary language models path.

Definition at line 33 of file `global_parameters.py`.

#### 7.8.3.10 `rapp_speech_detection_sphinx4.global_parameters.GlobalParams.rospack`

Definition at line 24 of file `global_parameters.py`.

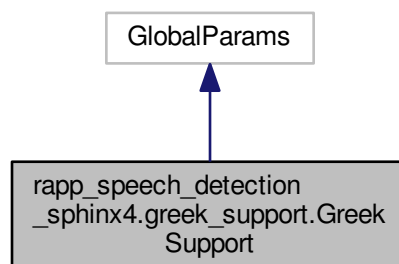
The documentation for this class was generated from the following file:

- [/home/travis/rapp\\_temp/rapp-platform/rapp\\_speech\\_detection\\_sphinx4/src/rapp\\_speech\\_detection\\_sphinx4/global\\_parameters.py](/home/travis/rapp_temp/rapp-platform/rapp_speech_detection_sphinx4/src/rapp_speech_detection_sphinx4/global_parameters.py)

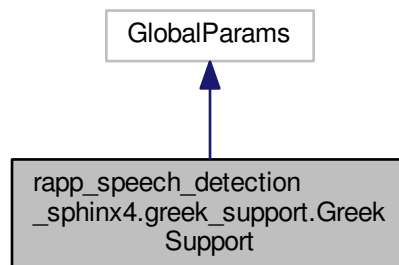
## 7.9 `rapp_speech_detection_sphinx4.greek_support.GreekSupport` Class Reference

Allows the creation of configuration files for Greek Sphinx speech recognition.

Inheritance diagram for `rapp_speech_detection_sphinx4.greek_support.GreekSupport`:



Collaboration diagram for rapp\_speech\_detection\_sphinx4.greek\_support.GreekSupport:



### Public Member Functions

- def [\\_\\_init\\_\\_](#)  
*Performs initializations.*
- def [getGenericConfiguration](#)  
*Returns the Generic Greek Configuration.*
- def [getLimitedVocebularyConfiguration](#)  
*Computes the Limited Greek Configuration.*

### Private Member Functions

- def [\\_configureLetters](#)  
*Creates the basic Greek letter to English configuration.*
- def [\\_englify\\_words](#)  
*Englify Greek words.*
- def [\\_separateEngGrWords](#)  
*Separates English from Greek words.*
- def [\\_transformWords](#)  
*Transforms the Greek words into phonemes for the Sphinx configuration.*

### Private Attributes

- [\\_all\\_special\\_two\\_digit\\_letters](#)  
*All special two digit Greek letter-> English phonemes mapping.*
- [\\_capital\\_letters](#)  
*Greek uppercase to lowercase mapping.*
- [\\_english\\_support](#)  
*Allows the creation of configuration files for English words.*
- [\\_generic\\_sphinx\\_configuration](#)  
*The generic Sphinx configuration.*
- [\\_letters](#)  
*Standard Greek letter-> English phonemes mapping.*
- [\\_literal\\_letters](#)

- [\\_phonemes](#)  
*Greek letters->English letters mapping.*
- [\\_s\\_specific\\_rules](#)  
*Greek words->English standard phonemes mapping.*
- [\\_special\\_two\\_digit\\_letters](#)  
*Special Greek words ->English phonemes mapping.*
- [\\_two\\_digit\\_letters](#)  
*Special two digit Greek letter->English phonemes mapping.*
- [\\_vocabulary](#)  
*Two digit Greek letters->English phonemes mapping.*
- [\\_vocabulary](#)  
*The limited vocabulary creator.*

### 7.9.1 Detailed Description

Allows the creation of configuration files for Greek Sphinx speech recognition.

Also supports multilanguage words (English/Greek) by utilizing [english\\_support.EnglishSupport](#)

Definition at line 38 of file greek\_support.py.

### 7.9.2 Constructor & Destructor Documentation

#### 7.9.2.1 `def rapp_speech_detection_sphinx4.greek_support.GreekSupport.__init__( self )`

Performs initializations.

Definition at line 41 of file greek\_support.py.

### 7.9.3 Member Function Documentation

#### 7.9.3.1 `def rapp_speech_detection_sphinx4.greek_support.GreekSupport._configureLetters( self )` [private]

Creates the basic Greek letter to English configuration.

Definition at line 107 of file greek\_support.py.

#### 7.9.3.2 `def rapp_speech_detection_sphinx4.greek_support.GreekSupport._englify_words( self, words )` [private]

Englify Greek words.

Parameters

<i>words</i>	[list::string] The set of Greek words
--------------	---------------------------------------

Definition at line 346 of file greek\_support.py.

#### 7.9.3.3 `def rapp_speech_detection_sphinx4.greek_support.GreekSupport._separateEngGrWords( self, words, grammar, sentences )` [private]

Separates English from Greek words.

## Parameters

<i>words</i>	[list::string] The set of words to be identified
<i>grammar</i>	[list::string] The Sphinx grammar parameter
<i>sentences</i>	[list::string] The Sphinx sentences parameter

## Returns

english\_words [list::string] The set of English words  
 english\_grammar [list::string] The set of English grammar  
 english\_sentences [list::string] The set of English sentences  
 greek\_words [list::string] The set of Greek words  
 greek\_grammar [list::string] The set of Greek words  
 greek\_sentences [list::string] The set of Greek words

Definition at line 371 of file greek\_support.py.

7.9.3.4 `def rapp_speech_detection_sphinx4.greek_support.GreekSupport._transformWords ( self, words )` [private]

Transforms the Greek words into phonemes for the Sphinx configuration.

## Parameters

<i>words</i>	[list::string] The set of Greek words
--------------	---------------------------------------

## Returns

enhanced\_words [dictionary] The Greek word->phonemes mapping  
 englified\_words [dictionary] The Greek word->Englified Greek word mapping

Definition at line 297 of file greek\_support.py.

7.9.3.5 `def rapp_speech_detection_sphinx4.greek_support.GreekSupport.getGenericConfiguration ( self )`

Returns the Generic Greek Configuration.

## Returns

[\\_generic\\_sphinx\\_configuration](#) [dictionary] The Generic Greek configuration

Definition at line 459 of file greek\_support.py.

7.9.3.6 `def rapp_speech_detection_sphinx4.greek_support.GreekSupport.getLimitedVocebularyConfiguration ( self, words, grammar, sentences )`

Computes the Limited Greek Configuration.

## Parameters

<i>words</i>	[list::string] The set of words to be identified
<i>grammar</i>	[list::string] The Sphinx grammar parameter
<i>sentences</i>	[list::string] The Sphinx sentences parameter

## Returns

limited\_sphinx\_configuration [dictionary] The Limited Greek configuration  
 englified\_to\_greek\_dict [dictionary] A dictionary to transform the englified greek words to actual greek words

Definition at line 417 of file greek\_support.py.

### 7.9.4 Member Data Documentation

#### 7.9.4.1 `rapp_speech_detection_sphinx4.greek_support.GreekSupport._all_special_two_digit_letters` [private]

All special two digit Greek letter->English phonemes mapping.

Definition at line 96 of file `greek_support.py`.

#### 7.9.4.2 `rapp_speech_detection_sphinx4.greek_support.GreekSupport._capital_letters` [private]

Greek uppercase to lowercase mapping.

Definition at line 88 of file `greek_support.py`.

#### 7.9.4.3 `rapp_speech_detection_sphinx4.greek_support.GreekSupport._english_support` [private]

Allows the creation of configuration files for English words.

Instantiates [english\\_support.EnglishSupport](#) to identify english words

Definition at line 76 of file `greek_support.py`.

#### 7.9.4.4 `rapp_speech_detection_sphinx4.greek_support.GreekSupport._generic_sphinx_configuration` [private]

The generic Sphinx configuration.

Grammar is dummy here..

**Todo** Fix this according to the generic Greek model

Definition at line 62 of file `greek_support.py`.

#### 7.9.4.5 `rapp_speech_detection_sphinx4.greek_support.GreekSupport._letters` [private]

Standard Greek letter->English phonemes mapping.

Definition at line 100 of file `greek_support.py`.

#### 7.9.4.6 `rapp_speech_detection_sphinx4.greek_support.GreekSupport._literal_letters` [private]

Greek letters->English letters mapping.

Definition at line 102 of file `greek_support.py`.

#### 7.9.4.7 `rapp_speech_detection_sphinx4.greek_support.GreekSupport._phonemes` [private]

Greek words->English standard phonemes mapping.

Definition at line 90 of file `greek_support.py`.

#### 7.9.4.8 `rapp_speech_detection_sphinx4.greek_support.GreekSupport._s_specific_rules` [private]

Special Greek words ->English phonemes mapping.

Definition at line 98 of file `greek_support.py`.

#### 7.9.4.9 `rapp_speech_detection_sphinx4.greek_support.GreekSupport_special_two_digit_letters` [private]

Special two digit Greek letter->English phonemes mapping.

Definition at line 94 of file `greek_support.py`.

#### 7.9.4.10 `rapp_speech_detection_sphinx4.greek_support.GreekSupport_two_digit_letters` [private]

Two digit Greek letters->English phonemes mapping.

Definition at line 92 of file `greek_support.py`.

#### 7.9.4.11 `rapp_speech_detection_sphinx4.greek_support.GreekSupport_vocabulary` [private]

The limited vocabulary creator.

Instantiates [limited\\_vocabulary\\_creator.LimitedVocabularyCreator](#)

Definition at line 47 of file `greek_support.py`.

The documentation for this class was generated from the following file:

- `/home/travis/rapp_temp/rapp-platform/rapp_speech_detection_sphinx4/src/rapp_speech_detection_sphinx4/greek-support.py`

## 7.10 KnowrobWrapper Class Reference

Class [KnowrobWrapperCommunications](#) contains all the necessary knowrob wrapper functions.

```
#include <knowrob_wrapper.h>
```

### Public Member Functions

- [KnowrobWrapper](#) (ros::NodeHandle nh)  
*Default constructor.*
- `rapp_platform_ros_communications::assertRetractAttributeSrv::Response` [assertAttributeValue](#) (`rapp_platform_ros_communications::assertRetractAttributeSrv::Request req`)  
*Implements the assertRetractAttribute ROS service.*
- `rapp_platform_ros_communications::clearUserPerformanceCognitiveTestsSrv::Response` [clear\\_user\\_cognitive\\_tests\\_performance\\_records](#) (`rapp_platform_ros_communications::clearUserPerformanceCognitiveTestsSrv::Request req`)  
*Implements the clear\_user\_cognitive\_tests\_performance\_records ROS service.*
- `rapp_platform_ros_communications::cognitiveTestsOfTypeSrv::Response` [cognitive\\_tests\\_of\\_type](#) (`rapp_platform_ros_communications::cognitiveTestsOfTypeSrv::Request req`)  
*Implements the cognitive\_tests\_of\_type ROS service.*
- `rapp_platform_ros_communications::createCognitiveExerciseTestSrv::Response` [create\\_cognitive\\_tests](#) (`rapp_platform_ros_communications::createCognitiveExerciseTestSrv::Request req`)  
*Implements the create\_cognitive\_tests ROS service.*
- `rapp_platform_ros_communications::createOntologyAliasSrv::Response` [create\\_ontology\\_alias](#) (`rapp_platform_ros_communications::createOntologyAliasSrv::Request req`)  
*Implements the create\_ontology\_alias ROS service.*
- `std::string` [create\\_ontology\\_alias\\_for\\_new\\_user](#) (`std::string user_id`)  
*Creates a new ontology alias for a user.*
- `rapp_platform_ros_communications::createInstanceSrv::Response` [createInstanceQuery](#) (`rapp_platform_ros_communications::createInstanceSrv::Request req`)

*Implements the createInstance ROS service.*

- rapp\_platform\_ros\_communications::ontologyLoadDumpSrv::Response [dumpOntologyQuery](#) (rapp\_platform\_ros\_communications::ontologyLoadDumpSrv::Request req)

*Implements the dumpOntology ROS service.*

- std::string [get\\_ontology\\_alias](#) (std::string user\_id)

*Returns the ontology alias of the user.*

- rapp\_platform\_ros\_communications::ontologyIsSubSuperClassOfSrv::Response [isSubSuperclassOfQuery](#) (rapp\_platform\_ros\_communications::ontologyIsSubSuperClassOfSrv::Request req)

*Implements the isSubSuperclass ROS service.*

- rapp\_platform\_ros\_communications::ontologyLoadDumpSrv::Response [loadOntologyQuery](#) (rapp\_platform\_ros\_communications::ontologyLoadDumpSrv::Request req)

*Implements the loadOntology ROS service.*

- rapp\_platform\_ros\_communications::recordUserPerformanceCognitiveTestsSrv::Response [record\\_user\\_cognitive\\_tests\\_performance](#) (rapp\_platform\_ros\_communications::recordUserPerformanceCognitiveTestsSrv::Request req)

*Implements the record\_user\_cognitive\_tests\_performance ROS service.*

- rapp\_platform\_ros\_communications::ontologySubSuperClassesOfSrv::Response [subclassesOfQuery](#) (rapp\_platform\_ros\_communications::ontologySubSuperClassesOfSrv::Request req)

*Implements the subclassesOf ROS service.*

- rapp\_platform\_ros\_communications::ontologySubSuperClassesOfSrv::Response [superclassesOfQuery](#) (rapp\_platform\_ros\_communications::ontologySubSuperClassesOfSrv::Request req)

*Implements the superclassesOf ROS service.*

- rapp\_platform\_ros\_communications::returnUserInstancesOfClassSrv::Response [user\\_instances\\_of\\_class](#) (rapp\_platform\_ros\_communications::returnUserInstancesOfClassSrv::Request req)

*Implements the returnUserInstancesOfClass ROS service.*

- rapp\_platform\_ros\_communications::userPerformanceCognitiveTestsSrv::Response [user\\_performance\\_cognitive\\_tests](#) (rapp\_platform\_ros\_communications::userPerformanceCognitiveTestsSrv::Request req)

*Implements the user\_performance\_cognitive\_tests ROS service.*

## Private Attributes

- ros::ServiceClient [mysql\\_fetch\\_client](#)
- ros::ServiceClient [mysql\\_update\\_client](#)
- ros::ServiceClient [mysql\\_write\\_client](#)
- ros::NodeHandle [nh\\_](#)
- json\_prolog::Prolog [pl](#)

## 7.10.1 Detailed Description

Class [KnowrobWrapperCommunications](#) contains all the necessary knowrob wrapper functions.

Definition at line 46 of file knowrob\_wrapper.h.

## 7.10.2 Constructor & Destructor Documentation

### 7.10.2.1 KnowrobWrapper::KnowrobWrapper ( ros::NodeHandle nh )

Default constructor.

Definition at line 30 of file knowrob\_wrapper.cpp.



### 7.10.3 Member Function Documentation

7.10.3.1 `rapp_platform_ros_communications::assertRetractAttributeSrv::Response` `KnowrobWrapper::assertAttributeValue ( rapp_platform_ros_communications::assertRetractAttributeSrv::Request req )`

Implements the `assertRetractAttribute` ROS service.

## Parameters

<i>req</i>	[rapp_platform_ros_communications::assertRetractAttributeSrv::Request&] The ROS service request
------------	---

## Returns

res [rapp\_platform\_ros\_communications::assertRetractAttributeSrv::Response&] The ROS service response

**7.10.3.2** `rapp_platform_ros_communications::clearUserPerformanceCognitiveTestsSrv::Response`  
`KnowrobWrapper::clear_user_cognitive_tests_performance_records ( rapp_platform_ros_communications::clearUserPerformanceCognitiveTestsSrv::Request req )`

Implements the clear\_user\_cognitive\_tests\_performance\_records ROS service.

## Parameters

<i>req</i>	[rapp_platform_ros_communications::clearUserPerformanceCognitiveTestsSrv::Request&] The ROS service request
------------	---

## Returns

res [rapp\_platform\_ros\_communications::clearUserPerformanceCognitiveTestsSrv::Response&] The ROS service response

Definition at line 458 of file knowrob\_wrapper.cpp.

**7.10.3.3** `rapp_platform_ros_communications::cognitiveTestsOfTypeSrv::Response` `KnowrobWrapper::cognitive_tests_of_type ( rapp_platform_ros_communications::cognitiveTestsOfTypeSrv::Request req )`

Implements the cognitive\_tests\_of\_type ROS service.

## Parameters

<i>req</i>	[rapp_platform_ros_communications::cognitiveTestsOfTypeSrv::Request&] The ROS service request
------------	---

## Returns

res [rapp\_platform\_ros\_communications::cognitiveTestsOfTypeSrv::Response&] The ROS service response

Definition at line 321 of file knowrob\_wrapper.cpp.

**7.10.3.4** `rapp_platform_ros_communications::createCognitiveExerciseTestSrv::Response` `KnowrobWrapper::create_cognitive_tests ( rapp_platform_ros_communications::createCognitiveExerciseTestSrv::Request req )`

Implements the create\_cognitive\_tests ROS service.

## Parameters

<i>req</i>	[rapp_platform_ros_communications::createCognitiveExerciseTestSrv::Request&] The ROS service request
------------	--

## Returns

res [rapp\_platform\_ros\_communications::createCognitiveExerciseTestSrv::Response&] The ROS service response

Definition at line 248 of file knowrob\_wrapper.cpp.

### 7.10.3.5 rapp\_platform\_ros\_communications::createOntologyAliasSrv::Response KnowrobWrapper::create\_ontology\_alias ( rapp\_platform\_ros\_communications::createOntologyAliasSrv::Request req )

Implements the create\_ontology\_alias ROS service.

#### Parameters

<i>req</i>	[rapp_platform_ros_communications::createOntologyAliasSrv::Request&] The ROS service request
------------	--

#### Returns

res [rapp\_platform\_ros\_communications::createOntologyAliasSrv::Response&] The ROS service response

Definition at line 513 of file knowrob\_wrapper.cpp.

### 7.10.3.6 std::string KnowrobWrapper::create\_ontology\_alias\_for\_new\_user ( std::string user\_id )

Creates a new ontology alias for a user.

#### Parameters

<i>user_id</i>	[string] The username of the user
----------------	-----------------------------------

#### Returns

ontology\_alias [string] The ontology\_alias of the user or possible error

Definition at line 134 of file knowrob\_wrapper.cpp.

### 7.10.3.7 rapp\_platform\_ros\_communications::createInstanceSrv::Response KnowrobWrapper::createInstanceQuery ( rapp\_platform\_ros\_communications::createInstanceSrv::Request req )

Implements the createInstance ROS service.

#### Parameters

<i>req</i>	[rapp_platform_ros_communications::createInstanceSrv::Request&] The ROS service request
------------	---

#### Returns

res [rapp\_platform\_ros\_communications::createInstanceSrv::Response&] The ROS service response

Definition at line 757 of file knowrob\_wrapper.cpp.

### 7.10.3.8 rapp\_platform\_ros\_communications::ontologyLoadDumpSrv::Response KnowrobWrapper::dumpOntologyQuery ( rapp\_platform\_ros\_communications::ontologyLoadDumpSrv::Request req )

Implements the dumpOntology ROS service.

#### Parameters

<i>req</i>	[rapp_platform_ros_communications::ontologyLoadDumpSrv::Request&] The ROS service request
------------	---

#### Returns

res [rapp\_platform\_ros\_communications::ontologyLoadDumpSrv::Response&] The ROS service response

Definition at line 924 of file knowrob\_wrapper.cpp.

#### 7.10.3.9 `std::string KnowrobWrapper::get_ontology_alias ( std::string user_id )`

Returns the ontology alias of the user.

##### Parameters

<i>user_id</i>	[string] The username of the user
----------------	-----------------------------------

##### Returns

ontology\_alias [string] The ontology\_alias of the user or possible error

Definition at line 95 of file knowrob\_wrapper.cpp.

#### 7.10.3.10 `rapp_platform_ros_communications::ontologyIsSubSuperClassOfSrv::Response KnowrobWrapper::isSubSuperclassOfQuery ( rapp_platform_ros_communications::ontologyIsSubSuperClassOfSrv::Request req )`

Implements the isSubSuperclass ROS service.

##### Parameters

<i>req</i>	[rapp_platform_ros_communications::ontologyIsSubSuperClassOfSrv::Request&] The ROS service request
------------	--

##### Returns

res [rapp\_platform\_ros\_communications::ontologyIsSubSuperClassOfSrv::Response&] The ROS service response

Definition at line 687 of file knowrob\_wrapper.cpp.

