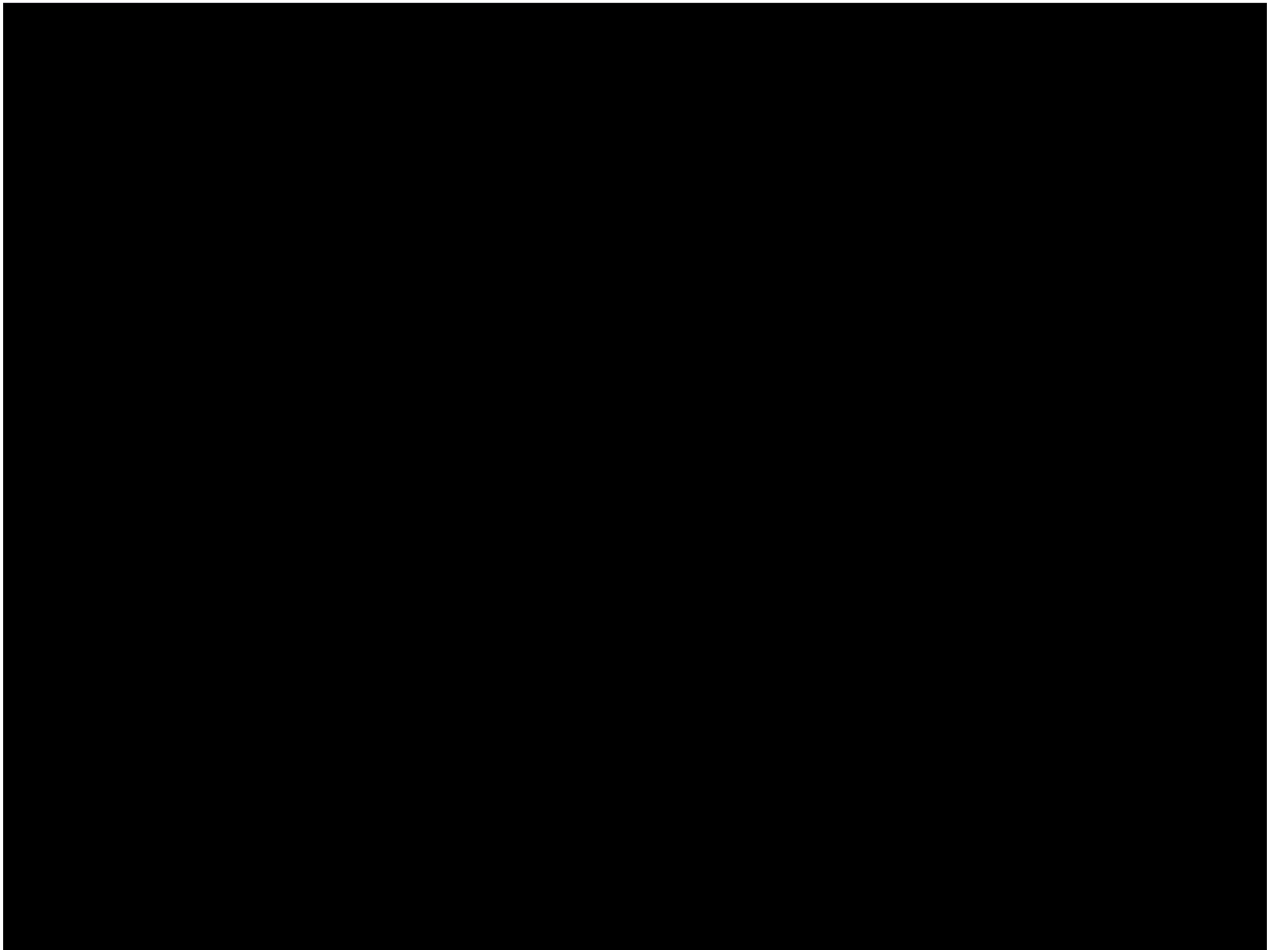

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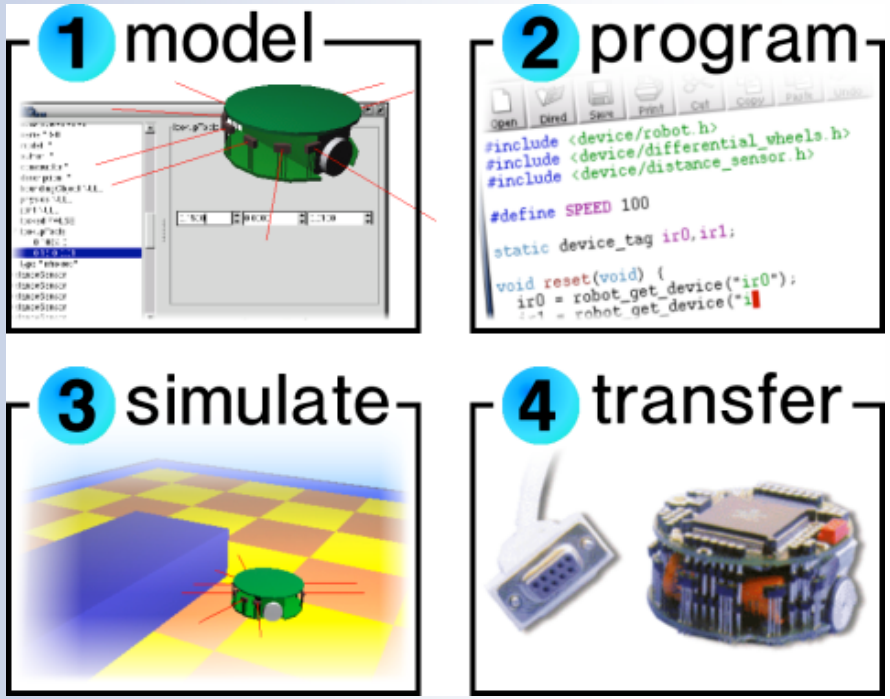
"Webots"



Prepared by: Pedro Pinheiro

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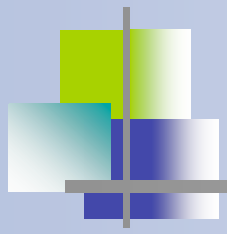


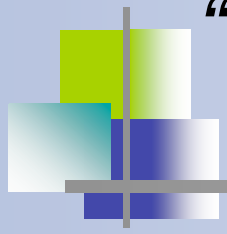
Objectivos Pedagógicos

Objectivos Gerais

- No final da acção os formandos deverão estar aptos a trabalhar com o software de simulação "*Webots*".

Objectivos Especificas

- Os formandos deverão ser capazes de simular um robot futebolista, utilizando o software "*Webots*" de forma a que este marque golos.



"Webots – Software de Simulação"
Topics

- Installation and Configuration
- Graphic Interface
- VRML Tree of the World
- Sensors Controllers
- Actuators Controllers
- Supervisor Controller

"Webots – Software de Simulação"
Installation and Configuration

1. Download the most recent version in:

   www.cyberbotics.com

2. Install "Webots"

3. In the resources/ directory of webots/ make a new file named "license.srv". The file must have only a line per server IP:PORT that you are going to connect. The default port is 10024.

   Example: 10.0.2.27:10024

"Webots – Software de Simulação"
Installation and Configuration

1. The server is installed in floor 8 and in 6.15 lab.

2. Open a shell in the server and run launchServer that is in the Webots directory.

   ./launchServer

3. The servers are configured to receive connections from the IP ranges 10.0.*.* or 10.1.*.*, so make sure you have an IP in this range.

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"Webots – Software de Simulação"
Graphic Interface

