

Tutorial making the connection to Gazebo with an USARSim arena

- Setup the software and models
- Almost all participants maybe do not need this slot, but let's trace it at once together.
- See the following instruction page :
 - <https://staff.fnwi.uva.nl/a.visser/activities/FutureOfRescue/>
- And setup
 - How to setup the new simulation platform.
 - How to download the model "RoboCup2012_RVRL_Pre1"
 - How to download "JVRC_task_models"

How to Spawn a robot :

Using telnet and using USARSim_inf

- Using telnet
(If you have to see GameBot protocol directly, use telnet)

1. Open a terminal.
2. Type following an unix command.

```
$ telnet localhost 3000
```

3. Type an USARSim INIT command.

```
INIT {Classname USARBot.pioneer3at_with_sensors}{Name P}  
{Location 0,0,0}
```

```
Drive {Right 1.0}{Left 1.0}
```

How to Spawn a robot :

Using telnet and using usarsim_inf

- Using usarsim_inf
- usarsim_inf is a ROS package written by Prof.Barkilisky.
- usarsim_inf has a function as a protocol convertor between GameBot protocol and ROS topics.
- Connection image is :

- Gazebo :

Gazebo Topics



USAR Gazebo



GameBot Protocol

- ROS with usarsim_inf :

- Show a demo.

Notification for USARSim client users

- Currently following USARSim commands are incomplete.
 - SET (NOT AT ALL)
 - GETGEO
 - GETCONF
 - DRIVE
- Currently following sensors can be used.
 - GroundTruth (It's values are generated from INS)
 - INS
 - GPS
 - CAMERA

If we made a decision of using the GameBot protocol.....

- We need your help to add more functions in USARGazebo and to maintenance USARSim commands and sensors.
- Different points of USARGazebo from USARSim.
 - USARGazebo is including the image server.
 - USARGazebo can include the wireless signal server.
 - Making socket connections to get individual camera image instead of one socket connection to get one superimposed image from multi camera images.
 - There is no UDKUSAR.ini file.
There is no system instead of the file.
 - UDKUSAR.ini file is a configuration file of USARSim.
It includes parameters of robots and sensors.

USARGazebo is a Gazebo plugin and easy to add new functions.

- USARGazebo is consist from some structures to add a new sensor's call-back function. It's easy.



The end of setting up the new simulation platform.

- Question Time



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