

# ICFP Programming Contest 2008

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# History

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- International Conference on Functional Programming (ICFP)
- Conference is held annually in September, this year in Canada.
- The first ICFP programming contest was held in 1998, organized by MIT.
- Solve a problem posted on the web, in any language.
- Team size limit varies, this year 1 - 5 hackers.
- Main round solutions after 72 hrs. Lightning round solutions after 24 hrs.

# The Prize:

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“X is the programming language of choice  
for discriminating hackers.”

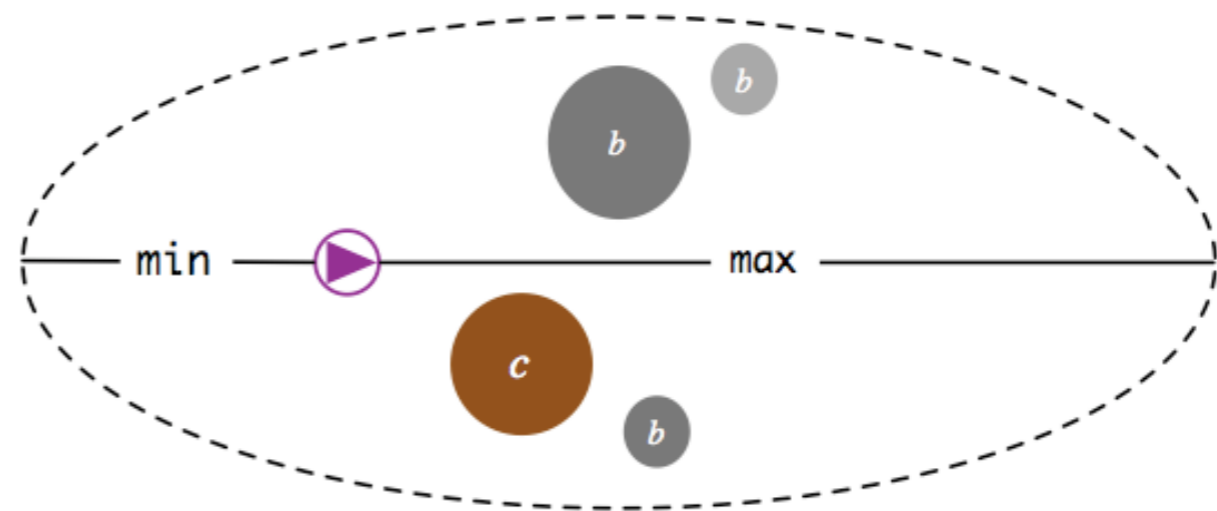
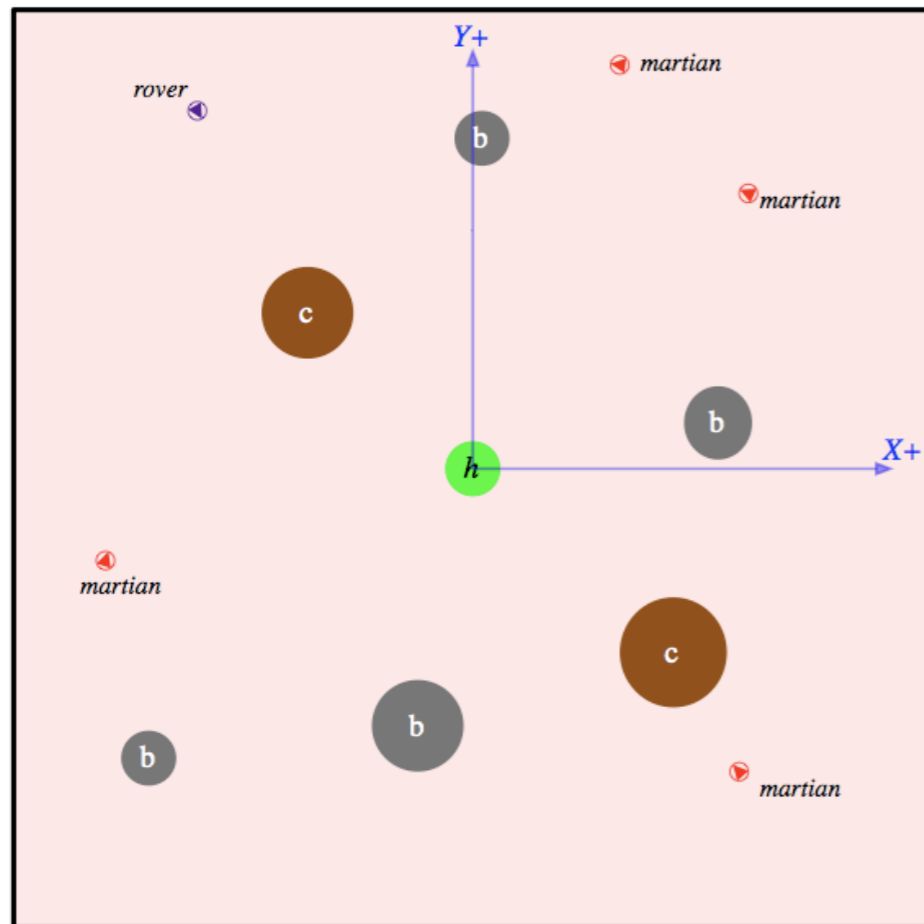
# This year: Mars Rover Control System.