#### 7.10.3.11 `rapp_platform_ros_communications::ontologyLoadDumpSrv::Response KnowrobWrapper::loadOntologyQuery ( rapp_platform_ros_communications::ontologyLoadDumpSrv::Request req )`

Implements the loadOntology ROS service.

##### Parameters

<i>req</i>	[rapp_platform_ros_communications::ontologyLoadDumpSrv::Request&] The ROS service request
------------	---

##### Returns

res [rapp\_platform\_ros\_communications::ontologyLoadDumpSrv::Response&] The ROS service response

Definition at line 989 of file knowrob\_wrapper.cpp.

#### 7.10.3.12 `rapp_platform_ros_communications::recordUserPerformanceCognitiveTestsSrv::Response KnowrobWrapper::record_user_cognitive_tests_performance ( rapp_platform_ros_communications::recordUserPerformanceCognitiveTestsSrv::Request req )`

Implements the record\_user\_cognitive\_tests\_performance ROS service.

## Parameters

<i>req</i>	[rapp_platform_ros_communications::recordUserPerformanceCognitiveTestsSrv::Request&] The ROS service request
------------	---

## Returns

res [rapp\_platform\_ros\_communications::recordUserPerformanceCognitiveTestsSrv::Response&] The ROS service response

Definition at line 195 of file knowrob\_wrapper.cpp.

```
7.10.3.13 rapp_platform_ros_communications::ontologySubSuperClassesOfSrv::Response KnowrobWrapper-
::subclassesOfQuery ( rapp_platform_ros_communications::ontologySubSuperClassesOfSrv::Request req
)
```

Implements the subclassesOf ROS service.

## Parameters

<i>req</i>	[rapp_platform_ros_communications::ontologySubSuperClassesOfSrv::Request&] The ROS service request
------------	--

## Returns

res [rapp\_platform\_ros\_communications::ontologySubSuperClassesOfSrv::Response&] The ROS service response

Definition at line 546 of file knowrob\_wrapper.cpp.

```
7.10.3.14 rapp_platform_ros_communications::ontologySubSuperClassesOfSrv::Response KnowrobWrapper-
::superclassesOfQuery ( rapp_platform_ros_communications::ontologySubSuperClassesOfSrv::Request req
)
```

Implements the superclassesOf ROS service.

## Parameters

<i>req</i>	[rapp_platform_ros_communications::ontologySubSuperClassesOfSrv::Request&] The ROS service request
------------	--

## Returns

res [rapp\_platform\_ros\_communications::ontologySubSuperClassesOfSrv::Response&] The ROS service response

Definition at line 617 of file knowrob\_wrapper.cpp.

```
7.10.3.15 rapp_platform_ros_communications::returnUserInstancesOfClassSrv::Response KnowrobWrapper::user_
instances_of_class ( rapp_platform_ros_communications::returnUserInstancesOfClassSrv::Request req
)
```

Implements the returnUserInstancesOfClass ROS service.

**Parameters**

<i>req</i>	[rapp_platform_ros_communications::returnUserInstancesOfClassSrv::Request&] The ROS service request
------------	---

**Returns**

res [rapp\_platform\_ros\_communications::returnUserInstancesOfClassSrv::Response&] The ROS service response

Definition at line 1037 of file knowrob\_wrapper.cpp.

```
7.10.3.16 rapp_platform_ros_communications::userPerformanceCognitiveTestsSrv::Response KnowrobWrapper::user_
performance_cognitive_tests ( rapp_platform_ros_communications::userPerformanceCognitiveTestsSrv::Request req
)
```

Implements the user\_performance\_cognitive\_tests ROS service.

**Parameters**

<i>req</i>	[rapp_platform_ros_communications::userPerformanceCognitiveTestsSrv::Request&] The ROS service request
------------	--

**Returns**

res [rapp\_platform\_ros\_communications::userPerformanceCognitiveTestsSrv::Response&] The ROS service response

Definition at line 390 of file knowrob\_wrapper.cpp.

**7.10.4 Member Data Documentation**

7.10.4.1 **ros::ServiceClient KnowrobWrapper::mysql\_fetch\_client** [private]

The mysql update tblUser client server

Definition at line 59 of file knowrob\_wrapper.h.

7.10.4.2 **ros::ServiceClient KnowrobWrapper::mysql\_update\_client** [private]

Definition at line 62 of file knowrob\_wrapper.h.

7.10.4.3 **ros::ServiceClient KnowrobWrapper::mysql\_write\_client** [private]

The mysql fetch from tblUser client server

Definition at line 56 of file knowrob\_wrapper.h.

7.10.4.4 **ros::NodeHandle KnowrobWrapper::nh\_** [private]

< The ROS node handle The json prolog handle

Definition at line 50 of file knowrob\_wrapper.h.

## 7.10.4.5 json\_prolog::Prolog KnowrobWrapper::pl [private]

The mysql write to tblUser client server

Definition at line 53 of file knowrob\_wrapper.h.

The documentation for this class was generated from the following files:

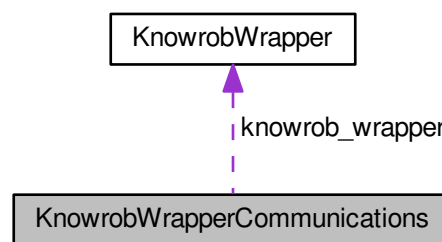
- /home/travis/rapp\_temp/rapp-platform/rapp\_knowrob\_wrapper/include/knowrob\_wrapper/[knowrob\\_wrapper.h](#)
- /home/travis/rapp\_temp/rapp-platform/rapp\_knowrob\_wrapper/src/[knowrob\\_wrapper.cpp](#)

## 7.11 KnowrobWrapperCommunications Class Reference

Class [KnowrobWrapperCommunications](#) uptakes the task of handling the ROS service callbacks.

```
#include <knowrob_wrapper_communications.h>
```

Collaboration diagram for KnowrobWrapperCommunications:



### Public Member Functions

- [KnowrobWrapperCommunications](#) ()  
*Default constructor.*
- bool [clear\\_user\\_cognitive\\_tests\\_performance\\_records\\_callback](#) (rapp\_platform\_ros\_communications::clearUserPerformanceCognitiveTestsSrv::Request &req, rapp\_platform\_ros\_communications::clearUserPerformanceCognitiveTestsSrv::Response &res)  
*Serves the clear\_user\_cognitive\_tests\_performance\_records ROS service callback.*
- bool [cognitive\\_tests\\_of\\_type\\_callback](#) (rapp\_platform\_ros\_communications::cognitiveTestsOfTypeSrv::Request &req, rapp\_platform\_ros\_communications::cognitiveTestsOfTypeSrv::Response &res)  
*Serves the cognitive\_tests\_of\_type ROS service callback.*
- bool [create\\_cognitive\\_tests\\_callback](#) (rapp\_platform\_ros\_communications::createCognitiveExerciseTestSrv::Request &req, rapp\_platform\_ros\_communications::createCognitiveExerciseTestSrv::Response &res)  
*Serves the create\_cognitive\_tests ROS service callback.*
- bool [create\\_ontology\\_alias\\_callback](#) (rapp\_platform\_ros\_communications::createOntologyAliasSrv::Request &req, rapp\_platform\_ros\_communications::createOntologyAliasSrv::Response &res)  
*Serves the create\_ontology\_alias ROS service callback.*
- bool [createInstanceCallback](#) (rapp\_platform\_ros\_communications::createInstanceSrv::Request &req, rapp\_platform\_ros\_communications::createInstanceSrv::Response &res)  
*Serves the createInstance ROS service callback.*

- bool [dumpOntologyCallback](#) (rapp\_platform\_ros\_communications::ontologyLoadDumpSrv::Request &req, rapp\_platform\_ros\_communications::ontologyLoadDumpSrv::Response &res)  
*Serves the dumpOntology ROS service callback.*
- bool [isSubSuperclassOfCallback](#) (rapp\_platform\_ros\_communications::ontologyIsSubSuperClassOfSrv::Request &req, rapp\_platform\_ros\_communications::ontologyIsSubSuperClassOfSrv::Response &res)  
*Serves the isSubSuperclassOf ROS service callback.*
- bool [loadOntologyCallback](#) (rapp\_platform\_ros\_communications::ontologyLoadDumpSrv::Request &req, rapp\_platform\_ros\_communications::ontologyLoadDumpSrv::Response &res)  
*Serves the loadOntology ROS service callback.*
- bool [record\\_user\\_cognitive\\_tests\\_performance\\_callback](#) (rapp\_platform\_ros\_communications::recordUserPerformanceCognitiveTestsSrv::Request &req, rapp\_platform\_ros\_communications::recordUserPerformanceCognitiveTestsSrv::Response &res)  
*Serves the record\_user\_cognitive\_tests\_performance ROS service callback.*
- bool [subclassesOfCallback](#) (rapp\_platform\_ros\_communications::ontologySubSuperClassesOfSrv::Request &req, rapp\_platform\_ros\_communications::ontologySubSuperClassesOfSrv::Response &res)  
*Serves the subclassesOf ROS service callback.*
- bool [superclassesOfCallback](#) (rapp\_platform\_ros\_communications::ontologySubSuperClassesOfSrv::Request &req, rapp\_platform\_ros\_communications::ontologySubSuperClassesOfSrv::Response &res)  
*Serves the superlassesOf ROS service callback.*
- bool [user\\_instances\\_of\\_class\\_callback](#) (rapp\_platform\_ros\_communications::returnUserInstancesOfClassSrv::Request &req, rapp\_platform\_ros\_communications::returnUserInstancesOfClassSrv::Response &res)  
*Serves the user\_instances\_of\_class ROS service callback.*
- bool [user\\_performance\\_cognitive\\_tests\\_callback](#) (rapp\_platform\_ros\_communications::userPerformanceCognitiveTestsSrv::Request &req, rapp\_platform\_ros\_communications::userPerformanceCognitiveTestsSrv::Response &res)  
*Serves the user\_performance\_cognitive\_tests ROS service callback.*

## Private Attributes

- ros::ServiceServer [clear\\_user\\_cognitive\\_tests\\_performance\\_records\\_service\\_](#)
- std::string [clear\\_user\\_cognitive\\_tests\\_performance\\_records\\_topic\\_](#)
- ros::ServiceServer [cognitive\\_tests\\_of\\_type\\_service\\_](#)
- std::string [cognitive\\_tests\\_of\\_type\\_topic\\_](#)
- ros::ServiceServer [create\\_cognitive\\_tests\\_service\\_](#)
- std::string [create\\_cognitive\\_tests\\_topic\\_](#)
- ros::ServiceServer [create\\_ontology\\_alias\\_service\\_](#)
- std::string [create\\_ontology\\_alias\\_topic\\_](#)
- ros::ServiceServer [createInstanceService\\_](#)
- std::string [createInstanceServiceTopic\\_](#)
- ros::ServiceServer [dumpOntologyService\\_](#)
- std::string [dumpOntologyServiceTopic\\_](#)
- ros::ServiceServer [is\\_subsuperclass\\_of\\_service\\_](#)
- std::string [is\\_subsuperclass\\_of\\_service\\_topic\\_](#)
- [KnowrobWrapper](#) [knowrob\\_wrapper](#)
- ros::ServiceServer [loadOntologyService\\_](#)
- std::string [loadOntologyServiceTopic\\_](#)
- ros::NodeHandle [nh\\_](#)
- ros::ServiceServer [record\\_user\\_cognitive\\_tests\\_performance\\_service\\_](#)
- std::string [record\\_user\\_cognitive\\_tests\\_performance\\_topic\\_](#)
- ros::ServiceServer [subclasses\\_of\\_service\\_](#)
- std::string [subclasses\\_of\\_service\\_topic\\_](#)
- ros::ServiceServer [superclasses\\_of\\_service\\_](#)
- std::string [superclasses\\_of\\_service\\_topic\\_](#)



- `ros::ServiceServer` [user\\_instances\\_of\\_class\\_service\\_](#)
- `std::string` [user\\_instances\\_of\\_class\\_topic\\_](#)
- `ros::ServiceServer` [user\\_performance\\_cognitive\\_tests\\_service\\_](#)
- `std::string` [user\\_performance\\_cognitive\\_tests\\_topic\\_](#)

### 7.11.1 Detailed Description

Class [KnowrobWrapperCommunications](#) uptakes the task of handling the ROS service callbacks.

Definition at line 28 of file `knowrob_wrapper_communications.h`.

### 7.11.2 Constructor & Destructor Documentation

#### 7.11.2.1 KnowrobWrapperCommunications::KnowrobWrapperCommunications ( )

Default constructor.

Default constructor Waits for services it depends on and declares the knowrob wrapper services callbacks.

Definition at line 28 of file `knowrob_wrapper_communications.cpp`.

### 7.11.3 Member Function Documentation

#### 7.11.3.1 bool KnowrobWrapperCommunications::clear\_user\_cognitive\_tests\_performance\_records\_callback ( rapp\_platform\_ros\_communications::clearUserPerformanceCognitiveTestsSrv::Request & req, rapp\_platform\_ros\_communications::clearUserPerformanceCognitiveTestsSrv::Response & res )

Serves the `clear_user_cognitive_tests_performance_records` ROS service callback.

Parameters

<i>req</i>	[ <code>rapp_platform_ros_communications::clearUserPerformanceCognitiveTestsSrv::Request&amp;</code> ] The ROS service request
<i>res</i>	[ <code>rapp_platform_ros_communications::clearUserPerformanceCognitiveTestsSrv::Response&amp;</code> ] The ROS service response

Returns

`bool` - The success status of the call

Definition at line 332 of file `knowrob_wrapper_communications.cpp`.

#### 7.11.3.2 bool KnowrobWrapperCommunications::cognitive\_tests\_of\_type\_callback ( rapp\_platform\_ros\_communications::cognitiveTestsOfTypeSrv::Request & req, rapp\_platform\_ros\_communications::cognitiveTestsOfTypeSrv::Response & res )

Serves the `cognitive_tests_of_type` ROS service callback.

Parameters

<i>req</i>	[ <code>rapp_platform_ros_communications::cognitiveTestsOfTypeSrv::Request&amp;</code> ] The ROS service request
------------	--

<i>res</i>	[rapp_platform_ros_communications::cognitiveTestsOfTypeSrv::Response&] The ROS service response
------------	---

**Returns**

bool - The success status of the call

Definition at line 304 of file knowrob\_wrapper\_communications.cpp.

**7.11.3.3** bool KnowrobWrapperCommunications::create\_cognitive\_tests\_callback ( rapp\_platform\_ros\_communications::createCognitiveExerciseTestSrv::Request & *req*, rapp\_platform\_ros\_communications::createCognitiveExerciseTestSrv::Response & *res* )

Serves the create\_cognitive\_tests ROS service callback.

**Parameters**

<i>req</i>	[rapp_platform_ros_communications::createCognitiveExerciseTestSrv::Request&] The ROS service request
<i>res</i>	[rapp_platform_ros_communications::createCognitiveExerciseTestSrv::Response&] The ROS service response

**Returns**

bool - The success status of the call

Definition at line 290 of file knowrob\_wrapper\_communications.cpp.

**7.11.3.4** bool KnowrobWrapperCommunications::create\_ontology\_alias\_callback ( rapp\_platform\_ros\_communications::createOntologyAliasSrv::Request & *req*, rapp\_platform\_ros\_communications::createOntologyAliasSrv::Response & *res* )

Serves the create\_ontology\_alias ROS service callback.

**Parameters**

<i>req</i>	[rapp_platform_ros_communications::createOntologyAliasSrv::Request&] The ROS service request
<i>res</i>	[rapp_platform_ros_communications::createOntologyAliasSrv::Response&] The ROS service response

**Returns**

bool - The success status of the call

Definition at line 248 of file knowrob\_wrapper\_communications.cpp.

**7.11.3.5** bool KnowrobWrapperCommunications::createInstanceCallback ( rapp\_platform\_ros\_communications::createInstanceSrv::Request & *req*, rapp\_platform\_ros\_communications::createInstanceSrv::Response & *res* )

Serves the createInstance ROS service callback.

## Parameters

<i>req</i>	[rapp_platform_ros_communications::createInstanceSrv::Request&] The ROS service request
<i>res</i>	[rapp_platform_ros_communications::createInstanceSrv::Response&] The ROS service response

## Returns

bool - The success status of the call

Definition at line 206 of file knowrob\_wrapper\_communications.cpp.

**7.11.3.6** bool KnowrobWrapperCommunications::dumpOntologyCallback ( rapp\_platform\_ros\_communications::ontologyLoadDumpSrv::Request & *req*, rapp\_platform\_ros\_communications::ontologyLoadDumpSrv::Response & *res* )

Serves the dumpOntology ROS service callback.

## Parameters

<i>req</i>	[rapp_platform_ros_communications::ontologyLoadDumpSrv::Request&] The ROS service request
<i>res</i>	[rapp_platform_ros_communications::ontologyLoadDumpSrv::Response&] The ROS service response

## Returns

bool - The success status of the call

Definition at line 220 of file knowrob\_wrapper\_communications.cpp.

**7.11.3.7** bool KnowrobWrapperCommunications::isSubSuperclassOfCallback ( rapp\_platform\_ros\_communications::ontologyIsSubSuperClassOfSrv::Request & *req*, rapp\_platform\_ros\_communications::ontologyIsSubSuperClassOfSrv::Response & *res* )

Serves the isSubSuperclassOf ROS service callback.

## Parameters

<i>req</i>	[rapp_platform_ros_communications::ontologyIsSubSuperClassOfSrv::Request&] The ROS service request
<i>res</i>	[rapp_platform_ros_communications::ontologyIsSubSuperClassOfSrv::Response&] The ROS service response

## Returns

bool - The success status of the call

Definition at line 192 of file knowrob\_wrapper\_communications.cpp.

**7.11.3.8** bool KnowrobWrapperCommunications::loadOntologyCallback ( rapp\_platform\_ros\_communications::ontologyLoadDumpSrv::Request & *req*, rapp\_platform\_ros\_communications::ontologyLoadDumpSrv::Response & *res* )

Serves the loadOntology ROS service callback.

**Parameters**

<i>req</i>	[rapp_platform_ros_communications::ontologyLoadDumpSrv::Request&] The ROS service request
<i>res</i>	[rapp_platform_ros_communications::ontologyLoadDumpSrv::Response&] The ROS service response

**Returns**

bool - The success status of the call

Definition at line 234 of file knowrob\_wrapper\_communications.cpp.

**7.11.3.9** bool KnowrobWrapperCommunications::record\_user\_cognitive\_tests\_performance\_callback ( rapp\_platform\_ros\_communications::recordUserPerformanceCognitiveTestsSrv::Request & *req*, rapp\_platform\_ros\_communications::recordUserPerformanceCognitiveTestsSrv::Response & *res* )

Serves the record\_user\_cognitive\_tests\_performance ROS service callback.

**Parameters**

<i>req</i>	[rapp_platform_ros_communications::recordUserPerformanceCognitiveTestsSrv::Request&] The ROS service request
<i>res</i>	[rapp_platform_ros_communications::recordUserPerformanceCognitiveTestsSrv::Response&] The ROS service response

**Returns**

bool - The success status of the call

Definition at line 318 of file knowrob\_wrapper\_communications.cpp.

**7.11.3.10** bool KnowrobWrapperCommunications::subclassesOfCallback ( rapp\_platform\_ros\_communications::ontologySubSuperClassesOfSrv::Request & *req*, rapp\_platform\_ros\_communications::ontologySubSuperClassesOfSrv::Response & *res* )

Serves the subclassesOf ROS service callback.

**Parameters**

<i>req</i>	[rapp_platform_ros_communications::ontologySubSuperClassesOfSrv::Request&] The ROS service request
<i>res</i>	[rapp_platform_ros_communications::ontologySubSuperClassesOfSrv::Response&] The ROS service response

**Returns**

bool - The success status of the call

Definition at line 164 of file knowrob\_wrapper\_communications.cpp.

**7.11.3.11** bool KnowrobWrapperCommunications::superclassesOfCallback ( rapp\_platform\_ros\_communications::ontologySubSuperClassesOfSrv::Request & *req*, rapp\_platform\_ros\_communications::ontologySubSuperClassesOfSrv::Response & *res* )

Serves the superlassesOf ROS service callback.

**Parameters**

<i>req</i>	[rapp_platform_ros_communications::ontologySubSuperClassesOfSrv::Request&] The ROS service request
<i>res</i>	[rapp_platform_ros_communications::ontologySubSuperClassesOfSrv::Response&] The ROS service response

**Returns**

bool - The success status of the call

Definition at line 178 of file knowrob\_wrapper\_communications.cpp.

