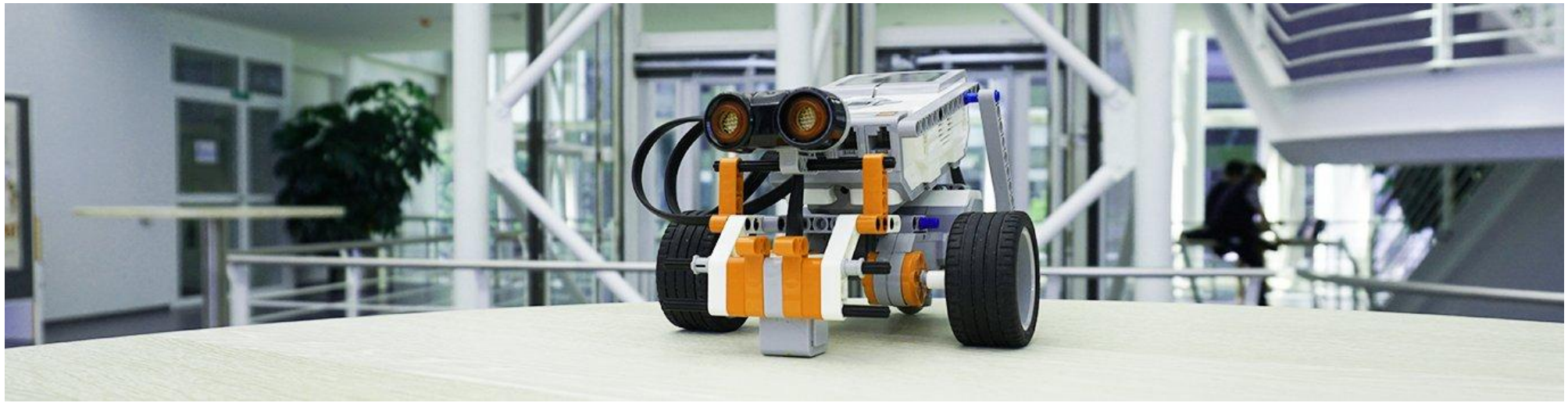
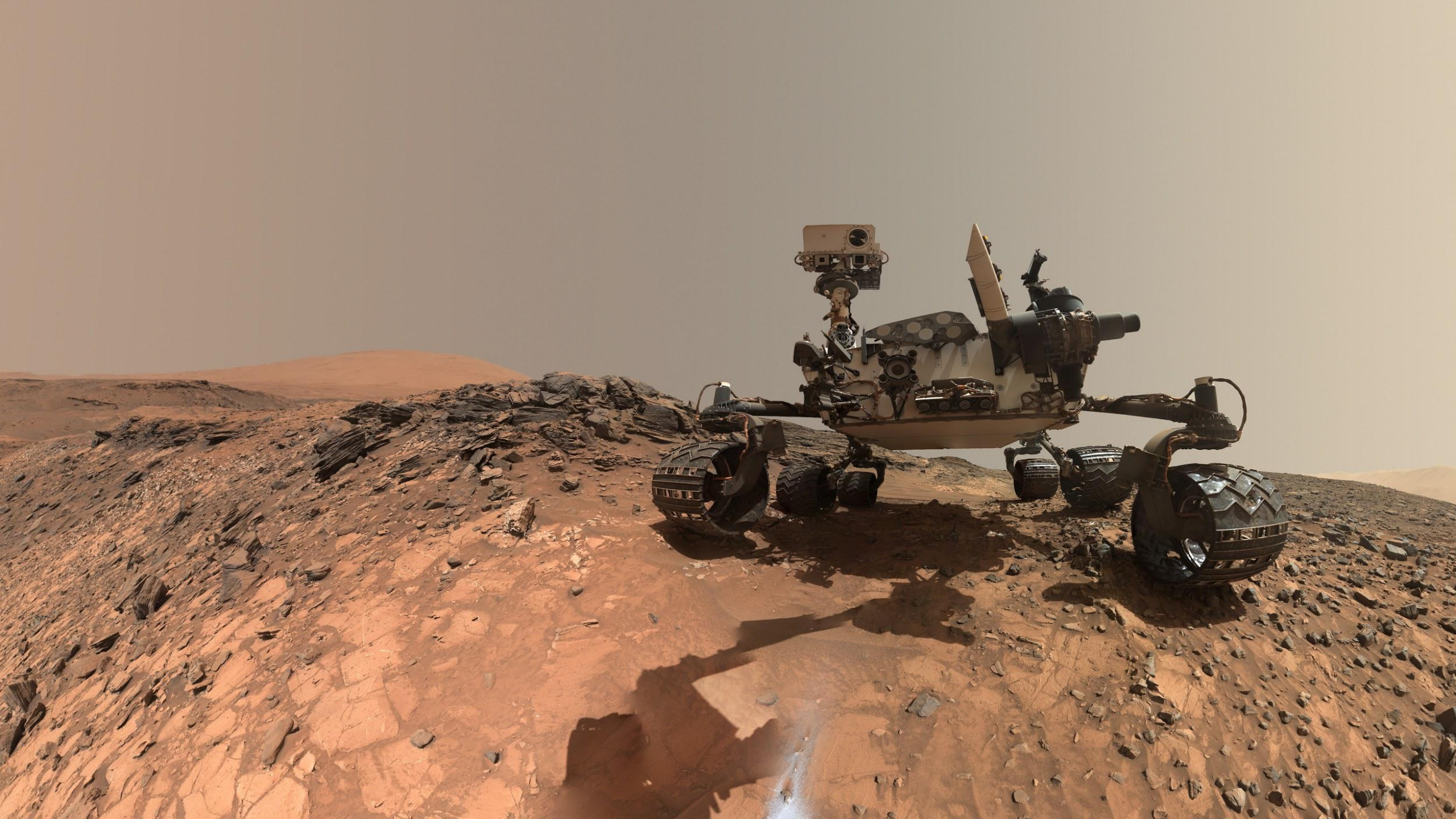
zühlke
empowering ideas