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- Organized by Portland State University / University of Chicago
- The task description was released at 5am, Saturday 12th July.
- There were 336 regular and 170 lightning round submissions.
- Submit code or an linux/x86 binary.

# Mars Rover

- Get to the base as fast as you can, avoiding boulders, craters, and martians.
- Telemetry gives position of obstacles, control is Left/Right, Accel/Brake.



# Telemetry

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- ASCII text, received over a TCP connection.

**T** *time-stamp vehicle-ctl vehicle-x vehicle-y vehicle-dir vehicle-speed objects ;*

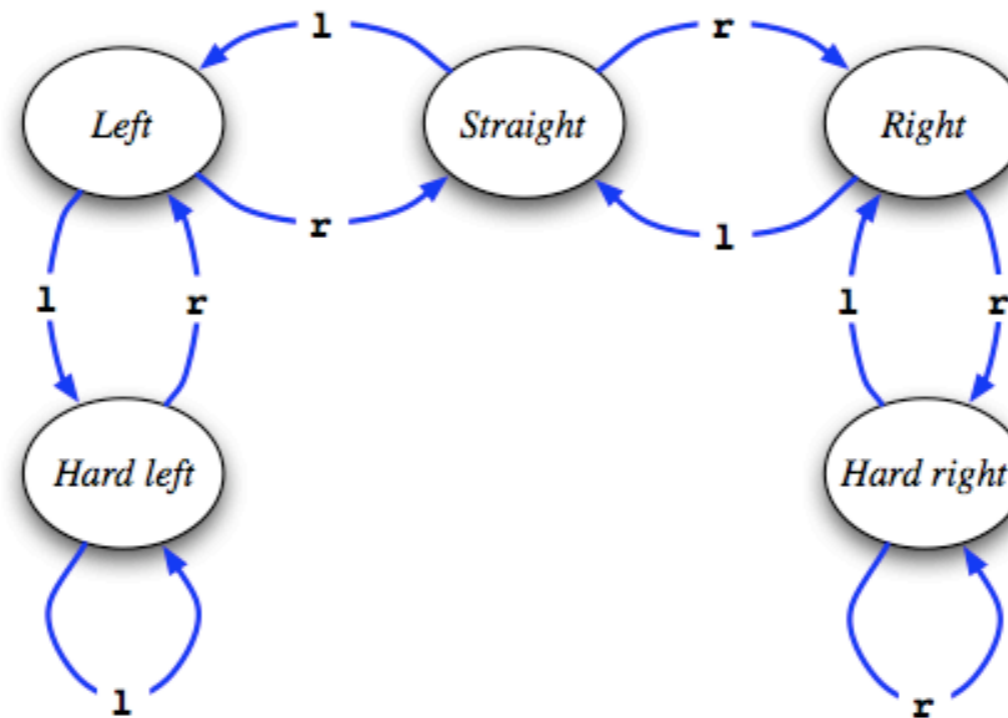
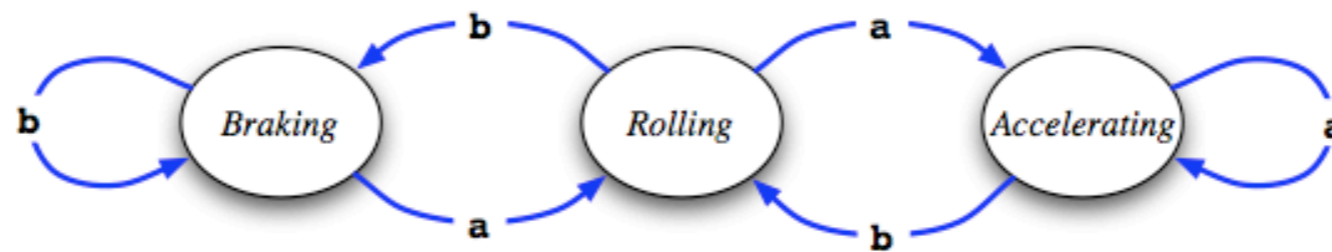
*object-kind object-x object-y object-r*