**7.11.3.12** bool KnowrobWrapperCommunications::user\_instances\_of\_class\_callback ( rapp\_platform\_ros\_communications::returnUserInstancesOfClassSrv::Request & *req*, rapp\_platform\_ros\_communications::returnUserInstancesOfClassSrv::Response & *res* )

Serves the user\_instances\_of\_class ROS service callback.

**Parameters**

<i>req</i>	[rapp_platform_ros_communications::returnUserInstancesOfClassSrv::Request&] The ROS service request
<i>res</i>	[rapp_platform_ros_communications::returnUserInstancesOfClassSrv::Response&] The ROS service response

**Returns**

bool - The success status of the call

Definition at line 262 of file knowrob\_wrapper\_communications.cpp.

**7.11.3.13** bool KnowrobWrapperCommunications::user\_performance\_cognitive\_tests\_callback ( rapp\_platform\_ros\_communications::userPerformanceCognitiveTestsSrv::Request & *req*, rapp\_platform\_ros\_communications::userPerformanceCognitiveTestsSrv::Response & *res* )

Serves the user\_performance\_cognitive\_tests ROS service callback.

**Parameters**

<i>req</i>	[rapp_platform_ros_communications::userPerformanceCognitiveTestsSrv::Request&] The ROS service request
<i>res</i>	[rapp_platform_ros_communications::userPerformanceCognitiveTestsSrv::Response&] The ROS service response

**Returns**

bool - The success status of the call

Definition at line 276 of file knowrob\_wrapper\_communications.cpp.

**7.11.4 Member Data Documentation**

**7.11.4.1** ros::ServiceServer KnowrobWrapperCommunications::clear\_user\_cognitive\_tests\_performance\_records\_service\_  
[private]

Member variable holding the clear\_user\_cognitive\_tests\_performance\_records ROS service topic

Definition at line 99 of file knowrob\_wrapper\_communications.h.

7.11.4.2 `std::string KnowrobWrapperCommunications::clear_user_cognitive_tests_performance_records_topic_`  
[private]

Definition at line 101 of file `knowrob_wrapper_communications.h`.

7.11.4.3 `ros::ServiceServer KnowrobWrapperCommunications::cognitive_tests_of_type_service_` [private]

Member variable holding the `cognitive_tests_of_type` ROS service topic

Definition at line 89 of file `knowrob_wrapper_communications.h`.

7.11.4.4 `std::string KnowrobWrapperCommunications::cognitive_tests_of_type_topic_` [private]

The `record_user_cognitive_tests_performance` service server

Definition at line 91 of file `knowrob_wrapper_communications.h`.

7.11.4.5 `ros::ServiceServer KnowrobWrapperCommunications::create_cognitive_tests_service_` [private]

Member variable holding the `create_cognitive_tests` ROS service topic

Definition at line 84 of file `knowrob_wrapper_communications.h`.

7.11.4.6 `std::string KnowrobWrapperCommunications::create_cognitive_tests_topic_` [private]

The `cognitive_tests_of_type` service server

Definition at line 86 of file `knowrob_wrapper_communications.h`.

7.11.4.7 `ros::ServiceServer KnowrobWrapperCommunications::create_ontology_alias_service_` [private]

Member variable holding the `create_ontology_alias` ROS service topic

Definition at line 74 of file `knowrob_wrapper_communications.h`.

7.11.4.8 `std::string KnowrobWrapperCommunications::create_ontology_alias_topic_` [private]

The `user_performance_cognitive_tests` service server

Definition at line 76 of file `knowrob_wrapper_communications.h`.

7.11.4.9 `ros::ServiceServer KnowrobWrapperCommunications::createInstanceService_` [private]

Member variable holding the `createInstanceServiceTopic` ROS service topic

Definition at line 54 of file `knowrob_wrapper_communications.h`.

7.11.4.10 `std::string KnowrobWrapperCommunications::createInstanceServiceTopic_` [private]

The `dumpOntologyService` service server

Definition at line 56 of file `knowrob_wrapper_communications.h`.

**7.11.4.11** `ros::ServiceServer KnowrobWrapperCommunications::dumpOntologyService_` `[private]`

Member variable holding the dumpOntologyServiceTopic ROS service topic

Definition at line 59 of file knowrob\_wrapper\_communications.h.

**7.11.4.12** `std::string KnowrobWrapperCommunications::dumpOntologyServiceTopic_` `[private]`

The loadOntologyService service server

Definition at line 61 of file knowrob\_wrapper\_communications.h.

**7.11.4.13** `ros::ServiceServer KnowrobWrapperCommunications::is_subsuperclass_of_service_` `[private]`

Member variable holding the is\_subsuperclass ROS service topic

Definition at line 49 of file knowrob\_wrapper\_communications.h.

**7.11.4.14** `std::string KnowrobWrapperCommunications::is_subsuperclass_of_service_topic_` `[private]`

The createInstanceService service server

Definition at line 51 of file knowrob\_wrapper\_communications.h.

**7.11.4.15** `KnowrobWrapper KnowrobWrapperCommunications::knowrob_wrapper` `[private]`

The subclasses\_of service server

Definition at line 35 of file knowrob\_wrapper\_communications.h.

**7.11.4.16** `ros::ServiceServer KnowrobWrapperCommunications::loadOntologyService_` `[private]`

Member variable holding the loadOntologyServiceTopic ROS service topic

Definition at line 64 of file knowrob\_wrapper\_communications.h.

**7.11.4.17** `std::string KnowrobWrapperCommunications::loadOntologyServiceTopic_` `[private]`

The user\_instances\_of\_class service server

Definition at line 66 of file knowrob\_wrapper\_communications.h.

**7.11.4.18** `ros::NodeHandle KnowrobWrapperCommunications::nh_` `[private]`

< The ROS node handle Object of type knowrob\_wrapper

Definition at line 32 of file knowrob\_wrapper\_communications.h.

**7.11.4.19** `ros::ServiceServer KnowrobWrapperCommunications::record_user_cognitive_tests_performance_service_` `[private]`

Member variable holding the record\_user\_cognitive\_tests\_performance ROS service topic

Definition at line 94 of file knowrob\_wrapper\_communications.h.

7.11.4.20 `std::string KnowrobWrapperCommunications::record_user_cognitive_tests_performance_topic_` [private]

The `clear_user_cognitive_tests_performance_records` service server

Definition at line 96 of file `knowrob_wrapper_communications.h`.

7.11.4.21 `ros::ServiceServer KnowrobWrapperCommunications::subclasses_of_service_` [private]

Member variable holding the `subclasses_of` ROS service topic

Definition at line 38 of file `knowrob_wrapper_communications.h`.

7.11.4.22 `std::string KnowrobWrapperCommunications::subclasses_of_service_topic_` [private]

The `superclasses_of` service server

Definition at line 41 of file `knowrob_wrapper_communications.h`.

7.11.4.23 `ros::ServiceServer KnowrobWrapperCommunications::superclasses_of_service_` [private]

Member variable holding the `superclasses_of` ROS service topic

Definition at line 44 of file `knowrob_wrapper_communications.h`.

7.11.4.24 `std::string KnowrobWrapperCommunications::superclasses_of_service_topic_` [private]

The `is_subsuperclass` service server

Definition at line 46 of file `knowrob_wrapper_communications.h`.

7.11.4.25 `ros::ServiceServer KnowrobWrapperCommunications::user_instances_of_class_service_` [private]

Member variable holding the `user_instances_of_class` ROS service topic

Definition at line 69 of file `knowrob_wrapper_communications.h`.

7.11.4.26 `std::string KnowrobWrapperCommunications::user_instances_of_class_topic_` [private]

The `create_ontology_alias` service server

Definition at line 71 of file `knowrob_wrapper_communications.h`.

7.11.4.27 `ros::ServiceServer KnowrobWrapperCommunications::user_performance_cognitive_tests_service_` [private]

Member variable holding the `user_performance_cognitive_tests` ROS service topic

Definition at line 79 of file `knowrob_wrapper_communications.h`.

7.11.4.28 `std::string KnowrobWrapperCommunications::user_performance_cognitive_tests_topic_` [private]

The `create_cognitive_tests` service server

Definition at line 81 of file `knowrob_wrapper_communications.h`.

The documentation for this class was generated from the following files:

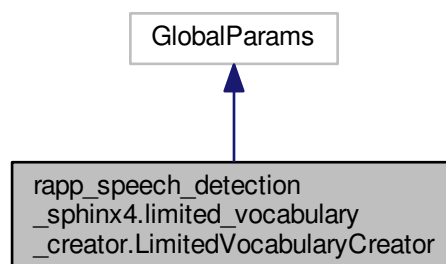


- [/home/travis/rapp\\_temp/rapp-platform/rapp\\_knowrob\\_wrapper/include/knowrob\\_wrapper/knowrob\\_wrapper\\_communications.h](/home/travis/rapp_temp/rapp-platform/rapp_knowrob_wrapper/include/knowrob_wrapper/knowrob_wrapper_communications.h)
- [/home/travis/rapp\\_temp/rapp-platform/rapp\\_knowrob\\_wrapper/src/knowrob\\_wrapper\\_communications.cpp](/home/travis/rapp_temp/rapp-platform/rapp_knowrob_wrapper/src/knowrob_wrapper_communications.cpp)

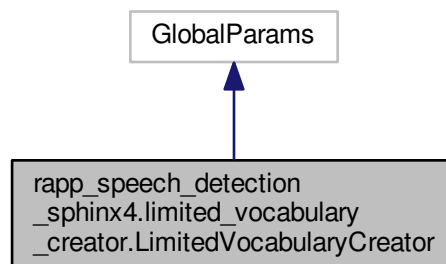
## 7.12 rapp\_speech\_detection\_sphinx4.limited\_vocabulary\_creator.LimitedVocabularyCreator Class Reference

Creates temporary configuration files for the input limited vocabulary.

Inheritance diagram for rapp\_speech\_detection\_sphinx4.limited\_vocabulary\_creator.LimitedVocabularyCreator:



Collaboration diagram for rapp\_speech\_detection\_sphinx4.limited\_vocabulary\_creator.LimitedVocabularyCreator:



### Public Member Functions

- `def \_\_init\_\_`  
*Performs initializations.*
- `def createConfigurationFiles`  
*Creates temporary configuration files for the input limited vocabulary.*

## Public Attributes

- [languages\\_package](#)
- [sphinx\\_configuration](#)

## Private Attributes

- [\\_allow\\_sphinx\\_output](#)

### 7.12.1 Detailed Description

Creates temporary configuration files for the input limited vocabulary.

Definition at line 35 of file `limited_vocabulary_creator.py`.

### 7.12.2 Constructor & Destructor Documentation

7.12.2.1 `def rapp_speech_detection_sphinx4.limited_vocabulary_creator.LimitedVocabularyCreator.__init__( self )`

Performs initializations.

Definition at line 38 of file `limited_vocabulary_creator.py`.

### 7.12.3 Member Function Documentation

7.12.3.1 `def rapp_speech_detection_sphinx4.limited_vocabulary_creator.LimitedVocabularyCreator.createConfigurationFiles ( self, words, grammar, sentences )`

Creates temporary configuration files for the input limited vocabulary.

The 'words' input argument is of the form: `words = { 'word1_en_chars': [phonem1, phonem2,...], 'word2_en_chars': [phonem1, phonem2,...] ... }`

#### Parameters

<i>words</i>	[list::string] The set of words to be identified
<i>grammar</i>	[list::string] The Sphinx grammar parameter
<i>sentences</i>	[list::string] The Sphinx sentences parameter

#### Returns

`conf` [dictionary] The final configuration  
`status` [string] Either the error (string) or True (bool)

Definition at line 80 of file `limited_vocabulary_creator.py`.

### 7.12.4 Member Data Documentation

7.12.4.1 `rapp_speech_detection_sphinx4.limited_vocabulary_creator.LimitedVocabularyCreator._allow_sphinx_output`  
`[private]`

Definition at line 152 of file `limited_vocabulary_creator.py`.

7.12.4.2 `rapp_speech_detection_sphinx4.limited_vocabulary_creator.LimitedVocabularyCreator.languages_package`

Definition at line 46 of file `limited_vocabulary_creator.py`.

## 7.12.4.3 rapp\_speech\_detection\_sphinx4.limited\_vocabulary\_creator.LimitedVocabularyCreator.sphinx\_configuration

Definition at line 51 of file limited\_vocabulary\_creator.py.

The documentation for this class was generated from the following file:

- /home/travis/rapp\_temp/rapp-platform/rapp\_speech\_detection\_sphinx4/src/rapp\_speech\_detection\_sphinx4/limited\_vocabulary\_creator.py

## 7.13 mysql\_wrapper.MySQLdbWrapper Class Reference

The mysql wrapper ros node.

### Public Member Functions

- def [\\_\\_init\\_\\_](#)  
*Default constructor.*
- def [checkConnection](#)  
*Checks connectivity to the DB.*
- def [constructAndQuery](#)  
*Constructs the where= ..and where=...*
- def [constructCommaColumns](#)  
*Places commas between columns and constructs a string.*
- def [deleteData](#)  
*Implements the general delete data from table function.*
- def [fetchData](#)  
*Implements the general fetch data from table function.*
- def [getLogin](#)  
*Loads login details from file.*
- def [getTableColumnNames](#)  
*Gets the columns of the table.*
- def [tblAppsRobotsDeleteDataHandler](#)  
*The tbl appsRobots delete data service callback.*
- def [tblAppsRobotsFetchDataHandler](#)  
*The tbl appsRobots fetch data service callback.*
- def [tblAppsRobotsUpdateDataHandler](#)  
*The tbl appsRobots update data service callback.*
- def [tblAppsRobotsWriteDataHandler](#)  
*The tbl appsRobots write data service callback.*
- def [tblModelDeleteDataHandler](#)  
*The tbl model delete data service callback.*
- def [tblModelFetchDataHandler](#)  
*The tbl model fetch data service callback.*
- def [tblModelUpdateDataHandler](#)  
*The tbl model update data service callback.*
- def [tblModelWriteDataHandler](#)  
*The tbl model write data service callback.*
- def [tblRappDeleteDataHandler](#)  
*The tbl rapp delete data service callback.*
- def [tblRappFetchDataHandler](#)  
*The tbl rapp fetch data service callback.*

- def [tblRappUpdateDataHandler](#)  
*The tbl rapp update data service callback.*
- def [tblRappWriteDataHandler](#)  
*The tbl rapp write data service callback.*
- def [tblRobotDeleteDataHandler](#)  
*The tbl robot delete data service callback.*
- def [tblRobotFetchDataHandler](#)  
*The tbl robot fetch data service callback.*
- def [tblRobotUpdateDataHandler](#)  
*The tbl robot update data service callback.*
- def [tblRobotWriteDataHandler](#)  
*The tbl robot write data service callback.*
- def [tblUserDeleteDataHandler](#)  
*The tbl user delete data service callback.*
- def [tblUserFetchDataHandler](#)  
*The tbl user fetch data service callback.*
- def [tblUsersOntologyInstancesDeleteDataHandler](#)  
*The tbl usersOntologyInstances delete data service callback.*
- def [tblUsersOntologyInstancesFetchDataHandler](#)  
*The tbl usersOntologyInstances fetch data service callback.*
- def [tblUsersOntologyInstancesUpdateDataHandler](#)  
*The tbl usersOntologyInstances update data service callback.*
- def [tblUsersOntologyInstancesWriteDataHandler](#)  
*The tbl usersOntologyInstances write data service callback.*
- def [tblUserUpdateDataHandler](#)  
*The tbl user update data service callback.*
- def [tblUserWriteDataHandler](#)  
*The tbl user write data service callback.*
- def [updateData](#)  
*Implements the general update data from table function.*
- def [viewUsersRobotsAppsFetchDataHandler](#)  
*The view usersRobotsApps fetch data service callback.*
- def [whatRappsCanRun](#)  
*Implements the whatRappsCanRun service.*
- def [whatRappsCanRunDataHandler](#)  
*The what rappRappCanRun service callback.*
- def [writeData](#)  
*Implements the general write data to table function.*

## Public Attributes

- [serv](#)
- [serv\\_topic](#)

### 7.13.1 Detailed Description

The mysql wrapper ros node.

Definition at line 47 of file mysql\_wrapper.py.

## 7.13.2 Constructor & Destructor Documentation

### 7.13.2.1 `def mysql_wrapper.MySQLdbWrapper.__init__ ( self )`

Default constructor.

Declares the callbacks of the node's services

Definition at line 52 of file `mysql_wrapper.py`.

## 7.13.3 Member Function Documentation

### 7.13.3.1 `def mysql_wrapper.MySQLdbWrapper.checkConnection ( self )`

Checks connectivity to the DB.

Returns

[ void ] Connection performed successfully

Definition at line 412 of file `mysql_wrapper.py`.

### 7.13.3.2 `def mysql_wrapper.MySQLdbWrapper.constructAndQuery ( self, cols )`

Constructs the where= ..and where=...

clause

Parameters

<i>cols</i>	[list] the columns needed to construct the clause
-------------	---

Returns

returnquery [string] the And clause

Definition at line 371 of file `mysql_wrapper.py`.

### 7.13.3.3 `def mysql_wrapper.MySQLdbWrapper.constructCommaColumns ( self, cols )`

Places commas between columns and constructs a string.

Parameters

<i>cols</i>	[list] the input columns
-------------	--------------------------

Returns

returncols [string] the output string

Definition at line 353 of file `mysql_wrapper.py`.

### 7.13.3.4 `def mysql_wrapper.MySQLdbWrapper.deleteData ( self, req, tblName )`

Implements the general delete data from table function.

**Parameters**

<i>req</i>	[rapp_platform_ros_communications::deleteDataSrvRequest::Request&] The ROS service request
<i>tblName</i>	[string] the table name
<i>res</i>	[rapp_platform_ros_communications::deleteDataSrvResponse::Response&] The ROS service response

Definition at line 211 of file mysql\_wrapper.py.

#### 7.13.3.5 `def mysql_wrapper.MySQLdbWrapper.fetchData ( self, req, tblName )`

Implements the general fetch data from table function.

**Parameters**

<i>req</i>	[rapp_platform_ros_communications::fetchDataSrvRequest::Request&] The ROS service request
<i>tblName</i>	[string] the table name
<i>res</i>	[rapp_platform_ros_communications::fetchDataSrvResponse::Response&] The ROS service response

Definition at line 275 of file mysql\_wrapper.py.

#### 7.13.3.6 `def mysql_wrapper.MySQLdbWrapper.getLogin ( self )`

Loads login details from file.

**Returns**

[ void ] Login details loaded successfully

Definition at line 402 of file mysql\_wrapper.py.

#### 7.13.3.7 `def mysql_wrapper.MySQLdbWrapper.getTableColumnNames ( self, tblName )`

Gets the columns of the table.

**Returns**

Columns [list] the columns of the table

Definition at line 386 of file mysql\_wrapper.py.

#### 7.13.3.8 `def mysql_wrapper.MySQLdbWrapper.tblAppsRobotsDeleteDataHandler ( self, req )`

The tbl appsRobots delete data service callback.

**Parameters**

<i>req</i>	[rapp_platform_ros_communications::deleteDataSrvRequest::Request&] The ROS service request
<i>res</i>	[rapp_platform_ros_communications::deleteDataSrvResponse::Response&] The ROS service response

Definition at line 571 of file mysql\_wrapper.py.

7.13.3.9 `def mysql_wrapper.MySQLdbWrapper.tblAppsRobotsFetchDataHandler ( self, req )`

The tbl appsRobots fetch data service callback.

**Parameters**

<i>req</i>	[rapp_platform_ros_communications::fetchDataSrvRequest::Request&] The ROS service request
<i>res</i>	[rapp_platform_ros_communications::fetchDataSrvResponse::Response&] The ROS service response

Definition at line 555 of file mysql\_wrapper.py.

7.13.3.10 `def mysql_wrapper.MySQLdbWrapper.tblAppsRobotsUpdateDataHandler ( self, req )`

The tbl appsRobots update data service callback.

**Parameters**

<i>req</i>	[rapp_platform_ros_communications::updateDataSrvRequest::Request&] The ROS service request
<i>res</i>	[rapp_platform_ros_communications::updateDataSrvResponse::Response&] The ROS service response

Definition at line 579 of file mysql\_wrapper.py.