Robo Challenge

STARTHack St. Gallen

© Zühlke 2017



The Challenge

We sent a rover to Mars to prepare for its colonization. Sadly, one of the supply rockets crashed, leaving the rover without resupplies.

Thankfully, you are the engineer on call during the crash happened and immediately answered the emergency call.

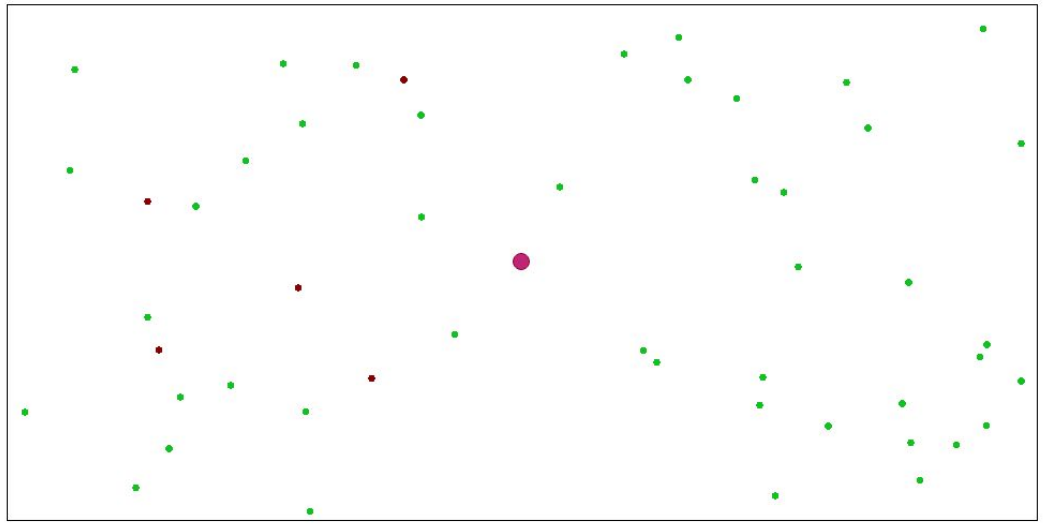
© Zühlke 2017

The Challenge

Collect as much supplies as possible

- You have 2 minutes
- Collect as many supply items as possible
- Beware of the craters!
- No manual intervention is allowed

