

THE HIVE MIND

WWW.THEHIVEMINDGAME.NET

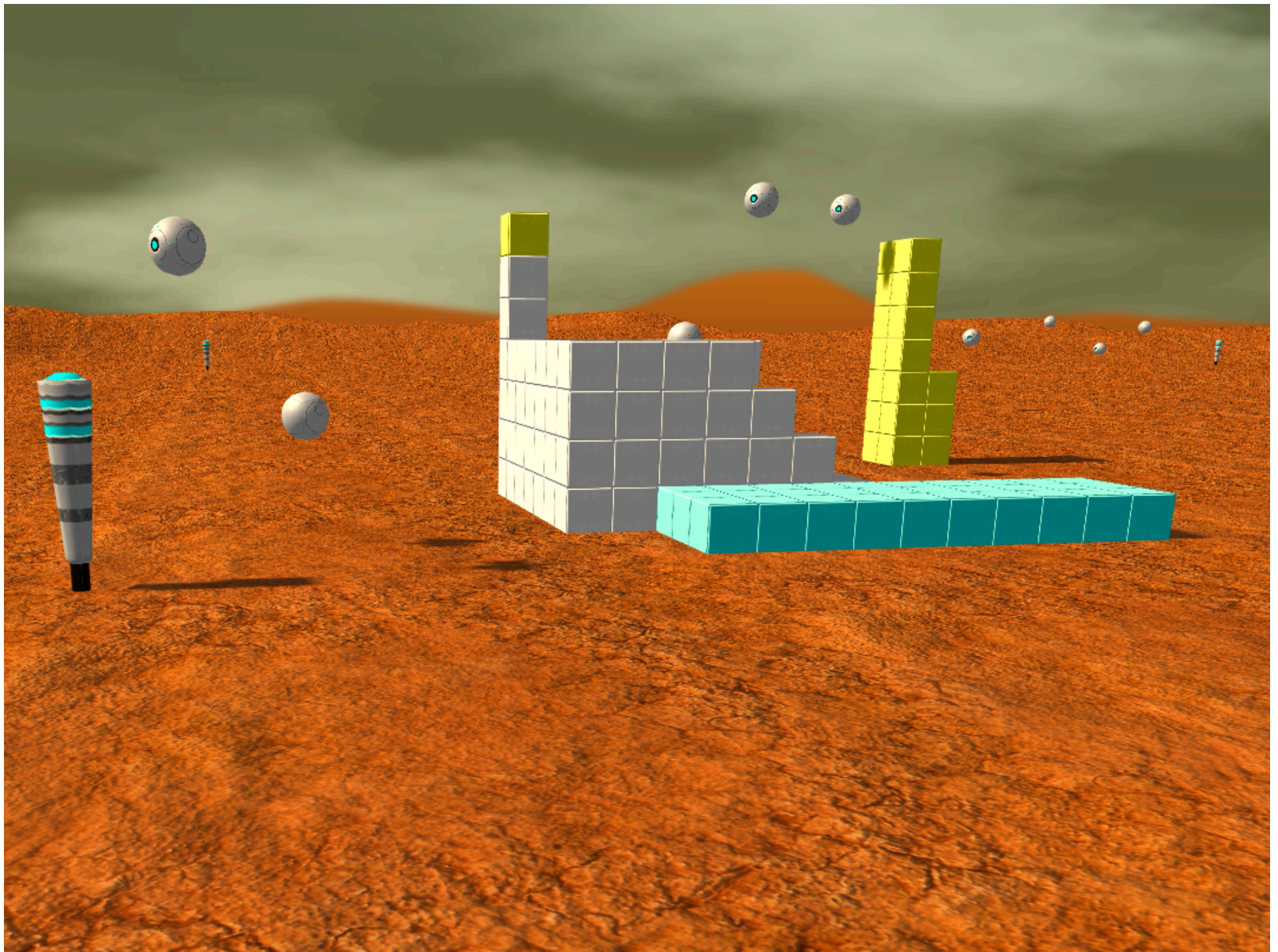
Decentralised Building with Robots

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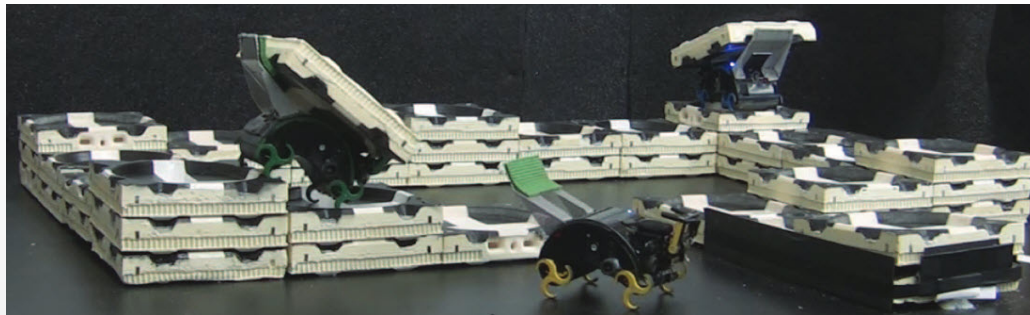


Decentralised

- New era of “Computational thinking”
 - Chips everywhere (smart furniture, smart clothes, smart people?)
 - Learning programming in schools
- Internet of things, self-driving cars, smart homes
 - A lot of components working together
 - Action and data synchronisation, autonomy
- A paradigm shift needed

Decentralised Building

- Robots creating pre-defined structures



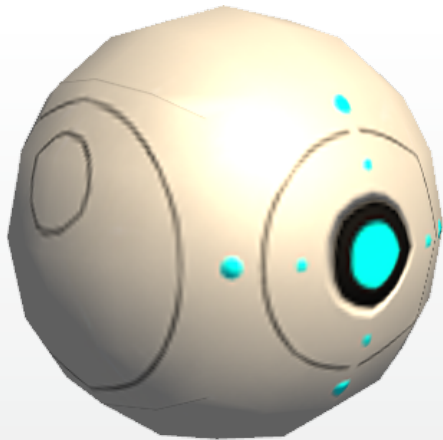
TERMES robots, Harvard School of Engineering