7.13.3.11 `def mysql_wrapper.MySQLdbWrapper.tblAppsRobotsWriteDataHandler ( self, req )`

The tbl appsRobots write data service callback.

**Parameters**

<i>req</i>	[rapp_platform_ros_communications::writeDataSrvRequest::Request&] The ROS service request
<i>res</i>	[rapp_platform_ros_communications::writeDataResponse::Response&] The ROS service response

Definition at line 563 of file mysql\_wrapper.py.

7.13.3.12 `def mysql_wrapper.MySQLdbWrapper.tblModelDeleteDataHandler ( self, req )`

The tbl model delete data service callback.

**Parameters**

<i>req</i>	[rapp_platform_ros_communications::deleteDataSrvRequest::Request&] The ROS service request
<i>res</i>	[rapp_platform_ros_communications::deleteDataSrvResponse::Response&] The ROS service response

Definition at line 475 of file mysql\_wrapper.py.

7.13.3.13 `def mysql_wrapper.MySQLdbWrapper.tblModelFetchDataHandler ( self, req )`

The tbl model fetch data service callback.

**Parameters**

<i>req</i>	[rapp_platform_ros_communications::fetchDataSrvRequest::Request&] The ROS service request
------------	---



<i>res</i>	[rapp_platform_ros_communications::fetchDataSrvResponse::Response&] The ROS service response
------------	--

Definition at line 459 of file mysql\_wrapper.py.

#### 7.13.3.14 def mysql\_wrapper.MySQLdbWrapper.tblModelUpdateDataHandler ( *self*, *req* )

The tbl model update data service callback.

##### Parameters

<i>req</i>	[rapp_platform_ros_communications::updateDataSrvRequest::Request&] The ROS service request
<i>res</i>	[rapp_platform_ros_communications::updateDataSrvResponse::Response&] The ROS service response

Definition at line 483 of file mysql\_wrapper.py.

#### 7.13.3.15 def mysql\_wrapper.MySQLdbWrapper.tblModelWriteDataHandler ( *self*, *req* )

The tbl model write data service callback.

##### Parameters

<i>req</i>	[rapp_platform_ros_communications::writeDataSrvRequest::Request&] The ROS service request
<i>res</i>	[rapp_platform_ros_communications::writeDataSrvResponse::Response&] The ROS service response

Definition at line 467 of file mysql\_wrapper.py.

#### 7.13.3.16 def mysql\_wrapper.MySQLdbWrapper.tblRappDeleteDataHandler ( *self*, *req* )

The tbl rapp delete data service callback.

##### Parameters

<i>req</i>	[rapp_platform_ros_communications::deleteDataSrvRequest::Request&] The ROS service request
<i>res</i>	[rapp_platform_ros_communications::deleteDataSrvResponse::Response&] The ROS service response

Definition at line 507 of file mysql\_wrapper.py.

#### 7.13.3.17 def mysql\_wrapper.MySQLdbWrapper.tblRappFetchDataHandler ( *self*, *req* )

The tbl rapp fetch data service callback.

##### Parameters

<i>req</i>	[rapp_platform_ros_communications::fetchDataSrvRequest::Request&] The ROS service request
<i>res</i>	[rapp_platform_ros_communications::fetchDataSrvResponse::Response&] The ROS service response

Definition at line 491 of file mysql\_wrapper.py.

7.13.3.18 `def mysql_wrapper.MySQLdbWrapper.tblRappUpdateDataHandler ( self, req )`

The tbl rapp update data service callback.

## Parameters

<i>req</i>	[rapp_platform_ros_communications::updateDataSrvRequest::Request&] The ROS service request
<i>res</i>	[rapp_platform_ros_communications::updateDataSrvResponse::Response&] The ROS service response

Definition at line 515 of file mysql\_wrapper.py.

#### 7.13.3.19 def mysql\_wrapper.MySQLdbWrapper.tblRappWriteDataHandler ( *self*, *req* )

The tbl rapp write data service callback.

## Parameters

<i>req</i>	[rapp_platform_ros_communications::writeDataSrvRequest::Request&] The ROS service request
<i>res</i>	[rapp_platform_ros_communications::writeDataResponse::Response&] The ROS service response

Definition at line 499 of file mysql\_wrapper.py.

#### 7.13.3.20 def mysql\_wrapper.MySQLdbWrapper.tblRobotDeleteDataHandler ( *self*, *req* )

The tbl robot delete data service callback.

## Parameters

<i>req</i>	[rapp_platform_ros_communications::deleteDataSrvRequest::Request&] The ROS service request
<i>res</i>	[rapp_platform_ros_communications::deleteDataSrvResponse::Response&] The ROS service response

Definition at line 539 of file mysql\_wrapper.py.

#### 7.13.3.21 def mysql\_wrapper.MySQLdbWrapper.tblRobotFetchDataHandler ( *self*, *req* )

The tbl robot fetch data service callback.

## Parameters

<i>req</i>	[rapp_platform_ros_communications::fetchDataSrvRequest::Request&] The ROS service request
<i>res</i>	[rapp_platform_ros_communications::fetchDataSrvResponse::Response&] The ROS service response

Definition at line 523 of file mysql\_wrapper.py.

#### 7.13.3.22 def mysql\_wrapper.MySQLdbWrapper.tblRobotUpdateDataHandler ( *self*, *req* )

The tbl robot update data service callback.

## Parameters

<i>req</i>	[rapp_platform_ros_communications::updateDataSrvRequest::Request&] The ROS service request
<i>res</i>	[rapp_platform_ros_communications::updateDataSrvResponse::Response&] The ROS service response

Definition at line 547 of file mysql\_wrapper.py.

7.13.3.23 `def mysql_wrapper.MySQLdbWrapper.tblRobotWriteDataHandler ( self, req )`

The tbl robot write data service callback.

## Parameters

<i>req</i>	[rapp_platform_ros_communications::writeDataSrvRequest::Request&] The ROS service request
<i>res</i>	[rapp_platform_ros_communications::writeDataResponse::Response&] The ROS service response

Definition at line 531 of file mysql\_wrapper.py.

#### 7.13.3.24 def mysql\_wrapper.MySQLdbWrapper.tblUserDeleteDataHandler ( *self*, *req* )

The tbl user delete data service callback.

## Parameters

<i>req</i>	[rapp_platform_ros_communications::deleteDataSrvRequest::Request&] The ROS service request
<i>res</i>	[rapp_platform_ros_communications::deleteDataSrvResponse::Response&] The ROS service response

Definition at line 443 of file mysql\_wrapper.py.

#### 7.13.3.25 def mysql\_wrapper.MySQLdbWrapper.tblUserFetchDataHandler ( *self*, *req* )

The tbl user fetch data service callback.

## Parameters

<i>req</i>	[rapp_platform_ros_communications::fetchDataSrvRequest::Request&] The ROS service request
<i>res</i>	[rapp_platform_ros_communications::fetchDataSrvResponse::Response&] The ROS service response

Definition at line 427 of file mysql\_wrapper.py.

#### 7.13.3.26 def mysql\_wrapper.MySQLdbWrapper.tblUsersOntologyInstancesDeleteDataHandler ( *self*, *req* )

The tbl usersOntologyInstances delete data service callback.

## Parameters

<i>req</i>	[rapp_platform_ros_communications::deleteDataSrvRequest::Request&] The ROS service request
<i>res</i>	[rapp_platform_ros_communications::deleteDataSrvResponse::Response&] The ROS service response

Definition at line 603 of file mysql\_wrapper.py.

#### 7.13.3.27 def mysql\_wrapper.MySQLdbWrapper.tblUsersOntologyInstancesFetchDataHandler ( *self*, *req* )

The tbl usersOntologyInstances fetch data service callback.

## Parameters

<i>req</i>	[rapp_platform_ros_communications::fetchDataSrvRequest::Request&] The ROS service request
------------	---

<i>res</i>	[rapp_platform_ros_communications::fetchDataSrvResponse::Response&] The ROS service response
------------	--

Definition at line 587 of file mysql\_wrapper.py.

#### 7.13.3.28 `def mysql_wrapper.MySQLdbWrapper.tblUsersOntologyInstancesUpdateDataHandler ( self, req )`

The tbl usersOntologyInstances update data service callback.

##### Parameters

<i>req</i>	[rapp_platform_ros_communications::updateDataSrvRequest::Request&] The ROS service request
<i>res</i>	[rapp_platform_ros_communications::updateDataSrvResponse::Response&] The ROS service response

Definition at line 611 of file mysql\_wrapper.py.

#### 7.13.3.29 `def mysql_wrapper.MySQLdbWrapper.tblUsersOntologyInstancesWriteDataHandler ( self, req )`

The tbl usersOntologyInstances write data service callback.

##### Parameters

<i>req</i>	[rapp_platform_ros_communications::writeDataSrvRequest::Request&] The ROS service request
<i>res</i>	[rapp_platform_ros_communications::writeDataResponse::Response&] The ROS service response

Definition at line 595 of file mysql\_wrapper.py.

#### 7.13.3.30 `def mysql_wrapper.MySQLdbWrapper.tblUserUpdateDataHandler ( self, req )`

The tbl user update data service callback.

##### Parameters

<i>req</i>	[rapp_platform_ros_communications::updateDataSrvRequest::Request&] The ROS service request
<i>res</i>	[rapp_platform_ros_communications::updateDataSrvResponse::Response&] The ROS service response

Definition at line 451 of file mysql\_wrapper.py.

#### 7.13.3.31 `def mysql_wrapper.MySQLdbWrapper.tblUserWriteDataHandler ( self, req )`

The tbl user write data service callback.

##### Parameters

<i>req</i>	[rapp_platform_ros_communications::writeDataSrvRequest::Request&] The ROS service request
<i>res</i>	[rapp_platform_ros_communications::writeDataResponse::Response&] The ROS service response

Definition at line 435 of file mysql\_wrapper.py.

7.13.3.32 `def mysql_wrapper.MySQLdbWrapper.updateData ( self, req, tblName )`

Implements the general update data from table function.

## Parameters

<i>req</i>	[rapp_platform_ros_communications::updateDataSrvRequest::Request&] The ROS service request
<i>tblName</i>	[string] the table name
<i>res</i>	[rapp_platform_ros_communications::updateDataSrvResponse::Response&] The ROS service response

Definition at line 242 of file mysql\_wrapper.py.

7.13.3.33 `def mysql_wrapper.MySQLdbWrapper.viewUsersRobotsAppsFetchDataHandler ( self, req )`

The view usersRobotsApps fetch data service callback.

## Parameters

<i>req</i>	[rapp_platform_ros_communications::fetchDataSrvRequest::Request&] The ROS service request
<i>res</i>	[rapp_platform_ros_communications::fetchDataSrvResponse::Response&] The ROS service response

Definition at line 619 of file mysql\_wrapper.py.

7.13.3.34 `def mysql_wrapper.MySQLdbWrapper.whatRappsCanRun ( self, req, tblName )`

Implements the whatRappsCanRun service.

## Parameters

<i>req</i>	[rapp_platform_ros_communications::whatRappsCanRunSrvRequest::Request&] The ROS service request
<i>tblName</i>	[string] the table name
<i>res</i>	[rapp_platform_ros_communications::whatRappsCanRunSrvResponse::Response&] The ROS service response

Definition at line 318 of file mysql\_wrapper.py.

7.13.3.35 `def mysql_wrapper.MySQLdbWrapper.whatRappsCanRunDataHandler ( self, req )`

The what rappRappCanRun service callback.

## Parameters

<i>req</i>	[rapp_platform_ros_communications::whatRappsCanRunSrvRequest::Request&] The ROS service request
<i>res</i>	[rapp_platform_ros_communications::whatRappsCanRunSrvResponse::Response&] The ROS service response

Definition at line 627 of file mysql\_wrapper.py.

7.13.3.36 `def mysql_wrapper.MySQLdbWrapper.writeData ( self, req, tblName )`

Implements the general write data to table function.

## Parameters

<i>req</i>	[rapp_platform_ros_communications::writeDataSrvRequest::Request&] The ROS service request
<i>tblName</i>	[string] the table name
<i>res</i>	[rapp_platform_ros_communications::writeDataSrvResponse::Response&] The ROS service response



Definition at line 170 of file `mysql_wrapper.py`.

### 7.13.4 Member Data Documentation

#### 7.13.4.1 `mysql_wrapper.MySQLdbWrapper.serv`

Definition at line 57 of file `mysql_wrapper.py`.

#### 7.13.4.2 `mysql_wrapper.MySQLdbWrapper.serv_topic`

Definition at line 54 of file `mysql_wrapper.py`.

The documentation for this class was generated from the following file:

- [/home/travis/rapp\\_temp/rapp-platform/rapp\\_mysql\\_wrapper/src/mysql\\_wrapper.py](#)

## 7.14 QrCode Class Reference

Structure holding the essential info for a QR code.

```
#include <qr_detector.h>
```

### Public Attributes

- `cv::Point` [center](#)
- `std::string` [message](#)

### 7.14.1 Detailed Description

Structure holding the essential info for a QR code.

Definition at line 35 of file `qr_detector.h`.

### 7.14.2 Member Data Documentation

#### 7.14.2.1 `cv::Point QrCode::center`

Definition at line 37 of file `qr_detector.h`.

#### 7.14.2.2 `std::string QrCode::message`

Definition at line 38 of file `qr_detector.h`.

The documentation for this class was generated from the following file:

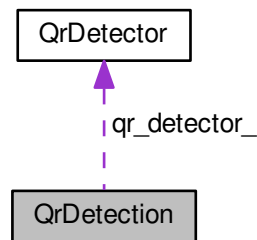
- [/home/travis/rapp\\_temp/rapp-platform/rapp\\_qr\\_detection/include/qr\\_detection/qr\\_detector.h](#)

## 7.15 QrDetection Class Reference

Uptakes the task of setting up the ROS service callbacks towards qr detection.

```
#include <qr_detection.h>
```

Collaboration diagram for QrDetection:



## Public Member Functions

- [QrDetection](#) (void)  
*Default constructor.*
- bool [qrDetectionCallback](#) (rapp\_platform\_ros\_communications::QrDetectionRosSrv::Request &req, rapp\_platform\_ros\_communications::QrDetectionRosSrv::Response &res)  
*The qr detection ROS service callback.*

## Private Attributes

- ros::NodeHandle [nh\\_](#)
- [QrDetector](#) [qr\\_detector\\_](#)
- ros::ServiceServer [qrDetectionService\\_](#)
- std::string [qrDetectionTopic\\_](#)

### 7.15.1 Detailed Description

Uptakes the task of setting up the ROS service callbacks towards qr detection.

Definition at line 31 of file qr\_detection.h.

### 7.15.2 Constructor & Destructor Documentation

#### 7.15.2.1 QrDetection::QrDetection ( void )

Default constructor.

Definition at line 23 of file qr\_detection.cpp.

### 7.15.3 Member Function Documentation

#### 7.15.3.1 bool QrDetection::qrDetectionCallback ( rapp\_platform\_ros\_communications::QrDetectionRosSrv::Request & req, rapp\_platform\_ros\_communications::QrDetectionRosSrv::Response & res )

The qr detection ROS service callback.

## Parameters

<i>req</i>	[rapp_platform_ros_communications::QrDetectionRosSrv::Request&] The service request
<i>res</i>	[rapp_platform_ros_communications::QrDetectionRosSrv::Response&] The service response

## Returns

bool - The success status of the call

Definition at line 40 of file qr\_detection.cpp.

## 7.15.4 Member Data Documentation

## 7.15.4.1 ros::NodeHandle QrDetection::nh\_ [private]

< The ROS node handle The service server

Definition at line 53 of file qr\_detection.h.

## 7.15.4.2 QrDetector QrDetection::qr\_detector\_ [private]

Definition at line 62 of file qr\_detection.h.

## 7.15.4.3 ros::ServiceServer QrDetection::qrDetectionService\_ [private]

Topic nomeclarure. Holds the qr detection ROS service topic URI

Definition at line 56 of file qr\_detection.h.

## 7.15.4.4 std::string QrDetection::qrDetectionTopic\_ [private]

Object of [QrDetection](#) type

Definition at line 59 of file qr\_detection.h.

The documentation for this class was generated from the following files:

- /home/travis/rapp\_temp/rapp-platform/rapp\_qr\_detection/include/qr\_detection/[qr\\_detection.h](#)
- /home/travis/rapp\_temp/rapp-platform/rapp\_qr\_detection/src/[qr\\_detection.cpp](#)

## 7.16 QrDetector Class Reference

Provides the QR detection functionality.

```
#include <qr_detector.h>
```

## Public Member Functions

- [QrDetector](#) (void)  
*Default constructor.*
- std::vector< [QrCode](#) > [detectQrs](#) (const cv::Mat &img)  
*Detects QRs in a cv::Mat.*
- std::vector< [QrCode](#) > [findQrs](#) (std::string file\_name)  
*Detects QRs in an image file.*

## Private Member Functions

- `cv::Mat loadImage (std::string file_name)`  
*Loads an image into a cv::Mat structure.*

### 7.16.1 Detailed Description

Provides the QR detection functionality.

Definition at line 45 of file qr\_detector.h.

### 7.16.2 Constructor & Destructor Documentation

#### 7.16.2.1 QrDetector::QrDetector ( void )

Default constructor.

Definition at line 23 of file qr\_detector.cpp.

### 7.16.3 Member Function Documentation

#### 7.16.3.1 std::vector< QRCode > QrDetector::detectQrs ( const cv::Mat & input\_frame )

Detects QRs in a cv::Mat.

Parameters

<i>img</i>	[const cv::Mat&] The input image in cv::Mat form
------------	--

Returns

`std::vector<QRCode>` The detected QR codes

< [QRCode](#) scanner

Definition at line 43 of file qr\_detector.cpp.

#### 7.16.3.2 std::vector< QRCode > QrDetector::findQrs ( std::string file\_name )

Detects QRs in an image file.

Parameters

<i>file_name</i>	[std::string] The input image URI
------------------	-----------------------------------

Returns

`std::vector<QRCode>` The detected QR codes

Definition at line 101 of file qr\_detector.cpp.

#### 7.16.3.3 cv::Mat QrDetector::loadImage ( std::string file\_name ) [private]

Loads an image into a cv::Mat structure.

## Parameters

<i>file_name</i>	[std::string] The file URI
------------------	----------------------------

## Returns

cv::Mat

Definition at line 32 of file qr\_detector.cpp.

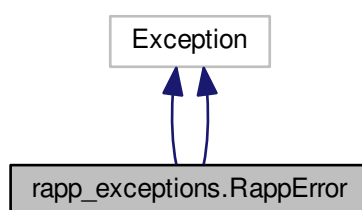
The documentation for this class was generated from the following files:

- [/home/travis/rapp\\_temp/rapp-platform/rapp\\_qr\\_detection/include/qr\\_detection/qr\\_detector.h](#)
- [/home/travis/rapp\\_temp/rapp-platform/rapp\\_qr\\_detection/src/qr\\_detector.cpp](#)

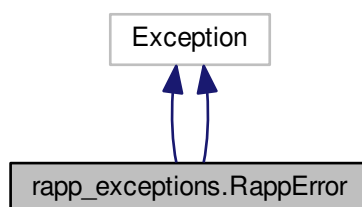
## 7.17 rapp\_exceptions.RappError Class Reference

Inherits Exception and is used to catch only RAPP-specific exceptions.

Inheritance diagram for rapp\_exceptions.RappError:



Collaboration diagram for rapp\_exceptions.RappError:



### Public Member Functions

- `def \_\_init\_\_`

- [def \\_\\_init\\_\\_](#)  
*Default constructor.*
- [def \\_\\_str\\_\\_](#)
- [def \\_\\_str\\_\\_](#)  
*Returns the error in a string form.*

## Public Attributes

- [value](#)

### 7.17.1 Detailed Description

Inherits Exception and is used to catch only RAPP-specific exceptions.

Error handling in RAPP

Definition at line 21 of file `rapp_exceptions.py`.

### 7.17.2 Constructor & Destructor Documentation

#### 7.17.2.1 `def rapp_exceptions.RappError.__init__( self, value )`

Default constructor.

Definition at line 25 of file `rapp_exceptions.py`.

#### 7.17.2.2 `def rapp_exceptions.RappError.__init__( self, value )`

Definition at line 22 of file `rapp_exceptions.py`.

### 7.17.3 Member Function Documentation

#### 7.17.3.1 `def rapp_exceptions.RappError.__str__( self )`

Definition at line 25 of file `rapp_exceptions.py`.

