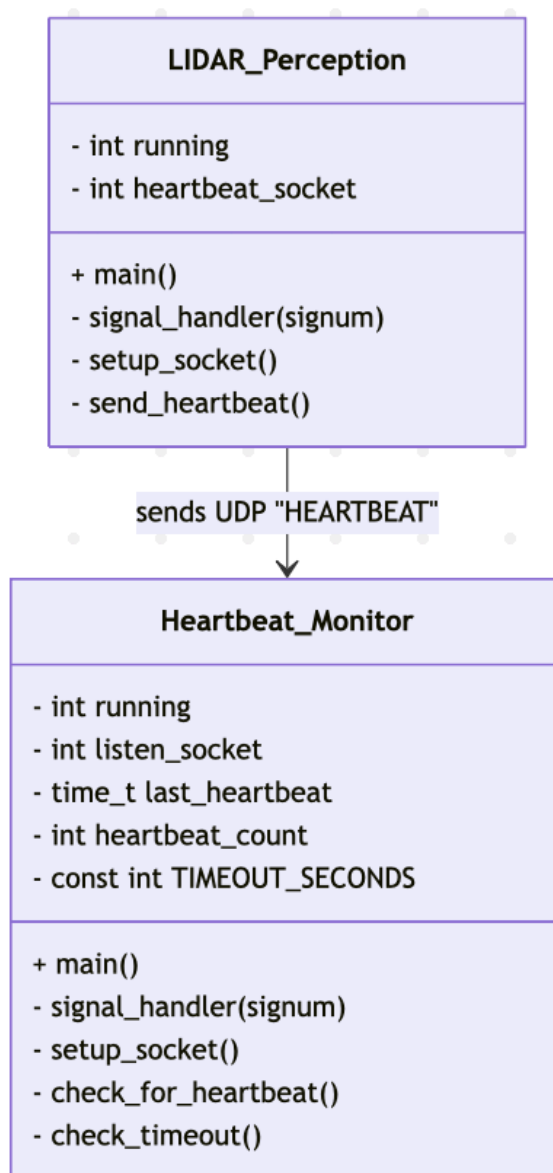# Heartbeat Tactic Design & Implementation

Please find code in a separate file on the dropbox link
There are 3 files attached -

- heartbeat_monitor.c
- lidar_perception.c
- Makefile
- README.md

Class Diagram

```
LIDAR_Perception

- int running
- int heartbeat_socket

+ main()
- signal_handler(signum)
- setup_socket()
- send_heartbeat()
```

sends UDP "HEARTBEAT"

```
Heartbeat_Monitor

- int running
- int listen_socket
- time_t last_heartbeat
- int heartbeat_count
- const int TIMEOUT_SECONDS

+ main()
- signal_handler(signum)
- setup_socket()
- check_for_heartbeat()
- check_timeout()
```

Sequence Diagram

LIDAR_Perception

Heartbeat_Monitor

setup_socket()

loop every 100ms

alt   [every 10 cycles]

UDP send "HEARTBEAT"

check_for_heartbeat()

update last_heartbeat

check_timeout() every loop

alt   [no heartbeat > 5s]

log timeout error

LIDAR_Perception

Heartbeat_Monitor