- Often biologically inspired
- Parallel rule execution

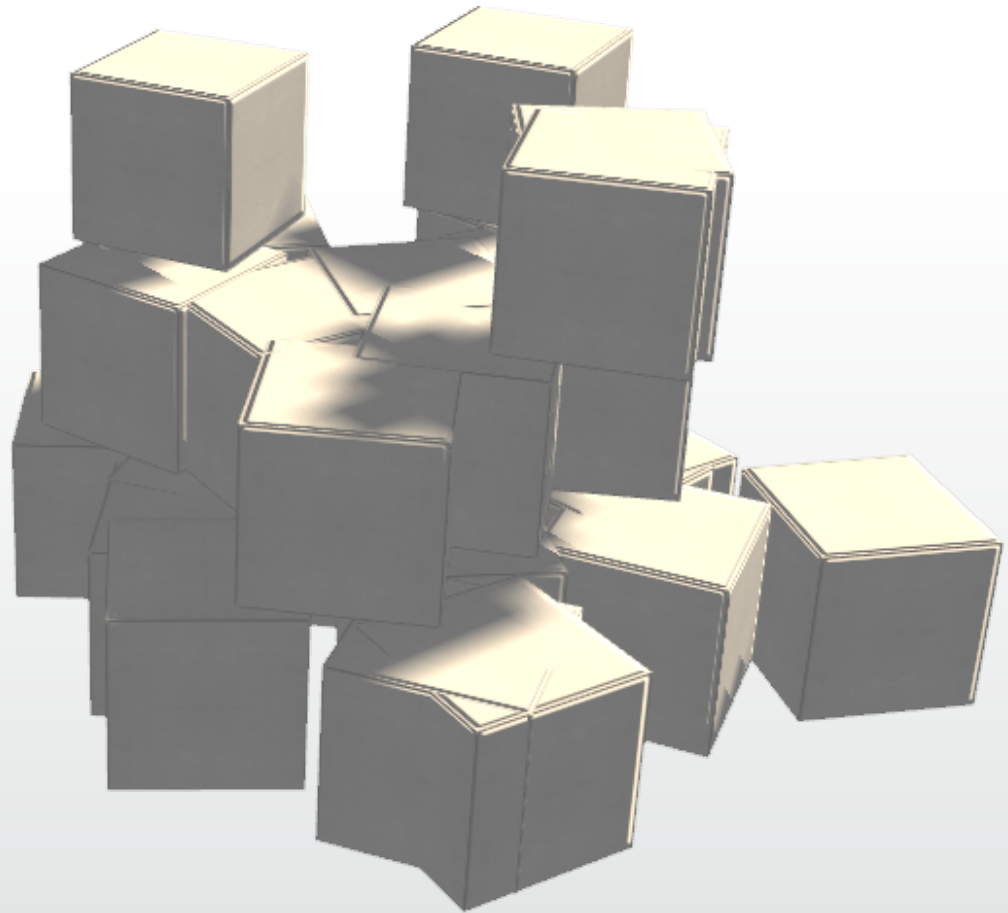


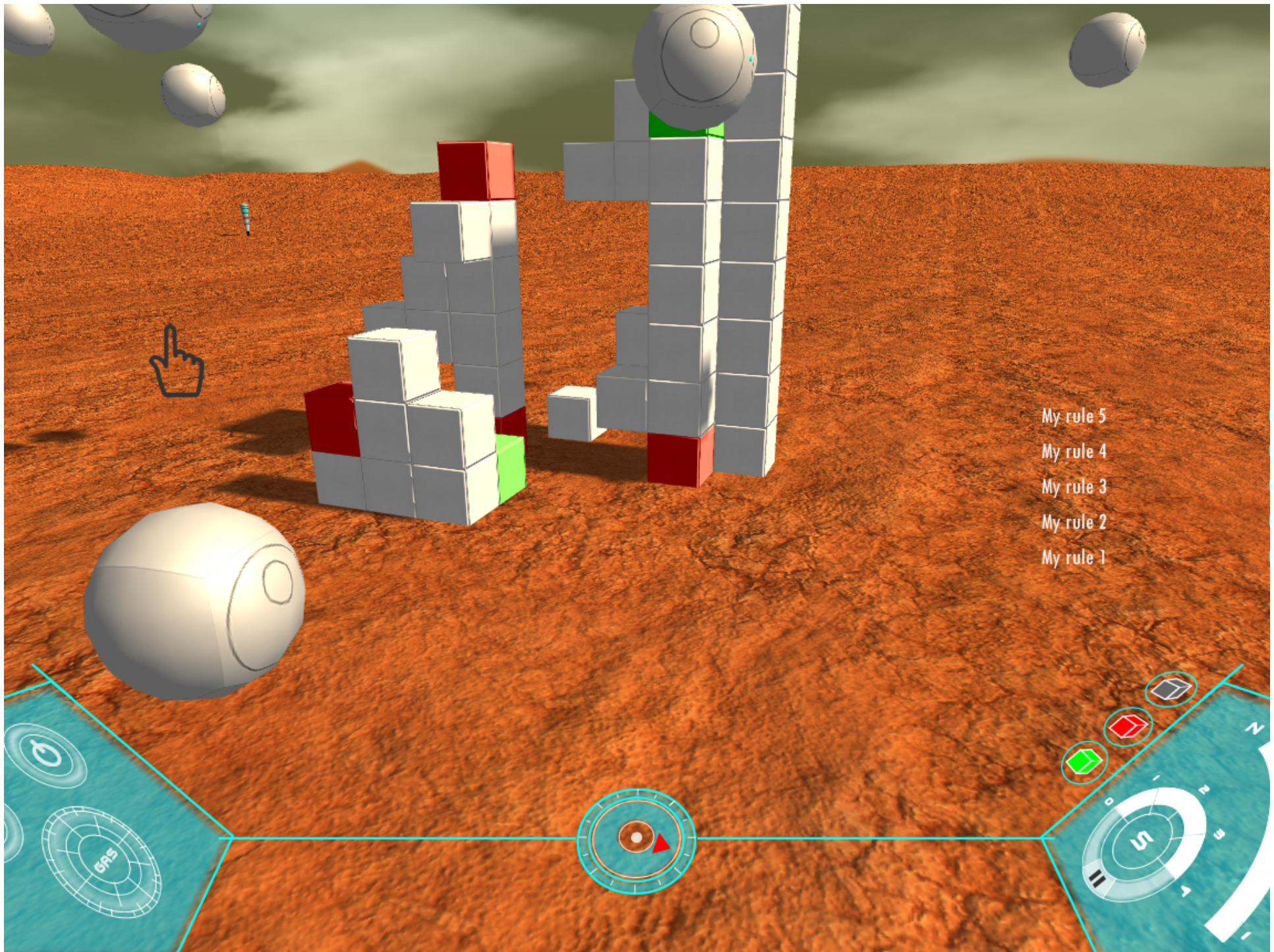
Decentralised Building

- Robots



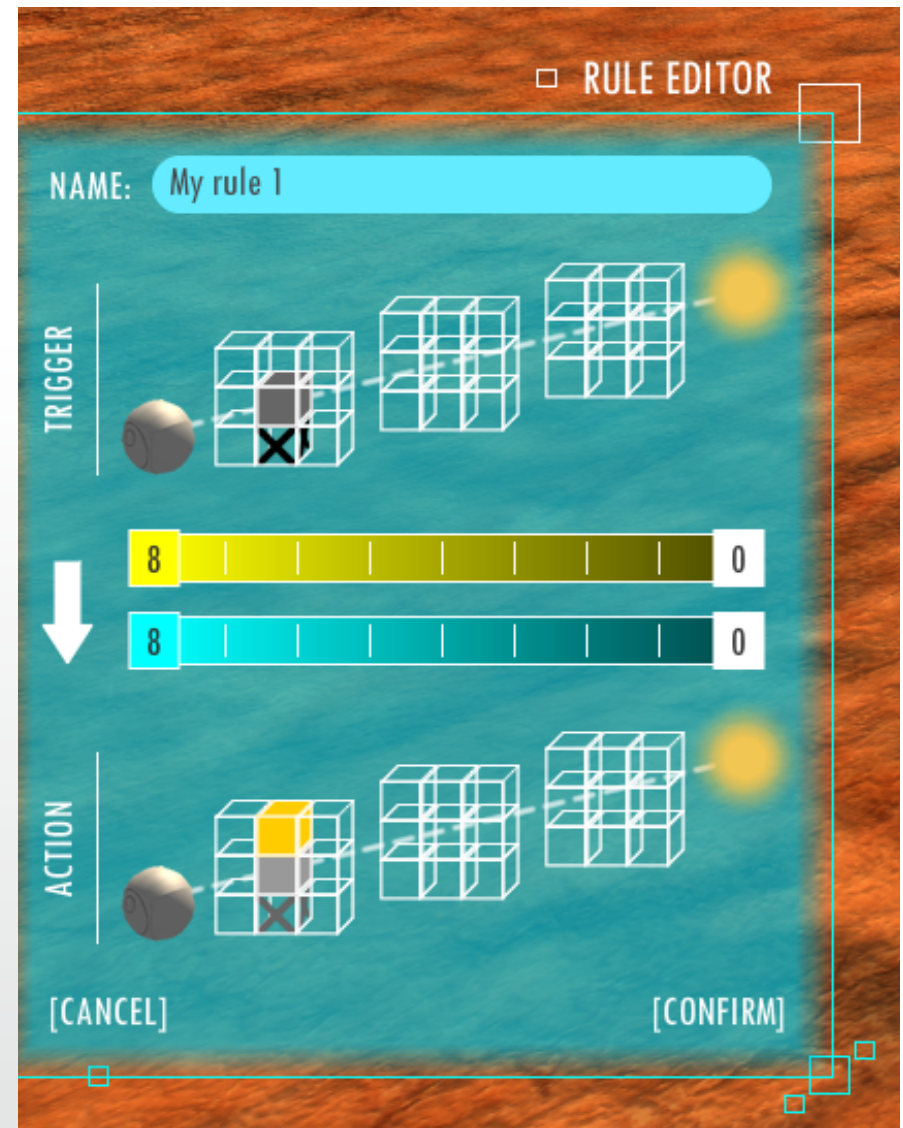