#### 7.17.3.2 `def rapp_exceptions.RappError.__str__( self )`

Returns the error in a string form.

Definition at line 29 of file `rapp_exceptions.py`.

### 7.17.4 Member Data Documentation

#### 7.17.4.1 `rapp_exceptions.RappError.value`

Definition at line 26 of file `rapp_exceptions.py`.

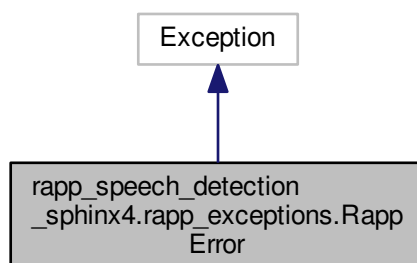
The documentation for this class was generated from the following file:

- `/home/travis/rapp_temp/rapp-platform/rapp_speech_detection_google/src/rapp_exceptions.py`

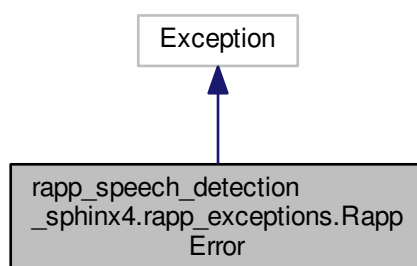
## 7.18 rapp\_speech\_detection\_sphinx4.rapp\_exceptions.RappError Class Reference

Provides a RAPP specific exception.

Inheritance diagram for rapp\_speech\_detection\_sphinx4.rapp\_exceptions.RappError:



Collaboration diagram for rapp\_speech\_detection\_sphinx4.rapp\_exceptions.RappError:



### Public Member Functions

- `def __init__`
- `def __str__`

### Public Attributes

- `value`

#### 7.18.1 Detailed Description

Provides a RAPP specific exception.

Error handling in RAPP

Definition at line 21 of file rapp\_exceptions.py.

### 7.18.2 Constructor & Destructor Documentation

7.18.2.1 `def rapp_speech_detection_sphinx4.rapp_exceptions.RappError.__init__( self, value )`

Definition at line 24 of file rapp\_exceptions.py.

### 7.18.3 Member Function Documentation

7.18.3.1 `def rapp_speech_detection_sphinx4.rapp_exceptions.RappError.__str__( self )`

Definition at line 27 of file rapp\_exceptions.py.

### 7.18.4 Member Data Documentation

7.18.4.1 `rapp_speech_detection_sphinx4.rapp_exceptions.RappError.value`

Definition at line 25 of file rapp\_exceptions.py.

The documentation for this class was generated from the following file:

- [/home/travis/rapp\\_temp/rapp-platform/rapp\\_speech\\_detection\\_sphinx4/src/rapp\\_speech\\_detection\\_sphinx4/rapp\\_exceptions.py](#)

## 7.19 rapp\_audio\_processing.rapp\_set\_noise\_profile.SetNoiseProfile Class Reference

Evaluates the noise profile for an audio file.

### Public Member Functions

- `def __init__`  
*Performs initializations.*
- `def setNoise_profile`  
*Evaluates the audio profile.*

### Public Attributes

- `utilities`

### 7.19.1 Detailed Description

Evaluates the noise profile for an audio file.

Definition at line 31 of file rapp\_set\_noise\_profile.py.



## 7.19.2 Constructor & Destructor Documentation

### 7.19.2.1 `def rapp_audio_processing.rapp_set_noise_profile.SetNoiseProfile.__init__( self )`

Performs initializations.

Definition at line 34 of file `rapp_set_noise_profile.py`.

## 7.19.3 Member Function Documentation

### 7.19.3.1 `def rapp_audio_processing.rapp_set_noise_profile.SetNoiseProfile.setNoise_profile ( self, user, noise_audio_file, audio_file_type )`

Evaluates the audio profile.

Handles service callback [rapp\\_audio\\_processing.AudioProcessing::setNoiseProfileCallback](#)

Parameters

<i>user</i>	[string] The system user, for environmental variable access
<i>noise_audio_file</i>	[string] Noise audio file path
<i>audio_type</i>	[string] Noise audio file's type

Definition at line 45 of file `rapp_set_noise_profile.py`.

## 7.19.4 Member Data Documentation

### 7.19.4.1 `rapp_audio_processing.rapp_set_noise_profile.SetNoiseProfile.utilities`

Definition at line 35 of file `rapp_set_noise_profile.py`.

The documentation for this class was generated from the following file:

- `/home/travis/rapp_temp/rapp-platform/rapp_audio_processing/src/rapp_audio_processing/rapp\_set\_noise\_profile.py`

## 7.20 rapp\_audio\_processing.rapp\_sox\_denoise.SoxDenoise Class Reference

Performs denoising on an audio file employing Sox application.

### Public Member Functions

- `def soxDenoise`  
*Performs denoising employing Sox application.*

### 7.20.1 Detailed Description

Performs denoising on an audio file employing Sox application.

Definition at line 29 of file `rapp_sox_denoise.py`.

### 7.20.2 Member Function Documentation

7.20.2.1 `def rapp_audio_processing.rapp_sox_denoise.SoxDenoise.soxDenoise ( self, user, audio_type, audio_file, denoised_audio_file, scale )`

Performs denoising employing Sox application.

Handles service callback [rapp\\_audio\\_processing.AudioProcessing::denoiseCallback](#)

Parameters

<i>user</i>	[string] The system user, for environmental variable access
<i>audio_file</i>	[string] Audio file path
<i>audio_type</i>	[string] Audio file's type
<i>denoised_audio_file</i>	[string] Path to write denoised audio file
<i>scale</i>	[float] Energy denoise scale

Definition at line 41 of file `rapp_sox_denoise.py`.

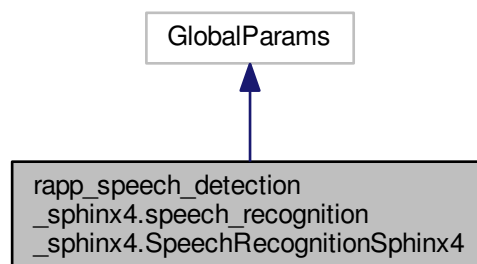
The documentation for this class was generated from the following file:

- `/home/travis/rapp_temp/rapp-platform/rapp_audio_processing/src/rapp_audio_processing/rapp_sox_denoise.py`

## 7.21 `rapp_speech_detection_sphinx4.speech_recognition_sphinx4.SpeechRecognitionSphinx4` Class Reference

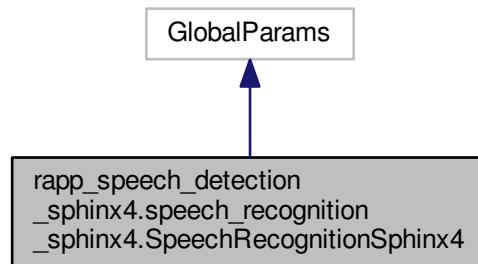
Provides a complete Rapp Sphinx Entity.

Inheritance diagram for `rapp_speech_detection_sphinx4.speech_recognition_sphinx4.SpeechRecognitionSphinx4`:



Collaboration diagram for `rapp_speech_detection_sphinx4.speech_recognition_sphinx4.SpeechRecognitionSphinx4`:

Sphinx4:



### Public Member Functions

- def [\\_\\_init\\_\\_](#)  
*Constructor performing initializations.*
- def [speechRecognitionBatch](#)  
*Performs [Sphinx4](#) configuration and speech recognition.*

### Private Member Functions

- def [\\_configureSpeechRecognition](#)  
*Performs [Sphinx4](#) configuration.*
- def [\\_speechRecognition](#)  
*Performs [Sphinx4](#) speech recognition.*

### Private Attributes

- [\\_authentication\\_service](#)  
*The database authentication service client.*
- [\\_configuration\\_params](#)  
*The Sphinx configuration parameters.*
- [\\_english\\_support](#)  
*English creates necessary files for english speech recognition.*
- [\\_greek\\_support](#)  
*Greek\_support creates necessary files for Greek speech recognition.*
- [\\_sphinx4](#)  
*The sphinx wrapper communicates with the actual Sphinx.java process.*
- [\\_use\\_db\\_authentication](#)  
*Defines whether database authentication should be used.*
- [\\_word\\_mapping](#)  
*A dictionary to transform the englified greek words to actual greek words.*

### 7.21.1 Detailed Description

Provides a complete Rapp Sphinx Entity.

Maintains a complete Rapp Sphinx Entity for the [speech\\_recognition\\_sphinx4\\_handler\\_node.SpeechRecognitionSphinx4HandlerNode](#) to perform the speech recognition.

Definition at line 64 of file `speech_recognition_sphinx4.py`.

### 7.21.2 Constructor & Destructor Documentation

#### 7.21.2.1 `def rapp_speech_detection_sphinx4.speech_recognition_sphinx4.SpeechRecognitionSphinx4.__init__( self )`

Constructor performing initializations.

Definition at line 67 of file `speech_recognition_sphinx4.py`.

### 7.21.3 Member Function Documentation

#### 7.21.3.1 `def rapp_speech_detection_sphinx4.speech_recognition_sphinx4.SpeechRecognitionSphinx4._configureSpeechRecognition( self, req ) [private]`

Performs [Sphinx4](#) configuration.

Parameters

<i>req</i>	[ <code>rapp_platform_ros_communications::SpeechDetectionSphinx4Wrapper::SpeechRecognitionSphinx4ConfigureSrvRequest</code> ] The sphinx configuration request
------------	--

Returns

`res` [`rapp_platform_ros_communications::SpeechDetectionSphinx4Wrapper::SpeechRecognitionSphinx4ConfigureSrvRequest`] The sphinx configuration response

Definition at line 197 of file `speech_recognition_sphinx4.py`.

#### 7.21.3.2 `def rapp_speech_detection_sphinx4.speech_recognition_sphinx4.SpeechRecognitionSphinx4._speechRecognition( self, req ) [private]`

Performs [Sphinx4](#) speech recognition.

Parameters

<i>req</i>	[ <code>rapp_platform_ros_communications::SpeechDetectionSphinx4Wrapper::SpeechRecognitionSphinx4SrvRequest</code> ] The speech recognition request
------------	---

Returns

`res` [`rapp_platform_ros_communications::SpeechDetectionSphinx4Wrapper::SpeechRecognitionSphinx4SrvResponse`] The speech recognition response

Definition at line 172 of file `speech_recognition_sphinx4.py`.

#### 7.21.3.3 `def rapp_speech_detection_sphinx4.speech_recognition_sphinx4.SpeechRecognitionSphinx4.speechRecognitionBatch( self, req )`

Performs [Sphinx4](#) configuration and speech recognition.

## Parameters

<i>req</i>	[rapp_platform_ros_communications::SpeechDetectionSphinx4Wrapper::SpeechRecognitionSphinx4TotalSrvRequest] The speech recognition request
------------	---

## Returns

*res* [rapp\_platform\_ros\_communications::SpeechDetectionSphinx4Wrapper::SpeechRecognitionSphinx4TotalSrvResponse] The speech recognition response

Definition at line 129 of file `speech_recognition_sphinx4.py`.

## 7.21.4 Member Data Documentation

## 7.21.4.1 rapp\_speech\_detection\_sphinx4.speech\_recognition\_sphinx4.SpeechRecognitionSphinx4\_authentication\_service [private]

The database authentication service client.

Used to identify user performed the speech recognition request. (see [mysql\\_wrapper.MySQLdbWrapper.fetchData](#))

Definition at line 102 of file `speech_recognition_sphinx4.py`.

## 7.21.4.2 rapp\_speech\_detection\_sphinx4.speech\_recognition\_sphinx4.SpeechRecognitionSphinx4\_configuration\_params [private]

The Sphinx configuration parameters.

(see [sphinx4\\_configuration\\_params.SphinxConfigurationParams](#))

Definition at line 85 of file `speech_recognition_sphinx4.py`.

## 7.21.4.3 rapp\_speech\_detection\_sphinx4.speech\_recognition\_sphinx4.SpeechRecognitionSphinx4\_english\_support [private]

English creates necessary files for english speech recognition.

(see [english\\_support.EnglishSupport](#))

Definition at line 81 of file `speech_recognition_sphinx4.py`.

## 7.21.4.4 rapp\_speech\_detection\_sphinx4.speech\_recognition\_sphinx4.SpeechRecognitionSphinx4\_greek\_support [private]

Greek\_support creates necessary files for Greek speech recognition.

(see [greek\\_support.GreekSupport](#))

Definition at line 77 of file `speech_recognition_sphinx4.py`.

## 7.21.4.5 rapp\_speech\_detection\_sphinx4.speech\_recognition\_sphinx4.SpeechRecognitionSphinx4\_sphinx4 [private]

The sphinx wrapper communicates with the actual Sphinx.java process.

(see [sphinx4\\_wrapper.Sphinx4Wrapper](#))

Definition at line 73 of file `speech_recognition_sphinx4.py`.

#### 7.21.4.6 `rapp_speech_detection_sphinx4.speech_recognition_sphinx4.SpeechRecognitionSphinx4._use_db_authentication` [private]

Defines whether database authentication should be used.

Definition at line 91 of file `speech_recognition_sphinx4.py`.

#### 7.21.4.7 `rapp_speech_detection_sphinx4.speech_recognition_sphinx4.SpeechRecognitionSphinx4._word_mapping` [private]

A dictionary to transform the englified greek words to actual greek words.

Definition at line 88 of file `speech_recognition_sphinx4.py`.

The documentation for this class was generated from the following file:

- `/home/travis/rapp_temp/rapp-platform/rapp_speech_detection_sphinx4/src/rapp_speech_detection_sphinx4/speech_recognition_sphinx4.py`

## 7.22 `rapp_speech_detection_sphinx4.speech_recognition_sphinx4_handler_node.-SpeechRecognitionSphinx4HandlerNode` Class Reference

Maintains Sphinx instances to perform speech recognition.

### Public Member Functions

- `def __init__`  
*Initializes the subprocesses and the services (constructor)*
- `def handleSpeechRecognitionCallback`  
*The callback to perform speech recognition.*

### Private Member Functions

- `def _calculateRequestHash`  
*Calculates the service request sha1 hash for process handling purposes.*

### Private Attributes

- `_availableProcesses`  
*The subprocesses structure that contains information used for the subprocess handling.*
- `_lock`  
*Thread conditional variable used for the subprocess scheduling.*
- `_speech_recognition_batch_service`  
*Ros service server for sphinx speech recognition.*
- `_threadCounter`  
*Total service callback threads waiting to execute.*
- `_threads`  
*The number of child subprocesses.*

### 7.22.1 Detailed Description

Maintains Sphinx instances to perform speech recognition.

Maintains a number of child processes to perform speech recognition utilizing [Sphinx4](#) ([rapp\\_speech\\_detection\\_sphinx4.speech\\_recognition\\_sphinx4.SpeechRecognitionSphinx4](#)). Provides ros services and handles the requests according to the child processes' status.

Definition at line 43 of file `speech_recognition_sphinx4_handler_node.py`.

### 7.22.2 Constructor & Destructor Documentation

7.22.2.1 `def rapp_speech_detection_sphinx4.speech_recognition_sphinx4_handler_node.SpeechRecognitionSphinx4HandlerNode.__init__( self )`

Initializes the subprocesses and the services (constructor)

Definition at line 46 of file `speech_recognition_sphinx4_handler_node.py`.

### 7.22.3 Member Function Documentation

7.22.3.1 `def rapp_speech_detection_sphinx4.speech_recognition_sphinx4_handler_node.SpeechRecognitionSphinx4HandlerNode._calculateRequestHash( self, req ) [private]`

Calculates the service request sha1 hash for process handling purposes.

Hash is used to identify common request configurations for proper subprocess selection. (Requests with common requests do not require reconfiguration reducing computation time)

Parameters

<i>req</i>	[ <code>rapp_platform_ros_communications::SpeechDetectionSphinx4Wrapper::SpeechRecognitionSphinx4TotalSrvRequest</code> ] The service request
------------	---

Returns

hexdigest [string] The hash digest containing only hexadecimal digits

Definition at line 135 of file `speech_recognition_sphinx4_handler_node.py`.

7.22.3.2 `def rapp_speech_detection_sphinx4.speech_recognition_sphinx4_handler_node.SpeechRecognitionSphinx4HandlerNode.handleSpeechRecognitionCallback( self, req )`

The callback to perform speech recognition.

Parameters

<i>req</i>	[ <code>rapp_platform_ros_communications::SpeechDetectionSphinx4Wrapper::SpeechRecognitionSphinx4TotalSrvRequest</code> ] The service request
------------	---

Returns

res [`rapp_platform_ros_communications::SpeechDetectionSphinx4Wrapper::SpeechRecognitionSphinx4TotalSrvResponse`] The service response

Definition at line 79 of file `speech_recognition_sphinx4_handler_node.py`.

### 7.22.4 Member Data Documentation

#### 7.22.4.1 `rapp_speech_detection_sphinx4.speech_recognition_sphinx4_handler_node.SpeechRecognitionSphinx4HandlerNode.availableProcesses` [private]

The subprocesses structure that contains information used for the subprocess handling.

Definition at line 54 of file `speech_recognition_sphinx4_handler_node.py`.

#### 7.22.4.2 `rapp_speech_detection_sphinx4.speech_recognition_sphinx4_handler_node.SpeechRecognitionSphinx4HandlerNode.lock` [private]

Thread conditional variable used for the subprocess scheduling.

Definition at line 61 of file `speech_recognition_sphinx4_handler_node.py`.

#### 7.22.4.3 `rapp_speech_detection_sphinx4.speech_recognition_sphinx4_handler_node.SpeechRecognitionSphinx4HandlerNode.speech_recognition_batch_service` [private]

Ros service server for sphinx speech recognition.

Definition at line 71 of file `speech_recognition_sphinx4_handler_node.py`.

#### 7.22.4.4 `rapp_speech_detection_sphinx4.speech_recognition_sphinx4_handler_node.SpeechRecognitionSphinx4HandlerNode.threadCounter` [private]

Total service callback threads waiting to execute.

Definition at line 63 of file `speech_recognition_sphinx4_handler_node.py`.

#### 7.22.4.5 `rapp_speech_detection_sphinx4.speech_recognition_sphinx4_handler_node.SpeechRecognitionSphinx4HandlerNode.threads` [private]

The number of child subprocesses.

Definition at line 49 of file `speech_recognition_sphinx4_handler_node.py`.

The documentation for this class was generated from the following file:

- `/home/travis/rapp_temp/rapp-platform/rapp_speech_detection_sphinx4/src/rapp_speech_detection_sphinx4/speech_recognition_sphinx4_handler_node.py`

## 7.23 `speech_recognition_google.SpeechToTextGoogle` Class Reference

Implements calls the Google ASR API.

### Public Member Functions

- `def __init__`  
*Default constructor.*
- `def speech_to_text`  
*Performs the call to Google API.*
- `def speech_to_text_callback`  
*The service callback.*



## Public Attributes

- [serv](#)
- [serv\\_topic](#)

### 7.23.1 Detailed Description

Implements calls the Google ASR API.

Definition at line 57 of file `speech_recognition_google.py`.

### 7.23.2 Constructor & Destructor Documentation

#### 7.23.2.1 `def speech_recognition_google.SpeechToTextGoogle.__init__( self )`

Default constructor.

Declares the service callback

Definition at line 60 of file `speech_recognition_google.py`.

### 7.23.3 Member Function Documentation

#### 7.23.3.1 `def speech_recognition_google.SpeechToTextGoogle.speech_to_text( self, file_path, user, audio_file_type, language )`

Performs the call to Google API.

##### Parameters

<i>file_path</i>	[string] The audio file
<i>user</i>	[string] The username
<i>audio_type</i>	[string] Used to check if denoising is needed. Can be one of headset, nao_ogg, nao_wav_1-_ch, nao_wav_4_ch
<i>language</i>	[string] The language in which the ASR will be performed

##### Returns

The transcript from Google

Definition at line 123 of file `speech_recognition_google.py`.

#### 7.23.3.2 `def speech_recognition_google.SpeechToTextGoogle.speech_to_text_callback( self, req )`

The service callback.

##### Parameters

<i>req</i>	[SpeechToTextSrvRequest] The ROS service request
------------	--

Definition at line 71 of file `speech_recognition_google.py`.

### 7.23.4 Member Data Documentation

#### 7.23.4.1 `speech_recognition_google.SpeechToTextGoogle.serv`

Definition at line 66 of file `speech_recognition_google.py`.

