

List of possible bugs detected in Morse Simulator

**Simulation and communications management in a multi-robot
environment**
Internship

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List of possible bugs detected

1. The robot **Jido()** doesn't fall with gravity:

jido.translate(x=-5, z=1).... It is levitating all the time with this 'z' coordinate.

2. Documentation of **Supervision Services** doesn't present all methods like *get_all_stream_ports*.
http://www.openrobots.org/morse/doc/latest/user/supervision_services.html

3. Class **Quadrotor()**, 2 different robots with the same name? The 2nd is the default (?)

<http://www.openrobots.org/morse/doc/latest/user/robots/quadrotor.html>

http://www.openrobots.org/morse/doc/latest/user/robots/quadrotor_dynamic.html

4. Error related with **Waypoint()** usage -> Radar (Left or Right). For example, running the script bellow, the B21 robot tries to stay in its initial position. Using the ATRV, if we constantly push B21 away from this initial (or other destination) point, at some moment the Blender quits and enunciates the errors shown in [1c](#).

Script: https://raw.github.com/pauloet/morse/master/My_Simulations/bug1.py

5. In **Supervision & Communication Services**:

- (a) The '**distance_and_view**' service doesn't work so well. See [bug 1](#) and [bug 2](#).
- (b) When 2 robots can see each other, the service above returns always **True** even if we set a robot as **invisible**. Even if the object will still have physics and dynamics despite being invisible, it is supposed to return true? I also tried with the **set_object_dynamics**(off), but it returns true anyway.
- (c) Using the script above and doing this:

```
$ telnet localhost 4000
r r1.motion1 set_speed [1, -1]
r SUCCESS
r simulation suspend_dynamics
r SUCCESS "Physics is suspended"
r simulation set_object_dynamics ["r1", 0]
r SUCCESS
```

I observe all the time that the ATRV robot (r1) never stop doing a circle. Something missing?



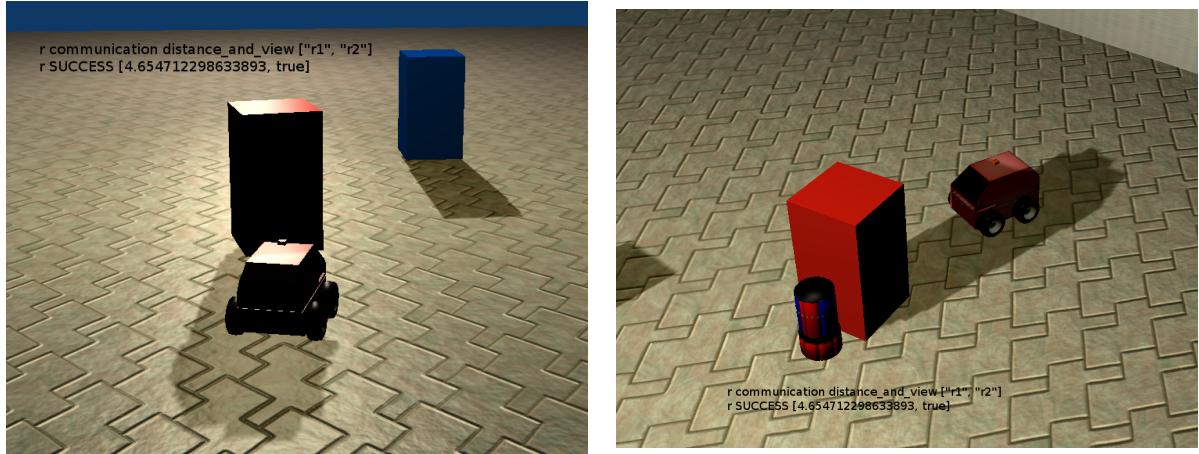
(a) Initial scene.

(b) ATRV pushing B21 away.

```
[SCENE INITIALIZED]
[ 5.725] [sensors.camera] Scene S.r2.camR from dict_keys(['S.MORSE_LOGIC', 'S.r2.camR', 'S.r2.camL'])
[ 5.725] [sensors.camera] Focal length of the camera is: 35.0
[ 5.726] [sensors.camera] Near clipping distance of the camera is: 0.1000000149011612
[ 5.727] [sensors.camera] Far clipping distance of the camera is: 100.0
[ 5.727] [sensors.camera] Camera 'r2.camR': Exporting an image of capsizel: (512, 512) pixels
[ 5.797] [sensors.camera] Scene S.r2.camL from dict_keys(['S.MORSE_LOGIC', 'S.r2.camR', 'S.r2.camL'])
[ 5.797] [sensors.camera] Focal length of the camera is: 35.0
[ 5.797] [sensors.camera] Near clipping distance of the camera is: 0.1000000149011612
[ 5.798] [sensors.camera] Far clipping distance of the camera is: 100.0
[ 5.798] [sensors.camera] Camera 'r2.camL': Exporting an image of capsizel: (512, 512) pixels
Python script error - object 'r2.motion2', controller 'Python':
Traceback (most recent call last):
  File "/usr/local/lib/python3.2/site-packages/morse/blender/calling.py", line 58, in actuator_action
    component_action(contr)
  File "/usr/local/lib/python3.2/site-packages/morse/blender/calling.py", line 50, in component_action
    cmpt_object.action()
  File "/usr/local/lib/python3.2/site-packages/morse/core/actuator.py", line 72, in action
    self.default_action()
  File "/usr/local/lib/python3.2/site-packages/morse/actuators/waypoint.py", line 411, in default_action
    self._radar_l.sensors["Radar"].distance:
KeyError: 'requested item "Radar" does not exist', z, tolerance, speed) (blocking)
paulo@pls:~/Desktop/LAAS/morse/My_Simulations$ ./waypoint_and_returns.
```

(c) Displayed **errors** when Blender quits automatically.

Figure 1: Waypoint failure.



(a) Picture 1.

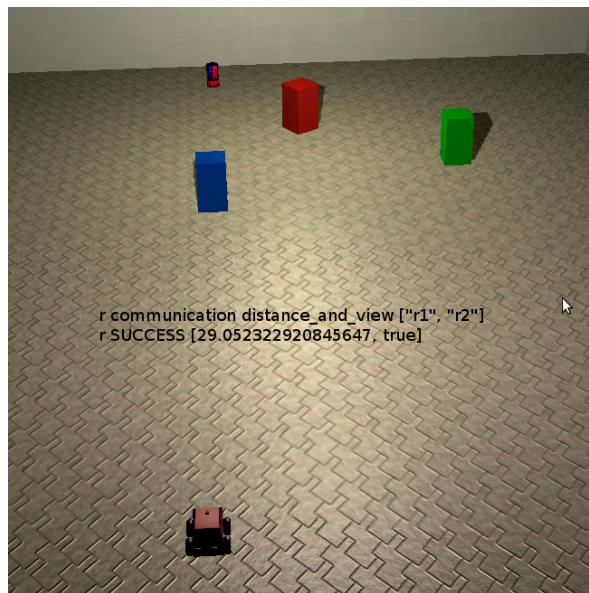
(b) Picture 2.

Figure 2: Bug 1 of **distance_and_view** service.



```
r communication distance_and_view ["r1", "r2"]
r SUCCESS [28.51186617934211, false]
```

(a) Picture 1.



```
r communication distance_and_view ["r1", "r2"]
r SUCCESS [29.052322920845647, true]
```

(b) Picture 2.

Figure 3: Bug 2 of **distance_and_view** service.