Science beyond Fiction

The European Future Technologies Conferen
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Interact

Welcome, **Rachid ALAMI**   **[Log out]**

Exhibit ID: **1225**

Overview

State: submitted

Proposal by Rachid ALAMI (CNRS-LAAS, France)

Management Summary   [**Edit**]

Main title
   The Cognitive Robot Companion

Acronym or short title
   COGNIRON

Dedicated website for project or activity
   http://www.cogniron.org

Main subject area
   Robotics

Abstract

   Demonstration of a fully equipped interactive
   Autonmous robot that is able to perform fetch
   and carry tasks in a human environment. The
   robot integrates several results developed
   initially in the framework of the Cogniron
   project (FP6-IST-FET 002020) and extended
   within new EC-funded research projects.

   A robot interprets a person's attitude and
   interacts with him to understand his needs,
   then fetches a requested object and hands it to
   the person. This Experiment stresses object
   learning and recognition, object manipulation,
   human activity understanding, navigation in a
   human environment and close physical
   human-robot interaction.

Objective

   The overall objectives of this project are to
   study the perceptual, representational,

reasoning and learning capabilities of embodied robots in human-centred environments. The exhibit demonstrates methods and technologies embedded within cognitive robots able to evolve in close interaction with humans.

Exhibit Profile

[**Edit**]

Visual Form

other type of visible demonstration (please specify below)

Type of visual demonstration

A physical mobile robot (size 0.80 m x 0.80 m x 1.5 m) equipped with a manipluator and with several sensors, able to perform autonomously fetch and carry tasks to assist or serve humans. The robot navigates in an indoors environment, detects and picks-up objects on tables and hands them to persons in a socially acceptable manner.

Interactivity

exhibitors and visitors interact with the demonstration

Ease of comprehension

exhibit requires some explanation by the exhibitor

Scientific Maturity

prototyping phase

This demonstration has been shown elsewhere in public

No

When and where?

(empty)

Duration

20

Detailed Descriptions

[**Edit**]

What exactly will you show the visitor?

Demonstration of a fully equipped interactive autonmous robot that is able to perform fetch and carry tasks In a human environment. The robot integrates several results developed initially in the framework of the Cogniron project (FP6-IST-FET 002020) and extended within new EC-funded research projects. The robot is called Jido. It is a physical mobile robot (size 0.80 m x 0.80 m x 1.5 m) equipped with a manipulator and with several sensors (cameras, lasers, force sensors).

How does it relate to long term, multi-disciplinary, foundational research in future and emerging information technologies?

This Experiment stresses object learning and recognition, object manipulation, human activity understanding, navigation in a human environment and close physical human-robot interaction. These are essential ingredients for building cognitive assistive robots.

Links and Documents

[**Edit**]

1. **scenario** (uploaded: jpg, 342 KB) - **Public Information**

2. **http://www.cogniron.org** (linked resource) - **Public Information**

Technical Details

[**Edit**]

Estimated space required

60 mxm

Communications

(empty)

Please justify your requirements and provide technical details (number of connections, frequency bands, power etc)

We need enough place for the robot to navigate from one place to another in order to fetch objects on tables and to move and hand them to persons (exhibitors or visitors) that can be standing and/or sitting.

Wireless/LAN connections

Ethernet LAN connection (100 BaseT/RJ45)

Wireless LAN connection

Estimated bandwidth

3Mb/s

Please provide technical details (frequency bands, special needs e.g. IPv6 etc). Mention any spectrum requirements for broadcasting or other regulated wireless communications (e.g. WiMax).

We need to be able to establish a reliable IEEE802.11b wireless connection between our laptops and the robot. We can bring an access point for that or use whatever infrastructure that is provided.

Internet access is needed.

Equipment that YOU will bring

[**Edit**]

Number of desktop PCs

(empty)

Number of monitors

1

Number of laptops

5

Please describe any other equipment that you will bring (e.g. hubs, switches, wireless access points, prototypes, decoders, external antennas...)

A mobile robot equipped with a manipulator (300 kg). See picture attached.

Complementary equipment: a charger, batteries, cables, wireless access point, tools.

Additional notes - please mention any other technical issues or requirements that may be important for your demonstration. If there are any safety or security issues than please mention them here.

We need tables and chairs for the scenario. The robot will pick and place objects on tables and will move toward persons standing or sitting.

The robot can move (under exhibitor monitoring) in presence and/or in interaction with persons. Motion will be slow. Safety issues are related to possible collision with humans.

Other Notes

[**Edit**]

This exhibit is involved in an EU programme

Yes

Programme

IST FET

Project acronym

COGNIRON

Project number

FP6-IST-002020

Remarks

(empty)

State: submitted

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