#### 7.23.4.2 `speech_recognition_google.SpeechToTextGoogle.serv_topic`

Definition at line 62 of file `speech_recognition_google.py`.

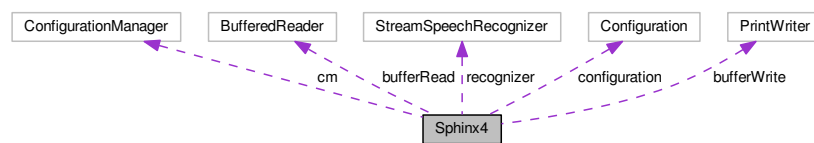
The documentation for this class was generated from the following file:

- `/home/travis/rapp_temp/rapp-platform/rapp_speech_detection_google/src/speech_recognition_google.py`

## 7.24 Sphinx4 Class Reference

Performs speech recognition employing Sphinx.

Collaboration diagram for Sphinx4:



### Static Public Member Functions

- static void `main` (`String[] args`) throws `IOException`  
*The main function.*
- static void `updateConfiguration` () throws `IOException`  
*Updates the Sphinx configuration.*

### Static Public Attributes

- static `String` `acoustic_model_path` = ""
- static `String` `acoustic_model_path_prev` = ""
- static `BufferedReader` `bufferRead`
- static `PrintWriter` `bufferWrite`
- static `ConfigurationManager` `cm`
- static `Configuration` `configuration` = new `Configuration`()
- static `String` `configuration_model_path` = ""
- static `String` `configuration_model_path_prev` = ""
- static `String` `dictionary_path` = ""
- static `String` `dictionary_path_prev` = ""
- static `boolean` `grammar_enabled` = false
- static `boolean` `grammar_enabled_prev` = false
- static `String` `grammar_model_file_path` = ""
- static `String` `grammar_model_file_path_prev` = ""
- static `String` `grammar_model_folder_path` = ""
- static `String` `grammar_model_folder_path_prev` = ""
- static `String` `language_path` = ""
- static `String` `language_path_prev` = ""
- static `StreamSpeechRecognizer` `recognizer`

### 7.24.1 Detailed Description

Performs speech recognition employing Sphinx.

Communicates with [rapp\\_speech\\_detection\\_sphinx4.sphinx4\\_wrapper.Sphinx4Wrapper](#) via socket to configure Sphinx and perform the speech recognition and returns the result.

Definition at line 49 of file Sphinx4.java.

### 7.24.2 Member Function Documentation

**7.24.2.1** `static void Sphinx4.main ( String[] args ) throws IOException` `[inline], [static]`

The main function.

Creates the Sphinx process and awaits commands from [rapp\\_speech\\_detection\\_sphinx4.sphinx4\\_wrapper.Sphinx4Wrapper](#) to update the cconfiguration or perform the recognition.

Definition at line 134 of file Sphinx4.java.

**7.24.2.2** `static void Sphinx4.updateConfiguration ( ) throws IOException` `[inline], [static]`

Updates the Sphinx configuration.

Definition at line 79 of file Sphinx4.java.

### 7.24.3 Member Data Documentation

**7.24.3.1** `String Sphinx4.acoustic_model_path = ""` `[static]`

Definition at line 57 of file Sphinx4.java.

**7.24.3.2** `String Sphinx4.acoustic_model_path_prev = ""` `[static]`

Definition at line 58 of file Sphinx4.java.

**7.24.3.3** `BufferedReader Sphinx4.bufferRead` `[static]`

Definition at line 72 of file Sphinx4.java.

**7.24.3.4** `PrintWriter Sphinx4.bufferWrite` `[static]`

Definition at line 73 of file Sphinx4.java.

**7.24.3.5** `ConfigurationManager Sphinx4.cm` `[static]`

Definition at line 69 of file Sphinx4.java.

**7.24.3.6** `Configuration Sphinx4.configuration = new Configuration()` `[static]`

Definition at line 68 of file Sphinx4.java.

**7.24.3.7** `String Sphinx4.configuration_model_path = ""` `[static]`

Definition at line 65 of file Sphinx4.java.

**7.24.3.8** `String Sphinx4.configuration_model_path_prev = ""` `[static]`

Definition at line 66 of file Sphinx4.java.

**7.24.3.9** `String Sphinx4.dictionary_path = ""` `[static]`

Definition at line 51 of file Sphinx4.java.

**7.24.3.10** `String Sphinx4.dictionary_path_prev = ""` `[static]`

Definition at line 52 of file Sphinx4.java.

**7.24.3.11** `boolean Sphinx4.grammar_enabled = false` `[static]`

Definition at line 75 of file Sphinx4.java.

**7.24.3.12** `boolean Sphinx4.grammar_enabled_prev = false` `[static]`

Definition at line 76 of file Sphinx4.java.

**7.24.3.13** `String Sphinx4.grammar_model_file_path = ""` `[static]`

Definition at line 60 of file Sphinx4.java.

**7.24.3.14** `String Sphinx4.grammar_model_file_path_prev = ""` `[static]`

Definition at line 61 of file Sphinx4.java.

**7.24.3.15** `String Sphinx4.grammar_model_folder_path = ""` `[static]`

Definition at line 62 of file Sphinx4.java.

**7.24.3.16** `String Sphinx4.grammar_model_folder_path_prev = ""` `[static]`

Definition at line 63 of file Sphinx4.java.

**7.24.3.17** `String Sphinx4.language_path = ""` `[static]`

Definition at line 54 of file Sphinx4.java.

**7.24.3.18** `String Sphinx4.language_path_prev = ""` `[static]`

Definition at line 55 of file Sphinx4.java.

## 7.24.3.19 StreamSpeechRecognizer Sphinx4.recognizer [static]

Definition at line 70 of file Sphinx4.java.

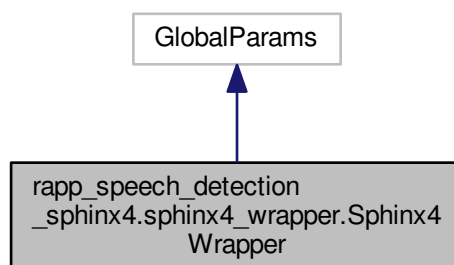
The documentation for this class was generated from the following file:

- /home/travis/rapp\_temp/rapp-platform/rapp\_speech\_detection\_sphinx4/src/Sphinx4.java

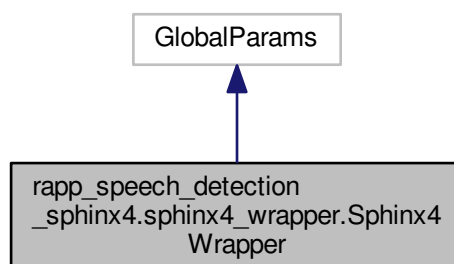
## 7.25 rapp\_speech\_detection\_sphinx4.sphinx4\_wrapper.Sphinx4Wrapper Class Reference

Contains the Sphinx subprocess and is responsible for configuring Sphinx and performing the recognition request.

Inheritance diagram for rapp\_speech\_detection\_sphinx4.sphinx4\_wrapper.Sphinx4Wrapper:



Collaboration diagram for rapp\_speech\_detection\_sphinx4.sphinx4\_wrapper.Sphinx4Wrapper:



### Public Member Functions

- def [\\_\\_init\\_\\_](#)  
*Constructor Initiates service clients.*
- def [configureSphinx](#)

- *Perform [Sphinx4](#) configuration.*
- `def initializeSphinx`  
*Perform [Sphinx4](#) initialization Initiates Sphinx subprocess, sets up socket IPC and configures Sphinx subprocess.*
- `def performSpeechRecognition`  
*Performs the speech recognition and returns a list of words.*

## Private Member Functions

- `def _callSphinxJava`  
*Communicate with Sphinx subprocess to initiate recognition and fetch results.*
- `def _createProcessingProfile`  
*Creates audio profile based on the audio type for processing purposes.*
- `def _createSocket`  
*Creates socket IPC between self and Sphinx subprocess Creates the socket server with a system provided port, which is pass as an argument to the created subprocess.*
- `def _performEnergyDenoising`  
*Perform energy denoise.*
- `def _readLine`  
*Helper function for getting input from IPC with Sphinx subprocess.*
- `def _respawnSphinx`  
*Respawns Sphinx subprocess, if it terminates abruptly.*

## Private Attributes

- `_allow_sphinx_output`
- `_audio_transform_srv`  
*Transform audio service client.*
- `_conf`  
*Sphinx configuration.*
- `_denoise_service`  
*Denoise service client.*
- `_detect_silence_service`  
*Detect silence service client.*
- `_energy_denoise_service`  
*Energy denoise service client.*
- `_sphinx_socket`  
*The IPC socket.*
- `_sphinx_socket_PORT`  
*The IPC socket port.*
- `_sphinxDied`  
*Sphinx status flag.*
- `_sphinxSubprocess`  
*The Sphinx subprocess.*

### 7.25.1 Detailed Description

Contains the Sphinx subprocess and is responsible for configuring Sphinx and performing the recognition request.

Initializes a Sphinx.java subprocess and creates an IPC using sockets. It is responsible for interacting with Sphinx via the socket to send configuration params/instructions and initialize a recognition procedure.

Definition at line 46 of file sphinx4\_wrapper.py.

## 7.25.2 Constructor & Destructor Documentation

### 7.25.2.1 `def rapp_speech_detection_sphinx4.sphinx4_wrapper.Sphinx4Wrapper.__init__( self )`

Constructor Initiates service clients.

Definition at line 50 of file `sphinx4_wrapper.py`.

## 7.25.3 Member Function Documentation

### 7.25.3.1 `def rapp_speech_detection_sphinx4.sphinx4_wrapper.Sphinx4Wrapper.callSphinxJava( self, audio_file )` [private]

Communicate with Sphinx subprocess to initiate recognition and fetch results.

Parameters

<i>audio_file</i>	[string] The audio file path
-------------------	------------------------------

Returns

words [list::string] The Sphinx result

Definition at line 407 of file `sphinx4_wrapper.py`.

### 7.25.3.2 `def rapp_speech_detection_sphinx4.sphinx4_wrapper.Sphinx4Wrapper.createProcessingProfile( self, audio_type )` [private]

Creates audio profile based on the audio type for processing purposes.

Defines a set of audio processing procedures (i.e. denoising) to be performed on the audio file and the parameters of the procedures. Aims to improve to audio file quality to improve speech recognition results.

Parameters

<i>audio_type</i>	[string] The audio type
-------------------	-------------------------

Returns

processingProfile [dictionary] The profile attributes

Definition at line 187 of file `sphinx4_wrapper.py`.

### 7.25.3.3 `def rapp_speech_detection_sphinx4.sphinx4_wrapper.Sphinx4Wrapper.createSocket( self )` [private]

Creates socket IPC between self and Sphinx subprocess Creates the socket server with a system provided port, which is pass as an argument to the created subprocess.

Definition at line 147 of file `sphinx4_wrapper.py`.

### 7.25.3.4 `def rapp_speech_detection_sphinx4.sphinx4_wrapper.Sphinx4Wrapper.performEnergyDenoising( self, next_audio_file, audio_file, scale )` [private]

Perform energy denoise.

Calls energy denoise service `rapp_audio_processing.rapp_audio_processing.AudioProcessing::energy_denoise` (see also [rapp\\_audio\\_processing.rapp\\_energy\\_denoise.EnergyDenoise::energyDenoise](#))

**Parameters**

<i>audio_file</i>	[string] The audio file path
<i>scale</i>	[float] The scale parameter for the denoising procedure

**Returns**

file\_path [string] The path of the denoised file

Definition at line 394 of file sphinx4\_wrapper.py.

7.25.3.5 `def rapp_speech_detection_sphinx4.sphinx4_wrapper.Sphinx4Wrapper._readLine ( self ) [private]`

Helper function for getting input from IPC with Sphinx subprocess.

**Returns**

line [string] A buffer read from socket

Definition at line 113 of file sphinx4\_wrapper.py.

7.25.3.6 `def rapp_speech_detection_sphinx4.sphinx4_wrapper.Sphinx4Wrapper._respawnSphinx ( self ) [private]`

Respawns Sphinx subprocess, if it terminates abruptly.

Definition at line 434 of file sphinx4\_wrapper.py.

7.25.3.7 `def rapp_speech_detection_sphinx4.sphinx4_wrapper.Sphinx4Wrapper.configureSphinx ( self, conf )`

Perform [Sphinx4](#) configuration.

**Parameters**

<i>conf</i>	[dictionary] Contains the configuration parameters
-------------	--

Definition at line 158 of file sphinx4\_wrapper.py.

7.25.3.8 `def rapp_speech_detection_sphinx4.sphinx4_wrapper.Sphinx4Wrapper.initializeSphinx ( self, conf )`

Perform [Sphinx4](#) initialization Initiates Sphinx subprocess, sets up socket IPC and configures Sphinx subprocess.

**Parameters**

<i>conf</i>	[dictionary] Contains the configuration parameters
-------------	--

Definition at line 123 of file sphinx4\_wrapper.py.

7.25.3.9 `def rapp_speech_detection_sphinx4.sphinx4_wrapper.Sphinx4Wrapper.performSpeechRecognition ( self, audio_file, audio_type, user )`

Performs the speech recognition and returns a list of words.

**Parameters**



<i>audio_file</i>	[string] The audio file's name
<i>audio_type</i>	[string] The audio file's type

**Returns**

words [list::string] The result words

**Exceptions**

<i>RappError</i>	Audio transformation error
------------------	----------------------------

Definition at line 247 of file sphinx4\_wrapper.py.

**7.25.4 Member Data Documentation****7.25.4.1 rapp\_speech\_detection\_sphinx4.sphinx4\_wrapper.Sphinx4Wrapper.\_allow\_sphinx\_output** [private]

Definition at line 115 of file sphinx4\_wrapper.py.

**7.25.4.2 rapp\_speech\_detection\_sphinx4.sphinx4\_wrapper.Sphinx4Wrapper.\_audio\_transform\_srv** [private]

Transform audio service client.

rapp\_audio\_processing.rapp\_audio\_processing.AudioProcessing::transform\_audio

Definition at line 107 of file sphinx4\_wrapper.py.

**7.25.4.3 rapp\_speech\_detection\_sphinx4.sphinx4\_wrapper.Sphinx4Wrapper.\_conf** [private]

Sphinx configuration.

Definition at line 53 of file sphinx4\_wrapper.py.

**7.25.4.4 rapp\_speech\_detection\_sphinx4.sphinx4\_wrapper.Sphinx4Wrapper.\_denoise\_service** [private]

Denoise service client.

rapp\_audio\_processing.rapp\_audio\_processing.AudioProcessing::denoise

Definition at line 89 of file sphinx4\_wrapper.py.

**7.25.4.5 rapp\_speech\_detection\_sphinx4.sphinx4\_wrapper.Sphinx4Wrapper.\_detect\_silence\_service** [private]

Detect silence service client.

rapp\_audio\_processing.rapp\_audio\_processing.AudioProcessing::detect\_silence

Definition at line 101 of file sphinx4\_wrapper.py.

**7.25.4.6 rapp\_speech\_detection\_sphinx4.sphinx4\_wrapper.Sphinx4Wrapper.\_energy\_denoise\_service** [private]

Energy denoise service client.

rapp\_audio\_processing.rapp\_audio\_processing.AudioProcessing::energy\_denoise

Definition at line 95 of file sphinx4\_wrapper.py.

#### 7.25.4.7 `rapp_speech_detection_sphinx4.sphinx4_wrapper.Sphinx4Wrapper._sphinx_socket` [private]

The IPC socket.

Definition at line 58 of file `sphinx4_wrapper.py`.

#### 7.25.4.8 `rapp_speech_detection_sphinx4.sphinx4_wrapper.Sphinx4Wrapper._sphinx_socket_PORT` [private]

The IPC socket port.

Definition at line 60 of file `sphinx4_wrapper.py`.

#### 7.25.4.9 `rapp_speech_detection_sphinx4.sphinx4_wrapper.Sphinx4Wrapper._sphinxDied` [private]

Sphinx status flag.

Definition at line 55 of file `sphinx4_wrapper.py`.

#### 7.25.4.10 `rapp_speech_detection_sphinx4.sphinx4_wrapper.Sphinx4Wrapper._sphinxSubprocess` [private]

The Sphinx subprocess.

Definition at line 63 of file `sphinx4_wrapper.py`.

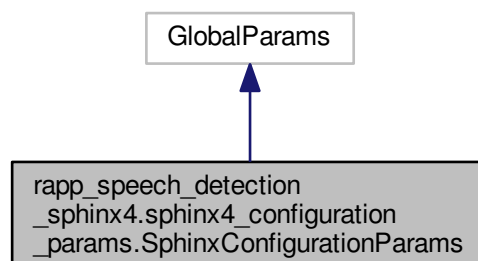
The documentation for this class was generated from the following file:

- [/home/travis/rapp\\_temp/rapp-platform/rapp\\_speech\\_detection\\_sphinx4/src/rapp\\_speech\\_detection\\_sphinx4/sphinx4\\_wrapper.py](#)

## 7.26 `rapp_speech_detection_sphinx4.sphinx4_configuration_params.SphinxConfigurationParams` Class Reference

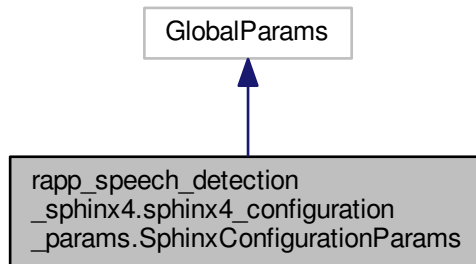
Contains the parameters required for the Sphinx configuration.

Inheritance diagram for `rapp_speech_detection_sphinx4.sphinx4_configuration_params.SphinxConfigurationParams`:



Collaboration diagram for `rapp_speech_detection_sphinx4.sphinx4_configuration_params.SphinxConfigurationParams`:

Params:



## Public Member Functions

- `def \_\_init\_\_`  
*Initializes an empty configuration (constructor)*
- `def equals`  
*Checks if a [SphinxConfigurationParams](#) instance equals self.*

## Private Attributes

- `\_grammar`  
*Sphinx grammar attribute.*
- `\_language`  
*The language of the request.*
- `\_sentences`  
*Sphinx sentence attribute.*
- `\_words`  
*The words to be identified.*

### 7.26.1 Detailed Description

Contains the parameters required for the Sphinx configuration.

Definition at line 25 of file `sphinx4_configuration_params.py`.

### 7.26.2 Constructor & Destructor Documentation

#### 7.26.2.1 `def rapp_speech_detection_sphinx4.sphinx4_configuration_params.SphinxConfigurationParams.__init__( self )`

Initializes an empty configuration (constructor)

Definition at line 28 of file `sphinx4_configuration_params.py`.

### 7.26.3 Member Function Documentation

7.26.3.1 `def rapp_speech_detection_sphinx4.sphinx4_configuration_params.SphinxConfigurationParams.equals ( self,  
params )`

Checks if a [SphinxConfigurationParams](#) instance equals self.

## Parameters

<i>params</i>	[ <a href="#">SphinxConfigurationParams</a> ] The class instance
<i>status</i>	[bool] True if configurations match

Definition at line 45 of file sphinx4\_configuration\_params.py.

## 7.26.4 Member Data Documentation

### 7.26.4.1 `rapp_speech_detection_sphinx4.sphinx4_configuration_params.SphinxConfigurationParams._grammar` [private]

Sphinx grammar attribute.

Definition at line 36 of file sphinx4\_configuration\_params.py.

### 7.26.4.2 `rapp_speech_detection_sphinx4.sphinx4_configuration_params.SphinxConfigurationParams._language` [private]

The language of the request.

Definition at line 32 of file sphinx4\_configuration\_params.py.

### 7.26.4.3 `rapp_speech_detection_sphinx4.sphinx4_configuration_params.SphinxConfigurationParams._sentences` [private]

Sphinx sentence attribute.

Definition at line 38 of file sphinx4\_configuration\_params.py.

### 7.26.4.4 `rapp_speech_detection_sphinx4.sphinx4_configuration_params.SphinxConfigurationParams._words` [private]

The words to be identified.

Definition at line 34 of file sphinx4\_configuration\_params.py.

The documentation for this class was generated from the following file:

- `/home/travis/rapp_temp/rapp-platform/rapp_speech_detection_sphinx4/src/rapp_speech_detection_sphinx4/sphinx4-configuration\_params.py`

## 7.27 text\_to\_speech\_espeak.TextToSpeechEspeak Class Reference

### Public Member Functions

- `def \_\_init\_\_`
- `def text\_to\_speech\_callback`

### Public Attributes

- `serv`
- `serv\_topic`

### 7.27.1 Detailed Description

Definition at line 33 of file `text_to_speech_espeak.py`.

