



WP5 System Integration and Validation

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Tasks of the Work Package

- ▶ T5.1 Design of software architecture for audio integration
 - M1-M6, ALD

- ▶ T5.2 Integration of microphone arrays into Nao
 - M13-M30, ALD, BGU, FAU

- ▶ T5.3 Software Integration
 - M13-M30, ALD, FAU, IMPERIAL, BGU, UBER, INRIA

- ▶ T5.4 Development of the applications and evaluation
 - M1-M36, ALD, FAU, IMPERIAL, BGU, UBER, INRIA

Deliverables

- ▶ D5.1 : Software and documentation of architecture for audio integration, M6
- ▶ D5.2 : Report on applications and evaluation scenarios, M12
- ▶ D5.3 : Microphone arrays and video-augmented robot audition for the humanoid robot, M30
- ▶ D5.4 : Evaluation of humanoid robot demonstrators, M36

Objectives of the Demonstration

- ▶ Demonstrate a useful industrial application
 - Welcoming robot in a public place

- ▶ Demonstrate the development of the Partners
 - Sound localization
 - Sound recognition
 - Audio-visual tracking
 - Source sharing
 - Robustness to noise
 - Improved speech recognition
 - Dialog
 - Advanced behaviors

Preliminary Scenario

- ▶ Two NAOs are waiting in an noisy hotel lobby in rest mode
- ▶ The robots detect and recognize a sound :
 - the door bell ringing: check if someone enters the lobby.
 - The phone bell : inform the receptionist that the phone rang
 - The fire alarm : ask for evacuation
- ▶ If someone enters the lobby, the robots greets him
- ▶ The robot detects is the person needs information and proposes assistance
- ▶ The robot detects or asks the language of the person

Preliminary Scenario

- ▶ Dialog topics
 - Do you have a reservation ?
 - Do you want to book a room
 - Contact a person in his room
 - How to connect the Wi-Fi
 - Where is
 - Toilet; breakfast, swimming pool, bar; restaurant, room...
 - Call a cab

- ▶ During the dialog, someone else arrives, the second robot salutes him and should handle the conversation in parallel

- ▶ In case of a problem the robot calls a staff people.

Next Steps

- ▶ Get requirement for the Benchmark 1 (M7)
- ▶ Improve scenario to have each function presented (M9)
- ▶ Integration camp (M9-M10)
- ▶ Develop the application and dialogs for scenario
 - First : Using available functions (M12)
 - Then : Integrating new functions (when ready)
- ▶ Provide the platform for Benchmark 1 (M12)