- Pile of bricks
- User-specified rules





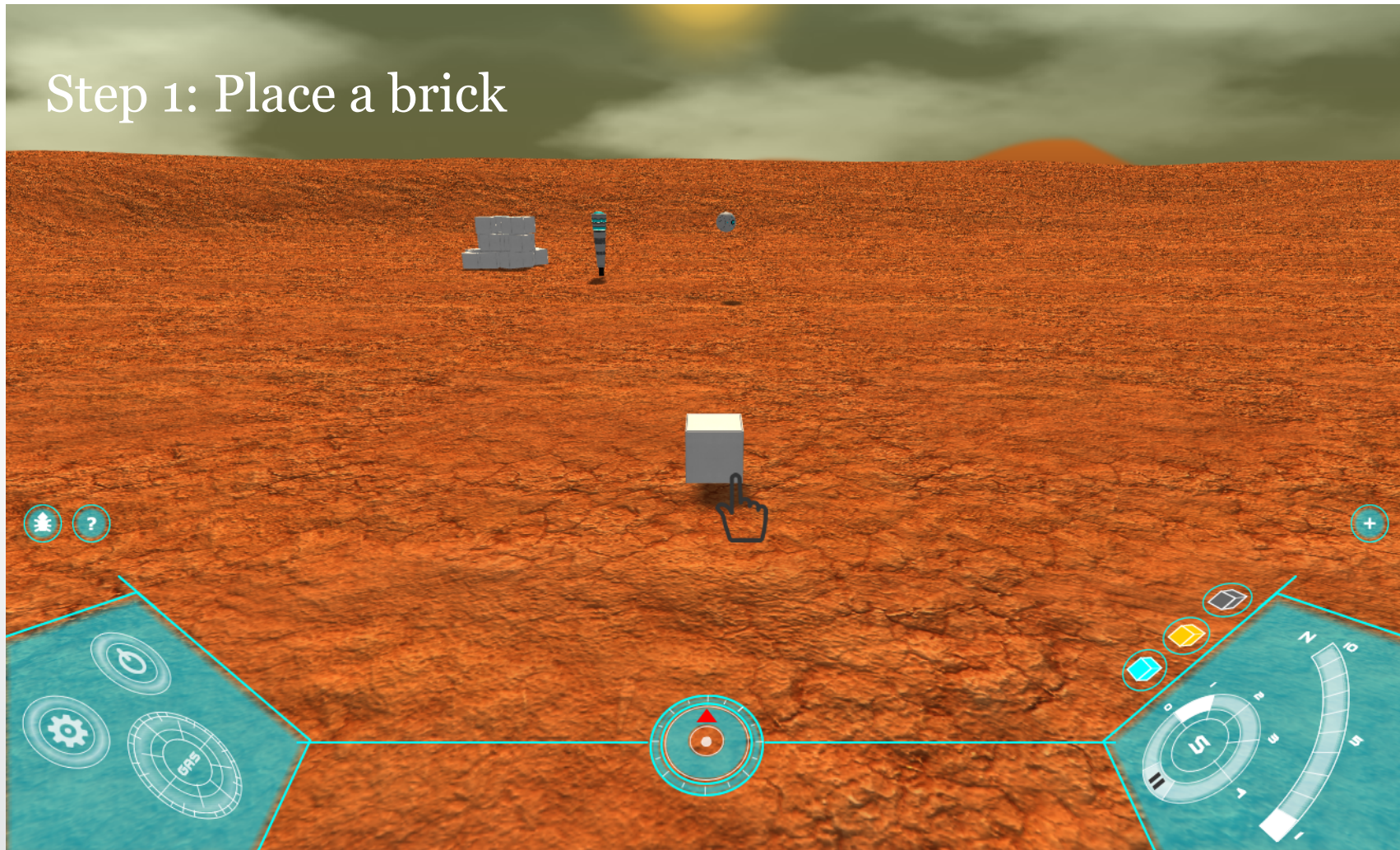
The Rule Editor

- Robot sees a 3^3 grid
- Trigger
 - What robots look for
- Action
 - Where to place a brick