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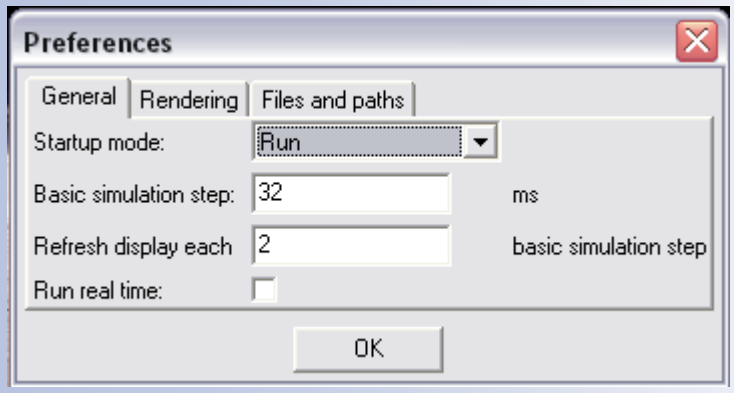
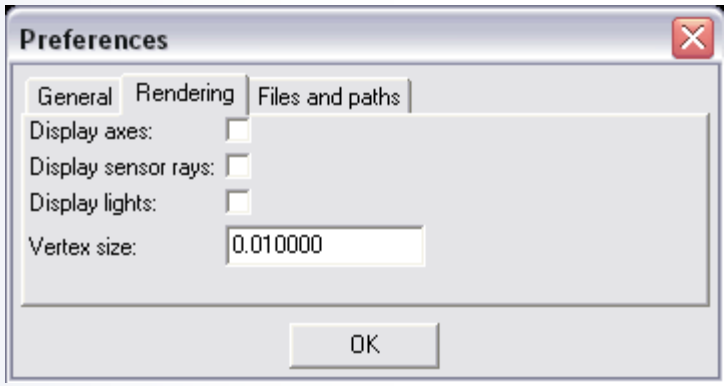
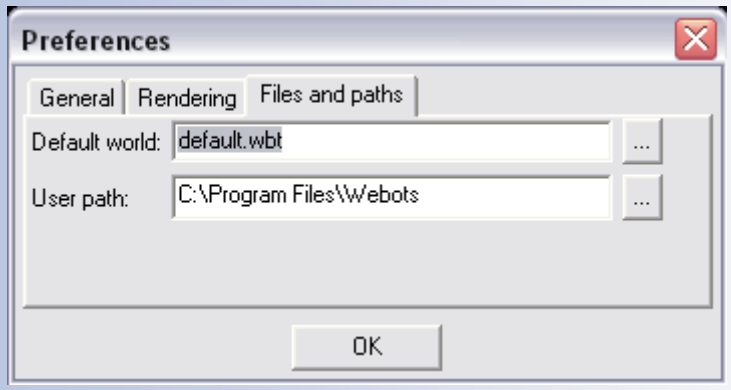
"Webots – Software de Simulação"
Graphic Interface - Preferences







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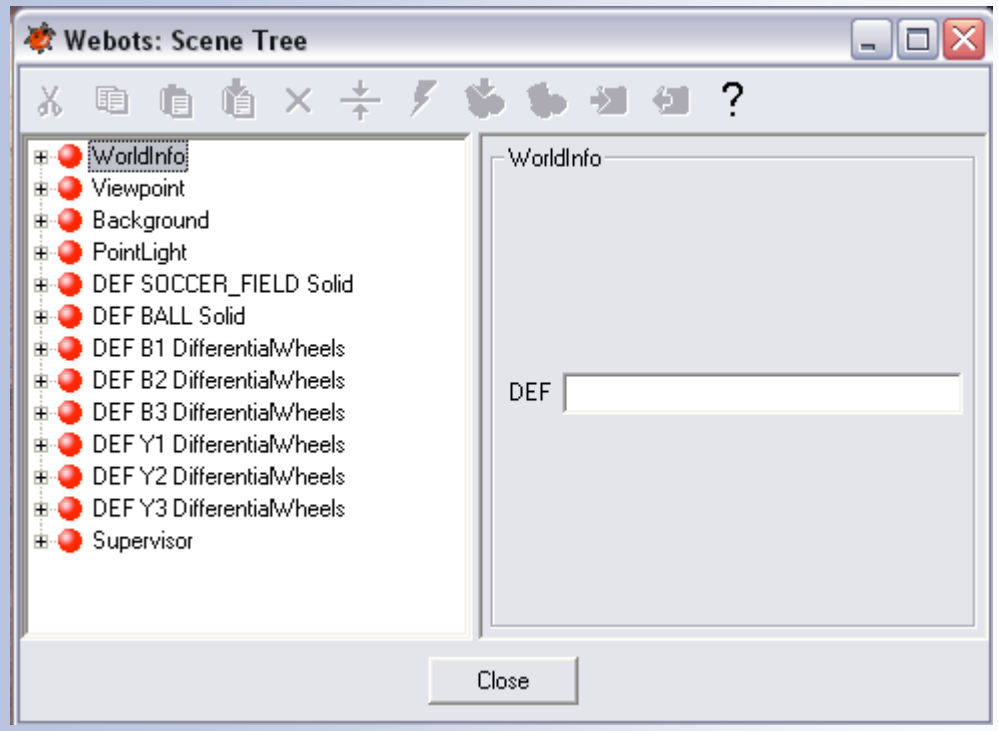
"Webots – Software de Simulação"
VRML Tree of the World



