

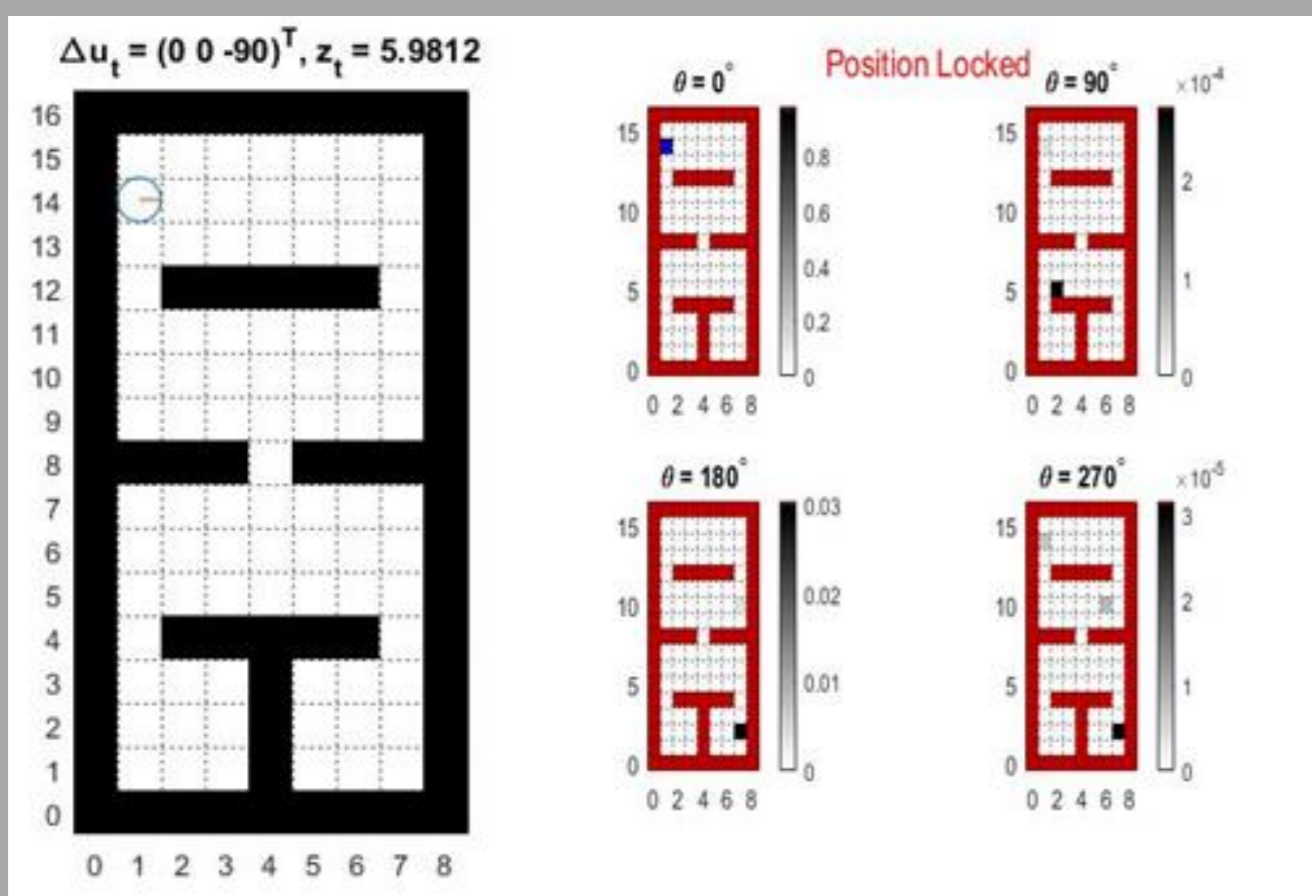
Implementation of active Markov localisation on a mobile robot for didactic purposes

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Passive localisation

- the robot localises itself in a map using the Markov algorithm, based on any received data regarding robot motion or environment;
- implementation in Matlab:



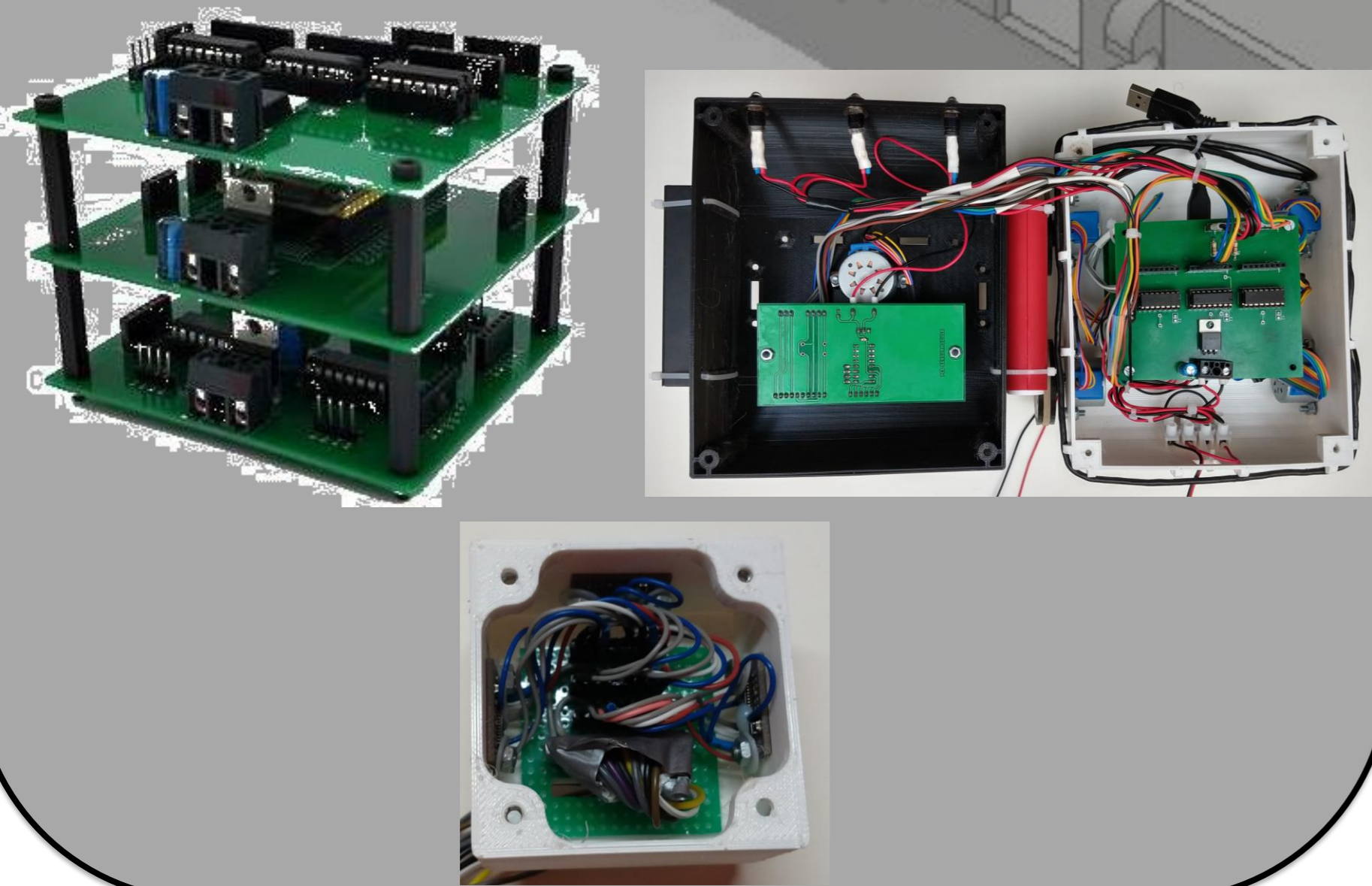
Active localisation

- the robot localises itself in a map as fast as possible, by choosing its motion and sensing actions so as to minimise action cost and maximise future localisation certainty;
- a first version of an implementation in Matlab with simulated sensor data and robot motion is ready;