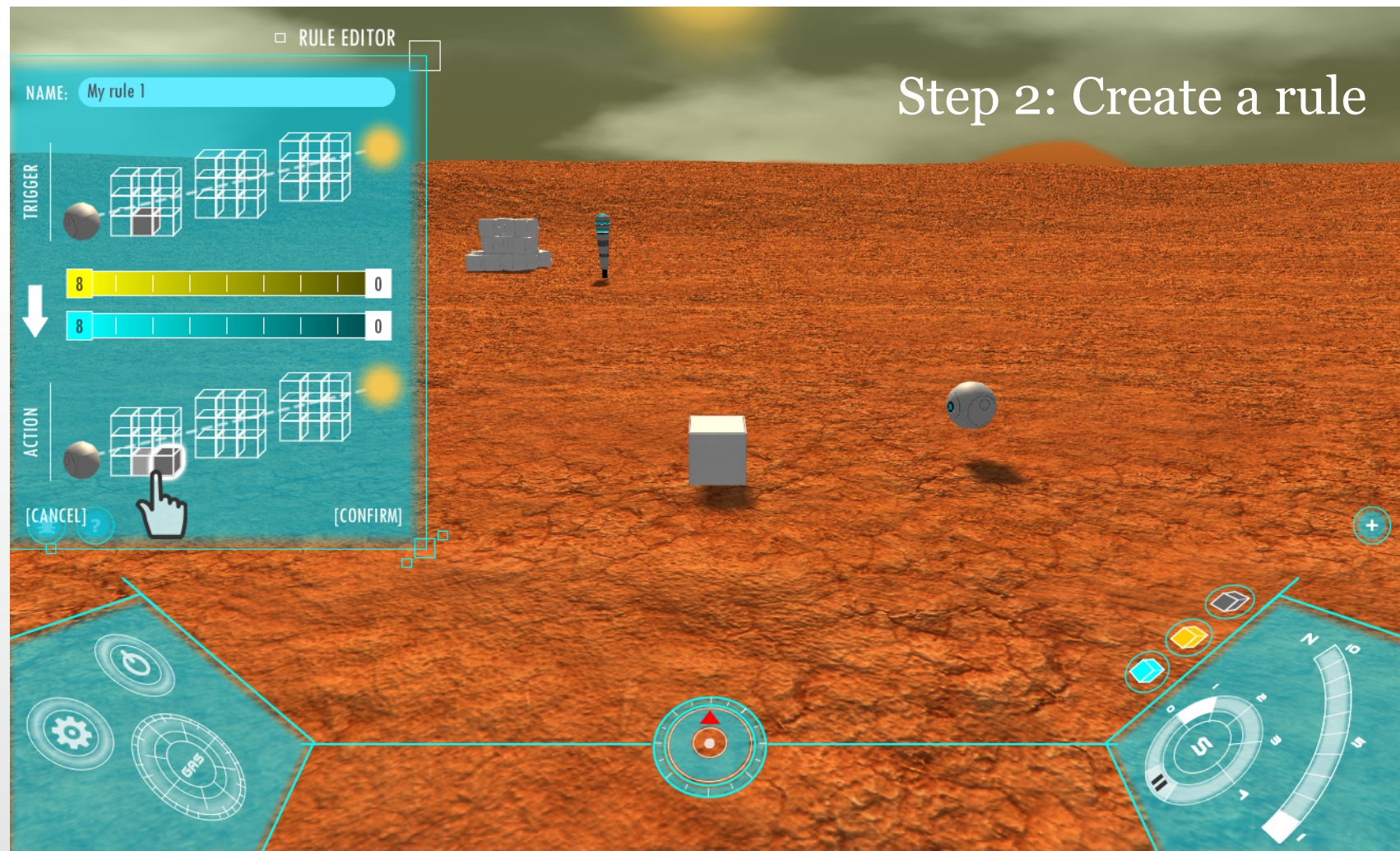


Example: A simple wall

Step 1: Place a brick

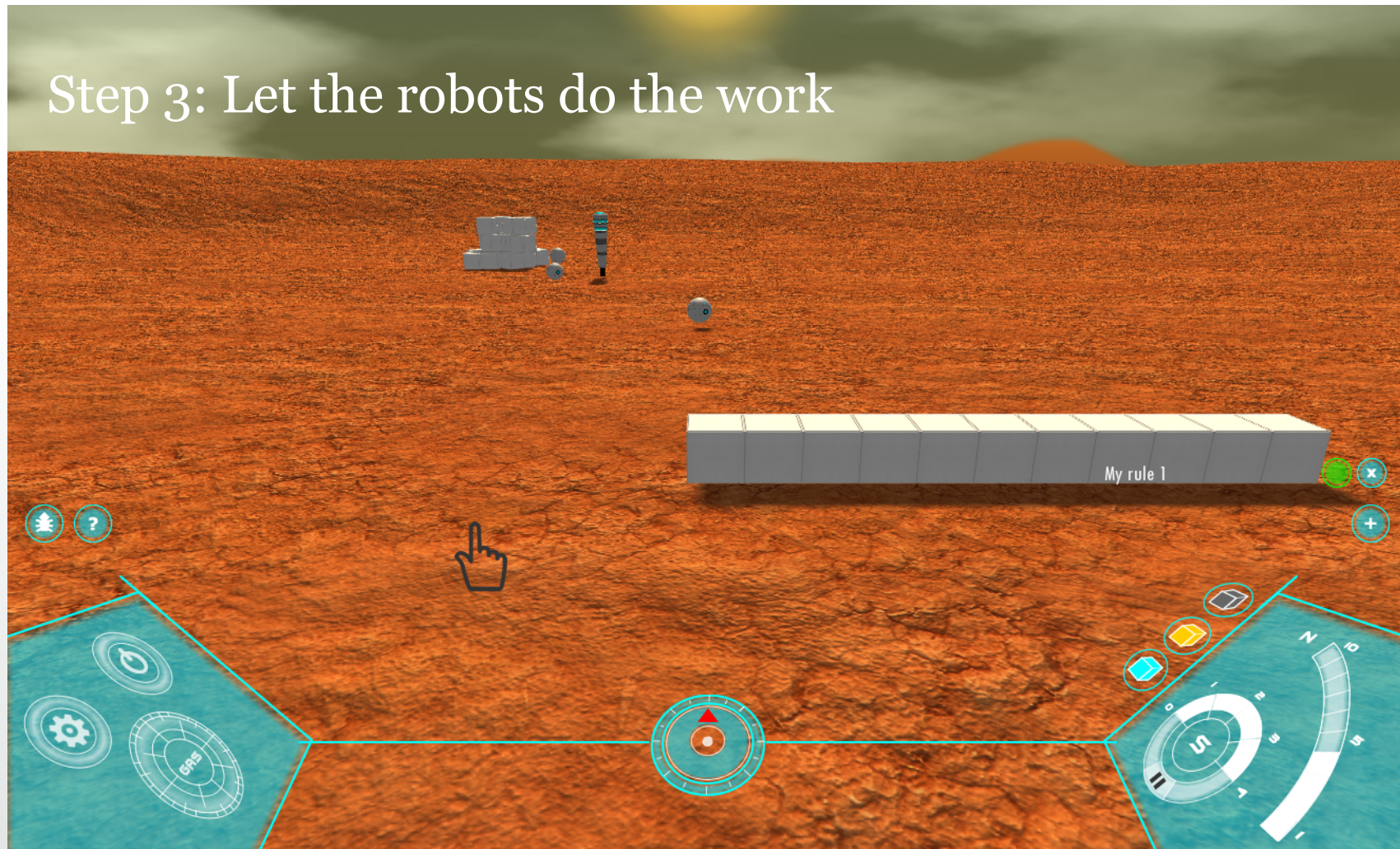


Example: A simple wall



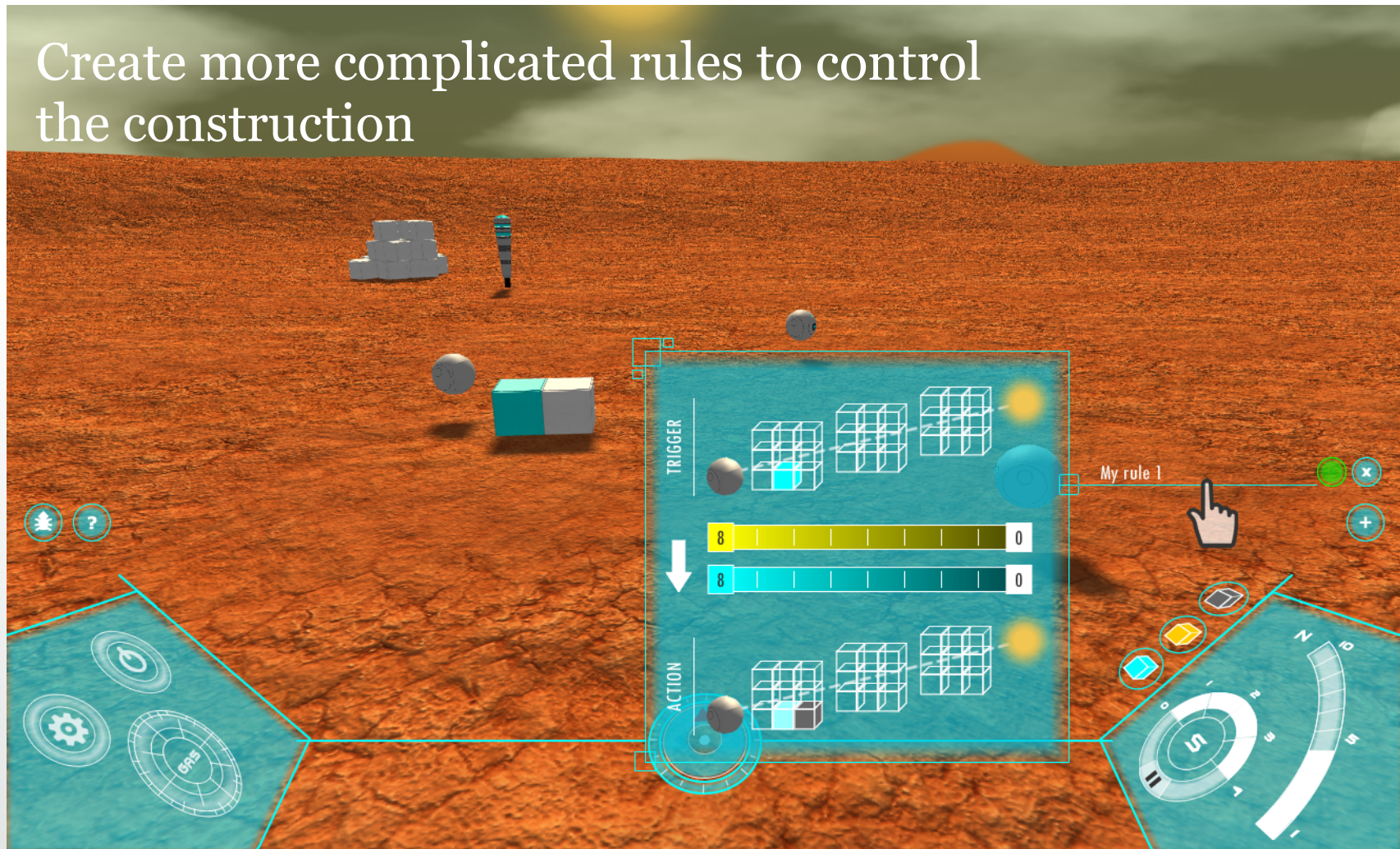
