Compte rendu : TP N°1
Objets intelligents

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1. Réalisation de la communication

```
hamza@hamza-VirtualBox:~/Documents/objets-intelligents/TP/TP1/nodes$ ./noeud1 -d jokes1
Adding jokes to list
  Added blague17.txt to joke list.
  Added blague11.txt to joke list.
  Added blague16.txt to joke list.
  Added balgue14.txt to joke list.
  Added blague15.txt to joke list.
  Added blague12.txt to joke list.
  Added blague13.txt to joke list.
[CLIENT] Updating data ...
(4348) Socket created
(4348) Started server on ip: 127.0.0.1 and port: 8000
[CLIENT] Updating data ...
[CLIENT] Updating data ...
[CLIENT] Updating data ...
[CLIENT] Updating data ...
[CLIENT] Updating data ...
[CLIENT] Updating data ...
[CLIENT] Updating data ...
[CLIENT] Updating data ...
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[CLIENT] Updating data ...
[CLIENT] Updating data ...
[CLIENT] Updating data ...
[CLIENT] Updating data ...
```

```
hamza@hamza-VirtualBox:~/Documents/objets-intelligents/TP/TP1/nodes$ ./noeud2 -d jokes2 -l 127.0.1.1
Adding jokes to list
  Added blague23.txt to joke list.
  Added blague26.txt to joke list.
  Added blague22.txt to joke list.
  Added blague25.txt to joke list.
  Added blague27.txt to joke list.
  Added blague21.txt to joke list.
  Added blague24.txt to joke list.
[CLIENT] Updating data ...
[CLIENT] Seeking node list from 127.0.1.1
(4364) Socket created
(4364) Started server on ip: 127.0.1.1 and port: 8000
(4364) Socket created
(4364) Requesting a conection to (ip=127.0.1.1, port=8000)
         from (ip=127.0.1.1, port=54678)
(4364) Sending [getNodes]
(4364) Connection requested from (ip : 127.0.0.1, port : 54678)
(4364) Received [getNodes]
[SERVER] Recieving message: getNodes
(4364) Sending [127.0.1.1]
(4364) Received [127.0.1.1]
[CLIENT] Node already stored: 127.0.1.1
(4364) Received [endNodeList]
(4364) Closing connection
(4364) Sending [endNodeList]
(4364) Closing connection
[CLIENT] Seeking joke list from 127.0.1.1
(4364) Socket created
(4364) Connection requested from (ip : 127.0.0.1, port : 54680)
(4364) Requesting a conection to (ip=127.0.1.1, port=8000)
         from (ip=127.0.1.1, port=54680)
(4364) Sending [getJokesTitles]
(4364) Received [getJokesTitles]
[SERVER] Recieving message: getJokesTitles
(4364) Sending [blague23.txt]
(4364) Received [blague23.txt]
[CLIENT] Joke already stored: 127.0.1.1/blague23.txt
(4364) Sending [blague26.txt]
(4364) Received [blague26.txt]
[CLIENT] Joke already stored: 127.0.1.1/blague26.txt
(4364) Sending [blague22.txt]
(4364) Received [blague22.txt]
[CLIENT] Joke already stored: 127.0.1.1/blague22.txt
(4364) Sending [blague25.txt]
(4364) Received [blague25.txt]
```

```
[CLIENT] Node already stored:
(4364) Received []
[CLIENT] Node already stored:
(4364) Received []
[CLIENT] Node already stored:
(4364) Received []
[CLIENT] Node already stored:
(4364) Received []
[CLIENT] Node already stored:
(4364) Received []
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(4364) Received []
[CLIENT] Node already stored:
(4364) Received []
[CLIENT] Node already stored:
(4364) Received []
[CLIENT] Node already stored:
(4364) Received []
[CLIENT] Seeking joke list from 127.0.1.1
[CLIENT] Seeking joke list from 127.0.1.1endNodeList
[CLIENT] Seeking joke list from
(4364) Socket created
```

2. Gestion du stockage côté capteur

2.1. Relation(s) entre T, S et N

Comme N est le nombre maximum des fichiers à stocker, donc le collecteur va intervenir pour collecter les fichiers dans une périodicité T si le nombre N est atteint.

2.2. Relation(s) entre T, S, N, Dt et Dc

Si le nombre de fichiers N est atteint, la somme des deux périodes Dt et Dc doit être inférieure strictement à T.

3. Gestion de la batterie

Ci-joint les différentes consommations de la batterie pour chaque cas,

3.1. Réception du fichier

```
if(message_is(buf, SEND_ECO_CONFIG)){

        /* Lecture du message du client */
        sock_receive(socket, buf, BUFFERMAX);
        receivedConfigMutex.lock();
        std::string newConfig(buf);
        FILE* datafile;
        std::string filename(dataConfig + "/" + newConfig);
        datafile = fopen(filename.c_str(), "w");
        fclose(datafile);
        receivedConfig.push_back(newConfig);
        receivedConfigMutex.unlock();

        battery_level -= 30;
        std::cout <<"[CLIENT_CAPTEUR]file reception -30 : "<< battery_level <<std::endl;
}
```

3.2. Transmission du fichier

```
if (message_is(buf, EVT_GET_DATA)) {
    dataListMutex.lock();
    for (std::string str : dataList) {
    battery_level -= 20;
    counter_file_trans ++;
    sock_send(socket, str.c_str());
    std::cout <<"transmission data -20  : "<< battery_level <<std::endl;
    }
    sock_send(socket, EVT_GET_DATA_END);
```

3.3. Création du fichier

```
battery_level -= 50;
std::cout <<"file creation -50 : "<< battery_level <<std::endl;
filename = dataDirectory + "/" + ip_addr_df + "_data_" + num;
    datafile = fopen(filename.c_str(), "w");
fclose(datafile);
```

3.4. Les différents états du batterie

```
int battery_level = 1000;
bool test_battery_600 = false;
bool test_battery_300 = false;
```

4. Gestion des statistiques