- Be creative!
  - Clever simplicity or Machine Learning



© Zühlke 2017

The Challenge

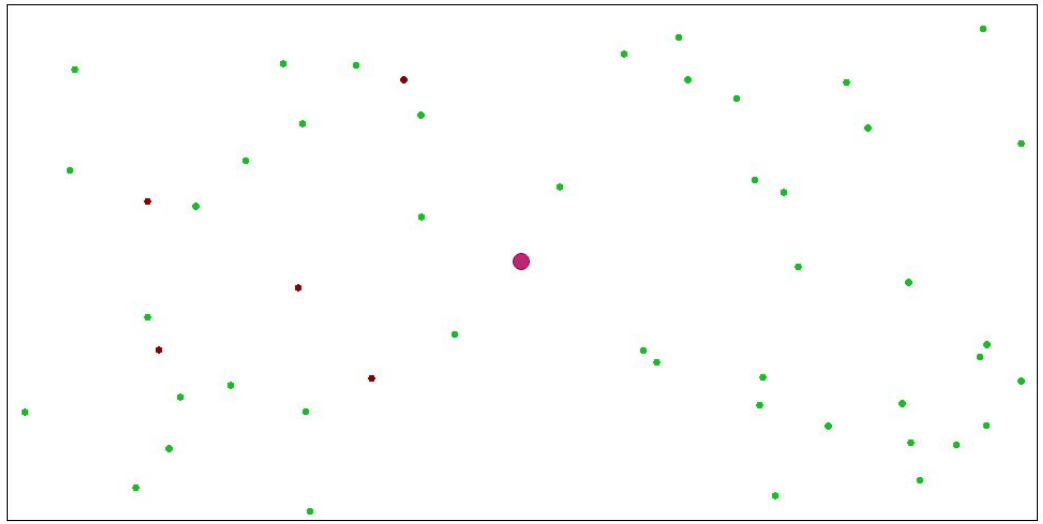
Control the robot

Control the robot

- You can control the robot by sending him commands
- The robot answers if he completed the commands

