Team Project:
A Surveillant Robot System

Status Report : 03/15/2005

Little Red Team
Chankyu Park (Michael)
Seonah Lee (Sarah)
Qingyuan Shi (Lisa)
Chengzhou Li
JunMei Li
Kai Lin
Agenda

- Current Status
- Problems
- Resource Assignment plan
  - Functional Level view
  - Implementation Level view
Current Status - 1

- So far, functional analysis, architecture and modes & states were documented.
- 03/07/2005, Official home page of little red team published.
  - URL is [http://www.andrew.cmu.edu/org/littleredteam/index.html](http://www.andrew.cmu.edu/org/littleredteam/index.html)
  - Current all artifacts are linked in home page.
  - All artifacts which will be made in the future will be linked in homepage.
- All hardware and software parts needed in robot project are purchased except batteries and team T-shirts
- However, all hardware parts has not arrived at CMU until spring break is finished. So, any trial about H/W part could not be done.
Current Status - 2

- Our this risk mitigation strategy is to review software technologies needed to our robot system.
- There are some good results during review process.
  - Several candidates of S/W technologies were reviewed.
  - Finally, Java Communication API, JINI platform was adopted as S/W implementation baseline.
  - These technologies will be used to solve the interoperability between heterogeneous systems such as MindStorms robot, IR Tower, robot’s camera, remote user system, and main controller system.
Problems - 1

- Lego Mindstorms and Vision Command operates on Windows 98.
  - But, OS of our notebook computers is Windows XP professional or Home Edition. So, We need XP patch to Mindstorms and Vision command

- Basically, Lego company does not provide the communication or data transfer functionality between Vision Commander and Mindstorms

- Java Communication API does not support USB communication. → We directly should implement that functionality.
Problems - 2

- On behalf of remote experiment, we need some fixed IP address not automatic IP as DHCP. → I will ask walter how to get it.
Resource Assignment Plan: Top-level function view

1: Manage system
- A remote user, A remote Computer

2: Manage Robots
- A lab experimenter, Robot main controller

3: Transfer live video
- A lab experimenter, Robot main controller

4: Wandering
- Both robots

5: Detect an intruder / an surveillant
- Both cameras

6: Raise alarm
- A surveillant robot

7: Runaway
- A intruder robot

Chankyu Park
Seona Lee

Volunteers

March 15, 2005
Resource Assignment Plan: implementation view

Remote System

Main Controller

Surveillent robot

S/W Implementation

H/W Implementation

Chankyu Park
Seona Lee

Intruder robot

S/W Implementation (Only robot dedicated)

H/W Implementation

Volunteers

March 15, 2005