Marvelmind C library and example
Version 2016.08.11

1. About the library

Marvelmind C library provides an example of building the system for receiving coordinates from Marvelmind mobile beacons by user's software running on supported operating systems:
- Microsoft Windows
- GNU/Linux (including Raspberry Pi)
- Mac OS X

Archive contains a simple example of library usage (example.c):

2. Building the example

To build the example on GNU/Linux or another *nix-OS you need to have installed GCC. Then unpack the archive, change directory to unpacked library and run make in console. Then you can execute ./marvelmind_example to watch data from Marvelmind beacon being received.

Pre-built example for Microsoft Windows is included in the archive. If you want to rebuild it, you may use integrated development environment (such a MS Visual Studio, Code::Blocks etc.): create empty console project and add 3 source files (example.c, marvelmind.h, marvelmind.c) into the project and run build. You may need to change the project settings to successfully build it.

3. Command line options of the example

You may specify another serial port as command line argument. For example:
```
 marvelmind_example /dev/ttyACM2
```
or for Microsoft Windows:
```
 marvelmind_example.exe COM4
```
Use prefix \\.\ if serial port number is bigger than 9:
```
 marvelmind_example.exe \\.\COM10
```

4. Using the library

Example of library usage see in the file example.c. You can use the library in your own projects by adding file marvelmind.c into build, including marvelmind.h:
```
     #include "marvelmind.h"
```
     and your code may follow the sequence:

4.1. Call `createMarvelmindHedge` to allocate memory for library structure (`struct MarvelmindHedge`). You need to call it before any other usage of the library

4.2. Modify some variables in created structure, if needed. For example, you can change serial port filename or/and baudrate, enable verbose messages or use some another features, list of them you can found in file marvelmind.h

4.3. Call `startMarvelmindHedge` to tell library to start collecting and parsing data received from Marvelmind beacon

4.4. Get the data: call `getPositionFromMarvelmindHedge` to get 3-axis coordinates of connected beacon or call `printPositionFromMarvelmindHedge` to print it on console output. You can repeat this step

4.5. After usage call `stopMarvelmindHedge` to stop the collecting thread

4.6. Call `destroyMarvelmindHedge` to free memory, used by Marvelmind library