### 7.27.2 Constructor & Destructor Documentation

#### 7.27.2.1 `def text_to_speech_espeak.TextToSpeechEspeak.__init__( self )`

Definition at line 35 of file `text_to_speech_espeak.py`.

### 7.27.3 Member Function Documentation

#### 7.27.3.1 `def text_to_speech_espeak.TextToSpeechEspeak.text_to_speech_callback( self, req )`

Definition at line 45 of file `text_to_speech_espeak.py`.

### 7.27.4 Member Data Documentation

#### 7.27.4.1 `text_to_speech_espeak.TextToSpeechEspeak.serv`

Definition at line 41 of file `text_to_speech_espeak.py`.

#### 7.27.4.2 `text_to_speech_espeak.TextToSpeechEspeak.serv_topic`

Definition at line 37 of file `text_to_speech_espeak.py`.

The documentation for this class was generated from the following file:

- `/home/travis/rapp_temp/rapp-platform/rapp_text_to_speech_espeak/src/text_to_speech_espeak.py`

## 7.28 `rapp_audio_processing.rapp_transform_audio.TransformAudio` Class Reference

Provides audio type tranformation functionalities.

### Public Member Functions

- `def transform_audio`  
*Performs the audio transformation.*

### Private Member Functions

- `def _assertArgs`  
*Verifies the existence of the required arguments.*
- `def _convertType`  
*Performs audio conversion.*
- `def _validateSourceType`  
*Validates that the provided audio type match the file extension.*

### 7.28.1 Detailed Description

Provides audio type tranformation functionalities.

Allows the transformation of an audio file to a different format. Supports the alteration of the type (i.e. headset, nao\_wav\_1\_ch etc.), the sample rate, the audio channel number, the audio format and the audio name. Handles transform audio service callback (rapp\_audio\_processing.rapp\_audio\_processing.AudioProcessing::transform\_audio)

Definition at line 32 of file rapp\_transform\_audio.py.

### 7.28.2 Member Function Documentation

**7.28.2.1** `def rapp_audio_processing.rapp_transform_audio.TransformAudio._assertArgs ( self, source_type, source_name, target_type, target_name, target_channels, target_rate ) [private]`

Verifies the existence of the required arguments.

Parameters

<i>source_type</i>	[string] The source audio file's type
<i>source_name</i>	[string] The source audio file's name
<i>target_type</i>	[string] The target audio file's type
<i>target_name</i>	[string] The target audio file's name
<i>target_channels</i>	[string] The target audio's channel number
<i>target_rate</i>	[string] The target audio's sample rate

Exceptions

<i>Exception</i>	Arguments are invalid
------------------	-----------------------

Definition at line 76 of file rapp\_transform\_audio.py.

**7.28.2.2** `def rapp_audio_processing.rapp_transform_audio.TransformAudio._convertType ( self, source_type, source_name, target_type, target_name, target_channels, target_rate ) [private]`

Performs audio conversion.

Parameters

<i>source_type</i>	[string] The source audio file's type
<i>source_name</i>	[string] The source audio file's name
<i>target_type</i>	[string] The target audio file's type
<i>target_name</i>	[string] The target audio file's name
<i>target_channels</i>	[string] The target audio's channel number
<i>target_rate</i>	[string] The target audio's sample rate

Exceptions

<i>Exception</i>	Conversion malfunction
------------------	------------------------

Definition at line 101 of file rapp\_transform\_audio.py.

**7.28.2.3** `def rapp_audio_processing.rapp_transform_audio.TransformAudio._validateSourceType ( self, source_type, name ) [private]`

Validates that the provided audio type match the file extension.

## Parameters

<i>source_type</i>	[string] The source audio file's type
<i>name</i>	[string] The source audio file's name

## Exceptions

<i>Exception</i>	Audio type/file type mismatch
------------------	-------------------------------

Definition at line 139 of file rapp\_transform\_audio.py.

7.28.2.4 `def rapp_audio_processing.rapp_transform_audio.TransformAudio.transform_audio ( self, source_type, source_name, target_type, target_name, target_channels, target_rate )`

Performs the audio transformation.

## Parameters

<i>source_type</i>	[string] The source audio file's type
<i>source_name</i>	[string] The source audio file's name
<i>target_type</i>	[string] The target audio file's type
<i>target_name</i>	[string] The target audio file's name
<i>target_channels</i>	[string] The target audio's channel number
<i>target_rate</i>	[string] The target audio's sample rate

## Returns

status [string] The status of the transformation procedure  
filename [string] The name of the produced file

Definition at line 45 of file rapp\_transform\_audio.py.

The documentation for this class was generated from the following file:

- [/home/travis/rapp\\_temp/rapp-platform/rapp\\_audio\\_processing/src/rapp\\_audio\\_processing/rapp\\_transform\\_audio.py](#)

## 7.29 rapp\_audio\_processing.rapp\_utilities.Utilities Class Reference

Provides audio processing utilities.

### Public Member Functions

- `def cleanup`  
*Removes a number of files.*

#### 7.29.1 Detailed Description

Provides audio processing utilities.

Definition at line 27 of file rapp\_utilities.py.

#### 7.29.2 Member Function Documentation

7.29.2.1 `def rapp_audio_processing.rapp_utilities.Utilities.cleanup ( self, files )`

Removes a number of files.



## Parameters

<i>files</i>	[list::string] The to be deleted files' paths
--------------	---

Definition at line 32 of file rapp\_utilities.py.

The documentation for this class was generated from the following file:

- /home/travis/rapp\_temp/rapp-platform/rapp\_audio\_processing/src/rapp\_audio\_processing/[rapp\\_utilities.py](#)



## Chapter 8

# File Documentation

### 8.1 /home/travis/rapp\_temp/rapp-platform/rapp\_audio\_processing/src/rapp\_audio\_processing/\_\_init\_\_.py File Reference

#### Namespaces

- [rapp\\_audio\\_processing](#)

### 8.2 /home/travis/rapp\_temp/rapp-platform/rapp\_speech\_detection\_sphinx4/src/rapp\_speech\_detection\_sphinx4/\_\_init\_\_.py File Reference

#### Namespaces

- [rapp\\_speech\\_detection\\_sphinx4](#)

### 8.3 /home/travis/rapp\_temp/rapp-platform/rapp\_audio\_processing/src/rapp\_audio\_processing/rapp\_audio\_processing.py File Reference

#### Classes

- class [rapp\\_audio\\_processing.rapp\\_audio\\_processing.AudioProcessing](#)  
*Provides audio processing utilities.*

#### Namespaces

- [rapp\\_audio\\_processing.rapp\\_audio\\_processing](#)

#### Variables

- tuple [rapp\\_audio\\_processing.rapp\\_audio\\_processing.AudioProcessingNode](#) = [AudioProcessing\(\)](#)

### 8.4 /home/travis/rapp\_temp/rapp-platform/rapp\_audio\_processing/src/rapp\_audio\_processing/rapp\_detect\_silence.py File Reference

## Classes

- class [rapp\\_audio\\_processing.rapp\\_detect\\_silence.DetectSilence](#)  
*Performs silence detection on an audio file.*

## Namespaces

- [rapp\\_audio\\_processing.rapp\\_detect\\_silence](#)

## 8.5 /home/travis/rapp\_temp/rapp-platform/rapp\_audio\_processing/src/rapp\_audio\_processing/rapp\_energy\_denoise.py File Reference

### Classes

- class [rapp\\_audio\\_processing.rapp\\_energy\\_denoise.EnergyDenoise](#)  
*Performs energy denoising on an audio file.*

### Namespaces

- [rapp\\_audio\\_processing.rapp\\_energy\\_denoise](#)

## 8.6 /home/travis/rapp\_temp/rapp-platform/rapp\_audio\_processing/src/rapp\_audio\_processing/rapp\_set\_noise\_profile.py File Reference

### Classes

- class [rapp\\_audio\\_processing.rapp\\_set\\_noise\\_profile.SetNoiseProfile](#)  
*Evaluates the noise profile for an audio file.*

### Namespaces

- [rapp\\_audio\\_processing.rapp\\_set\\_noise\\_profile](#)

## 8.7 /home/travis/rapp\_temp/rapp-platform/rapp\_audio\_processing/src/rapp\_audio\_processing/rapp\_sox\_denoise.py File Reference

### Classes

- class [rapp\\_audio\\_processing.rapp\\_sox\\_denoise.SoxDenoise](#)  
*Performs denoising on an audio file employing Sox application.*

### Namespaces

- [rapp\\_audio\\_processing.rapp\\_sox\\_denoise](#)

## 8.8 /home/travis/rapp\_temp/rapp-platform/rapp\_audio\_processing/src/rapp\_audio\_processing/rapp\_transform\_audio.py File Reference

### Classes

- class [rapp\\_audio\\_processing.rapp\\_transform\\_audio.TransformAudio](#)  
*Provides audio type tranformation functionalities.*

### Namespaces

- [rapp\\_audio\\_processing.rapp\\_transform\\_audio](#)

## 8.9 /home/travis/rapp\_temp/rapp-platform/rapp\_audio\_processing/src/rapp\_audio\_processing/rapp\_utilities.py File Reference

### Classes

- class [rapp\\_audio\\_processing.rapp\\_utilities.Utilities](#)  
*Provides audio processing utilities.*

### Namespaces

- [rapp\\_audio\\_processing.rapp\\_utilities](#)

## 8.10 /home/travis/rapp\_temp/rapp-platform/rapp\_cognitive\_exercise/src/cognitive\_exercise.py File Reference

### Classes

- class [cognitive\\_exercise.CognitiveExercise](#)  
*The Cognitive exercise ros node.*

### Namespaces

- [cognitive\\_exercise](#)

## 8.11 /home/travis/rapp\_temp/rapp-platform/rapp\_cognitive\_exercise/src/cognitive\_exercise\_main.py File Reference

### Namespaces

- [cognitive\\_exercise\\_main](#)

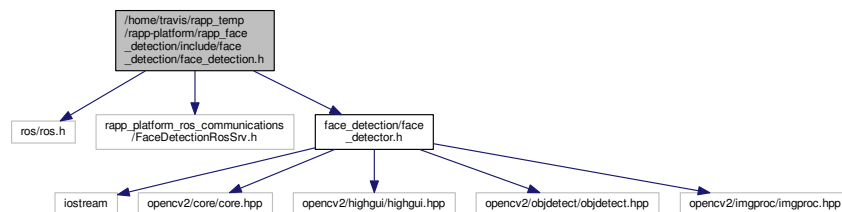
### Variables

- tuple [cognitive\\_exercise\\_main.CognitiveExerciseNode](#) = [CognitiveExercise\(\)](#)  
*The main function that initiates the CognitiveExercise ROS Node.*

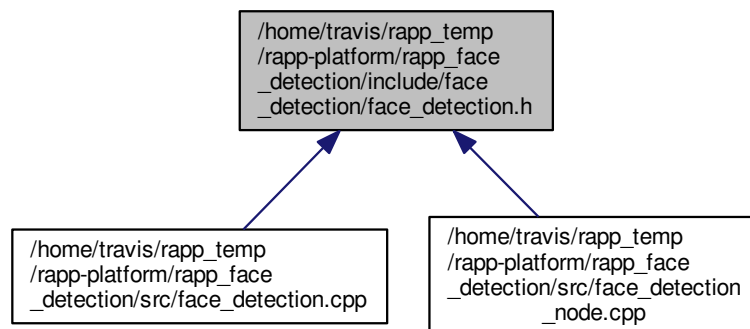
## 8.12 /home/travis/rapp\_temp/rapp-platform/rapp\_face\_detection/include/face\_detection/face\_detection.h File Reference

```
#include "ros/ros.h"
#include <rapp_platform_ros_communications/FaceDetectionRosSrv.h>
#include <face_detection/face_detector.h>
```

Include dependency graph for face\_detection.h:



This graph shows which files directly or indirectly include this file:



### Classes

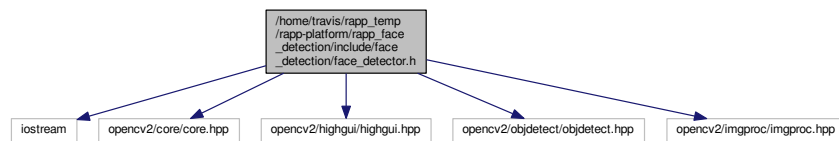
- class [FaceDetection](#)

Class [FaceDetection](#) uptakes the task of handling the ROS service callbacks.

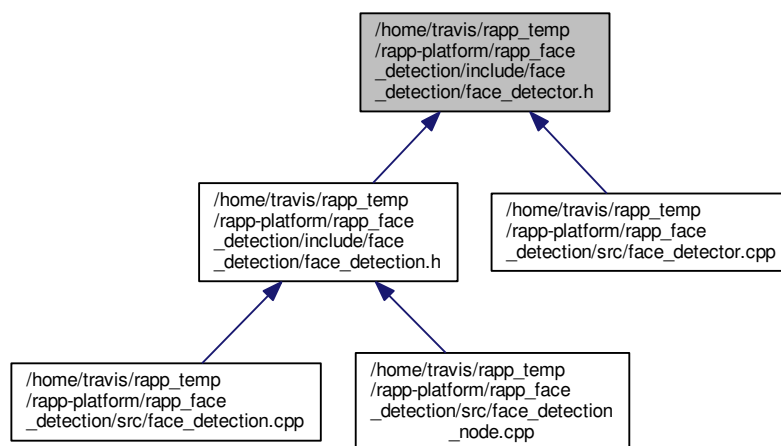
## 8.13 /home/travis/rapp\_temp/rapp-platform/rapp\_face\_detection/include/face\_detection/face\_detector.h File Reference

```
#include <iostream>
#include <opencv2/core/core.hpp>
#include <opencv2/highgui/highgui.hpp>
#include <opencv2/objdetect/objdetect.hpp>
#include <opencv2/imgproc/imgproc.hpp>
```

Include dependency graph for face\_detector.h:



This graph shows which files directly or indirectly include this file:



## Classes

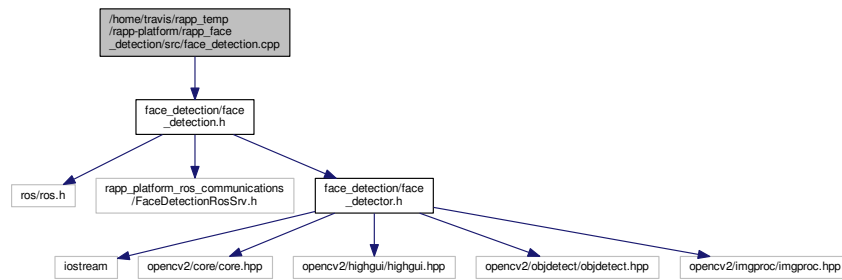
- class [FaceDetector](#)

*Class that implements a face detection algorithm based on a Haar cascade classifier.*

## 8.14 /home/travis/rapp\_temp/rapp-platform/rapp\_face\_detection/src/face\_detection.cpp File Reference

```
#include <face_detection/face_detection.h>
```

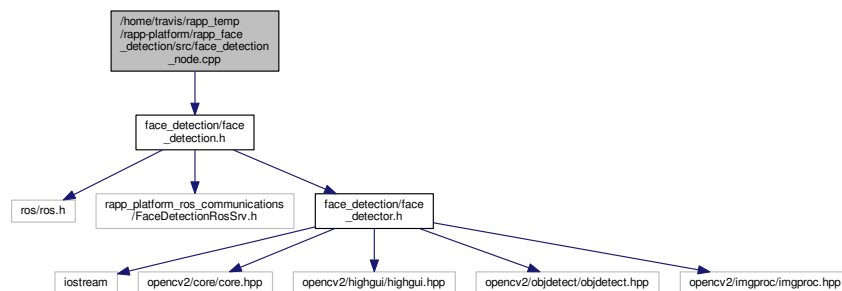
Include dependency graph for `face_detection.cpp`:



## 8.15 /home/travis/rapp\_temp/rapp-platform/rapp\_face\_detection/src/face\_detection\_node.cpp File Reference

```
#include <face_detection/face_detection.h>
```

Include dependency graph for `face_detection_node.cpp`:



## Functions

- `int main (int argc, char **argv)`

*The executable's main function. Creates a ROS multispinner to enable concurrent requests and declares a [Face-Detection](#) object.*

### 8.15.1 Function Documentation

#### 8.15.1.1 `int main ( int argc, char ** argv )`

The executable's main function. Creates a ROS multispinner to enable concurrent requests and declares a [Face-Detection](#) object.

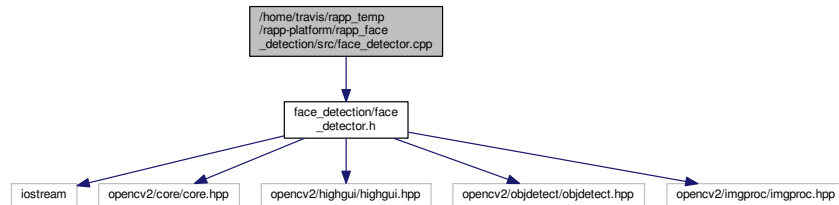
Definition at line 24 of file `face_detection_node.cpp`.



## 8.16 /home/travis/rapp\_temp/rapp-platform/rapp\_face\_detection/src/face\_detector.cpp File Reference

```
#include <face_detection/face_detector.h>
```

Include dependency graph for face\_detector.cpp:



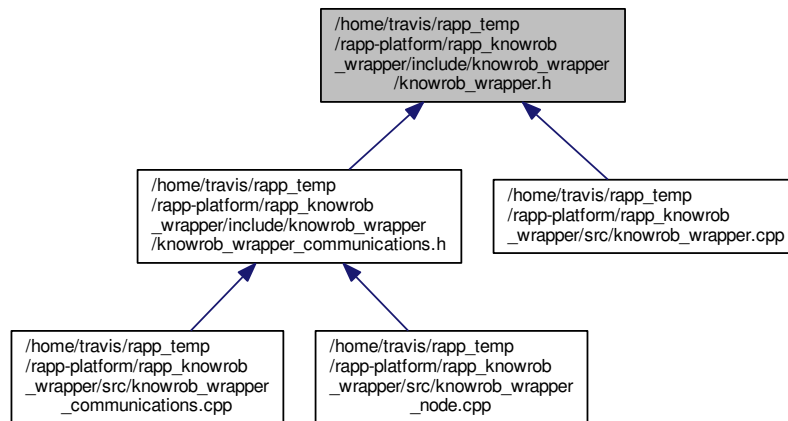
## 8.17 /home/travis/rapp\_temp/rapp-platform/rapp\_knowrob\_wrapper/include/knowrob\_wrapper/knowrob\_wrapper.h File Reference

```
#include <string>
#include <iostream>
#include <json_prolog/prolog.h>
#include <rapp_platform_ros_communications/fetchDataSrv.h>
#include <rapp_platform_ros_communications/writeDataSrv.h>
#include <rapp_platform_ros_communications/updateDataSrv.h>
#include <rapp_platform_ros_communications/StringArrayMsg.h>
#include <rapp_platform_ros_communications/createInstanceSrv.h>
#include <rapp_platform_ros_communications/ontologyInstancesOfSrv.h>
#include <rapp_platform_ros_communications/ontologyLoadDumpSrv.h>
#include <rapp_platform_ros_communications/ontologySubSuperClassesOfSrv.h>
#include <rapp_platform_ros_communications/assertRetractAttributeSrv.h>
#include <rapp_platform_ros_communications/ontologyIsSubSuperClassOfSrv.h>
#include <rapp_platform_ros_communications/returnUserInstancesOfClassSrv.h>
#include <rapp_platform_ros_communications/createOntologyAliasSrv.h>
#include <rapp_platform_ros_communications/userPerformanceCognitiveTests-
Srv.h>
#include <rapp_platform_ros_communications/createCognitiveExerciseTestSrv.-
h>
#include <rapp_platform_ros_communications/cognitiveTestsOfTypeSrv.h>
#include <rapp_platform_ros_communications/recordUserPerformanceCognitive-
TestsSrv.h>
#include <rapp_platform_ros_communications/clearUserPerformanceCognitive-
TestsSrv.h>
```

Include dependency graph for knowrob\_wrapper.h:



This graph shows which files directly or indirectly include this file:



## Classes

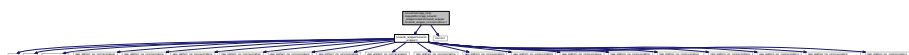
- class [KnowrobWrapper](#)

Class [KnowrobWrapperCommunications](#) contains all the necessary knowrob wrapper functions.