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T 3450 aL -234.040 811.100 47.5 8.450
b -220.000 750.000 12.000
m -240.000 812.000 90.0 9.100 ;
```

# Control

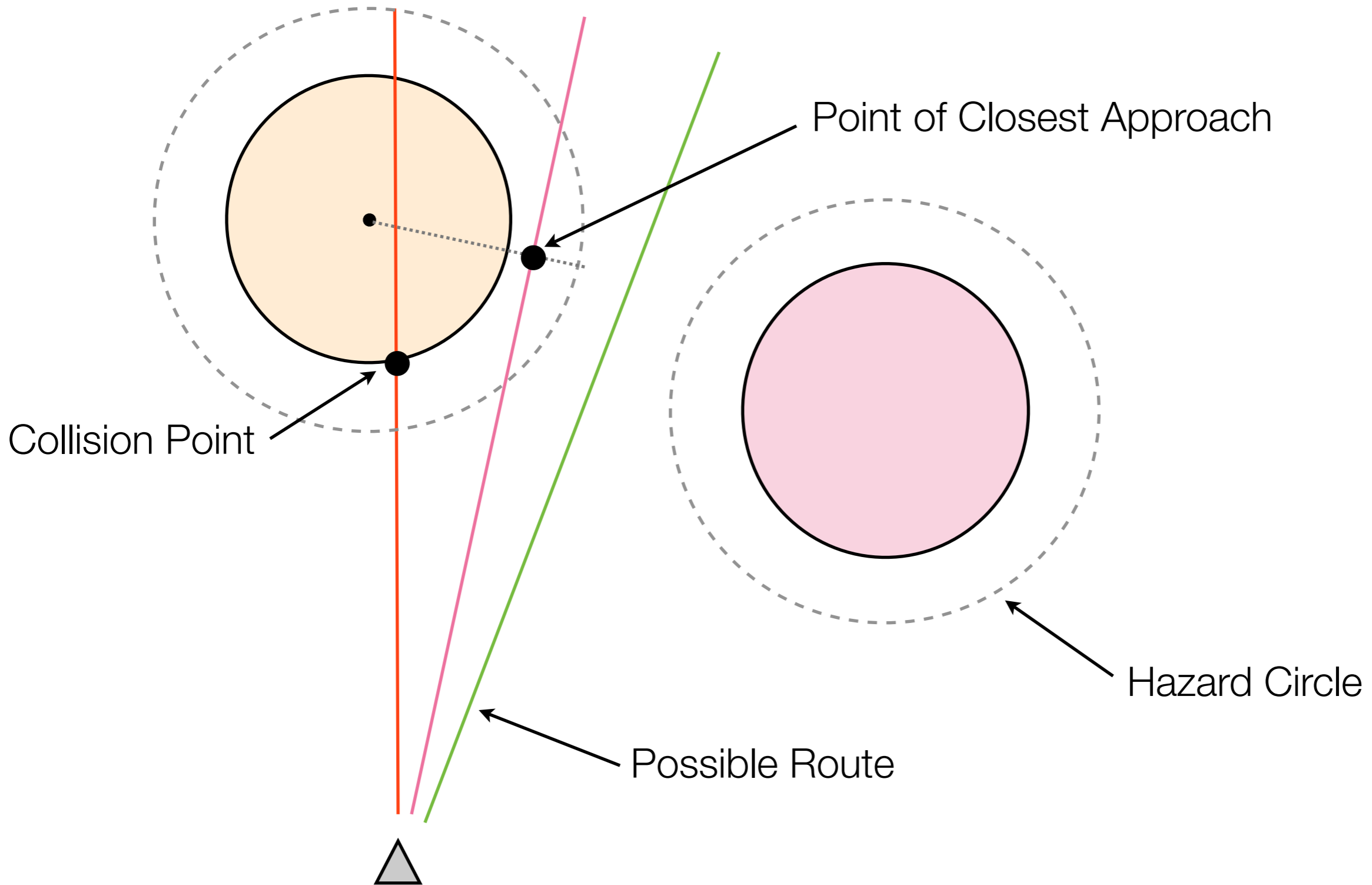
