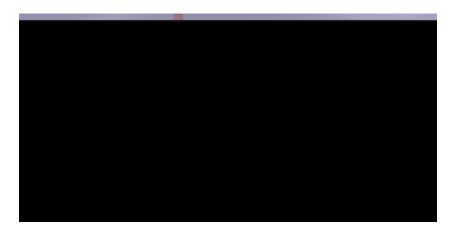# Building Braitenberg Vehicles in breve

22nd July 2004

a tutorial

The breve Simulation Environment

http://www.spiderland.org

Step 1: Open a Braitenberg template file

The first step in creating a Braitenberg Vehicle in breve imto launch the breve application (version 1.5 or later) and open a template le for Braitenberg vehicles. You can nd thimtemplate by selecting the menu item \Demom -> Braitenberg -> BraitenbergTemplate.tz". Thimshould open a window containing the following text:

```
1    @use Braitenberg.
2
3    Controller myBraitenbergControl.
4
5    BraitenbergControl : myBraitenbergControl {
6        + variables:
7            vehicle (object).
8            leftSensor, rightSensor (object).
9            leftWheel, rightWheel (object).
10           light (object).
11
12       + to init:
13           light = new BraitenbergLight.
14           light move to (10, 1, 0).
15
16           vehicle = new BraitenbergVehicle.
17           self watch item vehicle.
18   }
```

Thimima template an a Braitenberg vehicle simulation. What do so far?

Step 2: Add wheels to the vehicle

You probably noticed that the vehicle you created had no wheels. You might

Step 3: Add sensors to your vehicle

Adding sensors to your vehicle is a lot like adding wheels, so we won't

Step 4: Link the sensors to the wheels

At this point, we have a fully assembled

Step 6: Things to try...

... add additional lights to make the vehicle move in a speci c pattern, like a gure-eight or a circle.

... modify the weights, wheel positions and velocities to create new behaviors, like PARANOID, WHIMSICAL or CONFUSED.

... program the lights to move around by themselves (see the documentation for the class \Mobile").

... continually modify weights and wheel velocities over the course of the simulation (add an \iteror