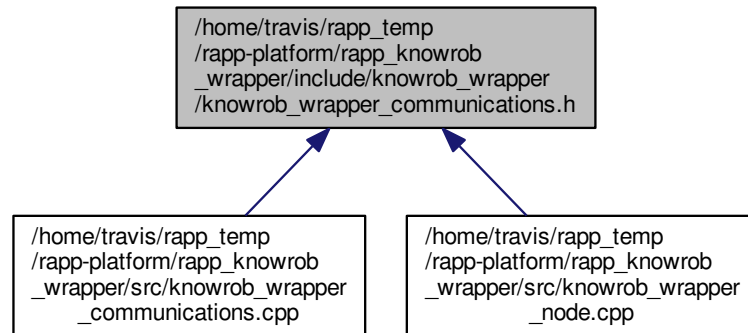
## 8.18 /home/travis/rapp\_temp/rapp-platform/rapp\_knowrob\_wrapper/include/knowrob\_wrapper/knowrob\_wrapper\_communications.h File Reference

```
#include <knowrob_wrapper/knowrob_wrapper.h>
#include <ros/ros.h>
```

Include dependency graph for knowrob\_wrapper\_communications.h:



This graph shows which files directly or indirectly include this file:



## Classes

- class [KnowrobWrapperCommunications](#)

Class [KnowrobWrapperCommunications](#) uptakes the task of handling the ROS service callbacks.

## 8.19 /home/travis/rapp\_temp/rapp-platform/rapp\_knowrob\_wrapper/src/knowrob\_wrapper.cpp File Reference

```
#include <knowrob_wrapper/knowrob_wrapper.h>
#include <sys/stat.h>
#include <unistd.h>
#include <sstream>
#include <ros/package.h>
#include <fstream>
```

Include dependency graph for knowrob\_wrapper.cpp:



## Functions

- bool [checkIfFileExists](#) (const char \*fileName)  
Checks if path exists.
- std::string [intToString](#) (int a)  
Converts integer to string.
- std::vector< std::string > [split](#) (std::string str, std::string sep)  
Splits string by delimiter.
- std::string [SplitFilename](#) (const std::string &str)  
Keeps only the final folder or file from a path.

## 8.19.1 Function Documentation

### 8.19.1.1 `bool checkIfFileExists ( const char * fileName )`

Checks if path exists.

## Parameters

<i>fileName</i>	[char*] The input path
-----------------	------------------------

## Returns

out [bool] True if file exists

Definition at line 66 of file knowrob\_wrapper.cpp.

8.19.1.2 `std::string intToString ( int a )`

Converts integer to string.

## Parameters

<i>a</i>	[int] The input integer
----------	-------------------------

## Returns

out [string] The output string

Definition at line 42 of file knowrob\_wrapper.cpp.

8.19.1.3 `std::vector<std::string> split ( std::string str, std::string sep )`

Splits string by delimiter.

## Parameters

<i>str</i>	[string] The input string
<i>sep</i>	[string] The delimiter

## Returns

arr [std::vector<std::string>] A vector with the string parts as splitted by the delimiter

Definition at line 78 of file knowrob\_wrapper.cpp.

8.19.1.4 `std::string SplitFilename ( const std::string & str )`

Keeps only the final folder or file from a path.

## Parameters

<i>str</i>	[string&] The input path
------------	--------------------------

## Returns

out [string] The output filename

Definition at line 54 of file knowrob\_wrapper.cpp.

## 8.20 /home/travis/rapp\_temp/rapp-platform/rapp\_knowrob\_wrapper/src/knowrob\_wrapper\_communications.cpp File Reference

```
#include <knowrob_wrapper/knowrob_wrapper_communications.h>
#include <ros/package.h>
```

Include dependency graph for knowrob\_wrapper\_communications.cpp:



## 8.21 /home/travis/rapp\_temp/rapp-platform/rapp\_knowrob\_wrapper/src/knowrob\_wrapper\_node.cpp File Reference

```
#include <knowrob_wrapper/knowrob_wrapper_communications.h>
```

Include dependency graph for knowrob\_wrapper\_node.cpp:



### Functions

- int [main](#) (int argc, char \*\*argv)

*The executable's main function. Creates a ROS multispinner to enable concurrent requests and declares a [KnowrobWrapperCommunications](#) object.*

### 8.21.1 Function Documentation

#### 8.21.1.1 int main ( int argc, char \*\* argv )

The executable's main function. Creates a ROS multispinner to enable concurrent requests and declares a [KnowrobWrapperCommunications](#) object.

Definition at line 28 of file knowrob\_wrapper\_node.cpp.

## 8.22 /home/travis/rapp\_temp/rapp-platform/rapp\_mysql\_wrapper/src/mysql\_wrapper.py File Reference

### Classes

- class [mysql\\_wrapper.MySQLdbWrapper](#)

*The mysql wrapper ros node.*

### Namespaces

- [mysql\\_wrapper](#)

## 8.23 /home/travis/rapp\_temp/rapp-platform/rapp\_mysql\_wrapper/src/mysql\_wrapper\_main.py File Reference

### Namespaces

- [mysql\\_wrapper\\_main](#)

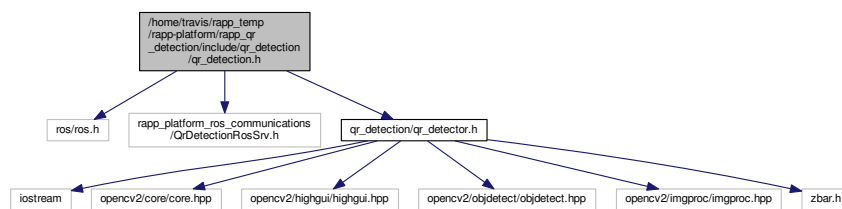
### Variables

- tuple [mysql\\_wrapper\\_main.MySQLWrapperNode](#) = MySQLdbWrapper()

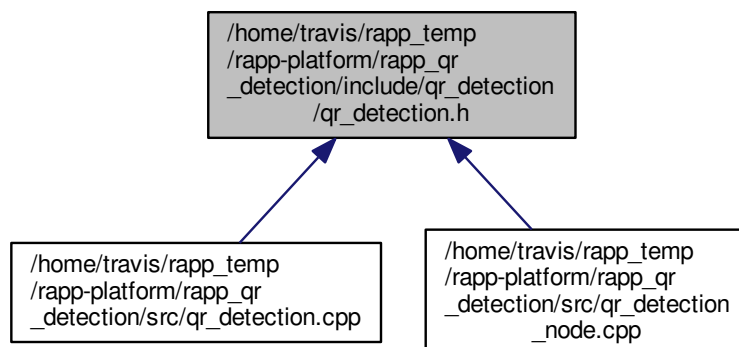
*The main function that initiates the rapp mysql wrapper ROS Node.*

## 8.24 /home/travis/rapp\_temp/rapp-platform/rapp\_qr\_detection/include/qr\_detection/qr\_detection.h File Reference

```
#include "ros/ros.h"
#include <rapp_platform_ros_communications/QrDetectionRosSrv.h>
#include <qr_detection/qr_detector.h>
Include dependency graph for qr_detection.h:
```



This graph shows which files directly or indirectly include this file:



## Classes

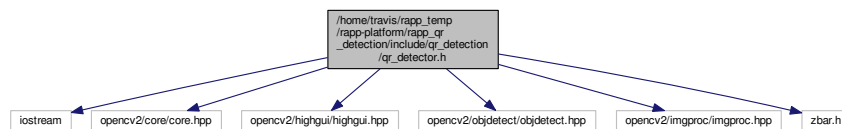
- class [QrDetection](#)

*Uptakes the task of setting up the ROS service callbacks towards qr detection.*

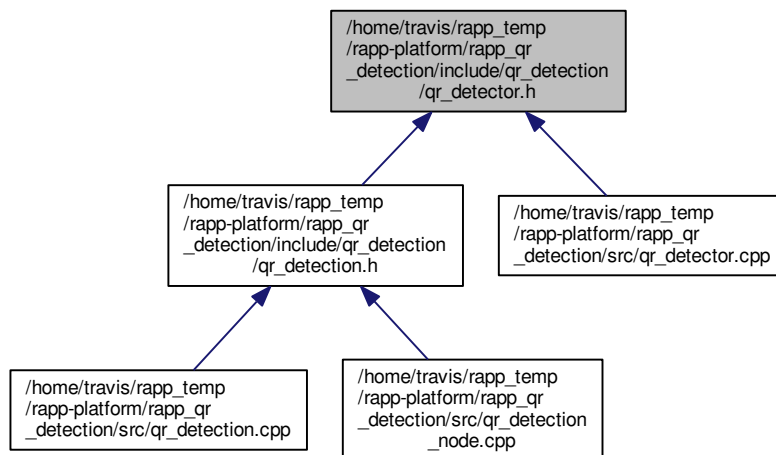
## 8.25 /home/travis/rapp\_temp/rapp-platform/rapp\_qr\_detection/include/qr\_detection/qr\_detector.h File Reference

```
#include <iostream>
#include <opencv2/core/core.hpp>
#include <opencv2/highgui/highgui.hpp>
#include <opencv2/objdetect/objdetect.hpp>
#include <opencv2/imgproc/imgproc.hpp>
#include <zbar.h>
```

Include dependency graph for qr\_detector.h:



This graph shows which files directly or indirectly include this file:



## Classes

- class [QrCode](#)

*Structure holding the essential info for a QR code.*

- class [QrDetector](#)

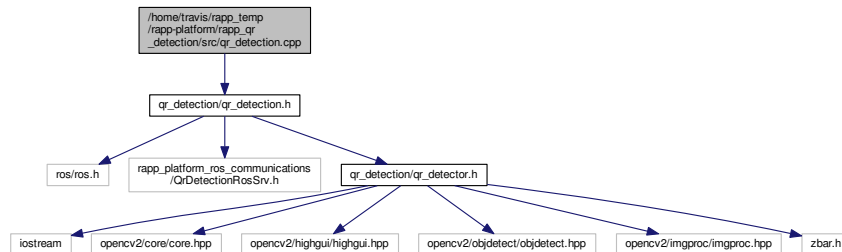
*Provides the QR detection functionality.*



## 8.26 /home/travis/rapp\_temp/rapp-platform/rapp\_qr\_detection/src/qr\_detection.cpp File Reference

```
#include <qr_detection/qr_detection.h>
```

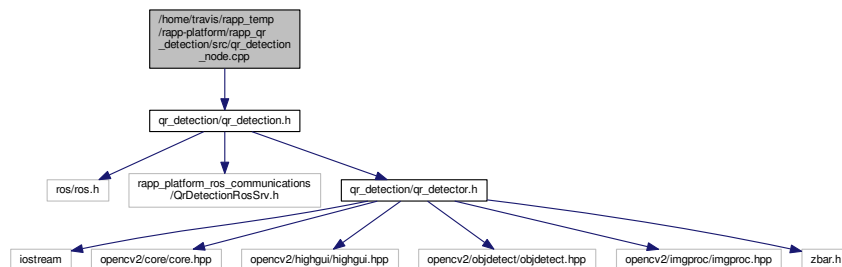
Include dependency graph for qr\_detection.cpp:



## 8.27 /home/travis/rapp\_temp/rapp-platform/rapp\_qr\_detection/src/qr\_detection\_node.cpp File Reference

```
#include <qr_detection/qr_detection.h>
```

Include dependency graph for qr\_detection\_node.cpp:



### Functions

- `int main (int argc, char **argv)`

*The main function. Retrieves the threads parameter in order to enable concurrent service invocation.*

### 8.27.1 Function Documentation

#### 8.27.1.1 `int main ( int argc, char ** argv )`

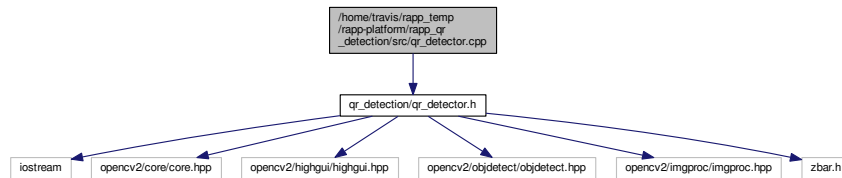
The main function. Retrieves the threads parameter in order to enable concurrent service invocation.

Definition at line 25 of file qr\_detection\_node.cpp.

## 8.28 /home/travis/rapp\_temp/rapp-platform/rapp\_qr\_detection/src/qr\_detector.cpp File Reference

```
#include <qr_detection/qr_detector.h>
```

Include dependency graph for qr\_detector.cpp:



## 8.29 /home/travis/rapp\_temp/rapp-platform/rapp\_speech\_detection\_google/src/rapp\_exceptions.py File Reference

### Classes

- class [rapp\\_exceptions.RappError](#)  
*Inherits Exception and is used to catch only RAPP-specific exceptions.*

### Namespaces

- [rapp\\_exceptions](#)

## 8.30 /home/travis/rapp\_temp/rapp-platform/rapp\_speech\_detection\_sphinx4/src/rapp\_speech\_detection\_sphinx4/rapp\_exceptions.py File Reference

### Classes

- class [rapp\\_speech\\_detection\\_sphinx4.rapp\\_exceptions.RappError](#)  
*Provides a RAPP specific exception.*

### Namespaces

- [rapp\\_speech\\_detection\\_sphinx4.rapp\\_exceptions](#)

## 8.31 /home/travis/rapp\_temp/rapp-platform/rapp\_text\_to\_speech\_espeak/src/rapp\_exceptions.py File Reference

### Classes

- class [rapp\\_exceptions.RappError](#)  
*Inherits Exception and is used to catch only RAPP-specific exceptions.*

## Namespaces

- [rapp\\_exceptions](#)

## 8.32 [/home/travis/rapp\\_temp/rapp-platform/rapp\\_speech\\_detection\\_google/src/speech\\_recognition\\_google.py](#) File Reference

## Classes

- class [speech\\_recognition\\_google.SpeechToTextGoogle](#)

*Implements calls the Google ASR API.*

## Namespaces

- [speech\\_recognition\\_google](#)

## Variables

- tuple [speech\\_recognition\\_google.speech\\_to\\_text\\_node](#) = [SpeechToTextGoogle\(\)](#)

*The main function.*

## 8.33 [/home/travis/rapp\\_temp/rapp-platform/rapp\\_speech\\_detection\\_sphinx4/src/rapp\\_speech\\_detection\\_sphinx4/english\\_support.py](#) File Reference

## Classes

- class [rapp\\_speech\\_detection\\_sphinx4.english\\_support.EnglishSupport](#)

*Allows the creation of configuration files for English Sphinx speech recognition.*

## Namespaces

- [rapp\\_speech\\_detection\\_sphinx4.english\\_support](#)

## 8.34 [/home/travis/rapp\\_temp/rapp-platform/rapp\\_speech\\_detection\\_sphinx4/src/rapp\\_speech\\_detection\\_sphinx4/global\\_parameters.py](#) File Reference

## Classes

- class [rapp\\_speech\\_detection\\_sphinx4.global\\_parameters.GlobalParams](#)

*Contains global Sphinx parameters.*

## Namespaces

- [rapp\\_speech\\_detection\\_sphinx4.global\\_parameters](#)

### 8.35 /home/travis/rapp\_temp/rapp-platform/rapp\_speech\_detection\_sphinx4/src/rapp\_speech\_detection\_sphinx4/greek\_support.py File Reference

#### Classes

- class [rapp\\_speech\\_detection\\_sphinx4.greek\\_support.GreekSupport](#)  
*Allows the creation of configuration files for Greek Sphinx speech recognition.*

#### Namespaces

- [rapp\\_speech\\_detection\\_sphinx4.greek\\_support](#)

### 8.36 /home/travis/rapp\_temp/rapp-platform/rapp\_speech\_detection\_sphinx4/src/rapp\_speech\_detection\_sphinx4/limited\_vocabulary\_creator.py File Reference

#### Classes

- class [rapp\\_speech\\_detection\\_sphinx4.limited\\_vocabulary\\_creator.LimitedVocabularyCreator](#)  
*Creates temporary configuration files for the input limited vocabulary.*

#### Namespaces

- [rapp\\_speech\\_detection\\_sphinx4.limited\\_vocabulary\\_creator](#)

### 8.37 /home/travis/rapp\_temp/rapp-platform/rapp\_speech\_detection\_sphinx4/src/rapp\_speech\_detection\_sphinx4/rapp\_tools.py File Reference

#### Namespaces

- [rapp\\_speech\\_detection\\_sphinx4.rapp\\_tools](#)

#### Functions

- def [rapp\\_speech\\_detection\\_sphinx4.rapp\\_tools.rapp\\_print](#)

### 8.38 /home/travis/rapp\_temp/rapp-platform/rapp\_speech\_detection\_sphinx4/src/rapp\_speech\_detection\_sphinx4/speech\_recognition\_sphinx4.py File Reference

#### Classes

- class [rapp\\_speech\\_detection\\_sphinx4.speech\\_recognition\\_sphinx4.SpeechRecognitionSphinx4](#)  
*Provides a complete Rapp Sphinx Entity.*

#### Namespaces

- [rapp\\_speech\\_detection\\_sphinx4.speech\\_recognition\\_sphinx4](#)

#### Variables

- tuple [rapp\\_speech\\_detection\\_sphinx4.speech\\_recognition\\_sphinx4.SpeechRecognitionSphinx4Node](#) = [SpeechRecognitionSphinx4\(\)](#)

### 8.39 /home/travis/rapp\_temp/rapp-platform/rapp\_speech\_detection\_sphinx4/src/rapp\_speech\_detection\_sphinx4/speech\_recognition\_sphinx4\_handler\_node.py File Reference

#### Classes

- class [rapp\\_speech\\_detection\\_sphinx4.speech\\_recognition\\_sphinx4\\_handler\\_node.SpeechRecognitionSphinx4HandlerNode](#)  
*Maintains Sphinx instances to perform speech recognition.*

#### Namespaces

- [rapp\\_speech\\_detection\\_sphinx4.speech\\_recognition\\_sphinx4\\_handler\\_node](#)

#### Variables

- tuple [rapp\\_speech\\_detection\\_sphinx4.speech\\_recognition\\_sphinx4\\_handler\\_node.SpeechRecognitionSphinx4HandlerNode](#) = [SpeechRecognitionSphinx4HandlerNode\(\)](#)

### 8.40 /home/travis/rapp\_temp/rapp-platform/rapp\_speech\_detection\_sphinx4/src/rapp\_speech\_detection\_sphinx4/sphinx4\_configuration\_params.py File Reference

#### Classes

- class [rapp\\_speech\\_detection\\_sphinx4.sphinx4\\_configuration\\_params.SphinxConfigurationParams](#)  
*Contains the parameters required for the Sphinx configuration.*

#### Namespaces

- [rapp\\_speech\\_detection\\_sphinx4.sphinx4\\_configuration\\_params](#)

### 8.41 /home/travis/rapp\_temp/rapp-platform/rapp\_speech\_detection\_sphinx4/src/rapp\_speech\_detection\_sphinx4/sphinx4\_wrapper.py File Reference

#### Classes

- class [rapp\\_speech\\_detection\\_sphinx4.sphinx4\\_wrapper.Sphinx4Wrapper](#)  
*Contains the Sphinx subprocess and is responsible for configuring Sphinx and performing the recognition request.*

#### Namespaces

- [rapp\\_speech\\_detection\\_sphinx4.sphinx4\\_wrapper](#)

## 8.42 /home/travis/rapp\_temp/rapp-platform/rapp\_speech\_detection\_sphinx4/src/Sphinx4.java File Reference

### Classes

- class [Sphinx4](#)  
*Performs speech recognition employing Sphinx.*

## 8.43 /home/travis/rapp\_temp/rapp-platform/rapp\_text\_to\_speech\_espeak/src/text\_to\_speech\_espeak.py File Reference

### Classes

- class [text\\_to\\_speech\\_espeak.TextToSpeechEspeak](#)

### Namespaces

- [text\\_to\\_speech\\_espeak](#)

### Variables

- tuple [text\\_to\\_speech\\_espeak.text\\_to\\_speech\\_espeak\\_ros\\_node](#) = [TextToSpeechEspeak](#)()

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