- Differential Wheels
- Distance Sensor
- Camera
- Touch Sensor
- GPS
- Gripper
- Joint
- Light Sensor
- Servo

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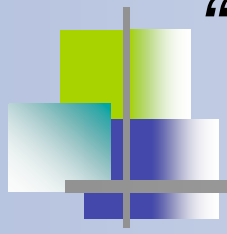
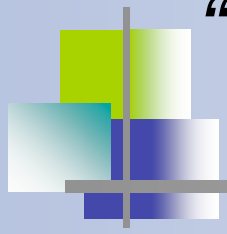


"Webots – Software de Simulação"
Sensors Controllers

- The control is made by:
  - "Identified" – Ex: robot_get_device
  - "Enable" – Ex: distance_sensor_enable
  - "Run" – Ex: robot_step
  - "Read" – Ex: distance_sensor_get_value



"Webots – Software de Simulação"
Actuators Controllers

- Synchronous and Asynchronous
- The control is made by:
  - "Identified" – Ex: robot_get_device
  - "Set" – Ex: differential_wheels_set_speed
  - "Run" – Ex: robot_run

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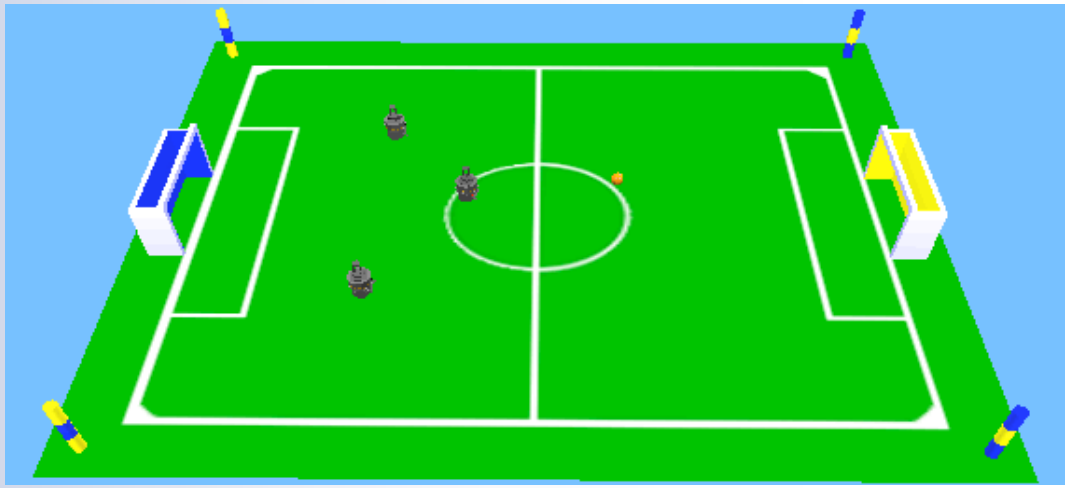
"Webots – Software de Simulação"
Supervisor Controller

- Can send and receive messages, through the nodes "*Receiver*" e "*Emitter*"
- Can move any object in the world
- Knows the coordinates of all objects in the world



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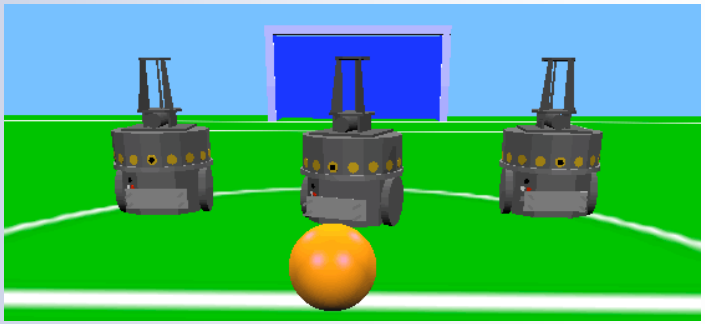
"Webots – Software de Simulação"
Questions?



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