

Peer-graded Assignment: Contiki Hands-on

Course: Embedded Hardware and Operating System

Student: João Lourenço Souza Junior

Date: 2020-06-20

NOTE: The all tasks use: [Instant Contiki 3.0](#) and [Contiki 3.0](#)

Task 1

Setup

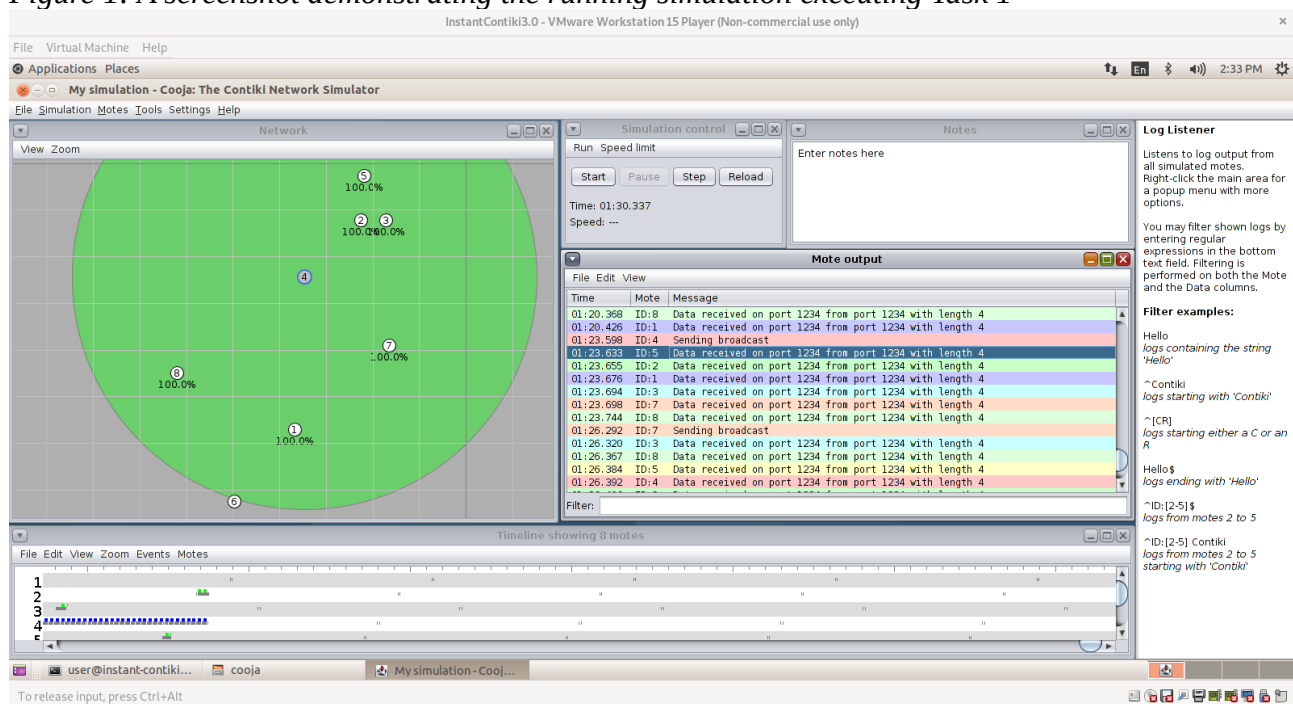
The Task 1 setup contains **eight (8)** Sky mote types random positioned, follow the mote type information:

- **Contiki source:** `contiki/examples/ipv6/sample-udp-rpl/broadcast-example.c`
- **Contiki firmware:** `contiki/examples/ipv6/sample-udp-rpl/broadcast-example.sky`
- **Compile commands:** `make broadcast-example.sky TARGET=sky`

Parts of the system

The simulation is demonstrated in Figure 1, wherein the *Network* screen the green circle indicates the coverage region from mote with ID 4, conform show in the *Mote output* screen.

