The Internet of Things is becoming more important every day. The Central idea in this concept is that multiple kinds of devices are directly or indirectly connected to the internet. It offers the possibility to observe or configure these devices in a user-friendly and dynamic way. These devices are more often than not constrained in both energy supply and memory. Most of the time the network on which they are located is also constrained. Which results in low bandwidth and unreliable connections.

The aim of this thesis is to develop a Drupal module which allows a user-friendly and dynamic way to collect sensor data and to configure sensors. It must be taken into account that the devices and the network which they are connected to, are constrained. The module also needs to leave room for expansions and needs to take advantage from the recent possibilities from Drupal 7 while not neglecting the functionalities of Drupal 8. Therefore comments in the code should not be absent.

HTTP is too heavy to make the communication between the devices possible. Because of this, CoAP is used instead, which is a lightweight protocol. CoAP exchanges the reliability and robustness from HTTP for a minimal overhead, a simplified design and features which are not limited to the observe functionality and blockwise transfer.

As a result we present two Drupal modules. The CoAP library- and the CoAP Resource module. The CoAP library takes care of all the communication between clients and servers on a network, using native CoAP. This module doesn’t offer much to the average Drupal user and its only purpose is to offer a CoAP API to Drupal developers. This stand-alone module can also be used in other projects where a CoAP implementation is required. The CoAP Resource module uses the CoAP library to offer the user-friendly interface which Drupal users can use to maintain sensors.