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- ASCII commands to change state, sent back via TCP.



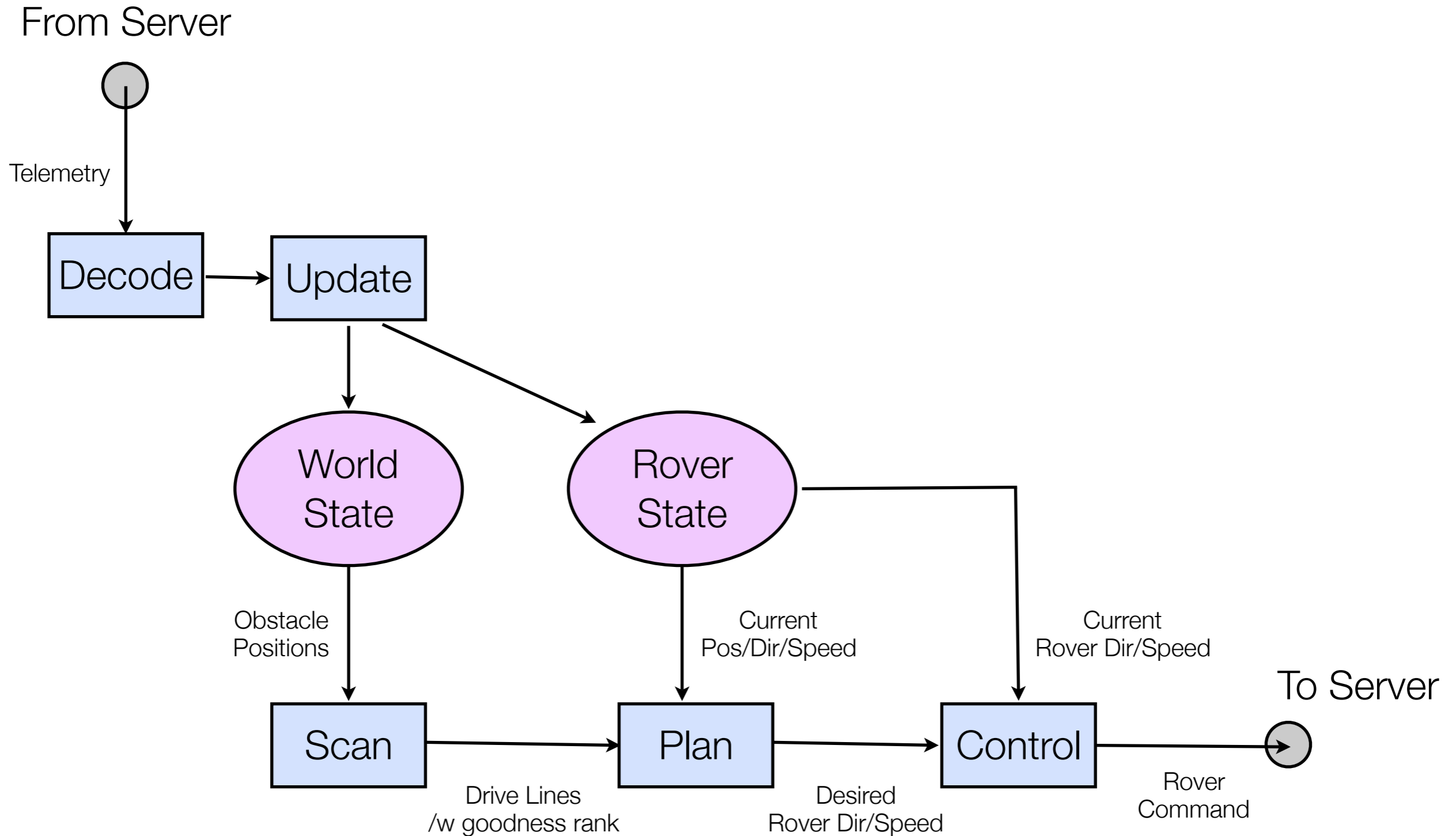
# Solution: Collision Avoidance

