Short introduction to behavioural robotics in Lego's programming language
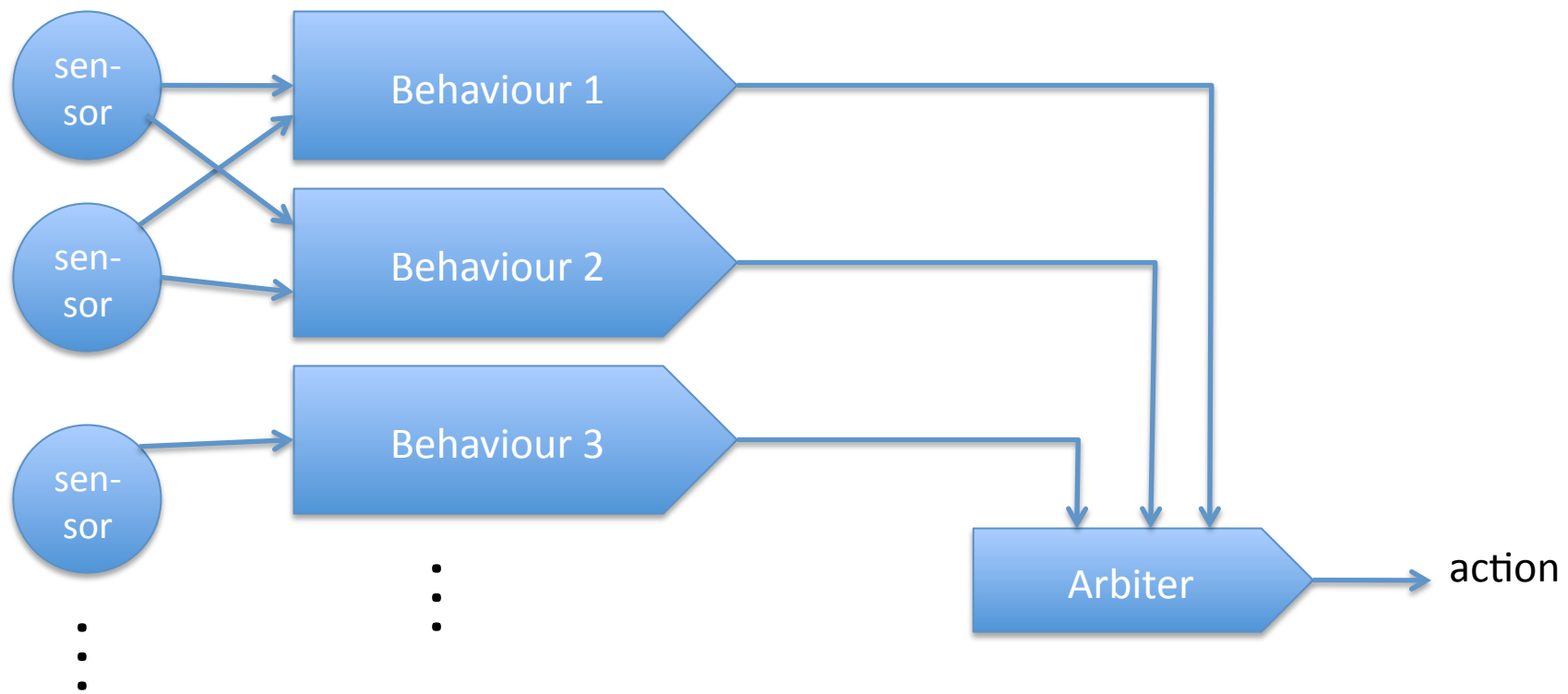
— and form groups, start working on the exercise

Robot course, spring 2009

Henning Christiansen

Behavioural robotics according to the book

A software (+hardware) architecture for robots

A simple version of b.p. inspired by "closed loop control"

Chosen as it fits with the Lego NXT technology

The principle

repeat   {check sensors;

decide behaviour B;

perform a smallest meaningful step of B}

A detail:

- In order to
  robot, you
  option.

repeat { if sensors indicate B1 {small step of B1}
           else if sensors indicate B2 {small step of B2}
           ....
               elseif sensors indicate Bn–1 {small step of Bn–1}}
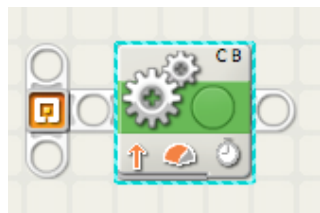   else {small step of Bn}
           }

A possible extension...

You may perform longer parts of the chosen behaviour B if you can determine that a single sensor reading is sufficient to stop it before anything goes wrong.

I.e. use
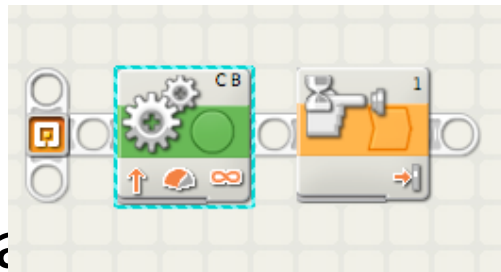
rather tha

Rest of today's program

- Form groups, 2–3 persons which have to stay together until the end of the course, working their own Lego set

- Work with the exercise (see course web site)

- document what you are doing along the way

- since it will be give as written assignment

- if you do not finish today, the rest needs to be done later.

- (we will find a room where the Lego sets stay and where you can get access during the week)