

# Robocom

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January 20, 2006

## 1 Introduction

RoboCom is a programming game. Before the game starts, each player writes an assembler-like program which has to act autonomously later on, in order to win the game. The pieces on the chess-like field are robots, which have the abilities to move, procreate, exchange program code etc. The goal is to put the other players' robots out of action while staying functional yourself.

There is nothing like weapons: the only way to influence another robot is to transfer program code. And that makes it particularly interesting. The programming language is easy to learn, however it provides an amazingly wide spectrum of different strategies, which are all successful in another way.

A few of these strategies are:

- Moving around.
- Reproducing.
- Scanning the area.
- Reprogramming other robots (either friendly or not).

## 2 Installation

There are two main options, a source installation, and a binary installation. The source installation is the one to use on the LIACS, the binary version will not work there. However, since the binary installation is a little bit less complicated, we have included the installation instructions for home use.

### 2.1 Source installation

Go to [http://www.cyty.com/robocom/?area=d\\_rt](http://www.cyty.com/robocom/?area=d_rt) and download the "Source with GNU makefiles"

(<http://www.cyty.com/robocom/download/rt-source.tgz>). Now type:

- `tar -xzvf rt-source.tgz`

- `cd robotour-3.2.1`
- `./configure`
- `make`
- `cd robotour`

## 2.2 Binary installation

The binary installation is a good option for a computer at home, not the ones at the LIACS.

Go to [http://www.cyty.com/robocom/?area=d\\_rt](http://www.cyty.com/robocom/?area=d_rt) and download the “Linux binary” (<http://www.cyty.com/robocom/download/rt-linux.tar.bz2>). Now type:

- `tar -xjvf rt-linux.tar.bz2`
- `cd robotour`

If the error “`libpng.so.2: cannot open shared object file`” occurs, it can be fixed by doing the following as root:

- `cd /usr/lib`
- `ln -s libpng.so.3 libpng.so.2`

## 3 Running

To test the installation, try:

- `./robotour -vis samples/4Lunch.rob samples/AgarAgar.rob`

This will match the robot programs “4Lunch” to “AgarAgar”.

If this does not work, it is highly probable that the visualization functions are not available. Luckily, there is a console display function available. To use it, try:

- `./robotour -p 1 samples/4Lunch.rob samples/AgarAgar.rob`

## 4 Documentation

To get started, visit <http://www.cyty.com/robocom/?area=help>. See [http://www.cyty.com/robocom/download/RobSci\\_E.html](http://www.cyty.com/robocom/download/RobSci_E.html) for the complete manual (in English).

## 5 Assignment

Make a minimum of four robots that use different strategies, or a combination of them, and compare them.