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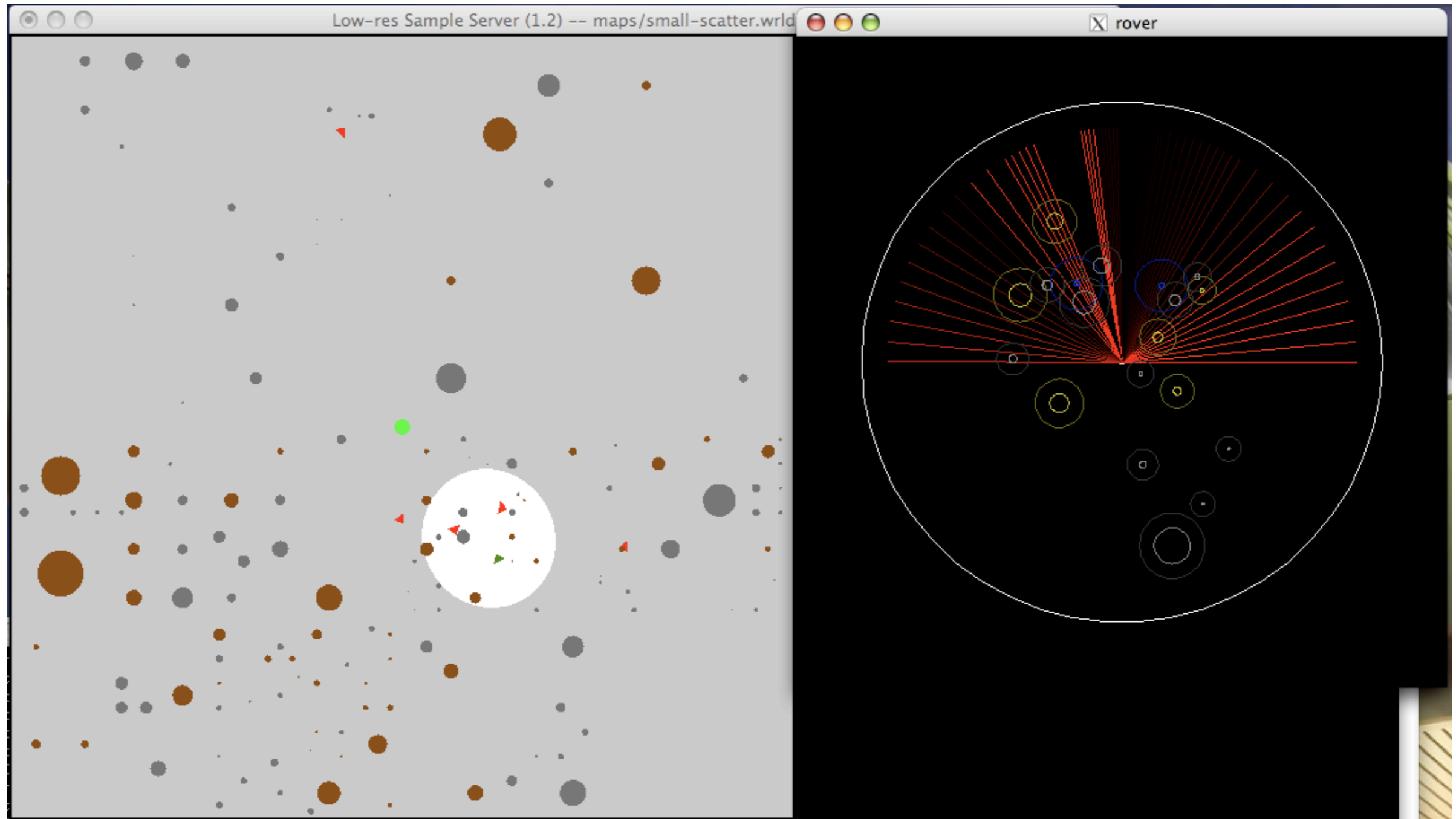




# Solution: Control System



# Demo: ICFP Contest 2008



# Demo: ICFP Contest 2004

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