

# Thesis Proposal (BA)

## IoT S2O Testbed

### Outline

Smart Spaces are spaces where you can control functionality of the environment via software. We are developing a middleware for this task for several years now. It is called Virtual State Layer (VSL). For evaluating our platform and running diverse tests around the Internet of Things (IoT), you will create a testbed. The testbed shall consist of diverse connected Intel Galileo Boards. It should feature fully automated test setups and diverse fancy functionality such as power measurements, remote switching, remote installation, light indications, etc.



### Possible Structure

- Analysis
  - o Review on reproducible test setup tools.
  - o Analysis of the required hardware.
- Related work
  - o What are similar testbeds? How are they set up?
- Design
  - o Which components do you need?
  - o Which are options for the design? Why are your choices good?
- Implementation
  - o Frameworks used, screenshots, etc.
- Evaluation
  - o How well does it work?
    - Metrics!

### Requirements

Curiosity, Joy to work in a team, Knowledge in Java.

Ability to write good code (including unit tests and documentation).

### Contact

If you are interested, please send an email briefly explaining why you think to be the right person for this thesis to:

Marc-Oliver Pahl

[pahl@net.in.tum.de](mailto:pahl@net.in.tum.de)

<http://s2o.net.in.tum.de/>

Image sources:

<http://www.eclipse.org/smarthome/>