Example: A simple wall

Step 3: Let the robots do the work



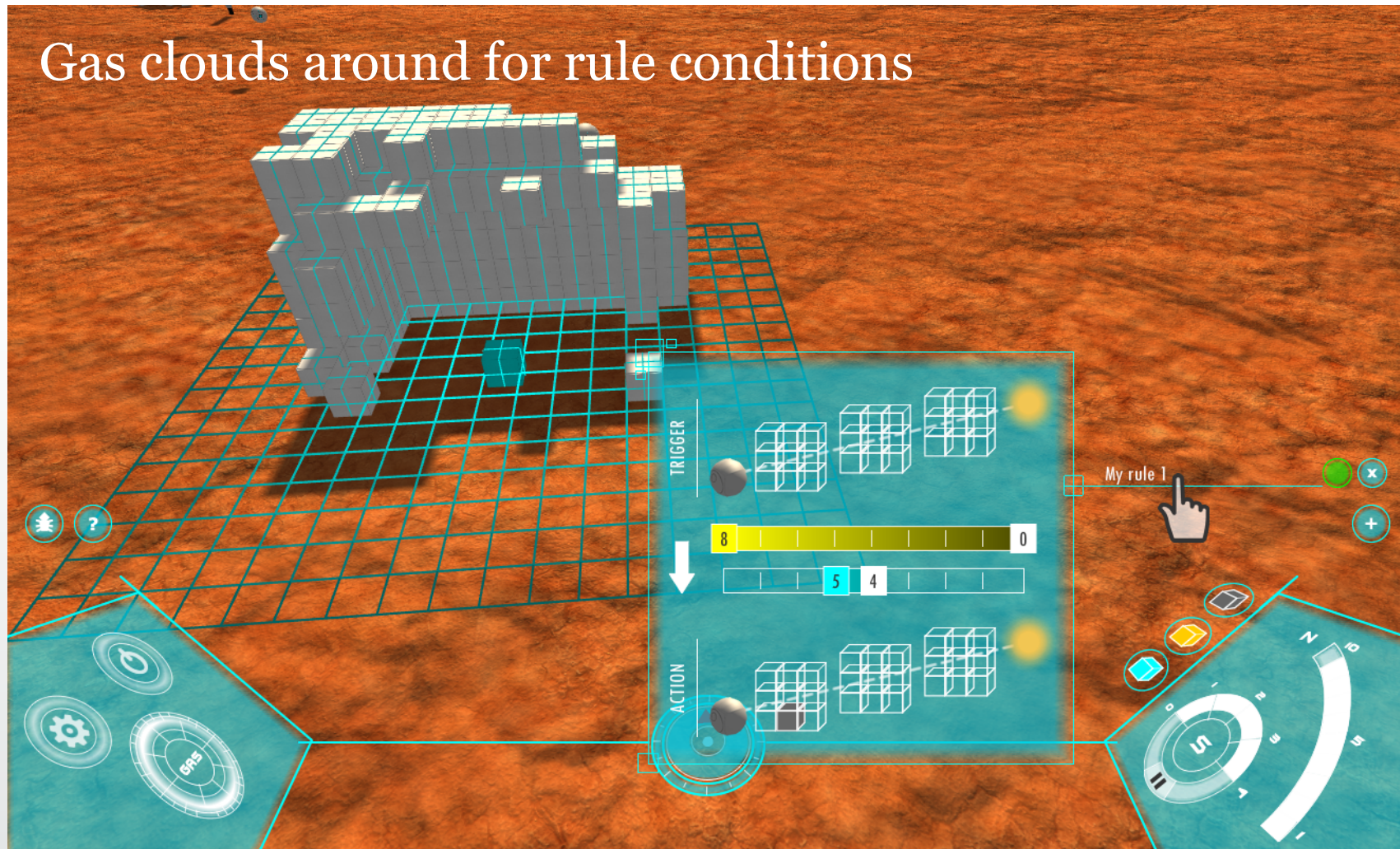
Coloured bricks

Create more complicated rules to control
the construction



Coloured bricks

Gas clouds around for rule conditions



Current development stage



Current development stage



Development process

- Brainstorming
- Small well-defined updates (sprints)
- Observing friends & family playing
- Repeat