Get infos about environment

- The Robot Positioning System provides you with the position of the robot



© Zühlke 2017

GitHub

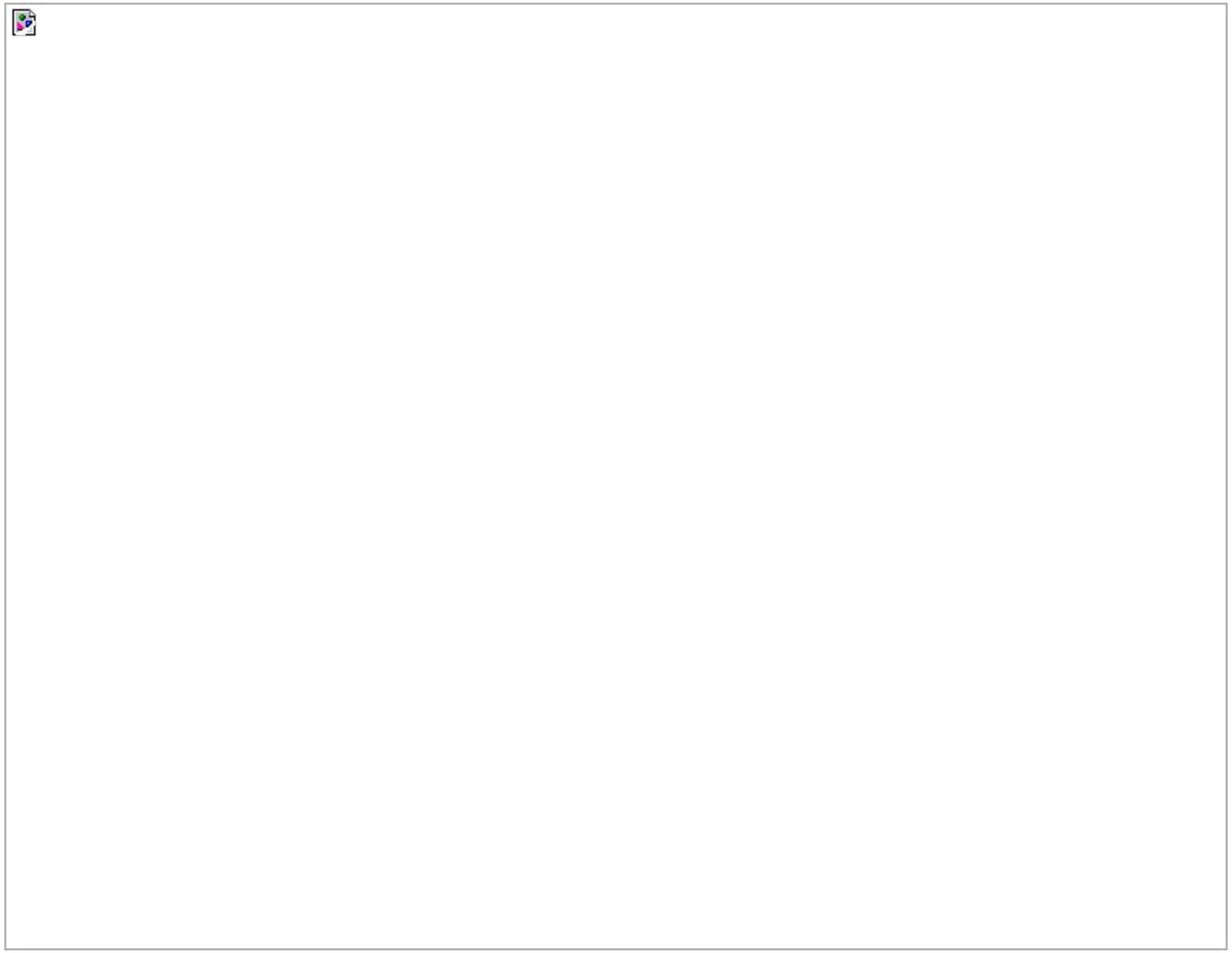
You will find more information, links and examples in our GitHub repo.

GitHub Repo

https://github.com/Zuehlke/robo-challenge

© Zühlke 2017

Workshop - Technical Overview



© Zühlke 2017

Workshop - Step 1

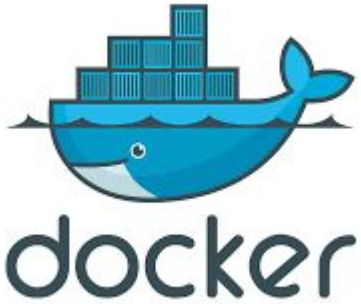
Checkout our repo

Checkout the repo
https://github.com/Zuehlke/robo-challenge

© Zühlke 2017

Workshop - Step 2

Install Docker



We provide a complete simulated Environment using docker images. Therefore you need to install docker on your machine.

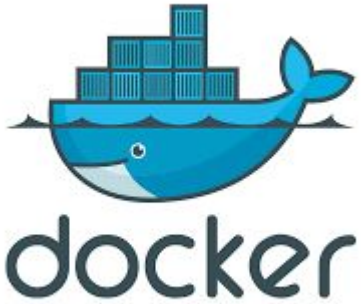
Windows
Install Docker Tools: https://www.docker.com/products/docker-toolbox

Mac
https://docs.docker.com/docker-for-mac/install/

Linux
https://docs.docker.com/engine/installation/

© Zühlke 2017

Workshop - Step 3



Install docker-compose

To ease your setup, we provide a docker compose file. So install docker compose:

https://docs.docker.com/compose/install/#alternative-install-options

After the successful installation run:

```
$ docker-compose -f docker-compose-simulator.yml up
```


© Zühlke 2017

Workshop - Step 4

Check the environment

Navigate to: http://localhost:8080

You should see something like this:

© Zühlke 2017

Workshop - Step 5

Start developing!

Use one of your examples or your language of choice.

Connect to your local MQTT broker and try to start a game: tcp://127.0.0.1:1883

To start a game:

- Send the registration message
- Click on “Prepare game” on UI
- Send the start message

© Zühlke 2017

Workshop

Have Fun!

We are here for questions.

© Zühlke 2017