An implementation of CoAP protocol for Arduino and ESP8266

SemIoT project - Semantic technologies for Internet of Things [1]

A. Andreev N. Klimov D. Garayzuev I. Shilin
M. Kolchin D. Mouromtsev

ITMO University, St.Petersburg, Russia

17th FRUCT conference, 2015

ISST
Information Science and Semantic Technologies

ITMO UNIVERSITY

[1] http://semiot.ru

CoAP://

RFC 7252 Constrained Application Protocol [2]

- REST model
- resources available under a URL
- access through GET, PUT, POST, and DELETE methods
- working via UDP protocol

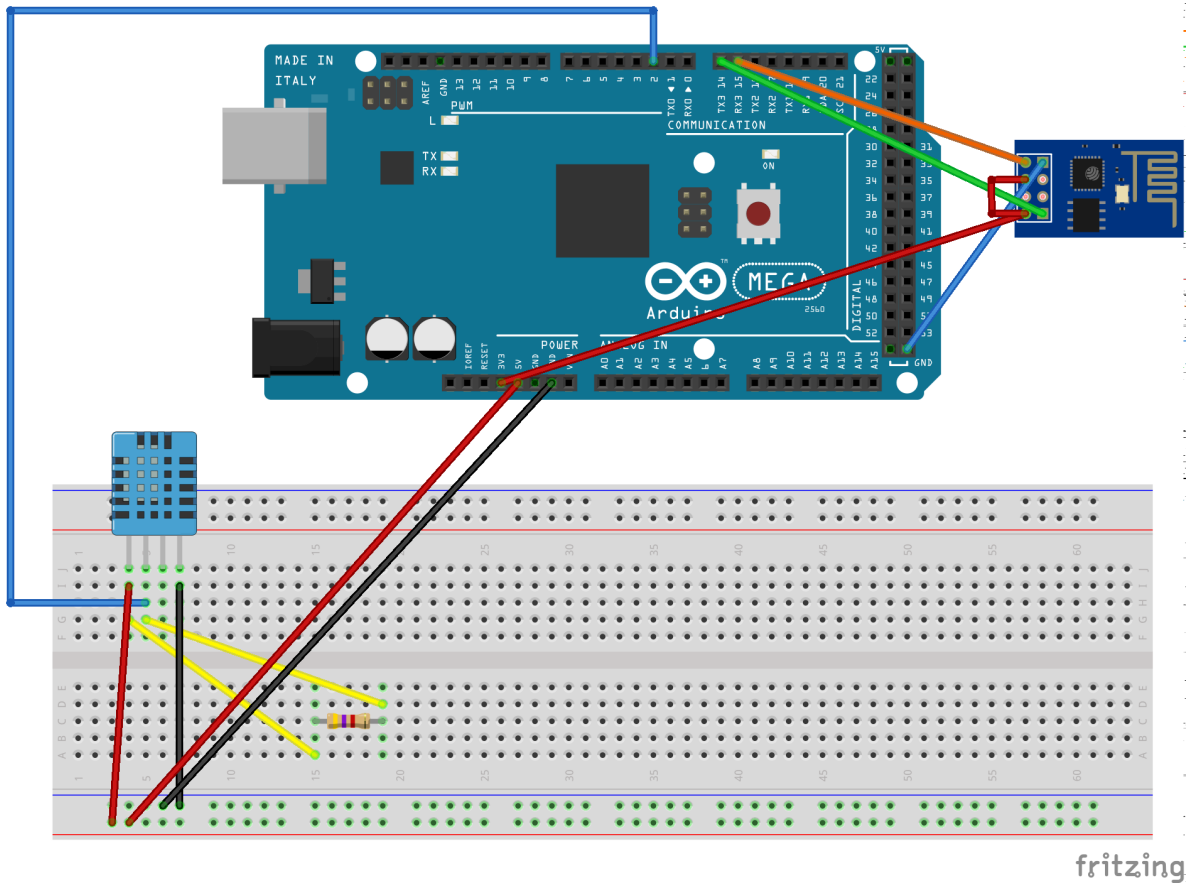
[2] http://tools.ietf.org/html/rfc7252

/microcoap[3]

A C implementation that can be compiled for Arduino

- Implemented CoAP features:
  - CoAP GET, PUT, POST and DELETE methods
  - Initial clients support
  - Initial endpoints setup
- CoAP features required implementation:
  - Resource subscribe option
  - Full-fledged CoAP clients support
  - Appropriate endpoints setup

[3] https://github.com/1248/microcoap

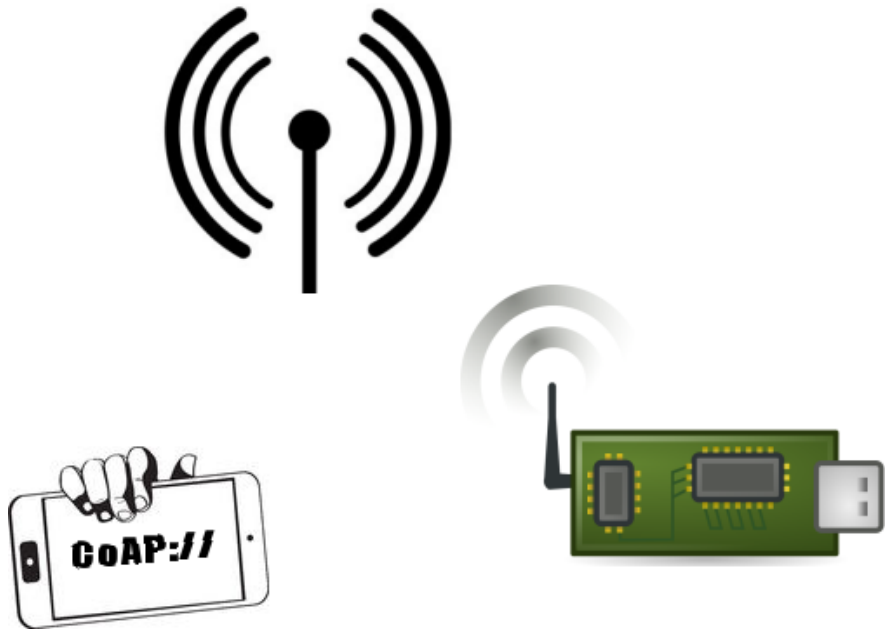


Arduino MEGA2560 with **ESP8266** WiFi-Module [4] and **DHT11** temperature and humidity sensor [5]

[4] https://github.com/itead/ITEADLIB_Arduino_WeeESP8266

[5] https://github.com/niesteszeck/idDHT11

Future Plans: wireless device configurations tools (mobile application).



SemIoT project

Semantic technologies
for Internet of Things