Figure 1: A screenshot demonstrating the running simulation executing Task 1



Task 2

Setup

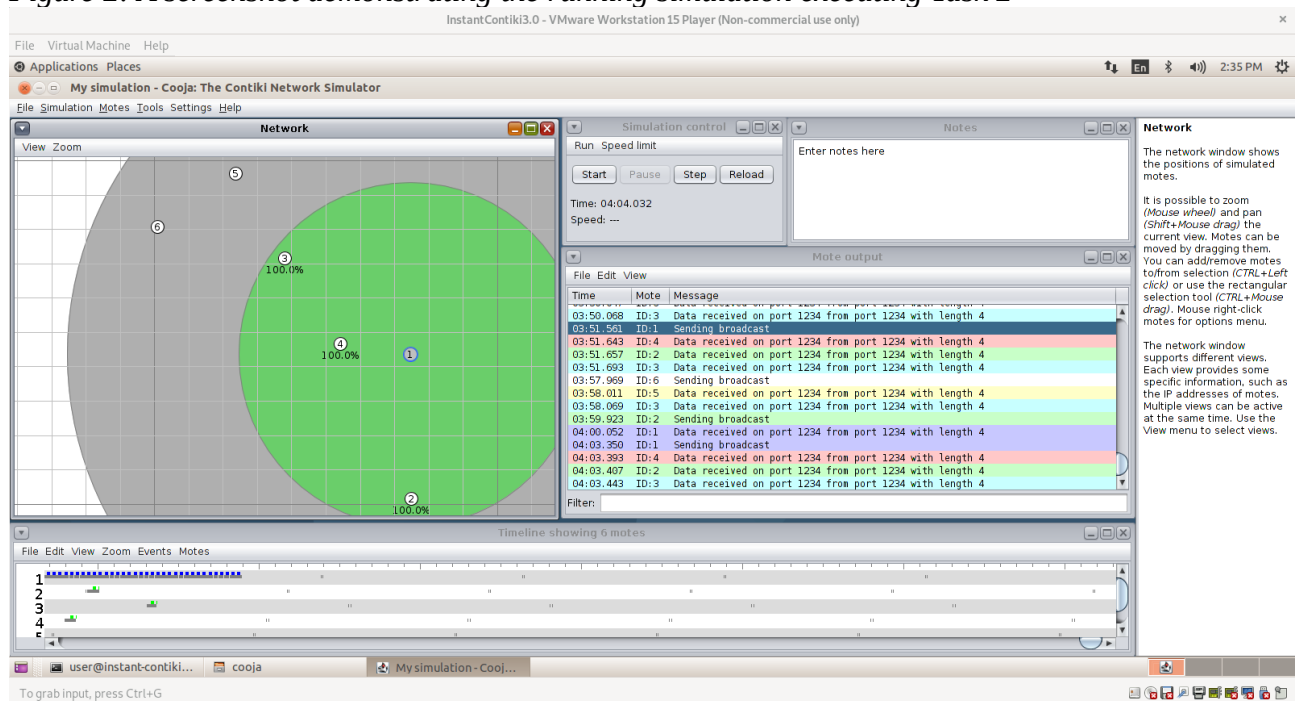
The Task 2 setup contains **six (6)** Sky mote types random positioned, follow the mote type information:

- **Contiki source:** `contiki/examples/ipv6/sample-udp-rpl/broadcast-example.c`
- **Contiki firmware:** `contiki/examples/ipv6/sample-udp-rpl/broadcast-example.sky`
- **Compile commands:** `make broadcast-example.sky TARGET=sky`

Parts of the system

The simulation is demonstrated in Figure 2, wherein the *Network* screen the green circle indicates the coverage region from mote with ID 1, conform show in the *Mote output* screen. *Different* from Task 1, the motes in Task 2 are more disperse.

Figure 2: A screenshot demonstrating the running simulation executing Task 2



Task 3

Setup

The Task 3 setup contains **six (6)** Sky mote types random positioned, follow the mote type information:

- **Contiki source:** contiki/examples/rime/example-abc.c
- **Contiki firmware:** contiki/examples/rime/example-abc.sky
- **Compile commands:** make example-abc.sky TARGET=sky

The original source code (contiki/examples/rime/example-abc.c) was modify:

- Line 56: `printf("MY COURSERA ABC message received '%s'\n", (char *)packetbuf_dataptr());`
- Line 80: `printf("MY COURSERA ABC sent\n");`

Parts of the system

The simulation is demonstrated in Figure 3, wherein the *Network* screen the green circle indicates the coverage region from mote with ID 1, conform show in the *Mote output* screen.

Figure 3: A screenshot demonstrating the running simulation executing Task 3