- Bug reports

The first large-scale test

- University of Southampton Science and Engineering day



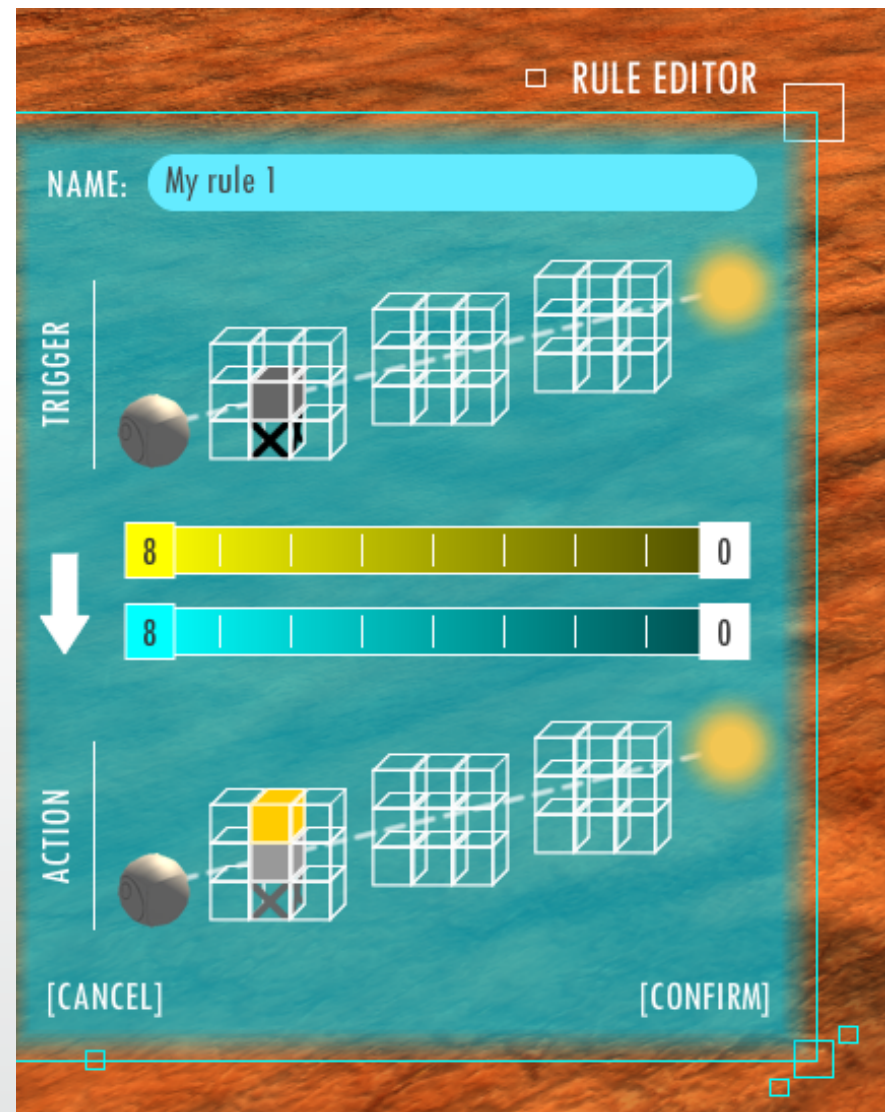
The first large-scale test



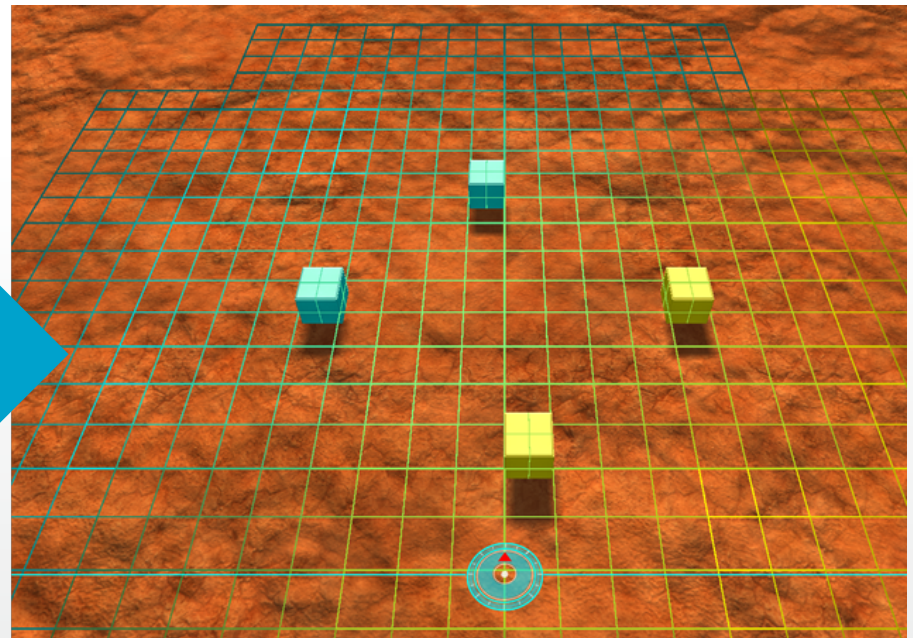
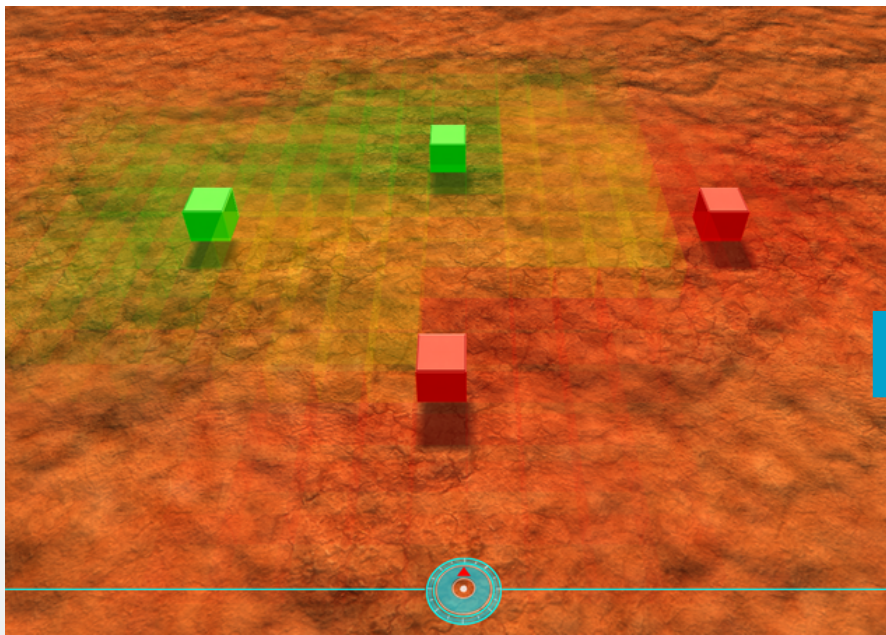
Lessons learned

- People place a great value on graphics
- Do you think your UI is intuitive? Think again!
- Do you think people will follow a tutorial? Think again!
- People have a very short attention span!

