



RoboCup Rescue
Robot League Competition
Padua, Italy
July 4-11, 2003

PARTICIPANT INFORMATION SHEET

TEAM NAME:	MITRE Robot Platoon	ORGANIZATION:	The MITRE Corporation
CONTACT NAME:	David B Smith	COUNTRY:	USA
TOTAL NUMBER OF TEAM PERSONNEL:	4	EMAIL:	daves@mitre.org
ROBOT NAMES:	Moe, Larry, Curly	TELEPHONE:	(703) 883 7254
WIRELESS FREQUENCIES (PER ROBOT):	802.11b ad hoc channel 10 (all robots)	FAX NUMBER:	(703) 883 6501

PRE-REGISTERED REGISTERED ARRIVED ON SITE COMPETITION READY

PLEASE DISCUSS YOUR APPROACH TOWARD KEY DESIGN CHARACTERISTICS (WITH EMBEDDED PICTURES):



Locomotion:

Four-wheel drive (ActivMedia Pioneer 2-AT)

Sensors for navigation:

Data from bumpers, wheel encoders, sonar, and laser rangefinder are fused in a central map.

Sensors for victim identification:

Pyrosensors and color video are used to identify victims.

Sensors for localization:

Data from bumpers, wheel encoders, sonars, and laser rangefinders on all robots are fused by a central mapping program. Kalman filtering is performed on the fused data for localization.

Control scheme:

Robots are semi-autonomous; operator can take manual control of a robot or command robots to execute several autonomous behaviors with various time spans of discretion.

Communications:

All robots, auxiliary processing computers, and the operator control computer, are on a single class C subnet, with IP addresses in the range 192.168.100.x. The wireless protocol is 802.11b in the 2.4GHz frequency spectrum, and the network is ad-hoc, with no access point. The network name is "stoogenet", currently with no encryption and currently on channel 10, though these parameters could be changed if necessary.

Map generation/printing:

Arena features and victims are depicted on an on-screen display integrated with our commander console.