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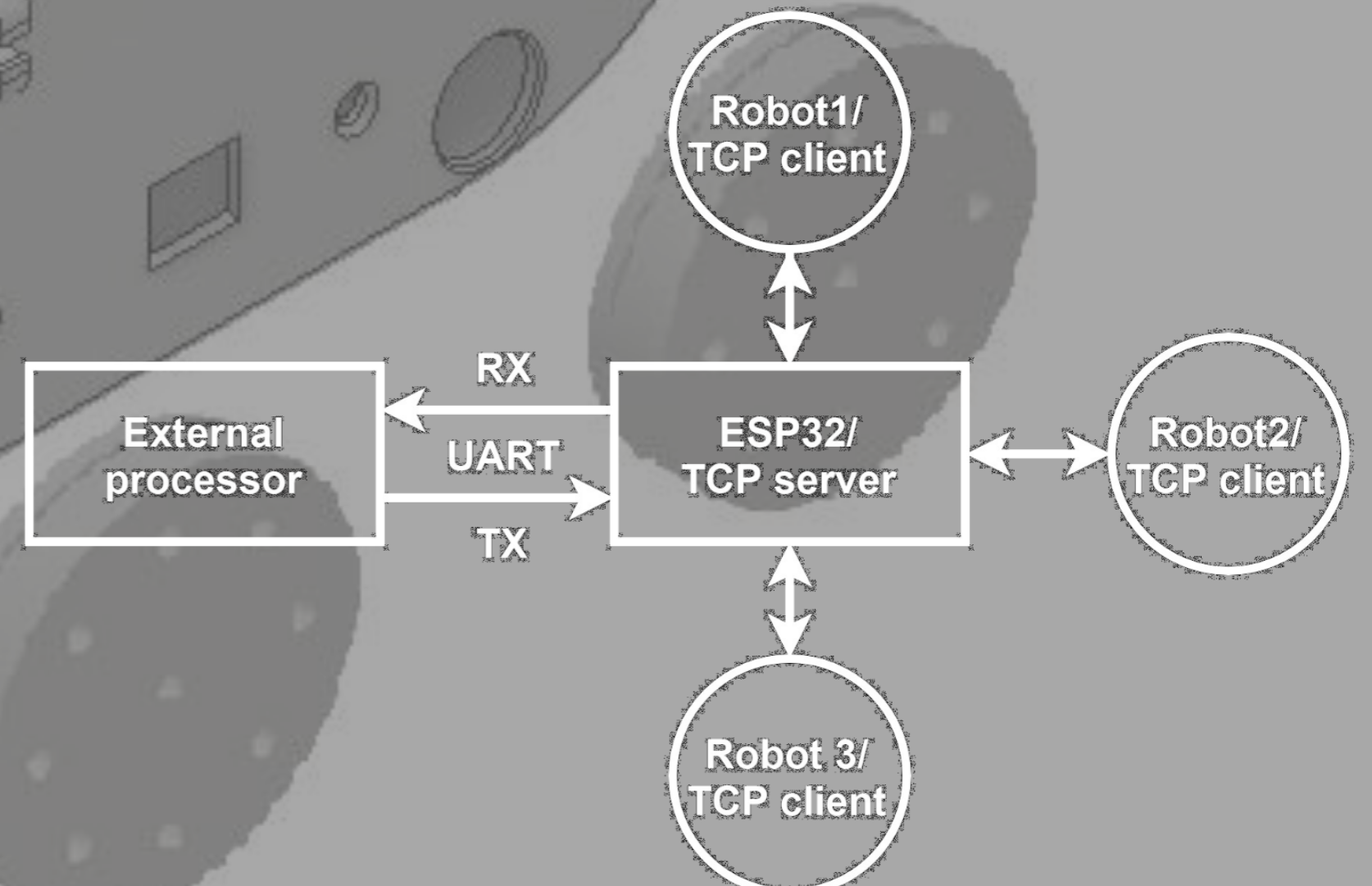
Robot design

The robot is comprised of 3d printed parts and pcb's, equipped with infrared sensors and stepper motors.



Communication

The robot and PC with the localisation algorithm communicate with each other through TCP/IP:



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