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Plan for first Year of WP5

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T|A
M|S

University of Hamburg
Faculty of Mathematics, Informatics and Natural Sciences
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Technical Aspects of Multimodal Systems

RACE

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University of Hamburg

Outline

Project Overview

Planned Tasks for WP5 (1st Year)

Summary

Issues

UH University of Hamburg

Person Month

Participant number [10]	Participant short name [11]	Person-months per participant
1	UHAM	57.00
2	UNIVLEEDS	4.00
3	ORU	6.00
4	UOS	9.00
5	UAVR	6.00
6	HITEC EV	3.00

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Deliverables

Deliverable Number [61]	Deliverable Title	Lead beneficiary number	Estimated indicative person-months	Nature [62]	Dissemination level [63]	Delivery date [64]
D5.1	Evaluation Infrastructure	1	17.00	R	PU	10
D5.2	Year-1 Demonstrator	1	12.00	R	PU	12
D5.3	Year-2 Demonstrator	1	24.00	R	PU	24
D5.4	Year-3 Demonstrator	1	32.00	R	PU	36
		Total	85.00			

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Milestones

Milestone number [59]	Milestone name	Lead beneficiary number	Delivery date from Annex I [60]	Comments
MS1	Simulator	1	10	Enables the execution of Year-1 scenarios
MS2	Year-1 Demonstrator	1	12	Demonstration of robot platform executing Year-1 scenarios
MS5	Year-2 Demonstrator	1	24	Demonstration of robot platform executing Year-2 scenarios
MS6	Year-3 Demonstrator	1	36	Demonstration of robot platform executing Year-3 scenarios

T5.1 (UHAM, ORU, UOS, UA) M1-M9
Robot control SW architecture for evaluation

- ▶ define Abstract Robot Control Architecture (ARCA)
  - ▶ provide interfaces
  - ▶ specify control and information flow between components (UML)
- ▶ proved remote interface to the robot

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T5.2 (UHAM, ORU, UOS, UA) M1-M33
Simulation infrastructure

- ▶ provide simulation infrastructure
  - ▶ stage 1:
    - ▶ 3D robot model with models of real world sensors
    - ▶ one room, table, cups, cans
    - ▶ physical model and properties of objects

T5.3 (UHAM, ORU, UOS, UA) M1-M33
Sensor data acquisition

- ▶ physical robot
  - ▶ arrange initial experiments and scenarios for WP2 (to gain multi-level symbolic representations from raw sensor data)
- ▶ store acquired data centrally

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T5.4 (UHAM, ORU, UOS, UA, UL, HITeC) M1-M36
Demonstrators

- Stage 1:
  - simulated demonstrator
  - *partly physical demonstrator (if possible)
  - integrate achievements from WP1-WP4 into artificial cognitive system (ACS)

T5.5 (UHAM, ORU, UOS, UA, UL) M1-M36
Benchmarking and evaluation

- Stage 1:
    - use experiences for reproducing robot activities in essentially identical environments
    - Demo 1.1: Serve-a-coffee[1]
    - Demo 1.2: Clear-coffee-mugs-from-table

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[1]see details in B1.1

Planned

- ▶ Simulated robot platform
  - ▶ 3D model of PR2
    - ▶ Extension: Kinect, Infrared camera (more?)
    - ▶ Integration of further sensor into simulation
  - ▶ 3D environment restaurant/kitchen
    - ▶ Tables, chairs, objects (static, dynamic)
  - ▶ 3D human models (static, dynamic, random)
- ▶ 2D/3D Navigation (platform, arms)
  - ▶ Collision avoidance
- ▶ Remote interface to the robot

Planned (cont.)

- ▶ Year one demonstrator2D/3D Navigation (platform, arms)
  - ▶ collision avoidance
- ▶ Remote interface to the robot
- ▶ Year one demonstrator
- ▶ Abstraction layer for all integrated components
- ▶ Integration onto the real robot
- ▶ Abstraction layer for all integrated components
- ▶ Integration onto the real robot
- ▶ Define Abstract Robot Control Architecture (ARCA) with other project participants
  - ▶ Provide interfaces

Issues

- ▶ What is needed by other WP?
  - ▶ Interfaces?
  - ▶ Interfaces?
  - ▶ Interfaces?
  - ▶ ...
- ▶ Abstraction level of sensory data?
  - ▶ raw data, symbolic data..?

Thank You!

Any questions?

Further Reading