What to do: UI

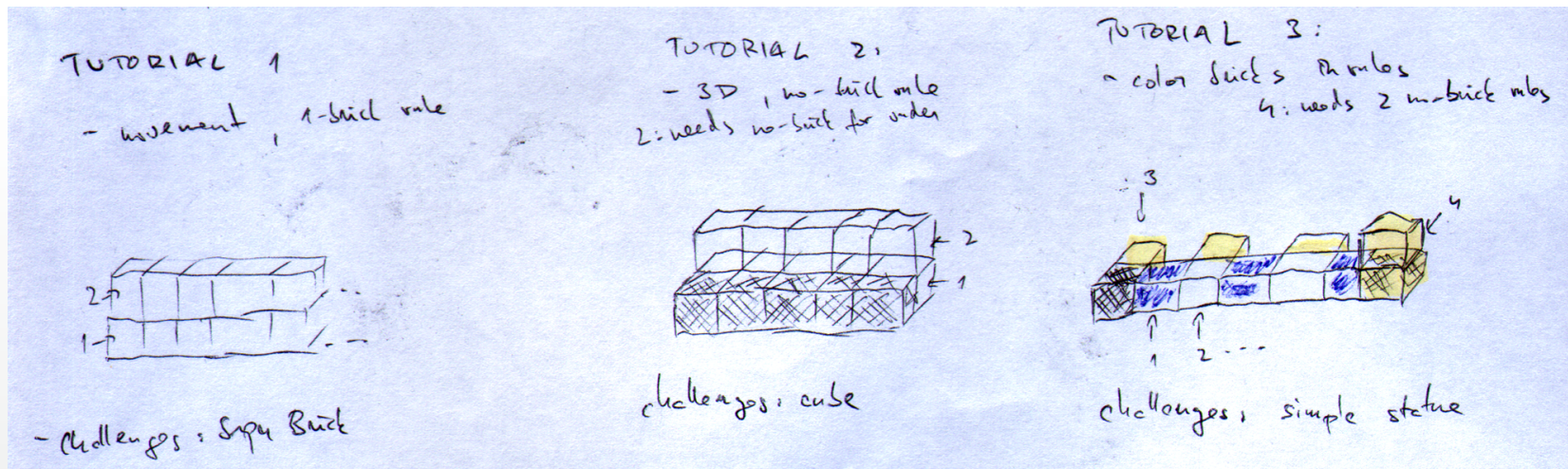


What to do: UI



What to do: Tutorial

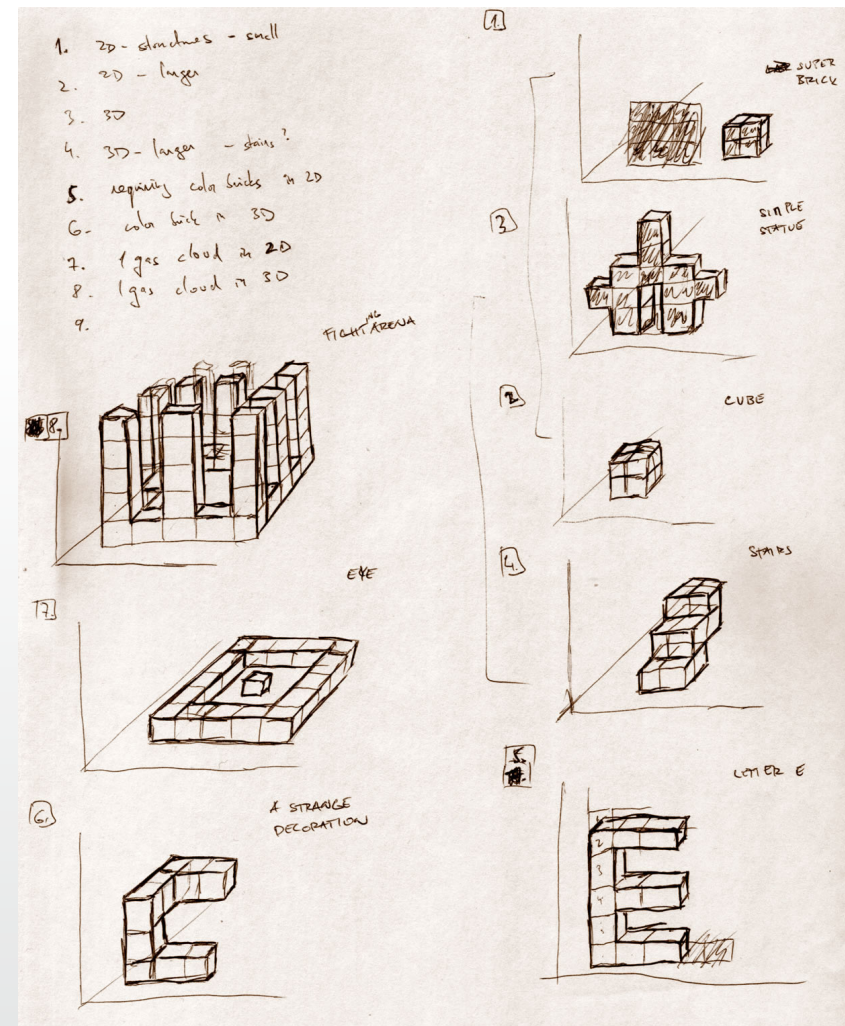
- Break up the tutorial (shallow learning curve)



- Repeated use of learned concepts
- Disable irrelevant functionality
- Make sure game is playable before all tutorials are complete

What to do: Attention

- At the beginning, give reward for small achievements (simple challenges)
- Rewarding sounds and animations (e.g. level up)
- Give ability to share what players have done



Further development

- New 7 tutorial missions
- GPU Optimisations
- Getting more feedback
 - ECGBL conference
 - IndieDB, Steam
- Social media sharing of screenshots
- More functionality to help with building

Thank you.

Demo time!

www.thehivemindgame.net