Tietoevry task :: Checklist

Name: CPU usage tracker

Functionality:

- [x] Thread **Reader**
- [x] Thread **Analyzer**
- [x] Thread **Printer**
- [ ] Thread **Watchdog** (have some thoughts on how I would implement)
- [ ] Thread **Logger**
- [x] **SIGTERM** handler

Requirements:

- [x] Modern C (**C99** or higher)
- [x] Build system: **Makefile**
- [x] Build system supports both ***gcc*** and ***clang*** compile modes
- Compiled with **no warnings**
  - [x] gcc
  - [ ] clang (has some non critical warnings)
- [x] **Git** (1 functionality = 1 described commit)
- [x] Use **Valgrind** (to deal with memory leaks)
- [x] Program **doesn't have any memory** leak
- [ ] At least 1 automatic test (could be unit test or any other)
- [ ] Application properly works on any Linux distributions (**works on Ubuntu**)
- [x] Understand and use **procfs** file system to properly read data.
- [x] Use **global variable or structure** to **send data between** threads.
- [x] Use "**Consumer-Producer Problem**" to send data between threads.
- [x] Implement **data buffering** (RingBuffer or Queue).
- [x] Use example to implement **signal handler**.
- [x] For concurrency **use** `pthreads` or C11 feature.
- [ ] **Use** `assert` for unit tests.
- [x] Split app into modules which can be tested.
- [ ] Test each module.
- [x] Try use OOP principles like KISS, DRY, SOLID.